

ELEMENTARY

ADVANCED

BASIC

S  
P  
S

LETTERING

R  
C  
S

164 FULL PAGE  
PLATES

*W. A. Woodbury*

110 PAGES  
PERTINENT  
CONCISE  
TEXT

APPLIED

ILLUSTRATED

*Woodbury*

"THE STANDARD TEXT BOOK"

• MEBERLING'S •

BASIC

LETTERING

AND ELEMENTS OF

Composition · Color Harmony · Gilding

↳ Embossing · Processes · Etc. ↳

*Illustrated*   *Pertinent*   *Comprehensive*

AS USED COMMERCIALY

PUBLISHED BY WALLBRUNN, KLING & CO., CHICAGO, ILLINOIS

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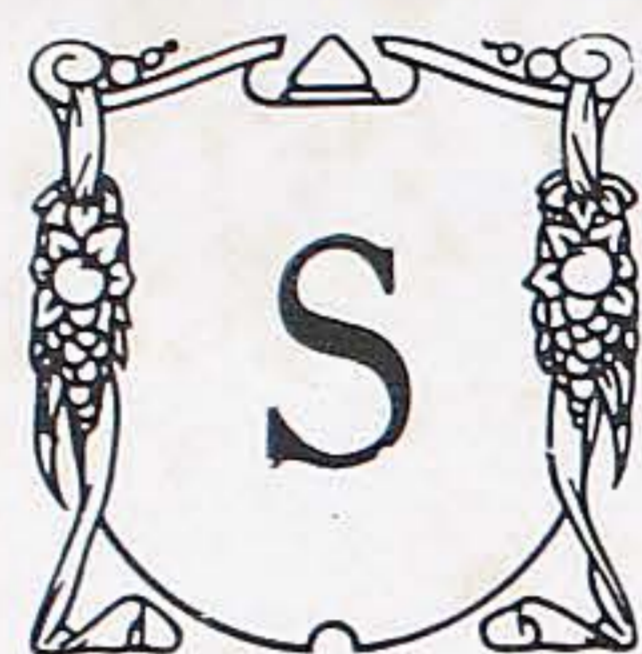
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THE BACHARACH PRESS  
415 PIONEER STREET  
CINCINNATI, OHIO

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## Foreword



SUCCESS will depend entirely on the student's application to the rudiments set forth in this book. An elementary knowledge is required first, before it is possible to progress to the more advanced operations.

It is positively useless to attempt any lettering until one is familiar with the component parts of the letters, and the combination of the elements required in building them up.

Practice, not experiments, is conducive to a working knowledge of this subject. Leave the experimenting to those who have already qualified to do so. In practicing, the student should confine himself to one thing until it has been fairly mastered. This will make the subsequent operations easier and create a feeling of confidence in the mind of the student and familiarize him with the proportions and shapes of the letters. It is more desirable that a student know one alphabet thoroughly than to half know a dozen or more.

The student must learn just what characteristics one alphabet embodies so that he can identify and differentiate them at a glance.

The same elementary strokes, in many cases, will produce several alphabets, because the actual faces of the letters are similar, the difference being in the addition or omission of "spurs." For instance: "Egyptian Strokes" will suffice for the construction of the "Round Block" alphabet, the spurs being added. This changes the name and appearance.

The writer has endeavored to make clear with text and illustrations, the subjects involved and dedicates this work to those who may now and hereafter employ it to the furtherance of their ambitions.

Respectfully,

W. A. HEBERLING.

Mooseheart Vocational Institute; Instructor  
Sign, Scene and Pictorial Painting, Under  
Direction Federal Board for Vocational  
Training (Dept. Rehabilitation).

Mooseheart, Ill.

## Modern Sign Painting and the Rudiments of Freehand Lettering

The principal craftsmen making use of lettering are the mason, the engraver, the penman and illuminator, the sign painter and the show card writer.

There are two reasons why conditions have favored greater development in letter formation in sign painting than in the other crafts. The mason works with a chisel and mallet, the engraver with a steel tool and the manuscript writer with a pen. All of these tools are much more restricted in their capacity of expression than the pencil and brush of the sign painter and show card writer.

No more subtle instrument exists, than the sable or camel's hair pencil in the hand of an adept craftsman, and there is no more expressive medium to work with than the artist's colors.

The sign painter is offered an endless range and it is to his credit that he has made good use of his opportunities. It may safely be said that the sign painter has done more than any other to stress the importance of spacing, massing and the laying out of lettering in general and composition may also be honestly added.

It has been only within recent years that hand-lettered advertisements appeared in magazines or on the bulletin boards seen on all highways of travel. Turn to the advertising section of any representative magazine and you will behold that the vast majority of the advertisements are the products of an artist's brush and that they have the individual and dignified appearance not attainable with type.

Bulletin boards carrying either painted display or posters are also a monument to the ever increasing demand for hand lettering.

### Type vs. Hand Lettering

When Guttenberg invented movable types, he copied the hand lettering of the fifteenth century as nearly as possible, for he sought to displace the hand made book. He failed; booklovers spurned his product because its pages looked stiff, his letters were not on familiar terms with each other and a mechanical sameness pervaded the pages. The ascending strokes looked as though they were pounded down with a mallet and there were no beautiful swash lines to relieve the monotony.

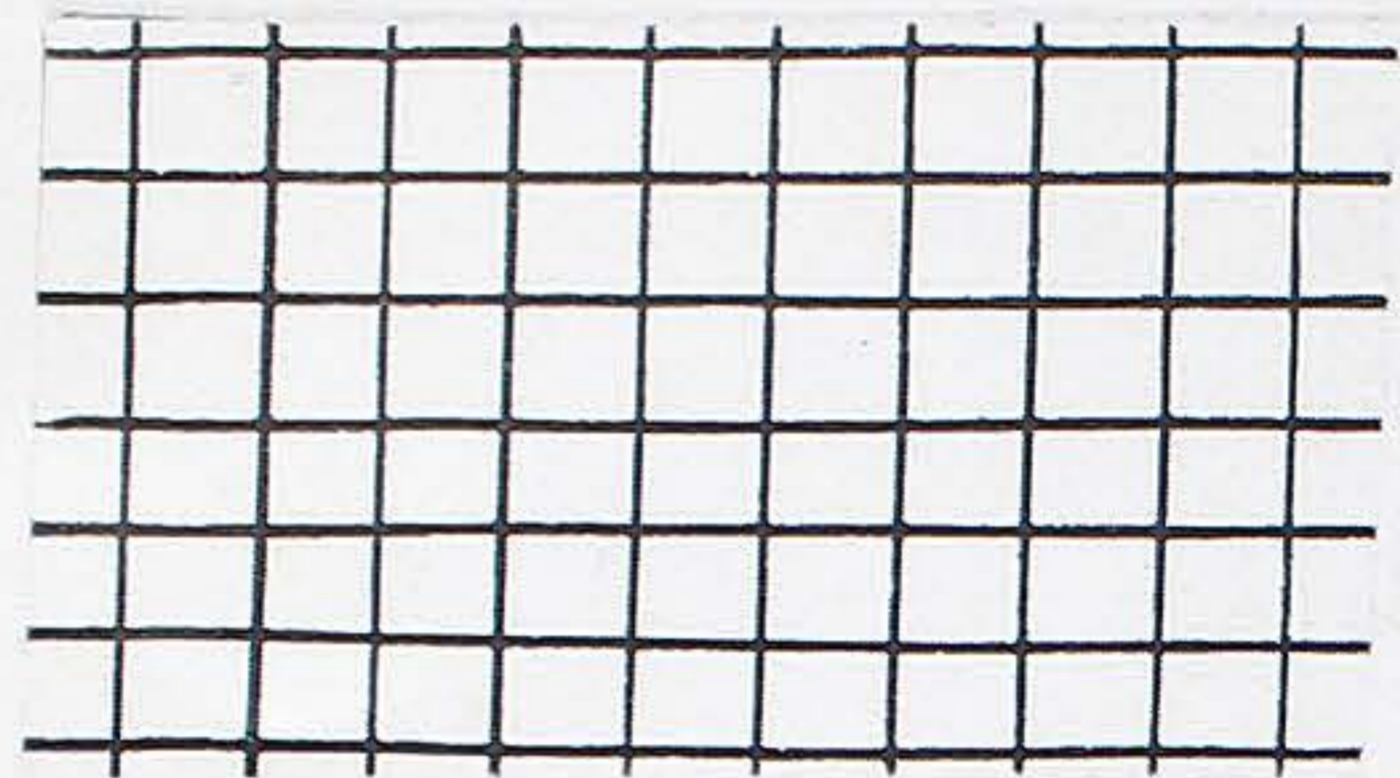
Since the day of the early printers the utilitarian side of printing has been largely uppermost. People wanted knowledge.

After a time the artists came over to the printer, who was progressive and had good money to pay, for the illumination and decoration of books, just as the artists of today are giving their best efforts to commercialism that is progressive.

When process engraving was invented, the artist and designer were quick to seize upon the opportunities offered for covers, headlines, initials and trade-marks which were reproduced in fac-simile quickly and cheaply.

Hand lettering is flexible; you can stick it around just where you want it, make the characters snuggle up together, join hands, link arms, look over one another's shoulders, make love and mingle together in harmony.

In type set letters you cannot make them do all these friendly stunts, as each individual must stay on his own premises because he is part of the premises and his lot is cast there. The graceful "g" must keep his tail curled under him and the poor old "Q" must not allow his curly appendage to protrude upon brother "U's" domain. The fastidious advertiser has long since abandoned type for display lines for the good reason that it is monotonously mechanical and unattractive. So much for history.



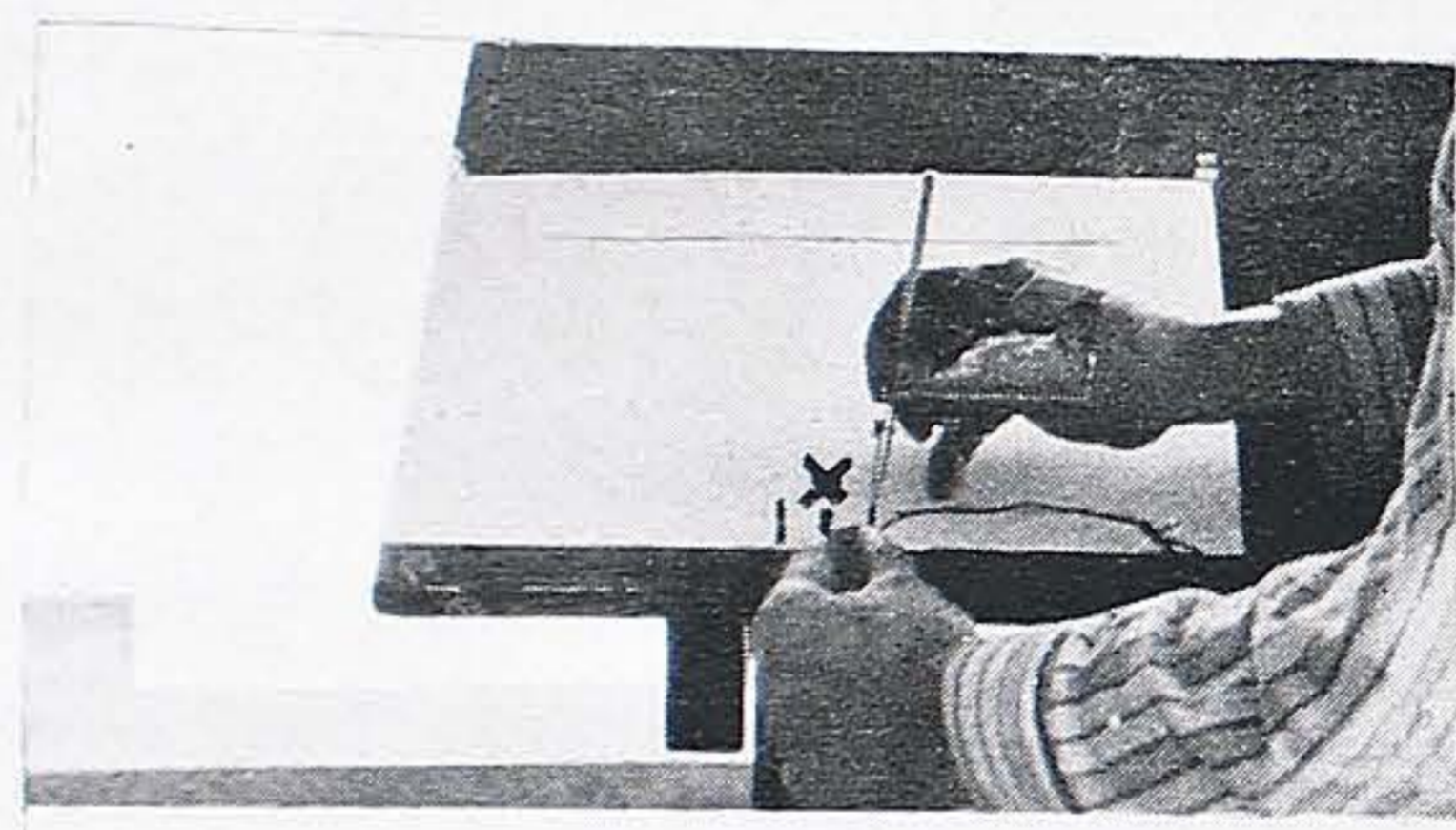
*FIG. 1*



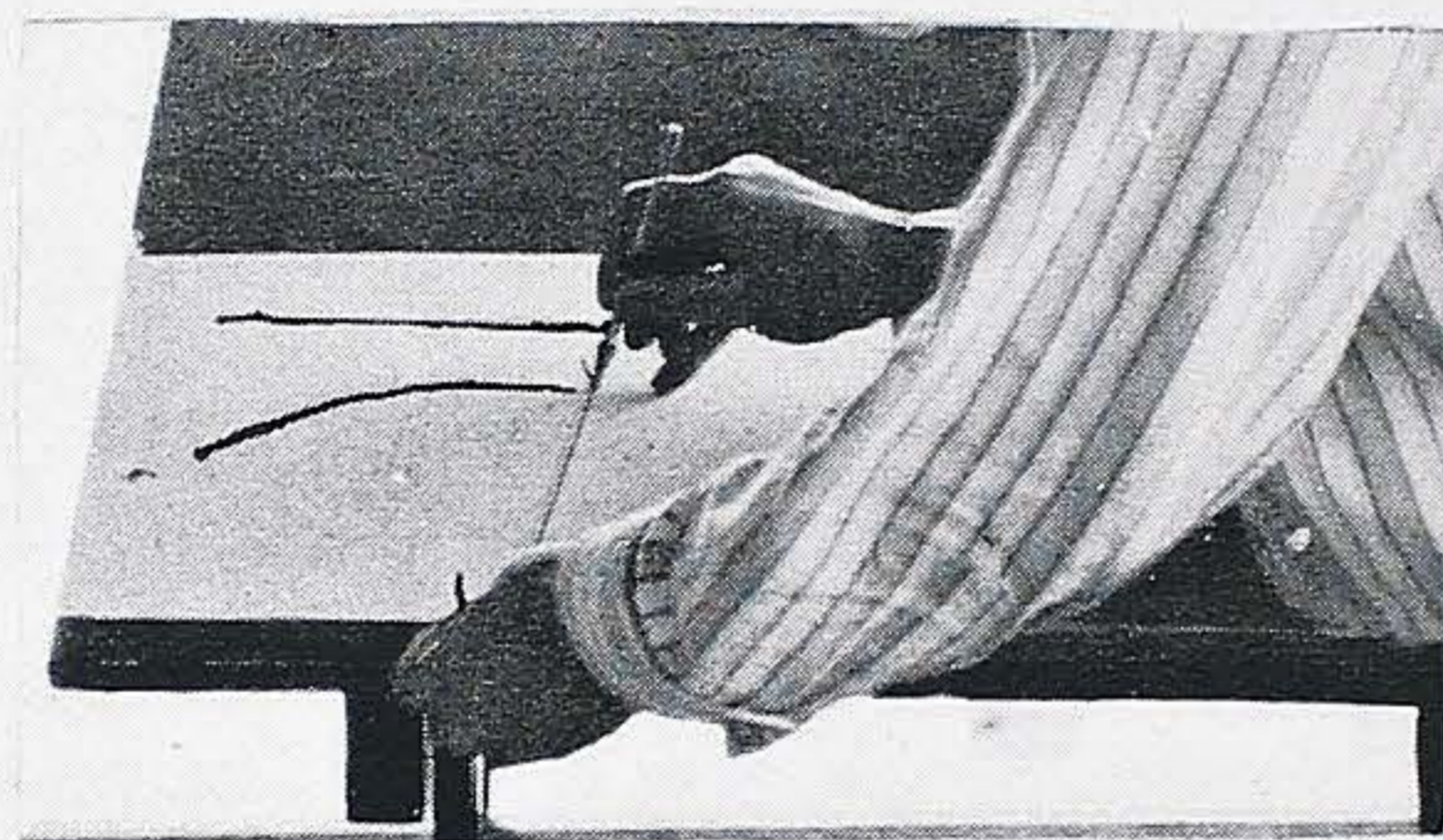
*FIG. 2*



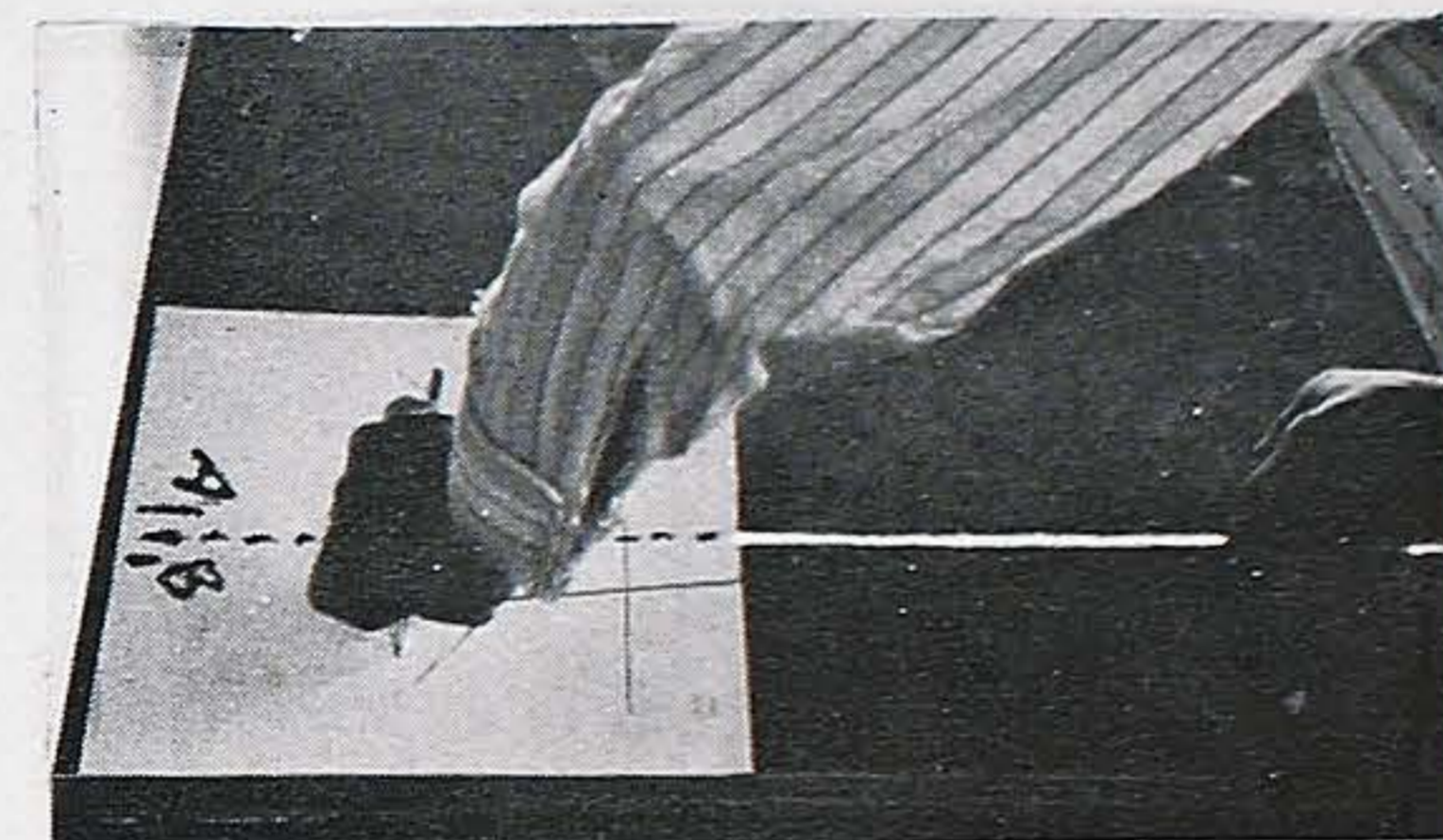
*FIG. 3*



*FIG. 4*

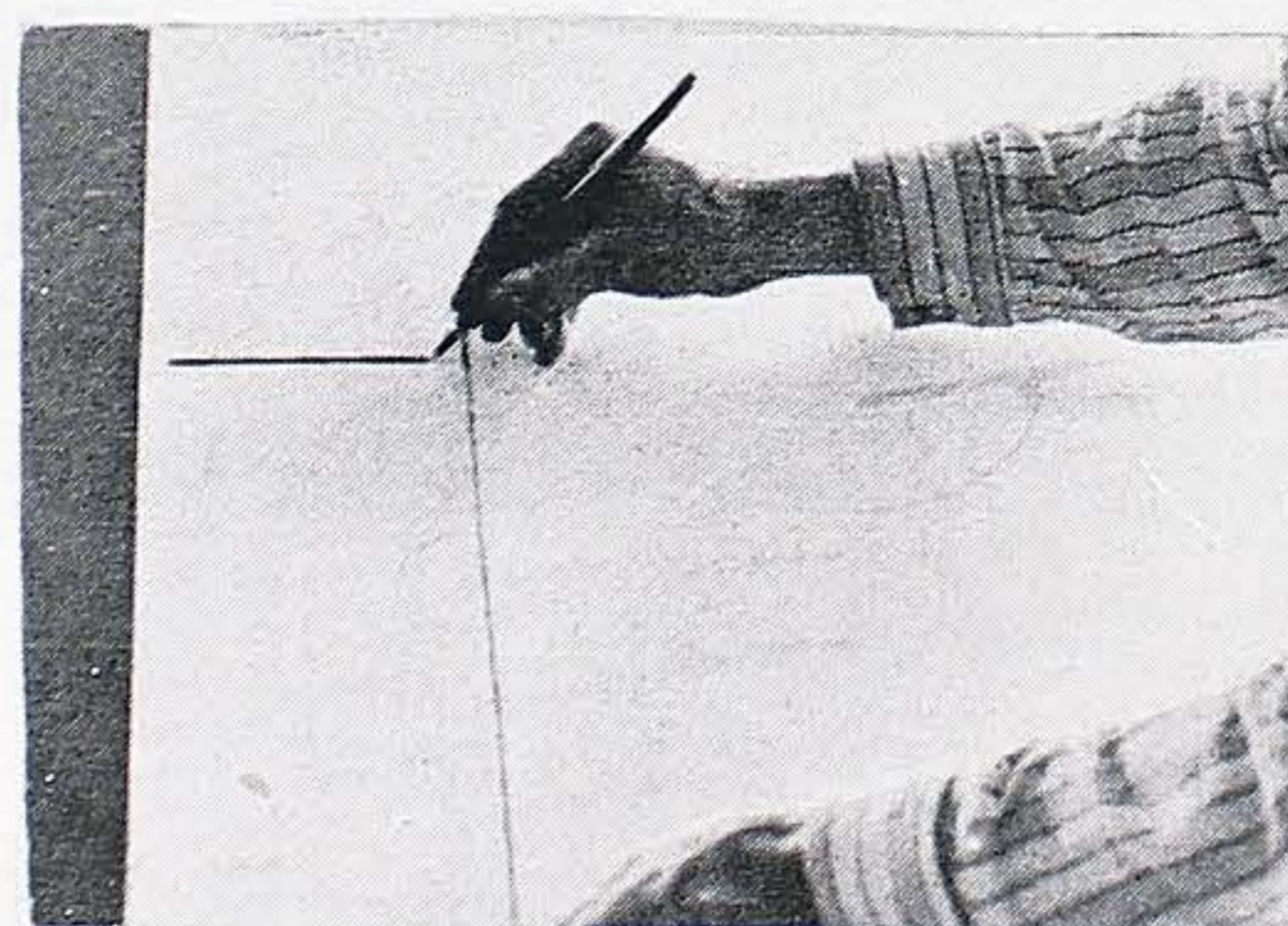


*FIG. 5*

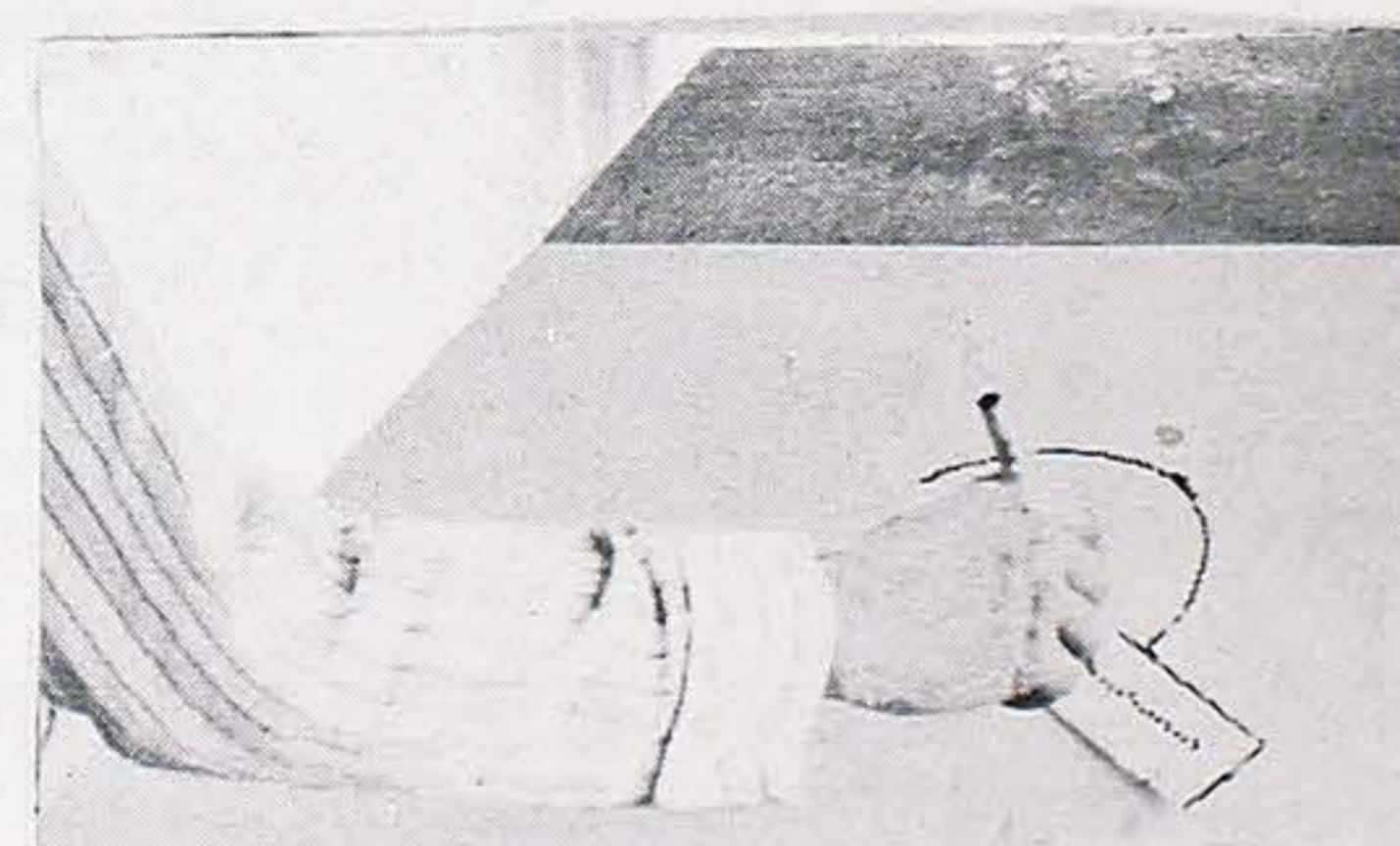


*FIG. 6*

**PLATE A**



*FIG. 7*



*FIG. 8*

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## Project No. 1

The initial requirement in the art of lettering is that a top and base line be established to guarantee uniformity in the height of letters.

**1** The proper method to use in producing these lines is with the aid of a piece of light hard twine. This twine may also be used for drawing vertical lines or for striking a segment of a circle. All of these operations are fully shown in Figs. 2, 3, 4, 5 and 6, Plate A. However, the first practice should be confined to lines horizontal and vertical, as shown in Fig. 1. In the photograph showing these operations, it will be noticed that the lines are very black. These lines were made with a ruling pen so as to make them distinct for reproduction, but for actual work a lead pencil is used if the ground on which the student is working is white or light in color. For dark surfaces, white school "chalk" is used.

**2** The line should be about three and one-half feet in length with a non-slipping loop at one end, which holds the point of the lead pencil. The string must be kept taut so as to keep the pencil running parallel with the edge of the board. Move the hands at the same speed when drawing straight lines. That is, do not move one hand fast and one hand slowly, as this would reduce the distance between the edge of the table and would result in a line not parallel with the edge of the table. Do not

be discouraged at the result of the first attempt, as this method will surely repay the student in the art of making well balanced and speedy layouts.

**3** Plate D, No. 1, shows a 22" x 28" bristol board dotted and ready to receive the border lines and the lines for the inscription. Notice the marks for the border line, which should always be drawn first. This gives the space to which the lettering must be confined, except where a line of subordinate lettering can be judiciously and artistically inscribed on the border itself, but the letter should in no instance be over one-third of the width of the border. That is, if the width of the border is four inches, the letter should not be over 1 1/3 inches high.

**4** Plate A, Figs. 3 and 4, shows method used in finding the center of a card in making the segments of a circle. It will be noticed that the card is placed so as to be flush with the left hand and bottom edges of the lettering table.

**5** Take the string in the left hand and the pencil inserted into the loop with the right hand. The left hand is then placed at the left edge of the card and the point of the pencil at a point that the eye says is the center of the card; keeping the pencil in the loop, place the pencil point against the right edge of the card and with the string stretched taut, make a mark on the card.

NO. 1. GOLD  
FOR APP  
NO. 2. AP  
LEAF TO  
NO. 3. BE  
BREAK G  
ONLY A  
REQUIRE

## PLATE B



*Nº1*

*Nº1. GOLD LEAF BOOK OPEN  
FOR APPLICATION TO "SIZE."*



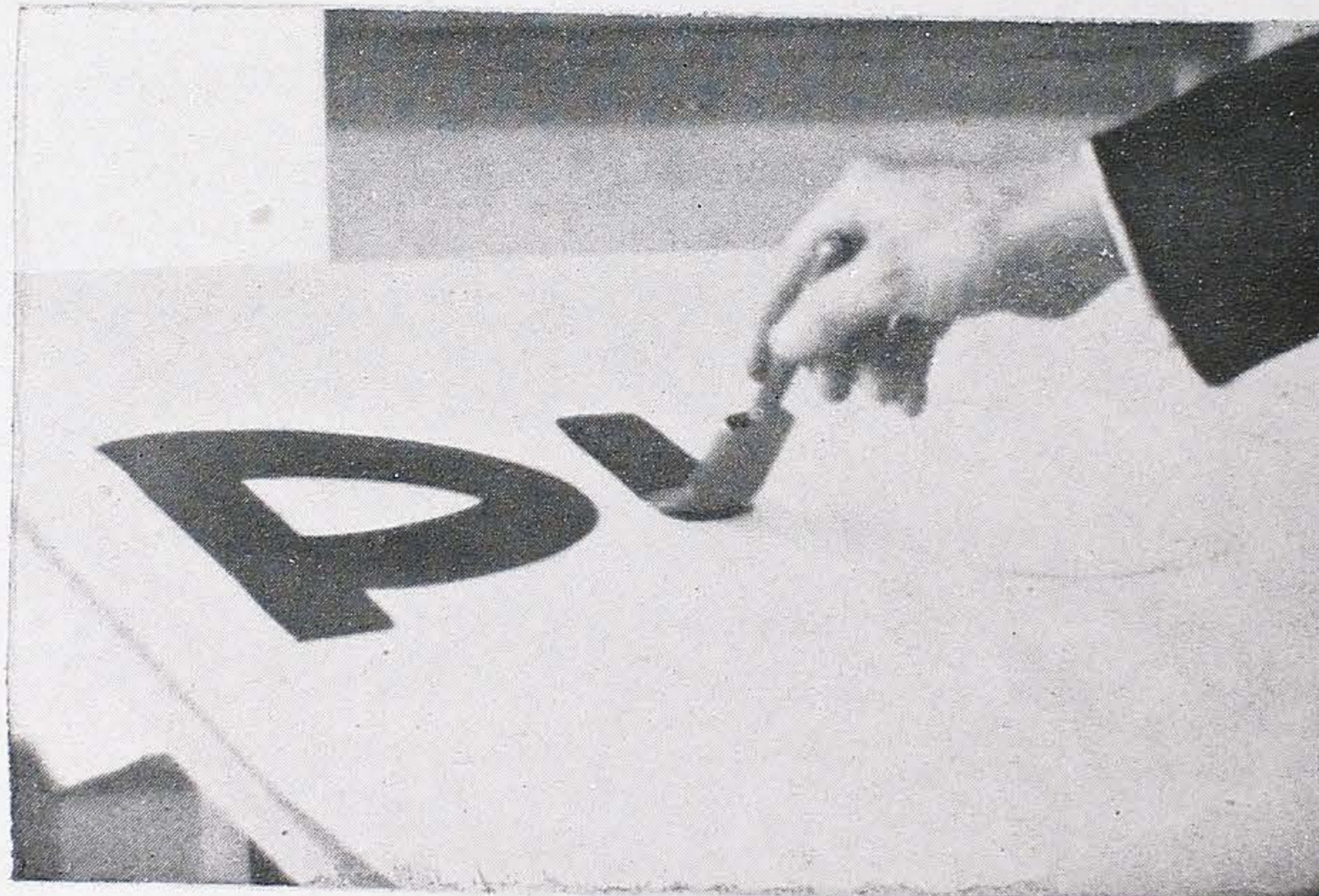
*Nº2*

*Nº2. APPLICATION OF GOLD  
LEAF TO THE "SIZE"*



*Nº3*

*Nº3. BENDING BOOK TO  
BREAK GOLD LEAF IF  
ONLY A PART SHEET IS  
REQUIRED.*



*USE OF ONE-STROKE BLACK SABLE-  
BANNER BRUSHES ON CLOTH  
AND SMOOTH SURFACES.*

*USE LOOSE PIECES OF  
GOLD WHICH MAY BE  
ACCUMULATED ON THE  
WORK, FOR PATCHING  
ANY PLACE WHERE  
REQUIRED. MOISTEN  
A FINGER TO PICK THE  
PIECES FROM THE WORK.*



This will give two marks, "a" and "b" (neither of which is the center, but the space between them is easily divided with the eye, giving point X). This operation can be gone through in less time than it takes to read this. The center found, draw a fine line the entire length of the card as shown by a dotted line, Plate D. Use the left edge of the board in drawing this vertical line in the same manner as the bottom edge is used in making the horizontal lines. This line will permit almost any radius. However, if the curvature desired would make the center point outside the dimensions of the card, proceed by laying the right hand edge of the card to the bottom edge of the table making a line with chalk across the table, beginning at the card and making this line a continuation of the line already drawn on the center of the card. Any place on the horizontal line (see Fig. 6, Plate A).

6 Can be used for a center for the top curvature lines "C" to "D." See Plate D. The card is then turned over — end for end. With the string at the same point where it was held for "C" and "D" and with the same radius strike segment "E" to "F." See Plate D. No. 2, Plate D, shows lines drawn.

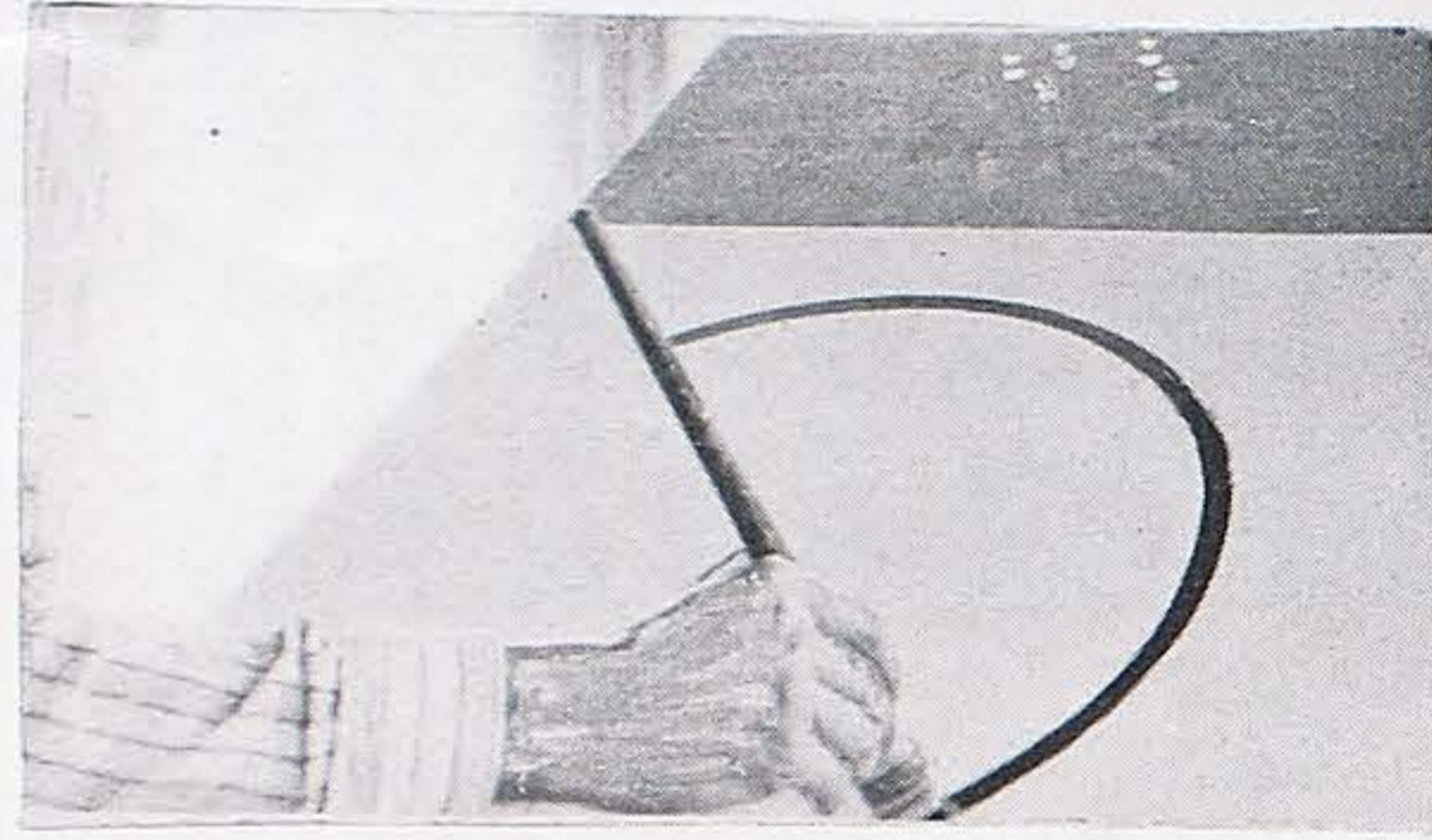
Do not proceed to the next project until this one is fully understood.

Fig. 7, Plate A, shows use of Speedball pen with string for borders and long lines on cards.

Fig. 8 shows cardboard compass. Holes are for point of pencil. Used with a Push Pin for center.

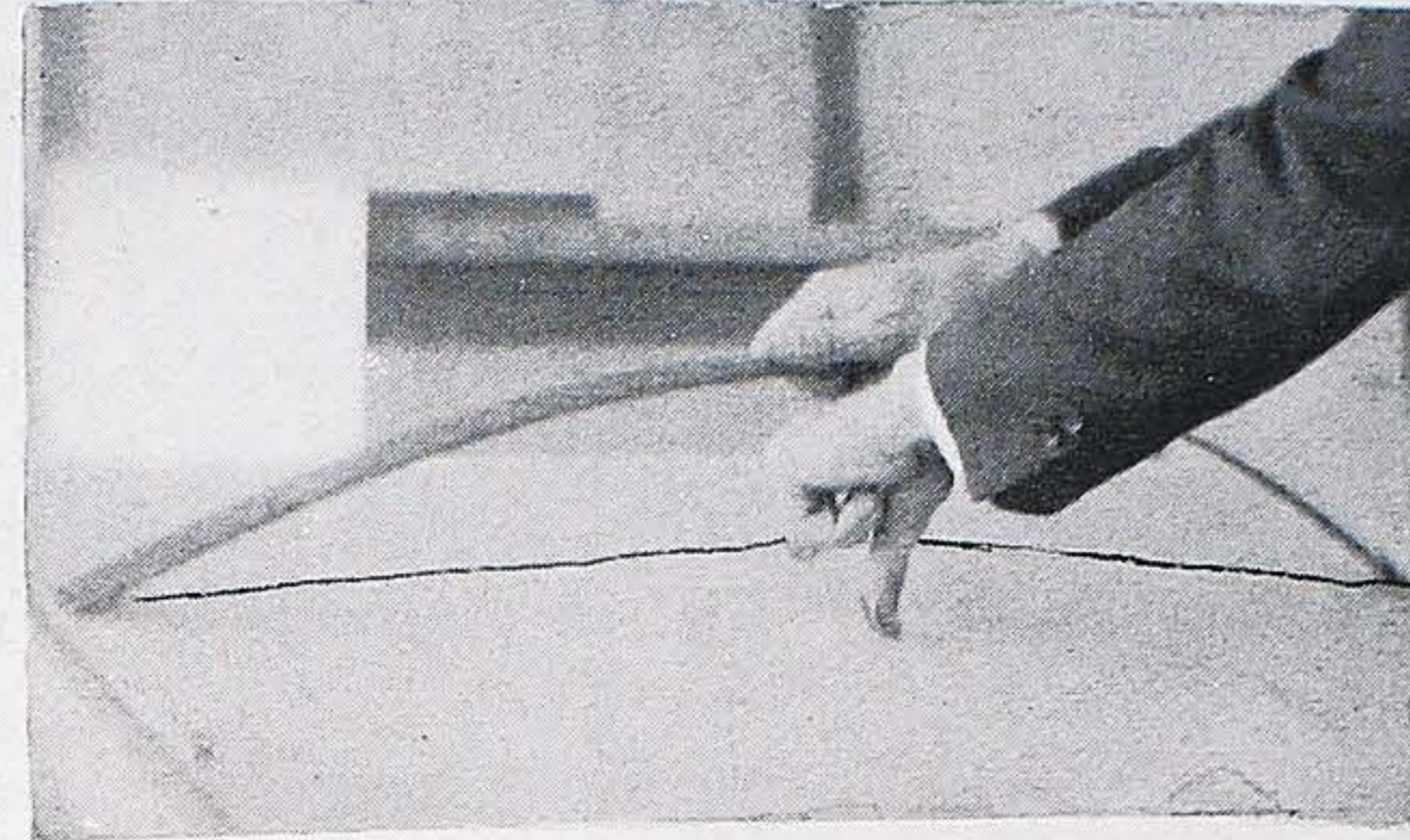
*NO! WA  
HEAVY  
EXCEPT  
BRISTLES.  
DROPPING  
PAINT ON  
AND STOP  
USED FOR  
ON BOARD.*

## PLATE C



**NO. 1**

**NO. 1 WRAP A FITCH WITH HEAVY PAPER, COVERING ALL EXCEPT  $\frac{3}{8}$  OF AN INCH OF THE BRISTLES. FILL IT WITH PAINT BY DROPPING A FEW DROPS OF THE PAINT ONTO A PIECE OF GLASS AND STOMP FITCH INTO PAINT. USED FOR CIRCLES AND LONG LINES ON BOARDS. FOR CIRCLES USE A STRING.**



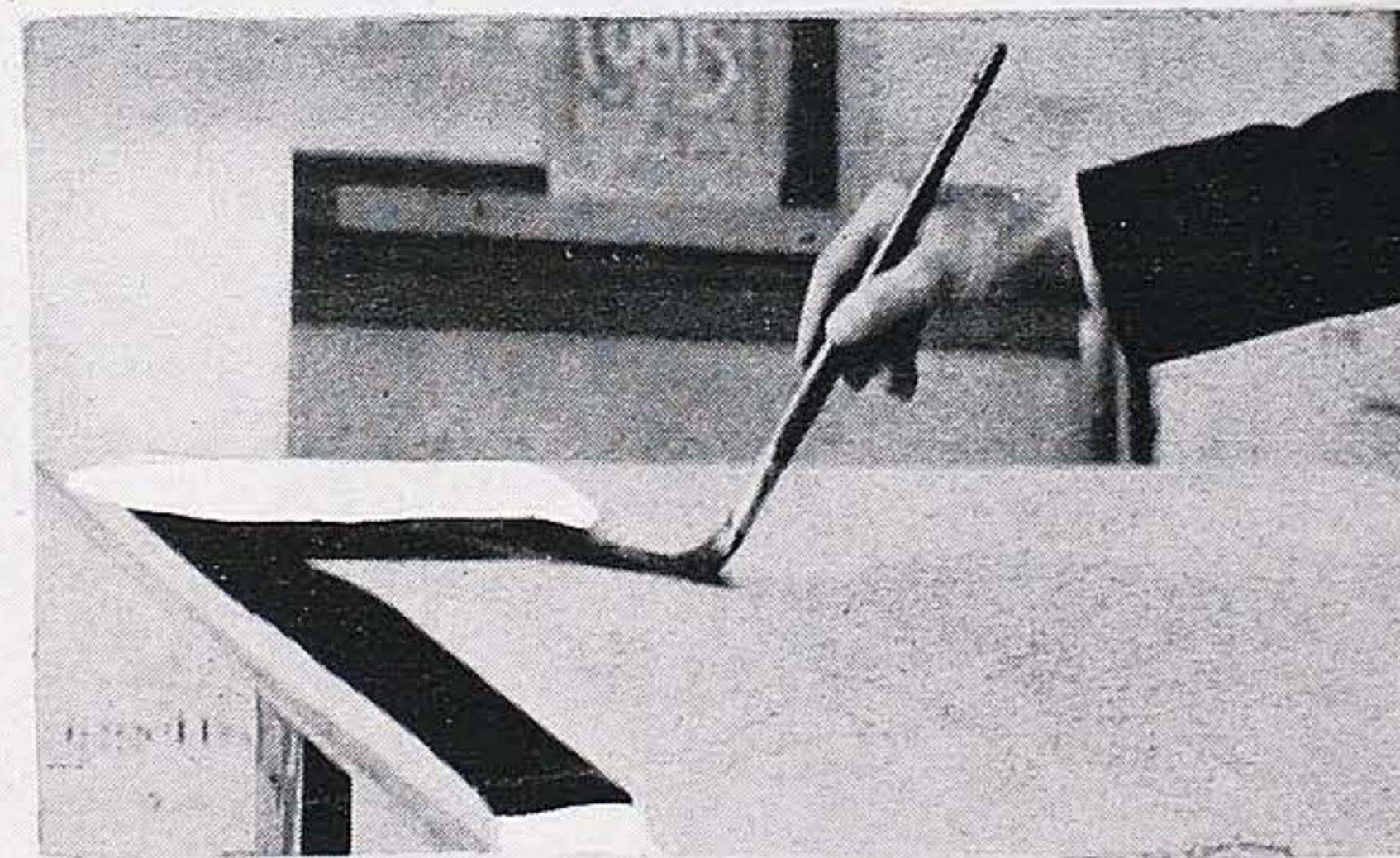
**NO. 2**

**NO. 2. USE OF BOW SNAP LINE. FOR SNAPPING LINES ON CURTAIN, CANVAS OR FLIMSY MATERIALS. USE WITH CHALK OR CHARCOAL.**



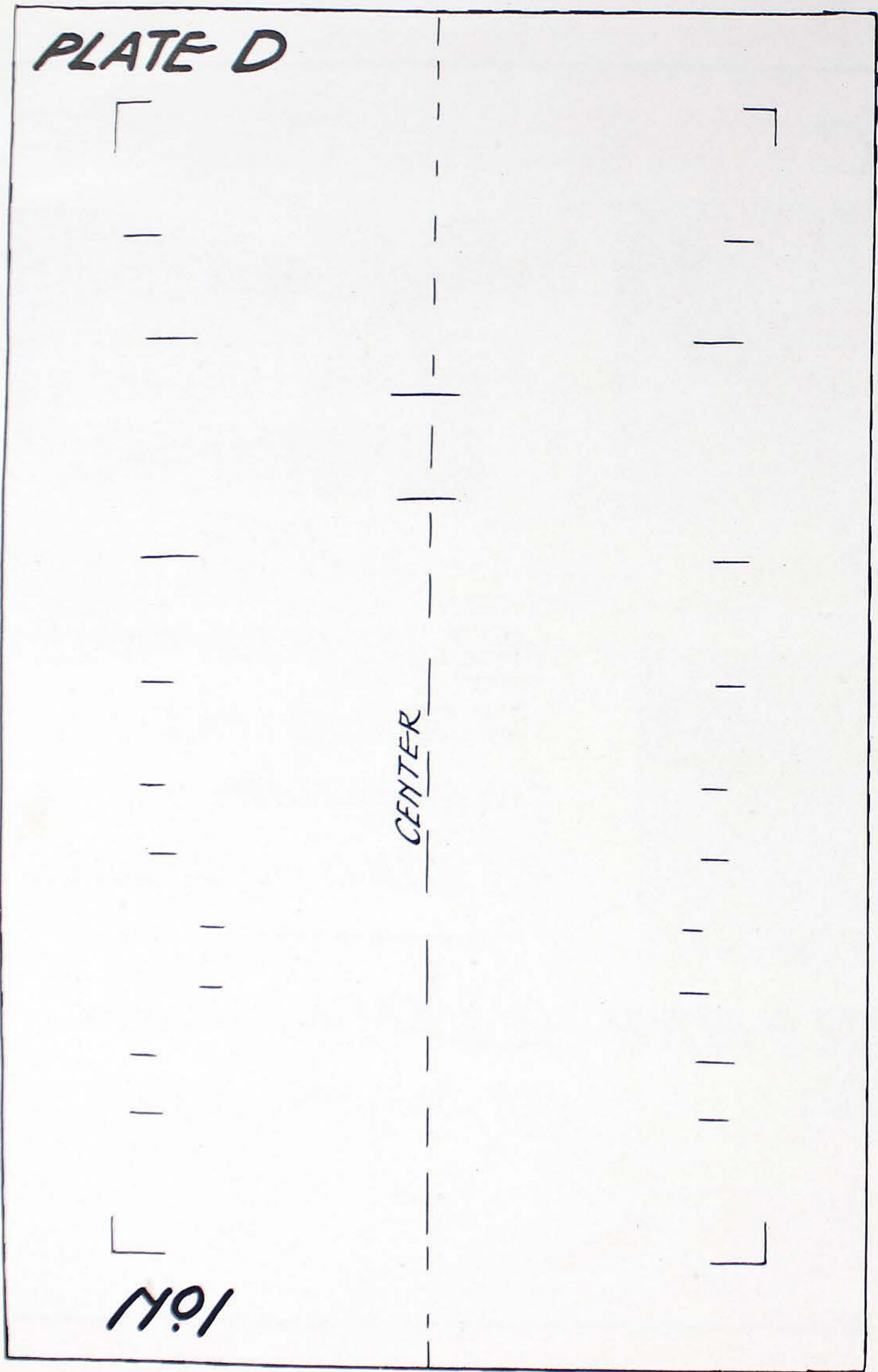
**NO. 3**

**NO. 3. LAYOUT METHOD FOR JAPANNED PLATES.**

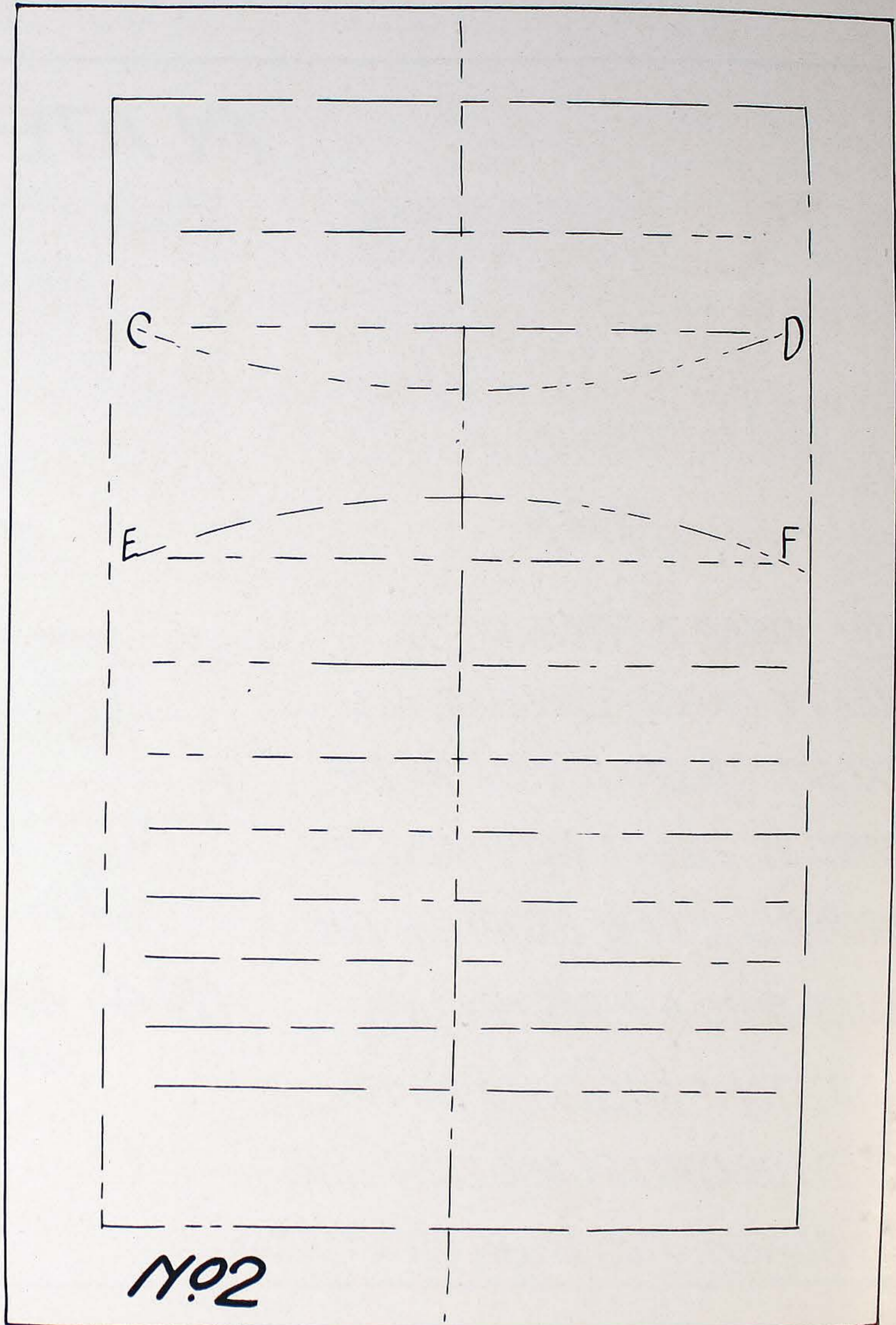


**NO. 4 BRISTLE FITCH IN USE.**

PLATE D



No. 1

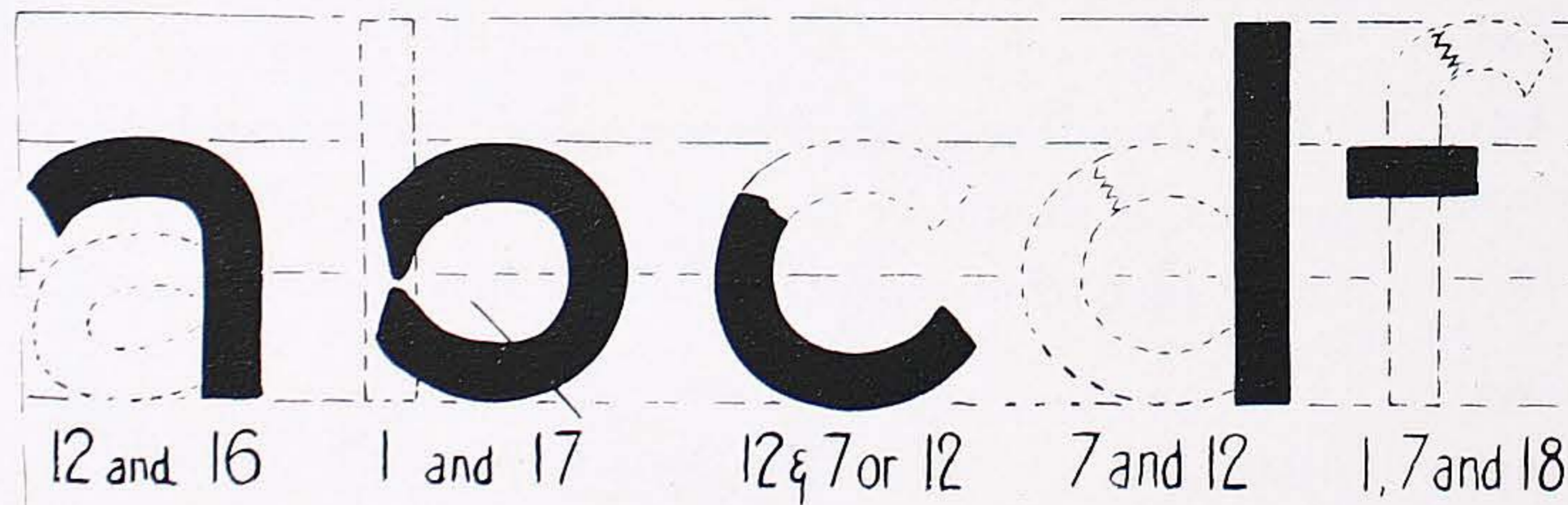
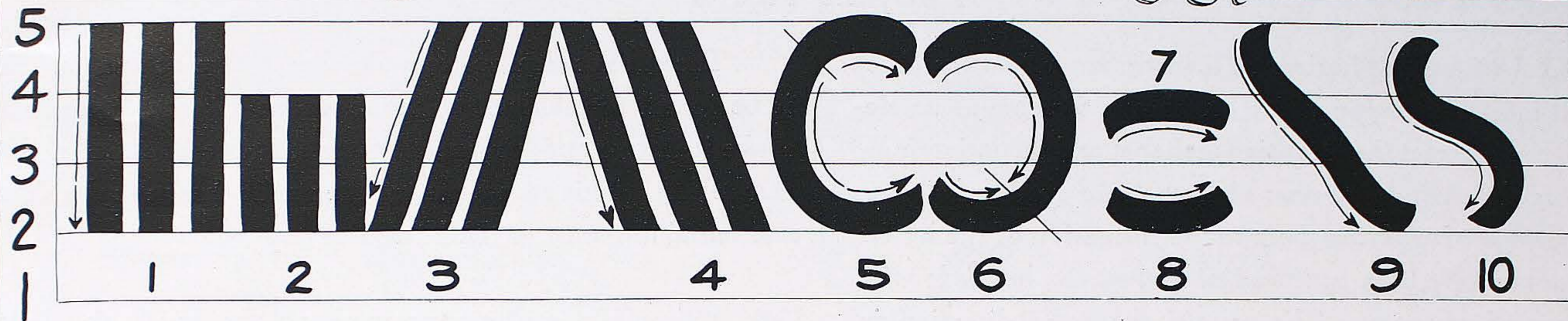


No. 2



# PLATE I

## Elements of Construction... Egyptian, etc.



USE A NO 8 RED SABLE SHOW CARD BRUSH, WITH BLACK SHOW CARD COLOR, ON 2 PLY BRISTOL BOARD. PRACTICE THIS FAITHFULLY.

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## Project No. 2

**7** Plate No. 1 shows five horizontal lines drawn across the sheet one-half inch apart, upon which are shown the composite elements used to construct the Egyptian alphabet and its derivations. The numbers placed under or near each stroke or group of strokes is for the purpose of applying them to the formation of the letters after the strokes have been practised until they can be made with a fair degree of accuracy. The arrows show the direction in which the strokes are drawn. They should be sketched lightly with lead pencil to assist student with brush work.

**8** Plate No. 2 shows the positions of brush at start and finish of stroke (see A). For the curved stroke (see B), the positions of the brush are shown, and to keep the chisel edge of the brush at right angles with the stroke, so that a uniform thickness or width be maintained, it is necessary to revolve the brush between the thumb and finger sufficiently to maintain this thickness. Naturally, a long curve does not require the brush to be turned as fast as would a short curve (see Fig. G), Plate 2. This explains the idea of revolving the brush for curved lines. Overlap curves to obliterate marks of connection.

Time spent on these exercises will repay the student many times over, as brush manipulation is acquired by practice alone.

**9** At the bottom of Plate No. 1, the letters a, b, c, d and f are shown with the constructive elements explained.

The strokes required to make the "a" are 16 and 12. Should it be found too difficult to make stroke 12, it is permissible to make it in two strokes instead of one. (See line drawn through stroke 12). This shows part of the stroke drawn to the right and the remaining part to the left.

**10** Maintain a uniform pressure on the brush and hold the brush as shown on Plate No. 2, working with the point of the brush. Too much of the hair of the brush touching the surface will cause the operator to sacrifice proper control. A brush is always drawn, never pushed. The brush should be dipped into the paint and fully charged with it as a dry brush will not produce clean lines. After the brush is charged, it should be worked to a chisel edge by drawing it over a piece of scrap cardboard. Hold brush firmly but not so tight as to contract the muscles of the hand. Free muscular movement is essential.

After the student becomes acquainted with the use of the strokes, it should be no hard task for him to look at a letter and know just what strokes would be involved in its making.

## Project No. 3

**11** Copy Plates 3A and 3B. Study and memorize comparative widths of all letters.

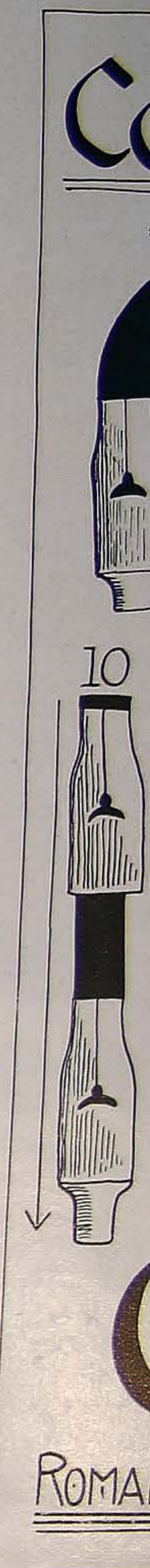
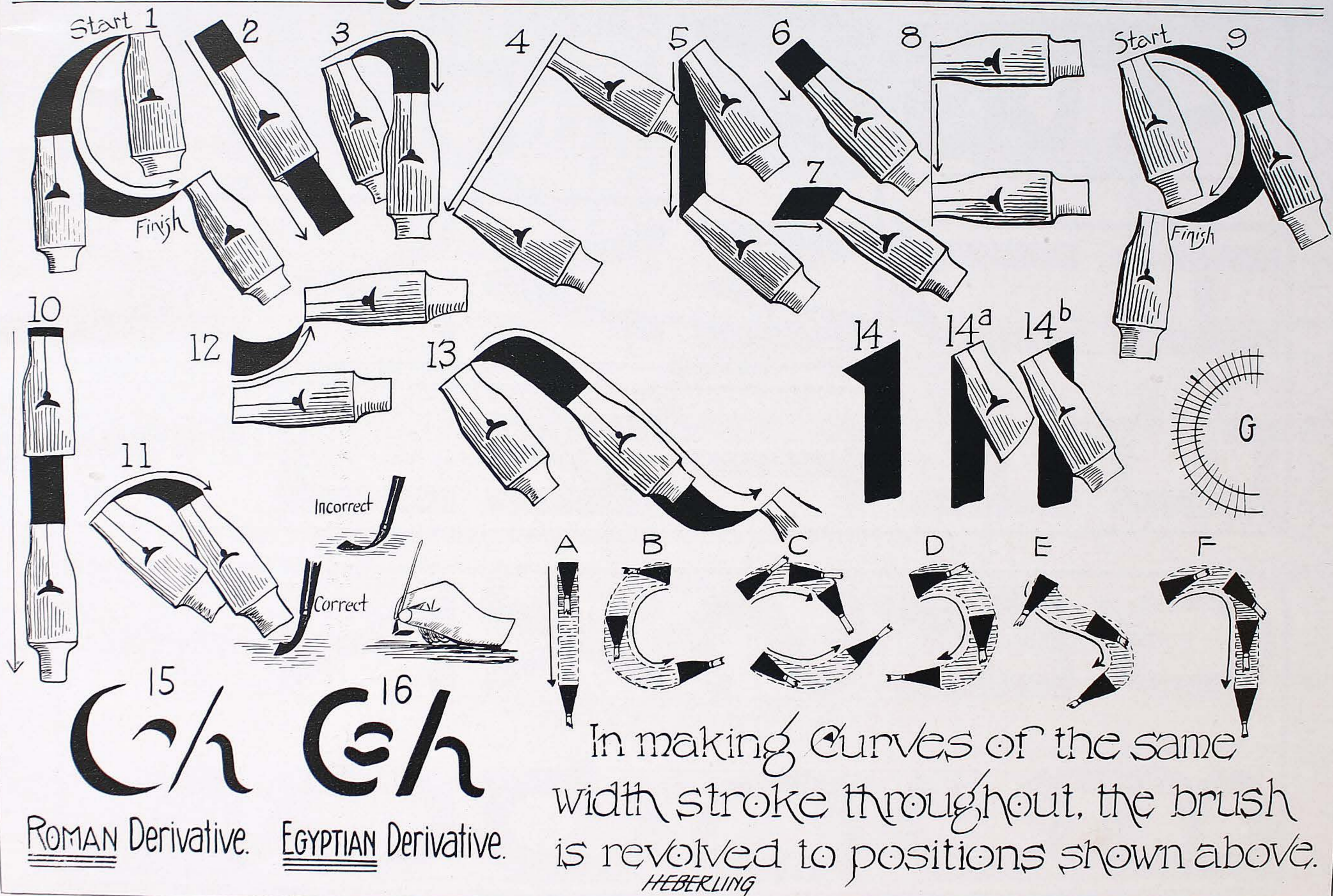


PLATE 2

Correct Angles for Pen or Brush Practice



In making curves of the same width stroke throughout, the brush is revolved to positions shown above.

# PLATE 3A

☞ COMPARATIVE DIAGRAM ☞

GROUP "A"      GROUP "B"      GROUP "C"

Q R S X Z      E F T N L J      H U M V Y K      A & W

B C D G O P

↑ NORMAL ↓

Broken lines show difference of width from those in Group A  
 SEE GROUPS "A" and "B" ● COMPARE THEM.

NOTE.  
 Group "A" - All same width except bottom loop of "B".  
 Group "B" less in width than Group "A".  
 Group "C" greater in width than Group "A".  
 Do not apply this diagram to Eccentric Alphabets.

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If Group "A" were 1 inch or 1 foot in width, Group "B" would be proportionately narrower. Group "C" proportionately larger.

# ☞ PLATE 3B ☞

☞ COMPARATIVE DIAGRAM ☞

Q R S X Z      E F T N L J      H U M V Y K      A & W

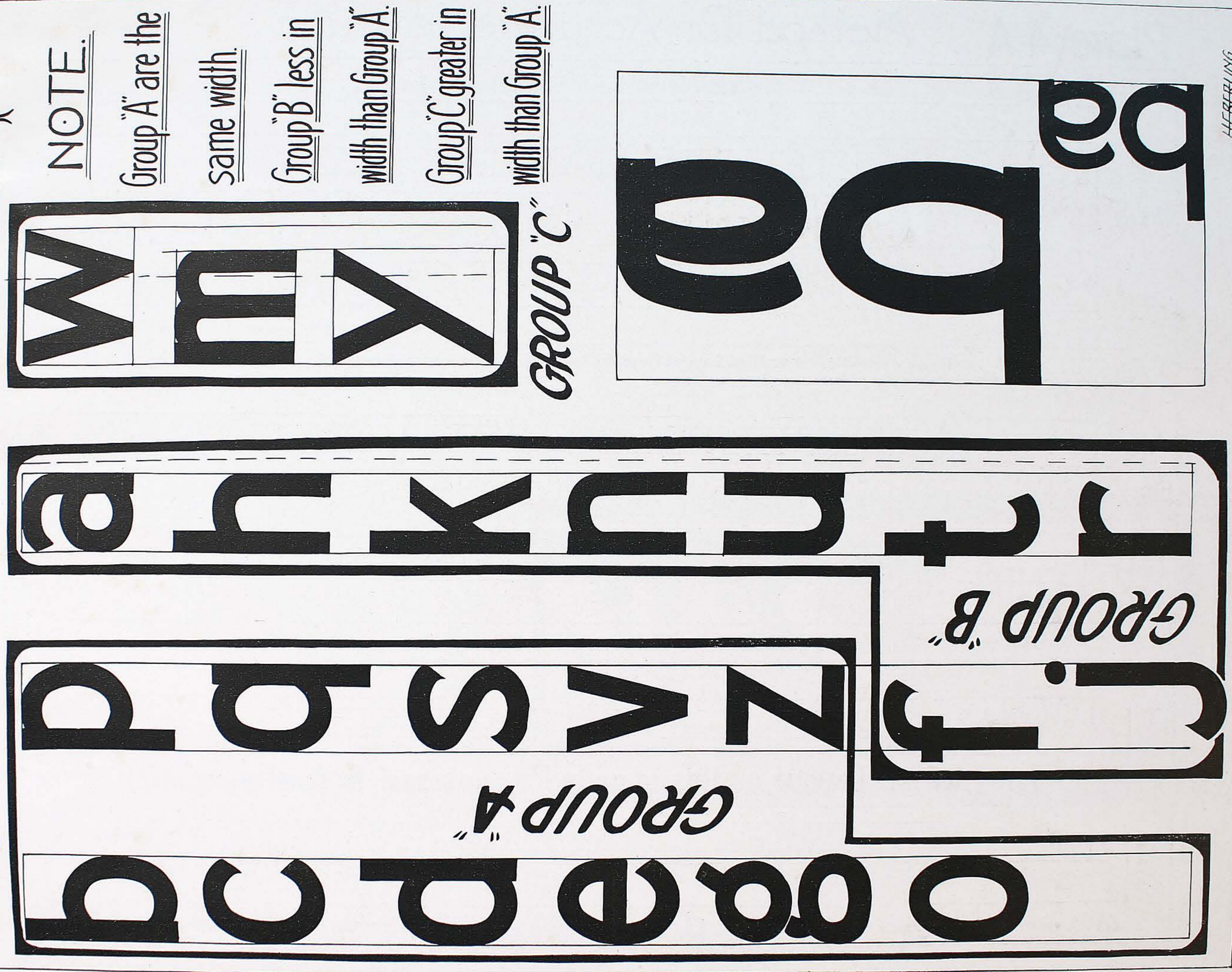
Do not apply this diagram to Eccentric Alphabets.

GROUP "A"      GROUP "B"      GROUP "C"

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≡ PLATE 3B ≡

COMPARATIVE DIAGRAM



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# Plate 4A Method for Accurate Layouts

... Single Line Layout to Ascertain Preliminary Spacing ...

No. 1

PATTERSON-HARTWICK CORP.  
AUTOMOBILE ACCESSORIES  
CARBURETION and IGNITION PARTS. GEARS & SHAFTS

... Double Line or Final Layout Previous to Painting. It insures Accuracy ...

No. 2

PATTERSON-HARTWICK CORP.  
AUTOMOBILE ACCESSORIES  
CARBURETION and IGNITION PARTS. GEARS & SHAFTS

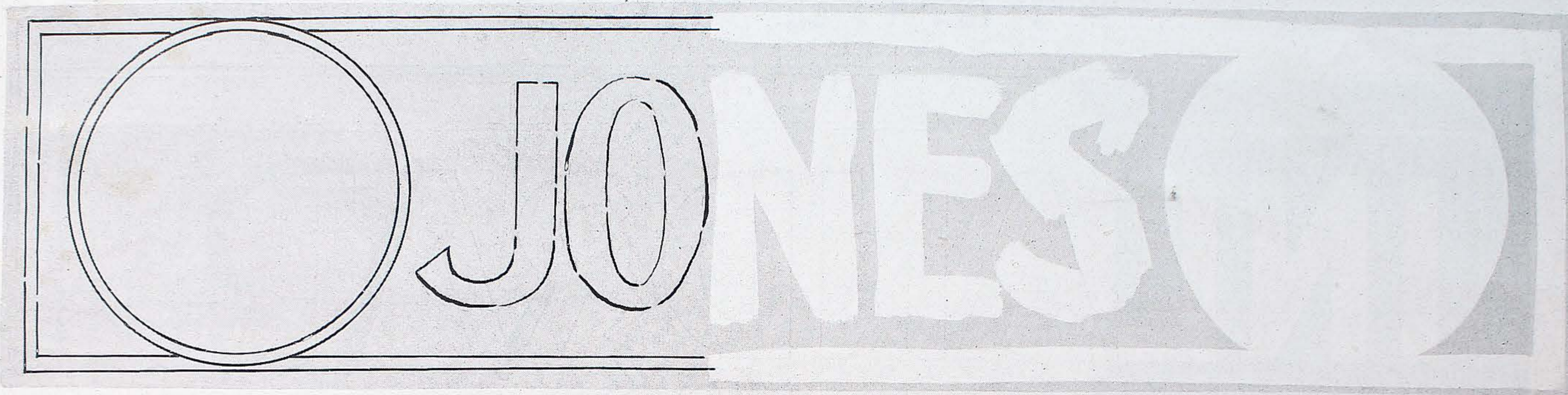
*Positions for lines of Letters & Borders must be established before proceeding to lay out Lettering. See Space below.*

No. 3

**Lengthwise Layout, as this, is called "Landscape." for Panel Layout, "4D"**

*Composition is not an Accident! Students must learn this method if any Constructive Progress is expected.*

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*Nº1 "INDELIBLE PENCIL LAYOUT" Nº2 "BREAK ON"*

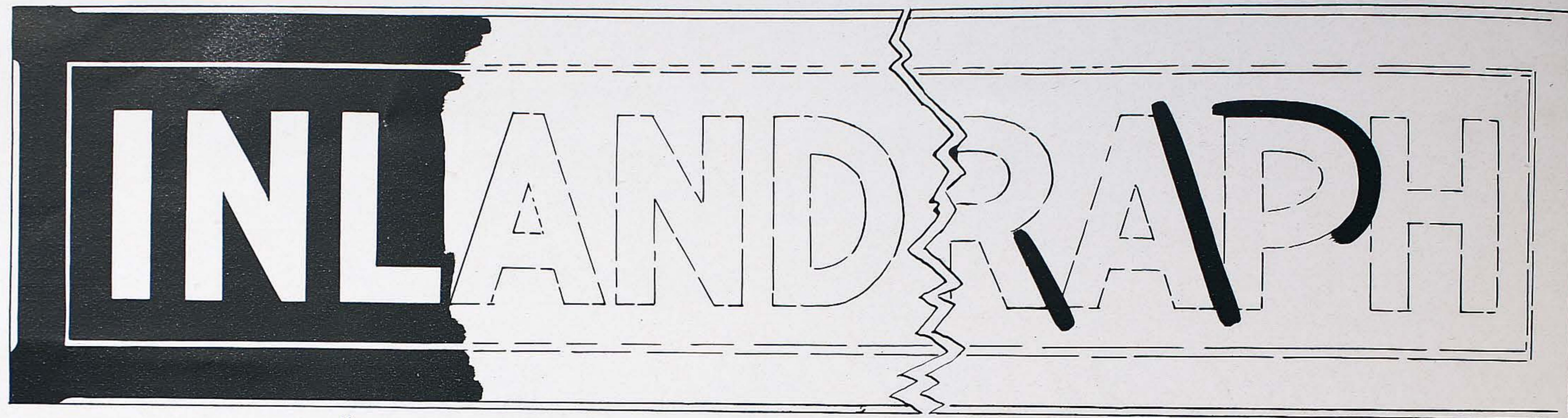


*Nº3 "INDELIBLE BURN THRU" Nº4 COMPLETED*

PLATE 4 B

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PLATE 4 C



*NO.1 "CUTTING IN"*

*NO.2 ERROR*



*NO.3 "SURFACING ON"*

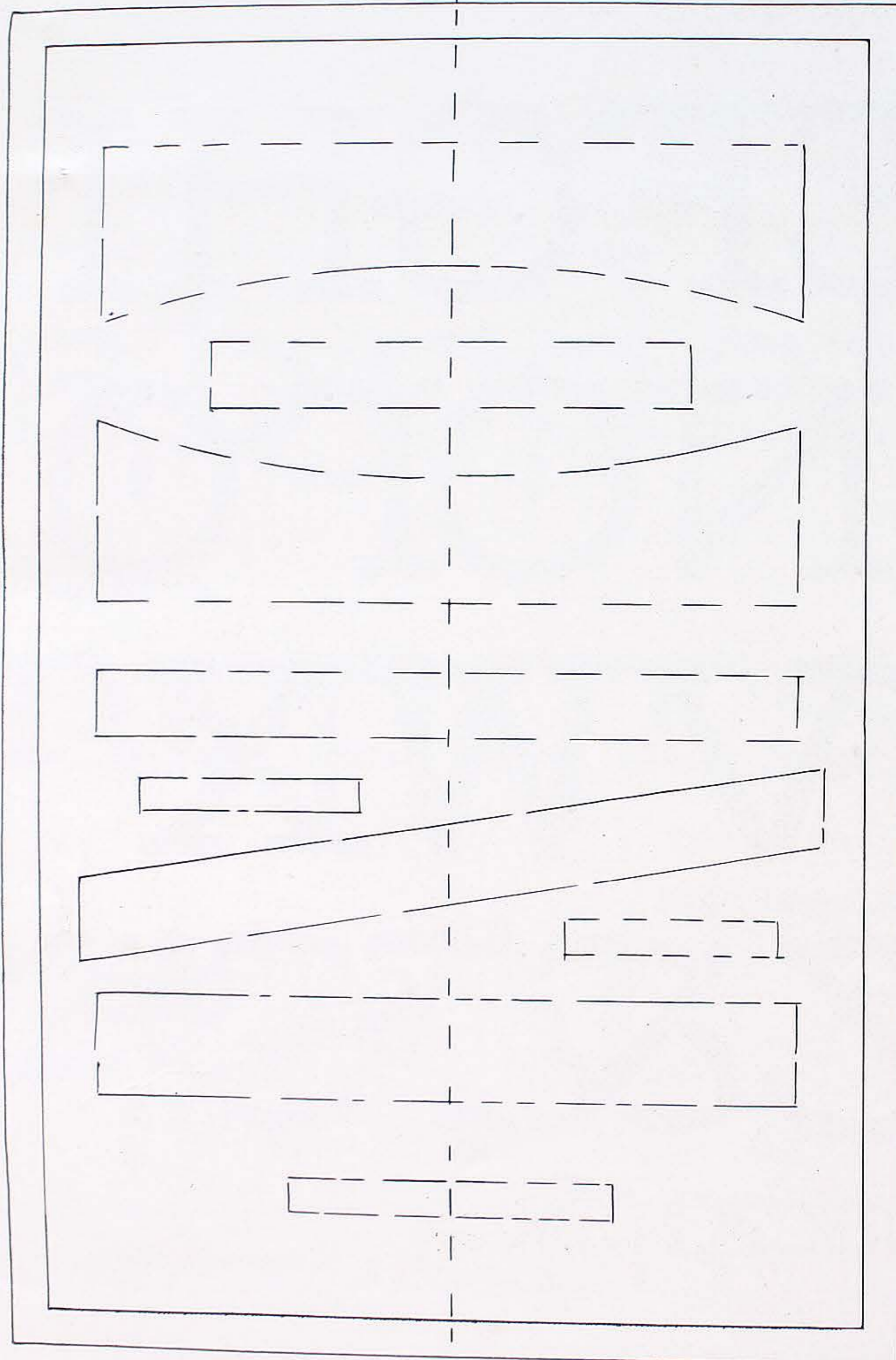
*LAYOUT LOST. AVOID THIS.*

*NO.4 POOR*

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Plate 4D Panel Style Layout.

CENTER



TRUBE CITY  
NATIONAL  
BANK  
REAL ESTATE MORTGAGES  
3% ON SAVINGS  
WE WANT YOUR ACCOUNT  
2% ON CHECKING  
2ND & FOX STS.  
PHONE FOX 1318

PLATE 5A

A B C D E F G H I

J K L M N O P Q

R S T U V W X

Y Z & S

ONE STROKE "TUSCAN" FOR CLOTH AND GARDS.

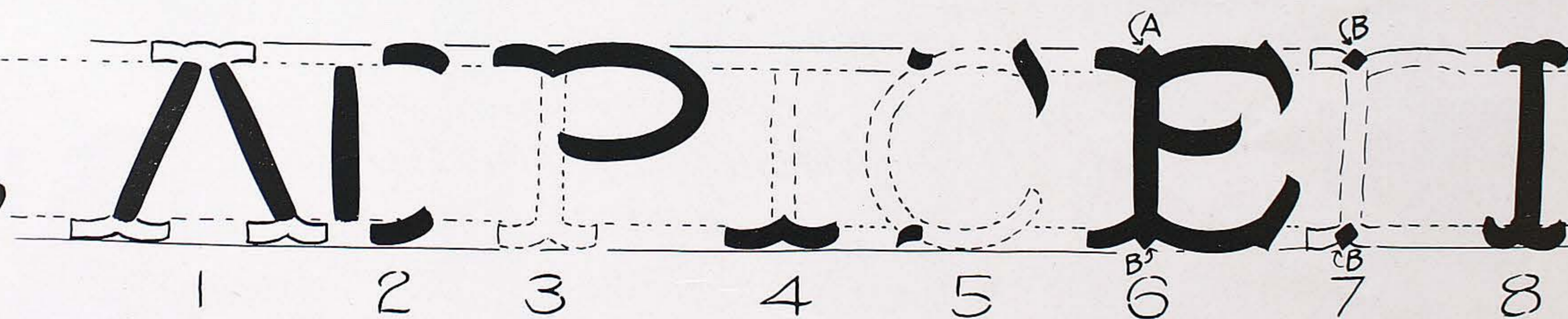
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PLATE 5 B

ONE-STROKE TUSCAN BLOCK LOWER CASE

ab cdefghijklm

nopqrstuvwxy

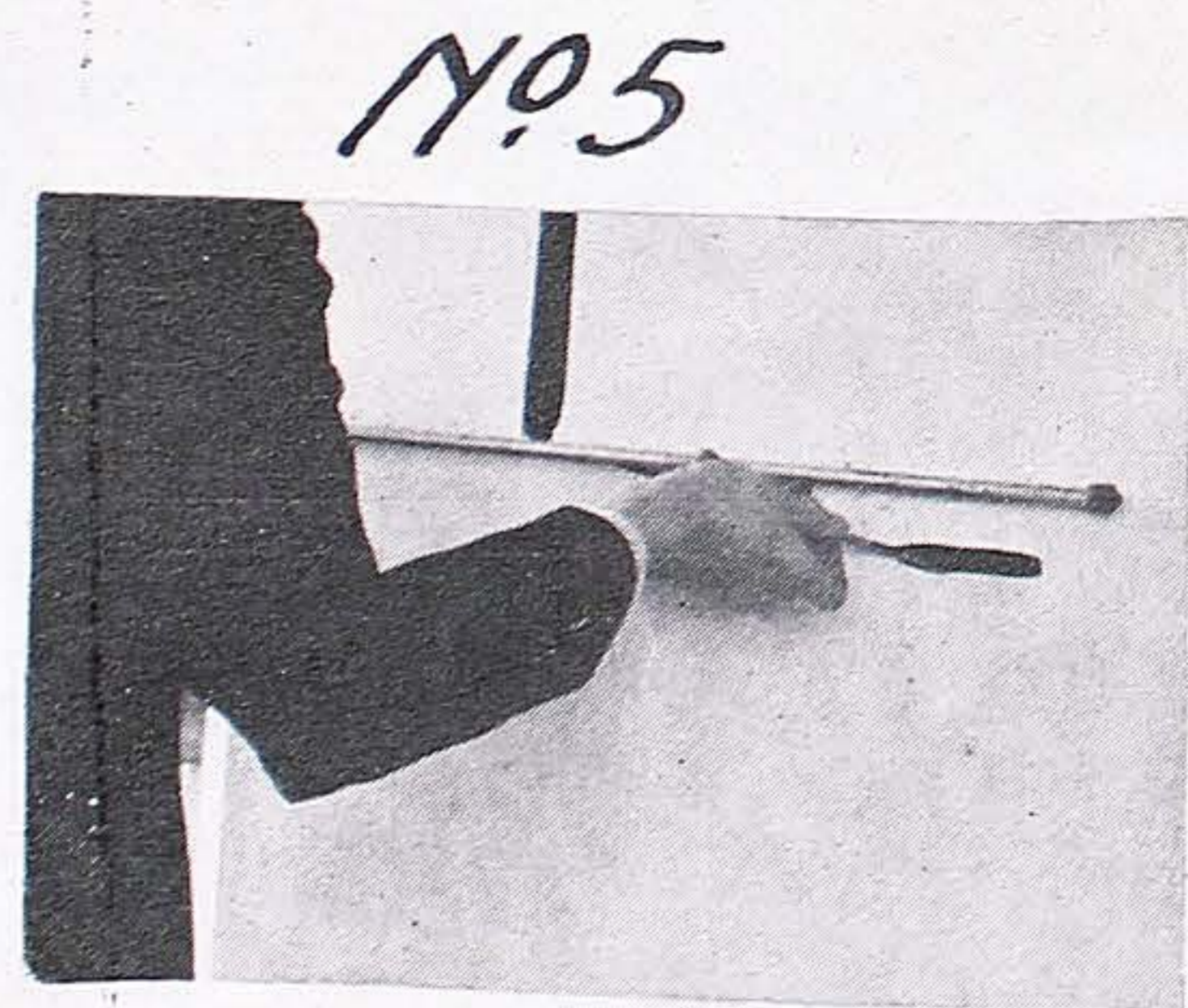
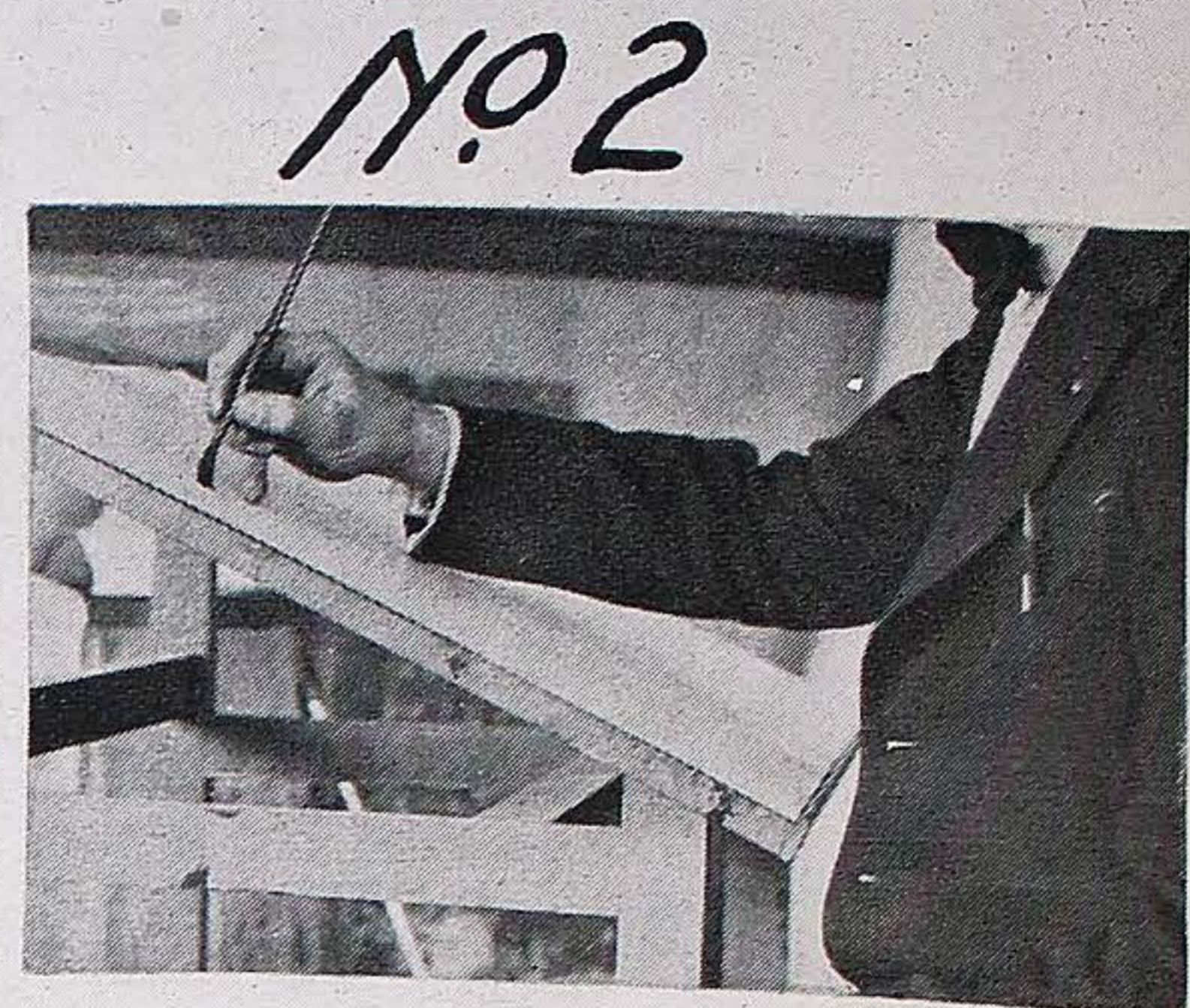
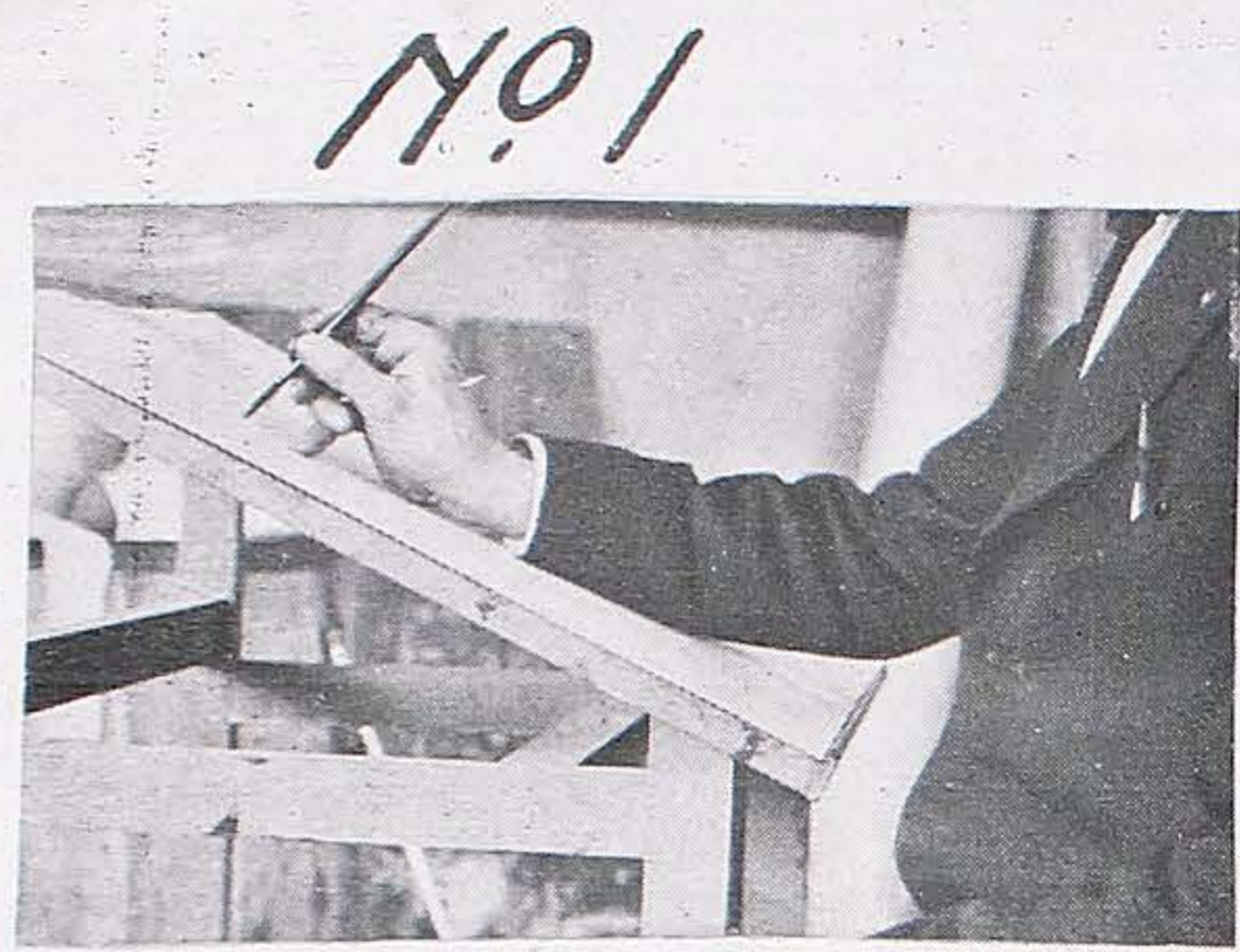
zz 

*EPAJ*  
*SLANT*

LETTERING

*CARDS*  
*CLOTH*

HEBERLING



Nº 1 and 2 Positions for Card Work

Nº 3 Vertical Use of Rest Stick

Nº 4 Working Over " "

Nº 5 Horizontal Use of Rest Stick

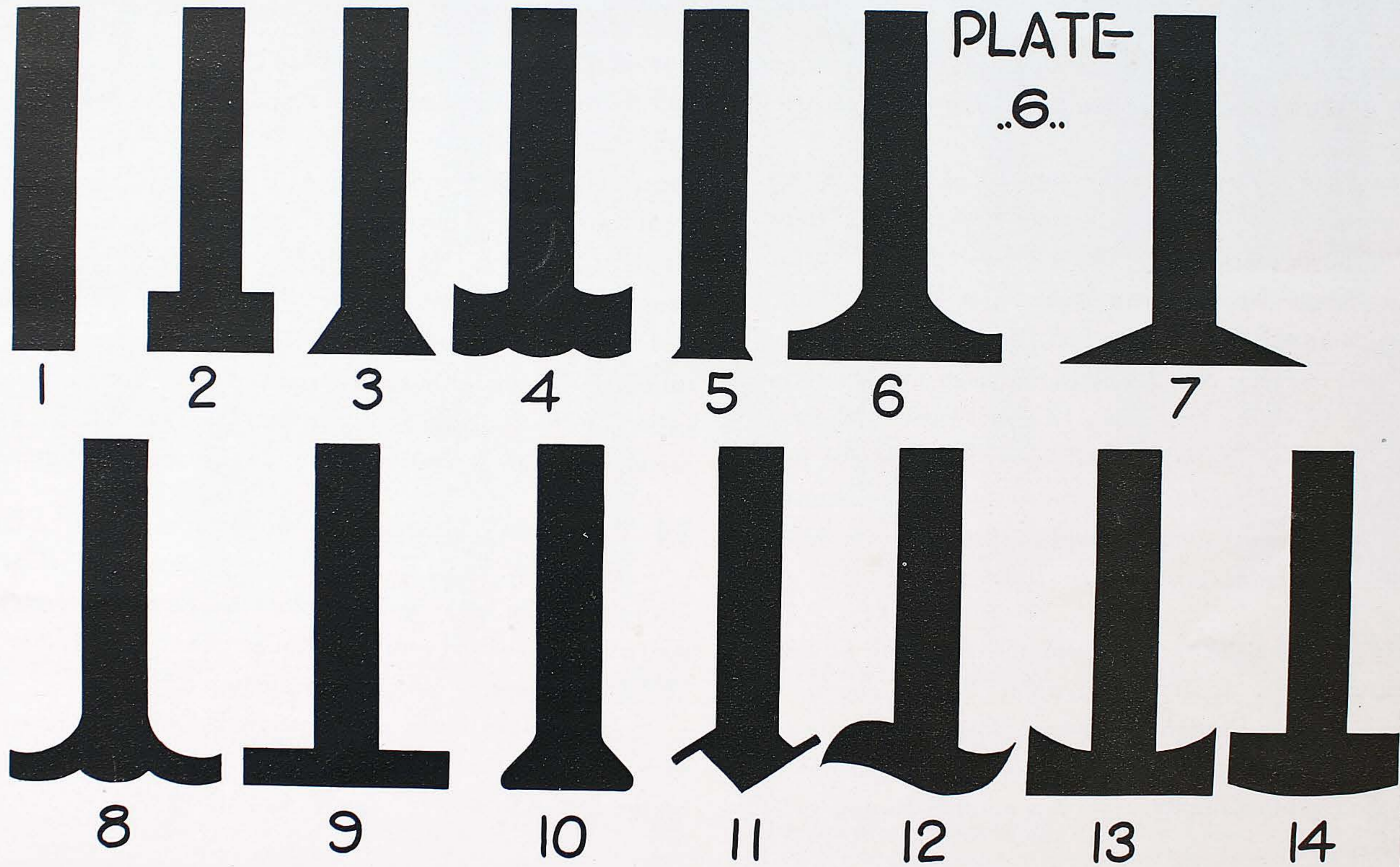
Nº 6 " " " " "

Nº 7 Working Over " "

Plate 5 C

SPURS and EFFECTS BY THEIR APPLICATION...

PLATE  
..6..



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## Nomenclature

The various names applied to the alphabets are determined by the finish of the extremities as the governing characteristics.

**12** No. 1 on Plate No. 6 shows the capitals of the Egyptian; No. 2 shows *Full Block* and *Round Block*; No. 3 shows *Devinne*; No. 4 shows *Tuscan Block*; No. 5 shows *Spurred Egyptian*; No. 6 shows *Roman*; No. 7 shows *Spike Spur Roman*; No. 8 shows *Tuscan Roman*; No. 9 shows *Full Block thick and thin* and *Round Block thick and thin*; No. 10 shows *Plymouth*; No. 11 shows *Old English*; No. 12 shows *Text*; Nos. 13 and 14 show Modifications of *Full* and *Round Blocks*. It will be noticed that the fourteen different forms of spurs or serifs are simply modifications of stroke No. 1; hence the reason for learning the Egyptian Alphabet thoroughly if varied ability is to be acquired.

**13** Plate No. 7 shows the various terminals for small or lower case letters. No. 1 shows Egyptian, No. 2 shows the Roman, No. 3 shows a Roman derivation, Nos. 4 and 5 are also of the Roman family; No. 6 is *Full and Round Block*, but the stroke is of the Egyptian family. No. 7 is another Roman called

*Tuscan*; No. 8 is of the Roman family, but the spurs are rounded, and this gives it the name of *Plymouth*. No. 9 is *Italic*, but it still retains the Roman tinge, No. 10 is a Roman with compound spur. No. 11 is a modification of Egyptian, the corners being rounded. No. 12 is spurred Egyptian, No. 13 is *Spike Spur Roman*; No. 14 is *Old English*, No. 15 is *Text*, No. 16 is another compound spurred Roman, No. 17 is also of the Roman family and the spur is rounded, No. 18 is another form of the Roman, as is No. 19. No. 20 shows a compound spur, which is a modification of No. 6 of the Egyptian family. Nos. 21, 22, 23 and 24 are also Roman derivatives. No. 25 is a modified Egyptian.

**14** At bottom of Plate No. 7, notice a number of E's. Those marked A, B, C, E, F and G are known as "thick and thin." "A" shows the letter as it is, which is derived from Roman, the spurs being omitted and the thin strokes made a little heavier. "B" shows a dotted outline constructing a Roman E. "C" shows a thick and thin block construction by the dotted lines. "D" shows an Egyptian "E" on which a full block "E" is constructed by the dotted lines.

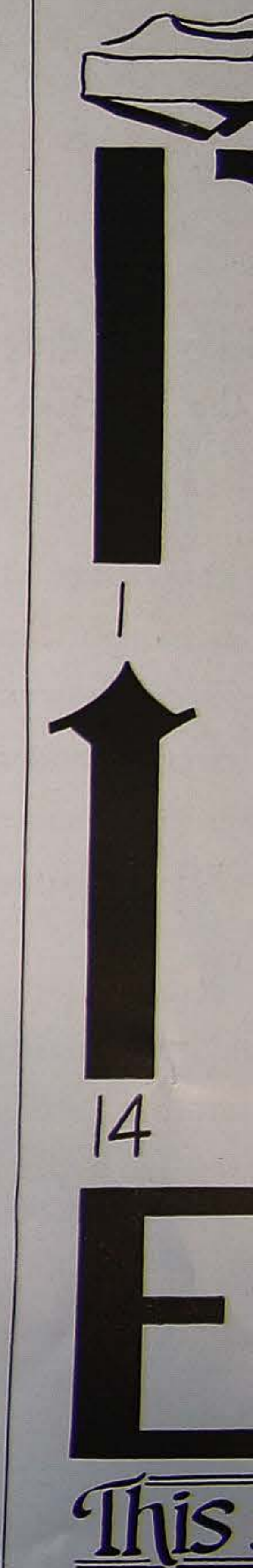
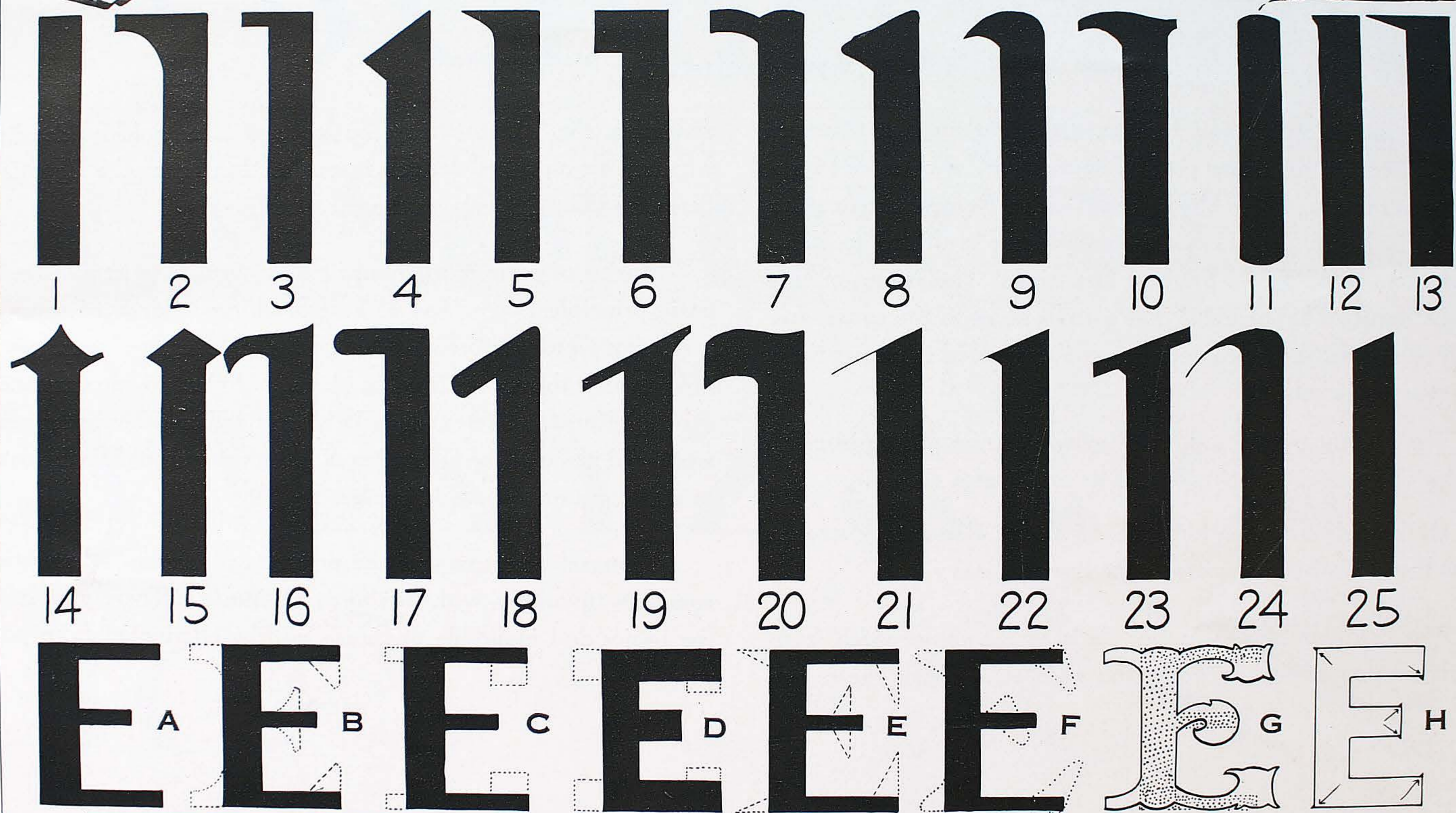


PLATE 7

Spurs and Effects by their application



This shows the close relationship of various alphabets.

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s are rounded,  
s Italic, but it  
with compound  
corners being  
is Spike Spur  
. 16 is another  
Roman family  
of the Roman,  
which is a modifi-  
22, 23 and 24  
Egyptian.

of E's. Those  
"thick and thin."  
from Roman, the  
a little heavier.  
in E. "C" shows  
dotted lines. "D"  
E" is constructed

### Nomenclature

**15** "E" shows Spike Spur Roman and gives an idea of other alphabets with similar pointed spurs. "F" shows the Plymouth construction. "G" shows the Tuscan Roman constructed on the Thick and Thin E, which in this case is dotted to show foundation. "H" shows Spurred Egyptian. The spurs on this alphabet must be kept small. The arrows point to the spurs, and it will be noticed these are very much abbreviated in comparison with other alphabets.

The student should study the various spurs and finishes of the alphabets so as to easily deduce its origin at a glance.

On Plate No. 2 at bottom, No. 15 shows elementary strokes of the Roman, which vary from fine lines to heavy.

**16** The Egyptian shown in No. 12 is of the same width from beginning of the stroke to the end. It is from these two

examples the student may be governed in quickly deciding whether an alphabet derives from the Roman or the Egyptian. Script and Old English are the exceptions.

Purity of style is maintained only through a knowledge of basic principles. The use of several different kinds of spurs in making a word is a breach of etiquette in lettering, regardless of how neatly the work may be done. Under no circumstances should letters of different alphabets be mixed together in the same word and it should be remembered that purity of style is the same to art as grammar is to language.

Mongrel mixtures and the products of pseudo letter artists compare favorably with dischords in music. Therefore, study the basics and inaudible dischords will be eliminated from your work.



PLATE 8 A

Show Card "ROMAN" Capitals

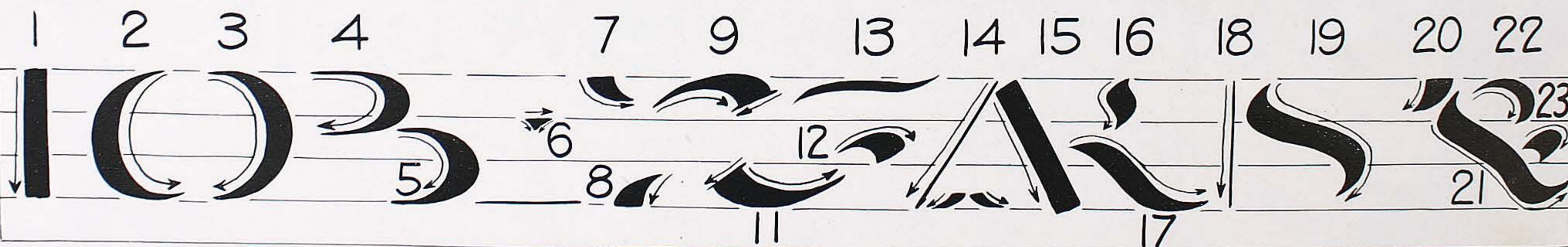
A B C D E F G H I J K

A popular and rapid alphabet for Card and Cloth Signs and

L M N O P Q R S T U

easily made with Pen or Brush. Legible and Dignified

V W X Y Z & . , ? ! \$ @



See Pen Strokes on Plate No. 2 Showing Positions of "Start" and "Stop" Also, see Plate No. 8 B for information relative to Practice...

PLATE 8B

Show Card Roman. LOWER CASE

abcdefghijklm

nopqrstuvwxyz

z a b c e e f g g j s w r s j f

abc: / 1. ABC

HEBERLING

"BRADLEY TEXT" CAPITALS & NUMERALS

A B C D E F G H I J K

L M N O P Q R S T U

V W X Y Z & One

1 2 3 4 5 6 7 8 9 0

"Bradley Text" Lower Case

a b c d e f g h i j k

l m n o p q r s t u

v w x y z c l i s s

PRACTICE-STROKES

Letteri  
The S  
L  
Same  
Letters  
closely  
Correct  
of hand  
pencil for  
laying out  
Correct  
C

Lettering of the Finest Character Loses its Effectiveness if improperly Spaced!

The Space between letters is just as important as the letters themselves.

# LETTERING: LETTERING

Same Size of Space between all letters IS INCORRECT  
Letters C, G, O, Q, S, A, E, F, L, P, T, V, W, Y and Z must be closely spaced on account of their OPEN formation.

The above word is CORRECTLY spaced. The space between the letters "I" and "N" being the only Normal Space. The other spaces being reduced to compensate for the space in and around the letter itself. Study the following examples.



Correct Position for Brush both with and without the Use of Mahl Stick

COMPO

INDIANA

Notice the Spacing Marks above This System aids the Beginner.

AVENUE

LAWYER

MARKET

HEBERLING



A=6 Fifths    B=5 Fifths    C=5 Fifths    D=5 Fifths    E=4½ Fifths    F=4½ Fifths    G=5 Fifths    H=4¾ Fifths    J=4 Fifths  
 K=5¼ Fifths Bottom    L=4 Fifths    M=5½ Fifths    N=4½ Fifths    O=5 Fifths    P=5 Fifths    Q=5 Fifths    R=5 Fifths    S=5 Fifths    T=4½ Fifths  
 U=4¾ Fifths    V=5½ Fifths    W=7 Fifths    X=5 Fifths    Y=5½ Fifths    Z=5 Fifths Bottom    &=6 Fifths Bottom  
**A B C D E F G H I J**  
**K L M N O P Q R S T**  
**U V W X Y Z & . ,**

*Light Face Condensed*  
**A B C D E F G H I J K L M N O P Q R**

*Medium Face Condensed*  
**S T U V W X Y Z & A B C D E F G H I J K**

*Elongated*  
**A B C D E F G H I J K L**

**EGYPTIAN**

**PLATE II**

# PLATE 12

No. 1

STONITON

No. 2

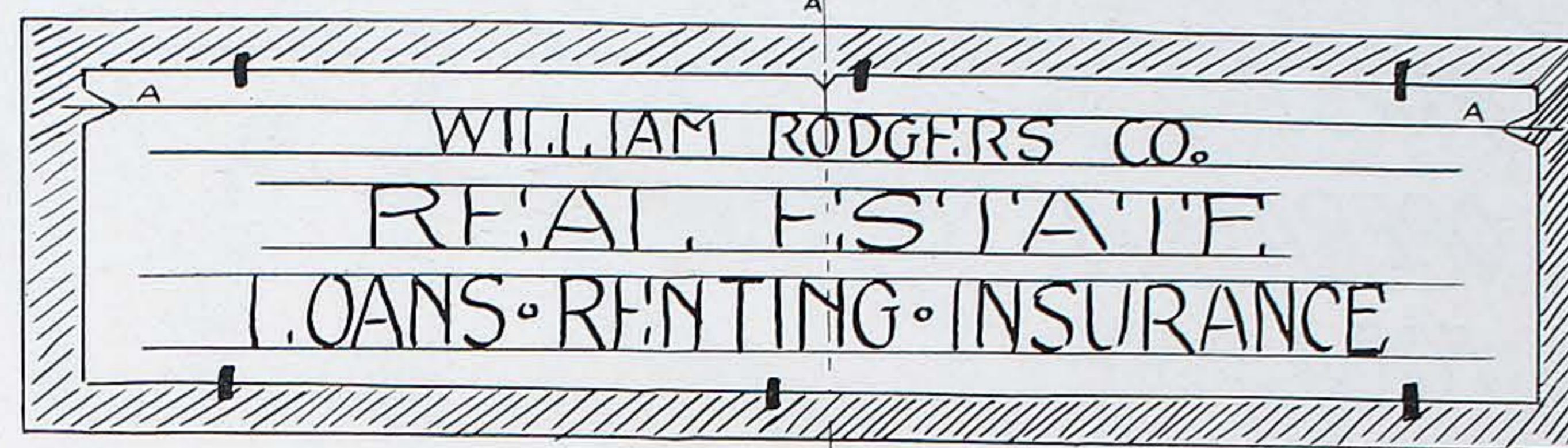
STONITON

No. 3

STONITON

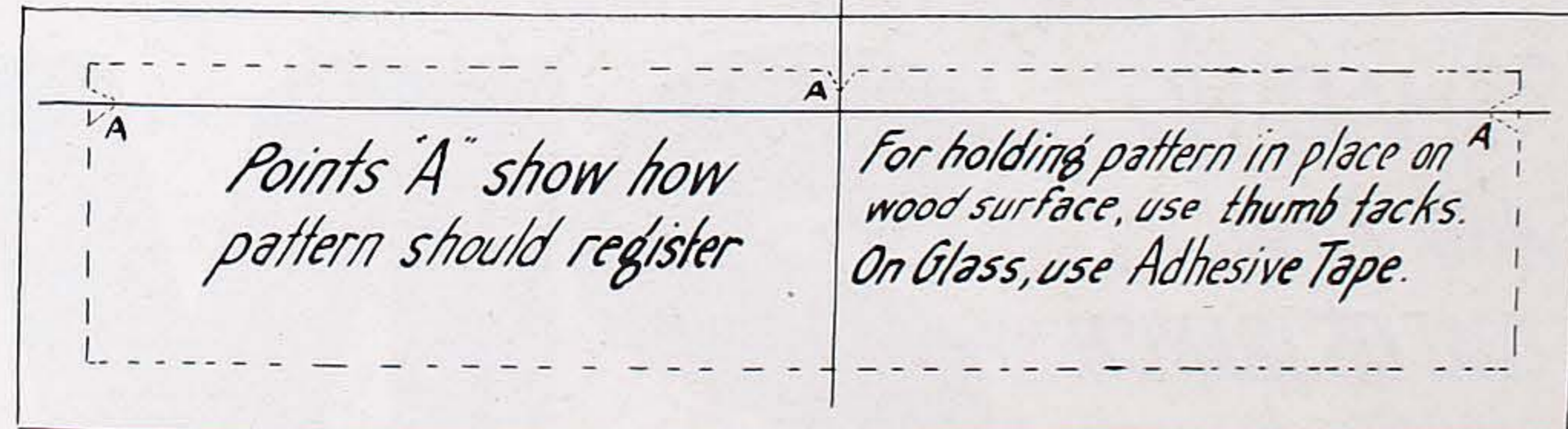


The Pounce Pattern



1a

*Notice that the top line (See A) is drawn entirely across the pattern. Before arranging pattern on Glass or other surface, draw a horizontal line to be used for registering pattern horizontally. Another line drawn vertically and in the center of the surface, will center the pattern, and the pattern can be put back in exactly the same position when necessary. See No. 2<sup>a</sup> below.*



*Points "A" show how pattern should register*

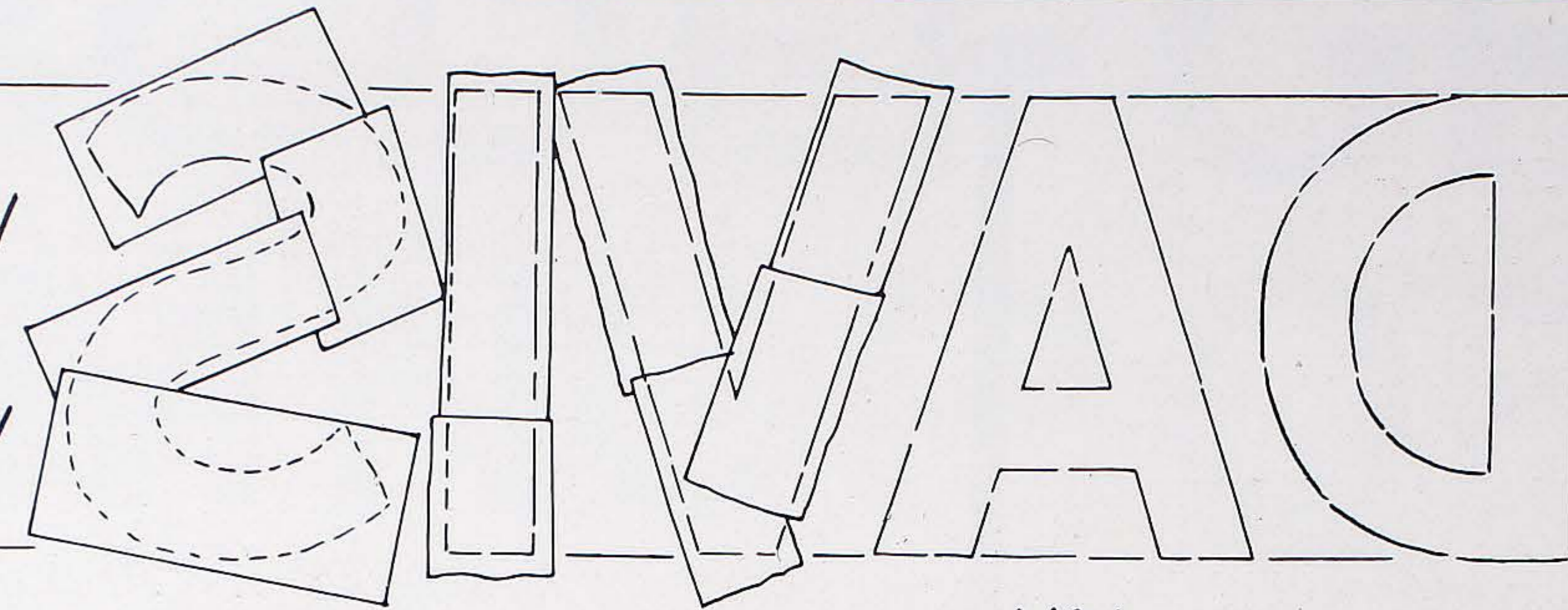
*For holding pattern in place on wood surface, use thumb tacks. On Glass, use Adhesive Tape.*

2a

HEBERLING

# PLATE 13

FIRST  
OPERATION  
FOR A SIGN  
OF GOLD ON  
GLASS



SEE PLATES 14A  
GIVING DETAIL OF OPER-  
ATIONS. - SEE PARAGRAPHS  
NO. 211 to 222

NO. 1

SECOND  
OPERATION  
TERMED  
"BACKING UP."

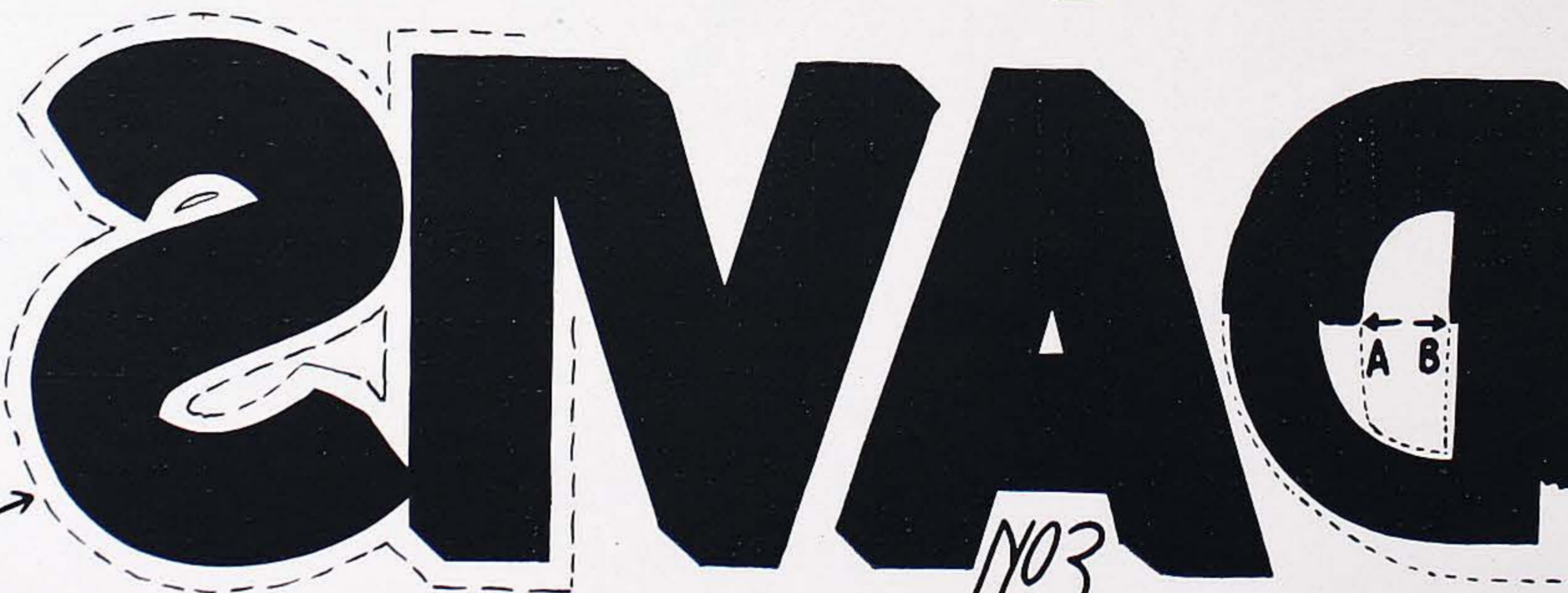


THE LETTERS "VIS"  
ARE "BACKED UP."  
ROUGH EDGES OF GOLD  
ARE REMOVED IN NEXT  
OPERATION

NO. 2

"SHADING"  
AND FINAL  
COAT OF VARNISH.

VARNISH EXTENDS  
OUTSIDE LETTER



"A" and "B" SHOW THE  
COMPARATIVE WIDTH  
OF SHADE and OUTLINE.  
DOTTED LINES SHOW  
CONTINUATION OF THE  
SHADE and OUTLINE

NO. 3

HEBERLING

THIS  
COMP  
ASIT  
PEAR  
OF G

ST

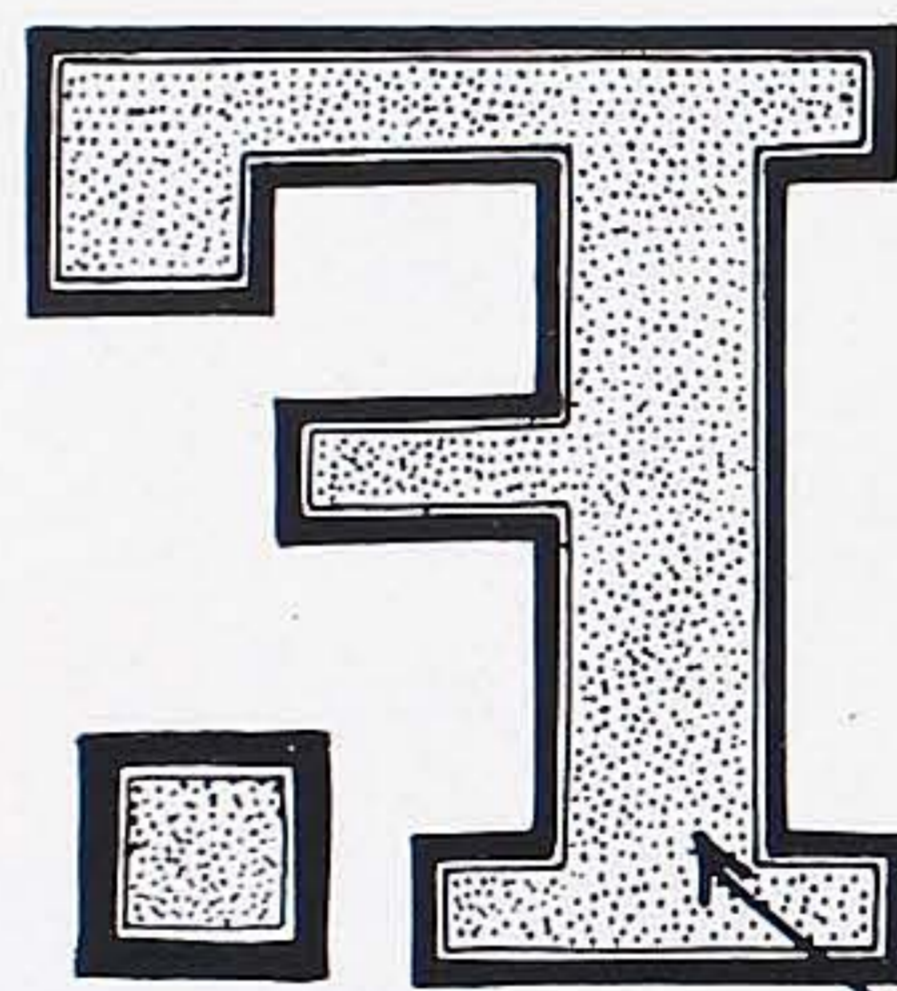
FOR L

# PLATE 14

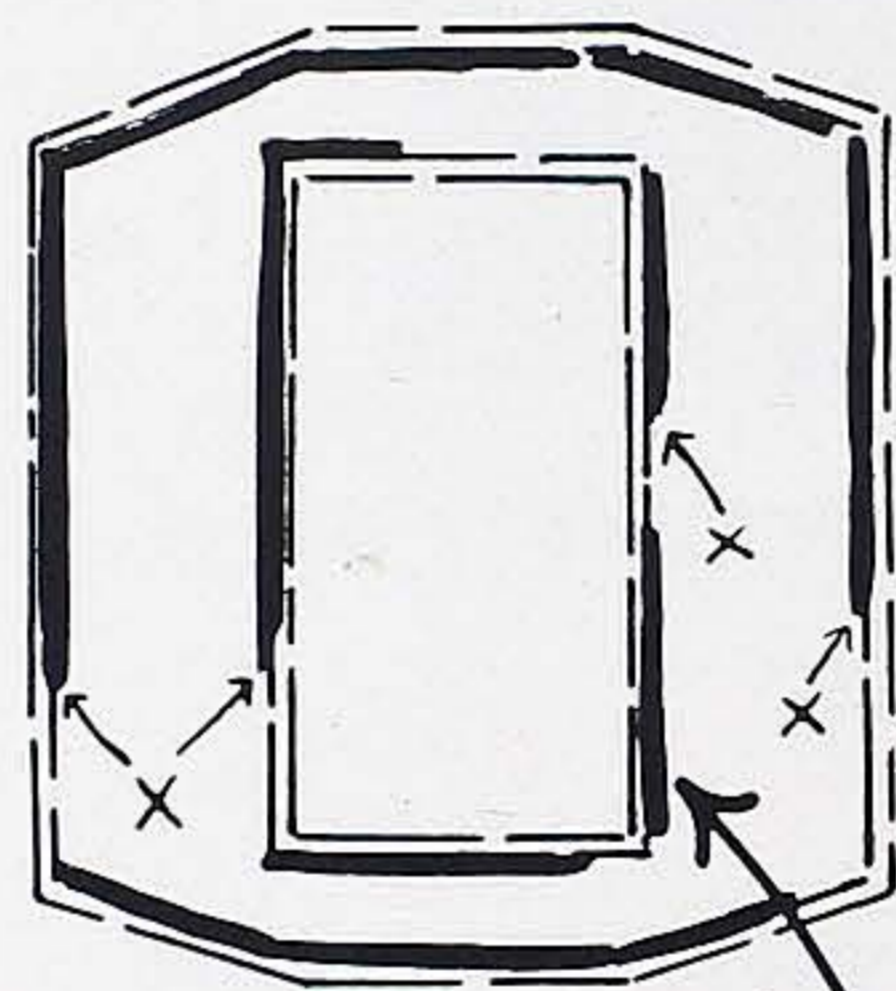
THIS SHOWS  
COMPLETED WORK  
AS IT SHOULD AP-  
PEAR ON FRONT  
OF GLASS.



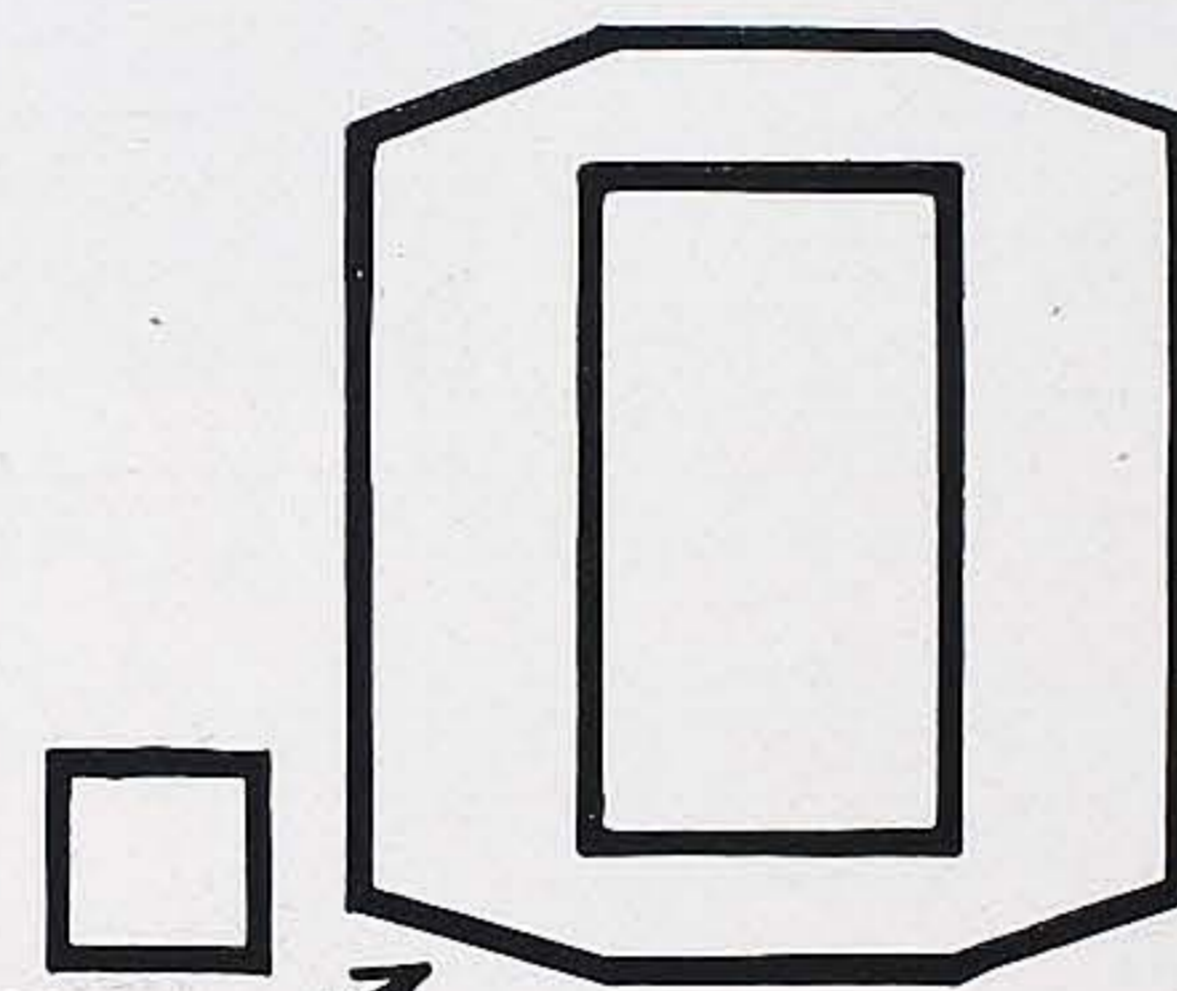
THE DOTTED LINE  
SHOWS VARNISH EX-  
TENDING BEYOND  
LETTERS. ENTIRE  
BACKS OF LETTERS  
ARE VARNISHED.



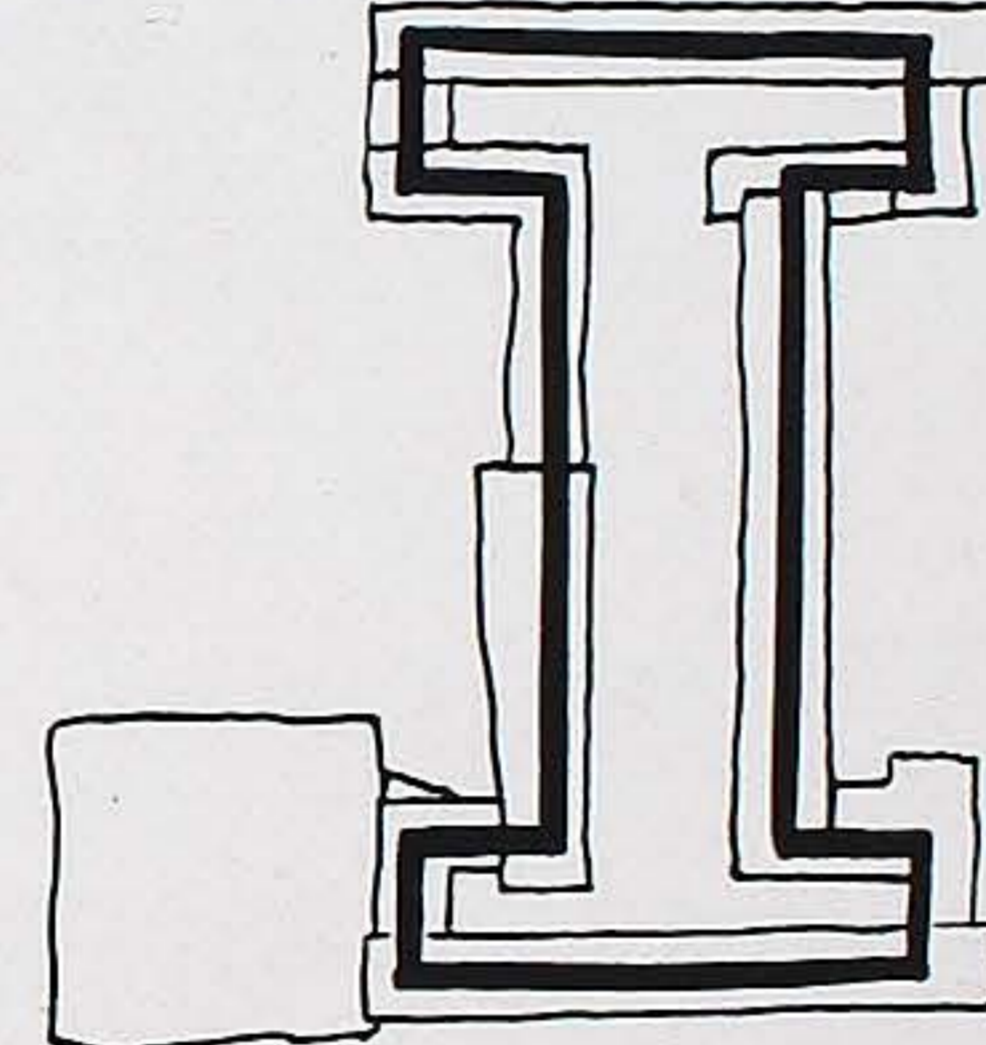
NO. 8  
STIPPLED VARNISH CENTER



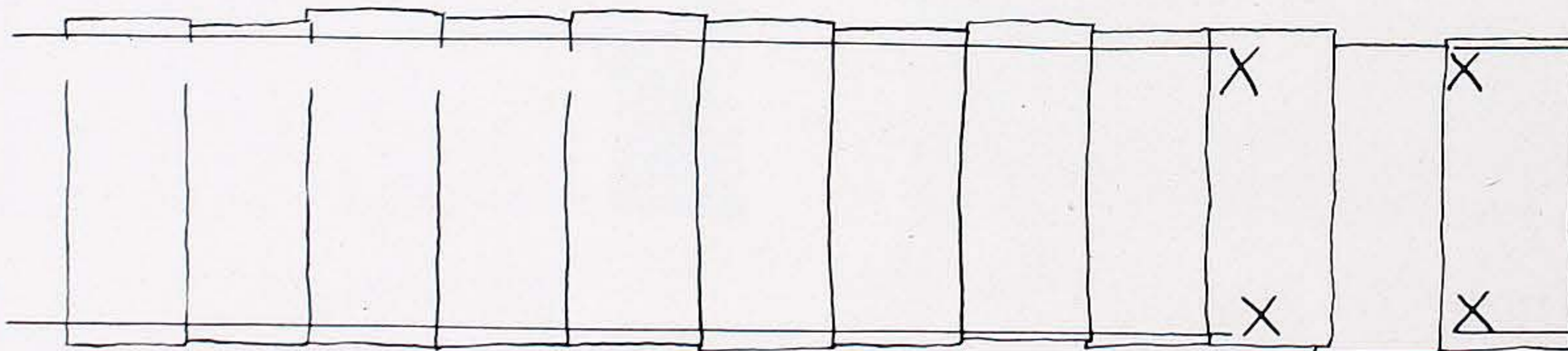
NO. 7  
INSET OF COLOR



NO. 6  
SURPLUS GOLD REMOVED



NO. 5  
OUTLINE "GILDED & BACKED UP."



FOR LETTERS 3 IN. OR LESS, GILD SOLID AS SHOWN ABOVE.

NO. 9

SCRATCH TOP & BOTTOM  
LINES THROUGH GOLD WITH  
A KNIFE BLADE & STRAIGHT  
EDGE. SKIP PORTIONS OCCUPIED  
BY ROUND LETTERS. SEE XX NO. 9.

HEBERLING

No 2



PICKING UP GOLD LEAF  
with Camel's Hair Tip.

No 1



CUTTING GOLD LEAF

No 3



APPLICATION OF LEAF  
TO GLASS

No 4



REMOVING LOOSE GOLD and  
BURNISHING.

No 5



READY TO "BACK UP"

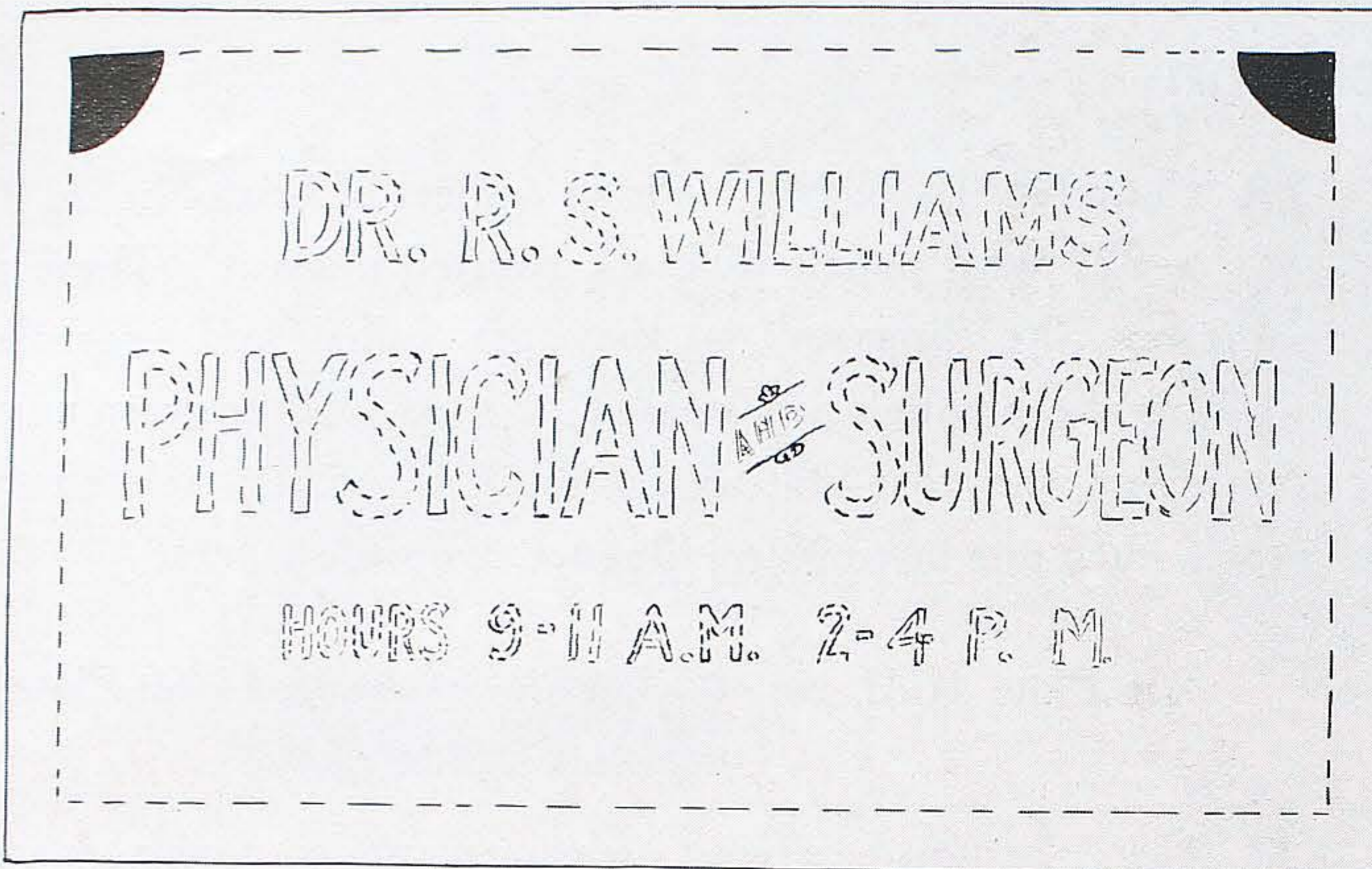
No 6



"BACKING UP."

# PLATE 14 A

# PLATE 15



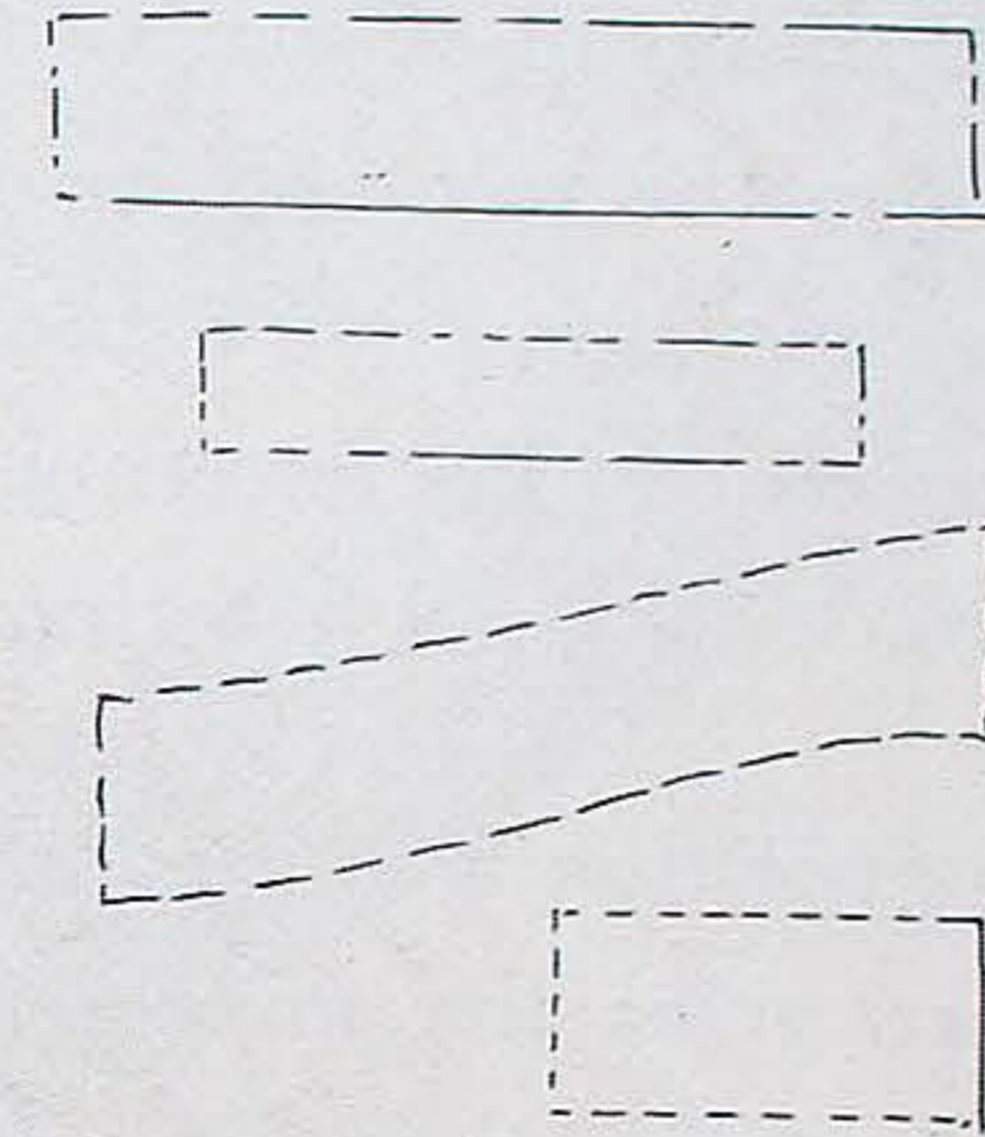
NO 1 USE OF POUNCE PATTERN ON SMALL GLASS BOARD

MAKE LAYOUT. CUT OUT BLACK PARTS, USING THE HOLES FOR A PENCIL GUIDE.



For making several layouts alike.

THIS SHOWS HOW LINES ARE MADE BY PLACING NO 2 OVER NO 3

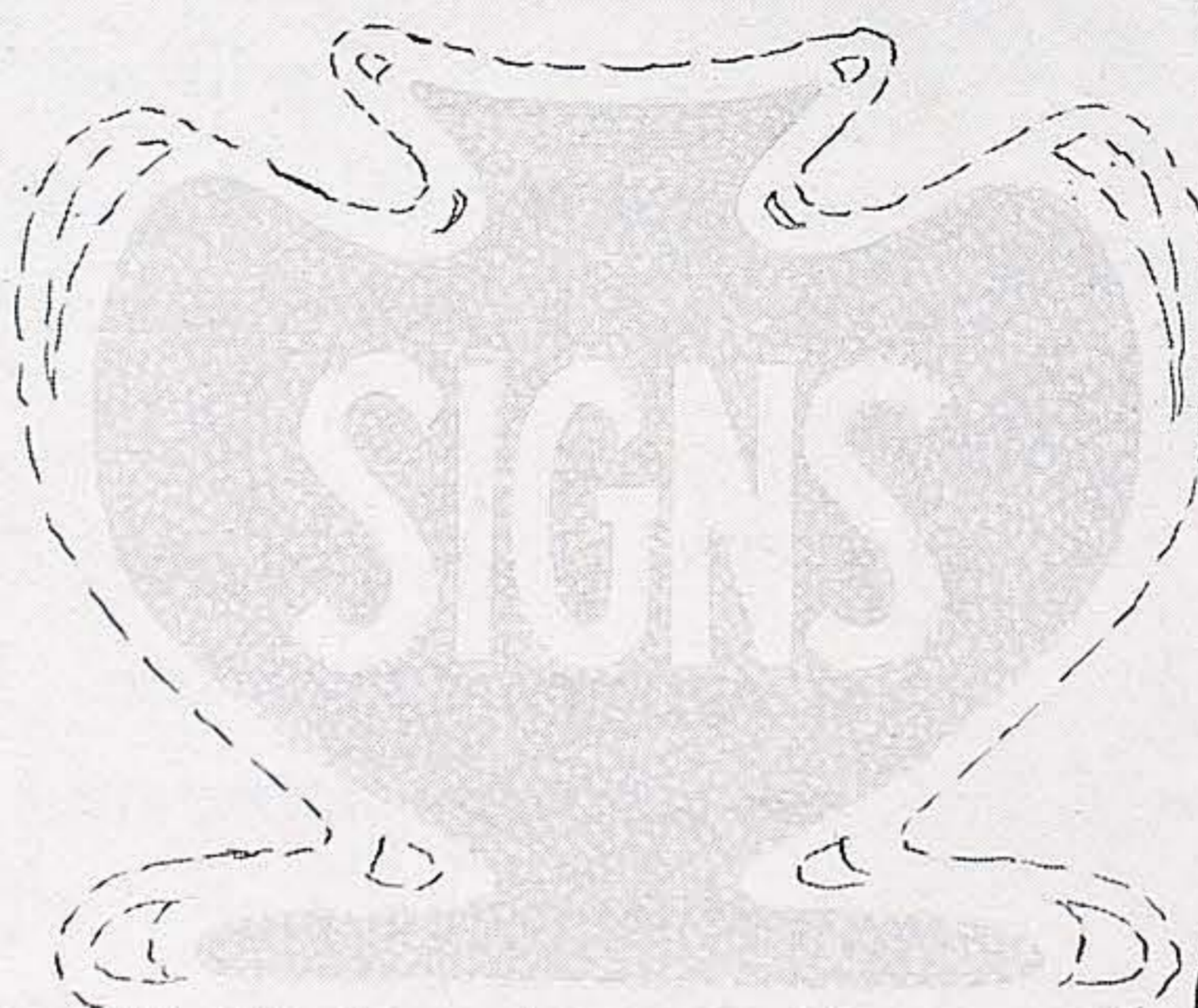


NO 2 TEMPLAT

NO 3 USE OF TEMPLAT



A - EMBOSSED PANELS ON BOARD SIGNS



B - See Paragraphs 265-6



C

HEBERLING

## Composition

**17** Composition in all art is the factor which either destroys or enhances the value of the other factors involved. One who can arrange pleasing composition will no doubt be excused for a slight deficiency in his lettering, but the effort to cover up poor composition with good lettering would be wasted energy.

**18** A composition scattered all over a sheet of paper or other surface gives the impression to one that forethought has been altogether disregarded and that the craftsman trusted to good fortune as to a final destination. It is easily seen that if this desultory method is adhered to and no definite thought is given to the composition, there will be an uncalled for hazard of spoiling the work by having to reduce the size of a line of lettering, which should have been a feature line, but the fact that the *space did not come out right* makes it imperative to make it smaller. Trusting to good fortune makes about two per cent of good composition. The balance are anything but what would be desired in the work.

**19** If composition is not an accident, but rather an invaluable component in the art, how is the student to base his deductions as to whether a composition is either good or bad? Is there a rule involving mathematics? On a ruled sheet, would he letter a line, skip a line, letter a line and so forth down the page? No, but he must resort to measurements until he does know what he really is trying to accomplish.

**20** Plate No. 16-A, No. 1 shows a sheet of bristol board  $9\frac{1}{3}$ " x 22" with panels of black painted upon it. These panels represent the "masses" as they are called and regardless of whether these panels are lettered, painted solid or given any other treatment, they are still an established position, related to each other; each one having an influence upon the others.

See Plate 16-B, No. 1, which matches No. 1 on Plate 16-A.

**21** Note the figures giving measurements of panels, spaces and borders on Plate 16-A. These figures give measurements of the spaces, panels, etc., after they were made. They were not measured first. Therefore, the student is measuring a free hand composition and will not be likely to acquire any ill habits, as would be possible if accurate measurements were always relied upon and a mathematical preciseness was indulged in.

**22** The student should copy and paint these "masses" as they appear on the plate. Do not measure to a  $1/16$ th of an inch. These sizes are approximate and a small deviation would not be noticed and the real composition would not be affected in the least.

Plate 16-A, No. 2 shows another arrangement on a card the same size as No. 1 on the same plate.

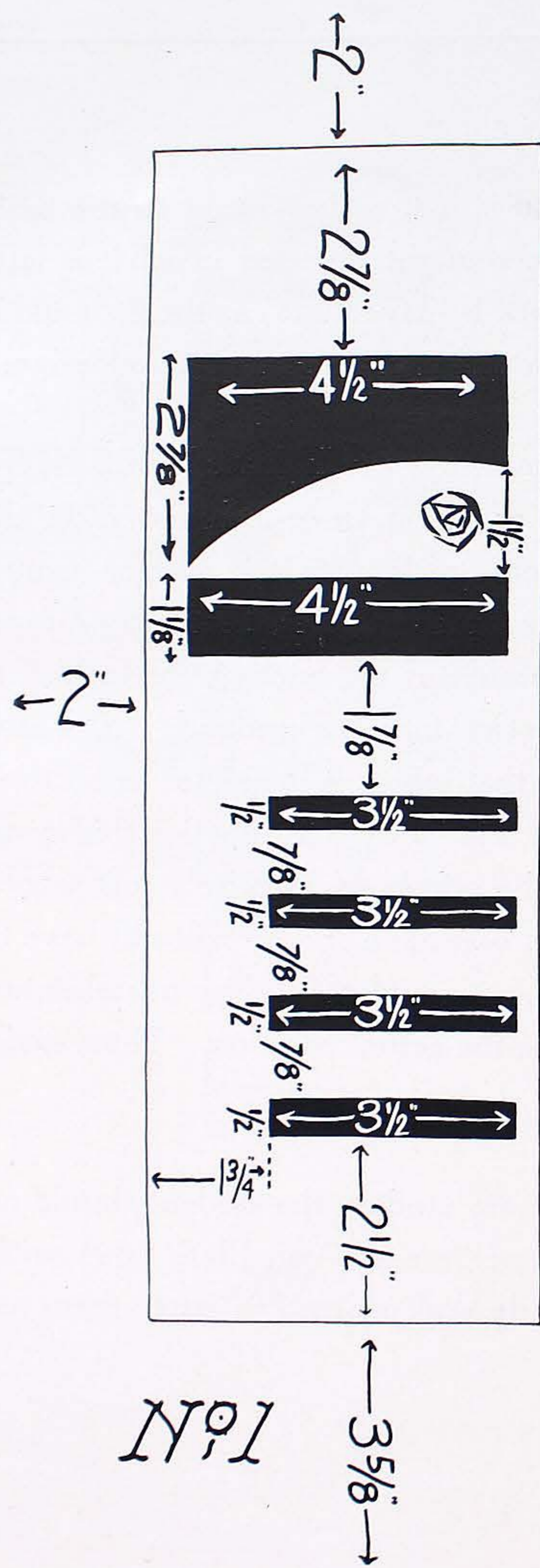
board  $9 \frac{1}{3}$ "  
 These panels  
 regardless of  
 given any other  
 related to each  
 rs.

on Plate 16-A.

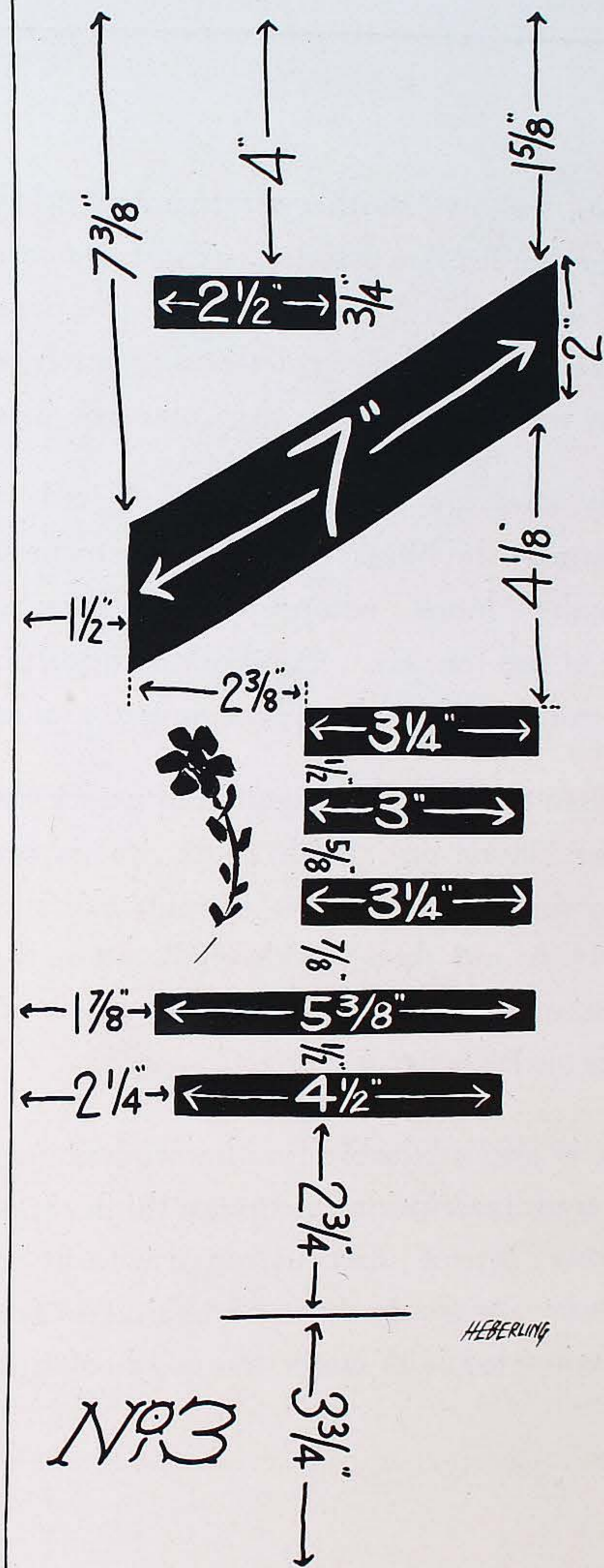
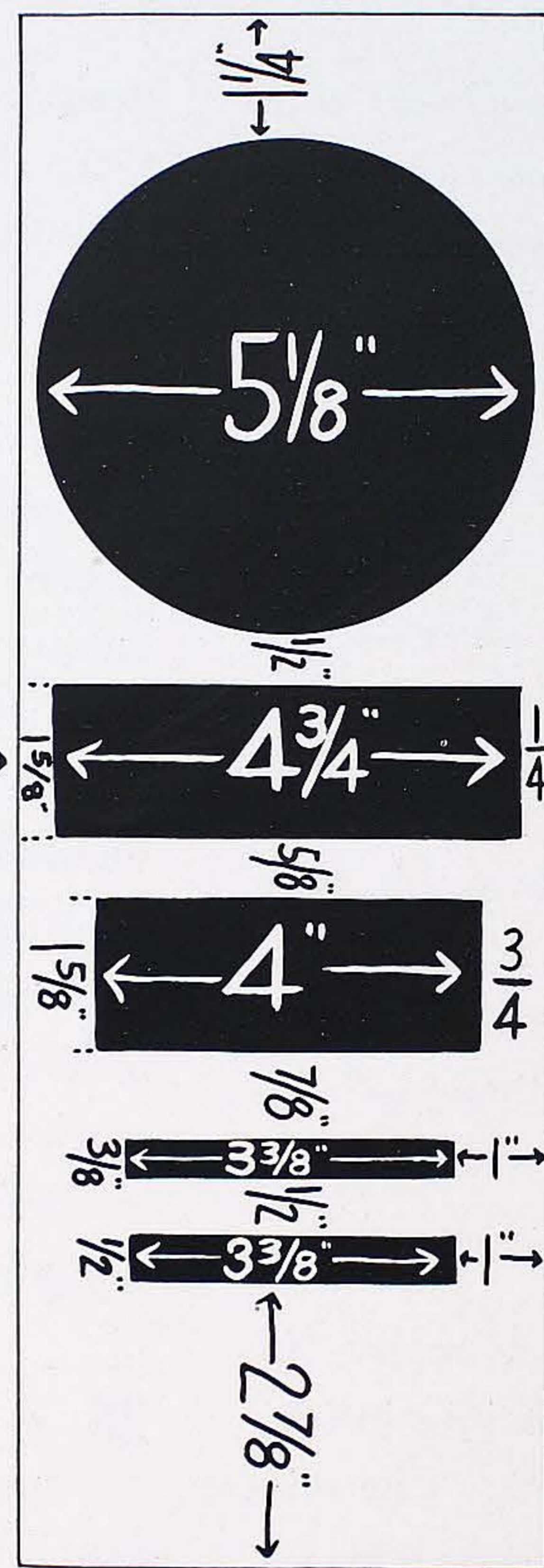
panels, spaces and  
 measurements of  
 They were not  
 ing a free hand  
 any ill habits, as  
 re always relied  
 ed in.

"masses" as they  
 16th of an inch.  
 on would not be  
 e affected in the

ent on a card the



### PLATE 16 A





- 23** No. 3 shows another arrangement of the "masses" and with the border line omitted. *Make and save these cards for further use.* Turn to Plate No. 16-A and compare the masses of Plate No. 16-B with the lines of lettering, panels, etc., and it will readily be seen what is meant by the "masses" in composition.
- 24** By studying Plates Nos. 16-A and 16-C the student will acquire the "look" of the space to be lettered. Most beginners make "loose" compositions. They start too close to the border at the top, etc. Compact compositions are more pleasing to the eye than those loosely arranged and are much more legible.
- 25** Turn to Plate 16-C again and notice the masses on this plate are "laid out" with chalk. This practice is a wonderful help to the student and he should take the replicas he made of Plate 16-A and sketch with chalk upon the black "masses" the inscriptions as they are shown on Plate 16-B, which match the layouts on Plate 16-A.
- 26** It is also advisable for the student to practice as many different inscriptions as he can think of, or take the inscriptions from one "layout" and rearrange it to fit another, etc. The mistake most commonly made by beginners (and even some who are not beginners) is to cover too much of the background with the design. The background is just as important as the design and there should be as much thought invested in what is left of the background after the work is "laid out" as there should be as to how much of the background is covered up by the design.
- 27** A five-inch letter on a seven-inch space DOES NOT READ AS READILY as would a three-inch letter on the same space. Light-faced letters are legible at a greater distance than clumsy letters. The reason for this is, that a light-faced letter does not obliterate too much of the background, which makes a contrast between the letter and background. A heavy letter would eliminate part of that which it depended upon to make its contrast. If the student will study and practice this systematical method of composition he will know precisely just what appearance his finished product will have and he will not have to do his work over, after it has been completed. Any mistakes are apparent before he commences the actual painting. Thus, saving time, temper and materials.
- 28** After these preliminary studies, the student should make the panel arrangement of "masses" on Plate 16-A with a lead pencil. Make lines lightly and proceed to letter them as shown on Plate 16-B.

the design and  
that is left of the  
e should be as to  
e design.

ES NOT READ  
er on the same  
er distance than  
light-faced letter  
, which makes a  
A heavy letter  
upon to make its  
this systematical  
just what appear-  
not have to do his  
mistakes are appar-  
Thus, saving time,

t should make the  
16-A with a lead  
er them as shown

PLATE 16 B



SPRING  
Opening  
Millinery.  
Smart Styles  
Popular  
Prices

No 1



Children's  
Dresses  
Serviceable  
Bargains

No 2

Pure  
Candies  
Made  
at our  
factory  
Delicious  
Wholesome



No 3

HEBERLING

SUMMER  
DRESS GOODS  
49¢ yd.  
60¢ VALUE

SILK SHIRTS  
ALL SIZES  
EXTRAHEAVY  
SILK Broadcloth

PLATE 16 C

SHOES  
BIG VALUES  
5.98

Handsome  
COTTON FABRICS  
Imported  
VOILES & FOUILLARDS

HEBERT-1916

HEBERLING

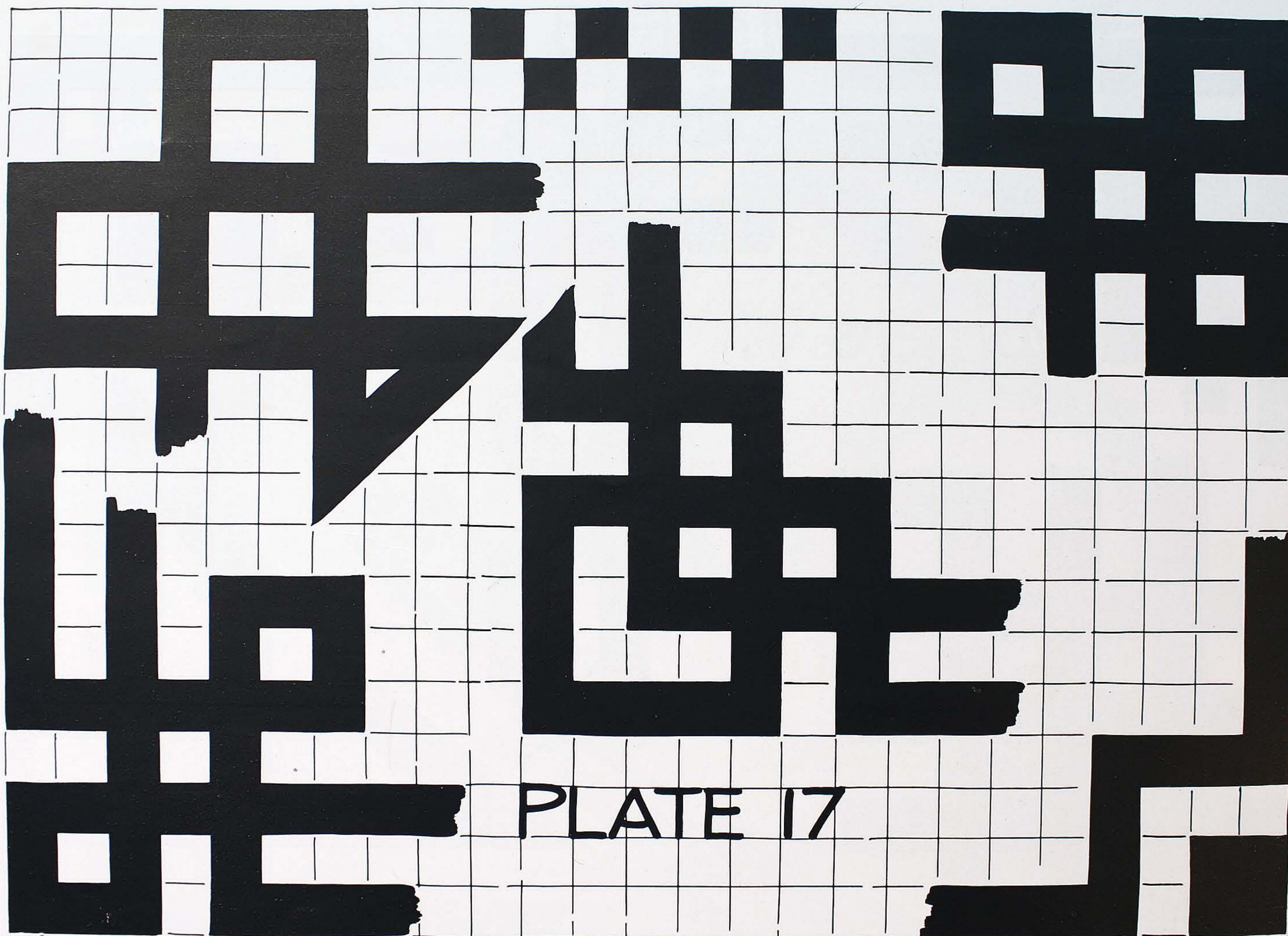


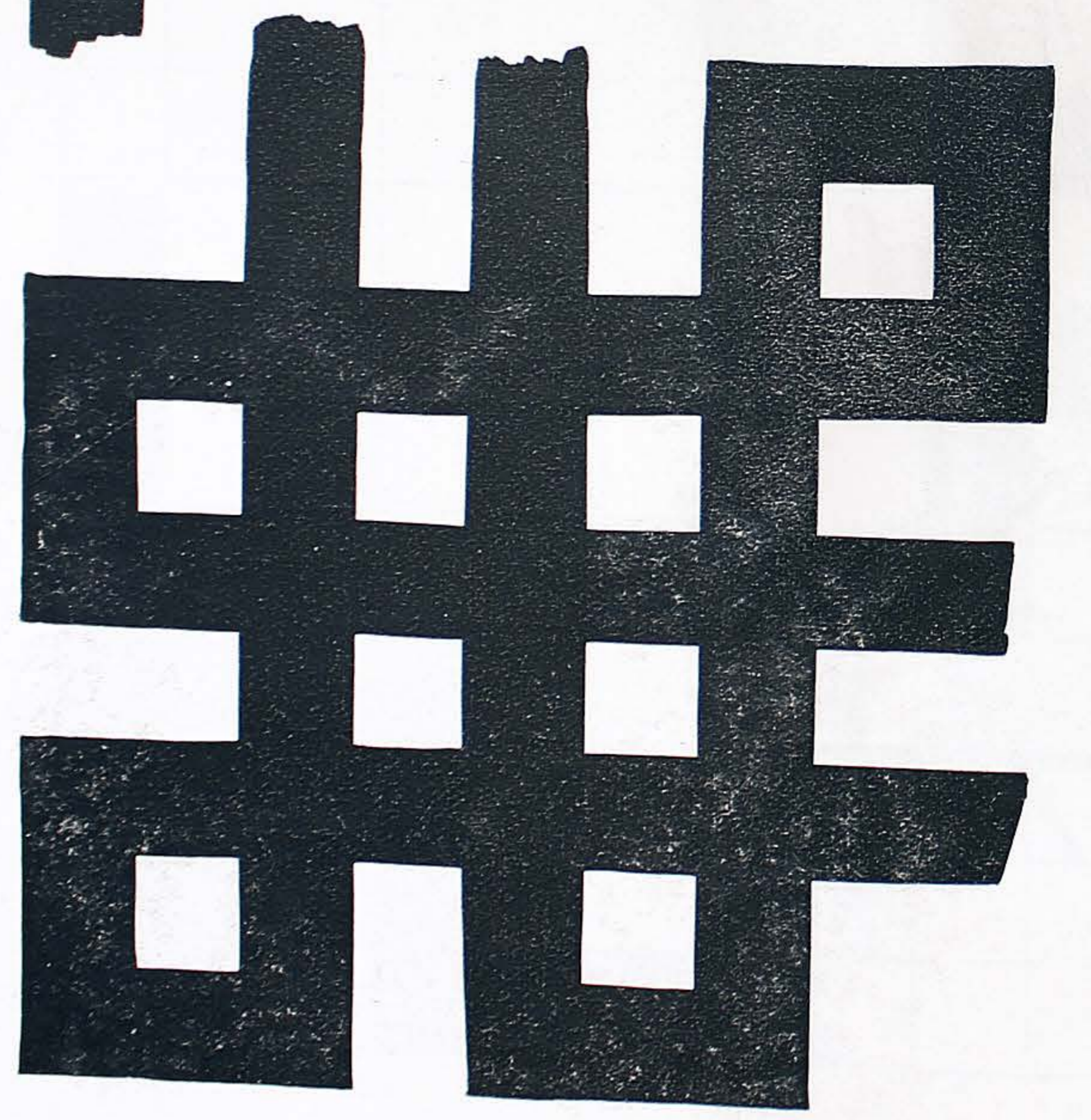
PLATE 17

HEBERLING

PLATE 18



Corners



HEBERLING



HEBERLING

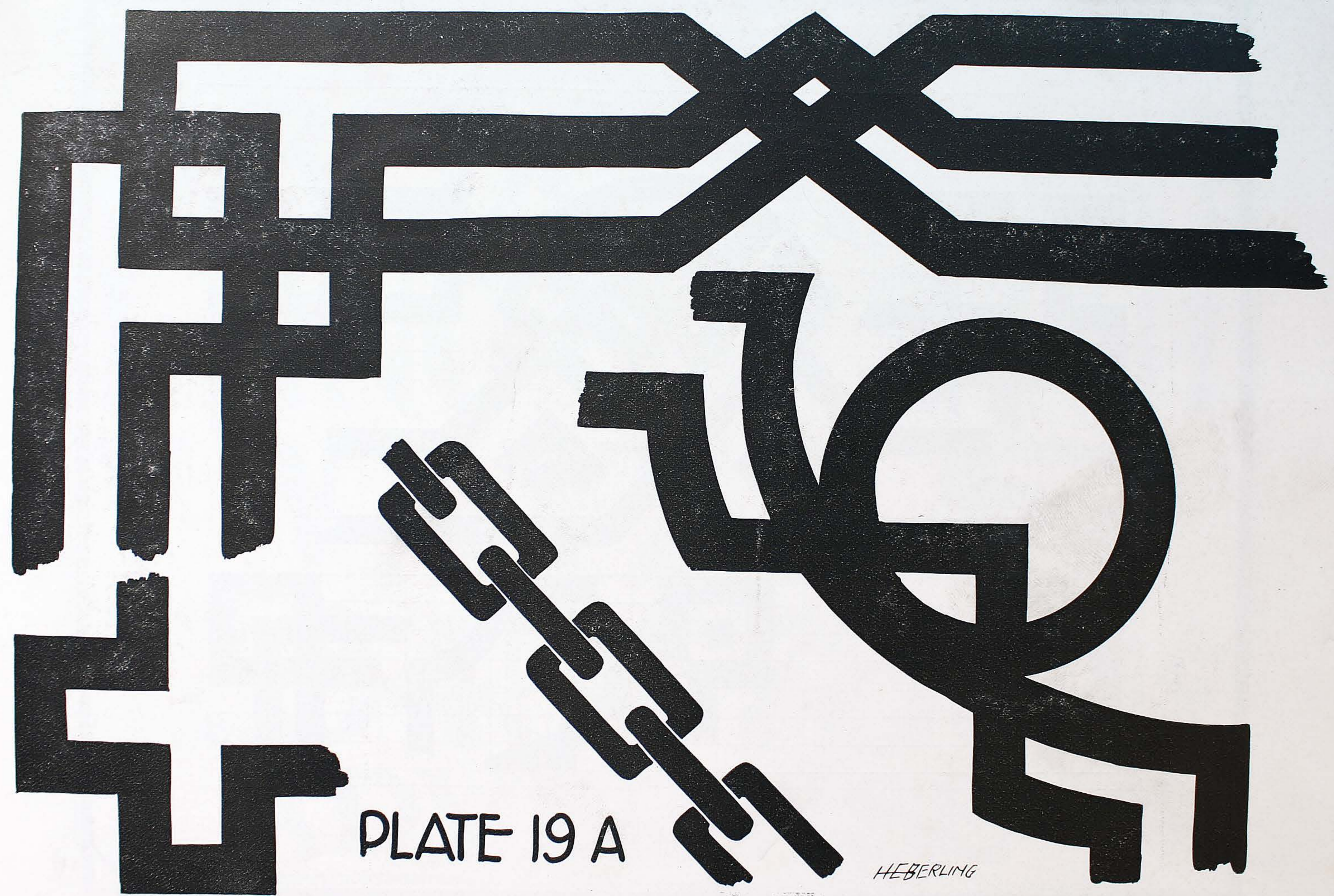


PLATE 19 A

HEBERLING

PLATE 19 B

*CORNER PIECES*

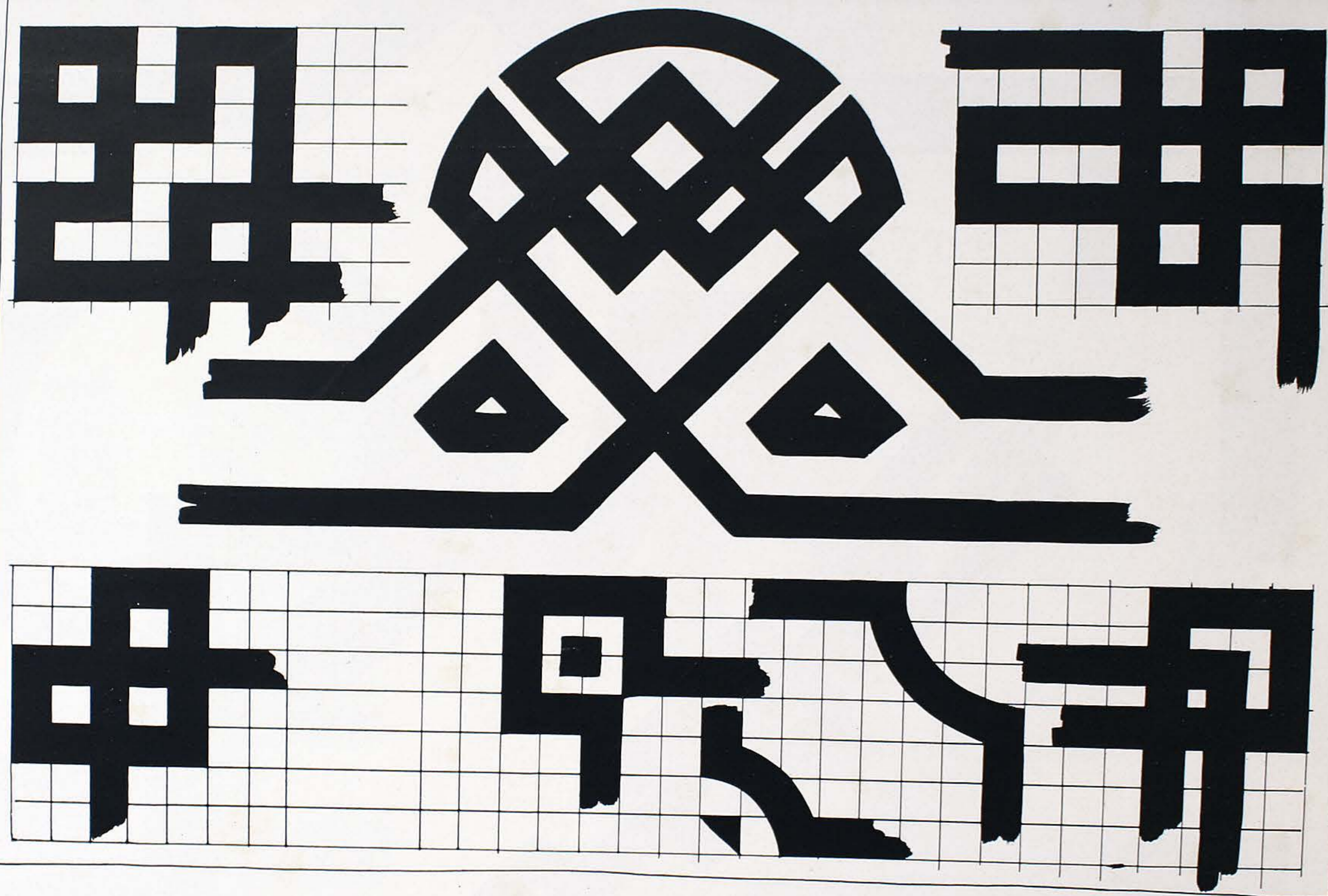


PLATE 20

"PLYMOUTH" CAPITALS

A B C D E F G H I J K ?

L M N O P Q R S T U !

V W X Y Z & S

1 2 3 4 5 6 7 8 9 \$ ¢

ADVERTISE

HEBERLING  
LOWER CASE ON  
PLATE 21



abcdefghijklmnopqrstuvwxyz

Plate 21 "Plymouth" LOWER CASE

lmnopqrst

uvwxyz

\* MODIFICATIONS \*

AEE l r e r t P

k  
t  
z  
P

HEBERLING

PLATE 22

MODIFIED "PLYMOUTH"

A B C D E F G H I J K

L M N O P Q R S T

V V W X Y Z & !

: 1 2 3 4 5 6 7 8 9

HEBERLING

a b c d e f g h i j l  
 m n o p r s  
 u v w x y z t

MODIFIED PLYMOUTH  
 Lower Case

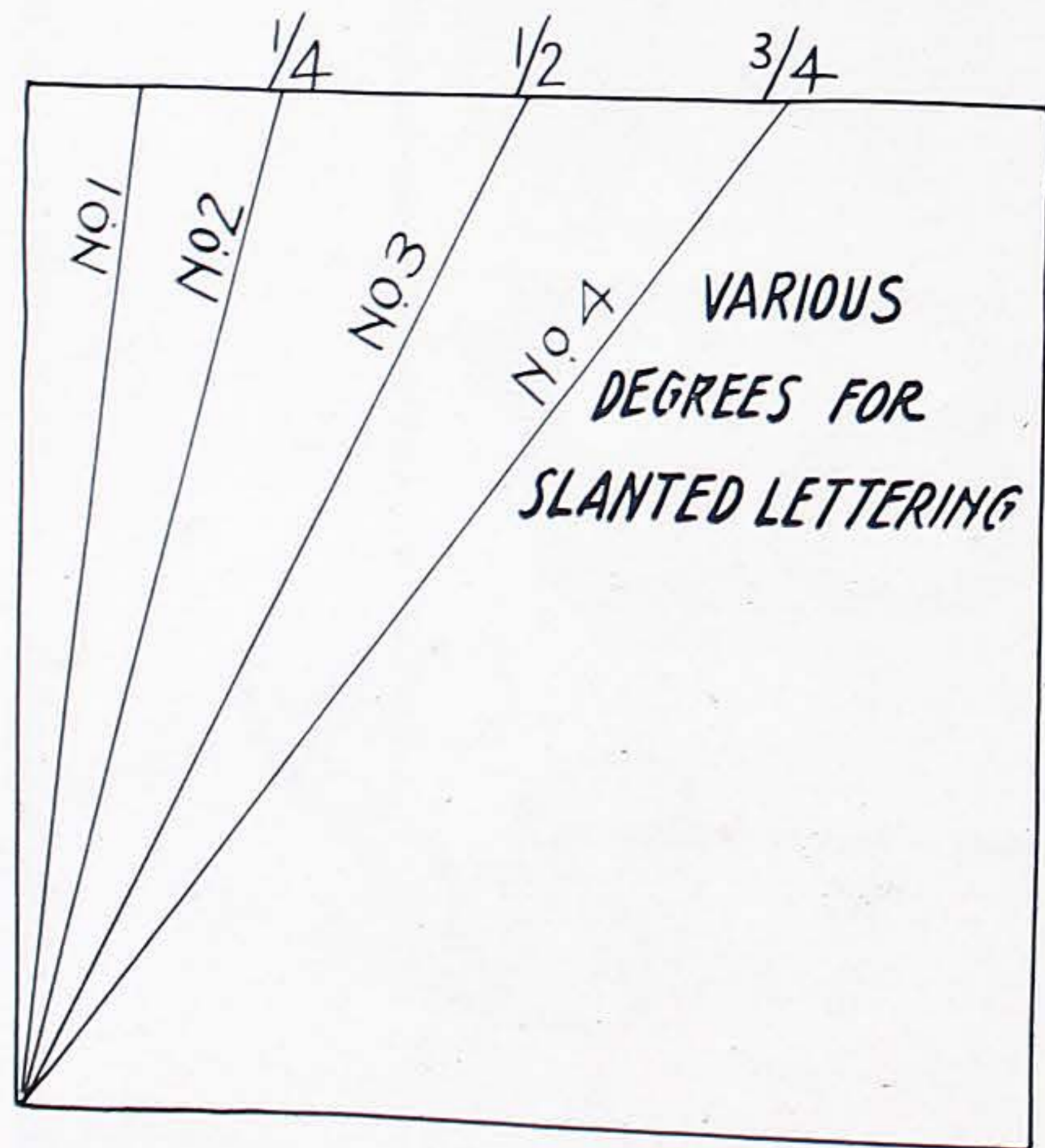


PLATE 23

SLANT NO. 4  
 Base

Layout for Script is made on Italic  
 base. Use 3/4 Slant. As in No. 4.

EST.  
 SLANT NO. 3

NOP  
 SLANT NO. 2

an so  
 ABED  
 SLANT NO. 1

HEBERLING

j  
1  
t

de on Italic  
in N° 4.

# FINISHED OR DOUBLE STROKE ELEMENTS OF CONSTRUCTION

## PLATE 24

**INCORRECT**  
BRUSH STROKE IS TOO NARROW. A WIDER STROKE ELIMINATES "FILLING IN."

**CORRECT**  
NOTE LAP OF STROKES. USE A BRUSH OF SUITABLE WIDTH.

1 2 3 4

5 7 8 12

6 9 10 11 13 14

**Project No. 4****Finished or Double Stroke Elements of Construction**

**29** This method is just the opposite from that method known as "Single Stroke" as used for quick and temporary work. It is the method used for "backing up" gold leaf signs, better grade of board signs, glass transparencies, in which the letters are made of a dark color and solid. See Plate No. 24, which shows the construction lines and how to connect them. No. 1 shows the incorrect construction inasmuch as it is the obsolete method. A brush of narrow width was used, necessitating an extra operation of "filling in" the center. This takes time and time wasted is money lost. No. 2 shows how the strokes should lap if a brush is sufficiently large for the work in hand. This eliminates any "filling in." No. 3 shows the correct termination of the strokes, which are not square, but pointed. This makes it possible to produce clean-cut corners on the letters. The brush is rolled slightly between the fingers as the brush nears the end of the stroke, thus diminishing the stroke to a point.

**30** No. 4 shows how the loop is joined to the vertical element of an "R," "B," "D" or "P." Notice the angle of the black part of the loop to the corner of the vertical element.

No. 5 shows the curve for "C," "G" or "S." No. 12 shows the stroke for completing No. 5.

No. 6 shows bottom of "C," "G" or "S." No. 13 shows the stroke for completion of No. 6.

Nos. 7, 8, 9 and 10 show angular strokes. No. 11 shows elements for their completion.

**31** No. 14 shows use of strokes for "cutting in" as it is called, leaving the letters white and painting in the background. These strokes give the idea of terminating strokes so that they conform to the desired shape. Practice all of the strokes on this plate and know that it is worth all the time spent in so doing. The progress of the student depends much on what is accomplished in the elementary lessons.

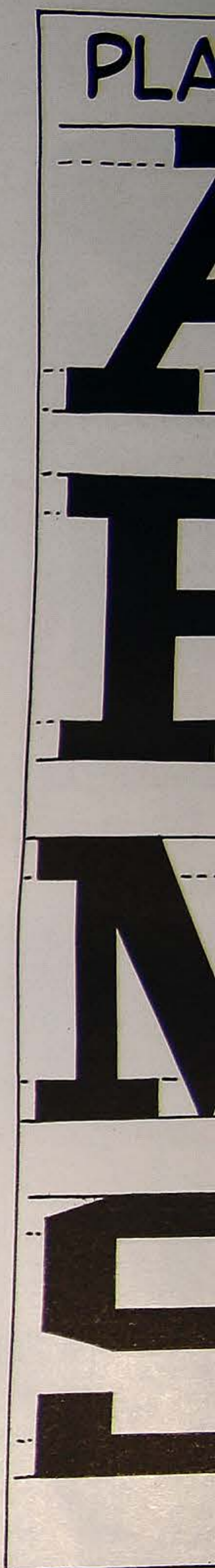


PLATE 25

"FULL BLOCK Thick & Thin"

CAPITALS

A B C D E I

F G H J K L

M N O P Q R

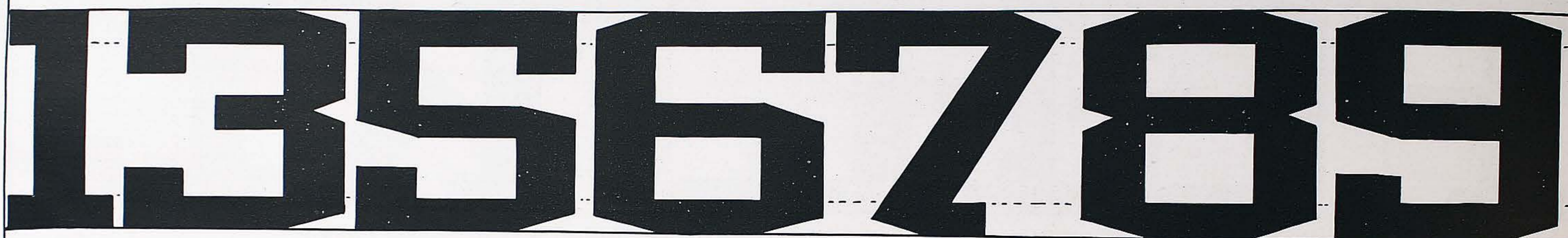
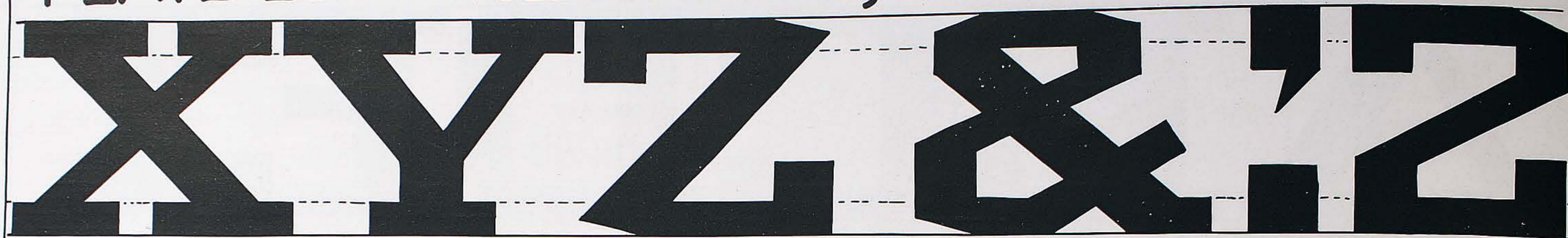
S T U V W ?

SEE PLATES 26 and 27

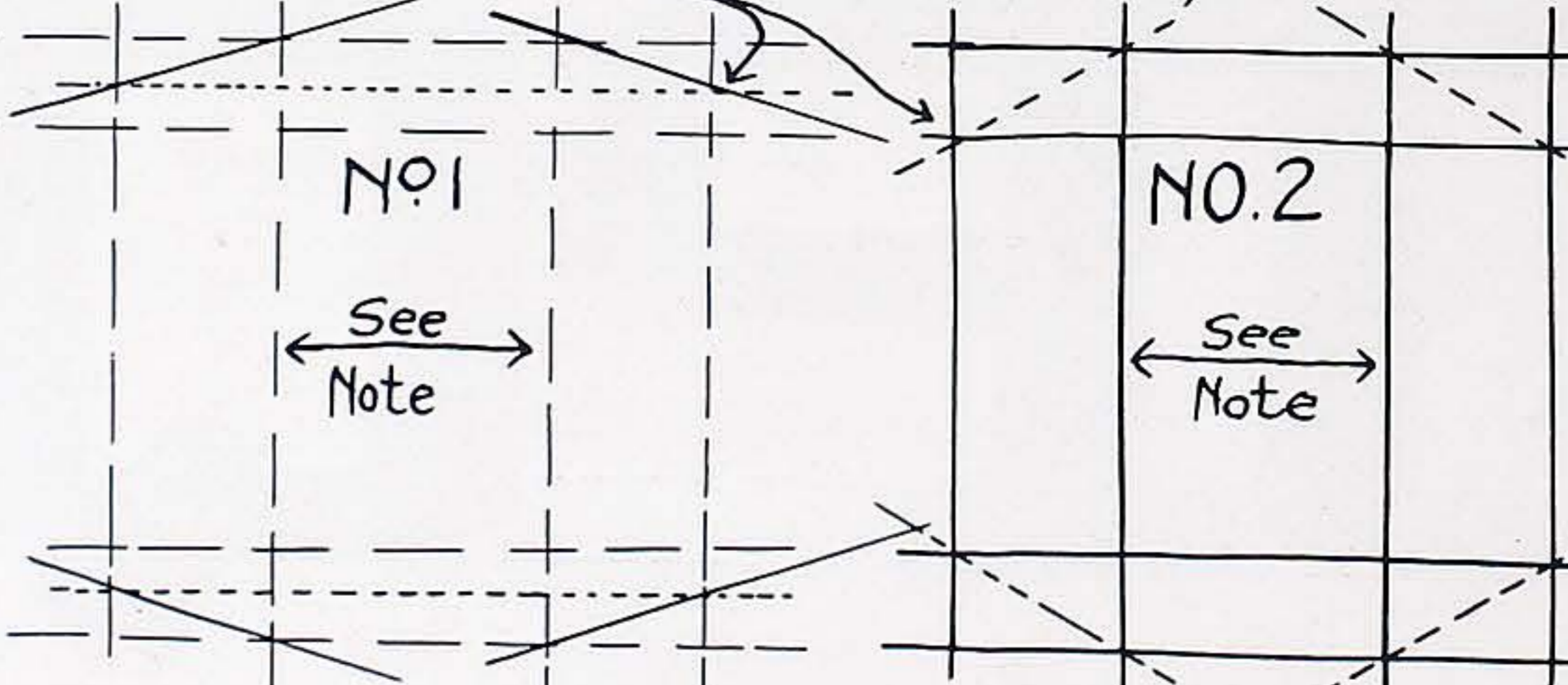
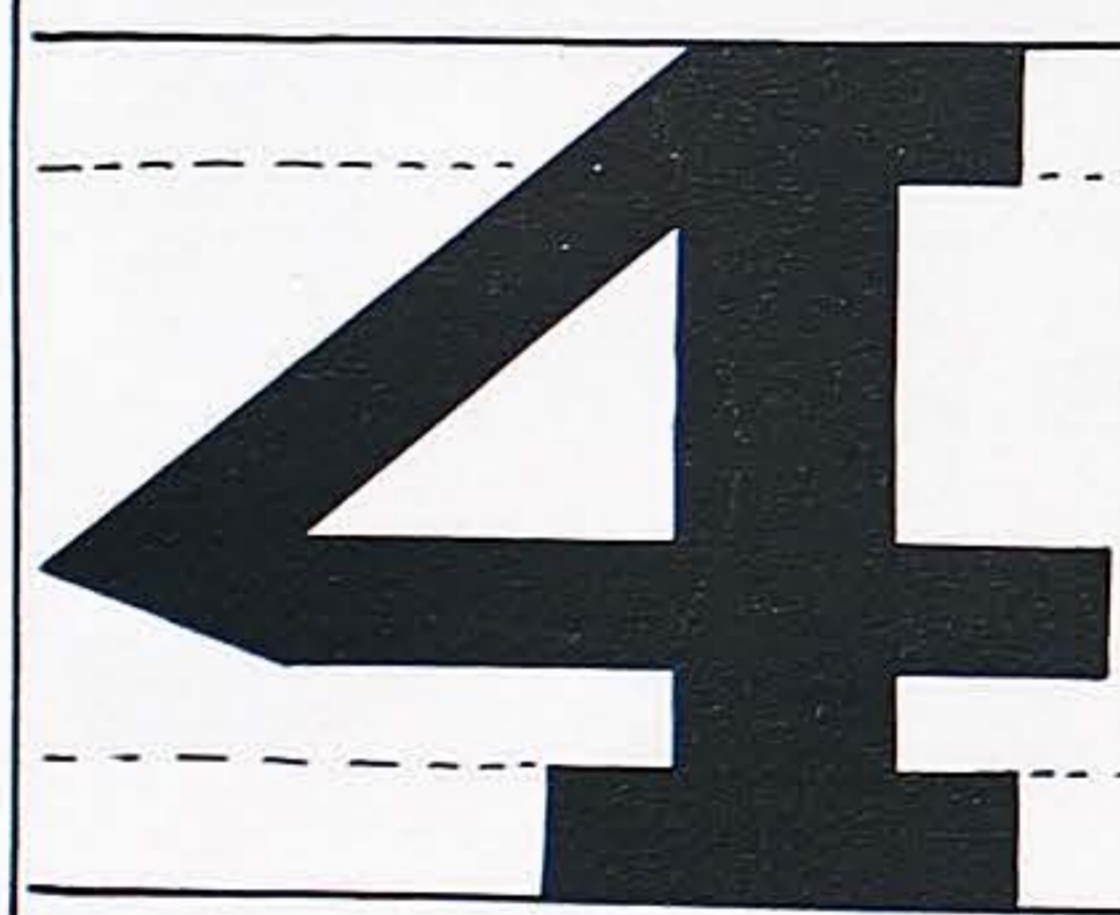
HEBERLING

PLATE 26

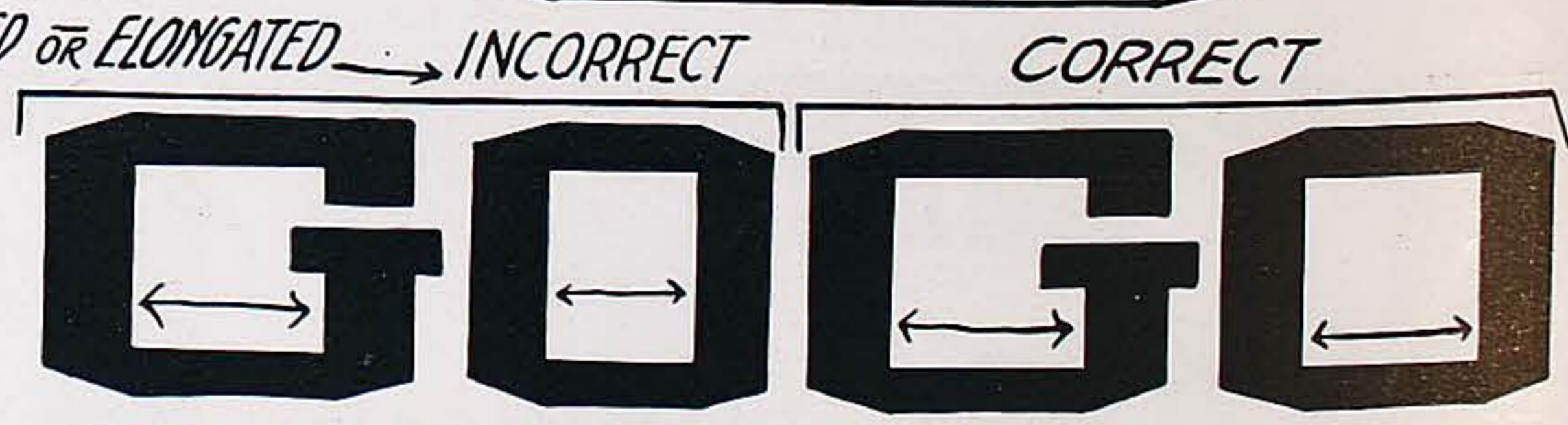
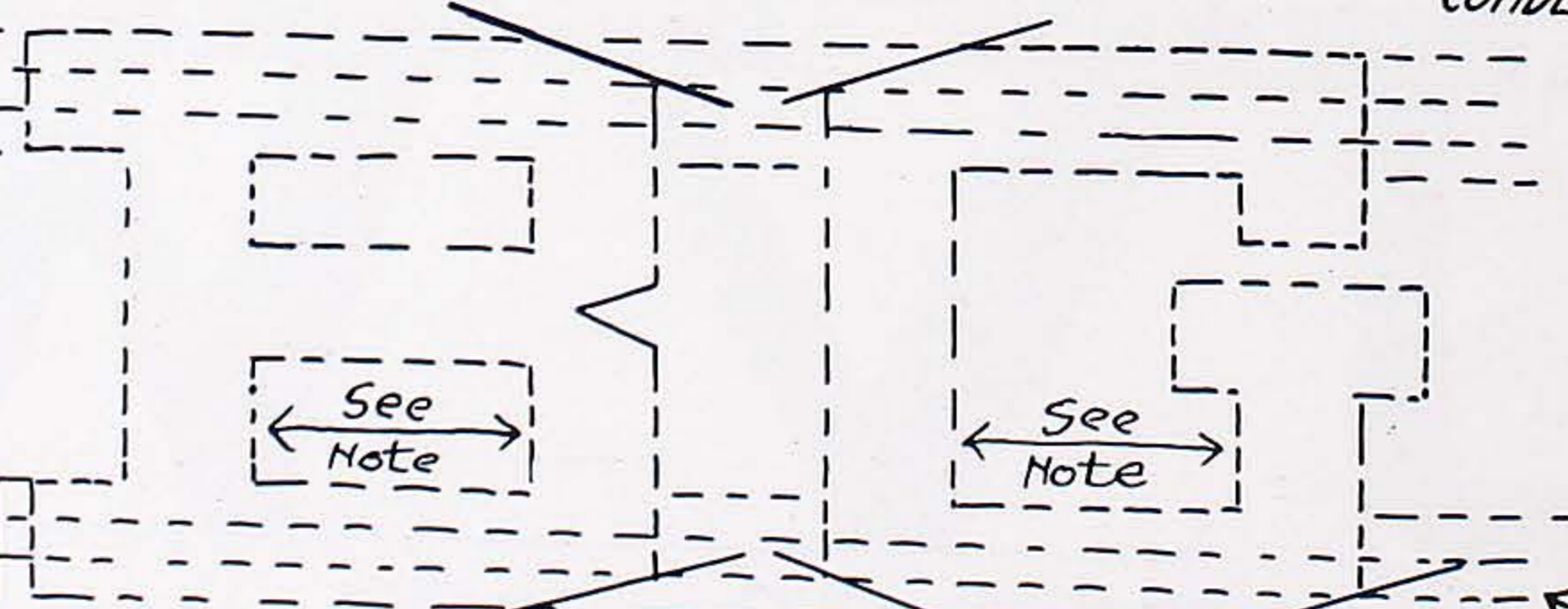
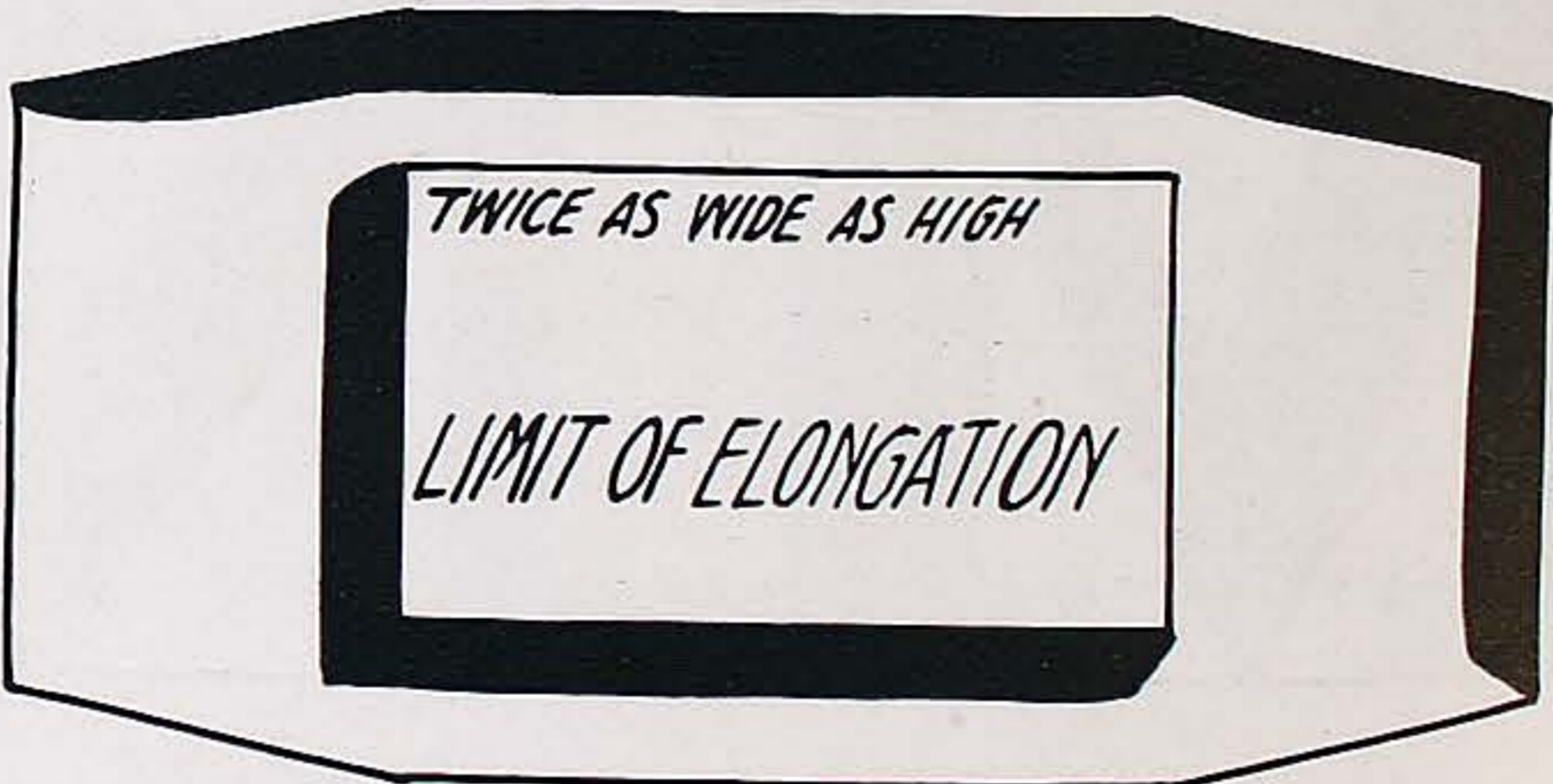
"FULL BLOCK Thick & Thin" Construction



EITHER BEVEL IS CORRECT FOR "FULL BLOCK Thick & Thin." NO.1 PREFERRED.



NOTE. SPACES IN "B," "C," "D," "G," "O," "P," "Q," "R" and "S" ALL SAME WIDTH EITHER IN CONDENSED OR ELONGATED



STUDENTS SHOULD NOT USE MECHANICAL AIDS. FREE HAND CONSTRUCTION IS NECESSARY.

FULL BLOCK-Construct Same as "Full Block, Thick & Thin," Omit Spur on top of "A." All strokes same width. Use 1/3 Bevel

HEBERLING

a b c d e f o h  
i j k l m n o t  
p q r s u v  
w x y z z r

**FULL BLOCK** THICK &  
LOWER CASE THIN

PLATE 27

HEBERLING



PLATE 28 "HALF BLOCK" CAPITALS

A B C D E F G I

H J K L M N O !

P Q R S T U V ?

W X Y Z & 0 0

2  
PLA  
n  
s  
k

abcdefghijklmnopqrstuvwxyz  
PLATE 29 Half Block LOWER CASE  
mnopq r  
stuvwxyz  
kite EX Cond

HEBERLING

PLATE 30

"Rapid Thick & Thin"

A B C D E F G H I !

J K L M N O P Q R

S T U V W X Y Z &

RULE: All letters formed by thick and thin elements, always have the thin element

USE "SINGLE LINE LAYOUT"  
to the left, if open at bottom as in "A," "M" and "N." If open at top as in "U," "V," "W" and "Y," thin is to the right. In all alphabets.

HEBERLING

PLATE 31

*"Rapid Thick & Thin"* LOWER CASE

abcdefghijkl

mnopq rs tu

vwxyz ? " " & ,

1234567890

HEBERLING

THICK & THIN CAPS

PLATE 32

A B C D E

MODIFICATIONS and LOWER CASE SHOWN ON PLATE 33

F G H I J K L M !

N O P Q R S T U

V W X Y Z & E,

HEBERLING

abcdefghijklmnopqrstuvwxyz

PLATE 33 "Thick and Thin" LOWER CASE

abcdefghijklmnopqrstuvwxyz

MODIFICATIONS

z PAbcs Cf

Modify B, C, D, G, O, P, Q, R, S, and E when using this modification

SQUARE TERMINALS

Angle

Straight

If this modification is used, it must appear on C, G, S, and E.

HEBERLING

## Project No. 5

### To Make Uniform Designs Quickly

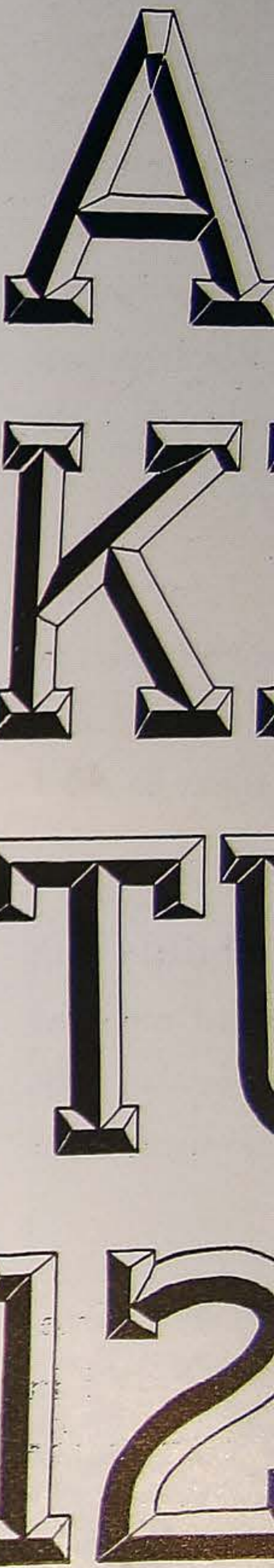
- 32** Any method which will produce quickly, but semi-mechanically, would not have much consideration in "Art for Art's Sake." For commercial purposes anything that will produce the same result in a short manner is permissible.
- 33** Plate 48, No. 1 shows a quarter design. Draw one quarter of a design of which four quarters are repetitions and use it either as a trace pattern by rubbing the opposite side with any dry color or rubbing it with a soft lead pencil, then using it as though it were carbon paper. For glass work or boards, it should be perforated and used as a pounce pattern, placing it in the last three quarters in relative positions as shown in first quarter. This makes the design complete as shown in No. 2, Plate 48.
- 34** Another method often employed is shown in Nos. 3 and 4. Use two pieces of paper the size required and fold them in the center. Rub one of them all over with dry color or charcoal.

Place this one inside the other one with treated side against the untreated sheet; lay on table and draw half of the design, which is duplicating the side being drawn on the other side as the drawing proceeds. Open the paper and it will appear as in No. 4, Plate 48.

It is advisable to lightly sketch the outline as a guide before doing any tracing. That is, as shown in Fig. 3. Corrections are easier than when tracing has been finished.

- 35** For small designs it is customary to fold a sheet of carbon paper in the center, carbon side out, and insert this into a folded sheet of drawing paper. However, if water color is to be used, the carbon lines do not take the water color well.

See Plate 46 for border and ribbon constructions.



ROUND BLOCK = *Convex Effect*

A B C D E F G H I J  
K L M N O P Q R R R S  
T U V W X Y Z & &  
1 2 3 4 5 6 7 8 9

PLATE 34

HEBERLING



Care of Brushes

**36** Red SABLE SHOW CARD BRUSHES should be washed in water after use and laid away flat. Red Sable brushes are also made for use in oil colors.

**37** Red SABLE BRUSHES may be used in either water or oil colors, but never changed from one to the other. A set should be kept for water colors and a set for oil colors. Wash in water, if used in water colors, and if used in oil colors wash with turpentine or gasoline and grease with vasoline, lard or lard oil, which will keep them soft until the next time they are needed.

**38** CAMEL'S HAIR BRUSHES should never be used in water colors. They should be washed in turpentine or gasoline and greased before laying them away.

**39** BLACK SABLE BRUSHES are never used in water colors, but are used in oil colors only. They are washed and cared for in the same manner as camel's hair.

Brushes Made of Bristles

**40** Neglect will shorten the life of a brush quicker than use. All brushes made of bristles and used in oil paints should be wrapped with paper to their shape and kept in one-quarter raw linseed oil and three-quarters turpentine, when not in use. They can be taken out of the paint, wrapped and deposited in the brush holder without washing. The liquid in the brush holder should

be just deep enough to cover the hair. New bristle brushes will work better if allowed to soak in raw linseed oil for several hours before using.

Do not use vessels with sharp edges for paint containers, as the sharp edges will have a tendency to cause the bristles to curl up if allowed to drag over this sharp surface in dipping the brush in the paint. An over abundance of driers in paints will cause brushes to "gum up." If this should happen, wash the brush with gasoline or turpentine thoroughly.

**41** BRUSHES SET IN GLUE should never be put into water.

The glue being soluble, the water would cause the hair to shed from the brush. BRUSHES SET IN CEMENT should not be used in shellac or varnish remover. It will cause them to shed their hair.

**42** A real bristle can be told from fibre by burning a bristle with a lighted match. A burnt bristle smells like burnt meat or hair, while fibre smells like burnt grass. A real bristle is also split at the point and real bristle brushes are the most economical ones to purchase.

**43** Never allow brushes to stand in paint for any length of time.

Brushes made of hair should never be allowed to stand in paint at all. The weight of the handle is sufficient to turn the hair to one side and render the brush unfit for further use. Always lay the brush down flat.



ab c d e f g h i j l

m n o p q

PLATE 35

ROUND  
BLOCK

Lower  
Case

r s t u v w x y

Alternatives

z k u j q ?

DO NOT USE SQUARE  
PERIODS OR COMMAS  
WITH ALPHABETS IN  
WHICH CURVES ARE USED  
IN CONSTRUCTION.

HEBERLING

### To Draw Ellipse of Any Desired Size

**44** See Plate 45, Fig. 1. Draw line B-B, which is full length of ellipse. Line drawn through center of B-B gives desired width. Measure from A to B. This measurement placed from X to where it meets line B-B as shown by broken lines X to C gives focal points. Place tacks at these points and at Point X. Tie a piece of hard- non-stretchable string or a piece of very thin wire

around all three tacks. Remove tack at X, insert pencil inside of string and draw the pencil around the string as shown in Fig. 2, dotted line.

Remember it is points B-B and X which establish area of the ellipse. Ellipses may be made long and narrow, or short and wide, as the student desires.

### Proportionate Enlarging and Reduction

**45** See Fig. 3, Plate 45. Assuming the smaller rectangle to be a picture to be enlarged in proportion, a line drawn from the lower left-hand corner to the upper right-hand corner will estab-

lish the proportionate enlargements or reductions as shown. This merely gives the space sizes.

Fig. 4, Plate 45, shows applied method for use with ellipses.

### Finding Centers of Photos or Perspective Drawings

**46** Draw lines A to B and C to D. The point where they cross is the center. Draw lines F to B and E to D. Where they

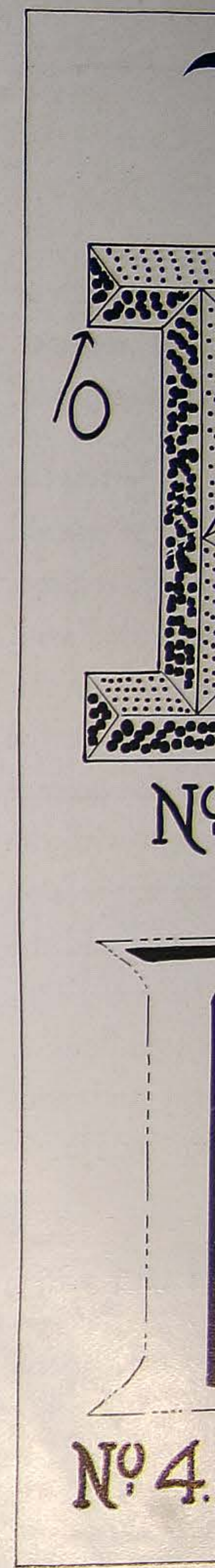
cross is the distant quarter. Draw lines C to F and A to E. Lines I to J, F to E and G to H give the quarters.

### To Find Center of Circle

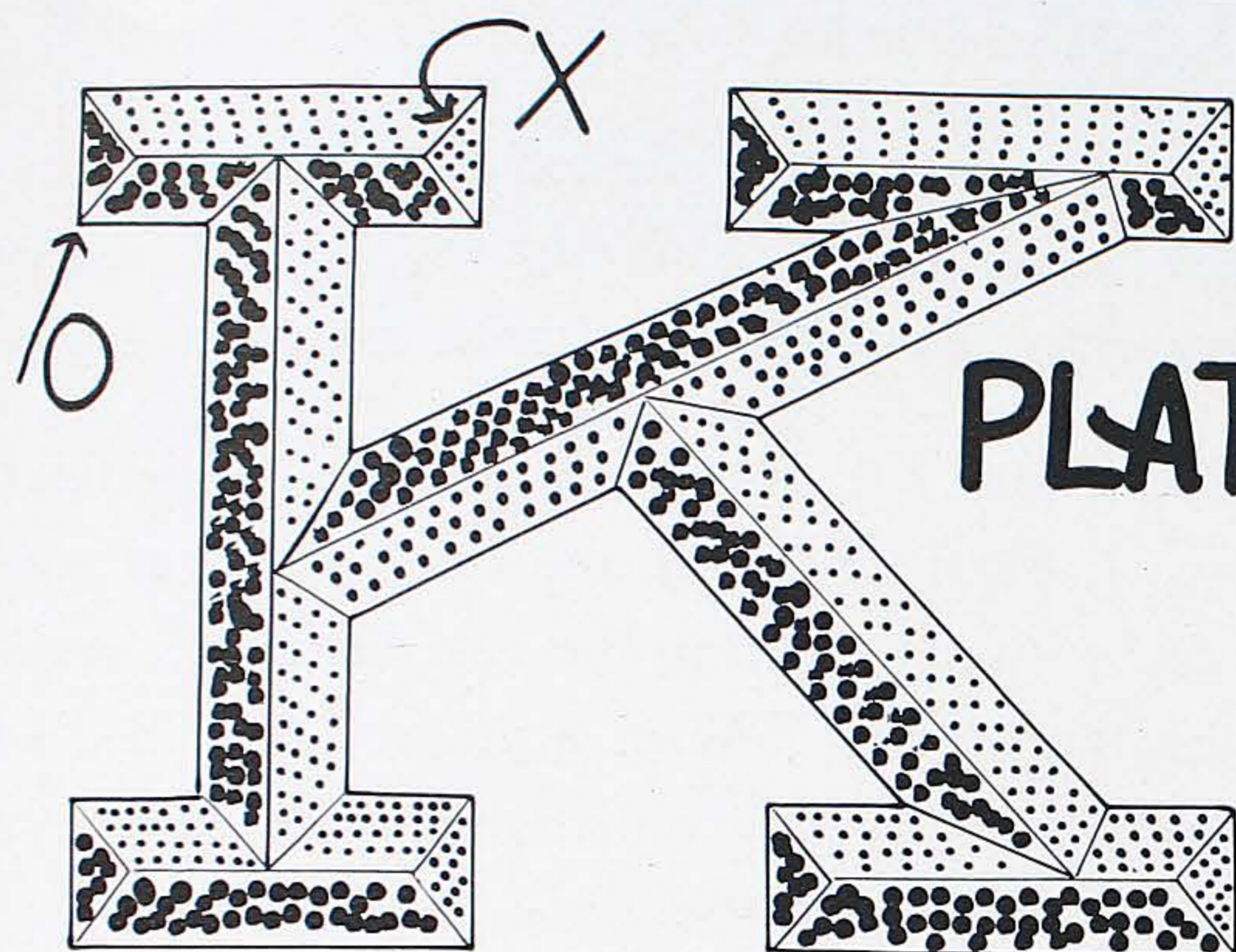
**47** See Diagram No. 3, Plate 54.

Draw line A-B, bisect it at C, draw line A to D, and bisect at point E. Draw line E to G. Draw line D to B, bisect at point

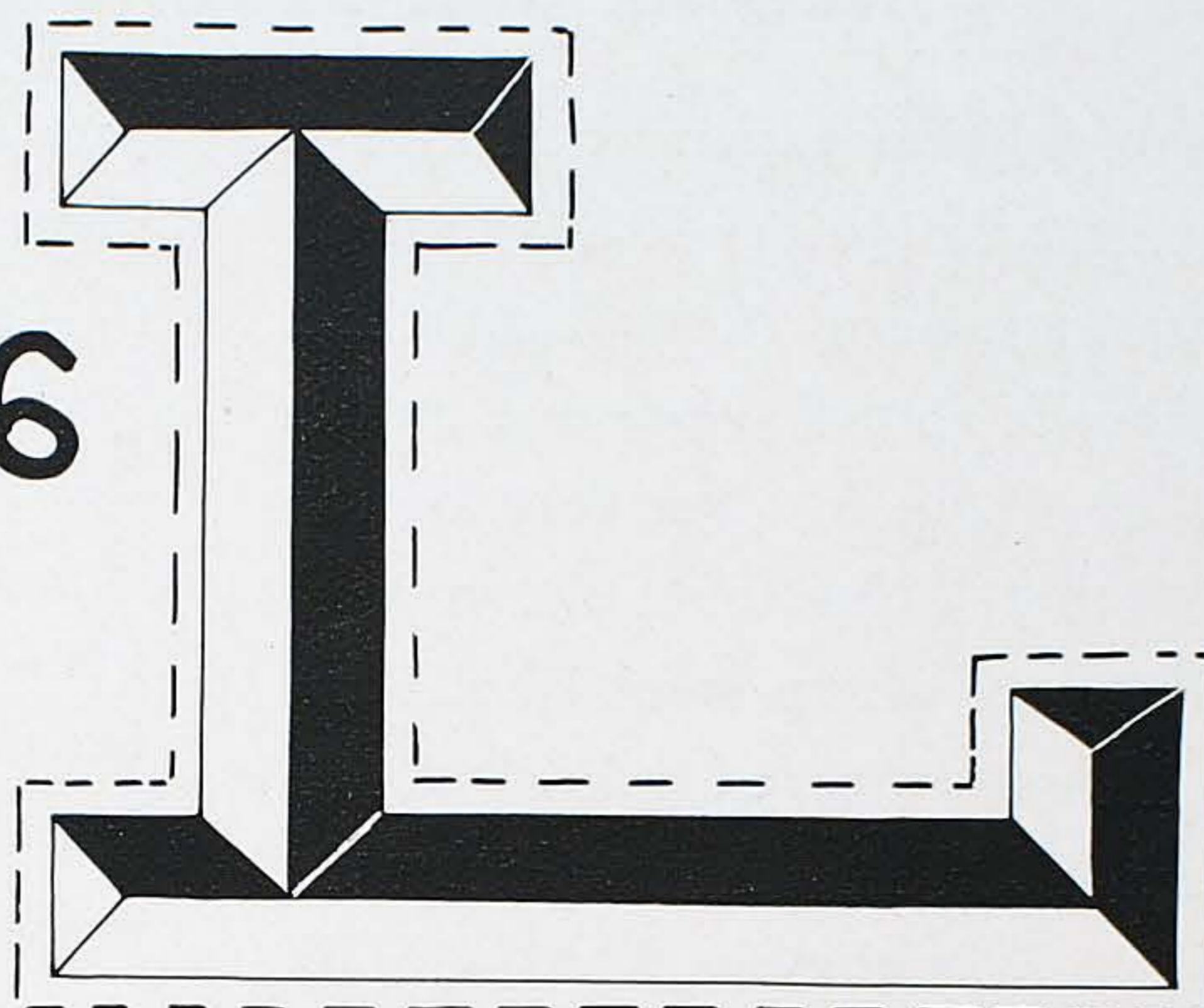
F, and draw line from F to G. Where lines cross shows center of circle.



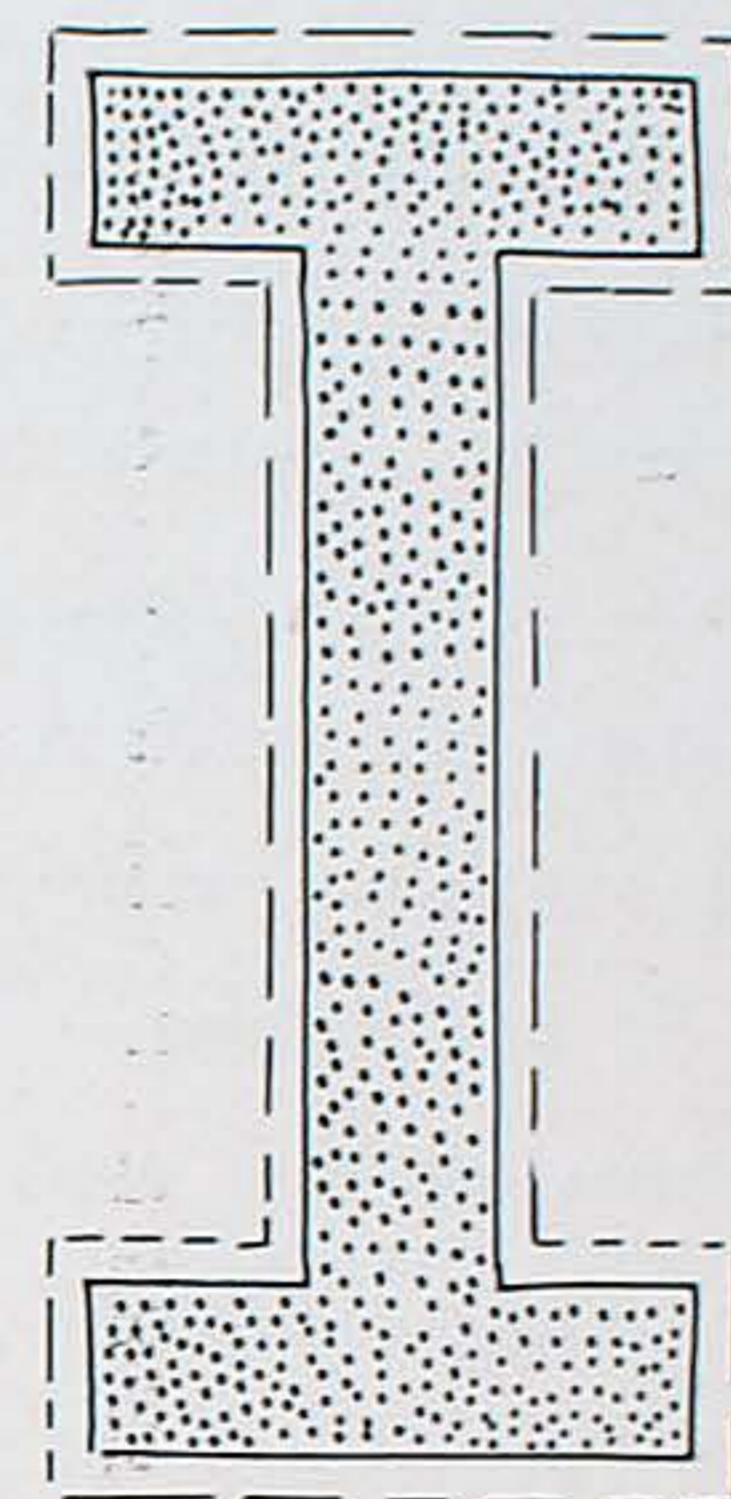
# Method of Embellishment



Nº 1. See Paragraph 227-8



Nº 2. See Paragraph 229

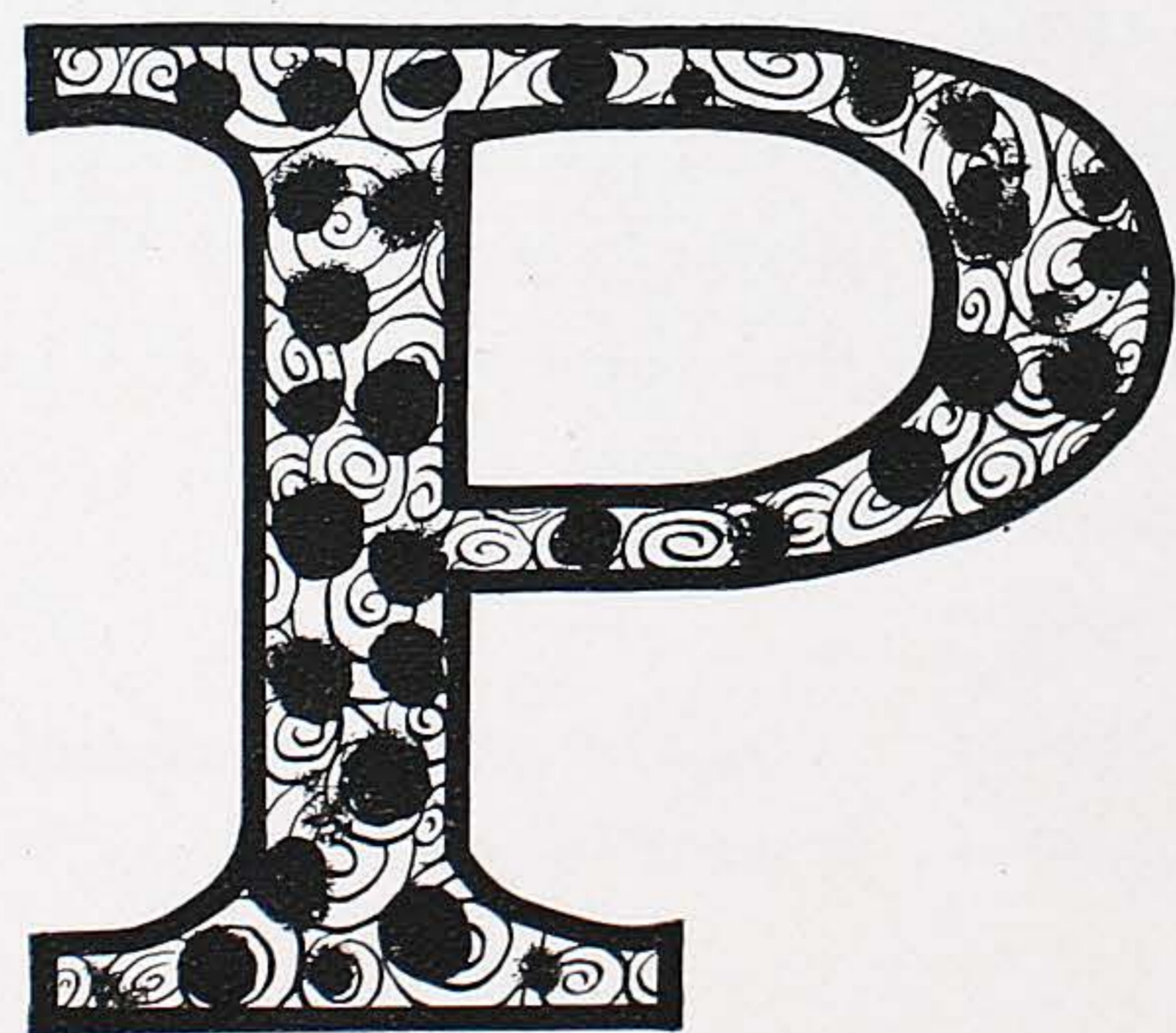


Nº 3. Par. 232

## PLATE 36



Nº 4. Par. 232



Nº 5. Par. 233



Nº 6. Par. 234

HEBERLING

## Stencils and How To Cut Them

**48** Lay out the design full size on pattern paper. Perforate it with the pounce wheel. Then cut two pieces of oiled stencil paper a trifle larger all around than the pattern. Give them a thin coat of shellac. Place the two pieces of stencil paper one on top of the other, and the pattern on top of them. See that the top edges are all straight with each other. Pin them down with thumb tacks or push pins. With a good sharp stencil knife cut through all three sheets, making a three-cornered hole as shown at the extreme right of No. 1, Plate 73. This being a part of the letter "L" and *cut through all the sheets*, it is obvious that the mark will be in the same relative positions on all three sheets.

**49** Cut out the three-cornered piece as shown by dotted line at the upper left-hand corner of the letter "N." These two marks are so important that, unless they are used and used with utmost care, the stencils will not register properly and in this case would be utterly useless.

**50** Take out one of the sheets of stencil paper and lay it aside for the present time. Do not forget this, because each part must be cut separately. The pounce pattern is then placed back onto the remaining sheet of stencil paper with the register marks

previously cut, *exactly* together and pinned with thumb tacks or push pins so that they can not possibly slip out of register. Pounce the pattern onto the stencil paper with dry chrome green.

**51** Remove pattern and cut out black portions of letters as shown in No. 1, Plate 73. Lay the other piece of stencil paper under the one just cut, making the register marks register exactly, and fasten them down. With a pounce bag filled with any dry red, proceed to rub the cut outs, which will leave an impression of the first stencil upon the under paper. Remove the top stencil, which is now called the male stencil. Place the pounce pattern on the sheet and register it. Pounce the design with the dry chrome green and remove the pattern. The red impression shows the parts which appear on the first or male stencil and the green outlined marks are to be cut from this one. It will be an easy matter to make them fit by cutting the green dotted lines so that they join the red impression in good alignment and with sufficient overlap to accomplish the result as shown by No. 2, Plate 73.

The stencil is completed, except for the register test, which is done in this manner.



.....ORNATE EFFECT FOR GOLD ON GLASS.....

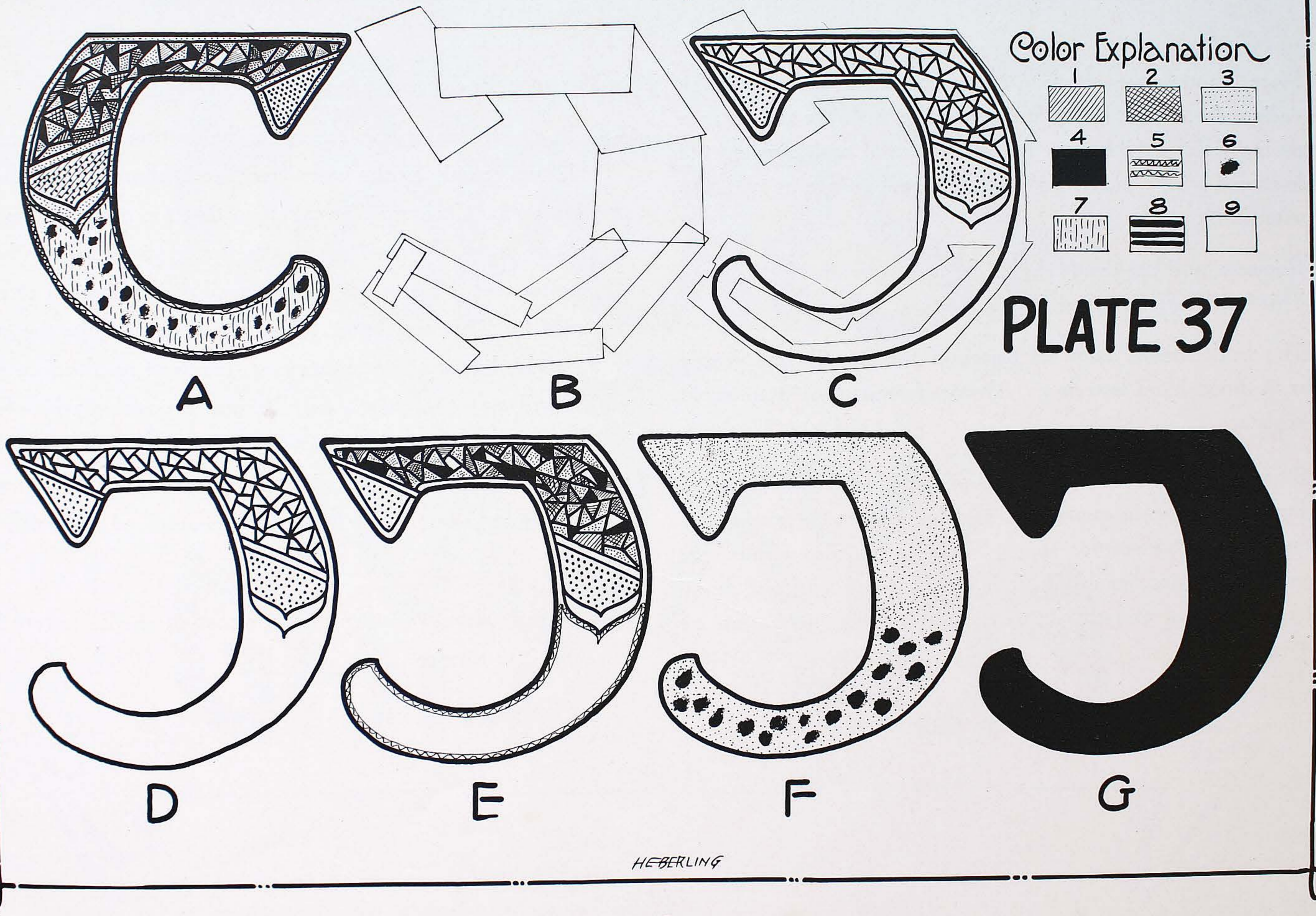


PLATE 37

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**52** Place the male stencil upon a piece of paper as large as the design, fasten and make an impression with the red pounce by rubbing lightly. Remove the male stencil and register the female stencil by the marks and rub with red pounce as with the male stencil.

Remove, and the result should be as shown in No. 3, Plate 73. This is a "Surface Letter Stencil."

The work should show no traces of the stencil, but should appear as direct hand lettering. Always fasten stencils to avoid poor register.

**53** Stencils are used for producing signs of the same inscription, layout and size in quantities, such as real estate boards for use on lots and houses for sale. Their use is also applied to garages, hotels, agencies of all kinds, and for any business desiring an economical and efficient medium for the promotion of publicity.

#### Background Stencils for "Cut-in" Signs

**54** In cutting background stencils, the cutting is different. The letters remain in the paper and the background is removed. See Plate 72. Care must be taken so that too much of the paper is not cut away, as it will make the stencil too flimsy to handle. The better method is to use three stencil papers instead of two as are used for "Surface Letter Stencils." This permits the cutting to be divided over three sheets and therefore results in a stencil which will stay together. Any design is possible with stencils. The more intricate designs, however, require more stencils than a simple one. Six, seven, eight or ten should be required for pictorial posters, etc., depending on the detail of the work to be done.

**55** Stencils should receive another coat of shellac before being put into service.

MODIFIED EGYPTIAN CAPITALS

ABC POSTER EFFECT DEF  
NOPORST

PLATE 38

VVWXY Z  
GHIJ KLM

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## The Use of Stencils

- 56** Assuming the work to be done is one hundred "For Sale" signs giving the name and office address of the real estate concern for whom the signs are to be made, and done in surface letters and the name in red, the balance black, the procedure would be as follows:
- 57** Cut the stencils first. The boards should be all of the same dimensions. Make a frame so that it will fit around the outer edges of the boards, not tight, but a fit permitting no motion. The frame should be the same thickness as the boards to be stenciled.
- 58** The first or male stencil is tacked onto this frame, but before tacking put a board in the frame, lay it on a bench and lay the stencil in the proper position; then tack it at the top corners first, to insure its alignment. Mark the register marks with a sharp lead pencil and get them correct.
- 59** Make another frame like the first one. Lay it over the same board used previously and get the female stencil in absolute register to the pencil marks on the board. Tack on the stencil. The use of these frames will almost automatically register the stencils correctly and are an aid. A long, sloped bench is desirable for stenciling. The longer it is, the better. The preparation of the color is the next procedure and is important.
- Japan colors dry quickly, but also are hard on the stencils and gum up the brushes badly, so dry colors mixed with boiled linseed oil are preferred by experienced artists. The dry colors should be ground under a palette knife. Place the dry color on a piece of old glass, adding a few drops of boiled linseed oil at a time, working it up until it resembles a mass of jelly. It should not be thin, as that would cause it to run under the stencils when applied. Neither should it be too thick, as it would not work without leaving a surplus on the stencils. Test the stencil and color on a piece of paper, tin or anything suitable.
- 60** Any of the standard colors used by the craft can be obtained dry. For the usual work done by stencil methods, a No. 300 stencil brush is most suitable. However, they vary in size from 100 to 400.
- 61** Do not dip the stencil brush into the pile of color. Instead keep the pile isolated on one corner of the glass or tin on which it was ground, and with a little paddle put a little at a time onto the center of the tin or glass. Then dip into this with the brush, moving in a circular motion to equally distribute the color through the brush. One charging of the brush will cover quite a few letters without recharging.

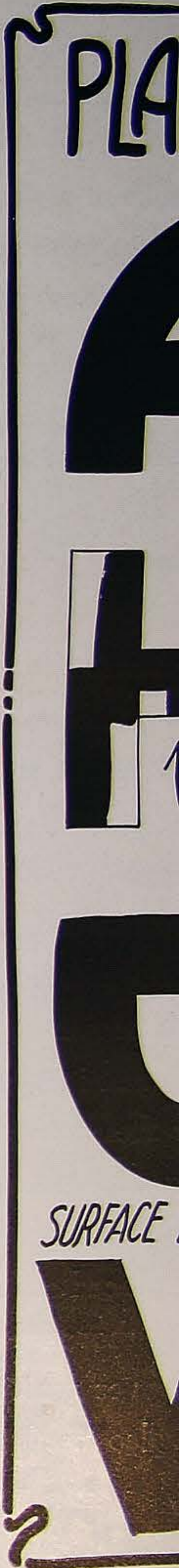


PLATE 39

STANDARD HEAVY POSTER

A B C D E F G

H I J K L M N !

*BRUSH SHOULD BE LARGE, SO STROKES WILL LAP, SAVING WORK. FOR VERY LARGE CLOTH SIGNS OR BULLETINS,*

O P Q R S T U

*SURFACE LETTERS CAN BE DONE WITH "BLACK SABLE BANNER" BRUSHES BY THE "ONE STROKE" METHOD.*

V W X Y Z

*SEE PLATE 40*

*FOR*

*CAPITAL*

*ALTERNATIVES.*

HEBERLING.

**62** Place the male stencil on one board, remembering that one line of the inscription is to be in red. This line of the stencil which is to be done in red is covered up. Use a piece of stencil paper to cover it. Fasten it so that the stencil brush will not move it and soil the space with black if it should accidentally get into this line. This paper is called a "mask." Do all the black lettering first. Then do the red after removing the "mask." Proceed to the next board and repeat the operation until the boards are stenciled with the male stencil.

Then stencil them with the female stencil and use the "mask" as with the first stencil. A "mask" is not required if one color only is used.

Two operators, one working with the male stencil and another with the female stencil, will run a hundred boards through in a hurry.

**63** The average person not familiar with the use of stencils will try to pound the paint onto the work with the end of the brush. Clean-cut stenciling is accomplished by a circular motion of the wrist and keeping the brush in continual contact with the stencil, using pressure. This holds the stencil against the work, keeping the paint from getting under the edges of the cuts, which would soil the work. The stencils should be turned over once in awhile and wiped with a cloth to keep the under sides of them perfectly clean.

Remember these points: Cut openings in stencils at a slight bevel, sloping inward. This makes the edges of the cuts less liable to scrape too much color from the brushes as they pass over them.

**64** A little bolted whiting mixed with the colors for stenciling helps to keep the stencils clean.

A clear pine board is best on which to cut stencils.

**65** The use of different colors on stencil work demands brushes for each color. It takes too long to clean them out from one color to another, and the time involved would be worth more than the brushes.

**66** Wrapped in paper to keep them in shape for future use, and suspended in or just allowed to stand in half turpentine and half-raw linseed oil, is the accepted method for their proper care. Never take a stencil brush from the oil retained and put it to use directly. After unwrapping it and drawing it over the edge of a board to squeeze out the oil, use it on an old newspaper in the same manner as for stenciling. The absorbent quality of the paper removes the remaining oil and a little whiting placed on the paper and rubbed around with the brush will clean it thoroughly. Bat the brush over the edge of a board which removes whiting and the brush is ready for use. The air brush is also used for stencils.



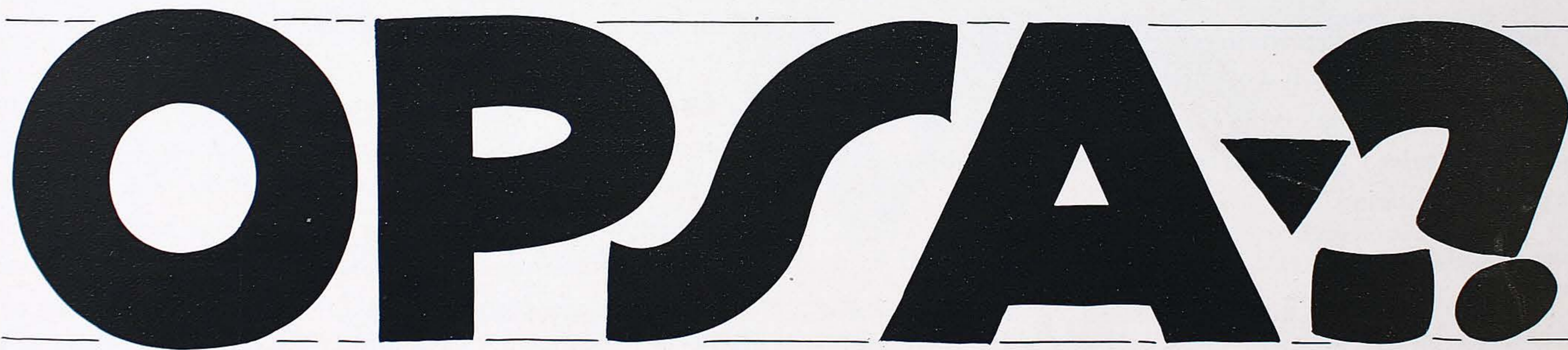
PLATE 40

SEE PLATES 41 and 42



*Roman Elements*

HEAVY POSTER ALTERNATIVES



Do not use a round "O" unless the "B," "C," "D," "G," "P," "Q," "R" and "S" are round. Follow either style, but never mix them.

HEBERLING

## Pertinent Paint Pointers

(These should be memorized to give a general idea. Each chapter gives correct formula with proportions.)

There are two kinds of linseed oil used in Sign Painting. Raw linseed oil is one. The other is boiled.

**67 Raw Linseed Oil** is a very slow drier and should have a drier added to it to assist drying. Turpentine Japan is the proper drier to use with raw linseed oil and is used in the proportion of a teaspoonful to a pint of oil. Boiled linseed oil is a natural drier and will dry in 36 hours without the addition of any drier. Never use boiled linseed oil in mixing Japan colors.

**68 Turpentine Japan** is brown in color and is used in the mixing of paints for coating boards and for signs on fences and brick walls, where large quantities of paint are used at one time. It is not high in price. Never add a large quantity of drier, as it causes peeling, blistering, etc.

**69 Japan Gold Size** is a very powerful drier. It is used as a "size" for quick gilding and for mixing with colors ground either in oil or Japan. In oil colors it acts as a drier. In Japan colors it acts as an adhesive or binder. (See Japan Colors.)

Japan Gold Size resembles a very quick-drying varnish and may be used to hurry a slow-drying varnish. Japan Gold Size is too expensive to use in paint for coating rough work. Never use Turpentine Japan and Japan Gold Size together. Use one or the other.

**70 Turpentine** is used for thinning purposes and should be used only in this capacity. Turpentine has great penetrating power and assists oil in penetrating wood. It is NOT A DRIER, but assists drying only through evaporation. Substitutes are not recommended for high-grade work, except on wall, fence and bulletin signs, where benzine is generally employed.

**71 Gasoline and Benzine** are useful for cleaning up tools used in connection with sign painting, such as vessels used in mixing paints, palette knives, glass palette, etc., this being much more economical than turpentine. Gasoline or benzine are indispensable for wiping up paint spots which have been accidentally dropped or splashed on work in the shop, or for rubbing out a mistake in lettering. This *must* be done while the paint is still wet, or the process will be unsuccessful.

Plate 41

"Roman"

A B C D !  
E F G H J  
K L M N I  
O P Q R R

HEBERLING

## Varnishes

**72 Coach Finishing Varnishes or Outside Spar Varnishes** are used where great durability is required. These are comparatively slow drying, but the varnish film of a slow-drying varnish is elastic and tough when dry. Therefore it expands and contracts with atmospheric changes and will not crack so readily as a varnish which dries hard and is brittle. Signs on glass and signs on wood, or other surfaces, where varnish is required as a final coating, should be covered with one of the varnishes named above.

**73 Rubbing Varnishes** are just what the name implies, but are used also in mixing colors, especially for signs on glass and for size for Gold Leaf. Rubbing Varnish is not suitable for a final coat, but is used where a rubbed surface is required, preceding lettering and finishing varnish. Rubbing varnishes are made in quick drying, medium and up to four days. This means they can not be rubbed until that time has expired with drying conditions favorable. See chapter on Varnish Ground Signs.

**74 White Damar Varnish** is used only in glass embossing and is never used without the addition of one-eighth (approx-

mately) its bulk of Japan Gold Size or Quick Rubbing Varnishes to insure hardening. See Plates 34, 36 and 37.

**75 Fat Linseed Oil** is oil which is found on the surface of paint pails in which oil paint has been mixed and not entirely used and allowed to stand for a month or more (the longer, the better). This oil becomes thick like melted lard and may be skimmed off and saved in a bottle or other suitable container. This oil is indispensable for high-grade surface gilding (boards and raised letters), for exterior use, and should never have varnish applied over it. (See Raised Letter Gilding.) Fat linseed oil can be made in a few days by pouring a pint of boiled linseed oil into a flat pan (bread or cake pans answer nicely) and, covering it with a pane of glass, set it where the sun will shine directly onto it and stir once daily. A commercial fat oil size known as "Fat Oil Size" is a very good size and is obtainable at sign painters' supply houses.

**76 Alcohol (Denatured)** is used for thinning shellac and for use in water size heater. Never use it in oil or Japan colors. It is the base of paint and varnish removers and when added to these paints it ruins the durability. Alcohol mixes readily with water and is sometimes employed in mixing water colors.



PLATE 42

"ROMAN"

LOWER CASE

a b c d e f g h

i j k l m n o p

q r s t u v w

*See Plate 40*

HEBERLING



## Colors Ground in Oil, Japan and Water

**77** When colors ground in oil are referred to, it means that the dry pigment has been ground in linseed oil. Cans and tubes containing these colors are marked, for example, "Lamp Black, Ground in Oil."

**78 Colors Ground in Japan** are colors which have been ground in either Japan or Japan Gold Size and are marked "Ground in Japan," or are marked "Quick Drying Coach Colors." THESE COLORS DRY QUICKLY.

**79 Distemper Colors** are colors which have been ground in water and are labeled "Ground in Distemper." These come in one-pound jars. Formulas for the uses of the different colors ground either in oil, Japan or Distemper are given in the chapters of this book in connection with the processes which are explained.

### Suction

**80** It is natural for a surface that is porous to absorb moisture. For this same reason the first coat of paint applied to a wood surface may contain a greater amount of oil than the second coat. The third coat should have no oil, but a small amount of rubbing varnish in the mixture will cause it to dry hard and the gloss to be what is called an "egg-shell gloss." A high gloss is very undesirable and makes lettering on such a surface very discouraging. (See "Creeping or Crawling.") A small amount of rubbing varnish in the paint, as stated above, closes the pores in the

coating itself and the paint used in the lettering mixture works with a much better stroke and does not soak in. Suction is easier to understand by making this demonstration: Use an ordinary blotter of the usual size. Coat one-half of it with shellac. This will dry in five or ten minutes. Now paint the entire blotter. It will be noticed that the part which has been coated with shellac supports the paint and the part which was not coated with shellac absorbs the paint very readily. Suction is very undesirable where lettering is to be executed and if the final coat of paint (previous to the lettering) is not free from suction, the paint used in lettering soaks into the final coating and will dry with part of the letter being dull and part glossy. Nothing looks much worse than a piece of work which is spotted up with "soak in," as it is called. For this reason it is advisable to add rubbing varnish to all lettering mixtures *except for work on large walls and large advertising signs.* See Wall, Fence and Bulletin Signs. The varnish gives "touch" to the color and also causes it to remain upon the surface instead of soaking in.

Naturally, when sign work is done on sheet iron, there would be no suction in the iron itself, but if the coatings on the iron do not contain a small amount of varnish or linseed oil with a little drier added, the coatings themselves would be somewhat absorbent. See Painting on Sheet Metal.

PLATE 43

"ROMAN"

S T U V W Z  
W X Y &  
1 2 3 4 5 ¢  
6 7 8 9 SP

HEBERLING

Condensed

## Crawling or Creeping

(Both words mean the same)

**81** This is a condition often encountered in painting. The action of crawling or creeping is much the same as the result in mixing oil and water. Paint or varnish is said to "crawl" or "creep" when it refuses to stay where it is applied and, instead of remaining in the position in which it is applied, it forms into little drops and tricklets, as though the surface were oily.

The causes of "creeping" or "crawling" are several:

**82** An attempt to varnish over a glossy surface will cause creeping and all surfaces which are glossy should be rubbed over with curled hair. This operation is known as "mossing off." This takes but a moment to remove the gloss. Then pass a wet chamois skin over the surface. The cause for creeping will then have been eliminated. This applies to lettering over glossy surfaces also, except lettering on glass. (See chapter on Varnish Ground Signs.)

Pumice stone and water also are used to remove the gloss before varnishing or lettering.

If the last coat of paint previous to lettering has been made too glossy by the addition of an overdose of varnish, it is possible to correct this sufficiently to letter upon by rubbing the surface

with dry cornstarch, followed by a rub with a wet chamois skin, or coat entire surface with vinegar. The cornstarch method is preferred on a *painted* surface, but is not sufficient for a surface which has been varnished. The curled-hair or pumice-stone treatment is used for varnished surfaces such as wagon panels, etc. (See Varnish Ground Signs.)

**83** In cold weather creeping is very much in evidence on outside painting or varnishing. A little vinegar is often added to paint mixtures when creeping is encountered on outside painting. A cupful of vinegar to the gallon of paint is the correct proportion.

Another formula to stop creeping on outside painting in winter is a teaspoonful of salomonic dissolved in a quart of water. To a gallon of paint add about a teacupful of the salomonic liquid.

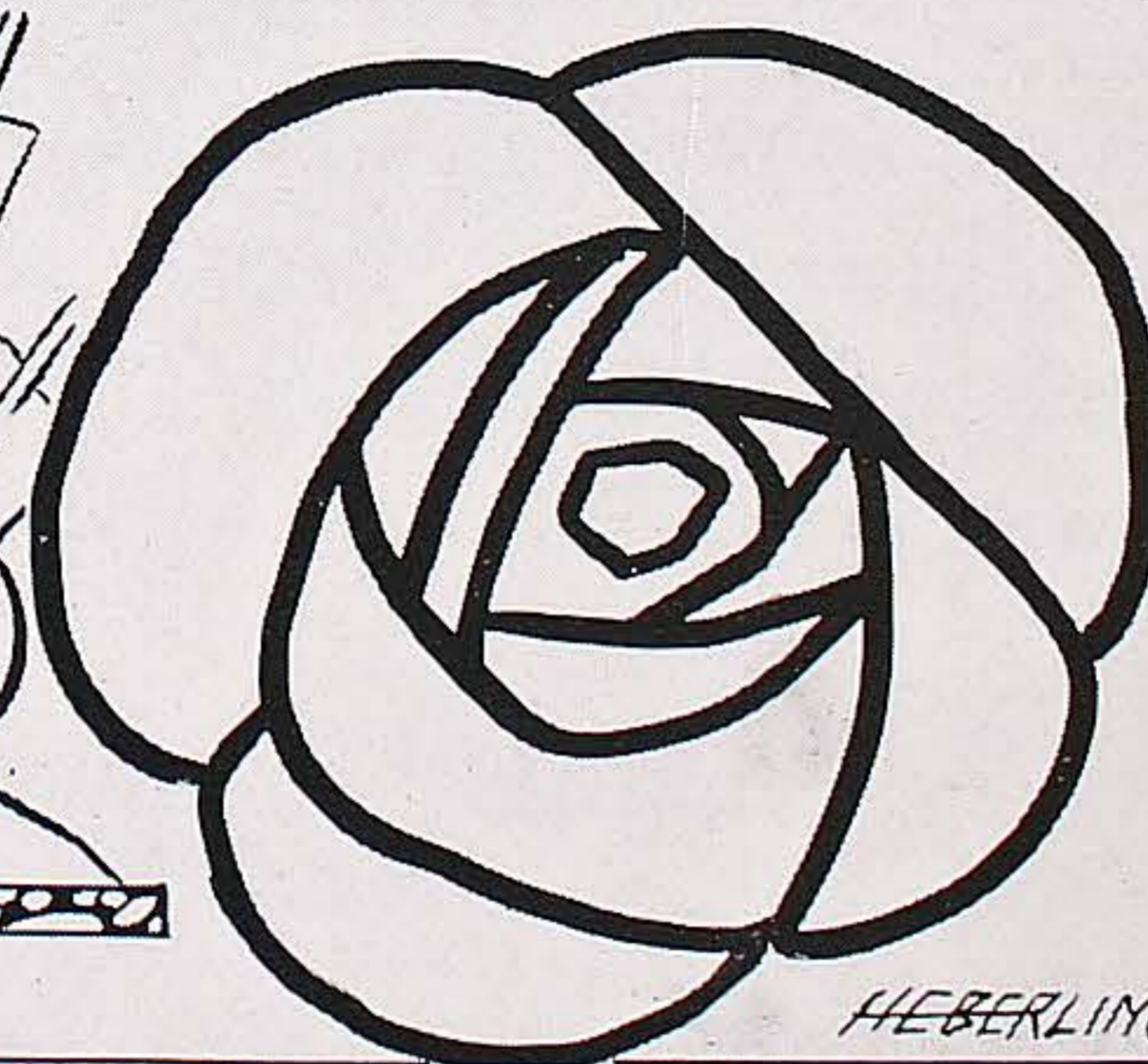
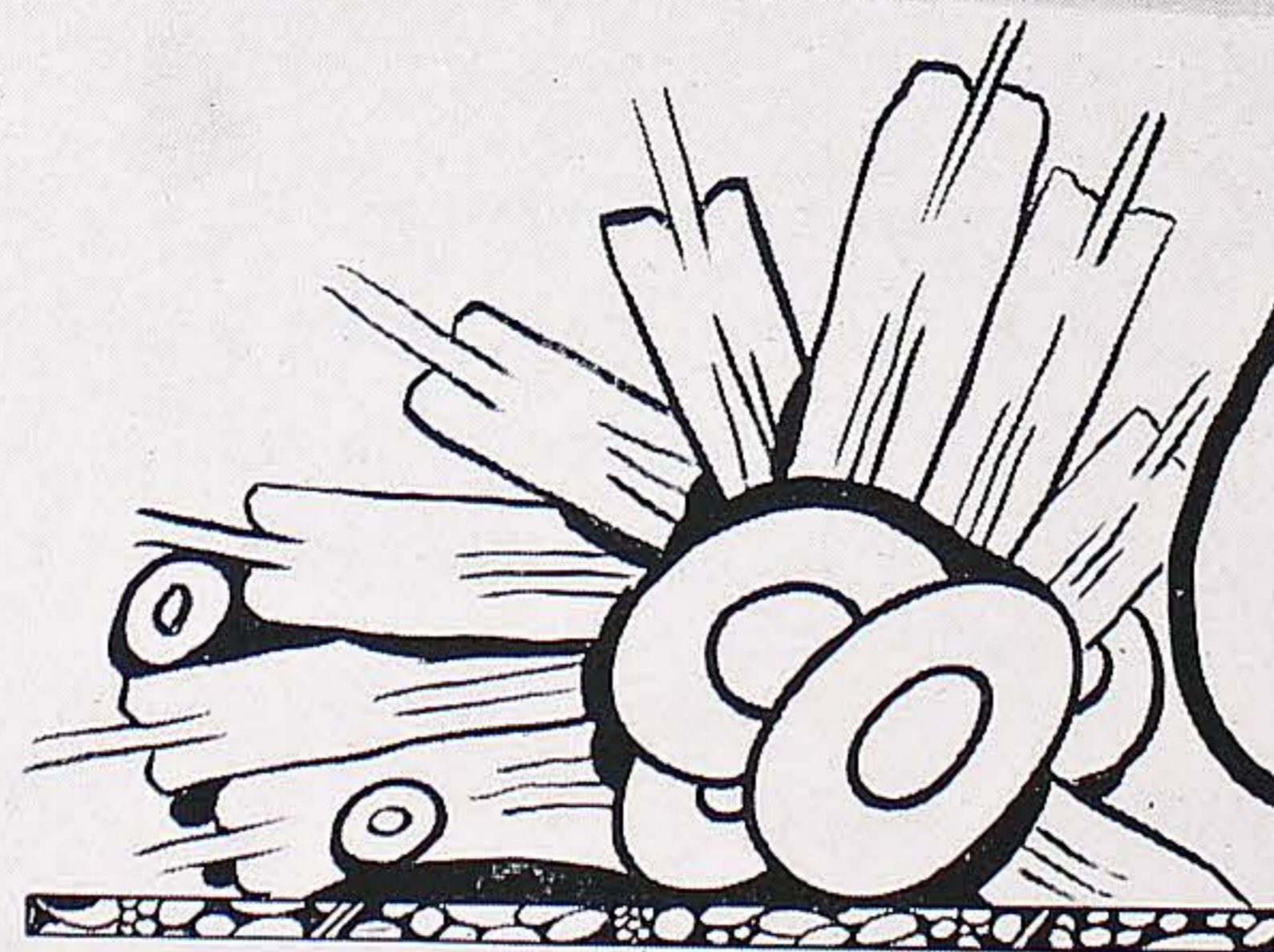
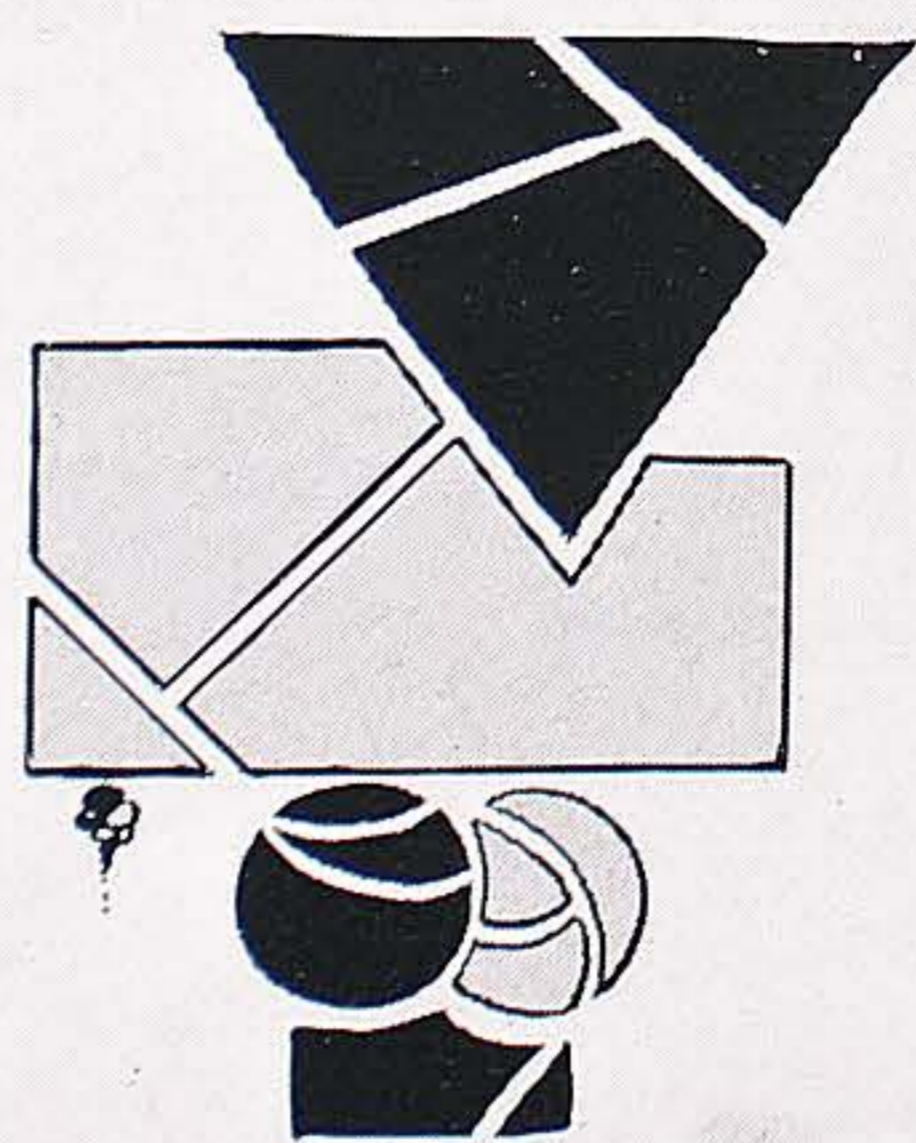
### A Good Substitute for Frosted Glass

**84** Is made by taking two panes of ordinary window glass. Insert a piece of tracing cloth the same size as the glasses, the cloth having been lettered as desired before insertion. Lettering of this kind is not affected by window washing, as the glass protects it on both sides.

PLATE 44

P L V H I

EASTER



HEBERLING

#### Lettering Windows for Big Sales

**85** Use ordinary calsimine to which a little extra glue has been added. Coat the inside of the glass with this mixture, using a large brush. Lettering on outside is done in darker colors made by grinding the dry colors in LePage's glue and thinning with vinegar. This will last until windows are washed or exposed to extremely hard rains.

#### The Use of Flock

**86** Flock is used to good advantage for backgrounds on signs for inside use. Use the same as smalt. See Paragraphs 174 and 175. First execute lettering. Allow lettering to dry. Size with good varnish and put on the desired color of flock by sifting or direct from the hand. Cover thoroughly. Dump out surplus and let dry. Flock gives texture like that of cloth. It may also be used on temporary wood or cardboard signs for inside use.

#### Frosting for Mirrors

**87** Use this mixture: Half a pound of Epsom salts dissolved in a pint of near-beer or vinegar. Apply to the glass with a soft two-inch camel's hair brush. Fan with a palm-leaf fan or cardboard until dry. This may be washed off at any time, but,

if desired as a permanent furnishing, varnish with white Damar varnish after the frosting has dried. A safety razor blade will remove this at any time.

#### Water Size for Laying Gold Leaf on Glass

**88** Formula No. 1: One pint of clean water, four empty No. 00 gelatine capsules boiled until dissolved.

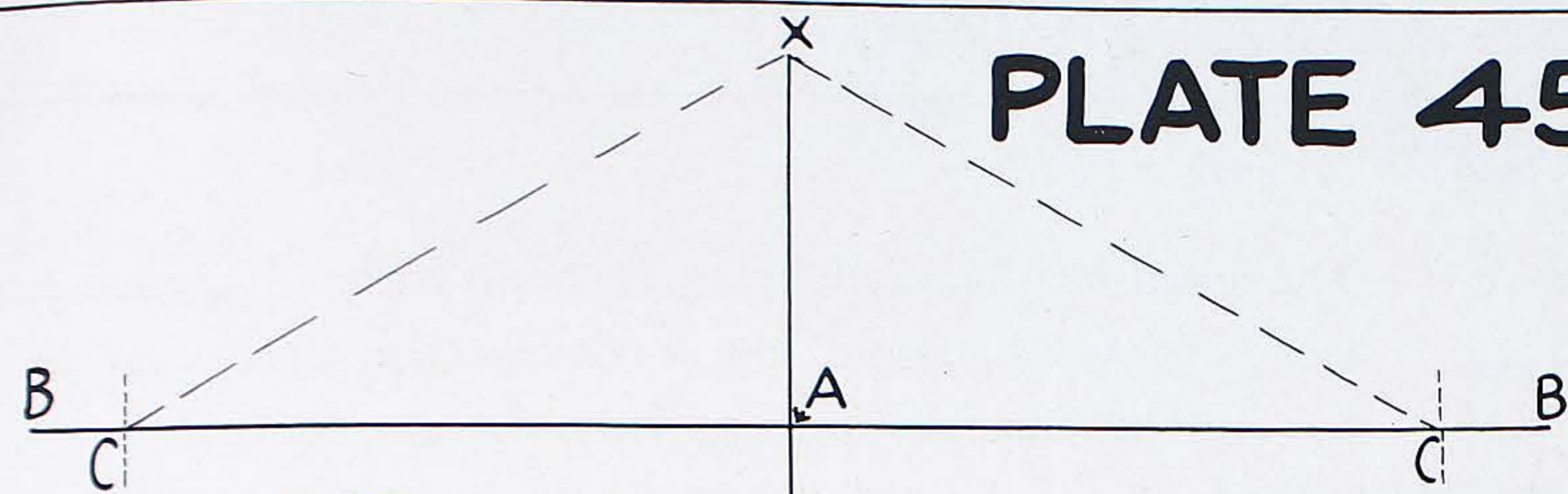
Formula No. 2: One pint of clean water (distilled water preferred), a piece of fish glue about the size of a dime. Set this on stove and let boil until glue has dissolved. Add two ounces of grain alcohol.

Formula No. 3: One pint of clean water to which add six drops of any clear liquid mucilage (not glue). Boil this for a minute or two.

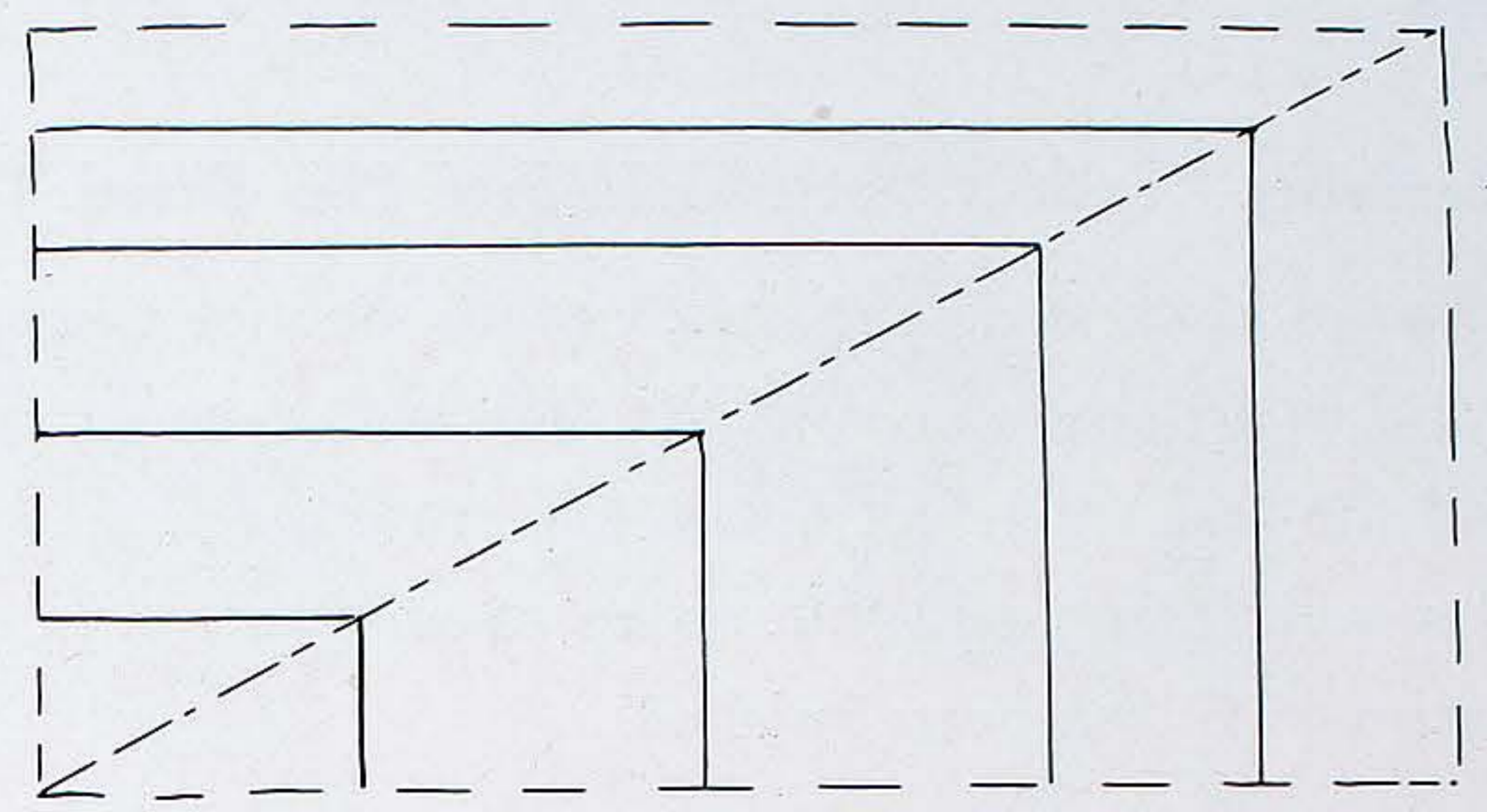
#### Emergency Size for Glass Gilding

**89** Use one-quarter of the flap from an envelope, soak in a pint of water till the mucilage dissolves. Strain before using. This is not recommended except in the absence of the proper materials.

PLATE 45

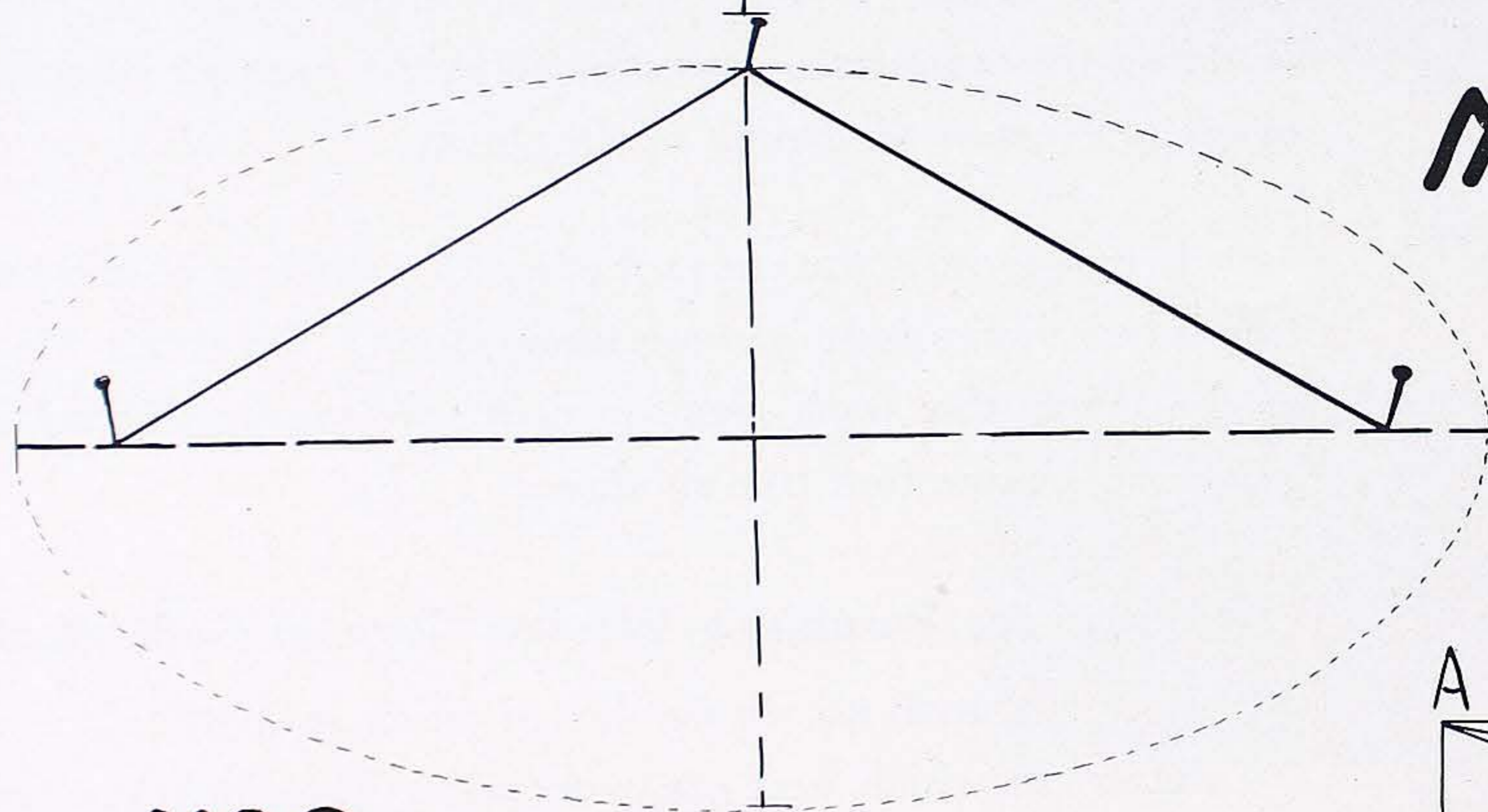


**No. 1**



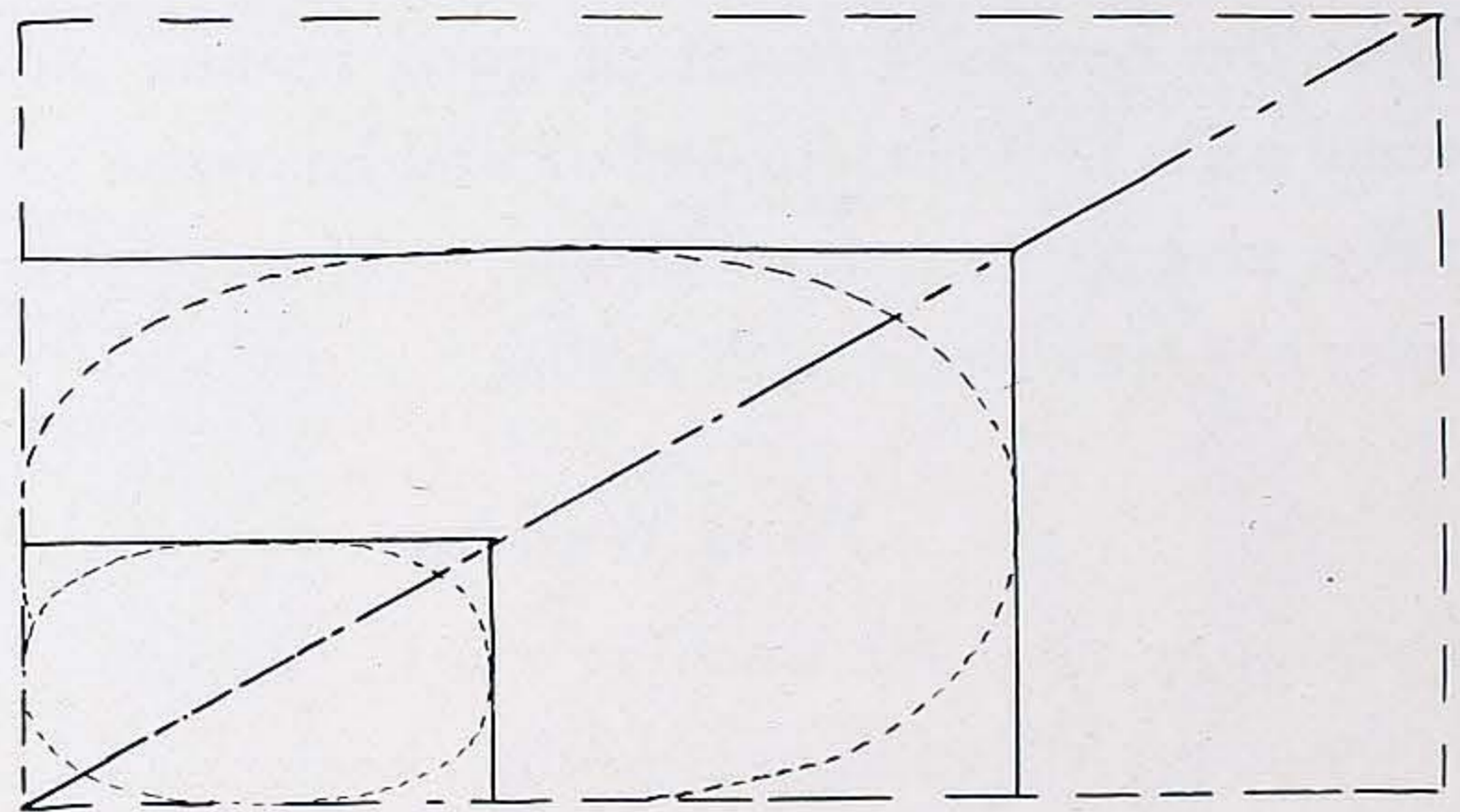
**No. 3**

METHOD FOR ENLARGING & REDUCING



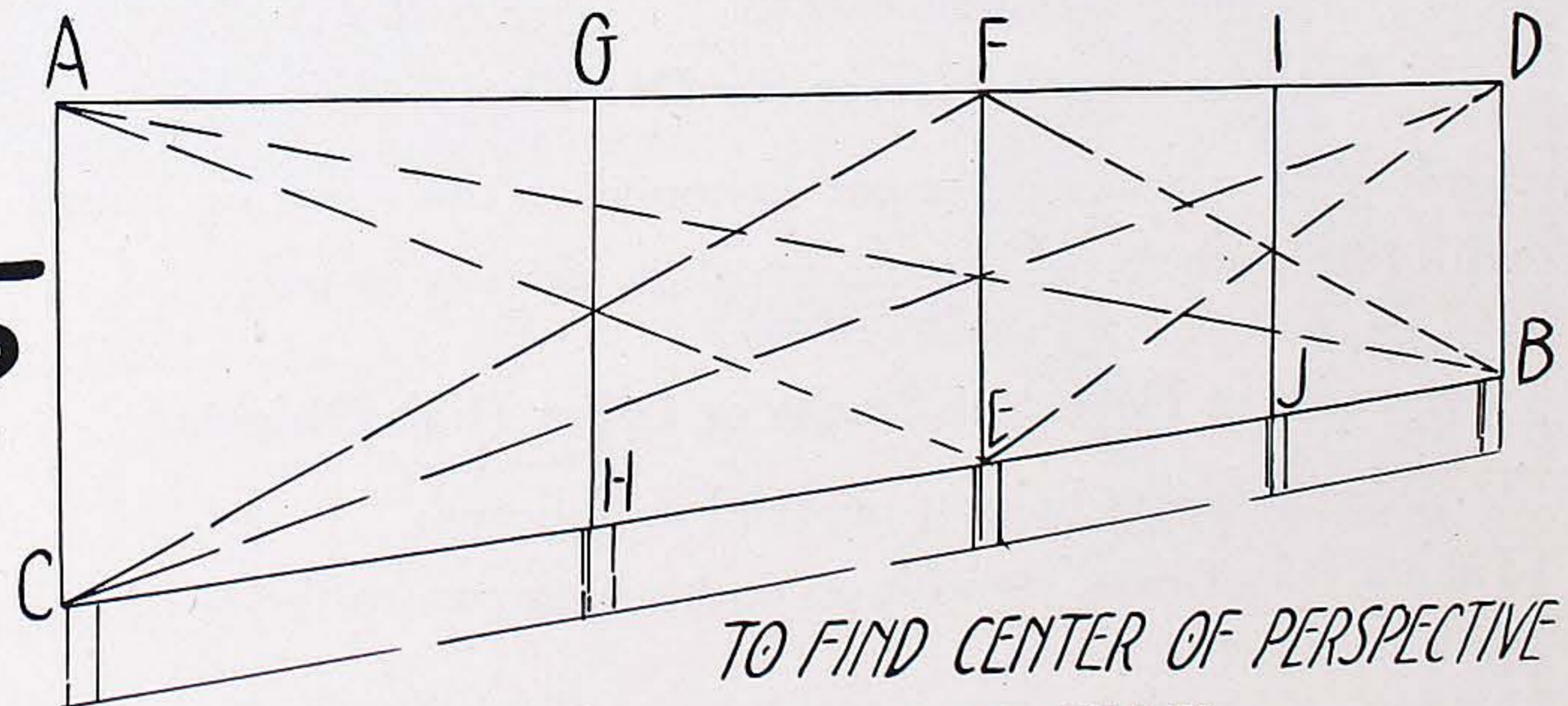
**No. 2**

**ELLIPSE  
CONSTRUCTION**



**No. 4**

**No. 5**



TO FIND CENTER OF PERSPECTIVE  
DRAWING OR PHOTO.

HEBERLING

**Reviving "Tack" When Gold Size Has Dried Too Hard**

**90** Pass a cloth moistened with grain alcohol over the lettering and in a minute or two, the tack will have returned enough to hold the leaf. Do not cover too much surface at a time, but moisten a little and gild that space, repeating the operation until the entire work has been finished.

**To Make Stencil Paper**

**91** Take the desired amount of good manila paper and with equal parts of boiled linseed oil and kerosene coat both sides. When dry, give a thin coat of shellac. After cutting design, coat both sides of paper again with shellac.

**Hand Washing**

**92** Turpentine used for washing the hands will cause stiffness in the joints. Nothing better than kerosene and no injurious effects.

**Pen and Pencil Holder for Drawing Board**

**93** A piece of corrugated paper fastened to the drawing board with thumb tacks will retain brushes, pencils or pens.

**Determining Height of Stacks or Other High Objects**

**94** To determine the height, proceed as follows:  
Take a 1-foot rule, stand it on end, and measure the shadow.

The length of this shadow establishes a scale. Now measure the length of the shadow of the stack or other object and divide by the established scale obtained from the one foot rule.

Example: If the shadow of the one-foot rule was 18" and the shadow of the stack was 100 feet, by reducing the 100 feet to inches, which would equal 1,200 inches, and dividing this by 18 inches, the result, or 66 2/3 inches gives the length of the stack. Dividing this amount by twelve, gives the number of actual feet or 66 2/3 feet as the height of the stack.

It makes no difference whether the shadow of the one-foot rule is less than a foot or more than a foot. To obtain the height of the stack, the stack shadow must always be divided by the length of the one-foot rule shadow.

**Reflector for Varnishing Window Signs in Dark Weather**

**95** Fasten a small mirror on the rest stick so it will shine on the letter on which you are working. This makes varnishing easy and saves the eyes as the black backing on the lettering is partially illuminated.

When pictorials or trade-marks are being rendered on show windows, a small mirror hung on chalk line stretched across the window will save going outside to see how you are progressing.



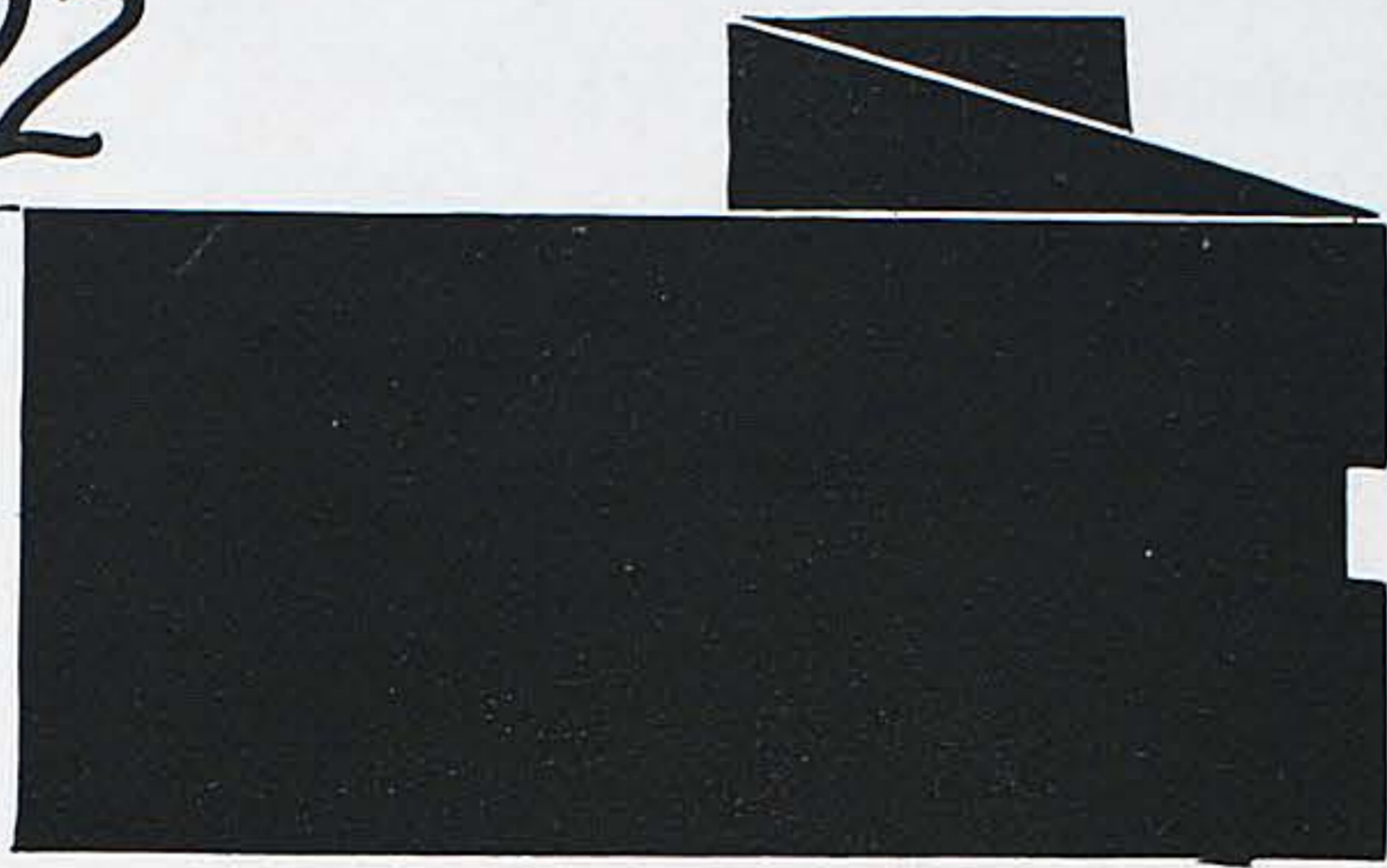
# PLATE 46

*No. 1 Half of Corner*



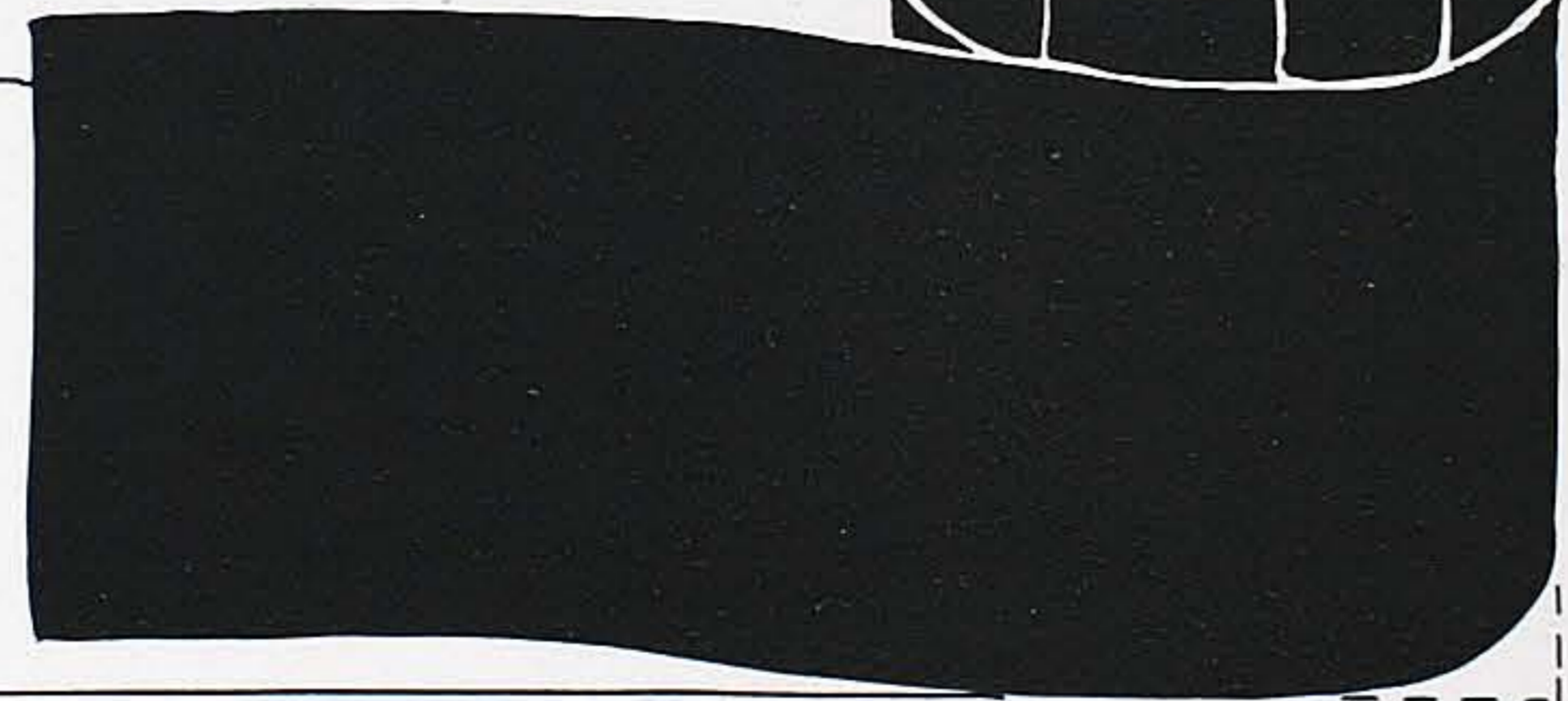
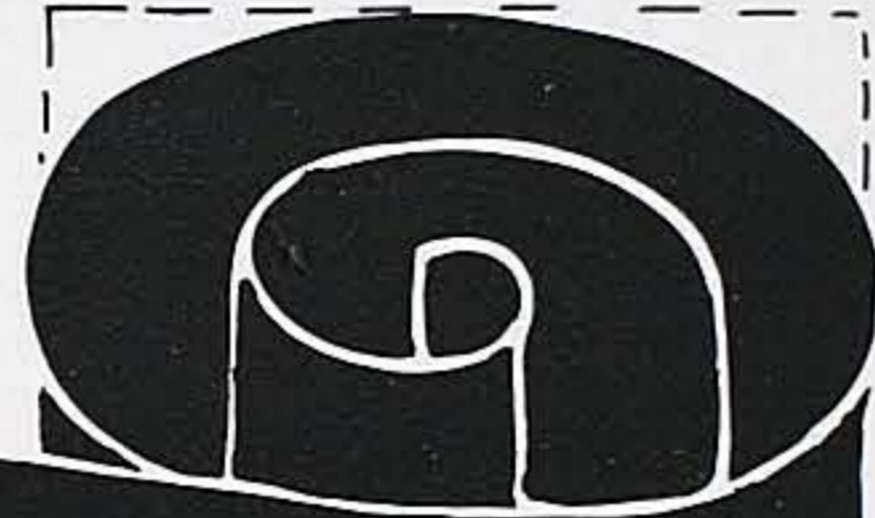
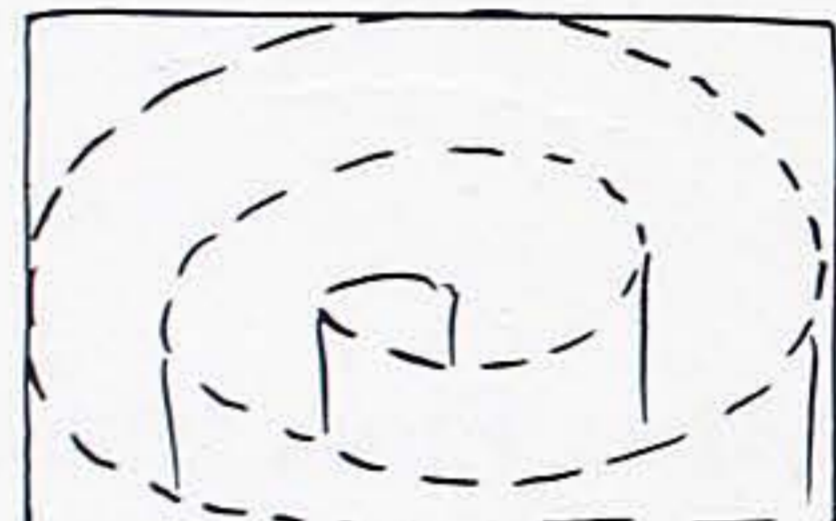
*No. 2*

Ribbon  
Construction



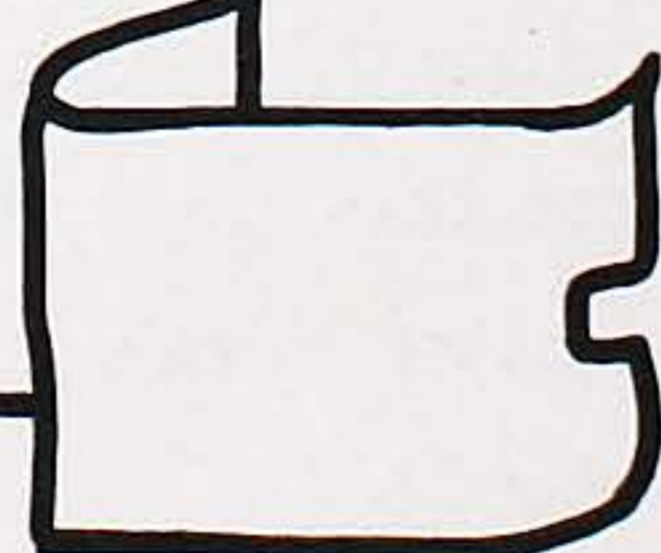
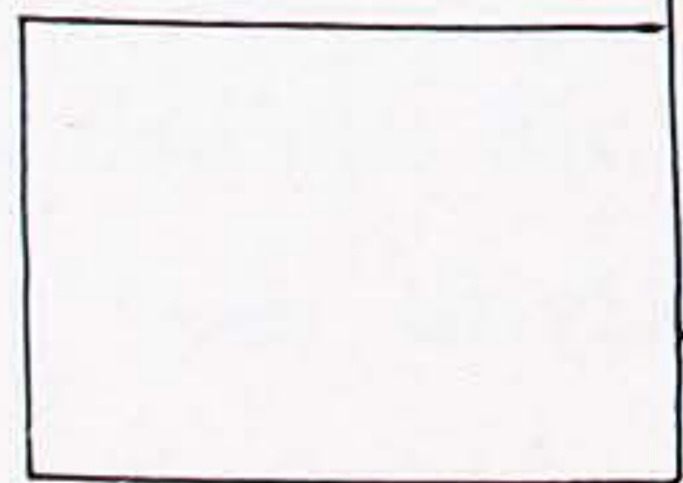
*No. 3*

Ribbons  
Preliminary Layout



USE THESE METHODS

*No. 4*



*No. 5*

One Half  
of Border  
See Paragraph 292



HEBERLING



#### Gold Ink

**96** Rub genuine gold leaf on a glass plate, adding a few drops of pure honey, using a mullar such as druggists use. When mixture is uniformly smooth, wash the mixture repeatedly in a glass vessel until all honey has been removed. The gold is then dried and mixed as needed for writing in gumarabic water. After writing is dry, burnish it with a smooth piece of ivory which will bring out its luster.

#### Mahl or Rest Stick

**97** For shop use, nothing is better than an old steel umbrella handle from which all attachments have been removed, and a solid rubber ball for a knob. Put on the ball by heating a nail and boring a hole into the rubber. Put the umbrella handle into the ball while the rubber is hot or soft. Do not bore entirely through the ball. A stick for the kit is best purchased. One of the sectional kind preferred. These rubber balls may be attached to them in the same manner as to the umbrella handles. For glass, these rubber balls are fine as the stick will not slip, but for wood and other surfaces use the ball covered with chamois skin.

#### Glass Cutting

**98** Dip the cutter into kerosene before using. Also dip the fingers in the kerosene and wipe across the glass where cut is to be made. This is infallible if a good cutter is used.

#### Cement for Glass

**99** Half ounce of gum acacia in a wine glass full of water, add enough plaster of paris to make a thick paste, apply to both edges to be cemented.

#### Lettering on Ground Glass Office Doors

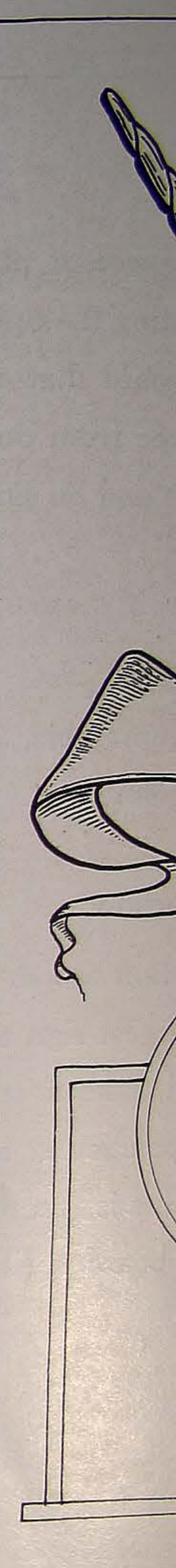
**100** Do not execute lettering on the ground side of the glass as it will leave a stain if ever removed. Take the glass out and turn, if necessary.

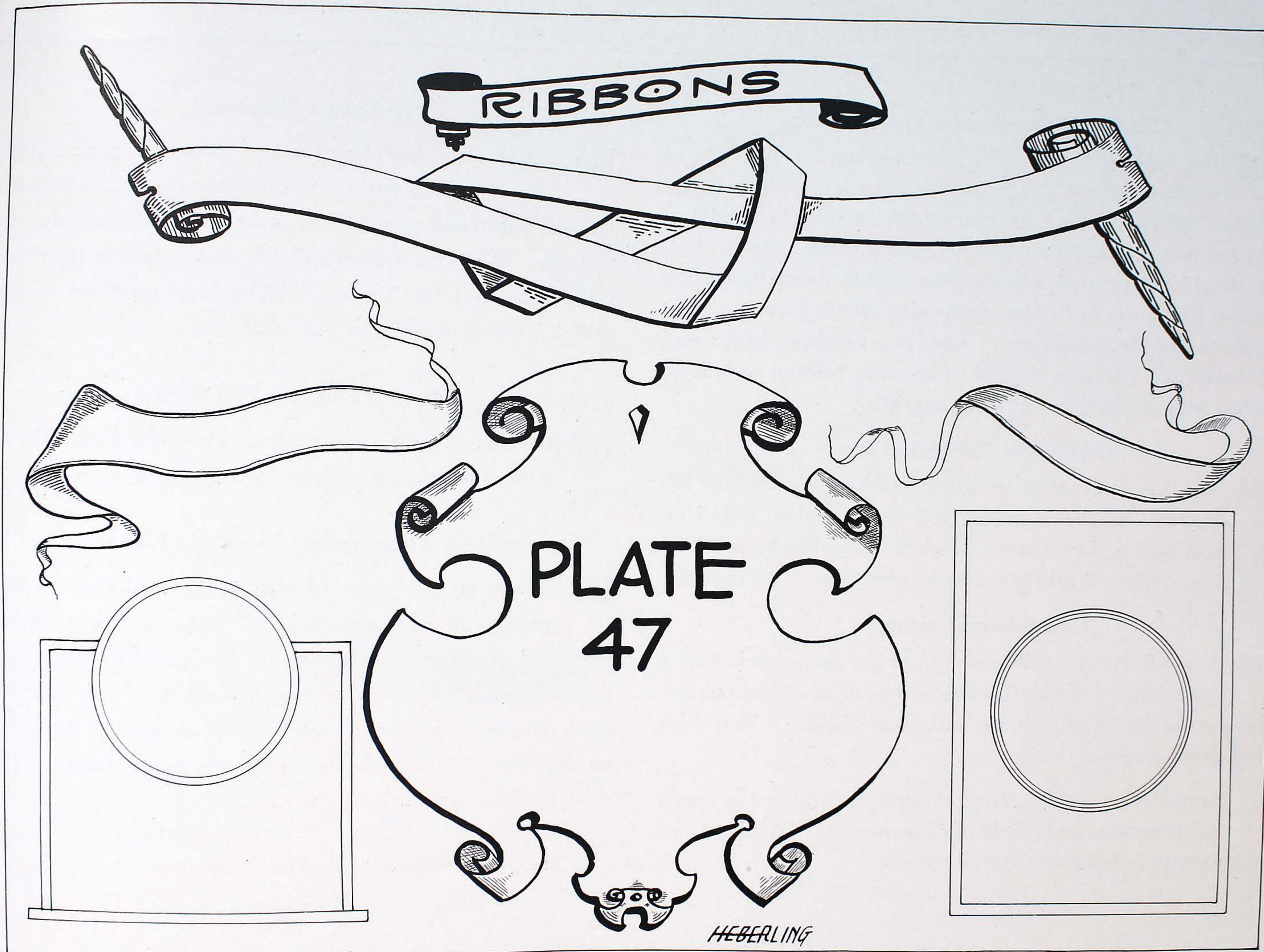
#### To Remove Raised or Enameled Letters From Outside of Windows

**101** A little kerosene dropped on the top of the letters and around them will soften the cement sufficiently so that with the careful use of a putty knife, they can be removed.

#### Paint and Varnish Remover

**102** Chip one pound of paraffine wax into one gallon of benzol and let stand for 24 hours. Then add one half gallon of wood or denatured alcohol. It is then ready for use.





**Gilding: Picture Frames and Mouldings**

**103** Boil down several pieces of rawhide leather until reduced to the consistency of jelly: mix same with a little bolted whiting and apply about ten coats to the surface to be gilded. The last coat should have a little dry yellow ochre mixed with it. Let stand for about twelve hours, then dampen the surface, using a camel hair brush and water, dampening only a little at a time. Apply the gold leaf while wet. When dry, rub down with a wad of cotton and the parts desired to be extra brilliant should be rubbed with an agate or dog tooth burnisher.

**Coating for Galvanized Iron**

**104** The best first coating for galvanized iron is one of the following: Red Lead, Indian Red, Burnt Umber, Raw Umber, Burnt Sienna, Raw Sienna, Graphite, Lamp Black, and Prussian Blue. White Lead Paint can be used over these coatings.

**Blackboard Coating**

**105** Formula No. 1—Half a pound of dry lamp black, half a pound of dry drop black, five ounces of powdered pumice, one pint of liquid glue, three quarts of shellac. Thin with alcohol and give two coats.

Formula No. 2—One pound of lamp black ground in japan, thin with turpentine and a little rubbing varnish. Add about two tablespoonsful of powdered pumice stone.

**To Make a Blackboard**

**106** An excellent blackboard can be made of a piece of plate glass by sand blasting it three times and painting the opposite side with black paint. This is the best blackboard that can be made. It can be washed and will always be free from dust. If it is to be lined, line it before applying black paint and on same side. A red or green stripe will show up best.

**Marking Fluid for Blue Prints**

**107** One ounce potassium oxalate, one dram gumarabic, six ounces water, and sufficient cobalt blue to color.

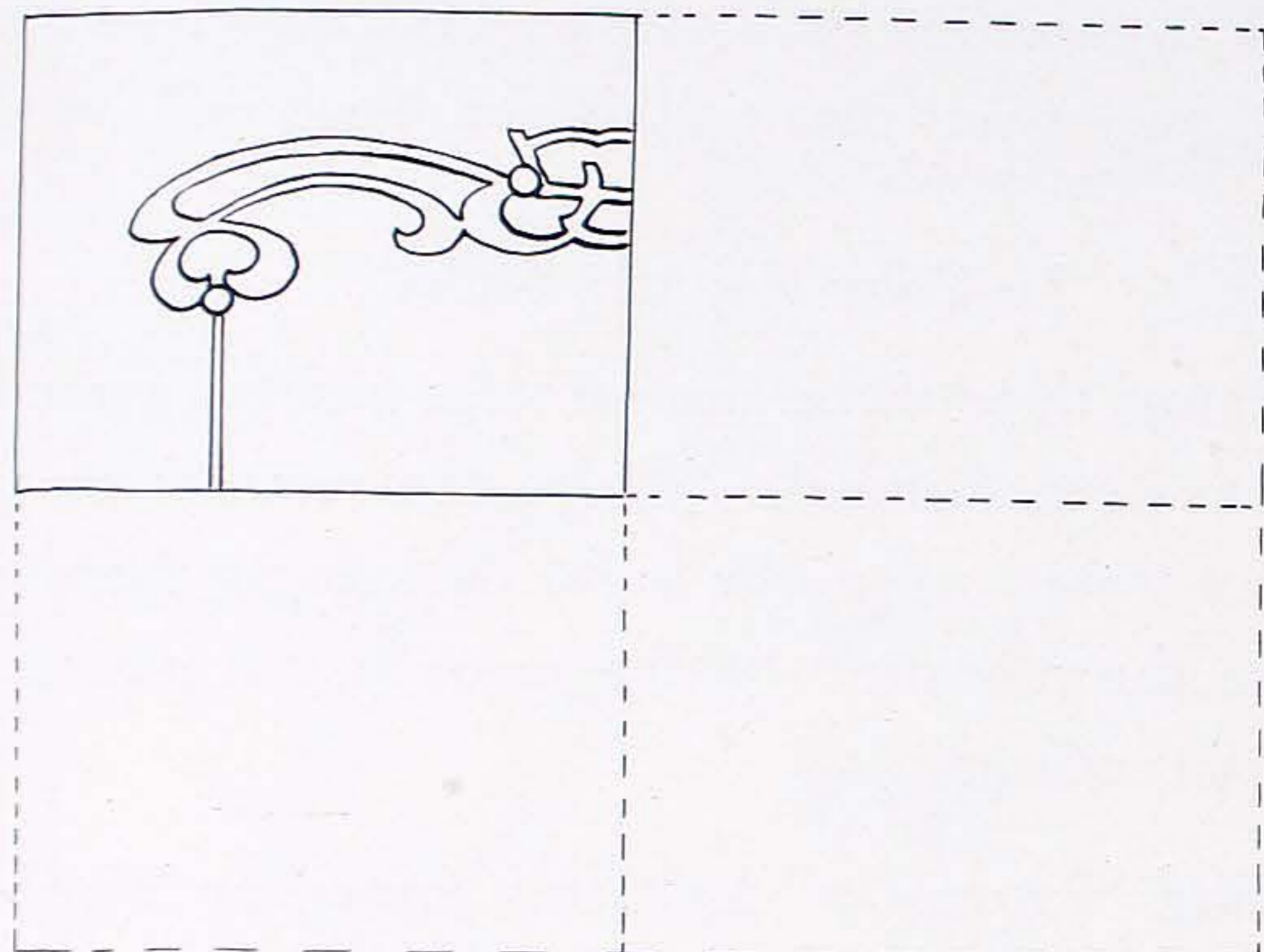
**Scale for Reducing Sign Layouts in Proportion**

**108** When several signs of the same inscription are to be painted on different sized boards, take the largest sign and lay it out as desired. When layout is completed, take a stick that will reach the top of the board, stand it perpendicular and mark the top and bottom of each line so that each line is recorded on this stick. Also mark all spacing and top of board. (This mark is very important).

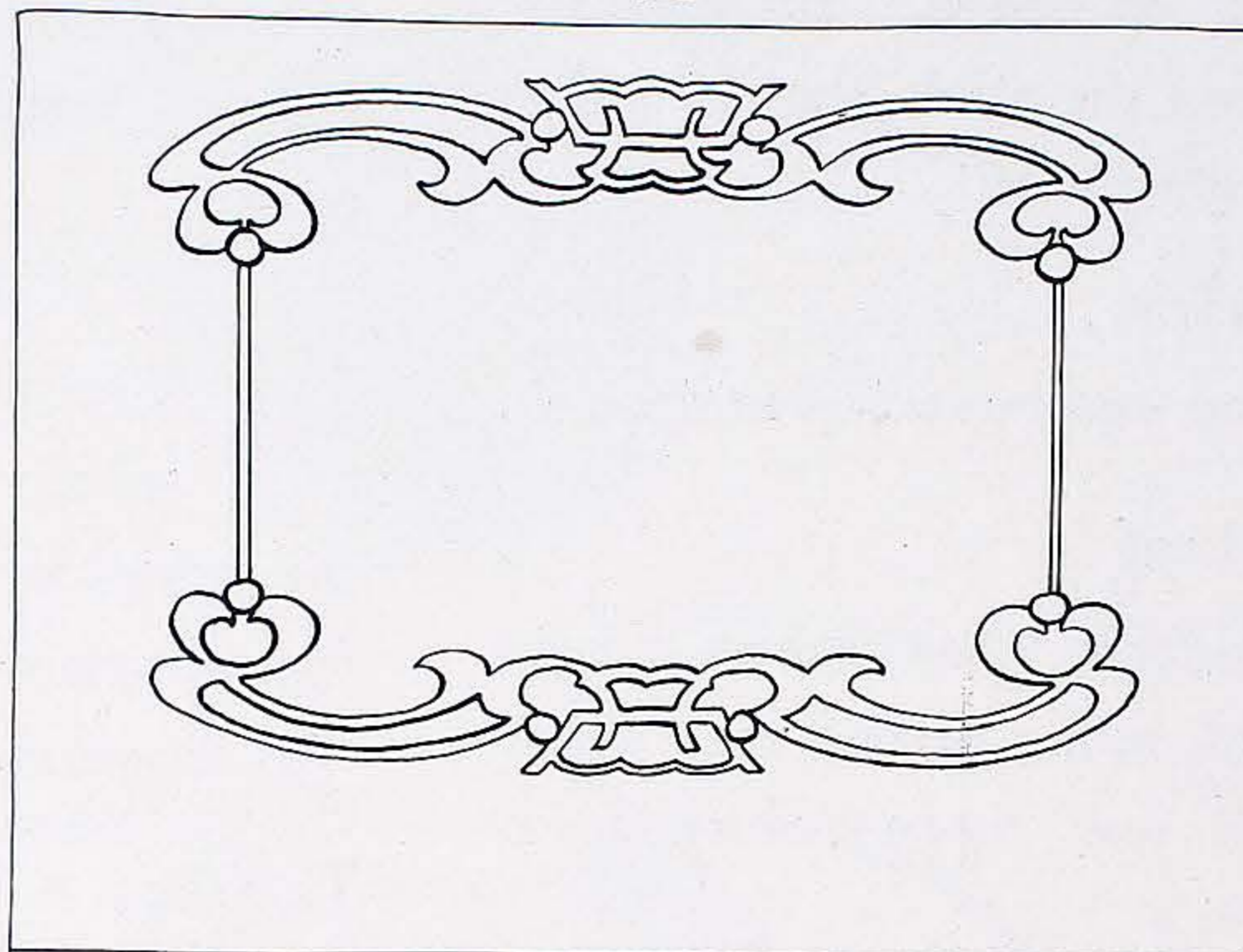
See Diagram, Plate 54-A, Figs. 7 and 8.

Ribbons and Panels

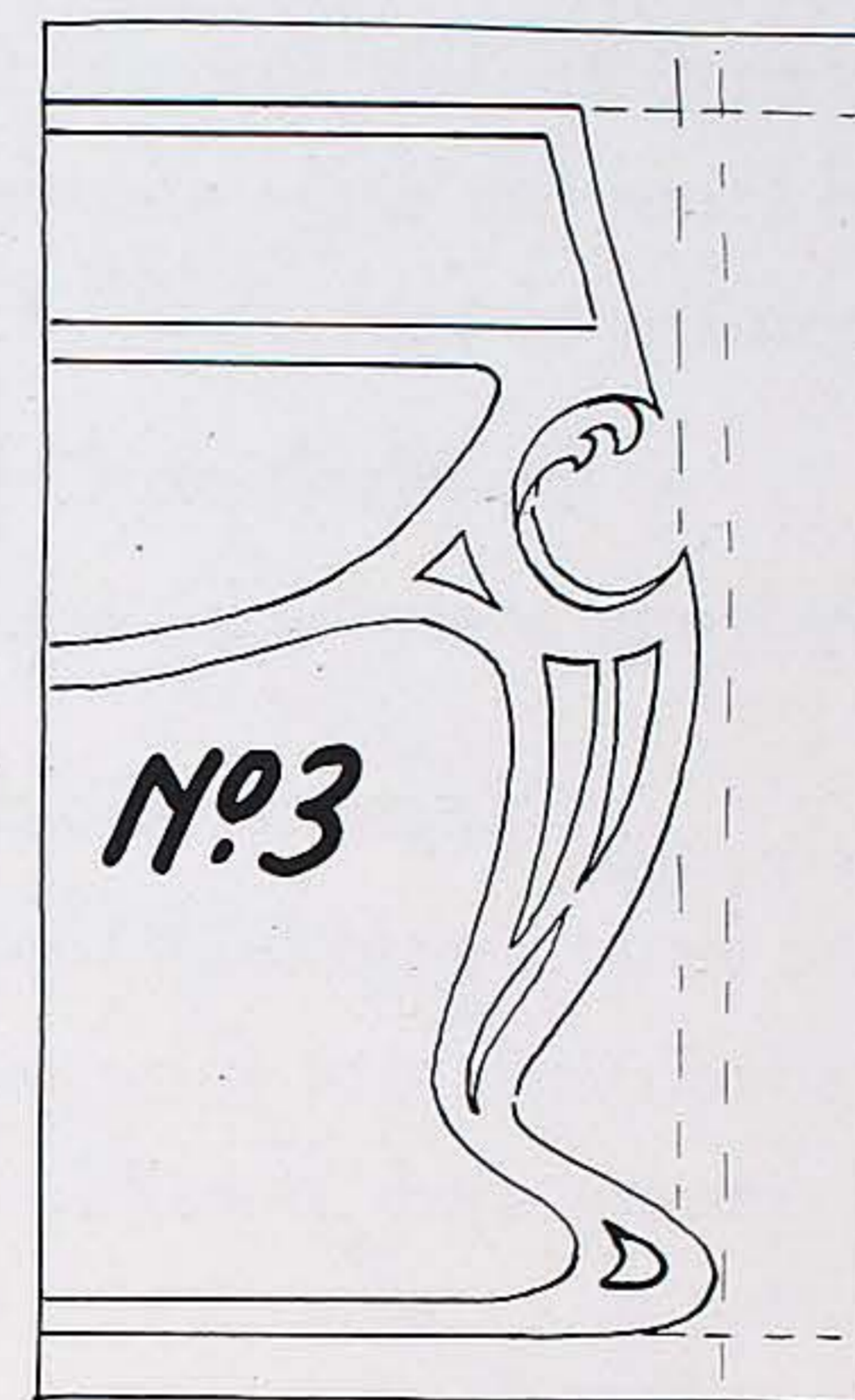
Nº1



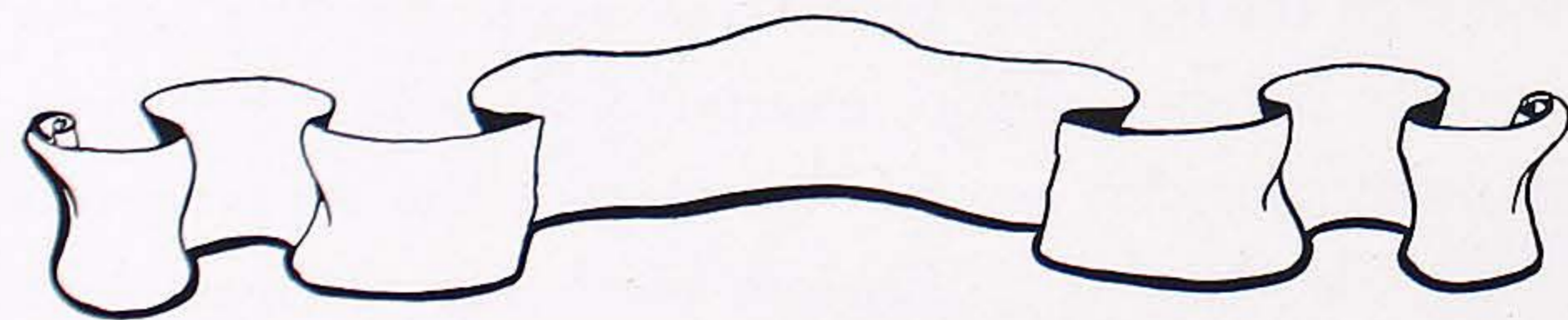
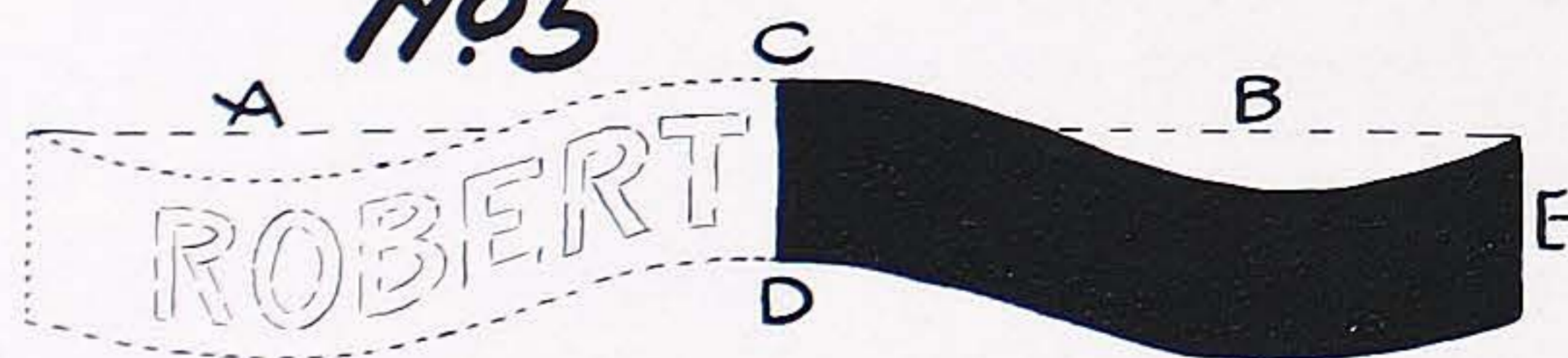
Nº2



Nº3



Nº5



Nº4

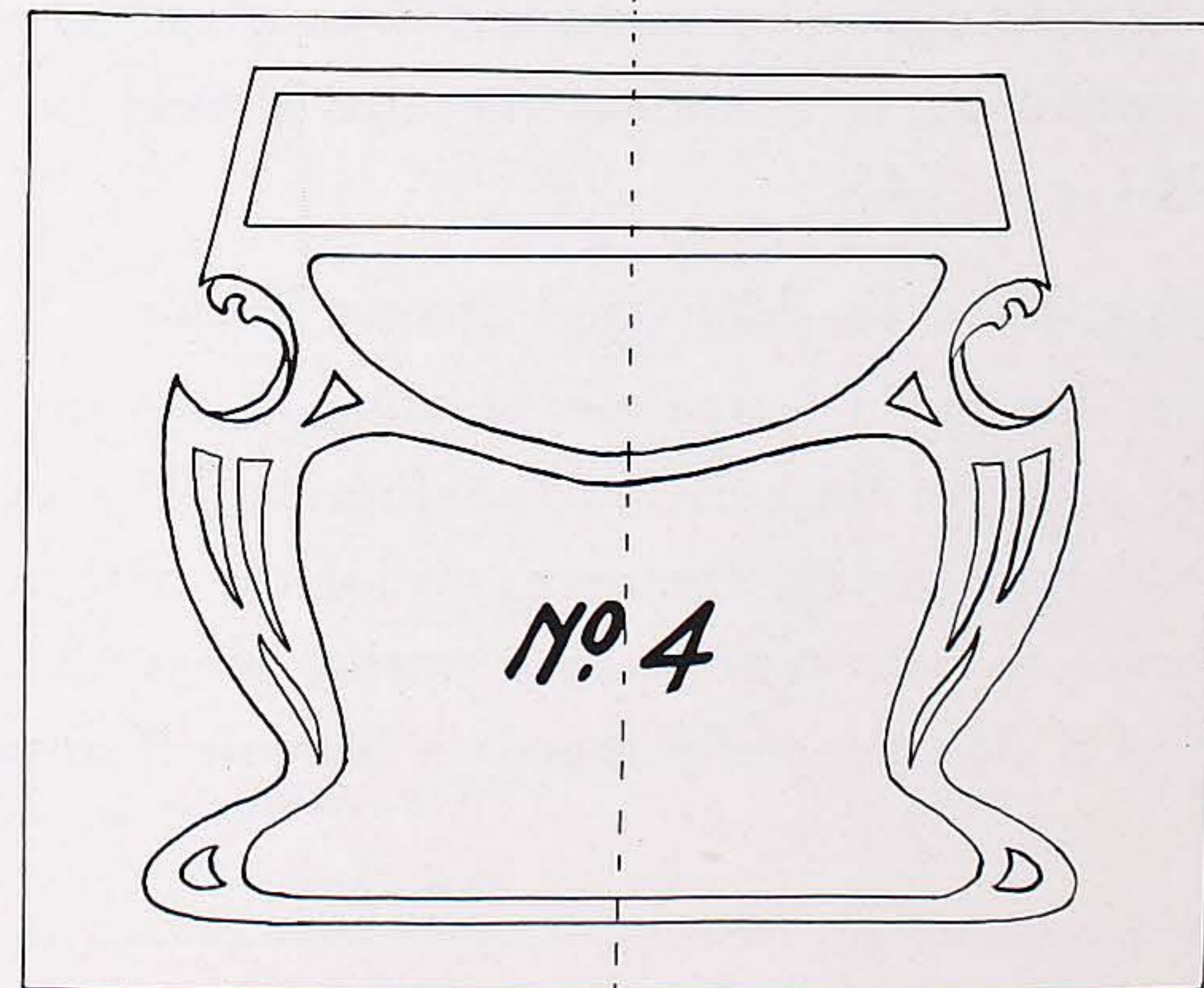


PLATE 48

HEBERLING.

When all spacings have been recorded on the stick, the stick is then used on the smaller boards as indicated in Diagram. Place the lower end to the base of the card and slant the stick until the top mark is even with the top of card or board. By marking the small board from the scale shown on the stick, the reduction will be in proportion to that of the larger board.

**To Mark on Celluloid**

**109** Use anhydrous acetic acid, adding analine color as desired.

**"Lemon" Gold Leaf**

**110** Never use lemon gold leaf for outside work unless it is to be varnished. It is not pure gold, being mixed with silver and will turn green and possibly a few more colors from oxidization.

Gold leaf should never be varnished where fat oil size is used. When varnishing is intended, the size should be japan gold size or rubbing varnish.

**Bracing Signs To Withstand Strong Winds**

**111** Remember that in a hurricane blowing eighty miles an hour, the pressure on each square foot is  $31\frac{1}{2}$  pounds. This fact alone should explain the necessity of the best possible anchorage in order to withstand such a terrific pressure, as the blowing down of a sign generally means a lawsuit if anyone is injured.

**Painting Concrete**

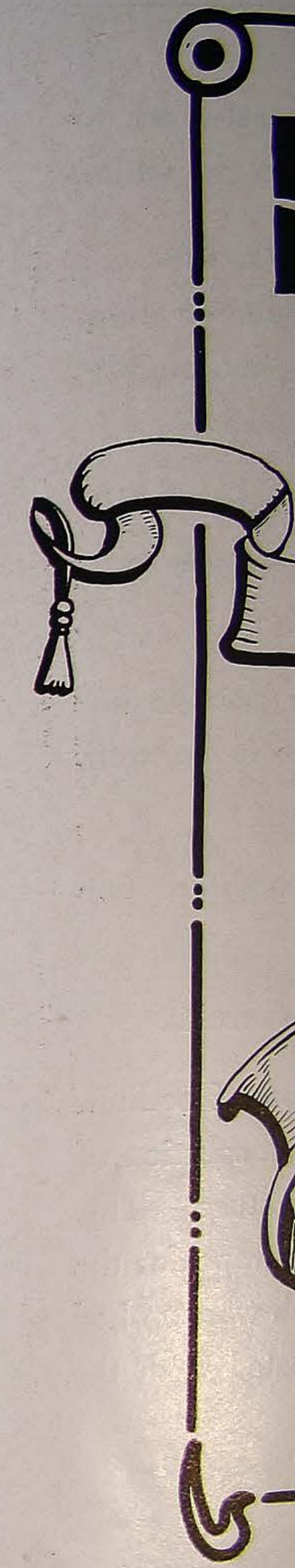
**112** Zinc sulphate 10 parts and water 90 parts is used to coat the surface before paint is applied. Allow it to dry and this stops alkali from acting on the linseed oil, therefore the paint will not peel. Any paint that will do for wood will do for this work.

**To Color Electric Bulbs**

**113** Use diamond dyes of the desired color and tint some shellac which has been thinned. Warm the mixture by placing the vessel in hot water, warm the bulbs by lighting them just before dipping in the mixture. If the color is not dark enough, two dippings will suffice.

**To Clean a Hard "Froze Up" Lettering Pencil in Which Paint Has Been Allowed To Harden**

**114** Use a shallow cup or the cap from a varnish can, fill with turpentine and take outside away from any inflammable material. Put in a small piece of cloth for a wick, and ignite. When the turpentine has become hot, put out the fire by covering with a flat piece of tin or cardboard to smother it, then quickly submerge the lettering pencil and work it in the hot fluid until it begins to soften. Then manipulate it with the fingers, working the paint particles out of it. Repeat the dipping process until thoroughly cleaned. This is a good way to clean them, but better than this, DO NOT LET THEM GET HARD.

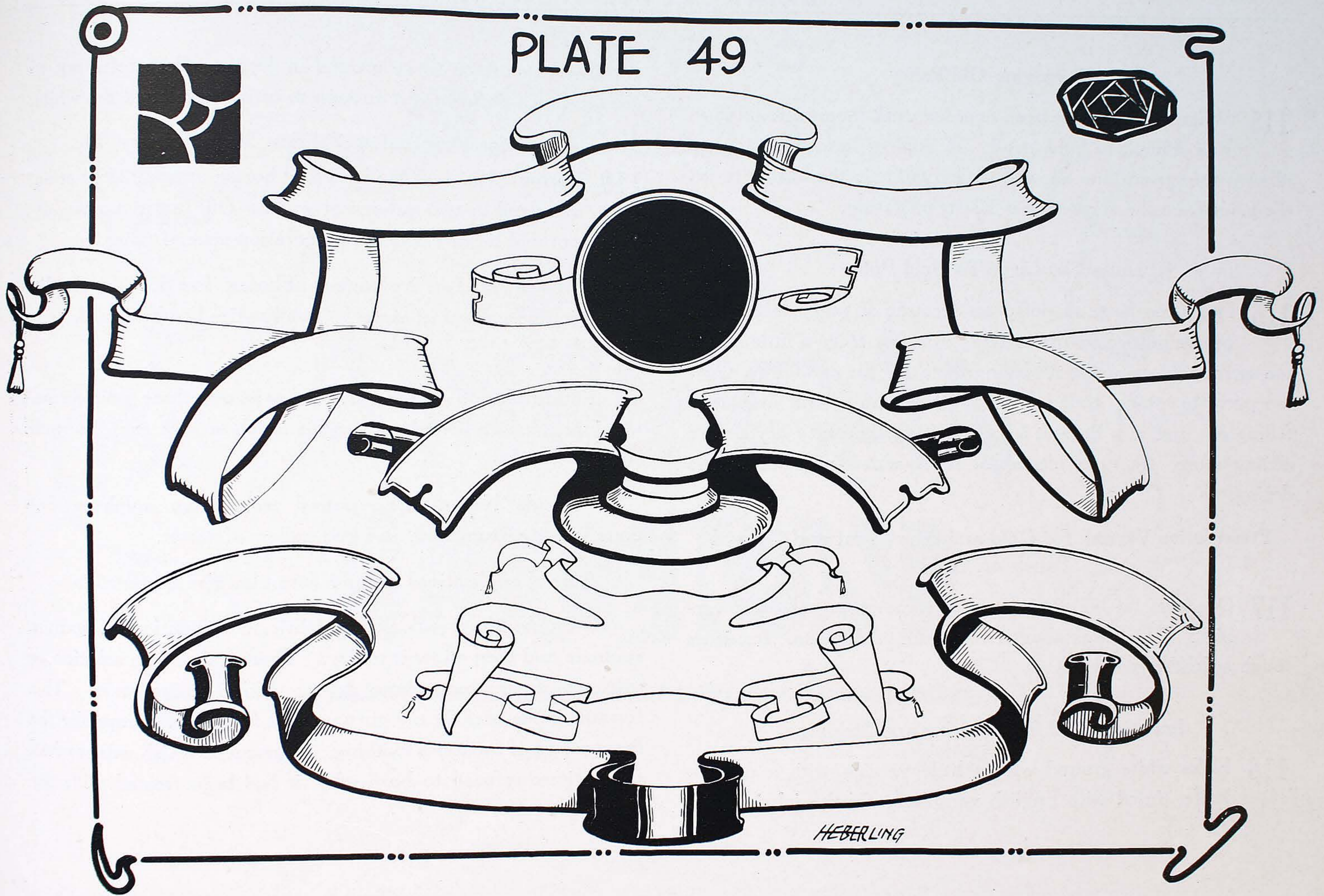


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### Removing Old Paint

**115** When old paint has been exposed until there is no oil in it, it is difficult to burn it off. A coat of linseed oil applied all over the surface and allowed to dry will help the burner to lift the paint from the surface as it assists blistering.

### Holes Too Large To Hold Putty

**116** Holes too large to putty on account of putty falling out can be puttied by first driving in a few tacks a little below the surrounding wood, but leaving them out far enough to allow the putty to attach itself to them. If the putty still insists on falling out, put in a little at a time, letting the putty dry before adding more. A little plaster of paris added will hasten the drying.

### Preservative Varnish for Gold and Silver Leaf and Colored Panels on Glass

**117** One part fat boiled linseed oil, three parts best spar varnish. This takes about two weeks to dry hard, but is as tough as leather when dry.

### Imitation Gold for Lettering and Striping

**118** Flake white ground with a little varnish with a palette knife, tinted with English vermilion. If the job is to be

varnished, use flake white ground in Japan. Be careful not to use too much varnish, just enough to turn the color of the white.

### Formula for Fireproofing Fabrics, Stage Scenery, Etc.

**119** Formula No. 1—One pound of borax, one pound of alum, dissolved in two gallons of water. Dip fabric thoroughly, wring out and let dry, repeating operation several times.

Formula No. 2—Five pounds of borax, five pounds salt, dissolved in five gallons of water. Apply with brush or soak as in Formula No. 1.

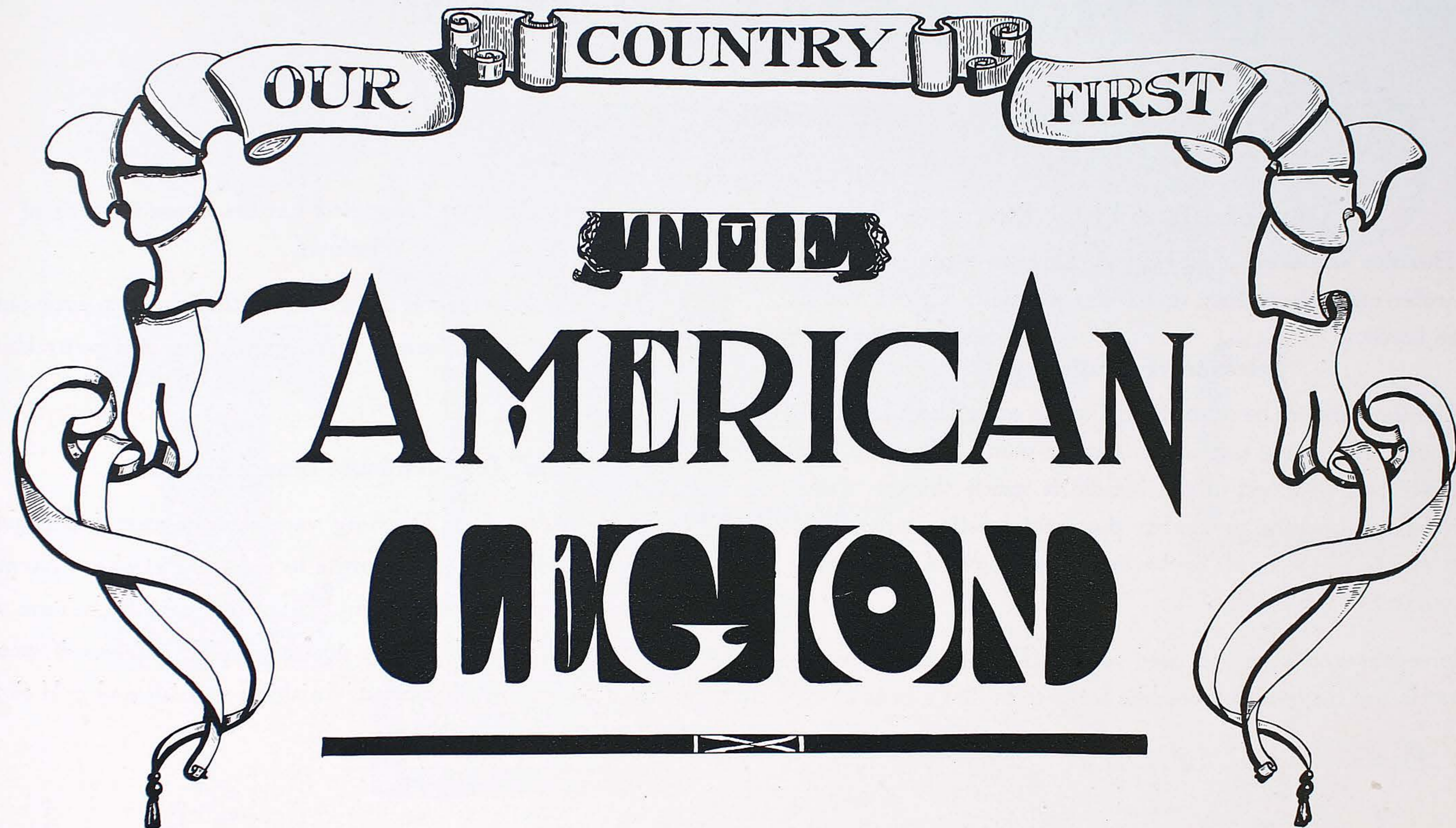
Formula No. 3—Three pounds gypsum, three pounds ammonium sulphate. Apply with wide brush or soak as in Formula No. 1.

Formula No. 4—One pound ammonium sulphate, one pound sodium tungstate and one gallon of water.

Several applications of these formulas give best results.

Formula No. 5—Soak the fabric in a solution of sodium stannate and then allow it to dry. Then soak it in a solution of sulphate of ammonium and dry at a high temperature. This formula is the best for the purpose as it is used in Europe for the fireproofing of firemen's clothing. A garment which was washed thirty times refused to burn after it has been treated with the above.

PLATE 50



HEBERLING



**Cleaner for Brass Plates, Etc.**

**120** Dissolve an ounce of pulverized alum in a pint of boiling water and rub surface to be cleaned with a cloth wetted with the liquid.

**Selection of Brushes**

**121** Genuine bristles have split ends which are called the FLAG ends. This is the end which applies paint. The butt end, or that which is fastened in the handle is much thicker, therefore, in buying brushes remember that real bristles taper from the butt end to the flag end, and when in use have a nice spring when touched to the surface.

Horse-hair and fibre are used where cheap articles are desired, but in use they work more like a rag than like a brush.

**To Remove Glass or Enameled Letters From Outside of Windows**

**122** Drop a little kerosene on the top and allow it to soak until the cement has softened. The gentle use of a putty knife will assist in removal.

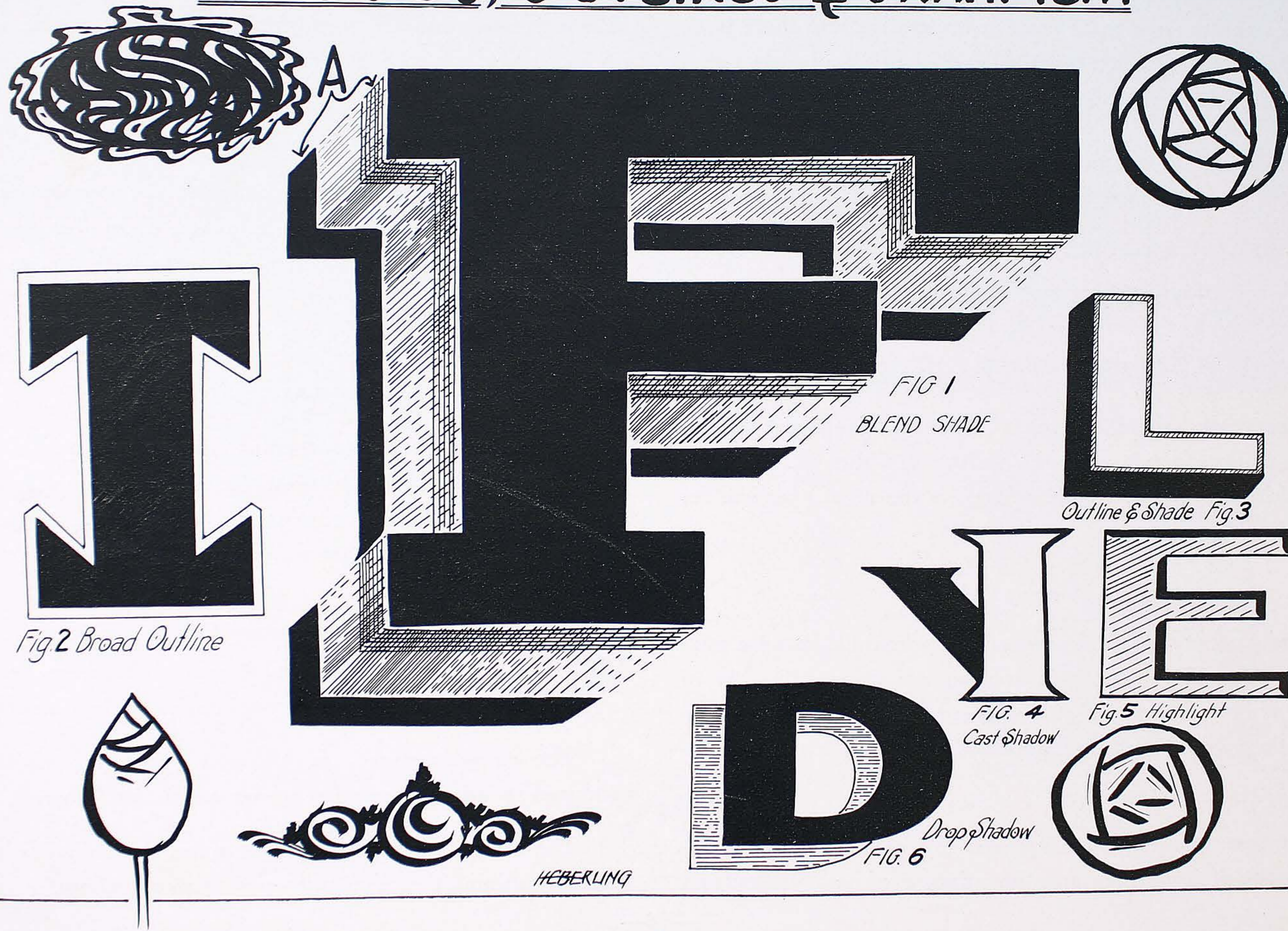
**"Size" for Aluminum Bronze on Glass**

**123** Three parts coach finishing varnish, one part Japan gold size. Add enough zinc white to color the stroke. Do not use flake white or white lead in connection with aluminum as they are antagonistic. This is a slow size. To quicken, if speed is desired, reverse the amounts of finishing varnish and gold size.



PLATE 51

SHADOWS, OUTLINES & ORNAMENT



## The Use of Color

A correct knowledge of color is imperative and there is no limit to its advantages as a practical and highly important factor in presenting advertising to the public.

It is through the eye that advertising first reaches the public, and a good or bad impression therefore rests with the sense of sight.

Designers of advertising matter should have a reason for all color combinations that are used by them and know the scientific laws governed by the color spectrum.

Theoretically, there are many systems advanced, but the Chevreul theory, that is, that red, yellow and blue are the basis from which all other colors are derived is the most practical for commercial purposes.

### The Primary Colors

**124** Red, yellow and blue compose the primaries, because mixtures of other colors will not produce them. If a ray of red, one of blue and one of yellow were blended together scientifically, they would produce a pure white light, as is seen in sunlight.

However, pigments manufactured for paints contain a certain amount of impurities and the mixture of red, yellow and

blue pigments results in a gray mixture caused by this sediment of impurities. Hence, we expect red, yellow and blue to produce a pure gray.

### The Secondary Colors

**125** Orange, green and violet compose the secondaries. They are thus named because it takes two of the primaries to produce them. The secondaries contain a wider range of color than the primaries.

By using the primaries and secondaries in juxtaposition, correctly, very pleasing effects may be produced.

As an example of good color harmony, if one of the primaries were being used, the admixture of the remaining two primaries would form its compliment, and thereby the two primaries mixed, and the other alone, would give two colors in full harmony.

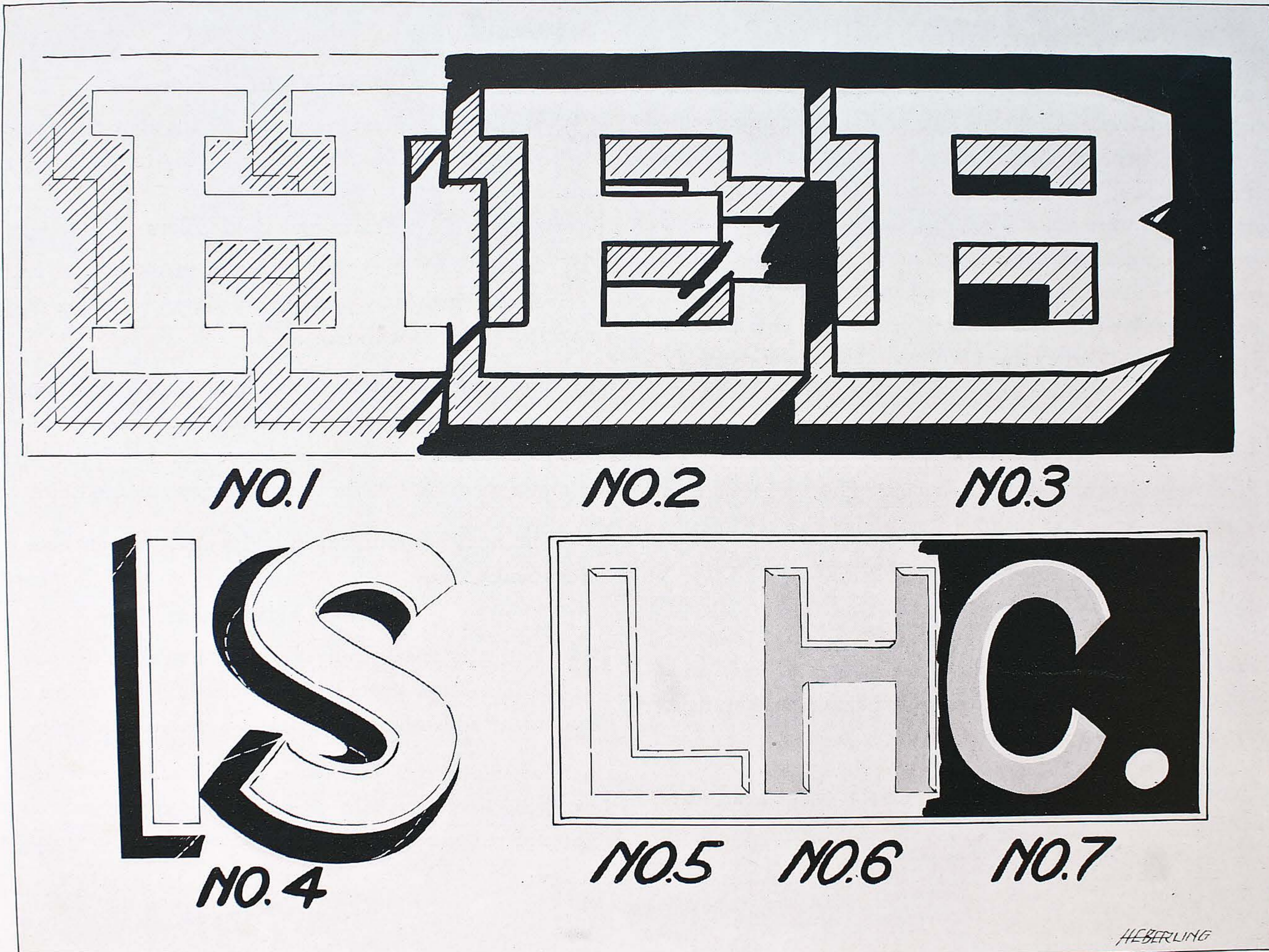
### Complimentary Colors

**126** The complimentary of red is green, the green being produced by mixing the other primaries, yellow and blue.

The complimentary of yellow is violet, the violet being produced by mixing the other primaries, red and blue.

The complimentary of blue is orange, the orange being produced by mixing the other primaries, red and yellow.

PLATE 52



A complimentary used possesses the quality of emphasizing and enriching both itself and the color to which it is complimentary. The use of two complimentary colors together sometimes does not make a good harmony, but this is easily corrected. If the colors involved were red and its compliment green, a little of the red would be mixed with the green and a little of the green mixed with the red, making a softer and better contrast. They should be separated with a line of gray or black. The mixture of black with colors to darken them will generally make a muddy result.

#### The Tertiary Colors

**127** Olive, russet, citron and their shades. They are produced by admixtures of the secondaries. They are technically known as "the grays" as they contain a part of all primaries.

#### Contrasting Colors

**128** Light green with black, yellow with black or blue, pink with dark green. A white line around dark letters on light backgrounds increases the contrast.

Strong, brilliantly colored work is generally desired for posters, bulletin boards and wall signs.

#### Monochromatic Colors

**129** Work done in monochrome means that the entire effect was produced by the use of varying tones of one and the same color.

#### Warm and Cold Colors

**130** Colors are either cold or warm in quality. That is, the effect which they produce on the retina of the observer—an optical effect, as it were.

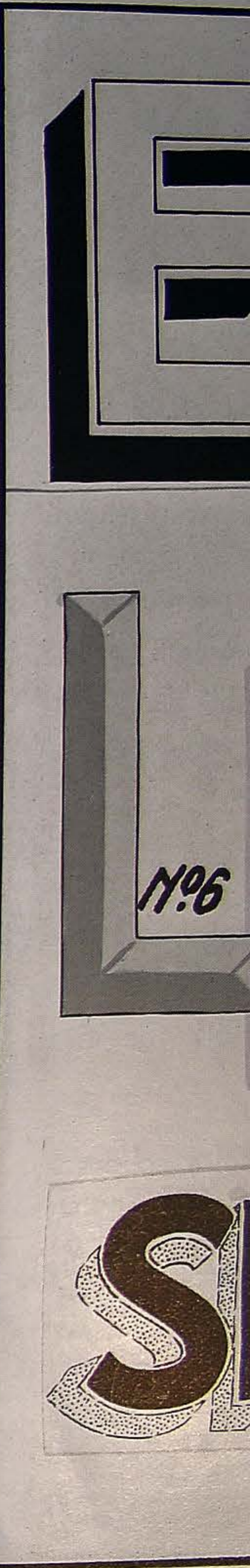
Blue is the coldest of colors and its compliment orange is the warmest color. It should be noted that a natural adjustment takes place in the use of the primaries and their complimentaries, the compliment of a warm primary being cold and vice versa.

Cold hues are blue, green and violet. Warm hues are red, orange and yellow.

#### Color Characteristics

**131** *Yellow* is scientifically the most luminous of colors. It is twelve times stronger than violet in its refractive qualities. For outdoor advertising purposes it is most useful.

*Red* excites the optic nerve and it has a powerful effect in advertising as its qualities of attraction are physical. It causes objects of red to appear closer to the eye than they really are.



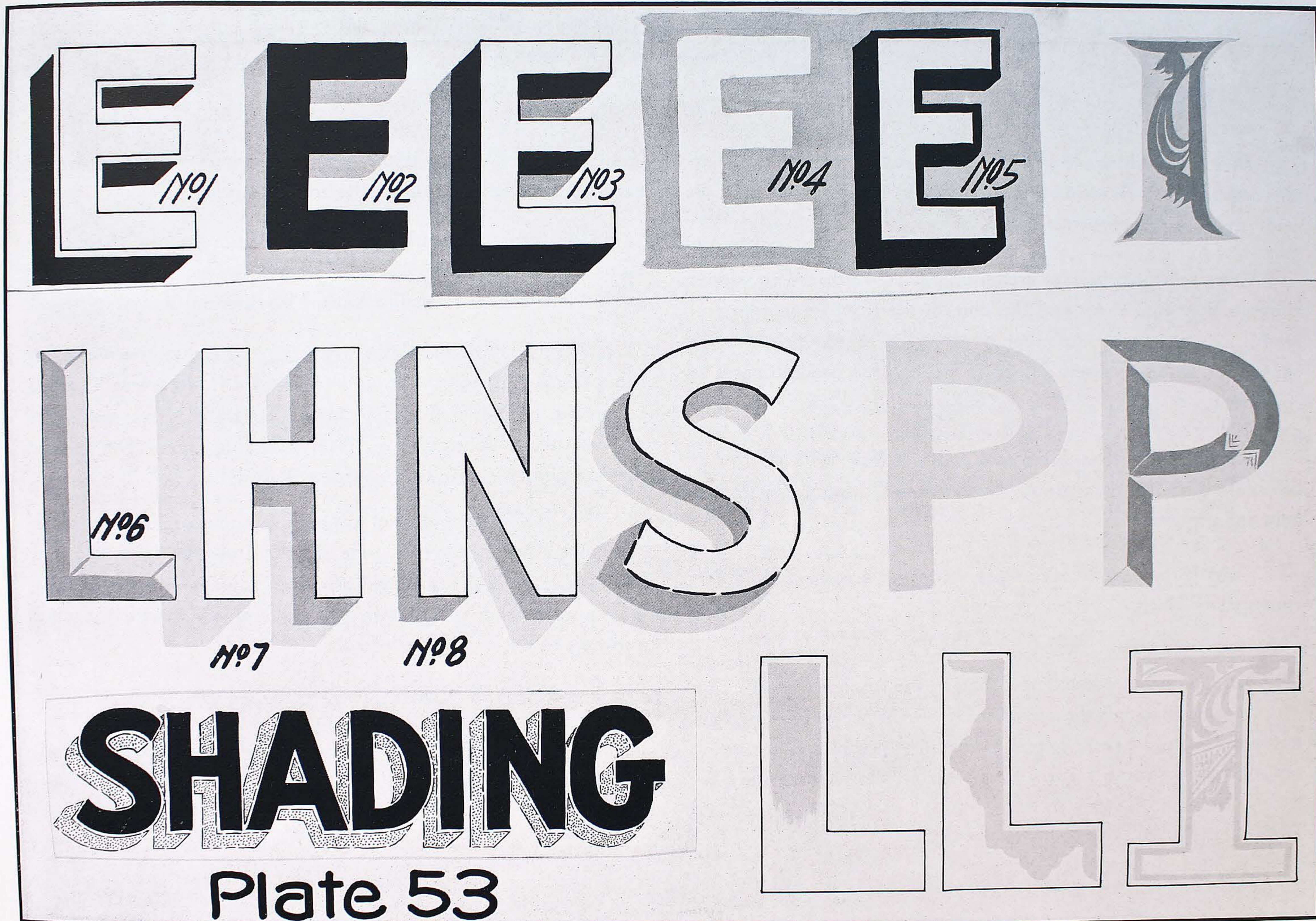


Plate 53

*Blue* causes things to appear farther away from the eye than they really are. Blue in its purity should not be used next to crimson red. The contrast is too violent.

*Green* in which yellow predominates is warm. The yellow suggests light and cheer and the blue in the mixture is cool and restful. Green being the color of the great outdoors naturally causes one to be at ease. Green in which blue predominates is cold green.

*Orange* is a warm, luminous color, yellow and red being consolidated in its composition. Exceptionally popular with bulletin and poster artists.

*Violet* is the deepest secondary. It gives a sombre, rich hue approaching black.

#### Facts About Colors

**132** It should be remembered that in the application of color harmonies, that the omission of one of the primaries does not make as good a composition as one in which all the primaries are included in some form. Even though the scheme may be

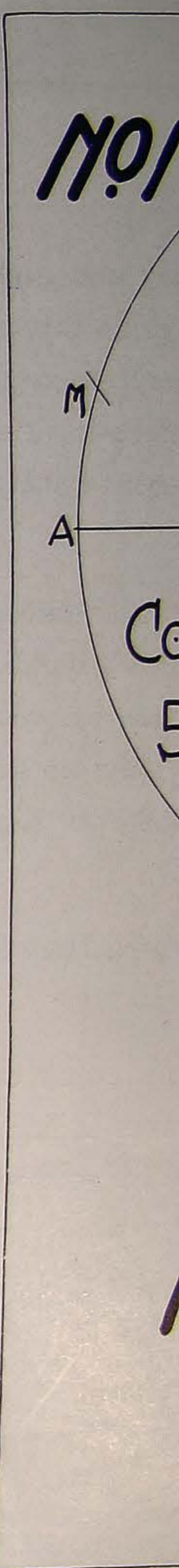
composed of blue, brown and tan, it represents a full compliment because these colors contain the entire primary group.

Gold designs should contain very little yellow, their color values being too near alike. The yellow would cheapen the gold. If it must be used, a line of black should separate them.

Opaque colors are those whose covering qualities are good. Lamp black is opaque. Drop black is semi-transparent. Opaque colors can be rendered transparent. If ground in oil, mix them with varnish. If ground in water, add mucilage. The greater the amount, the more transparent will they be.

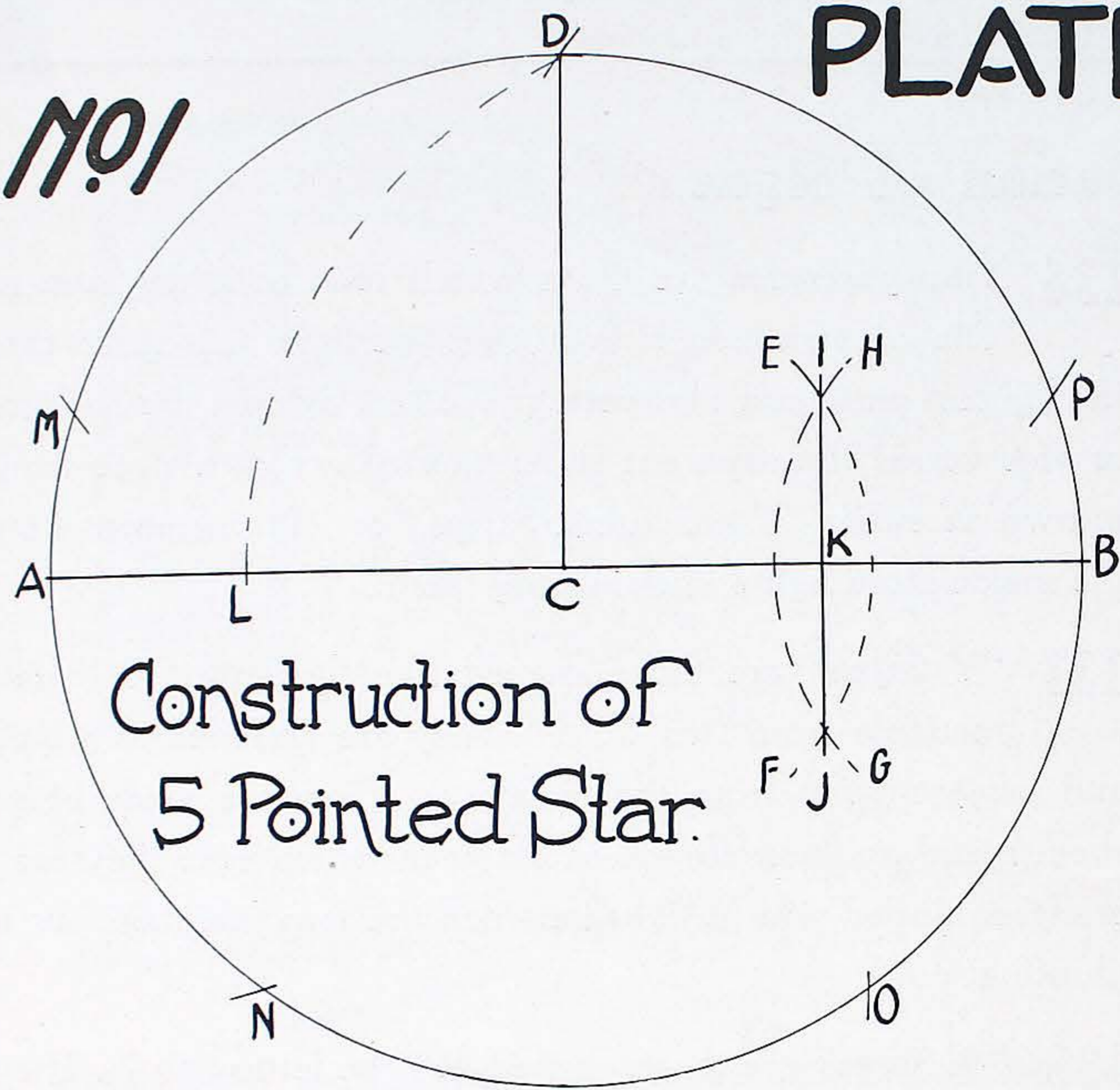
The student should not depend on some one else to work out color schemes for him. He should study the foregoing and learn for himself the principle on which color is based. Entirely too many craftsmen fail to acquaint themselves with the vital question of the proper use of color.

The writer could give descriptions of many color schemes, but it would cause the student to depend on them instead of himself and therefore impede his progress toward individuality and self reliance.

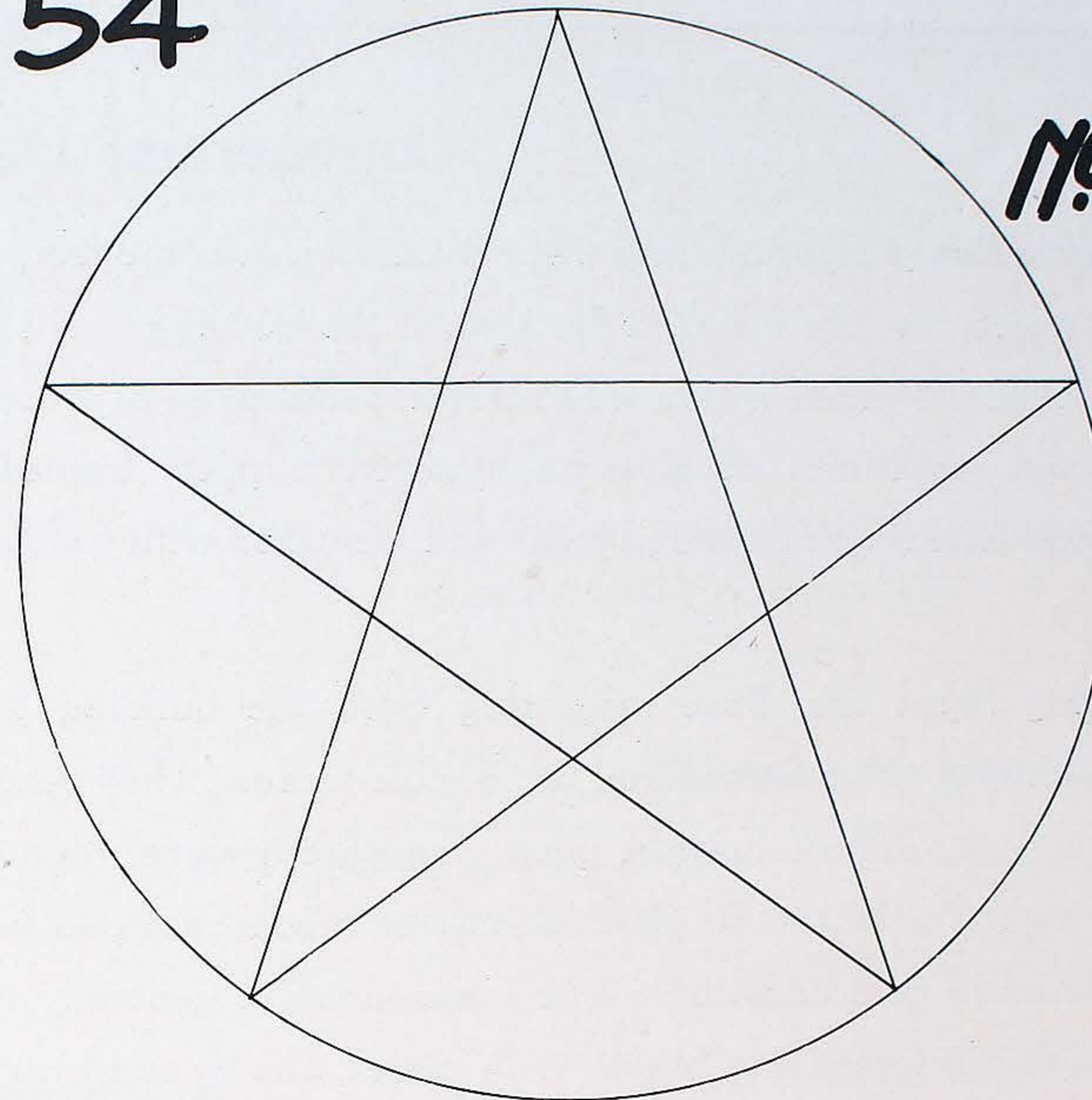


# PLATE 54

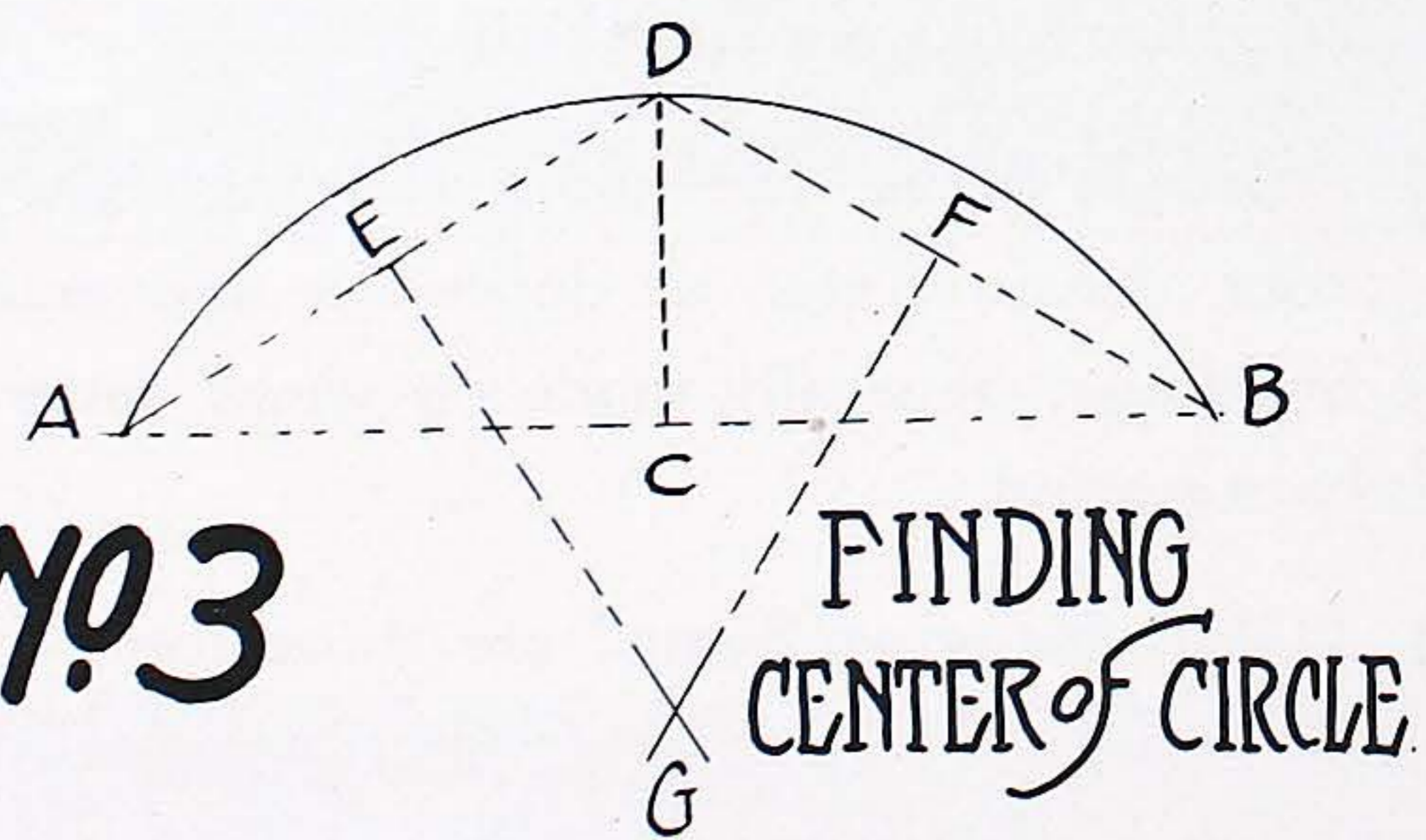
**No. 1**



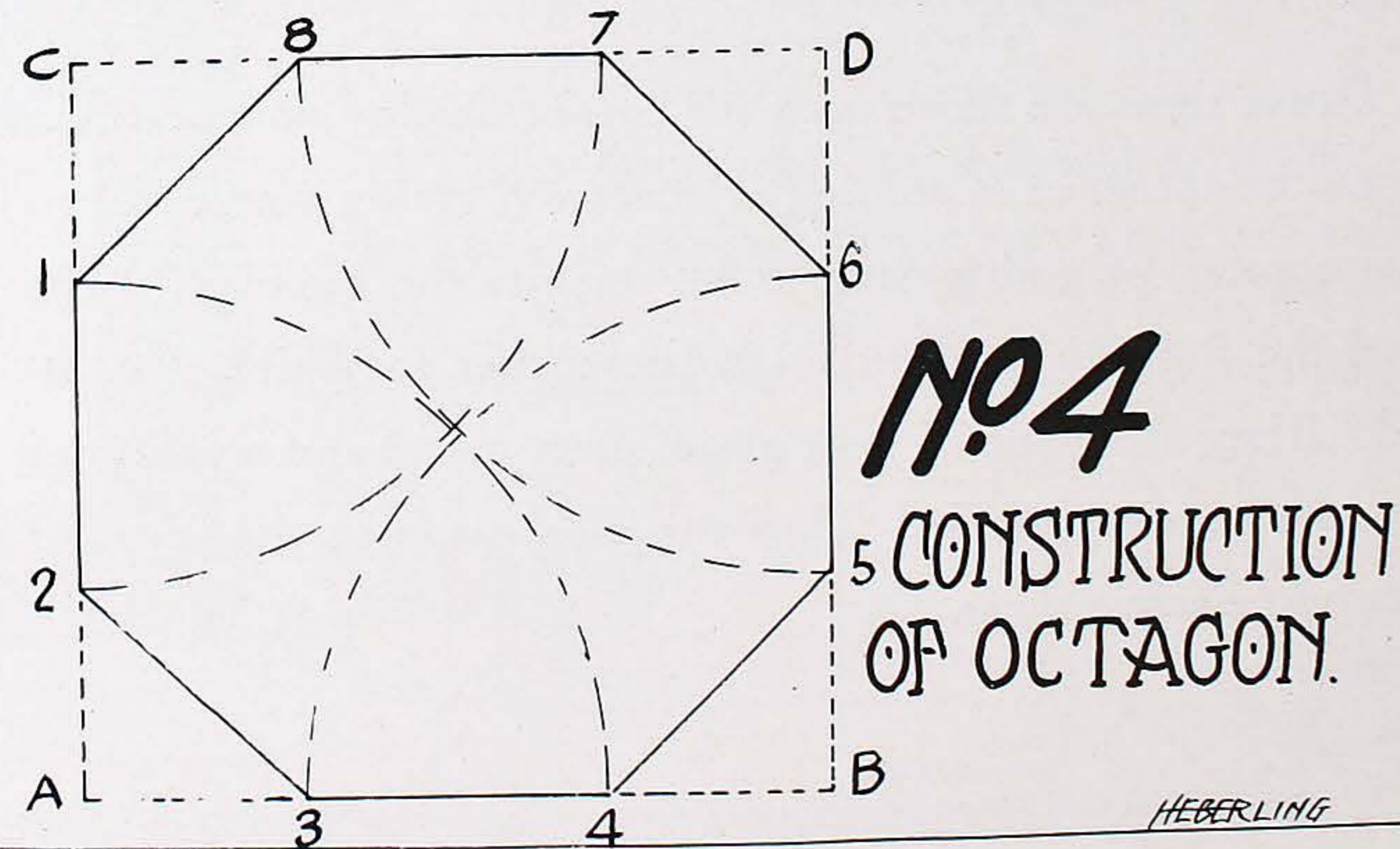
**No. 2**



**No. 3**



**No. 4**



HEBERLING



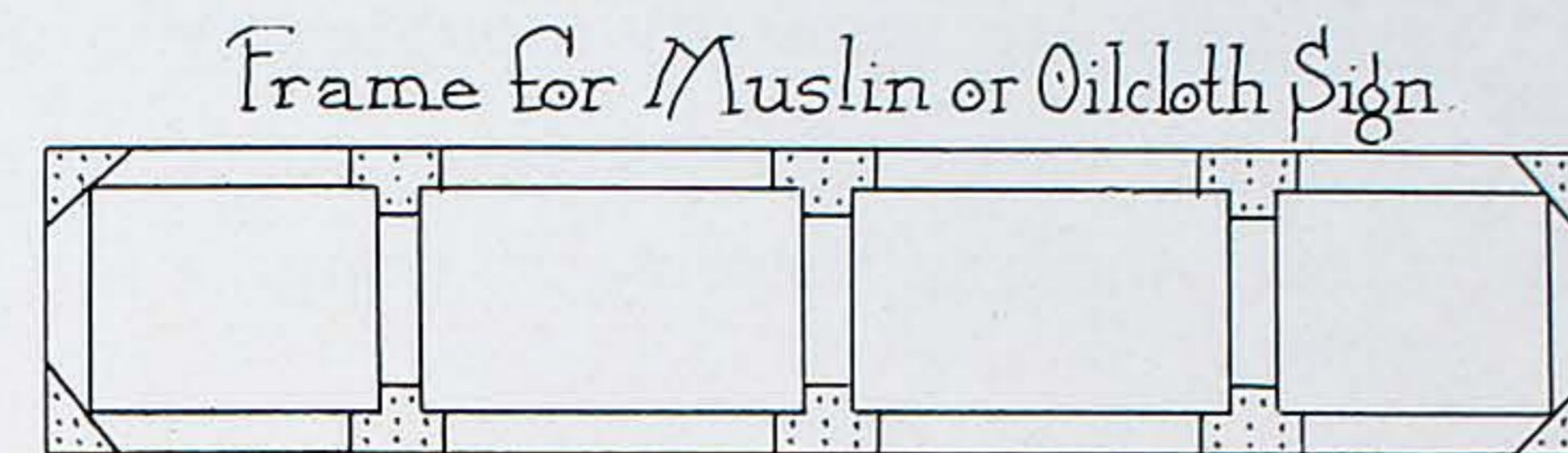
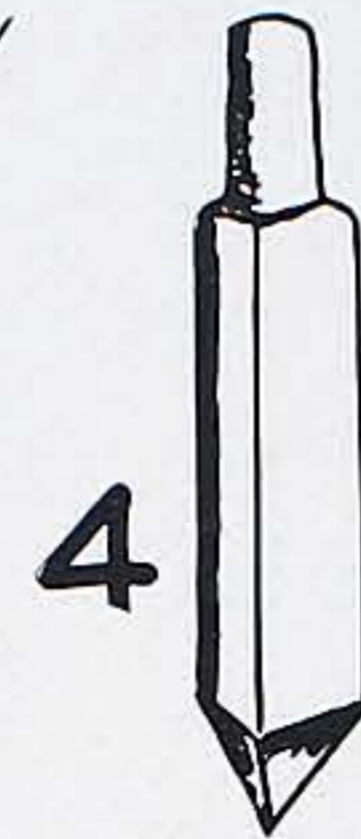
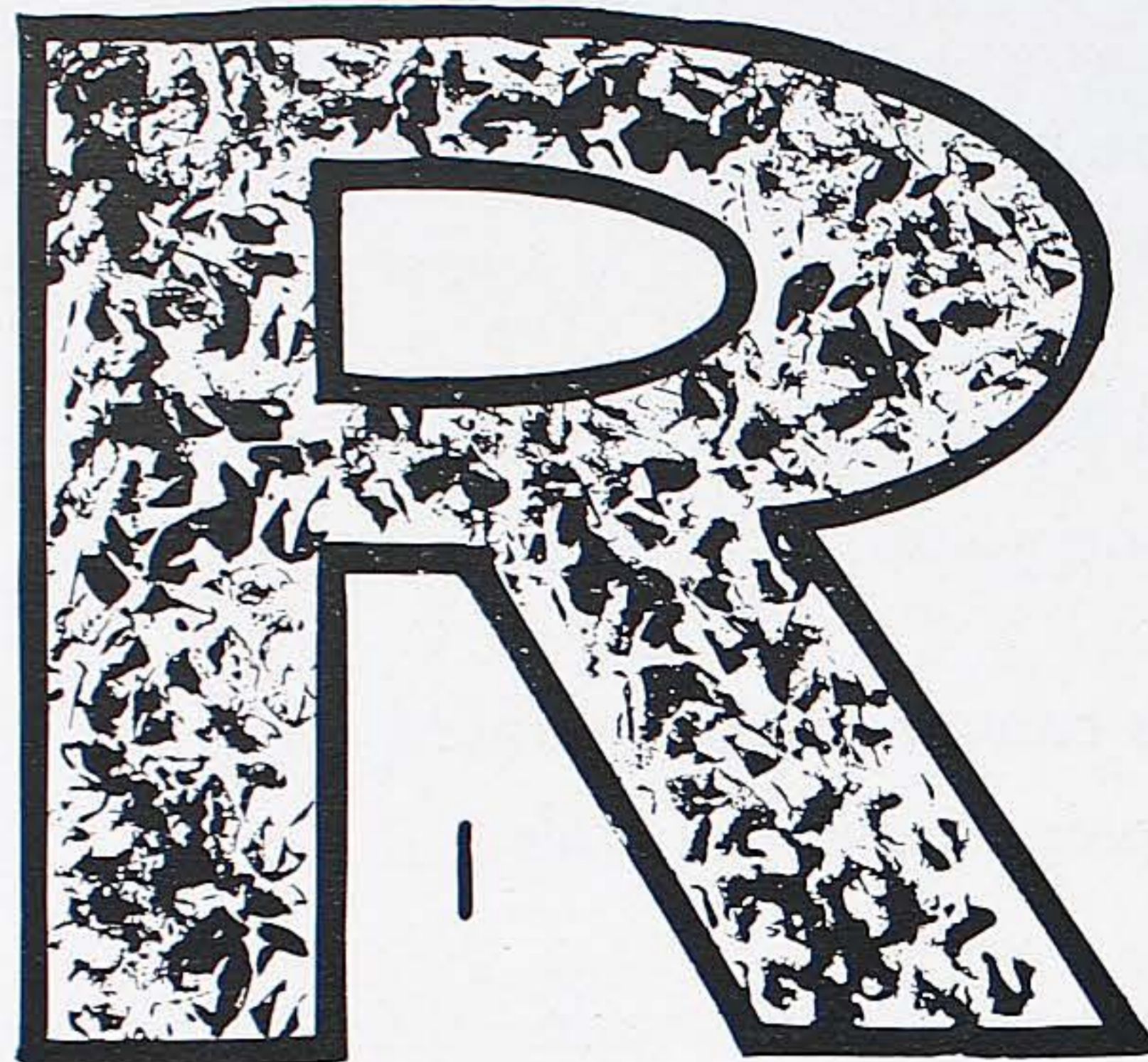
## Commercial Designation of Signs

- 133 Fascia Board Signs** are those which are seen over the fronts of stores, and are fastened flat against the building. They are made either of metal with a wood frame backing, or of wood entirely, and sometimes of glass in oxidized copper frames. Raised wood letters, gilded, are popular and identified with Fascia signs.
- 134 Swing Signs** are those projecting from the building to which they are fastened and are double-faced. They read from either side. These may be glass transparent signs, illuminated at night; or prismatic glass letters; or made on wood or metal lettered in gold or paint. The fastenings are generally a pipe support, reinforced and braced with cables, chains and turn-buckles.
- 135 Drum signs** are those used for corner display and fit either on the corner of a building or doorway, giving views from a greater number of points than if flat against the building. The back of the frame is cut out to fit the corner to which it is attached. They are made of bent glass, sheet metal and sometimes cast in the heavier metals. They are also made in the form of transparent electric signs.
- 136 Transparencies** are those which read both day and night. The construction is such that the light will shine through the lightest parts and silhouette the letters against the background or vice versa. Transparent signs painted across a store front are known as either "Transparent Strips" or "Transparent Panels," the inside store lights illuminating them.
- 137 "V Signs"** are those shaped like the letter "V" and are readable from two sides. They are fastened to a building and project away from the building. They are made of wood, sheet metal and sometimes of glass, in which case they are generally equipped with a light between the two members for night illumination.
- 138 "A Signs"** are those shaped like the letter "A." They are used for sidewalk advertising.
- 139 "Shingle Signs"** are small swinging signs as used by doctors, dentists, etc., at doorways and entrances inside of office buildings; generally made on wood, lettered in gold with small background.
- 140 "Glass Hanging Signs"** are those hung on the inside of windows with chain and clips for suspension. Generally lettered in gold or transparent style.

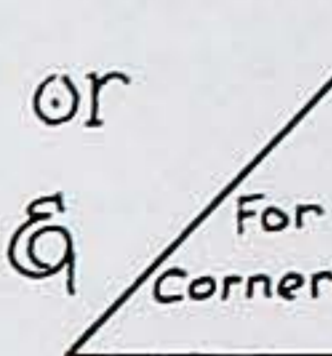
CHIPP  
SEE

# PLATE 54 A

5

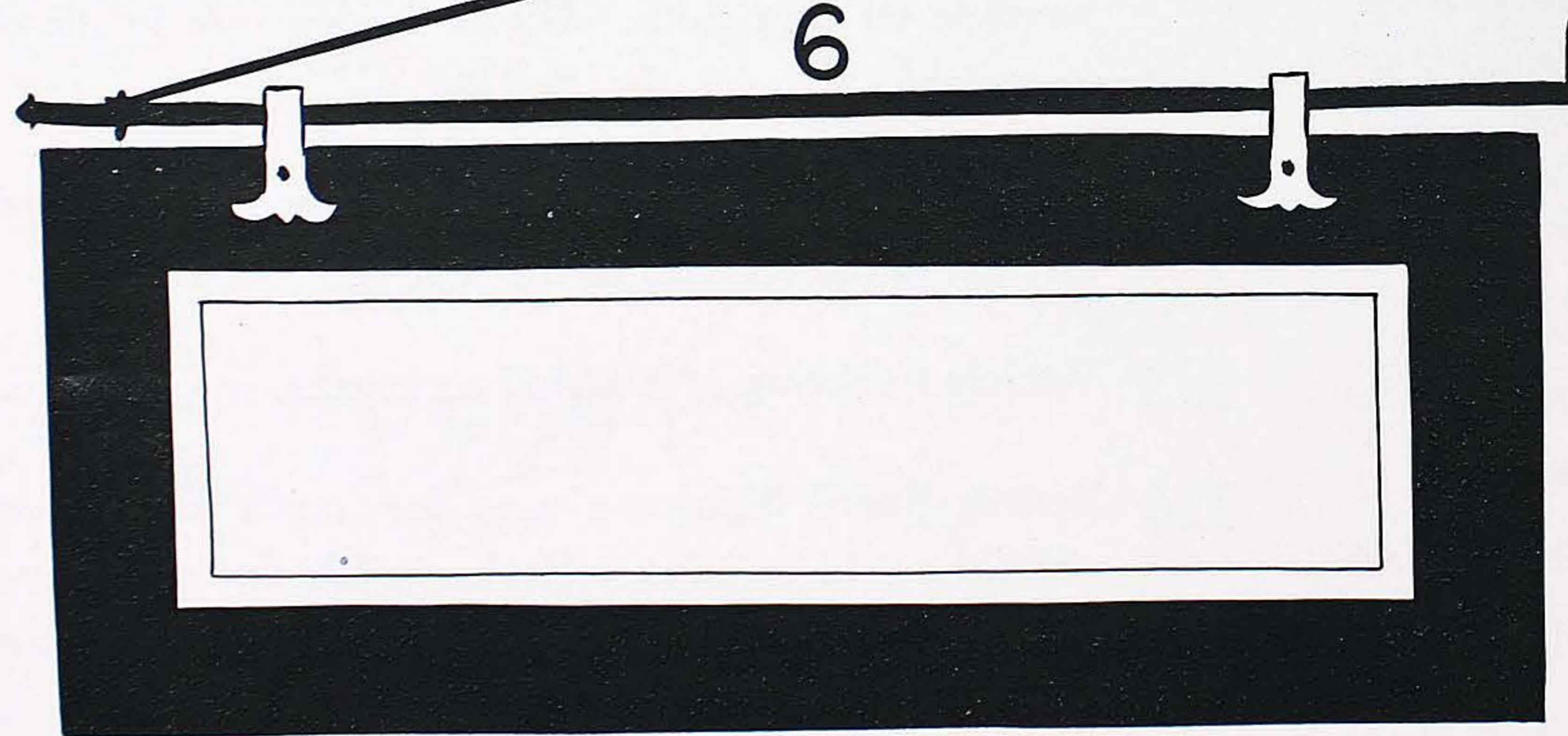


For Braces, Scrap Galvanized Iron or Tin is used for Corners & Braces. Use 1"x2" Lumber

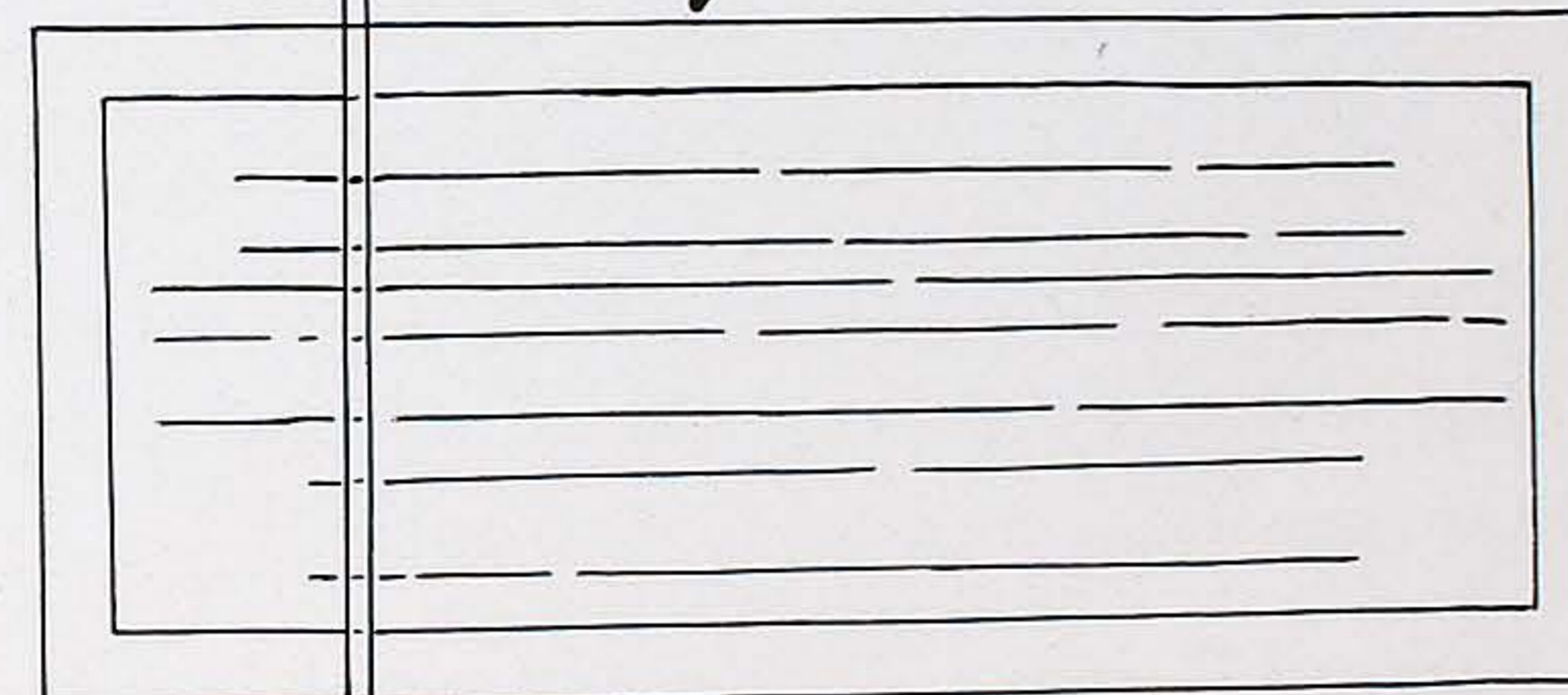


CHIPPED GLASS IMITATION  
SEE PARAGRAPH NO 254

6



7 Same Layout for smaller Sign

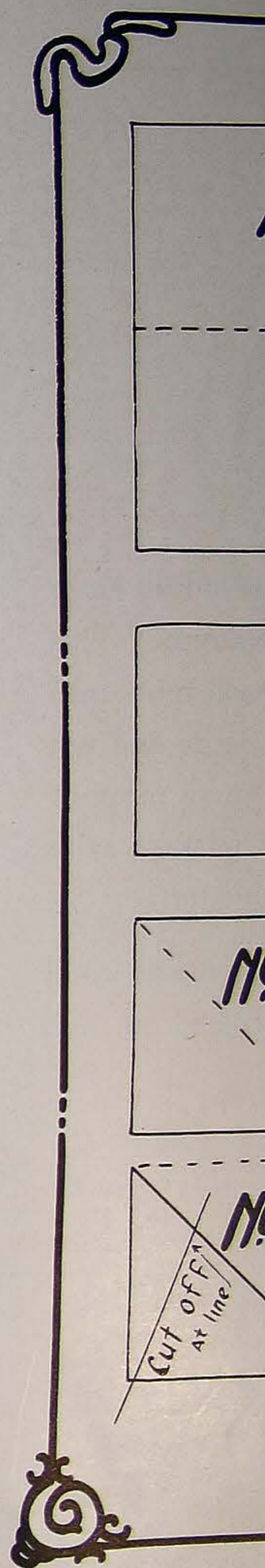


Nº7. Stick Placed on large Sign vertically and marked, then placed as shown in Nº8, will reduce Layout to fit small board, as



HEBERLING

- 141 Glass Panel Signs** are generally mounted on a wood back and held in place by metal mouldings; used in entrances, corridors, etc. Gold or silver lettering is popular for a sign of this kind.
- 142 Wire Mesh Signs** are backgrounds of wire mesh to which are attached wood letters gilded or painted. Sometimes letters cut from sheet metal are used. For roof display this kind of sign is popular with factory owners. Reflectors can be used for night display. Small wire mesh signs may have ribbon panels cut from sheet metal, painted or gilded lettering and a smalted ground around the lettering. The mesh is painted either black or white; letters in contrast. Mesh signs reduce windstorm hazard.
- 143 Roof Bulletins** are bulletin boards erected on top of buildings and carry either local or national advertising. Reflectors are generally used for night display.
- 144 Railroad Boards** are bulletins erected so as to read toward electric and steam roads passing them.
- 145 Highway Boards** are bulletins erected on highways so that motorists may read their message of advertising.
- 146 Wall Strips** are generally about four feet wide and are painted around the tops of buildings or between the windows of two floors.
- 147 Wall Signs** are any signs painted directly onto the outside walls of buildings.
- 148 Sign Cloth on Muslin Signs** are those painted on this material for temporary use. Sometimes called "Rag Signs."
- 149 Net Signs** are canvas signs mounted on a net. Generally used for campaigns and carnivals.
- 150 Quantity Signs** are those produced in large numbers and bearing the same inscriptions. Mostly done by a process instead of hand work.
- 151 Oil Cloth Signs** are used where a more durable sign than possible on sign cloth. Oil cloth signs are in the class of temporary signs.
- 152 Show Cards** for stores, etc., in connection with merchandise exhibited are also in the temporary class.
- 153 Vehicle Lettering** is lettering on trucks, wagons, etc.
- 154 Beaver Board Signs** are used for inside signs, lettering either in gold or paint. Backgrounds are generally of a dark color. However, they may be tinted for temporary window displays.



# PLATE 55

No. 1

No. 2

No. 3

No. 4

No. 5

No. 6

No. 7

No. 8

No. 9

No. 10

No. 11

No. 12

No. 13

SEE PARAGRAPHS  
287 to 290

SCROLL  
CONSTRUCTION

GEOMETRICAL PAPER CUTTING.

HEBERLING

### Correction of Errors

**155** An error on a show card can be corrected by scraping out the mistake with a safety razor blade; or, by painting it out and covering the entire line with a darker color; then re-letter with a light color.

**156** An error on a smalted sign is corrected by using a straight edge and putty knife to remove the section and sufficient more space to regild and "re-cut in." A mis-stroke on gold leaf on glass, can be removed by using a small wad of cotton dipped in turpentine. It will not remove the gold as the water size is not soluble in turpentine.

**157** An error on oil cloth is removed by wetting a cloth in gasoline and passing it over the spot to be removed. This must be repeated, using a clean part of the cloth each time until entirely clean. An error on sign cloth, if not too large and not covering too much space, may be covered with a small piece of sign cloth held in place with glue. Or coat out mistake with flake white ground in Japan, thinned with turpentine only.

**158** An error on a painted board sign may be removed as in oil cloth signs. If paint has dried, it must be coated out and re-lettered.

# MONOGRAMS



HEBERLING

## Reminders For Water Color Painting

**Autumnal Tints:** Indian yellow; French blue and brown pink; Cobalt, Naples yellow and rose madder; Gamboge and rose madder.

**Banks, Earthy:** Light red, yellow ochre, and Payne's grey; Gamboge and burnt sienna; Yellow ochre and Vandyke brown.

**Bracken:** Yellow tints, yellow ochre, French blue and Indian yellow. Green tints: French blue and yellow ochre. Red tints: cadmium, Venetian red and burnt sienna.

**Branches of Trees:** Vandyke brown; Brown madder with or without a little French blue; French blue and brown madder; Rose madder and blue black; Sepia and brown madder.

**Backgrounds.** It is almost useless to give mixtures for backgrounds because to put it crudely, anything will do for the purpose provided that it harmonizes the picture itself or either throws in relief or acts as a foil as the case may require. The following are some useful backgrounds other than plain greys: Cobalt blue, Chinese white and emerald green; Cobalt and brown madder; Cobalt and scarlet vermilion with a little emerald green.

**Clouds and Distances.** Mix thin washes, either of the following varying proportions according to the circumstances: Cobalt, yellow ochre, and rose madder; the same, omitting the

cobalt; Brown madder and cobalt; French blue, burnt sienna, and crimson lake; Indigo and blue black; Cobalt and light red; French blue and blue black; Cobalt, light red and rose madder; Yellow ochre or Indian red with a little rose madder.

**Clouds (Stormy):** Blue black and light red; French blue and blue black; French blue, light red, and blue black.

**Flowers and Fruit.** It is impossible to give anything like a complete list of the different colors used in painting fruit and flowers; indeed, their number is infinite. A few of the most important however, may be given. Vermilion and gamboge; Vermilion and yellow ochre; French blue and crimson; Rose madder and cobalt; Rose madder and yellow ochre; Scarlet lake and cobalt; Madder and white or pink madder by itself; Scarlet lake and carmine; Crimson lake and purple lake.

**Foliage, Grass and Herbage.** Clearly a wide range of greens, reds, and yellows may be employed for these purposes. The following are some suggestions: Veridian and French blue; Gamboge and sepia; French blue and emerald green; Emerald green and gamboge; Indigo and gamboge; Indian yellow and burnt umber; Indian yellow and burnt sienna; Yellow ochre and French blue, French blue, rose madder and yellow ochre; Indigo, light red and yellow ochre; Gamboge, burnt sienna and French

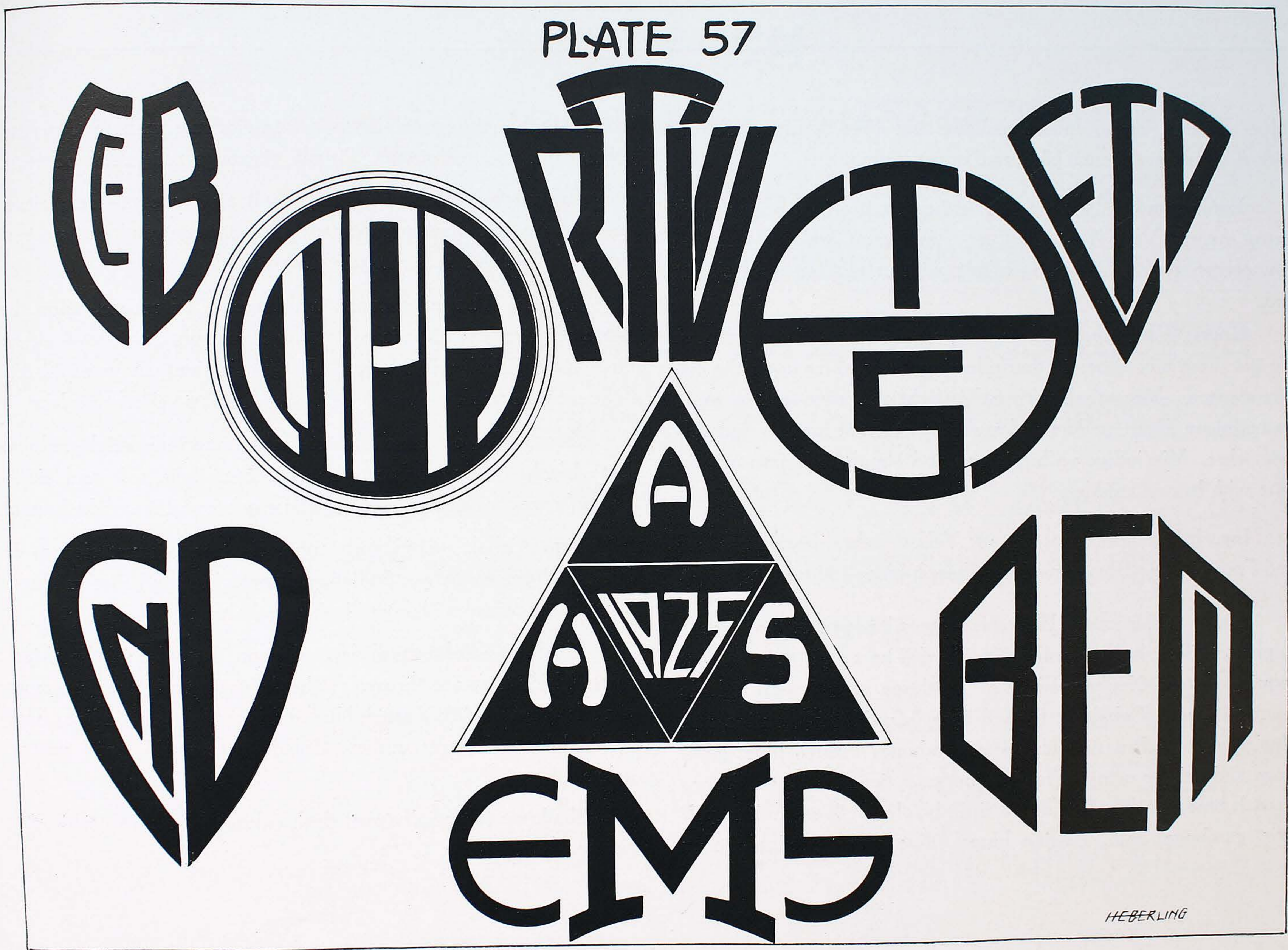
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PLATE 57



HEBERLING



blue; Burnt sienna, Indian yellow, and French blue; Yellow ochre, gamboge, French blue, and burnt sienna.

**Foregrounds:** Brown pink, either by itself or mixed with burnt sienna, Vandyke brown, or gamboge; Gamboge and yellow ochre; Yellow ochre and cobalt, with or without a little light red.

**Grays, Warm and Cold:** For clouds, hills and distant effects. To get these mix either of the following, depending upon the circumstances. Mix cobalt with either light red, raw sienna, sepia and crimson, Rose madder and aureolin, or Rose madder and yellow ochre. Mix indigo with crimson and Vandyke brown or mix blue with brown madder.

**Ivy.** Indigo and burnt sienna; Yellow ochre, brown madder and French blue; Brown madder, French blue, and a little cobalt.

**Leaves and Stems of Flowers:** A very large variety of greens might be given, but the following list will be found to suit most requirements: Naples yellow or gamboge mixed with a little emerald green; Cobalt or French blue mixed with carmine and Naples yellow; Prussian blue and gamboge; French blue, gamboge and yellow ochre; French blue, raw sienna, and gamboge; French blue, scarlet lake, and a little Naples yellow; Indian yellow, gamboge, and Prussian blue; Olive green used alone or

mixed with a little raw sienna, white or Prussian blue; Prussian blue, sepia and raw sienna; Cobalt, gamboge and yellow ochre.

**Mountains.** Yellow ochre, cobalt and rose madder; either two of the last three mentioned; Cobalt, rose madder, and raw umber; light red, rose madder, and cobalt.

**Rivers.** The colors used will depend, of course, upon the state of the river. If it is calm, raw sienna with a little Vandyke brown and cobalt will answer. If dark, Indian yellow, sepia, and lake may be used, or Vandyke brown, Indian yellow and lake.

**Roads.** Rose madder, burnt umber, and indigo light red and blue black; yellow ochre; yellow ochre, light red, and either Payne's grey, or a little cobalt; yellow ochre and Vandyke brown.

**Sea.** Cobalt mixed with either light red, burnt sienna, or lake, and yellow ochre; Indigo, yellow ochre, and rose madder; raw sienna mixed with blue black or cobalt.

**Shadows.** Colors will depend upon the color of the object upon which they are thrown. The following mixtures are most useful: Brown pink, French blue and lake; lake and indigo; blue black, lake and burnt umber; Cobalt, rose madder and yellow ochre.

**Shadows (especially over flesh color):** Mix cobalt with raw sienna.

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KLM



**Shadows (foreground).** When a purple shadow is required, use either cobalt mixed with rose madder; French blue, and crimson.

**Shadows (general).** Vary either of the following: French blue, burnt sienna, crimson lake; Cobalt, raw and burnt sienna.

**Ships (Hull).** Burnt sienna; Lake and Vandyke brown; Burnt sienna, brown madder and blue black. (Sails): Raw sienna; Yellow ochre and umber; Roman ochre; Brown madder and light red.

**Skies.** Skies may vary from different tones grays to pure cobalt.

**Stone Walls.** Rose madder and blue black; Yellow ochre and Vandyke brown; Blue black, Indigo and sepia; Yellow ochre and blue black; Yellow ochre, light red, and blue black.

**Trees—Distance and Middle Distance.** Use either of the following: Indigo and gamboge; Sepia and gamboge; Cobalt and yellow ochre; Indigo and yellow ochre; Indigo and sepia; Cobalt, lake and yellow ochre; Brown pink, indigo, and burnt sienna; Gamboge, light red, and indigo.

**Trees—In the Foreground.** Either of the following will serve: Prussian blue, gamboge, and burnt sienna; Prussian blue and aureolin; Prussian blue and aurora yellow and Prussian blue and burnt sienna; Gamboge, yellow ochre, and indigo; Gamboge, burnt sienna, and indigo; Naples yellow, Indian yellow, French blue, and a little burnt sienna.

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PLATE 59 SPURRED EGYPTIAN

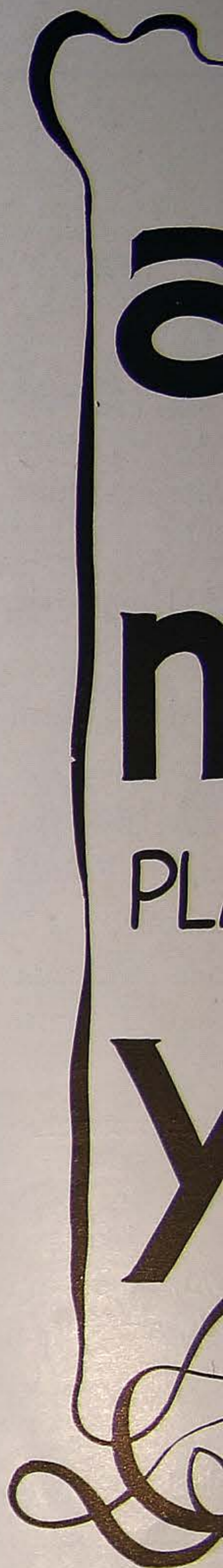
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## Colors and How They Are Produced

- LEAD COLOR, 8 parts white, 1 part blue, 1 part black.  
 MEDIUM GRAY, 8 parts white, 2 parts lampblack.  
 FRENCH GRAY, white tinted with ivory black.  
 LIGHT BUFF, white and yellow ochre.  
 DEEP BUFF, yellow ochre and a little Indian red.  
 GOLD COLOR, white and orange chrome, tinted with red and a touch of blue.  
 CANARY COLOR, white tinted with lemon chrome.  
 OAK COLOR, white tinted with yellow ochre or raw sienna.  
 OLIVE COLOR, yellow colored with black and a touch of red and blue.  
 SNUFF COLOR, yellow and vandyke brown or burnt umber.  
 ROSE COLOR, white tinted with carmine.  
 BOTTLE GREEN, Dutch pink and Prussian blue for ground color and glaze with yellow lake.  
 SALMON COLOR, 5 parts white, 1 yellow chrome, 1 burnt umber and 1 red.  
 BROWN, 3 parts red, 2 chrome yellow, 3 black.  
 COPPER, 1 part red, 1 black.  
 LEMON, 5 parts white, 2 parts lemon yellow.  
 STRAW, same as above with touch of vermilion.  
 FAWN, 8 parts white, 1 red, 2 yellow and 1 burnt umber.  
 FLESH, 8 parts white, 3 vermilion, 3 chrome yellow.  
 CHESTNUT, 2 parts red, 2 parts chrome yellow, 1 black.  
 WINE, 2 parts ultramarine blue, 2 carmine.  
 MAROON YELLOW, 3 parts carmine, 2 yellow.  
 TAN, 8 parts burnt sienna, 2 yellow, 1 raw umber.  
 PEA, 5 parts white, 1 chrome green.  
 CITRON, 3 parts red, 2 yellow, 1 blue.  
 STONE, 5 parts white, 2 yellow, 1 burnt umber.  
 DRAB, 9 parts white, 1 burnt umber.  
 LILAC, 4 parts red, 3 white, 1 blue.  
 LONDON SMOKE, 2 parts burnt umber, 1 white, 1 red.  
 CREAM, 5 parts white, 2 yellow, 1 red.  
 CLARET, carmine and ultramarine blue.  
 TEA GREEN, raw umber and chrome green with a trifle Prussian blue.

### Pigments and Their Peculiarities

- Pigments liable to change under the influence of sulphurated hydrogen, air, and moisture:
- YELLOW, chrome yellow, mineral yellow, Naples yellow.  
 WHITE, chremnitz white, flake white, pearl white, white lead.  
 RED, red lead, purple red, iodine scarlet.  
 GREEN, verdigris, emerald green, mountain green.  
 BLUE, Prussian blue, Antwerp blue.  
 ORANGE, orange chrome.



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PLATE 60 "SPURRED EGYPTIAN" LOWER CASE

ABAB AB AB

HEBERLING

BASIC LETTERING

Pigments little liable to change under the influence of sulphuretted hydrogen, air, and moisture:

WHITE, zinc white, constant white, tin white.

RED, vermilion, red ochre, Indian red, madder lakes.

YELLOW, yellow ochre, barium chromate, zinc chromate, raw sienna.

GREEN, chrome green, cobalt green.

BLUE, ultramarine, smalt.

BROWN, Vandyke brown, raw umber, burnt umber, sepia.

BLACK, ivory black, lampblack, Indian ink, graphite.

ORANGE, orange vermilion, burnt sienna.

Pigments liable to deteriorate when in contact with white lead, crome, or other lead pigment:

YELLOW, yellow orpiment, king's yellow, Indian yellow, gamboge.

RED, Iodine scarlet, cochineal, carmine.

ORANGE, golden antimony sulphide, orange orpiment.

GREEN, sap green.

BLUE, ultramarine.

Pigments which are little affected by heat, and which may be employed when the material has to stand fire:

WHITE, tin white, barium white, zinc white.

RED, red ochre, venetian red, Indian red.

YELLOW, Naples yellow, antimony yellow.

BLUE, smalt and royal blue, ultramarine.

GREEN, chrome green, cobalt green.

ORANGE, burnt sienna, burnt ochre.

BROWN, burnt umber, manganese brown.

BLACK, graphite, mineral black.

Colors which may be used with Lime:

WHITE, permanent white, i. e., baryta white, gypsum, zinc white.

RED, the vermilions, light red, Venetian red, Indian red, madder lakes.

ORANGE, cadmium, orange chrome, Mars orange, burnt sienna, burnt Roman ochre, light red.

YELLOW, aureolin, cadmium yellow, lemon yellow, Naples yellow, Mars' yellow, raw sienna, yellow ochre, Roman ochre, transparent gold ochre, brown ochre, Indiana yellow.

GREEN, oxide of chromium, transparent oxide of chromium, viridian, emerald green, malachite green, verdigris, terra verta, cobalt green, chrome green.

BLUE, genuine ultramarine, artificial ultramarine, new blue, permanent blue, cobalt blue, smalt.

PURPLE, purple madder, Mars' violet.

BROWN, bone brown, bistre, Prussian brown, burnt umber, Vienna brown, Vandyke brown, cologne earth, asphaltum, manganese brown.

CITRINE, raw umber, Mars' brown.

BLACKS, ivory black, lampblack, blue black, charcoal black, cork black, Indian ink, black lead, drop black, plumbago.

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*Or*

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*One Stroke Script*

*Plate 61*

*See Plate 62*

HEBERLING



## The First Lesson on Actual Painting of a Board Sign

**159** A sign board of this kind is prepared for lettering by applying three coats of white lead paint, after the board has been planed and sandpapered to a smooth surface, using No. 2 sandpaper and rubbing in the direction of the grain of the wood. Never rub across the grain. The knots should have shellac applied to them. The board is then ready to receive the first coat. Do not use shellac heavy in body. Thin it with alcohol to almost the consistency of water. Shellac applied too thick will cause trouble by peeling off the paint over the shellacked spots.

**160** The first coat of paint should be mixed in the following proportions:

Two pounds white lead, ground in oil; 1 pint raw linseed oil, 1 tablespoon of turpentine Japan,  $\frac{1}{4}$  pint spirits of turpentine.

The proper method of stirring the lead and other ingredients together (this is termed "breaking up" the lead) is to add the oil to the lead about one tablespoonful at a time, stirring it until the mass is reduced to an emulsion about the consistency of thick cream. If this mixture is allowed to stand over night before using, it will allow of more complete amalgamation of the ingredients. The drier and turpentine should not be added until im-

mediately before the application of the paint. The reasons for not adding the turpentine and turpentine Japan when mixing the paint are:

First. The drier would commence performing its function of drying and in this way would form a skin over the paint and cause it to become fatty.

Second. If the turpentine were added to the mixture, it would have evaporated by the time the paint was wanted for use.

It is well to strain the paint through cheesecloth or fly screen doubled, in order to remove any lumps. Clean vessels only should be used in mixing paints.

**161** The priming coat should be applied thin to insure penetration as subsequent coatings must have a good foundation to which to attach themselves. If the priming coat is not properly mixed and brushed out sufficiently, it will cause the coatings afterwards applied to suffer from the lack of a good foundation.

The proper consistency of good priming is about that of skimmed milk. The size of the brush with which to apply this mixture depends upon the size of the work to be primed. (See Fig. 23 on Plate 100, and select a suitable size).



A B C D E F G H I J K L

M N O P Q R S T U V W X

Y Z 1 2 3 4 5 6 7 8 9

Plate 62 Capitals for Plate 61

HEBERLING

**162** In the application of the paint, brush it across the grain and in all directions and, when about three or four feet have been covered, the brush should be stroked over this surface with just the tip of the brush touching. This will smooth the paint down and the operation is called "feather-stroking." Any overabundance of paint if allowed to remain will invite peeling later on, especially over the knots, the shellac having stopped the "suction."

Another stretch of the board should be painted and repeat the process until the entire surface of the board has been covered, both the face-side and the back.

Take a small block of white pine and paint it with this priming mixture and lay it away for use later.

**163** Allow the sign-board to dry for two days, after which the face of the board should be sanded lightly with No. 1 sandpaper, as the priming coat has a tendency to raise the grain of the wood. It will not be necessary to sandpaper both sides of the board unless the board is to be lettered on both sides.

**164** The board is now ready to receive the second coat which is mixed in the following proportions:

Two pounds white lead, ground in oil; 3 tablespoons raw linseed oil, 1 tablespoon turpentine Japan.

Thin the mixture to the consistency of thick cream. Try this mixture on the block of wood previously painted for a sample, which will determine as to whether the paint is too thick or too thin. It should brush out smoothly without feeling too much "pull" on the brush and yet it should cover well. Apply in the same manner as the first coat. Allow the board to dry for two days and then go over it lightly with No. 1 sandpaper to remove any little "nibs" as they are called.

Do not sandpaper too hard, as this would cut through and remove too much of the coating.

The layout is the next operation. Assuming the board to be twelve feet long and 2½ feet wide and the inscription it is to carry is as shown on Plate 4-A, No. 2. The first procedure will be to set aside the border all around the board. Inside these lines lies the field or space on which to paint the inscription. Measure inside the border line six inches from each end,—not actual measurements but with the eye and the layout string. The use of the layout string is explained in Paragraphs 1 to 6. ( \* \* \* ) These marks designate the starting and stopping points and these marks **MUST BE RESPECTED**, (See No. 3, Plate 4-A), as an unbalanced sign, no matter how well it is lettered, is a breach of sign etiquette.

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**Plate 63** rst uvw xyz

**165** The next step is to place the marks for the height of the letters. Take the layout string in the hand, paying out sufficient string to bring the pencil point to where the eye says to place the mark. Holding the same measurements on the string as the mark is distant from the edge of the sign-board, walk to the other end of the board and repeat the mark, still holding the string at the same measurements. Now make marks from the top edge of the board to designate the top line. This operation is simply a repetition of the operation used in marking the bottom lines, except that it is inverted. To make lines between the two points at the top and bottom, use the string as shown in Figures 2 to 6, Plate A, or the chalk line.

**166** These operations completed, the lines are ready to receive the lay-out of the inscription. Figure 3, Plate 4-A, shows lines formed into panels to aid in the lay-out. With chalk mark just a rough single line of each letter. See Figure 1, Plate 4-A. This is not for real formation but just for spacing. If it is found when the stopping mark is reached that there are still a few letters left, return to the starting point and space it over again. Repeat this until a single line lay-out has been attained. There should be no signs of squeezing or stretching at any point in the line of letters. Remember that a good painting cannot be rendered unless the drawing has been faithfully worked out. It is better to spend

two days on a lay-out and then paint it in one hour, than to do the reverse.

**167** When a suitable single line lay-out has been made, proceed to double line it as shown in Figure 2, Plate 4-A. This double line lay-out is simply the lines showing the outside and inside edges of the letter strokes. The style of letters used here is Egyptian condensed. After a good double line lay-out has been produced, retrace with an indelible pencil, including letters and border lines. This completed, give the board the third coat of paint, mixed in the proportions given below:

**168** Two pounds white lead, ground in oil; 2 tablespoonsful raw linseed oil, 2 tablespoonsful Japan gold size.

Sufficient turpentine to reduce to the consistency of the second coat and it is applied in the same manner as the second coat.

**169** No, the lay-out has not been obliterated. See Plate 4-B, Fig. No. 3. The pencil, being an indelible one, contains aniline color, which will "burn" through this last coating, showing clearly and giving a nice clean surface on which to letter, all marking having been done on the previous coat, leaving this coat free from scratches or finger marks.

Allow this coat to dry over-night, when it will be ready to letter.



A B C D E F G H

I K L M N O

P Q R S T U

V W X Y Z

PLATE 64

HEBERLING

**170** If a dark back-ground is wanted, all the painting is done OUTSIDE the lay-out line, as shown in Fig. 1, Plate 4-C. This is termed "cutting in." If a letter as shown in Fig. 3, Plate 4-C, is desired, it is made by painting INSIDE the lay-out lines. This is called "Surfacing On." In "cutting-in," care must be taken to avoid cutting away any parts of the letters (see Fig. 2, **171** Plate 4-C), and reducing the width. This is one of the bugbears of the beginner. It will throw the entire line out of balance if parts of the letters are chopped off. Here is the tip that will help the student to avoid this: **Keep away from the outline when "cutting in," about 1/32 of an inch all the way around the letter**, being careful not to let the brush "chop" over onto the next space, as it will soil the space which a letter is to occupy. See Fig. 4, Plate 4-C. If by accident this is done, the soiled spot may be wiped clean with a cloth dipped in gasoline, benzine or turpentine. After a little practice, it will be found that the student can cut up close to the lay-out lines and, in fact, control the brush so as to have it do as he wishes.

**172** It is advisable to start a sign at the upper left hand corner, doing a stretch of the top border, then the left side, then the bottom over as far as the top has been done. If any lettering

comes within this area, "cut it in" and with a larger brush proceed to fill in the back-ground. See Fig. 1, Plate 4-C. Fill in the back-ground up to where the borders and letters have been "cut in." Now "cut in" another stretch and fill it in as before. Do not make the mistake of "cutting in" the entire sign and then go back to fill in all of it at once, because this will make a ridge around each letter caused by the paint being double thick at the outline.

**173** The color for this "cutting in" is lamp black ground in oil, mixed to a paste in boiled linseed oil or finishing varnish either one will answer. If it is desired to make a back-ground of black smalt, the color is given more body by the addition of white lead and is thinned with an additional quantity of boiled oil or varnish and should be worked a trifle stiff under the brush. This is done so that the smalt, when sifted onto the wet paint, will adhere properly. (If the background is to be just plain paint background, no white lead should be added to the black, simply use the black thinned with either boiled linseed oil or varnish and a few drops of turpentine). After all "cutting-in" and filling has been completed, and while the paint is STILL WET, sift the smalt on, using a can which has been punctured on the bottom with a nail, the same as the top of a salt shaker. The smalt should be

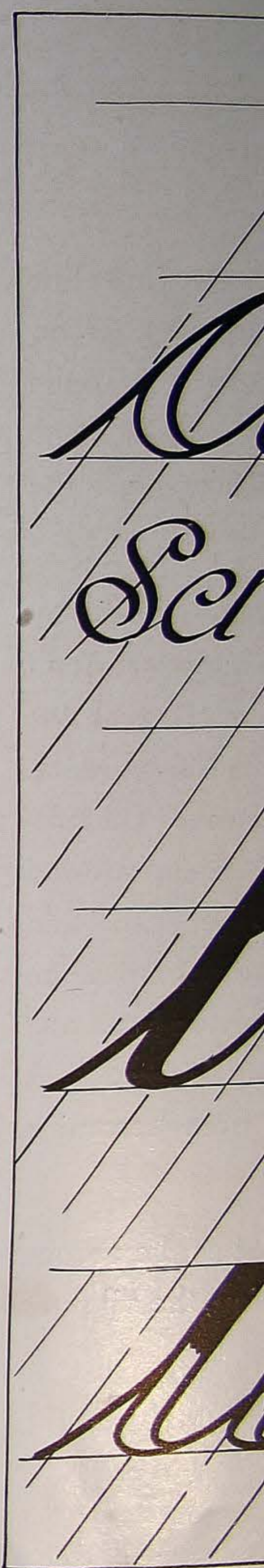


PLATE 65

*a b c d e f g h i j k*

*Script Construction*

*See Plate 23*

*l m n o p q r s t*

*u v w x y z*

HEBERLING



**174** sifted on to about the depth of one-quarter of an inch over the entire back-ground, letters and all. Allow this to lie for about one-half hour. Then dump the smalt off quickly onto a paper or cloth which should be a little longer than the board so that none of the smalt is wasted. **DO NOT ALLOW THE SMALT TO SLIDE OFF BUT DUMP IT OFF QUICKLY.** If allowed to slide off, the smalt when sliding over the balance of the sign, will cut loose the smalt over which it slides. Do not knock the board on the floor to knock off any surplus smalt. This would jar loose the smalt which has adhered to the paint.

**175** Let the work stand for a day, after which go over the entire surface, dusting lightly with a feather duster or dusting brush, which will remove any loose particles of smalt. (Smalt can be purchased in various colors.) The paint used for "cutting-in" should resemble the color of the smalt used,—black for black, red for red, etc.

The border may now be painted, which was left plain without any smalt. The color for this is mixed by taking a little of the white left from the last coat and adding sufficient chrome yellow ground in oil to make a rich lemon yellow. Add a little boiled

linseed oil to the mixture. Leave about a half inch white line between the edge of the black smalt and the edge of the border. That is, there will be one-half inch of white space left unpainted with the yellow, all around the entire black background. The sign is ready for the finishing touches, which is "Blacking off" the edges and painting the back of the board.

**176** The mixture for painting the back of the board is made by adding to what is left of the "cutting-in" color, a small quantity of linseed oil, and a little turpentine. A good brush for cutting in on this particular kind of work would be a No. 8 French Camel's hair lettering brush and a one-inch "one-stroke" Camel's hair lettering brush for filling in the space between and around the letters. The mahlstick should be used (see Figs. 4, 5, 6 and 7, Plate 5-C). It assists in drawing long straight lines and is an aid in making curves as it allows a larger range for the hand and also keeps the hand away from the surface being lettered. A mahlstick is very useful in keeping the work from becoming soiled.

For signs made on sheet metal mix **first coat** as the **second coat is mixed for wood.** There being no absorption, the oil must be reduced.



PLATE 66

Oriental

A B C D E F G  
H I J K L M N O  
P Q R S T U V  
W X Y Z

HEBERLING

## Gilding on Wood and Metal Surfaces

See Paragraphs 159-176 for preparing sign boards previous to lettering. The board having been painted as directed, and the lettering, etc., sketched with indelible pencil, coat the entire side to be lettered with a **thinned shellac** (like water). This should be ready to work upon in a half hour.

**177** The letters and border lines, if any, are then coated with a mixture of fat linseed oil two parts, Japan gold size one part, and these are thinned with gasoline (do not use turpentine) to almost the consistency of water. Add a very little Prussian blue ground in oil. This blue colors the mixture sufficiently to show when it is applied to the work. The mixture is called "Fat Oil Size" and the operation is called "sizing in." In applying the size, it is best to go over the layout lines a trifle. See Fig. 2, Plate 4-B, as this aids in "cutting in" the ground later.

(See Paragraph 181 for explanation regarding Fat Linseed Oil.

**178** The work should be done preferably in the afternoon and by standing over night the "size" will then be ready to receive the gold-leaf the next morning. See Figs. 1, 2 and 3, Plate B, which illustrate and explain the application of the gold leaf.

When gilding has been completed, proceed to "cut in" as explained in Paragraph No. 170. Smalt the background after "cutting in." See Paragraph No. 174. Smalt comes in various

colors. Always use a color for "cuttin in" which is as near like the color of the smalt to be used as possible. Mix the colors as explained for black backgrounds, except that red "cutting in" color would be used for red smalt, and blue for blue, etc.

**179** Any of the "size" mixtures specified in Paragraphs No. 181 and 182 may be used for Gold Leaf, but none compare with Fat Linseed Oil for smalted ground signs, raised wood letters, balls for flag poles and any outside work which is **not to be varnished**. It is very durable and it has a great range of time in which it will take the gold-leaf. That is, if "overnight size" is used, it will generally possess sufficient "tack" to hold gold even at noon the next day. The writer has "sized" work with "Fat Oil Size" and gilded it four days later. "Fat Oil Size" should not be used in winter, unless the room in which the work is being done can have a temperature maintained not below sixty-five degrees. The "size" would "chill" if used under conditions not suitable for drying and trouble would come when gilding was attempted. Varnish or gold size are better to use in winter if the temperature varies. However, it is not advisable to attempt to do work of this character unless conditions are favorable.

**180** If the sign is to be executed on galvanized or black iron surface, prepare the surface as directed in Paragraph No. 176.

a  
o  
2

PLATE 67 "ORIENTAL"

a b c d e f g h i j k l m n

o p q r s t u v w x y

2 1 2 3 4 5 6 7 8 9 0

HEBERLING

## "Fat Linseed Oil Sizes"

### Approximate Time Required to Dry Ready for the Application of Gold Leaf

**Very Slow, 72 Hours**—Pure Fat Linseed Oil. Thin with gasoline only.

**Slow, 48 Hours**— $\frac{7}{8}$  Fat Linseed Oil,  $\frac{1}{8}$  Turpentine Japan. Thin with gasoline.

**Overnight, 16 Hours**— $\frac{2}{3}$  Fat Linseed Oil,  $\frac{1}{3}$  Japan gold size. Thin with gasoline.

**Ten Hours**— $\frac{1}{4}$  Fat Linseed Oil,  $\frac{3}{4}$  Japan gold size. Thin with gasoline.

**181** Never use a "Fat Oil Size" nor a "size" which contains it in part, for work which is to be varnished over. It would cause the varnish to "wrinkle up" as "Fat oil" is too elastic to be covered by a coating other than itself, and nothing can add to its durability.

## Varnish and Japan Gold Sizes

**Slow, 10 Hours**— $\frac{1}{2}$  wearing body varnish,  $\frac{1}{2}$  Japan gold size.

**Medium, 6 Hours**— $\frac{3}{4}$  Japan gold size,  $\frac{1}{4}$  wearing body varnish.

**Two Hours Size**—Quick rubbing varnish.

**Quick, 1 Hour**—Japan gold size.

**182** These "sizes" are used for varnished ground signs, wagon and auto lettering. These "sizes" are not used thin, as directed for oil sizes, but are used almost pure. A few drops of turpentine may be used to keep thin enough to work nicely. It is

impossible to give actual time required for the "sizes" to reach the proper "tack" for gilding. Differences in varnishes and atmospheric conditions make proportions vary somewhat. In mixing "sizes," it is well to consider these facts.

A slow drier will retard a fast drier and a fast drier will hasten a slow drier. "Sizes" of the different formulas mixed by the student and applied to a piece of discarded glass, and a note made of the time it was applied and time it took to dry to a "tack" will give a better idea of just what to expect. It is a good plan to have some small bottles in which to keep "sizes" which are slow, medium, or fast, as they can be used with accurate results, having been previously tested and bottles marked as to time required.



PLATE 68 JAPANESE

A B C D E F G H I J K  
L M N O P Q R S T  
U V W X Y Z @

HEBERLING

## "Varnished Ground" Signs

Signs of this kind are exactly like the lettered and varnished panels of a delivery wagon or truck. These undergo the same processes from the beginning to the finished product.

The proper surface on which to begin is very important. If a "varnished ground" sign is to be painted on wood, the surface must have been properly planed and finished as smooth as possible with No. 1 sandpaper. This completed, we will assume that the ground color is to be Medium Chrome Green, and that the size of the board is 2-ft. by 6-ft.

The first coating is mixed in the following proportions: For red or other colored backgrounds, use the color desired instead of Chrome Green.

**183** One-eighth pound Medium Chrome Green Ground in Japan, 5 teaspoonsful turpentine,  $\frac{1}{4}$  pint raw linseed oil, 1 teaspoonful Japan Gold Size.

Do not mix the Chrome Green with raw linseed oil. Instead, place the Chrome Green in a suitable vessel (a pint cup is very popular) and add a teaspoonful of turpentine. Stir until it is well mixed. Add another teaspoonful of turpentine and stir. Do this until five teaspoonfuls have been added. Now pour in the raw linseed oil, stirring constantly until the entire quantity has been mixed. The Japan Gold Size is next in the mixture.

The proper brush to use in the application of this paint is No. 12, Plate 100. Flat trim or cutter 2 inch size, and the paint is applied in the same manner as explained in Paragraph No. 162.

When the coating has been applied, set the board away to dry. Face side to the wall to protect it from dust. Follow this plan in all sign work. After two days have been allowed for drying, sandpaper lightly (in the same direction as the grain—never across the grain) and dust off with a duster. (In the absence of a duster, a clean cloth will suffice).

The work is now ready for the second coating. Use this mixture:

**184** Quarter pound Medium Chrome Green Ground in Japan. Sufficient turpentine to reduce to consistency of thick cream. 2 tablespoonsful of raw linseed oil.

This is applied with a Camel's hair color brush 2" size. Heavy coatings must be avoided in all Japan colors as they are liable to chip. Better apply two thin coats than one thick coat. This coating should be applied as quickly as possible. Smooth it out nicely with as little brushing as necessary. After standing over night, this coating is sandpapered lightly with No. 0 sandpaper.

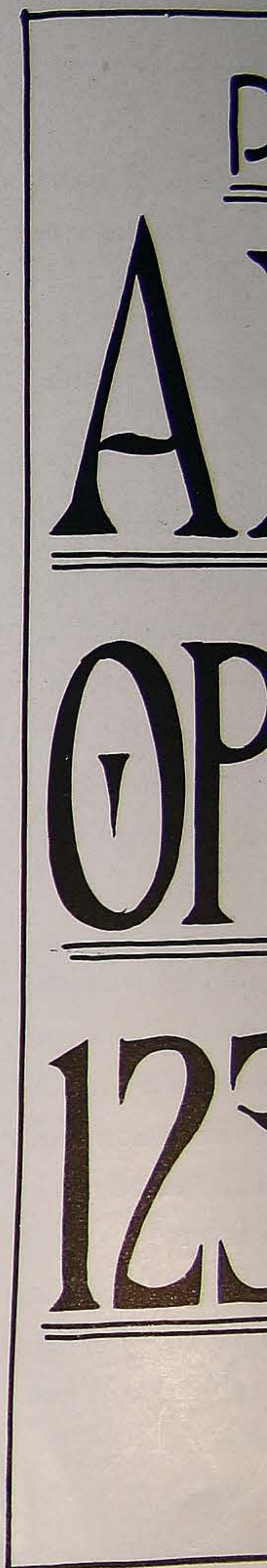


PLATE 69 "OLD CLASSIC" Capitals

A B C D E F G H I J K L M N

O P Q R S T U V W X Y Z & Æ " "

1 2 3 4 5 6 7 8 9 S G D :

HEBERLING



**185** Third Coating:  $\frac{1}{8}$  lb. Chrome Green Ground in Japan. 1 teaspoonful turpentine, 10 tablespoonsful Quick Rubbing Varnish. Apply this with White Bristle Flat Varnish Brush  $2\frac{1}{2}$ ". Care must be taken to apply this mixture evenly and quickly. VARNISH SHOULD NOT BE USED SPARINGLY. A good, full coating is desirable if applied uniformly—not thick in one place and thin in another. Good varnishing is the result of practice. Runs and sags, as the names imply, are caused by varnish being applied too thick in spots and gravity causes the heavier parts to descend and overlap the thinner parts below. This is also called in sarcastic trade vernacular: "Lace Curtains." Runs and sags can be avoided if varnishing is done while the board is lying flat, but a good varnisher can varnish a panel in any position and it is not considered workmanlike to change the position of the work to avoid "Lace Curtains." An automobile is not turned over on its side to varnish its panels, and we see some very finely finished automobiles in our every day life.

After this varnish coating has stood for two days, it will be ready for rubbing. Also see Paragraph No. 73.

Procure a pail or pan which is absolutely free from grease or dirt and fill this with good clear water. (Rainwater is the best, but is not necessary.) The next requirement is a piece of rubbing felt about four inches square and one-quarter inch thick.

About one ounce of pulverized pumice stone is needed. This is manufactured in fine, medium and coarse grades. The fine is preferred for this work.

A chamois skin and sponge are indispensable for use in this rubbing process.

**186** The surface should be flooded with the water, using the sponge. Dip the rubbing felt into the water and then into the pumice stone. About a foot square should be rubbed at a time. Be sure to keep the surface well wetted with water or the pumice will scratch. Never allow the work to dry while the pumice is on the surface. The rubbing should be done in a circular motion and care must be taken so as not to rub through the varnish, but just sufficient to give a smooth finish.

**187** After the surface has all been rubbed, it should be washed with sponge and clean water and the chamois skin is then used to remove any particles of pumice which may remain on the rubbed surface. The chamois skin is always used in water and never should be used dry as it will scratch, unless it is well soaked. After about four hours have elapsed, the surface is ready to receive another coat of the same mixture used for the third coating and this is also rubbed in the same manner as explained herein. Allow two hours for drying after board has been rubbed. When



PLATE 70

Old Classic

Lower Case.

abcdefghijklmnopqrstuvwxyz

qrstuvwxyz anh:

abcdefghijklmnopqrstuvwxyz

SENS

HEBERLING

dry, wash entire surface with a cup of vinegar to which has been added the white of one egg. This is applied with a cloth but do not wipe it dry. Allow it to dry of itself. This coating forms a film of albumen over the varnished surface and prevents gold leaf adhering to other than parts where it is intended that it should adhere.

#### Lettering in Gold Leaf

**188** For laying out the work, it is advisable for the student to use the Pounce Pattern Method. (See Pounce Patterns). If it should for any reason be necessary to wipe off a part of the layout, the pattern could be used again to apply the layout. Whereas, if the layout were made with chalk, and a mistake occurred farther on, it would necessarily follow that in removing the mistake, the chalk marks would be removed in the wiping. After the student becomes proficient, it will be possible for him to make the layout directly on the surface with chalk. Experience gives confidence.

**189** Upon the completion of the layout, if the lettering is to be done in gold leaf, the letters are "sized" as it is called with "quick size" made as follows:

Two tablespoonsful Quick Rubbing Varnish, sufficient Chrome Yellow Ground in Japan to color mixture.

**190** The Chrome Yellow is used simply to enable one to see the strokes he makes. Pure varnish being transparent, it would be somewhat difficult to avoid missing little places on the lettering. (Spots which are missed are called "Holidays".) These would be very evident when the gold leaf was applied, because the gold would not adhere where there was no attraction.

The "size" is applied to the letters in exactly the same manner as if it were paint. Use brush No. 20, Plate 100 in No. 8 size. The "size" should dry until it has a faint stickiness; not enough to cause the "size" to come off when the backside of the first finger is touched to it. This stickiness is called "tack."

**191** When the "tack" is just perceptible, the gold leaf is applied to the size. It is a very good idea to apply some of the "size" to a piece of clean glass at the time the "sizing" is commenced on the board. This gives one a sample on which to test the "tack" of the "size" without disturbing the board lettering. It should take this "size" about one to two hours to reach the proper "tack." However, it should be remembered that atmospheric conditions vary and "size" that could be gilded in one hour today, may not be ready to gild in two hours tomorrow. The sample of "size" on the glass mentioned in Paragraph No. 182 comes in as a very useful assistant in determining just the right time to start.



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**192** Remember this: If "size" is too wet when gold leaf is applied, the gold leaf will have no lustre. This is called "flooding." If "size" is too dry, the gold leaf will not adhere to it. The nearer dry the size becomes, however, before gilding, the brighter the gilding will be. (Tests only can make this clear.) Never gild "size" if it sticks to the finger when touched. To ascertain the degree of "tack," touch the back of the first finger to the "size."

See illustrations for application of gold leaf to wood and metal surfaces. Plate B, Nos. 1, 2, 3.

**193** The next operation is the "burnishing" process. This polishes and removes all gold leaf, except that which covers the letters. See Paragraph No. 216.

The work should now be wiped over with the wet chamois skin. This removes specks of gold which may have adhered.

The words of the subject should be outlined and shaded with this mixture:

Half ounce lamp black, ground in Japan. 1/4 ounce Prussian Blue, ground in Japan. 1 teaspoonful Turpentine. 1 teaspoonful Quick Rubbing Varnish.

Use palette knife for grinding this together on a piece of glass. Thin to a brushing consistency with turpentine.

**194** OUTLINE AND SHADE should be executed with a Camel's Hair liner. Shade should be about one inch wide. Outline should be about one quarter inch wide. See Plate 51.

The words explaining the subject should be outlined only. Use Vermilion ground in Japan. Thin to brushing consistency with one part turpentine, and two parts of rubbing varnish. The border line is also done in vermilion.

The work, after standing three hours, will be ready to receive the final coating.

The final coating is one of these varnishes: either Wearing Body, Outside Spar or Coach Gear.

Apply with varnish brush 2 1/2" or 3". Paragraphs 85 to 86 explains method used in application.

#### Lettering in Colors

**195** Use colors ground in Japan, thinned with half rubbing varnish and one-half turpentine.

#### Lettering in Aluminum Leaf

**196** Use "size" as for gold leaf. Apply leaf to "size" when "tack" is very strong but not wet, as Aluminum leaf is much heavier and takes a stronger attraction.

To cut Aluminum Leaf for application, use scissors and cut through book and all. Then use strips as needed.

#### Note

On signs which bear a very lengthy inscription and are to be lettered with leaf, it is advisable to add four or five drops of Wearing Body Varnish to the "size" at the end of each line of

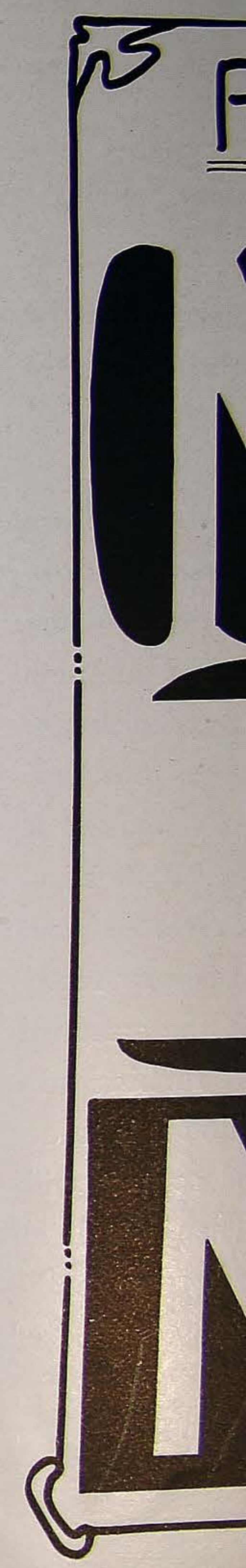


PLATE 72 BACKGROUND STENCIL



No. 2



No. 3

HEBERLING

letters. This retards the drying of the "size" and, therefore, lengthens the time in which the work can be gilded. That is, if the "size" were not "slowed" a little, by the time the first part of the lettering had reached the proper "tack" for gilding and the additional time it takes to gild it had elapsed, the lower part of the work would then be too dry to take the leaf.

See Size Formulas, Paragraphs 181, 182.

Another method is to "size" two or three lines and then go back and gild the first line when it is ready and so forth until finished. This method is not altogether satisfactory, because it is possible that a piece of stray leaf might, by accident, fly over and attach itself to a part of the work which was still too wet for receiving leaf properly and it would make a dull spot on the part of the work to which it adhered.

#### Curled Hair and Steel Wool

**197** Curled Hair or Steel Wool may be used instead of pumice stone and water for the rubbing processes, but is not to be compared with the pumice stone method. However, it is used in many shops. No water is used. Simply use a wad of the curled hair or steel wool about the size of an orange and rub over the varnish until all of the gloss has disappeared. Each rubbing varnish coating receives the curled hair or steel wool treatment instead of the pumice stone and water process.

#### Home Made Transfers for Trade Marks on Wagon Panels, Varnish Ground Signs, Etc.

**198** These are used where a wagon or other vehicle cannot be spared from business long enough for an artist to perform the work.

Secure a piece of gummed paper (like postage stamps are printed on) and on the gummed side, paint the desired design in the same colors and manner in which it would be done on the wagon or other panel. Let dry and take another piece of gummed paper and dampen the gummed side and lay the painted design face down upon it and press between two large blotters until dry. Next, the paper on which the design was originally painted is dampened and when soft enough to remove, it is pulled off, leaving the design on the second gummed paper in a reversed position to which it will appear when transferred. It is now ready for the surface for which it is intended. Varnish the gummed side on which the design now appears with quick rubbing varnish and, while quite "tacky", place it to the position it is to occupy, rolling it with a small roller to insure good contact with the surface. Allow to stand about an hour. Then wet it all over with water and when thoroughly saturated, remove the paper and the design will be as nicely depicted as any purchased transfer.

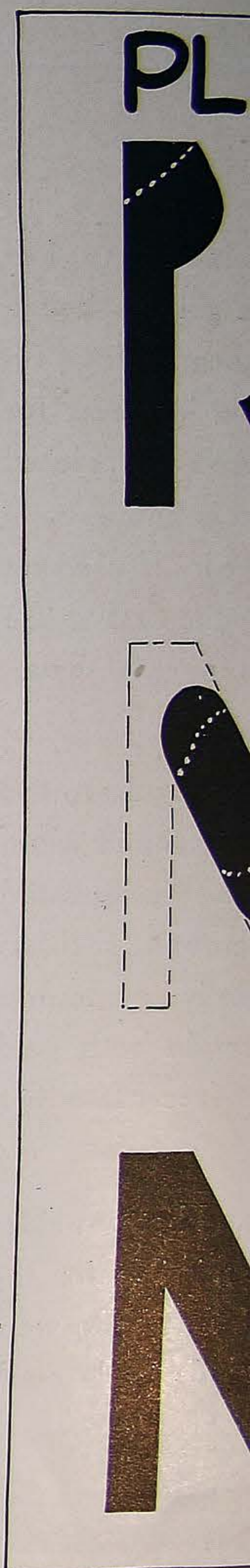


PLATE 73

STENCILS

**NATIONAL** *NO. 1*

**NATIONAL** *NO. 2*

**NATIONAL** *NO. 3*

HEBERLING



## Shading and Embellishment

There are many different effects possible by the use of letter shadows. The shade gives a raised appearance to the letters used in connection with them. Poor shading takes away from, rather than it enhances their usefulness and beauty.

The angle generally employed in shading is forty-five degrees for the "Relief Shadow" and this angle is accepted by sign artists.

The "Drop Shadow" and "Cast Shadow," however, are not included as they serve a purpose somewhat different.

**199** "One Stroke" shading is used for cloth, card and work of either a temporary nature or work that does not permit sufficient time to be spent upon it on account of the price. "One Stroke" shading is akin to "One Stroke" lettering. They are generally found in use together. Sometimes the "One Stroke" shade is used with a finished letter. See Plate 53. The rule of perspective applies to shading letters as it does to any art that involves perspective. Shading in, or very little out, of perspective will pass, but if too carelessly done, it will ruin the work.

**200** For painted letters on light grounds, it is the custom to shade away from the letter, *not against it*. That is, a line of the background should show between the letter and the shade.

See Plate 53, No. 1. No. 1 is correct. No. 2 is incorrect. For gold letters on wood, glass or other material, the gold is shaded right up against the gold with no space between them. No. 1 on Plate 53 would be correct for a painted letter and incorrect for gold. No. 2 would be correct for gold and incorrect for painted letters. No. 3 would be appropriate for gold and is known as a "split shade." Two or more colors being employed. If used on painted letters, the space should appear between the first shade and the letter, but not between the colors forming the shade. They touch each other.

No. 4 shows method of "cutting in" a background around a letter, *but not up to the "layout" lines*. This saves time and when the shade and outline are finished as in No. 5, the background and letter are smoothed up. On a dark background, such as green, blue, reds, maroons, etc., this type of shade is in common use. Outlines are generally applied to the letter in both gold and painted letters. However, the relief outline (see Plate 44) on the word "Easter" is an exception.

**201** While the rule for shading is to the left and bottom sides of the letter strokes, it would not be permissible for the artist to change a trade mark to suit himself if the shade were otherwise. The advertiser wants a facsimile of his trade mark and expects just that exactly.

correct. For  
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background  
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s in common  
in both gold  
(see Plate 44)

bottom sides  
sible for the  
e shade were  
s trade mark

**PLATE 74**

*abcdefghijklmnopqrstu*

*vwxyz ABCDEFGHIJKL*

*MNOPQRSTUVWXYZ*

*abcdefghijklmnopqrst*

*vwxyz ABCDEFGHIJ*

*KLMNOPQRSTUW*

*XYZ*

*Slant No. 1 is used. See Plate No. 23*

Script slanted to the right is shaded to the right and bottom, unless specified differently.

**202** The blend shade, see Fig. 1, Plate 51, is used both on lettering on glass and wood. The "Stops," as they are called, see Fig. 1, Plate 51, at A, are used for a stop for the blending operation and are ornamental as well. *The blend shade on glass would be executed in this way.*

The lettering having been finished in gold, the "stops" are then painted in. They are placed in the same manner as a shade of forty-five degrees and in the same positions, one against the letter and one at sufficient distance from the letter to give space for the blended part of the shade.

The ones farthest from the letter are generally black. Dark green, dark blue and other dark colors are sometimes used. A combination of more than one color is often used, as in the "split shade" (see No. 3, Plate 53). The "stop" is simply "split" into more than one color.

For the "stops" touching the letter, it is customary to use a transparent color, depending upon the colors to be used in the blending. Assuming that a green blend is to be used, the stops may be made with Verdigris mixed with Japan gold size or Quick Rubbing Varnish, Prussian blue mixed as above, or asphaltum. The transparent colors soften the lines between the "stop" and the blending by a graduation of color caused by the

blending colors showing through the transparent color. After the stops have been finished and dry, the operation of blending is started.

**203** First, take the quantity of dark green needed. Then take half of it and put it into a paper color cup; mix up the same amount of flake white, ground in oil, and divide it into three cups. Add sufficient of the dark green to one of these cups and mix it so that the graduation of it is perceptible at a glance. Mix a portion of this mixture with another of the white cups, making another perceptible graduation. Repeat the operation, using this last mixture to color the remaining white. This gives four graduations of green, they being dark, medium, light and green tint. Mix with each of these colors about one-quarter of their bulk of boiled linseed oil and a few drops of Japan gold size. The oil retards the drying of the blending colors, giving the operator time to work them before they set too hard.

**204** See Plate 51, Fig. 1, which shows graduations of color from dark to light. Proceed to "lay in" the colors in the positions shown. When all have been "laid in" to their respective positions, they are blended together with a Russian sable grounding brush.

Wipe the brush each time on a cloth to keep it clean. Otherwise it will make the blending have a "muddy" appearance. Blending should be done in the direction of the shadow as shown in the lines on Plate 51, No. 1.

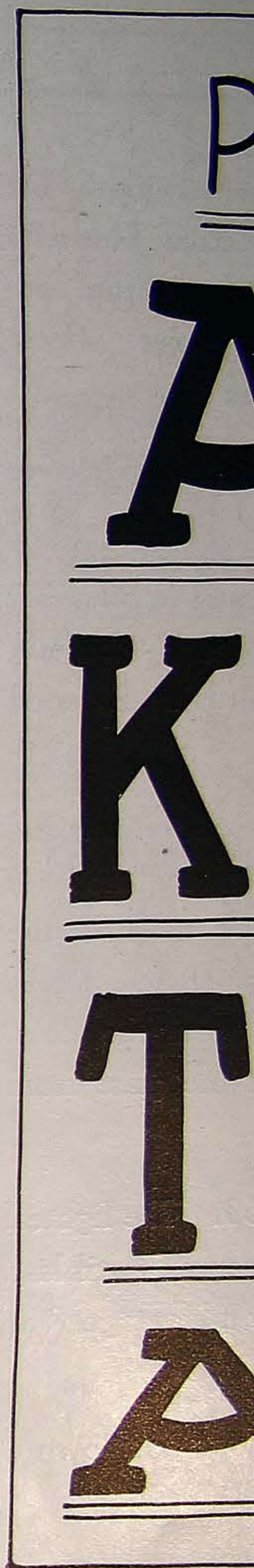


PLATE 75 "One Stroke Round Block" Capitals.

A B C D E F G H I J

K L M N O P Q R R S

T U V W X Y Z & &

A B C D E F G H I J

HEBERLING

Be careful not to blend too much. Simply coax the edges of the different graduations together.

For practice it is a good idea to paint two black lines about a half inch wide and about two inches between them, and in a vertical position on a piece of window glass. Practice the blending between these two lines and wipe off and repeat as the color will not dry too fast to permit the repetition of the operations. To have tried the operation will explain more to the student than many pages of text.

**205** For red blend shade on glass, the "stop" should be carmine, or asphaltum mixed as the transparent "stop" in the green blend. The outer "stop" would be black or dark green or "split" as in the green blend. The blending colors are mixed as for the green blend, except the graduation is from dark red to red tint.

**206** Blend shading on wood or surface lettering is somewhat different. The "stops" are put in last. The blending having been done and dry, the "stops" are put into place to straighten the ragged edges of the blending by covering them up.

**207** Split shades on glass are simply a shade of two or more different colors or dark and light of the same color. See Nos. 3, 7, 8 and 9, Plate 53.

**208** Very good practice for the student is to mix a little burnt sienna in Japan gold size and turpentine and apply it to

a piece of discarded glass, covering about three inches square. Do the same with carmine and Japan gold size, Prussian blue and Japan gold size, Verdigris and Japan gold size, Asphaltum and Japan gold size, Ultramarine blue and Japan gold size. These will be transparent on the glass and are known as glazes.

When these have dried, pass a dampened chamois skin over them.

Mix a little each of the following colors ground in oil using a small amount of gold size and turpentine with each—Bulletin Red, Chrome Yellow, Light Chrome Green, Cobalt Blue, Emerald Green, Yellow Ochre.

With a brush, draw a line of each of these colors over the glazed portions previously made on the glass, allowing the lines to extend beyond the glazed portions sufficiently to show the color before it is affected by the glaze. Note the change where the colors are on plain glass and where they are over the glass. This is seen by looking at the opposite side of the glass from which the paints are applied.

**209** Split Shades on Wood. See No. 7, Plate 53. The lightest color is placed first, the darker color is reserved until last. The darker color covers the light color to better advantage than the reverse.

If the shade is to be a "glazed split," it is done as shown at No. 8, Plate 53, right half of "N."



PLATE 76 "One Stroke Round Block" LOWER CASE

abc def gh ijkl

mno pqr stuv

wxyz 12345678

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For practice work, paint a board with the following colors and in strips about two inches wide. Mix colors with turpentine with a few drops of Japan gold size added. Use red for first strip, white for second strip, ultramarine blue for third strip, chrome yellow for fourth strip, Cobalt blue for fifth strip, yellow ochre for sixth strip, and emerald green for seventh strip. This should appear as the stripes on an American flag.

When the colors are dry, mix the following colors with Japan gold size and turpentine about seven-eighths gold size to one-eighth turpentine. Quick rubbing varnish may be used in place of gold size, if desired.

Burnt Sienna, Burnt Umber, Raw Sienna, Raw Umber, Prussian Blue, Asphaltum, Carmine and Verdigris. Apply these with a camel's hair brush so that they cross the colors previously painted on the board at right angles as on a checker-board. Note the effects produced by the glazes over the solid colors.

**210 Highlights.** Highlights are the opposite of the shadows. See Plate 32, showing the effect and proper places upon the letters at which they occur.

**Face Ornamentation.** See Plates 34, 36, 37, 44, 51, 53, etc.

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Plate 76

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**THE PIT**

**NOW ON SALE**  **AT ALL BOOK STORES**

**AND THE PENDULUM**  
By **EDGAR ALLEN POE**

*Plate 76 A* *HEBERLING*



### Glass Gilding

Glass gilding is a very interesting subject, and, with a little practice, can be mastered by anyone who can draft a letter. Numerous beautiful effects may be produced and the aspirant can originate ideas according to his artistic ability as he becomes acquainted with the processes used in producing them. However, we will not discuss the more elaborate styles at present, but will confine ourselves to the plain gold letter with black outline and shade and the plain gold letter with blue varnish outline, the latter being used extensively in the larger cities for hurried work but leaving no evidence of carelessness.

**211** First, the glass must be made absolutely CLEAN AND FREE FROM GREASE, using Bon Ami. Rub this off with a crumpled newspaper when dry and finish with a damp chamois. It is essential that the glass be free from grease inasmuch as water and grease will not mix in their pure state and the adhesive which holds the gold in contact with the glass is made with water as the base.

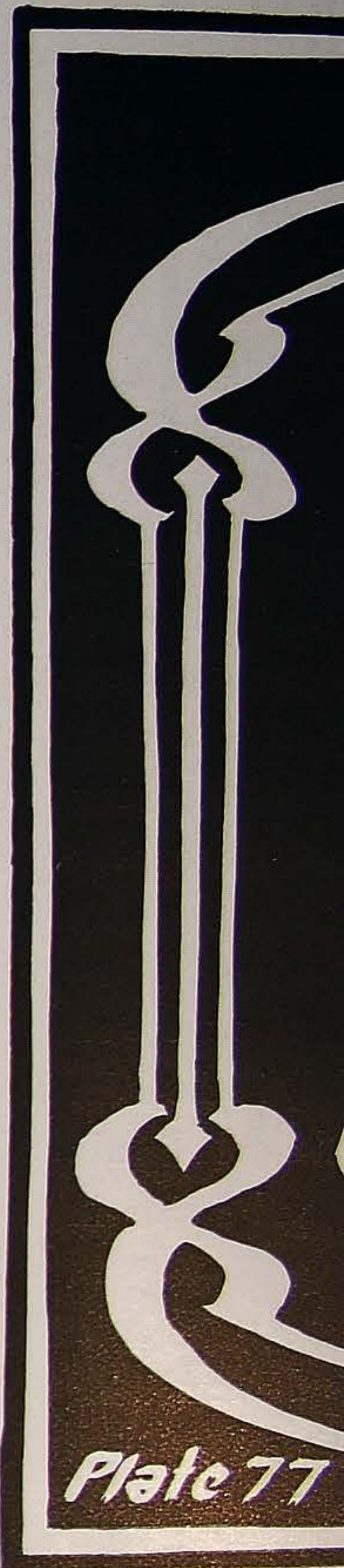
Now, rub the outside or face of the glass with this mixture: To one cup of vinegar add one teaspoonful of sugar and stir until the sugar is dissolved. Allow this to dry without wiping it. This bath leaves the glass in a condition which will enable one to write upon it with chalk as though it were a blackboard. Mark out

**212** the letters as accurately as possible, using chalk and line to make the long straight lines for top and bottom. An accurate lay-out assists in "backing-up," which will be explained later. A careless lay-out can not be gilded closely for the fact that allowance must be made for corrections; hence, a waste of gold.

**213** The lay-out having been completed, the work is ready to gild. "Water size" is used for this and is made as follows: Into a two-quart enamel pail, pour a pint of distilled water. Add to this seven No. 00 empty gelatine capsules. These are absolutely pure gelatine and are reliable and obtainable at any drug store. Set the pail on a stove or alcohol burner (see Plate 101, No. 27) and let boil for five minutes to insure dissolution of capsules. Add to this one quart of cold water, which will make the "size" just right for a good gild and a large job.

Do not keep water size over night. Make it fresh each time it is needed.

**214** Apply the "size" to the glass with a two-inch camel's hair color brush (Plate 100, No. 21), which must be used for this purpose only and be kept free from grease and dust. Keep it wrapped in paper when not in use. Commence at the upper



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Plate 77

left hand corner of the lay-out and flood on the size liberally, taking about one foot at a time. Take a book of gold-leaf (XXXX Deep for glass gilding is best, as it is heavier than that used in wood gilding and requires less patching), placing it on a piece of cigar-box lid or stiff cardboard a trifle larger than the gold-leaf book, keeping the stitched end of the book toward you. Open the book and turn the paper back to the desired width (see Plate 14-A, No. 1) and draw the point of the index finger nail across the exposed gold, using the edge of the turned back paper as a guide. Be sure that the nail is dry, as it will push the gold up in a bunch if any moisture at all is present. It is advisable to dip the finger into talcum powder before cutting gold leaf. This takes up any moisture that may be present.

**215** The camel's hair gilder's tip is used to transfer the gold from the book to the glass. Stroke it over the hair or face several times and then lay it flat upon the exposed portion of gold (see Plate 14A, No. 2). Now transfer it to the glass by laying the tip to glass quickly and in much the same manner in which it was lifted from the book (Plate 14-A, No. 3). Do not use the point of the tip, but the broad side is the proper side to use. Avoid wetting the tip as this causes the gold to split. See Plates 13 and 14. Gild a complete letter before going to the next one. Allow each successive portion of gold to overlap the preceding one about one-eighth of an inch. If a leaf is applied to the glass and insists on sliding, then touch the first finger to

the side of the nose, and by then touching it to the glass immediately under the truant leaf, it will stop just at the mark made by the finger. When half way through the gold-leaf book, reverse it to save handling the blank leaves, which by this time will have become bulky.

After covering the lay-out well with gold leaf, let it dry. Do not mind the wrinkles as they will all have disappeared in the drying process.

The drying process takes about one hour, according to the weather conditions. Never try to pick up more than half a sheet of gold at a time, as no time is saved trying to gild full sheets. For lines of lettering three inches high or less, gild solid, paying attention only to top and bottom lines and starting and stopping point. (See Fig. 9, Plate 14.)

**216** The gold having dried, use a wad of absorbent cotton about the size of an orange, compress it slightly in the palm of the hand and then, with a circular motion, rub the gold lightly removing all that is loose. This also burnishes and assists in making a bright gild. (See Plate 14A, No. 4.)

**217** The work is now ready for patching. Take the remaining "size" and add its equivalent of water. If there should not be any left, mix a size using one-quarter the amount of capsules



PLATE 78 "LIGHT FACE POSTER"

Capitals

A B C D E F G H I J K L M

N O P Q R S T U V W X Y

Z & 1 2 3 4 5 6 7 8 9

BOSTON-PHILHARMONIC

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to the same amount of water, as only a very weak adhesive is required for patching, some of the first size having dried on the glass. This second size moistens that which was applied first and makes an adhesive adequately strong for the patching process.

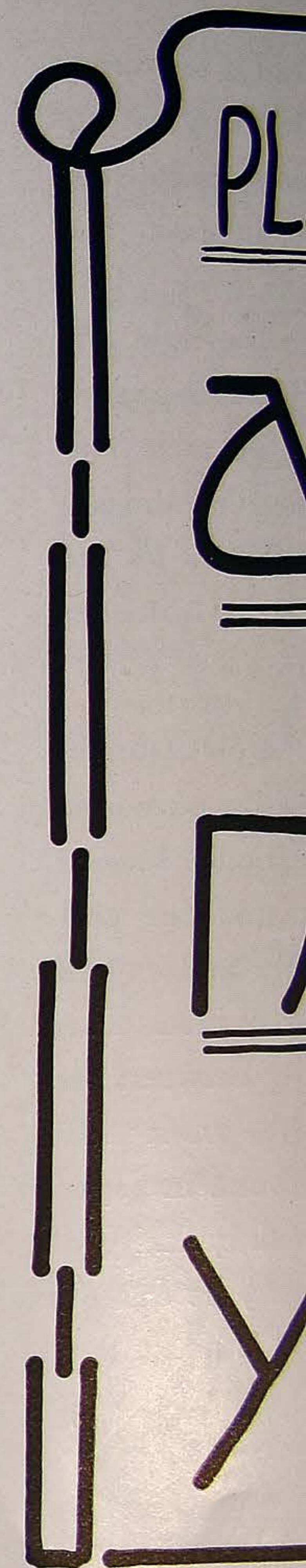
**218** If there are more than one line of letters, begin at the top line and flood about one and one-half feet with as little brushing as possible. After patching this with small squares of gold where necessary, descend to the next line and repeat the operation until the bottom line has been finished. Then go to the top again and repeat. If patching an entire line is attempted, the size running down over the lower lines of letters will leave them streaked.

Again let the work dry thoroughly, after which rub down with cotton, removing all loose particles of gold.

**219** "Backing up" is the next process. (See Plates 13, No. 2, and 14A, No. 6.) This means painting on the gold the lettering or design. Scratch the top and bottom lines through the gold with a knife blade. This makes a very fine line and assists greatly in establishing a top and bottom line. Avoid cutting through round letters which extend above and below the lines. Brushes used for this work should be French camel's hair letterers, Nos. 5 and 7 (see Plate 100, No. 20), these being the

favorite sizes for ordinary work. "Backing up" color is made by breaking up lamp black ground in Japan in quick rubbing varnish, and this is thinned with a very little turpentine. Turpentine, if used too freely, causes brittleness. Do not use drop black, as it is transparent and makes a very poor backing. In the absence of rubbing Varnish, Japan gold size may be substituted, but this has a tendency to "gum up" the brushes owing to its powerful drying qualities, and this should be used only in an emergency and for hurried work. The chalk lay-out will show distinctly through the gold and is followed closely in "backing up." See pounce patterns for pounce pattern method of "backing up." Sometimes, on very dark days, it is best to use the pounce pattern method. Do not attempt "backing up" without a rest stick. A rest stick is a very valuable asset in this work, and, besides resting the hand, it keeps the hand from the glass. See Plate 5C, Nos. 3, 4, 5, 6 and 7.

**220** The "backing up" completed, let it stand for about two hours, which insures drying in weather suitable for glass work. Drying may be hastened by rubbing dry aluminum bronze over the backing when it has dried to a perceptible tack; i. e., when slightly sticky. In this way it is possible to clean off surplus gold in one hour. Avoid hurrying, if possible, as cleaning too quickly frequently tears up the edges and the letters will have a ragged appearance.

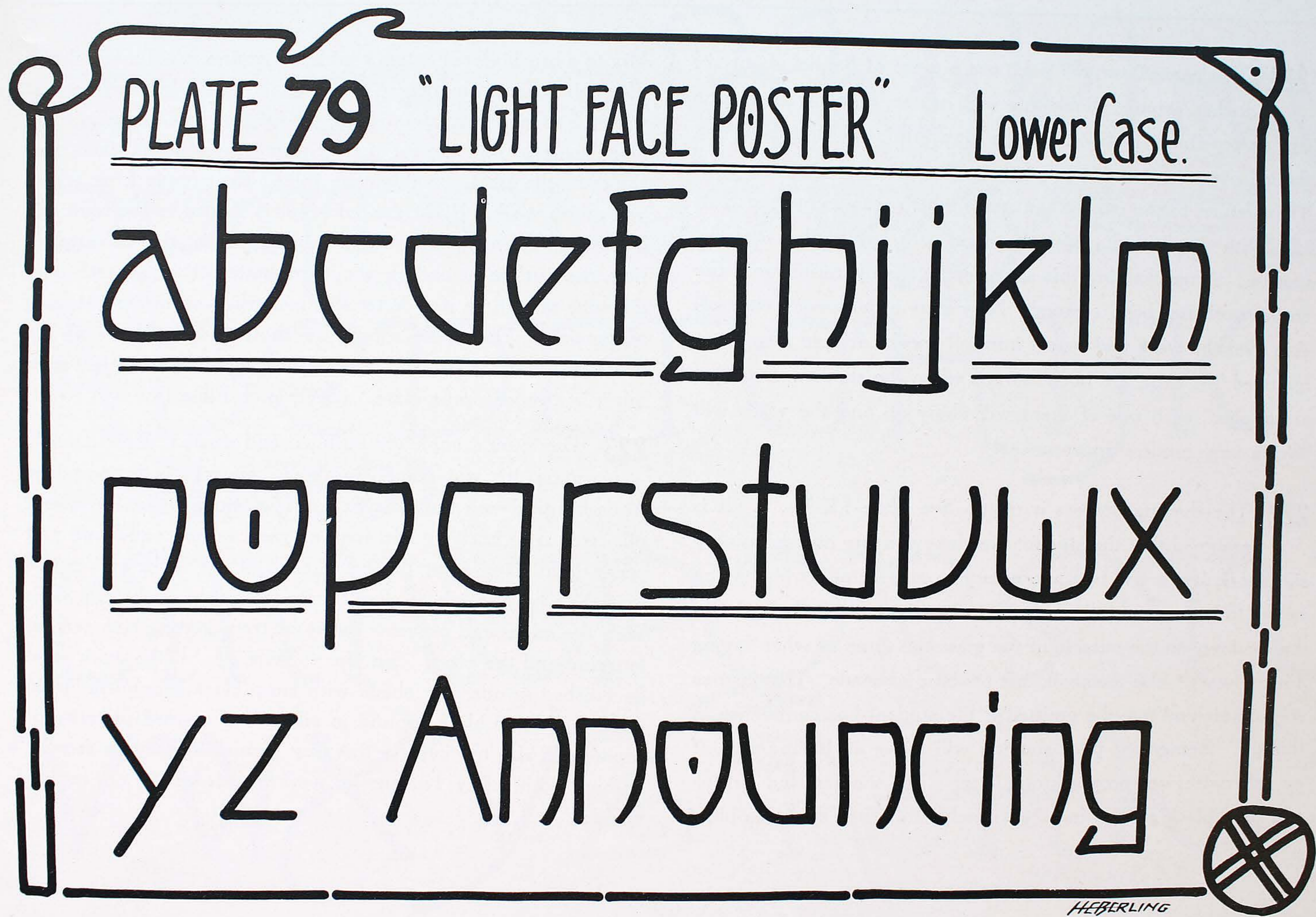


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PLATE 79 "LIGHT FACE POSTER" Lower Case.

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Announcing



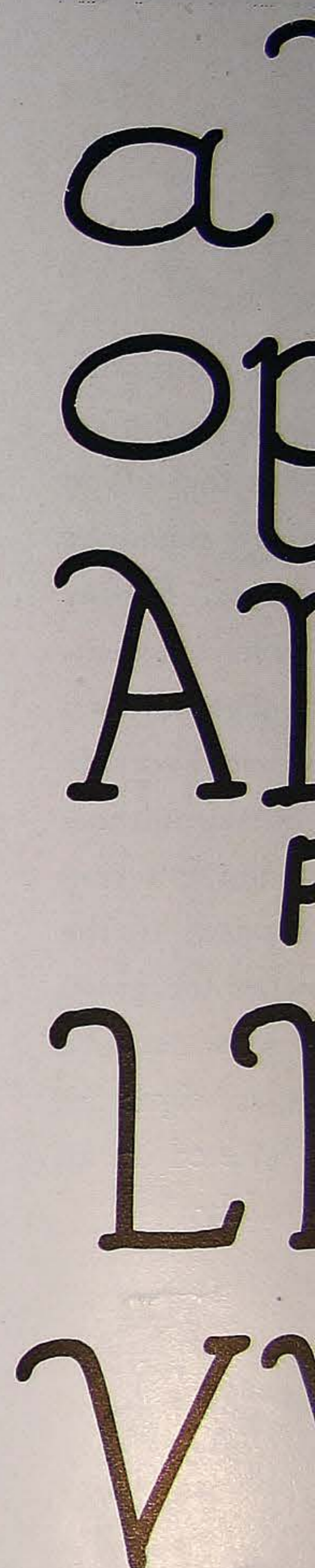
HEBERLING

**221** To clean off surplus gold, use a piece of flannel about six inches square. Soak this with water; then wring out as dry as possible. Rub on a little Bon Ami and then pass the flannel over about one foot of the lettering to moisten the gold. Then return to the end of the space which was dampened first, and, with the flannel under the hand, rub lightly in a circular motion. After cleaning this spot, repeat the operation until the entire work has been cleaned. Now pass a dampened chamois skin over the work and repeat until all specks of gold have been removed. If these are not removed when the shade and outline are applied, each one of them will show up and the work will have a very careless appearance.

**222** The shading process is next. See Plate 13, No. 3. It is assumed that the student has done shading on preliminary sign work and it will be unnecessary to give detail as to shading except to bear in mind the rule of perspective. With chalk sketch the shadows on the outside of the glass the same as when laying out the work. Use the chalk line for base of shade. This insures correctness and may be omitted if the student has confidence in himself. Remember poor shading will make an incongruity of an otherwise well-proportioned letter. For shading and outline use lamp black ground in oil enriched with a little Prussian blue.

Mix to a brushing consistency with turpentine. Add a few drops of coach Japan to harden. Always shade to the left and bottom with the exception of right slanted script, and sometimes in trade mark reproduction the artist is required to make an exact facsimile of the label. In this case, follow the sample from which you are to work. Right slanted script is shaded to the right and bottom. The shade and outline are executed at the same operation, the outline extending about one-sixteenth of an inch over the edge of a three inch letter and increasing on larger letters in proportion. The shade should be about three-quarters of the width of the letter stroke. This may be varied in some instances but it is a good approximate. (See Fig. 4, Plate 14.)

**223** The letter completely outlined and shaded, allow it to remain this way for about three days for drying purposes. Then varnish with the following: Two parts fat boiled linseed oil, two parts best outside spar or gear varnish, and one part Japan gold size. Coat the entire back of the letter and extend over the edge of the letter about three-sixteenths of an inch. This seals the edges and prevents moisture from getting between the lettering and the glass. See No. 4, Plate 14. If the work must be finished in one day, shade with lamp black ground in Japan instead of lamp black ground in oil, adding a small quantity of Japan gold size to bind. In this way varnishing may be done in an hour with safety, but hurried work of this kind is not recommended.



a b c d e f g h i j k l m n  
o p q r s t u v w x y z ϕ ☐  
A B C D E F G H I J K

**PLATE 80**

L M N O P Q R S T U  
V W X Y Z North \$

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**224** The blue outline method is executed in the following manner: After surplus gold has been removed from the lettering, use the above varnish mixture colored very deeply with Prussian blue ground in oil. Add a little gold size to offset the slow-drying propensities of the blue. The outline should extend about one-quarter of an inch over the edge of the letter. (See Fig. 2, Plate 13.) This is about the correct proportion for a six-inch letter and may be increased for a larger letter and diminished for a smaller one. Additional varnishing is eliminated as two birds are killed with one stone. Reds also may be used in varnish in the same manner as blue.

**Remember These Points:**

Keep gilding materials away from grease and dust. Avoid handling gold in a draft. Clean glass is essential for a clean job.

Speed comes with experience. Never use a squeegee, ammonia, soap powders or soap of any kind in cleaning gold lettering on glass, as they all contain alkali, which will neutralize the oils in the "backing up" colors, thereby forming soap. A few cleanings with soap will remove everything. Use clear water only. Follow it with a wet chamois skin. Do not work on glass which is sweating. The electric fan is often used to good advantage to keep windows dry while the artist is working on them, but favorable weather beats any artificial method. When the outside atmosphere is very far below the freezing point, gold window lettering should not be attempted unless the window is exposed to the sun, as the water size will freeze as soon as it touches the glass. A tablespoonful of grain alcohol added to a pint of water size will make the size less susceptible to frost. Plate glass signs are lettered by the same process as windows, but are lettered on an easel in the studio and may be done at any time safely.

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abcdefghijklmnopno

PLATE 81

pqrstuvwxyzZ

abgrrsstss

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## Silver Leaf on Glass

**225** Silver leaf is handled in the same manner as gold leaf, except that a badger hair tip is used instead of the camel's hair tip. Silver leaf is heavier and the hair of the badger handles it nicely. Do not use the badger tip for laying gold leaf. It will split the leaf and it will hold the gold too harshly. The camel's hair tip is too delicate for silver leaf.

The water size for silver leaf should have four more gelatine capsules added to the quantity of water used for gold. Silver leaf needs a stronger adhesive.

The pounce pattern is used (see Plate 12) in "backing up" silver leaf. Shading and backgrounds are also used where desired.

Never use silver leaf on board signs or signs which are to be varnished. It is adaptable only to glass signs. Aluminum leaf is used for exterior signs where silver is desired. It is durable either with or without varnish covering it.

Silver leaf is less costly than gold leaf and the sheets are larger. The size of the sheet is  $3\frac{3}{4}$  inches square.

### "Backing-Up" Color for Gold and Silver Leaf on Glass

**226** Formula No. 1. Quick Drying. Lamp black ground in Japan, mixed with quick rubbing varnish to brushing consistency. Use turpentine very sparingly.

Formula No. 2. Very Quick Drying. Same as Formula No. 1, except substitute Non-Pariel Japan gold size for the rubbing varnish.

Formula No. 3. Slow Drying. Should dry twenty-four hours before cleaning surplus gold. For work where the price will permit more than one trip to the job, using finishing varnish to mix the lamp black and thin with a very little turpentine.



A B C D E F G H I J K

L M N O P Q R S T

U V W X Y Z & ε &

1 2 3 4 5 6 7 8 9 0

**PLATE 82**

*HEBERLING*

### Convex Effect on Glass

**227** Fig. 1, Plate 36, shows letter "K." Small dots show parts of letter which are pale gold. Parts for pale gold are varnished with a light coat of white Damar varnish and Japan gold size, half of each. Add to this a liberal pinch of pulverized sugar of lead. Be careful in applying this so as to avoid "runs" in the varnish. When this has been finished and dry, gild the work with lemon gold and "back up" the light portions, not the entire letter. When dry, clean off surplus, then gild the remaining parts of the letter with XX gold and back up the entire letter.

**228** Where two light planes come together, as at the top of "K" and right of top of "K" (for example see X), do not varnish so that these planes join. Instead, leave a faint line of glass showing between them. When the deep gold is applied it fills up these spaces and leaves a light between two shadows which is desirable. The same applies to where two dark planes come together, as at O, except that instead of leaving the plain glass to show through, the varnish mixture is applied to the lines and "backed up" in lemon leaf. This leaves a light between two dark planes.

See Convex Alphabet, Plate 34.

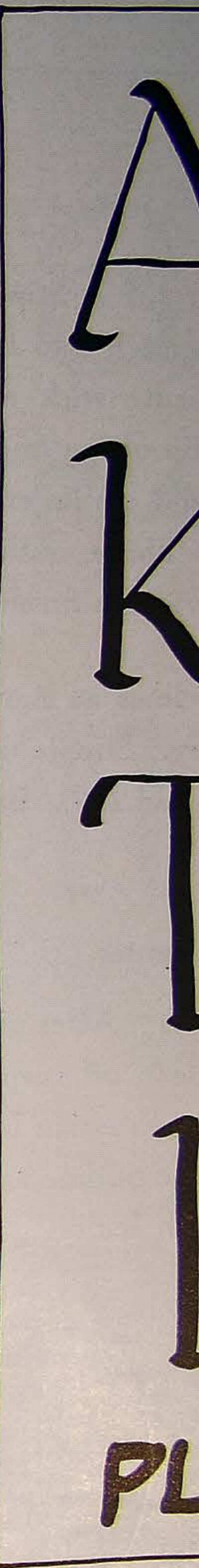
### Concave Effect on Glass

**229** The same process is used as in convex, except the gold is reversed. The lemon gold is to the left sides and bottoms of letters and the deep gold is to the tops and rights of letters. See Fig. 2, Plate 36.

**230** Convex and concave effects also may be made by outlining letters first in lamp black ground in Japan thinned with rubbing varnish. The centers are then treated with the varnish mixture as stated in Paragraph 238, and while the varnish is "tacky," apply the lemon gold to it, as in wood gilding. See Plate B. The next operation is to gild the letter with XX gold, using "water size" and "back up." When dry, clean off surplus gold and shade outline or finish as desired.

### Convex or Concave Effect in One Gild

**231** Apply varnish mixture to glass as in Paragraph 232. When dry, gild with XX gold or lemon. The varnish gives the convex effect by changing the shade of the gold, which is in contact with the varnish. The varnished part is dull or matt, while the gold touching the clear glass is burnished, its lustre being unobstructed by the film of varnish.



A B C D E F G H I J

K L M N O P Q R S

T U V W X Y Z &

1 2 3 4 5 6 7 8 9

**PLATE 83**

*HEBERLING*

**Matt Center in One Gild**

**232** No. 3, Plate 36, broken outline, shows the lay-out on glass which must be accurate. Dotted portion inside shows a mixture of gold size to which has been added a pinch of pulverized pumice stone. This is applied evenly and parallel to the lay-out lines, leaving space as shown, between the varnish and the lines of lay-out. Do not attempt to stipple this. The pumice gives the desired effect. Allow this to dry. Gild the entire letter with XX gold and "back up" to the lay-out lines covering the entire letter. The varnish gives a matte center to the letter, while the outline will be in burnished gold.

No. 4, Plate 36, broken line, shows the lay-out. Black heavy line shows high-light, which is applied to glass before gilding. Use pumice stone gold size mixture as in Paragraph 227. When dry, gild with XX gold and back up letter as in plain gilding explained in Paragraph 219. A burnished gold letter with a matt high-light is produced.

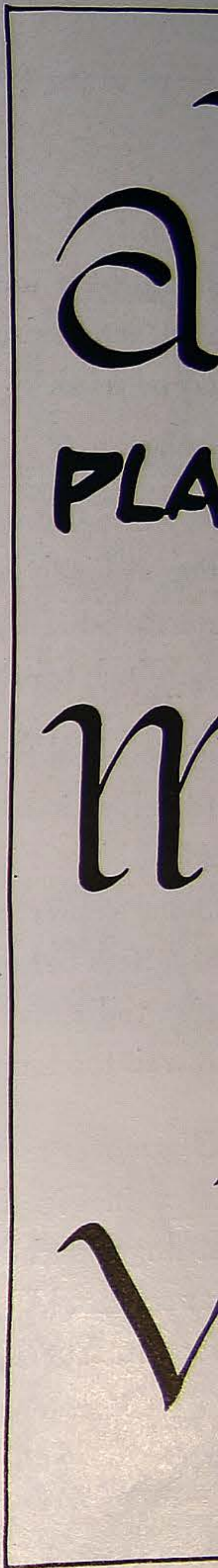
**233** No. 5, Plate 36. Gild outline and "back up" as shown by heavy outline around letter. When dry, clean off surplus

gold and apply varnish mixture. (See Paragraph 227.) Stipple entire center. When this has set (not dried), scratch into this coating the scrolls, with an orange wood manicure stick and apply XX gold to the spots indicated, using the tip of the finger and pressing it into good contact. When dry, gild entire letter with lemon leaf, using water size and "back up." Shade, outline or finish as desired. See Plates 51, 53, etc., for various finishes.

**234** No. 6, Plate 36. Gild and "back up" all lines as shown with XX gold. Clean off surplus when dry. Stipple center and gild with lemon leaf as in Paragraphs 238 and 239. Back up and finish.

**Double Gild Burnish Outline and Matt Center**

**235** Plate 14, Nos. 5, 6, 7 and 8, shows processes. After gilding and backing up outline as in No. 5, clean off surplus gold as in No. 6. Put in fine inset line of carmine, Prussian blue or burnt Sienna. It should lap over a trifle onto the outline as in No. 7. No. 8 is stippled ready to be gilded with lemon gold. "Back up" and shade, outline or as desired.



abcdefghijklmnop

PLATE 84

qrstuvwxyz

vwxxyz \$ % & ! @

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## Ornate Effects for Gold on Glass

Plate 37 explains method for producing a very pleasing effect on glass signs or for direct window lettering. See Fig. A, which shows the completed letter and various color values; also color explanation at right of Plate 37.

**236** The first process for this work is to gild the top half of the letter solidly and gild the outline of the lower half. See Fig. B. The gilding is done as explained fully in Paragraphs 211 to 219. Fig. C shows the "backing up" of the outlines and filigree. All "backing" shown in this figure represents burnished gold showing on the opposite side or the side from which the finished work is viewed. Clean off the surplus gold when "backing" has dried hard and it leaves the work as shown in Fig. D, which is now ready to receive the colors. Use colors ground in Japan thinned with gold size only, but do not plaster the paint on heavy as it will cause trouble later. It is only necessary to have a thin film of colored gold size rather than a heavy bodied mixture.

**237** Fig. E shows letter after colors have been placed and "inset" line inside of lower half of letter. This line should not be too wide. For a letter six inches high, a sixteenth of an inch line would suffice, and reduce for smaller letters. Allow this to overlap the outline when applying it, making it easier for the

student to follow the line, and then, too, there should be a uniformity in the line's width. Gold size just colored sufficiently with color to make a semi-transparent glaze should be used.

**238** When colors are dry, go over the entire inside of letter (lapping onto outlines a trifle) with one-half white Damar varnish and one-half gold size, to which add a liberal pinch of pulverized sugar of lead. Apply with camel's hair brush. Do one or two letters; then stipple the varnish with a half-inch bristle

**239** fitch, which has been cut off leaving one  $\frac{1}{4}$ -inch of bristles at ferrule. By stomping the applied mixture before it sets with this short brush, a pebbled or roughened surface (see Fig. F) is made, which imparts an embossed effect to the center of the letter. Do not wait to stipple an entire line of letters before stippling. They would dry too hard for an impression to be made with the bristle brush. Better do it too soon than to wait too long.

While the stippled surface still retains a "tack," go over each letter, applying spots of XX gold to spots indicated in Fig. F, lower portion. Apply this with the tip of the first finger and do not attempt to make them regular. The appearance should be irregular and the edges of the spots are not smooth, but are ragged, which is desired.

a  
NO  
ab  
pc

PLATE 85

A B C D E F G H I J K L M

N O P Q R S T U V W X Y Z

a b c d e f g h i j k l m n o

p q r s t u v w x y z & 111

HEBERLING

### Ornate Effects for Gold on Glass

**240** Allow to dry for an hour or two, then with water size gild the entire letter with lemon leaf. This produces the matt and fills up the spaces at the top of the letter, which were left open. Do not get too much color in the top spaces. Leave sufficient open space to make about half of the spaces various colors, while the remaining half would be filled in with lemon gold. The work, when dry (which should be about one hour), is "backed up" with the mixture as stated in Paragraph 226. When this dries (about two hours), clean off surplus gold and work will appear as in Fig. G.

The work is ready for the shade, outline or finish desired by the worker. See Plates 51 and 53.

#### Color Explanation

- 241** No. 1 suggests a light blue, light green or pink.  
 No. 2 suggests reds, browns or maroons.  
 No. 3, stippled and gilded with lemon gold.  
 No. 4, ultramarine or Prussian blue.  
 No. 5, used as inset line in lower half of letter. May be carmine, emerald green, Prussian, ultramarine or Colbalt blues.  
 No. 6, spots of XX deep gold.  
 No. 7, matt lemon gold center.  
 No. 8, burnished gold.  
 No. 9, zinc white.

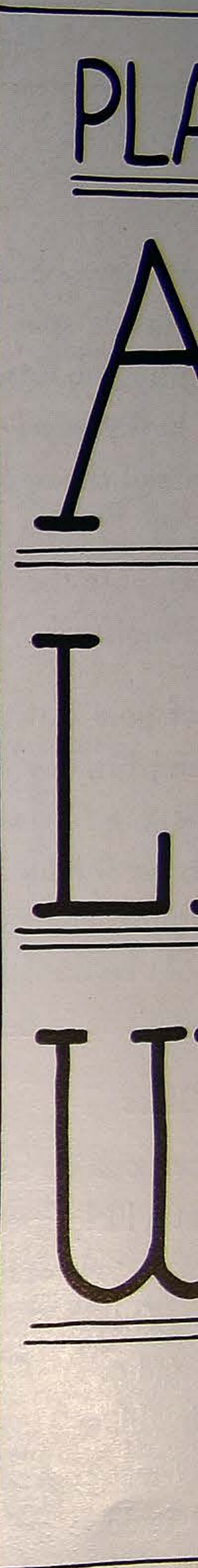


PLATE 86 ECCENTRIC POSTER Capitals.

A B C D E F G H I J K

L M N O P Q R S T

U V W X Y Z & \$ ¢ ?

HEBERLING

## Transparent Signs

Signs of this kind are used where it is desirable for a sign to read both day and night. They can be made in endless variety, a few of which will be explained, the fundamental principles being the same in all.

A sign with outline of letters in gold, centers of the letters transparent white and background black or other dark colors, would be executed in this manner:

**242** Gild and "back up" the outline as directed in Paragraphs 211 to 219. See Plate 14, No. 5. When dry, clean off surplus gold and paint in the background, using colors ground in oil, to which has been added sufficient rubbing varnish to render it workable. A few drops of turpentine may also be added, if necessary. If the color used is other than black, it will not cover in one coat and will show brush marks unless it is "stippled." "Stippling" is done in this case by patting the paint with a pad made by wrapping cotton in a piece of cheesecloth. After this stippling has been done, a pebbled appearance is the result. Do not paint the entire background before "stippling," as the color "sets up" quickly and will not "stipple" properly. Paint about a foot or so at a time, "stippling" this, and repeating until the entire surface has been covered. Remember it is not necessary to "stipple" black.

After the background has been finished and is dry, a coat of white lead mixed with a good grade of gear or outside spar varnish should be applied over the entire sign, excepting about one-quarter inch all around the outside edge. The background, letters and all, are now "stippled" with clean cotton and cheesecloth pad. Several days should be allowed for this to dry. Then varnish the entire panel and run over one-quarter inch onto the clear glass, which seals the edges from water or other moisture.

**243** Colors may be used for outlines instead of gold leaf, and in this case do all outlining of letters and ornament in Japan colors mixed with rubbing varnish. Thin with a few drops of turpentine. These outlines will dry sufficiently in one hour to permit the background to be applied. The background color may also be in Japan colors, but the final coating should be oil colors. See Figs. 1, 2 and 3, Plate 12, which explain operations in detail.

### How to Mix Colors for Panels on Glass

**244** Clear glass has a tendency to impart a green cast to colors applied to it. Always mix colors and paint a little spot on the glass before using, black and dark colors excepted, delicate tints being most susceptible to this condition. Oil colors are more elastic than Japan colors and will contract and expand with the glass without breaking the paint film, but in this day speed is required and Japan colors are resorted to. Most merchants having sign work done on their windows, want it done quickly.

PLA

a

n

Z

PLATE 87 ECCENTRIC POSTER

LOWER  
CASE

a b c d e f g h i j k l m

n o p q r s t u v w x y

z 1 2 3 4 5 6 7 8 9

HEBERLING

## Transferring

**Photos, Oil Colors, Drawings, Lithographs, Newspaper Cuts, Labels, Engravings, etc., to Glass**

**245** Varnish the clear glass with a mixture as follows: Two ounces of balsam of fir, one ounce of turpentine, and put away to dry where it will be free from dust. Take the photo or whatever is to be transferred, and lay it in clear water until it is thoroughly saturated, say about ten minutes. Then lay it on a newspaper which will absorb the surplus water. Now varnish the glass surface again and immediately place photo on the varnished surface, pressing down all over to exclude all air and water, rubbing the back of the paper until it is rubbed so thin that it is transparent. Then varnish a third time with the same mixture, finally varnishing with a good grade of spar or floor varnish.

### Fastening Pearl to Glass

**246** After gilding has been done and it is desired to fasten pearl to centers of lettering, break the pearl into proper size, and, with a clean camel hair pencil and a little white damar varnish to which has been added a little Japan gold size, coat in the space that the pearl is to occupy, running over the edges just a trifle. Now place the pearl in the position wanted and press it carefully,

fitting pieces together as closely as possible until the opening has been covered. When the varnish is dry and the pearl has become firmly attached, with a mixture of flake white tinted with some black to a pearl gray, coat the pearl, covering all openings.

### To Make a Double Ogee

**247** See No. 4, Plate 48. Use a piece of paper a little larger than the size the design is to be; double the paper, making half the design. Run tracing wheel over the lines while the paper is doubled. When this is opened it will give full design. Another method is shown in diagram, Plate 48, No. 5. Half the design is cut out of cardboard and the line C-D is drawn for the center. When one side has been completed, the pattern is held in the center and the end at point E is just reversed and occupies the space shown by dotted lines.

A chalk line snapped across the panel as shown at A-B will assist in getting proper register.

### To Clean Pencil Drawings

**248** Ordinary wall paper cleaner may be used for cleaning pencil drawings or colored sketches. Rub them lightly.

A

W

V

12

PLATE 88

A B C D E F G H I J K

L M N O P Q R S T U

V W X Y Z & & ||| ≡ ≡

1 2 3 4 5 6 7 8 9 \$ ¢ ?

HEBERLING



**To Quickly Make a Five-Pointed Star**

**249** Strike a circle the desired size of the star. See Figs. 1 and 2, Plate 54. Draw line A-B, bisecting circle, C-D quartering upper half, bisect line C-B by setting the compass so that it will be a little more than half, place it at point C, making a line E to F; then placing compass at B, strike line G to H; then draw line I to J; place compass point on K, and set it to radius from K to D, and strike segments D to L; place point of compass at point L, and set it at a radius to D, then strike off D to M, M to N, N to O, and O to P, drawing the star as indicated in Fig. No. 2.

**To Draw An Octagon**

**250** See diagram No. 4, Plate 54. Draw line A-B, as shown in diagram, line C-D; connect line A-B and C-D with vertical lines. Place compass point at A, set at a radius of one-half the distance from A to D, and strike arc 1 to 4. Set compass at point B, and strike arc 3 to 6; set compass at point D and strike arc 5 to 8; set compass at point C and strike arc 2 to 7. Connect arcs 1 and 8, 7 and 6, 2 and 3, 4 and 5.

**Glass Polishing**

**251** Calcined magnesia rubbed to a paste with benzine is exceedingly fine for polishing mirrors and glass surfaces. When not in use, it should be kept in a bottle tightly corked. It is applied with a soft cloth and polished with another clean cloth.

**Etching on Glass With Acid**

**252** Caution. Hydrofloric should be handled with great care as burns from this acid are very severe and difficult to heal.

Make pounce pattern of design and pounce it onto the glass. "Cut in" the background with best grade asphalt varnish. When this has dried, go over it again with asphalt to insure the covering completely of the glass which is to be protected from the Hydrofloric acid. A dam of beeswax and paraffine, which have been melted together and allowed to become sufficiently cool so as to be handled like putty on a putty knife, is put around the entire glass to a depth of about one-half inch. This is to keep the Hydrofloric acid from running off. This acid should etch sufficiently deep in about one to two hours. When finished, the lettering or design will appear to be frosted, leaving the background as it was. If it is desired to etch the background, reversing the process and covering the lettering and design with the asphaltum mixture, leaving the background open, will produce clear letters and etched backgrounds.

**CHIPPED GLASS**

**253** Proceed the same as etching. After the glass has been etched, wash it with clear water. Allow to dry. Then apply a coat of Irish glue on the same side of the glass which has been etched. The drying of the glue chips the glass, as the etched portions are rough and furnish a surface to which the glue attaches itself, and in the process of drying the glue chips off the particles which have been etched.

a

m

w

PLATE 89

abcdefghijklmnopqrstuvwxyz

mnopqrstuvwxyz

wxyz Special

HEBERLING

**Imitation Chipped Glass for Centers of Letters**

**254** Outline the lettering in gold leaf XX deep (see Fig. 1, Plate 54A). With a piece of waxed paper twisted as shown in 2 and 3, proceed to put in the marks shown in center of the letter by dipping the paper into a mixture of equal parts white Damar varnish, Japan gold size and Balsam of Fir, which has been dropped onto a palette or piece of glass. The impressions should be filled up closely. Allow this to dry to a good "tack." Then gild the spots only by applying XX deep gold leaf to the spots, the same as in wood gilding, rubbing off any surplus with cotton. Now coat over this and entire open portion of the letter with the same mixture as was applied with the paper. This is stippled with a small bristle brush which gives a rough appearance. Allow this to dry hard. When hard dry, gild with lemon leaf, using water size, and when dry back up same as in Paragraph 219.

**Drilling Holes in Glass**

**255** Grind an old four-cornered file until it is the size and shape shown in Fig. 4, Plate 54A. Use it in an ordinary brace or breast drill, keeping the drill wet with kerosene or turpentine. Do not use much pressure—slightly more than the weight of a small breast drill being sufficient. Drills may be made smaller or larger as work necessitates.

**Transfers for Glass**

Make these in quite the same manner as they are made for wood (see Paragraph 198), with the exception that common gummed paper only is used. The design is first painted on the gummed paper and transferred directly to the glass in the following manner:

**256** Place against the inside of the glass and fasten with gummed stickers. Go to the outside of the glass, and with a glass marking pencil, trace the outline of the outer edge of the design so as to be sure to get the design in exactly the same position later. Now remove the transfer from the glass. Wash the glass with whiting and water and polish with tissue paper or a clean cloth. Now outline with a fine line of black or any opaque or semi-opaque color. Be sure to keep to the outer edge of the pencil marks. When this outline is dry, fill in the entire space with white Damar varnish, to which has been added one-quarter of its bulk of Japan color size. Allow this to dry to a very strong "tack." Then lay on the transfer, being positive that it is exactly in the proper position. With a roller, such as used by paper hangers, roll down the entire transfer to insure complete contact. Allow this to remain for one hour. Then thoroughly saturate the transfer with water, which will remove the paper. The next day coat back of the design with white lead mixed with a good grade of spar or gear varnish. Finally coat entire back, allowing the varnish to go over the edge of the design and onto the clear glass about one-quarter of an inch. Use spar or gear varnish for this purpose.

A B C  
W X Y  
S T U  
G O T

PLATE 90

ABCDEFGHIJKLMNOPQRSTUVWXYZ?  
WXYZ& abcdefghijklmnopqr  
stuvwxyzzy ||| 7777 Price 50 |||  
GOTHIC ||| ||| GOTHIC

HEBERLING

## Aluminum Bronze on Glass

This process is used as the most economical of window lettering. Unlike gold leaf lettering, it is done on the outside of the glass and makes a very durable sign. The lettering is laid out with chalk or the pounce pattern may be used. An advanced sign artist would lay the work out directly on the glass, but the student should try both ways. See Paragraphs 260 and 261 and Paragraphs 211 and 212.

**257** After the lettering has been laid out, size the lay-out with a mixture of Spar Varnish and Japan Gold Size, equal parts, and add sufficient zinc white to give it body. Use very little turpentine for thinning. Black sable brushes are best for this work, but camel's hair will do.

When this dries so that it will not stick to the finger when touched but is still "tacky," "rub on" dry aluminum bronze powder directly onto the "size," using a powder puff (such as sold for face powder), or a piece of canton flannel or velvet, dipped into the dry bronze. Rub in a circular motion, and if any little particles of lint from the flannel or whatever is being used, appear, just continue to rub until they disappear. The rubbing should be thorough so as to get the "size" rubbed full of the bronze.

The bronze may adhere to the glass around the letters, but this need cause no worry as a dampened chamois skin passed over the work will remove all loose bronze and will not disturb the lettering.

The letters should be outlined with one of the colors mixed as follows: One teaspoonful white lead ground in oil; one teaspoonful Prussian blue ground in oil.

**258** Sufficient wearing body or Spar Varnish to work nicely with a camel's hair or black sable liner. See Plate 99, No. 4. A few drops of turpentine may be used for thinning, but the least turpentine used on any glass sign work the less brittle the paint will dry.

*For Green Outline*—Two teaspoonsful chrome green ground in oil, mixed with varnish as stated above.

*For Red Outline*—Two teaspoonsful permanent red ground in oil, mixed with varnish as stated above.

**259** Do not leave any space between the letter and the outline. The outline is painted directly onto the letter. This seals the edge and keeps water from getting in behind the lettering when windows are washed or from rain.

If the sign has an inscription of more than one line, it is better to use blue for outlining one line and alternate with red for the next line, etc.

Windows should not be washed with anything except water. Soaps, ammonia, soap powders, etc., will destroy the paint. No washing should be done for several days after lettering has been finished.



PLATE 91

A B C D E F G H I J K L  
M N O P Q R S T U V  
W X Y Z a b c d e f g h i j k l m  
n o p q r s t u v w x y z € \$ ? ! ~

HEBERLING

## Pounce Patterns

In the enlargement of trade marks, reproduction of packages and the better grade of glass lettering, the pounce pattern assists materially. It permits all the erasures and corrections to be made on the paper pattern, thereby keeping the surface to be lettered clean. It makes one drawing do for many where there is more than one sign to be made with the same inscription. The professional letterer uses the pounce pattern on high-grade work. Small pictorials are nearly always made from a pattern, and it is just as permissible for the artist to use the pattern in free-hand lettering as it is for a tailor to make a pattern for a suit of clothes. It requires ability to make the pattern.

**260** The best paper on which to make the pounce pattern is light weight and light colored manila, having sufficient tooth to mark upon with charcoal or lead pencil. However, for small designs a roll of old wall paper (using the back of the paper) can be used to good advantage.

## Bulletin Method For Repaint

**262** Lay out the work with chalk or charcoal. When correct, retrace the lines with the indelible pencil as shown on Plate 4B, No. 1.

No. 2 shows "break on" as it is called. White lead is mixed with benzine to the consistency of cream. Add two tablespoonsful of turpentine Japan to a quart of the lead mixture and "spot" the letters, covering them completely and extending beyond them

The pattern is made full size, and, when the lay-out has been made satisfactory to the letterer, he proceeds to re-trace the lines of the lay-out with a pattern wheel, see Fig. No. 2, Plate 101, which shows wheel. When all lines have been gone over, turn the paper over and sandpaper lightly with No. 0 sandpaper. This removes the pulp from the small punctures and allows the powder from the pounce bag to sift through readily.

**261** See pounce pattern on Plate No. 12; also No. 1 on Plate 15. The pattern is now ready for use. Place it in the proper position on the surface to be lettered, and, with a cloth tobacco bag or the leg of an old stocking filled with either powdered whiting or powdered charcoal (for dark colored surfaces use whiting; for light colored surfaces use charcoal). Dry colors may be used also. Rub over the entire pattern and sufficient powder will sift through to make a very visible outline of the design. A good method by which to place the pattern in the proper position is shown in Figs. 1A and 2A, Plate 12, and shows means by which pounce patterns may be registered perfectly.

to insure that no parts of them are missed. The borders and panels receive the same treatment.

This is repeated as soon as the first coat has set (not dry) as the benzine "sets up" quickly. The second is applied quickly with as little brushing as possible so as to avoid the disturbance of the first coat. No. 3 shows the indelible pencil marks as they burn through the white coatings, or, in fact, any light color.

No. 4 shows the work completed.



PLATE 92

abcdefghijklmnop

qrstuvwxyz \$ ¢ ?

ABCDEFGHIJKLMN

OPQRSTUVWXYZ&



### Cutting In Letter and Shade at Same Operation

**263** See Plate No. 52. No. 1 shows letter laid out with shade color "spotted" as it should be. No. 2 shows letter and shade "cut in." No. 3 shows the operation completed. The three letters should all be finished as shown in No. 3. No. 4 shows in-

correct perspective of shading. The white dotted line on the shades of No. 4 shows corrections as they should be.

No. 5 shows letter "laid out" with high-light. No. 6 shows letter colored, leaving white high-light. No. 7 shows job "cut in" and completed.

### Lettering on Japanned Tin Sign Plates

**264** Wrap the plate with ordinary wrapping paper. Make the lay-out on the paper while the plate is still wrapped. After the lay-out has been completed, remove the paper, and, on the reverse side from that on which lead pencil marks appear, rub with dry orange mineral, whiting or dry chrome yellow. Any of these will do. Rewrap the plate in the same position as before, being sure that the creases caused by wrapping are in exactly the same place as wrapped the first time. Now retrace the lay-out, using the lead pencil. This retracing makes an impression on the plate of the color used, and, after the lay-out has all been traced, unwrap the plate and the lay-out is ready for lettering.

The fact of the matter is that the rubbing of dry color onto

the paper simply made a paper similar to that known as carbon paper.

See Fig. 3, Plate C, which illustrates operation. "Size" with Japan gold size colored sufficiently with chrome yellow ground in Japan to make strokes show plainly on the dark surface. This will be ready for the application of gold leaf in three-quarters to one hour.

Shading and outlining should not be used on a sign of this kind, plain gold letters being the custom. However, aluminum or gold bronze powder are sometimes used for lettering. See Paragraph 257, which explains the use of bronze powders, and the same method is employed for Japanned tin plates, except that shading or outlining is omitted.

Plate



Using

ace

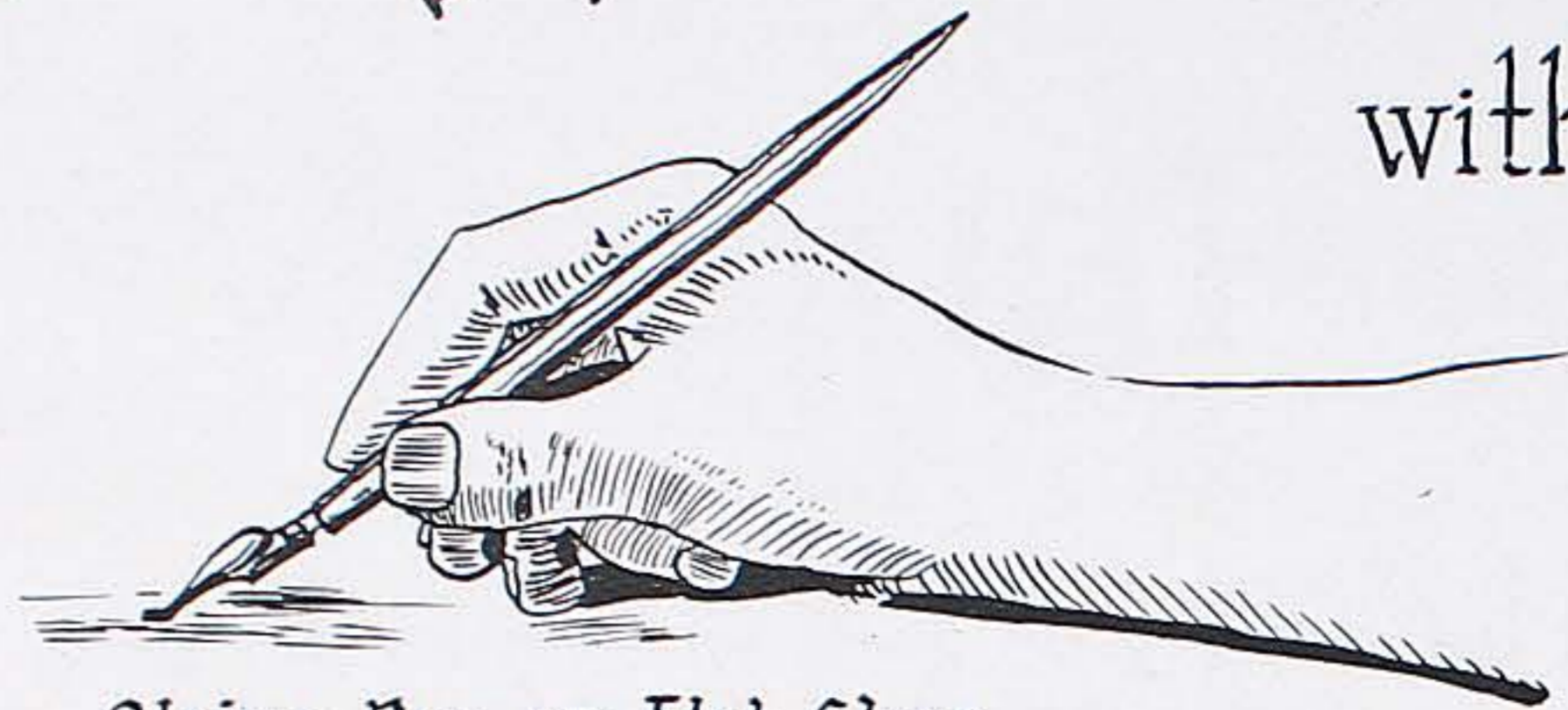
acs

Spe

abc

# Plate 93

Correct Position for Lettering  
with "Speedball" Style A Pens.



Using Pen on Flat Shoe



Using Pen on its Back

GROUP 'A'

GROUP 'B'

GROUP 'C'

a c e i m n o r s u v w x z | b d f h k l t t | g j p q y | A-C

a c s a c o u s t i c s ||||| a c | b d f h k l t | g j p q y | s s o

Speedball

Speedball

Speedball

NORMAL

MEDIUM LOW & HIGH

EXTREME

*a b c d e f g h i j k l m n o p q r s t u v w x y z* *A B C D E F G H I J K L*

## First Practice for Slanting

HEBERLING

## Embossed Panels

The board should have received the proper preparation as explained in Paragraphs 159 to 169.

Make pounce pattern (see Paragraphs 260 and 261) of the design and pounce it onto the board in the position the design is to occupy. Fasten it with push pins while pouncing is being done.

**265** With the following mixture "cut in" the entire background leaving the letters untouched: White lead mixed very stiffly with coach finishing varnish. Add a teaspoonful of Japan gold size. A very little turpentine is used for thinning, but the heavier this mixture is applied, conveniently, the better the result will be. See Plate 15, Figs. A, B and C. While this coating is *still wet*, cover it all with white sand. This sand should be dry and used in the same manner as smalt. See Paragraph 174. Dump this off and let dry over night. The work entirely dry, dust off any loose sand by going over it lightly with a painter's

duster, or a paint brush may be used which has not been used in paint.

**266** Cover the entire work with a thin shellac coating and allow a half hour for drying. When dry, "size" with "Sixteen Hour size." See Paragraph 181 for size formulas. "Size" over entire background, lettering and border, seeing that all parts are covered. Allow this to stand over night and gild solid with gold leaf. This makes a roughened background with smooth letters and ornament.

Letters are now done with lamp black mixed with very slow drying wearing body varnish. This makes a gloss black. Do not cover the entire letter, but leave an edge of smooth gold showing around each letter (about 3-16 inch), and the border will be entirely smooth gold.

The finished product will be black letters, smooth, or as it is called, a burnished outline. Background embossed gold. This makes a very beautiful effect and is also very durable.

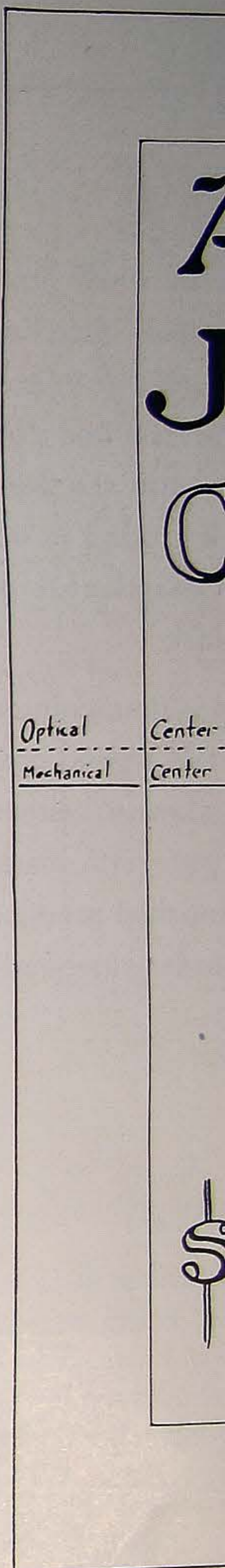


PLATE 93 A

Annual  
January  
Clearance

Optical  
Mechanical

Center  
Center

*Mens All Wool  
Winter Weight  
Suits and Overcoats  
Hand Tailored  
and Guaranteed  
Regular \$50 values*

NOW

\$25<sup>00</sup>

Latest

**FALL STYLES**

1926

Semi-  
Annual  
Clearance

Women's Suits  
in all the New and  
popular patterns and  
fabrics... To-day  
Your Choice for

\$19<sup>50</sup>

One Thousand  
Suggestions  
FOR  
Holiday Gifts

Our Departments are  
all adequately supplied  
with your Requirements  
May We Serve You?

HEBERLING

## Gold Panel Swing Sign

**267** This board is composed of three pieces. The main board is twelve inches wide by thirty-six inches long,  $\frac{7}{8}$ -inch thick. The panels are made of material, one-half inch thick, length, 30 inches, and width, 6 inches. Beveled one inch on face side to  $\frac{1}{4}$ -inch on edge, giving a very nice effect. See Fig. 6, Plate 54A.

The panels are fastened to the main board with  $1\frac{1}{4}$ -inch brads, and these should be "set" and holes filled with white lead and whiting mixed to a stiff putty. Allow this to stand over night and sandpaper with No. 1 sandpaper. Coat the entire board as explained in Paragraphs Nos. 159 to 169. When these coatings have all been applied, the entire board should have a thin coat of shellac.

## Gold Leaf For Gilding Outside When Wind Is Blowing

**268** Rub a candle on some good unruled writing paper. When the surface of the paper has all been gone over, cut paper about the size of the gold leaf book and lay them with the waxed side against the gold leaf, repeating until the entire book has been so treated. It is then ready to use and is as good as any of the commercial products.

Shellac will be sufficiently dry to work over in a half hour. Now "size" the panels only with "six hour size." See "Size Formulas," Paragraph 182. When ready, gild the panels with gold leaf. Make a pounce pattern, see Paragraphs Nos. 260 and 261, the exact size of panels, and pounce the lay-out onto the gold. This completed, proceed to letter with lamp black ground in oil, mixed with wearing body varnish, adding a teaspoonful of "Japan Gold Size." This mixture makes "gloss black."

Lettering should dry overnight and the board is then painted with a coat of lamp black ground in oil, to which add a good portion of white lead to give it body. Thin with varnish; either wearing body or rubbing will do. "Smalt" this border with black smalt. Paragraph 174 explains "smalting." The finished product will be gold panels, lettering black and a black border surrounding all.

### Lemon Gold Leaf (also Called Pale Gold Leaf)

**269** Never use lemon gold leaf for outside work unless it is to be protected by varnish. It is not pure gold, being mixed with silver, and will turn green and possibly a few more colors from oxidation. Gold leaf should never be varnished where fat oil size is used. When varnishing is intended, the size should be Japan gold size or rubbing varnish.

"Sin

AE

YZ

XY

S

"Single Stroke Roman." Popular with Show Card Writers. For Pen or Brush.

ABCDEFGHIJKLMNOPQRSTUVWXYZ  
YZ & abcdefghijklmnopqrstuvwxyz  
xyz 123456789¢\$%?!Roman

Special  
Today Only

These Ties

50¢

Holiday  
Suggestions

1921

Opening

Fall  
Millinery

=1921=

PLATE 94

### Lettering on Silk or Satin Banners and Pillow Tops

**270** Make a pounce pattern (see Paragraphs 260 and 261) of the design to be used. Stretch the fabric on a drawing board, using push pins to fasten it. If the fabric is dark, use dry whiting for pouncing. If fabric is light, use pulverized charcoal. Mix the whites of two eggs together and proceed to apply this to the lettering and all parts which are to be painted upon. A red sable brush is used for this. See Plate 99, No. 5. When this has dried, go over it again with the same mixture. This closes the cloth and stops subsequent coatings from soaking in.

**271** The parts which have had the egg treatment are then coated over with the following mixture: One teaspoonful lamp black ground in Japan; one teaspoonful rubbing varnish; thin to use with gasoline. Do not use turpentine, as it will cause the paint to spread away from where it is applied. When this has

dried (about two hours), "size" the lay-out with "six hour size." See "Size Formulas," Paragraph 12. Size should be colored with white or yellow to enable one to see the marks as one progresses. When "size" is ready, gild with gold leaf. Gilding is done in exactly the same manner as shown on Plate B and explained in Paragraphs 189 to 192.

If the design should be a lodge emblem and in colors, it is best to use Artists' Oil Colors in tubes. These should be thinned with a mixture of three-quarters rubbing varnish and one-quarter gasoline. Never use colors exclusively on this work, as it has a tendency to cheapen the effect. Use gold leaf liberally. Shading and ornament may be used with the same effect as on any other work. Red sable brushes of the size best suitable for the work are used.

### Designs on Bass Drum Heads

(Designs should not be painted on the side used for beating.)

**272** A pounce pattern is made and the design pounced with powdered charcoal or dry vermilion. Emblems are executed in color or gold leaf, or both. It is the custom to allow about one and one-half inches margin between the hoop of the drum and the lettering. In making the pattern, measure the

diameter of the drum between the hoops and take half of the diameter, less three inches, for the first setting of the compass. The head used for beating carries the name of the band around the edge of the head but nothing in the center. Artists' oil colors in tubes are used.

For gold leaf use same "size" as in Paragraph 182.

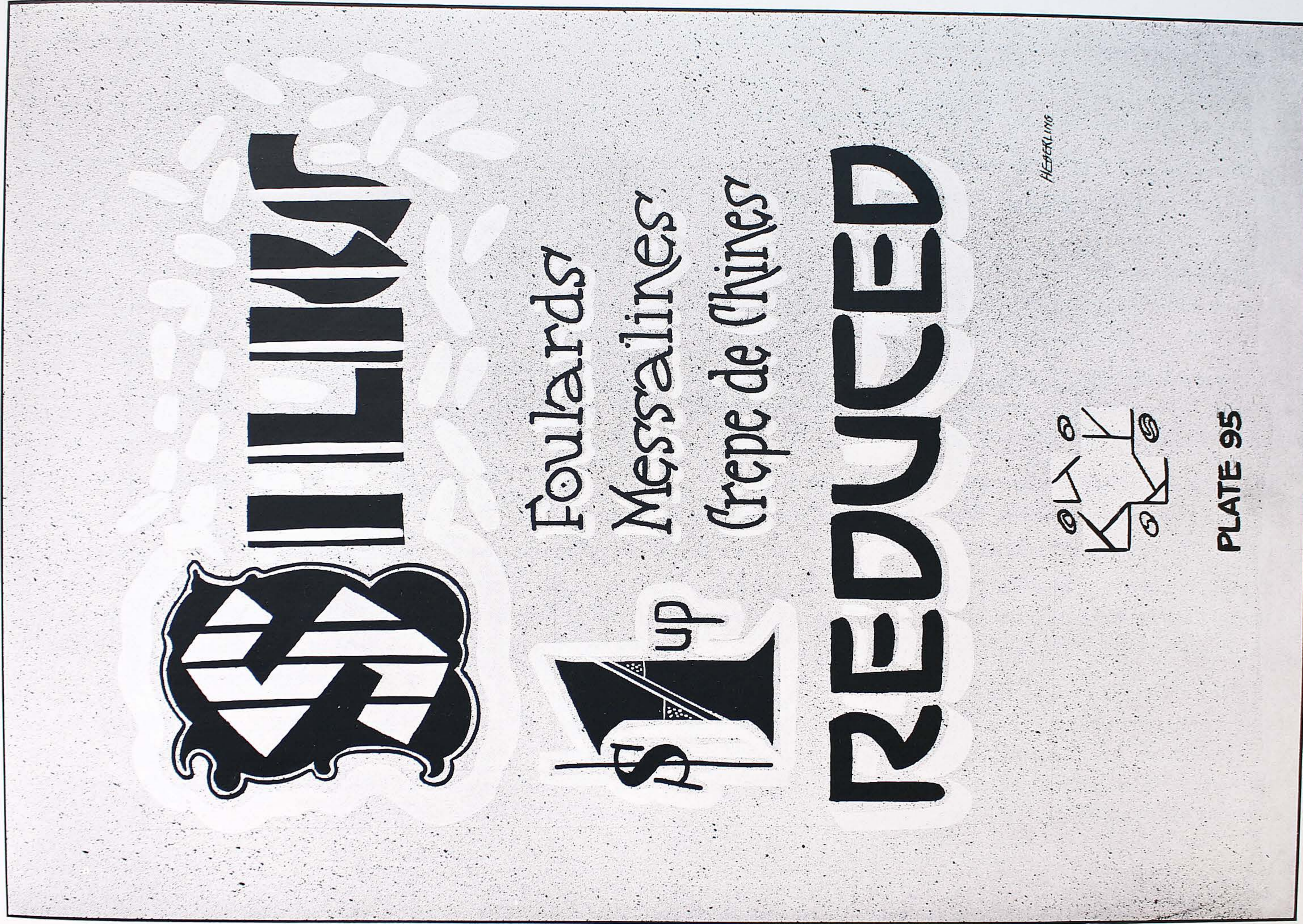


hour size."  
colored with  
progresses.  
is done in  
explained in

colors, it is  
be thinned  
one-quarter  
as it has a  
y. Shading  
in any other  
r the work

half of the  
e compass.  
and around  
s' oil colors

82.





## Alphabets and Where To Use Them

**Plates 5A and 5 B, "One Stroke Tuscan."** Good for cloth signs; cards for large lettering, display lines where speed is desired.

**Plates 8A and 8B, "One Stroke Roman."** Popular for show card work with either brush or pen. Nice for panels on cloth signs and posters.

**Plates 9A and 9B, "Bradley Text."** Never use all capitals in a word. Use capitals and lower case. Rapid and neat for either brush or pen on cards, posters and cloth.

**273 Plates 20 and 21, "Plymouth."** Popular for large walls, bulletins and fence work. If neatly made, Plymouth can be used for glass and board signs.

**Plates 22 and 23, "Modified Plymouth."** Excellent for posters, cloth, display lines on cards and for glass if work is done in gold.

**Plate 23** shows construction of "Script." Lay it out as though it were italics and then make connections and model up the letters. Slant No. 4 is used. Shade to right and bottom on right slant script. Vertical script may be shaded on left and bottom or right and bottom.

**274 Plates 25, 26 and 27, "Full Block,"** thick and thin. On account of the "spurs" this alphabet requires one-third more space to the line than "Egyptian." This alphabet is used for walls, bulletins, fences, wagons and autos.

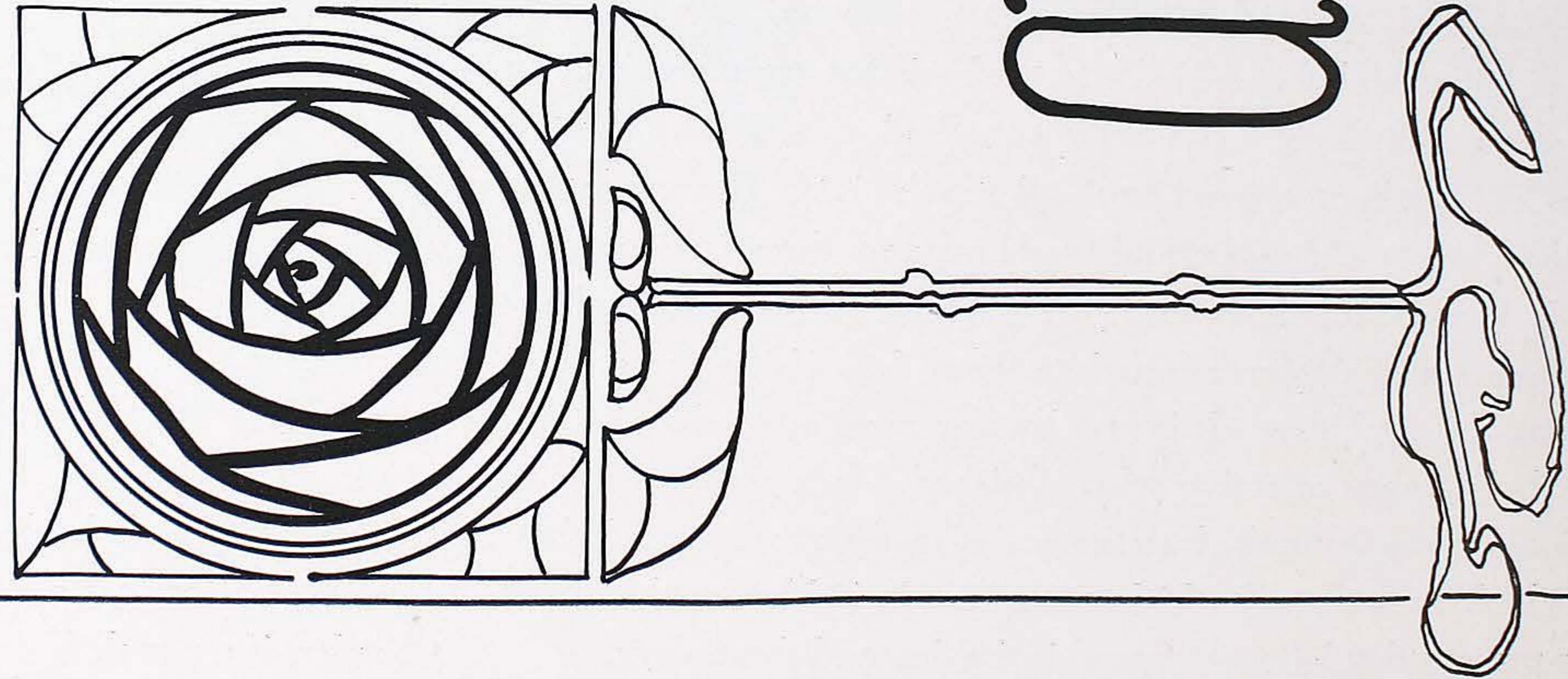
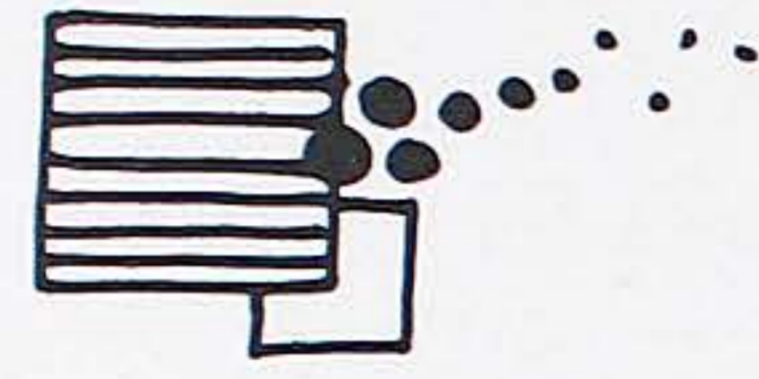
Facia Boards, Glass and Wire Mesh Signs. Its having so many angles to "point up," does not put it in the speed class, but it is one of the conservative styles.

**Plates 28 and 29, "Half Block,"** is another of the conservative styles and may be used in about the same manner as the "Full Block, thick and thin." It may be modified to a "thick and thin" style if desired.

**Plates 30 and 31, "Rapid Thick and Thin."** This alphabet is one of the most useful alphabets for all-around work. Easily made, this particular style of "thick and thin" can be done over a single line lay-out after a little practice. Used for cheap board lettering, display lines on cloth, cards and posters.

**Plates 32 and 33, "Thick and Thin,"** with a modified finish. This alphabet has many modifications and is one of the most useful of alphabets for all kinds of work. Especially adapted to boards, glass, walls, bulletins, etc.

ABCDE  
FGHIJK



lmopq  
rstuv  
wxyz  
comp.  
ositio.  
n sax.

APPLIED

HEBERLING

PLATE 96

**275** Plates 34 and 35, "Round Block." This is one of the old standards and a very useful alphabet. It is shown convexed, but may be made plain also. For speed it is not recommended except for "One Stroke" work as shown on Plates 75 and 76. "Round Block" is used for board, glass, bulletins, canvas banners, etc. It requires about a third more space on account of "spurs" than Egyptian.

**Plate 38.** A modified form of "Egyptian." For posters, cards and temporary signs.

**Plate 39, "Standard Heavy Poster."** For posters, cards, cloth and sometimes for bulletins and exposition work.

**276** Plates 41, 42 and 43, "Roman." The old standard and dignified alphabet which was the basis for argument among those of the old school. The correct method of attaching the tail on the "R" has been argued from all standpoints. Roman lettering looks better either normal or elongated than it does condensed. It needs lots of room for the "spurs" and requires about a third more space to accommodate them than if it were a plain thick and thin alphabet. It is not, by any means, an alphabet for speed, but is very effective when finished. It makes very good practice for brush work, but there are many modern alphabets which look as well and which are more desirable for the speed of the present-day letterer. Speed is the demand these days.

**Plates 61 and 62, "One Stroke Script."** For rapid work, such as show cards, posters, cloth and oil cloth. It is simply a connected form of italics.

**Plate 63, Spencerian Script.** Used for glass, boards and any place that a fine line script is desired.

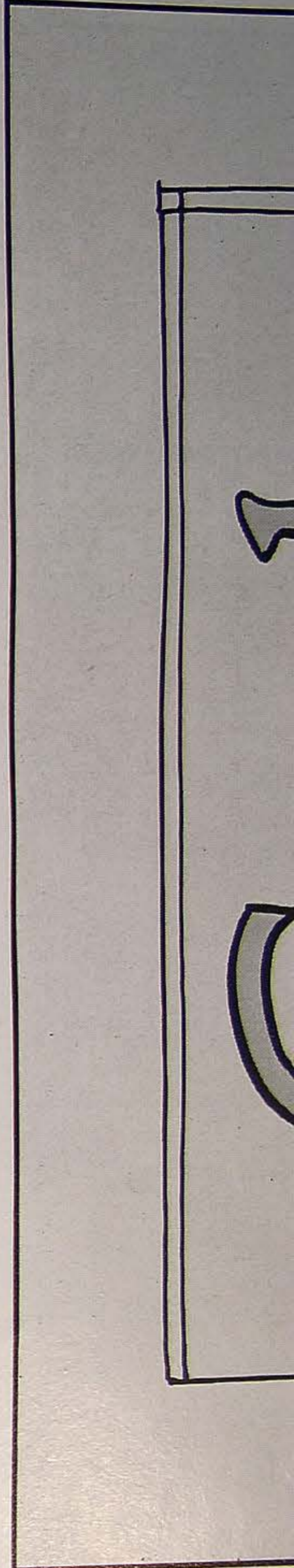
**Plates 64 and 65, "Standard Script."** The usual "script" for commercial work. There are many modifications of "script" used for advertising purposes. Good for boards, glass, etc.

**277** Plates 66 and 67 "Oriental." Used for posters, cards and cloth, for oriental shows and advertising of an oriental nature.

**Plate 68 "Japanese."** Used same as oriental.

**Plates 69 and 70 "Old Classic."** One of the most useful alphabets for glass, boards and any high grade signs. It looks best condensed.

**Plate 71 "Advertisers' Rapid."** A speed alphabet for "cutting in" on glass. Popular for work on refreshment parlors. Used with black background, white letters and a border line of gold at bottom (if a straight strip across window), or around the border, if a panel.



Good  
Clothes

All Men's and  
Young Men's  
3 Piece Suits.  
Reduced

20% Off

PLATE 97

HEBERLING

**278** Plate 74 "Show Card Half Script." For temporary work.  
Made with either pen or brush.

Plates 78 and 79 "Light Face Poster." For temporary work.  
Made with either pen or brush.

Plate 80 "Pen and Brush Poster." For temporary work.

Plates 81 and 82 "Italic Stroke." For temporary work.  
Made with either pen or brush.

Plates 83 and 84 "Unique Poster." For temporary work.  
Made with either pen or brush.

Plate 85 "Posteresque." For temporary work. Made with  
either pen or brush.

Plates 86 and 87 "Eccentric Poster." For temporary work.  
Made with either pen or brush.

Plates 88 and 89 "Posterized Round Block." For temporary  
work. Made with either pen or brush.

Plate 90 "Pen and Brush Gothic."

**279** Plate 91 Show Card Text.

Plate 92 "Pen Round Block."

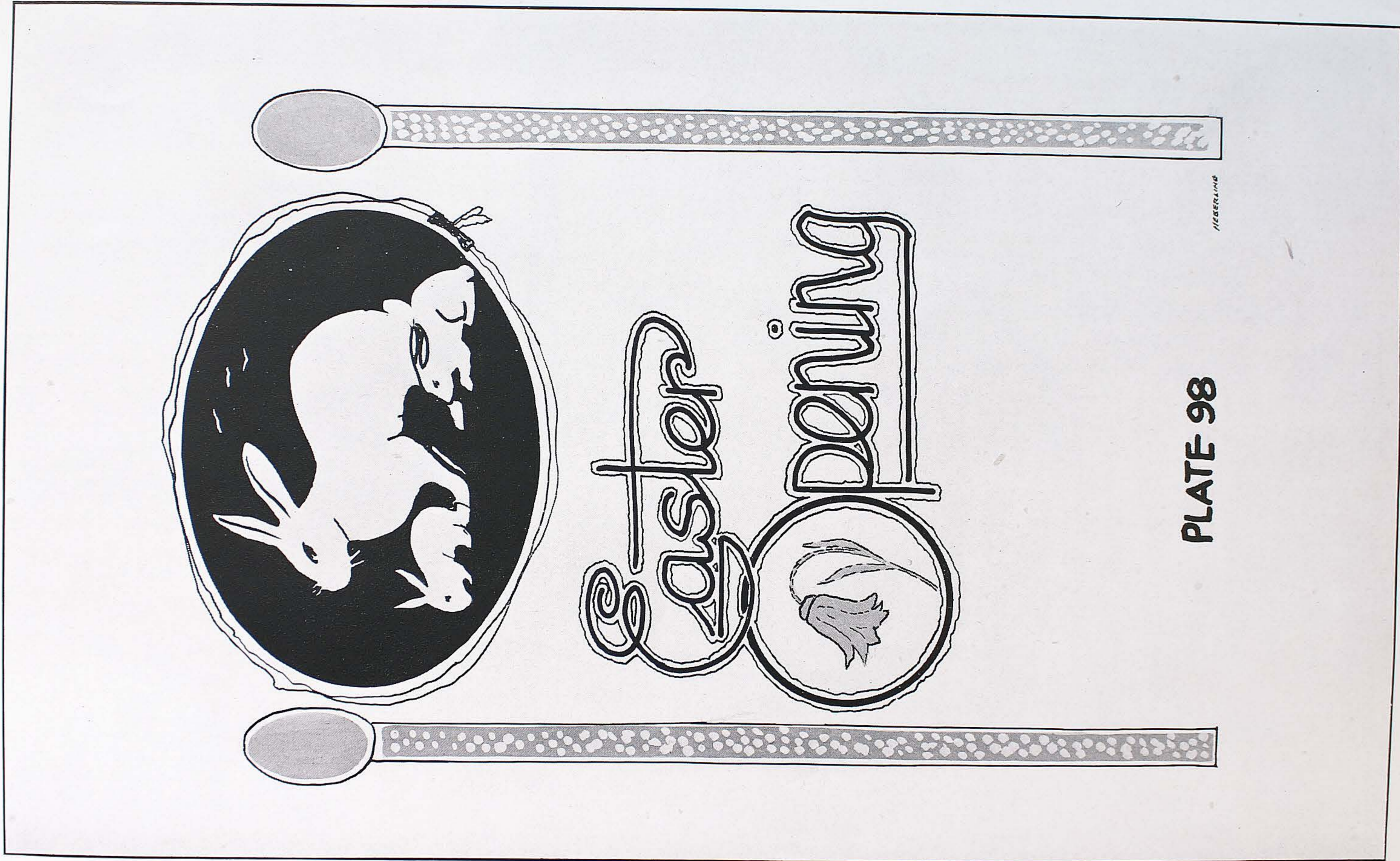
#### Corner Pieces

**280** Many different corner pieces, borders and panels may be  
worked out by the student by constructing lines and form-  
ing squares as shown on Plates 17 and 19-B.

ary work.

temporary

ls may be  
and form-



**No. 1**  
**SPEED PENS**

*Esterbrook*

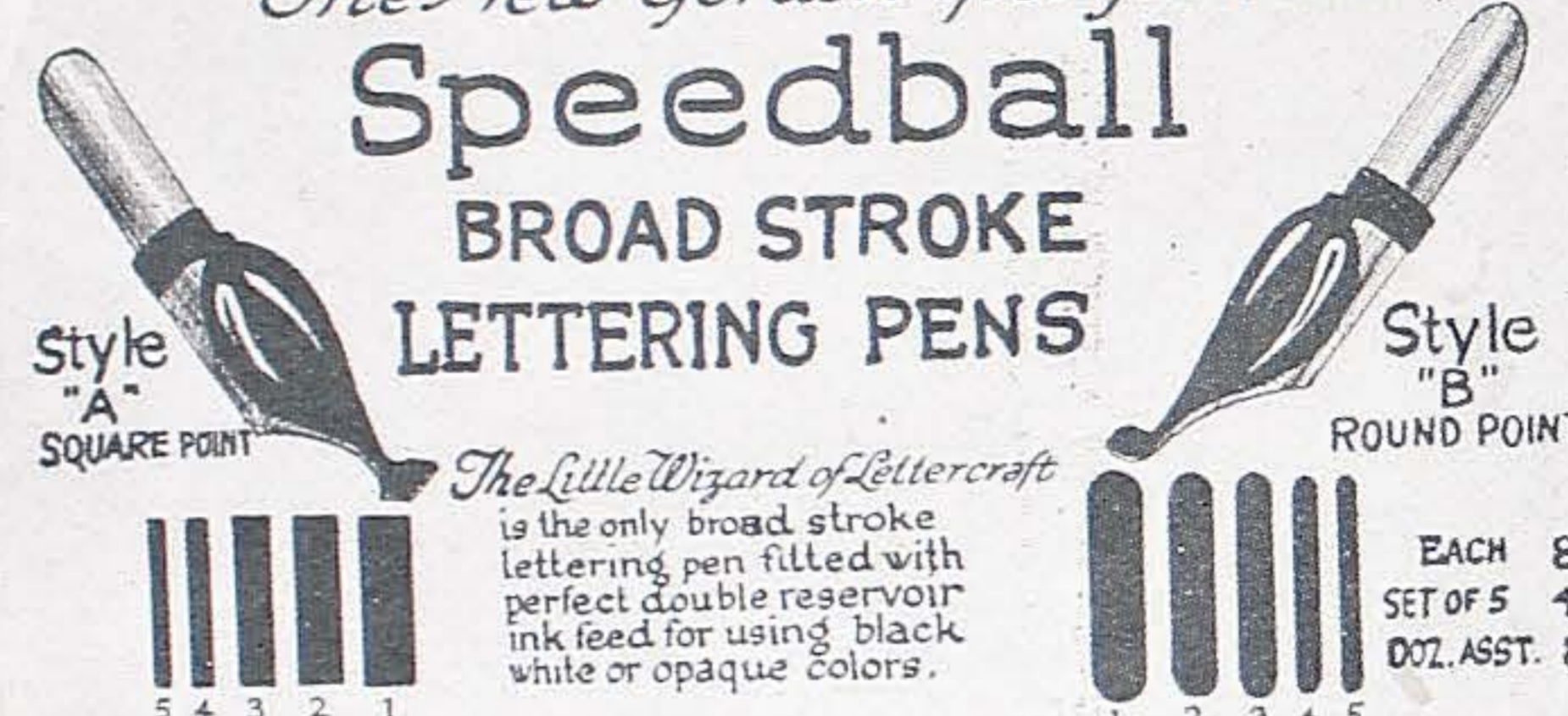
One of the most popular  
lettering pens on the Market  
Made in 8 Sizes

13		EACH	8¢		5
12		SET OF 8	60¢		3
11		DOZ. ASST.	85¢		2
10					1

*The New Gordon George Patent*

**Speedball**

**BROAD STROKE  
LETTERING PENS**



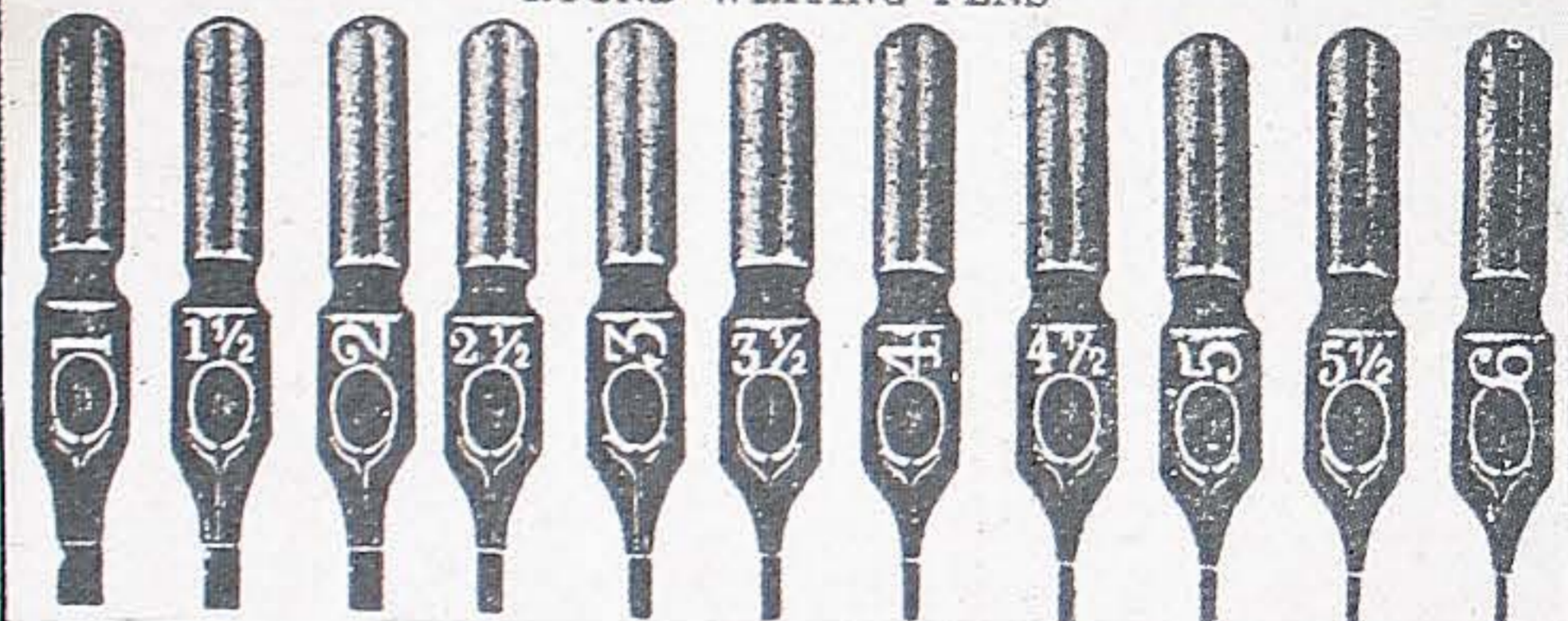
Style "A"  
SQUARE POINT

Style "B"  
ROUND POINT

*The Little Wizard of Lettercraft*  
is the only broad stroke  
lettering pen filled with  
perfect double reservoir  
ink feed for using black  
white or opaque colors.

EACH 8¢  
SET OF 5 40¢  
DOZ. ASST. 85¢

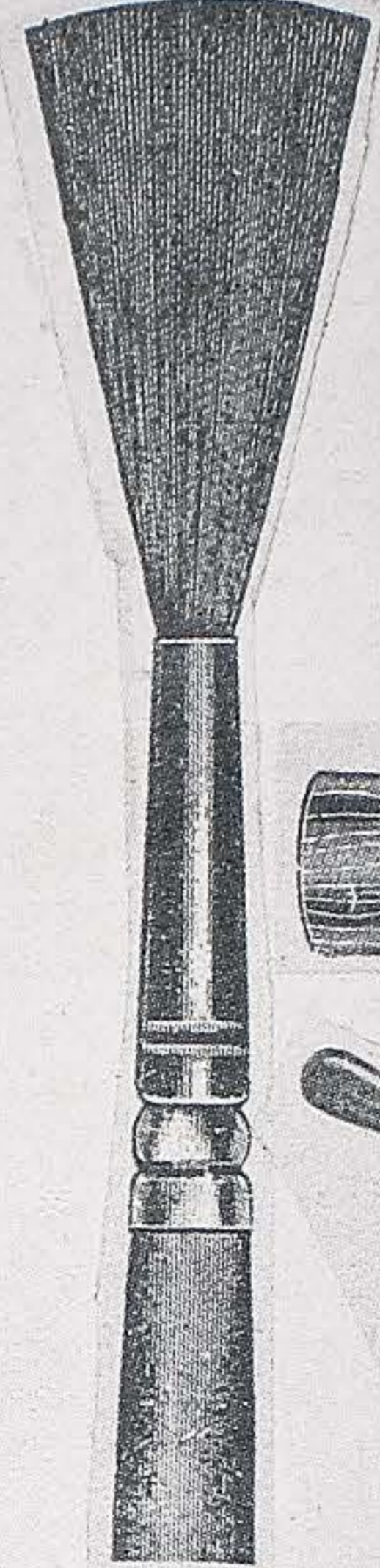
ROUND WRITING PENS



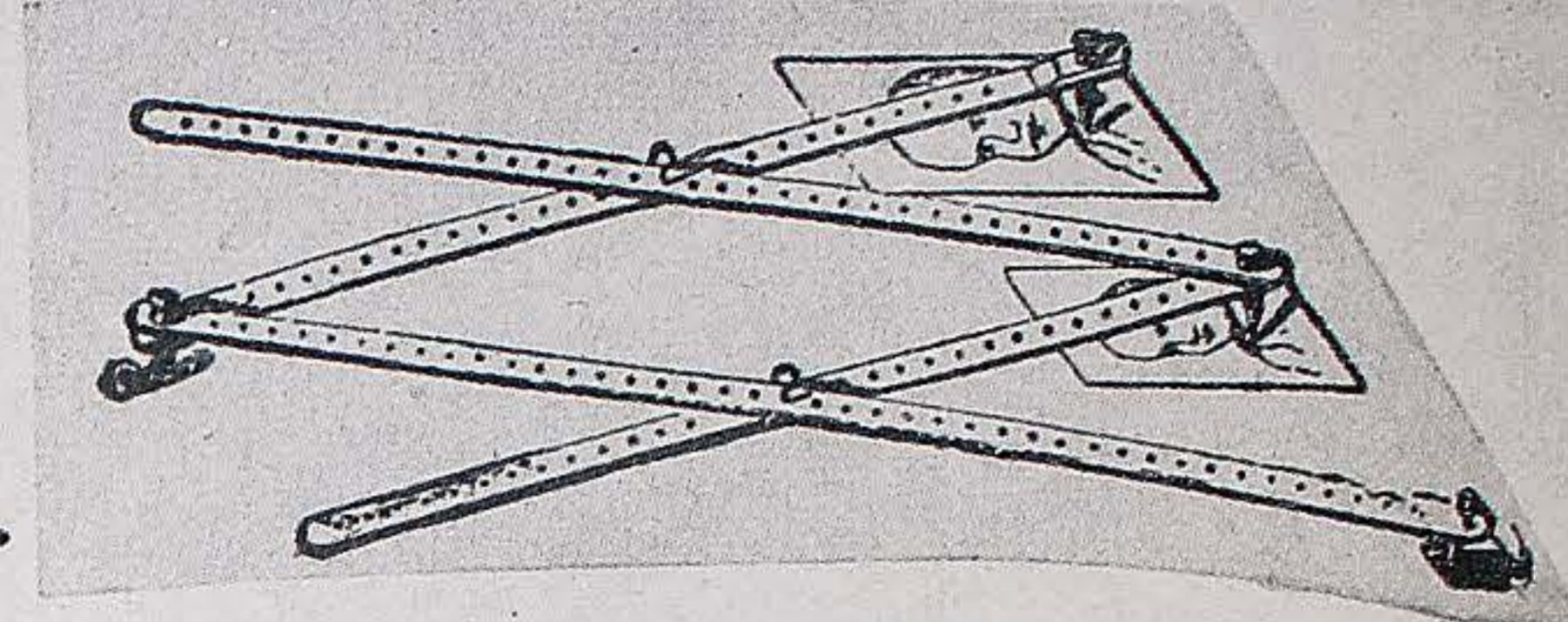
**No. 4**



**No. 5**



**No. 6**



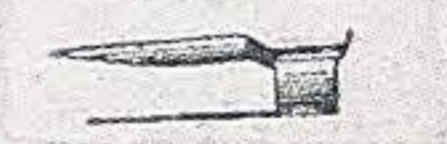
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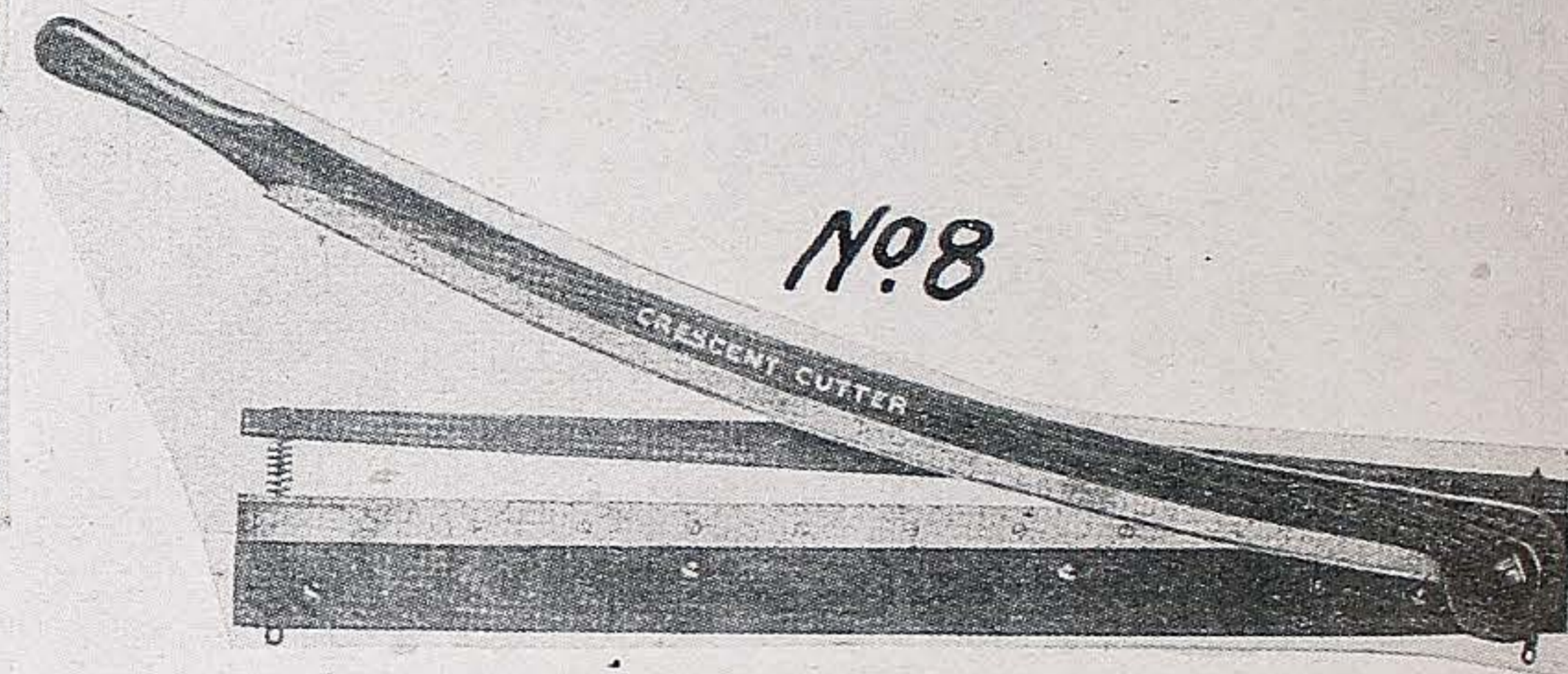
**No. 2**



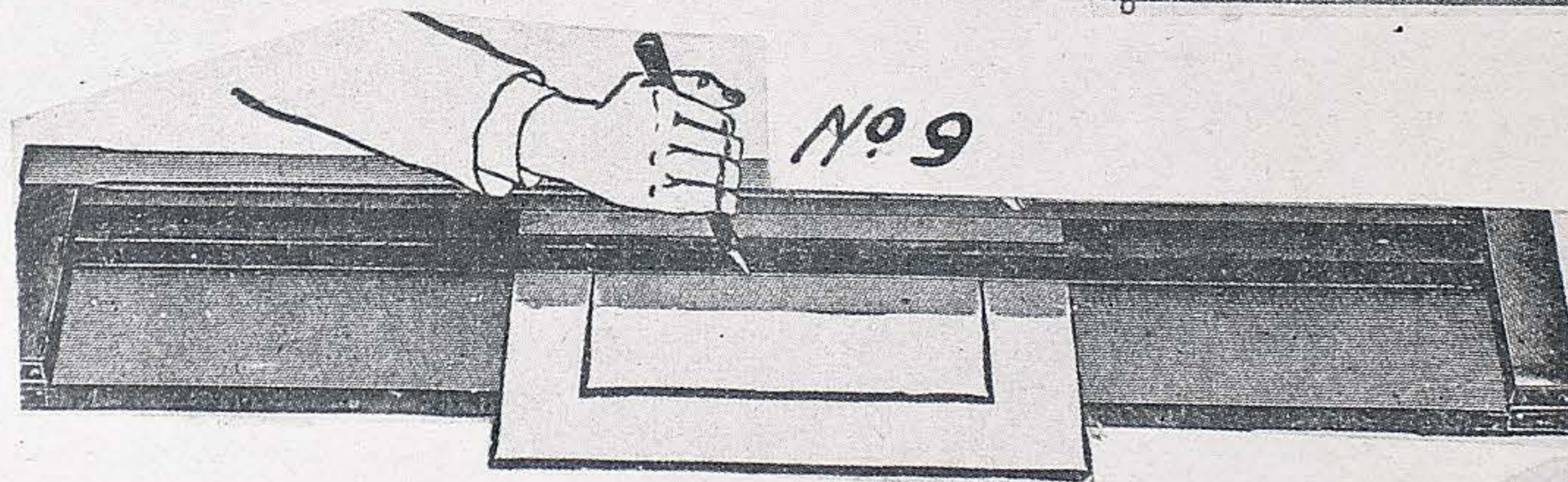
**No. 3**



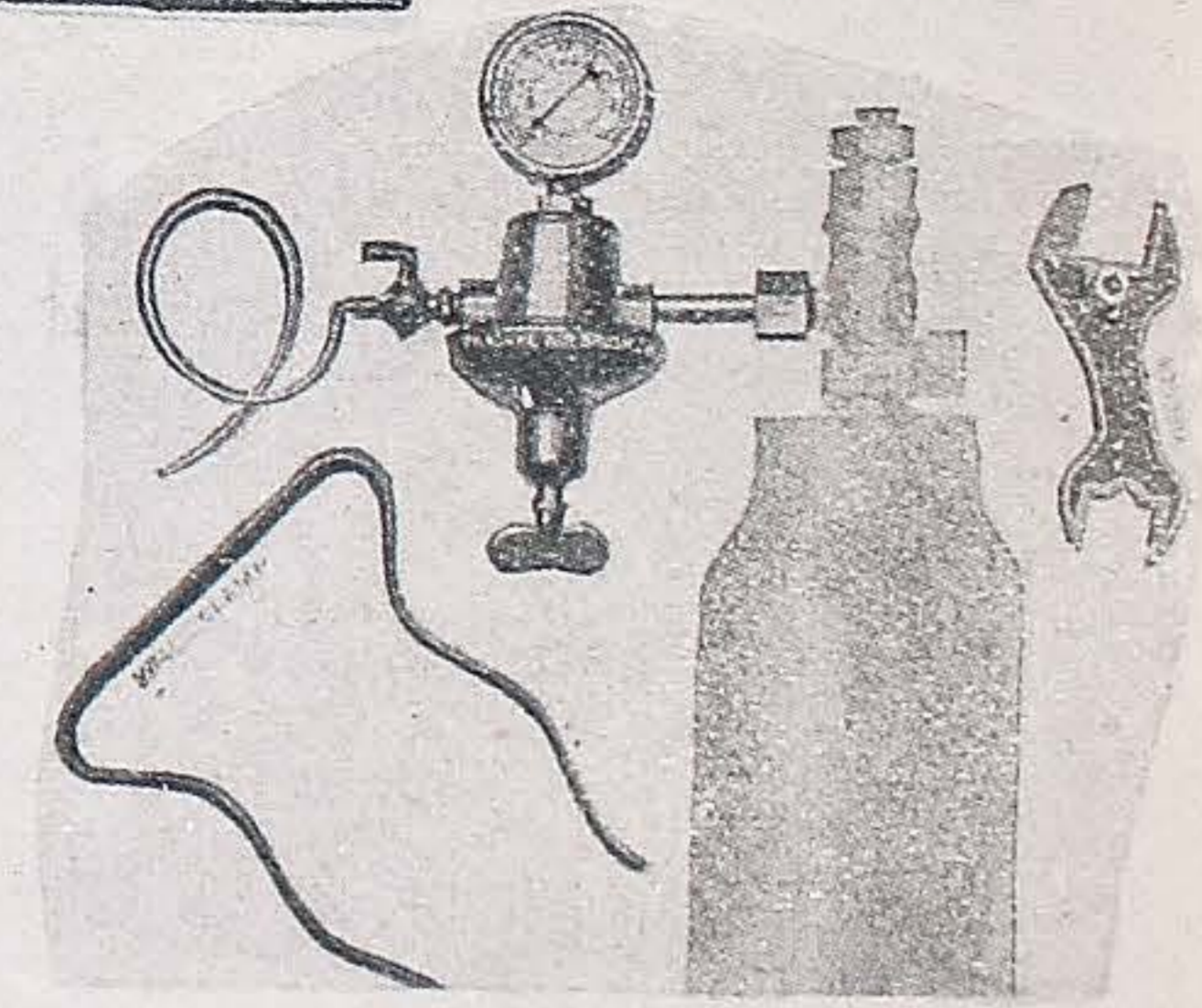
**No. 8**



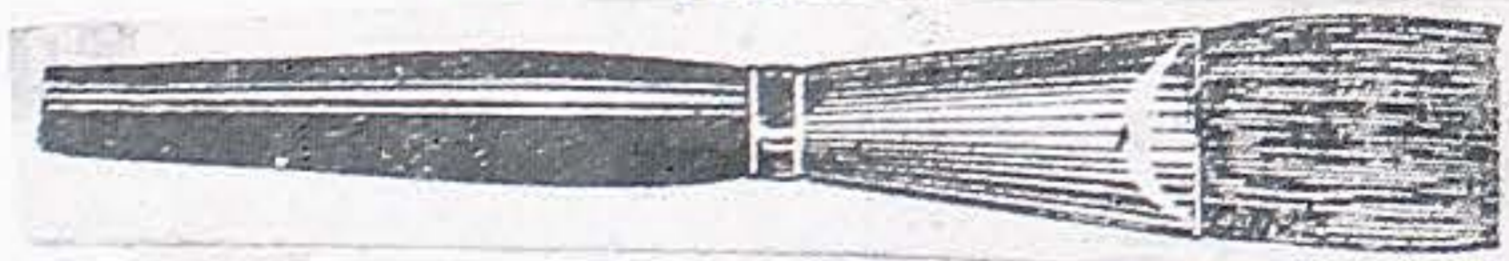
**No. 9**



**No. 13**



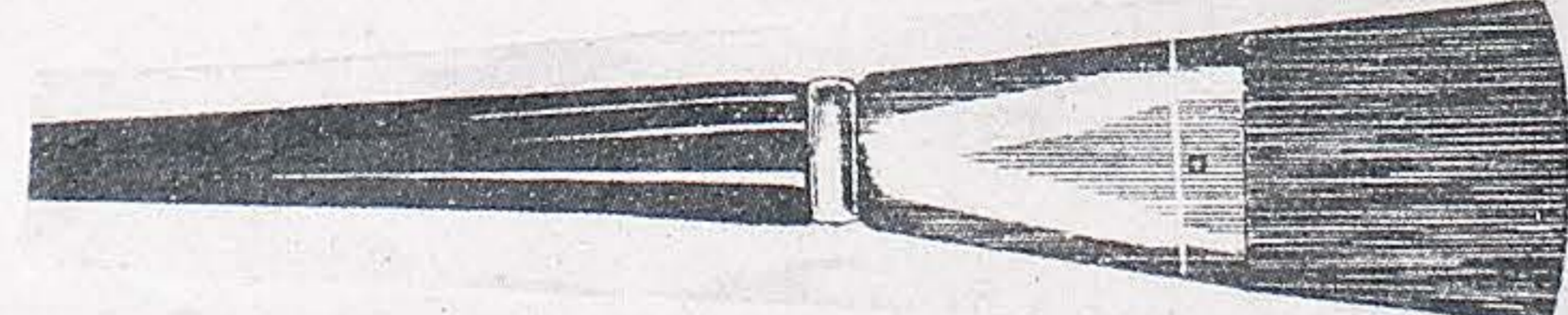
**No. 10**



**No. 11**



**No. 12**



**PLATE 99**

Plates 99  
and this text  
article.

No. 1 Pe  
possible to be

281 No. 2 I  
pen po  
one dip into t

No. 3 In  
purpose as No

No. 4 R  
largest. Use

No. 5 R  
No. 20 is larg  
worked in oil  
change them

No. 6 P  
etc. Full dire

## Equipment and Tools

**Plates 99, 100, 101.** These plates show tools and equipment and this text gives the corresponding numbers and uses of each article.

**No. 1 Pens** for show card and small lettering. Sizes of lines possible to be made with the different sizes and shapes are shown.

**281 No. 2 Ink Spoon** for attaching into the penholder with the pen point, thus making it possible to do many letters with one dip into the ink.

**No. 3 Ink Retainer** for use with round writing pens for same purpose as No. 2.

**No. 4 Red Sable Rigger.** Comes in sizes 1 to 12. No. 1 is largest. Used for show card and poster lettering in water color.

**No. 5 Red Sable Show Card Brush,** made in sizes 1 to 20. No. 20 is largest. Works well in oil or water colors. Should be worked in oil exclusively or in water color exclusively. Never change them from oil color to water color.

**No. 6 Pantograph.** Used for enlarging pictures, drawings, etc. Full directions comes with instrument.

**282 No. 7 Stencil Knife,** used for cutting stencils and beveling show cards made on matboard.

**No. 8 Card Cutter.**

**No. 9 Bevel Edge Cutting Device.**

**No. 10 Flat Red Sable One Stroke Brush.** For large letters on cards, cloth, etc.

**No. 11 Black Sable One-Stroke Brush** for cards, muslin and board signs. Must not be used in water color. Size  $\frac{1}{4}$  to  $1\frac{1}{2}$  inches.

**No. 12 Red Sable Banner Brush** for cloth, card and board work. Used in oil color or water color. Not to be used in both, but water exclusively or oil exclusively;  $\frac{1}{4}$  to 2 inch sizes.

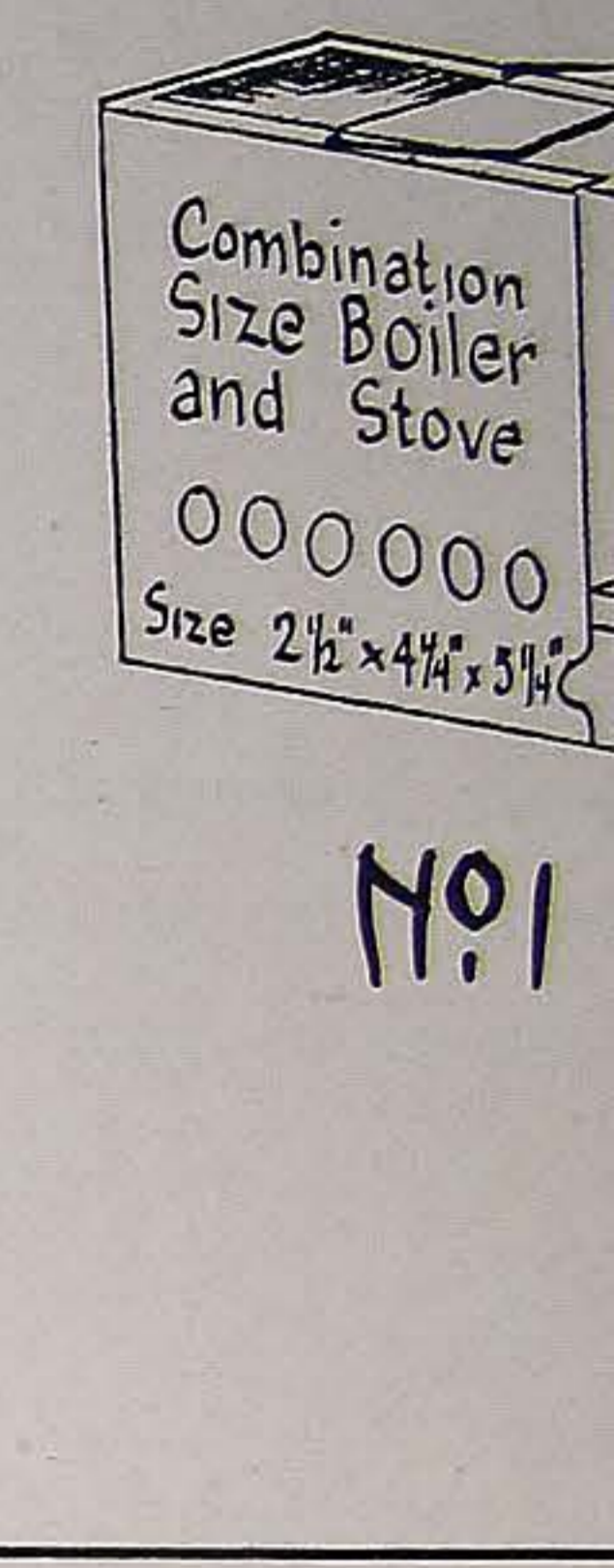
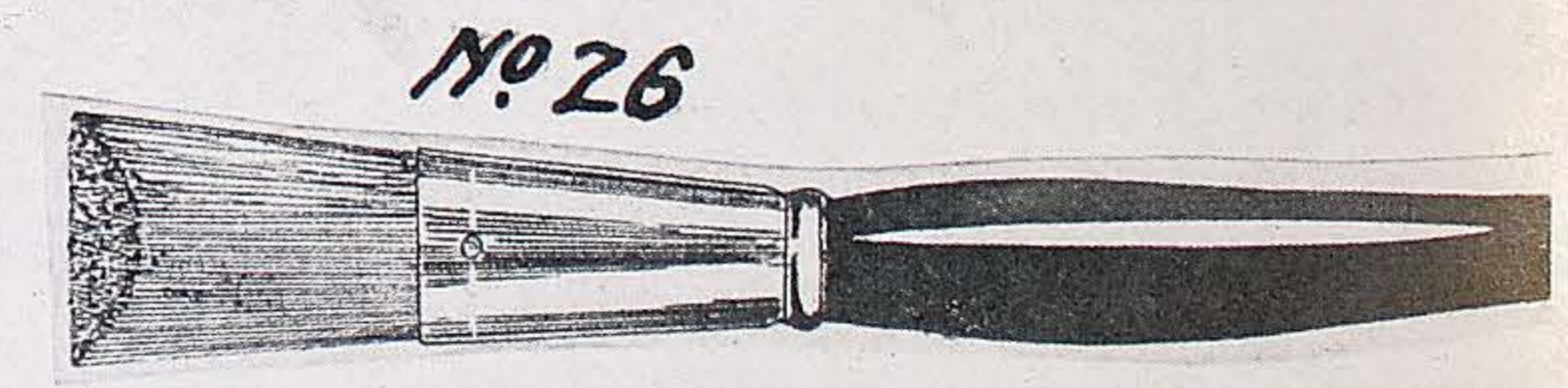
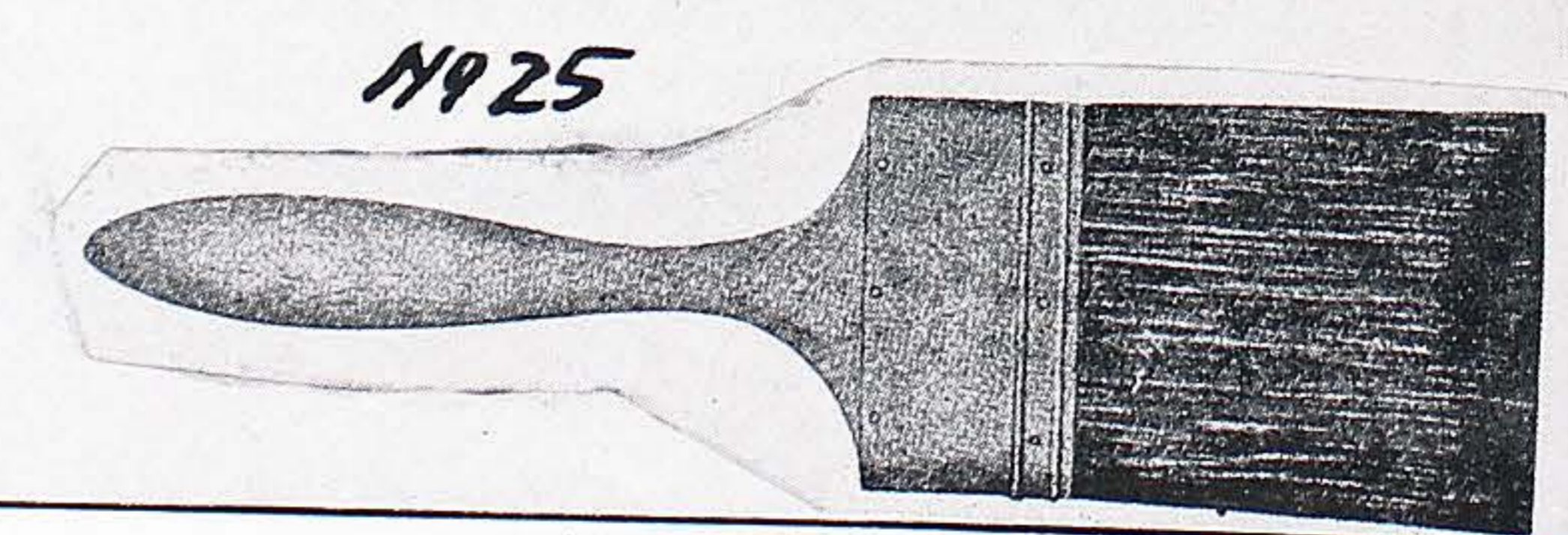
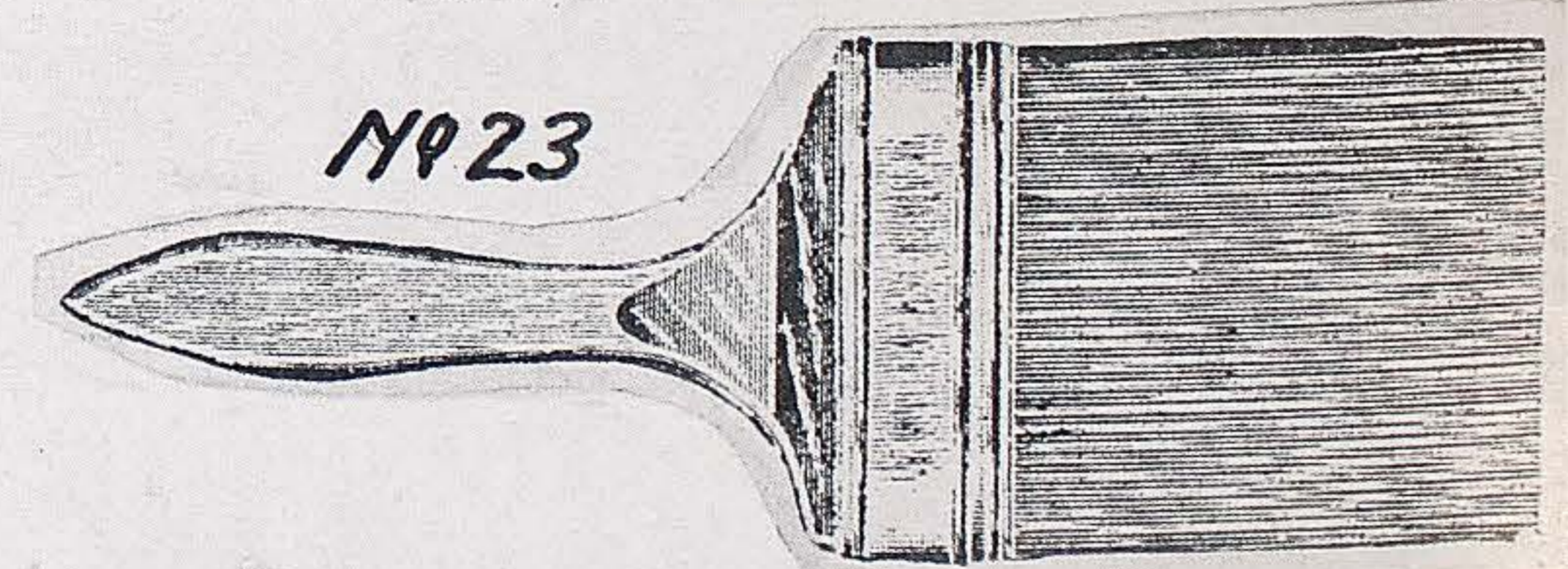
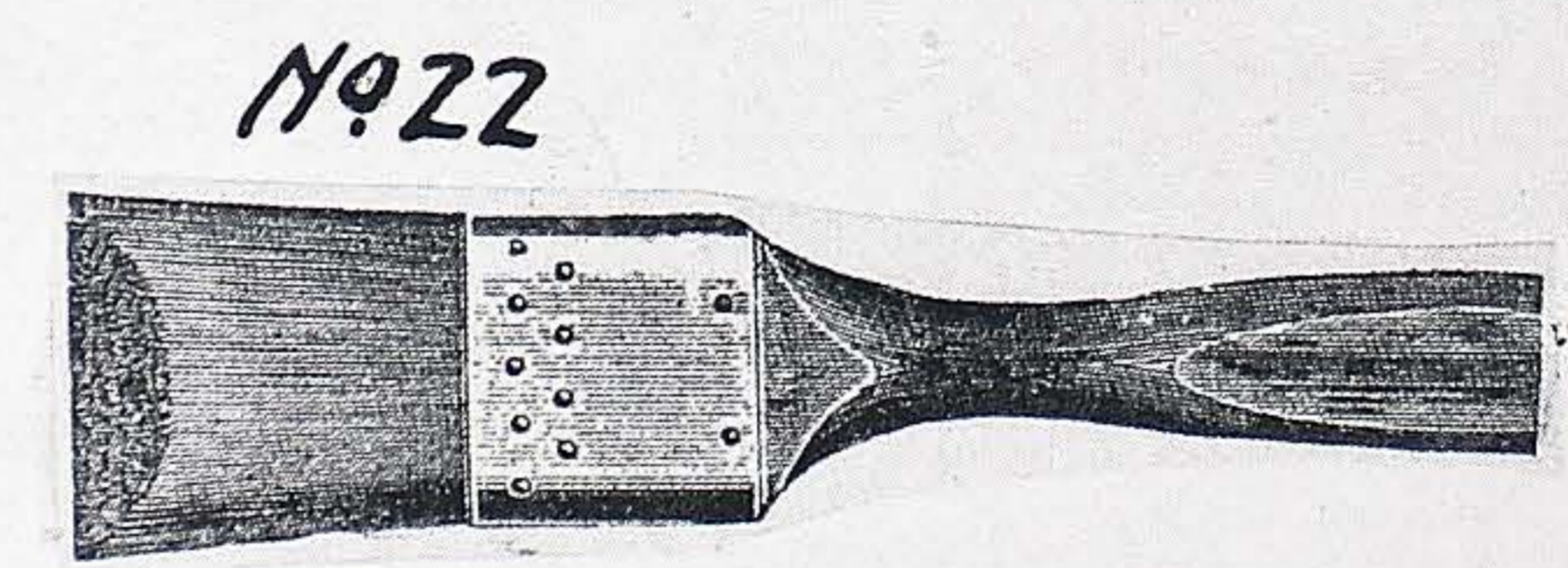
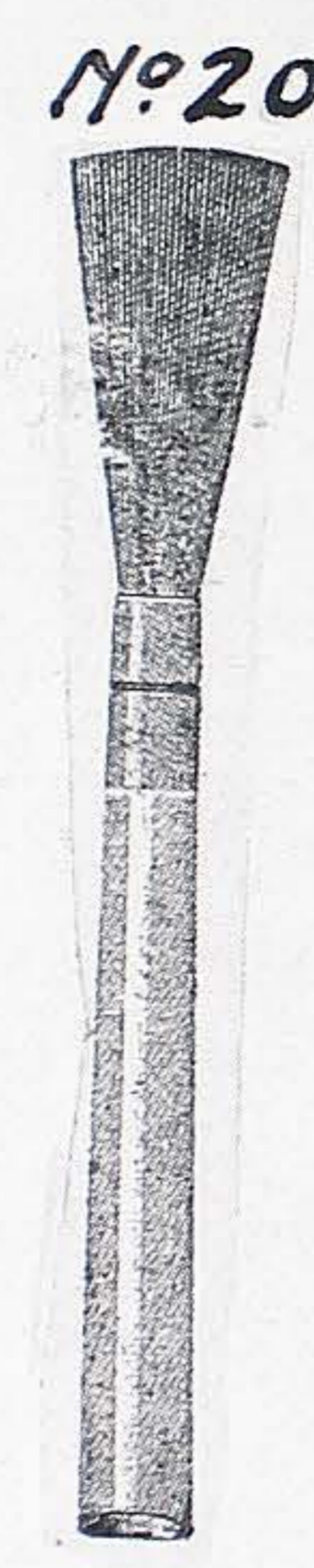
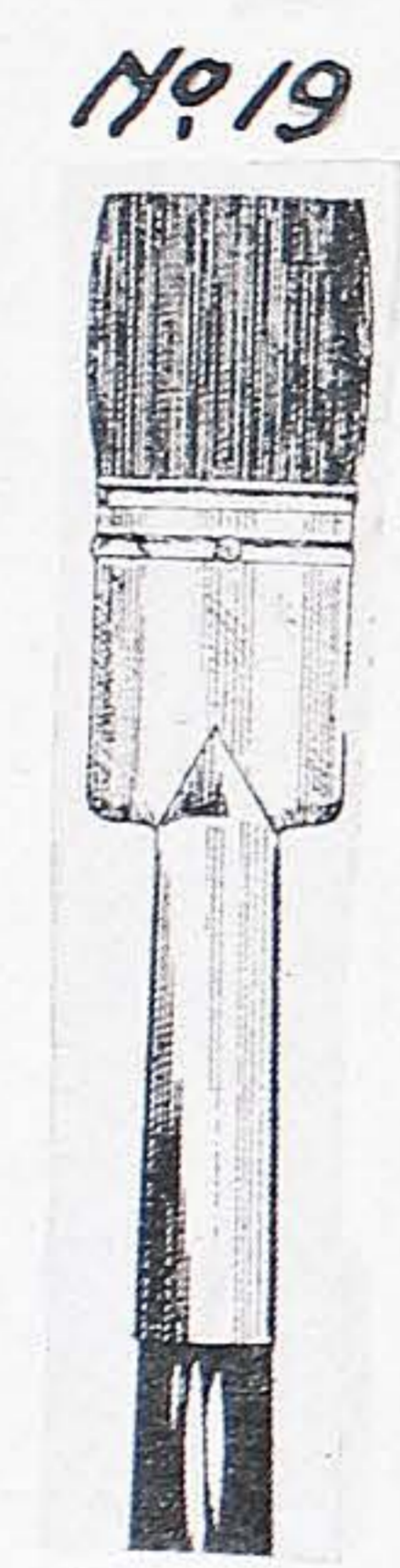
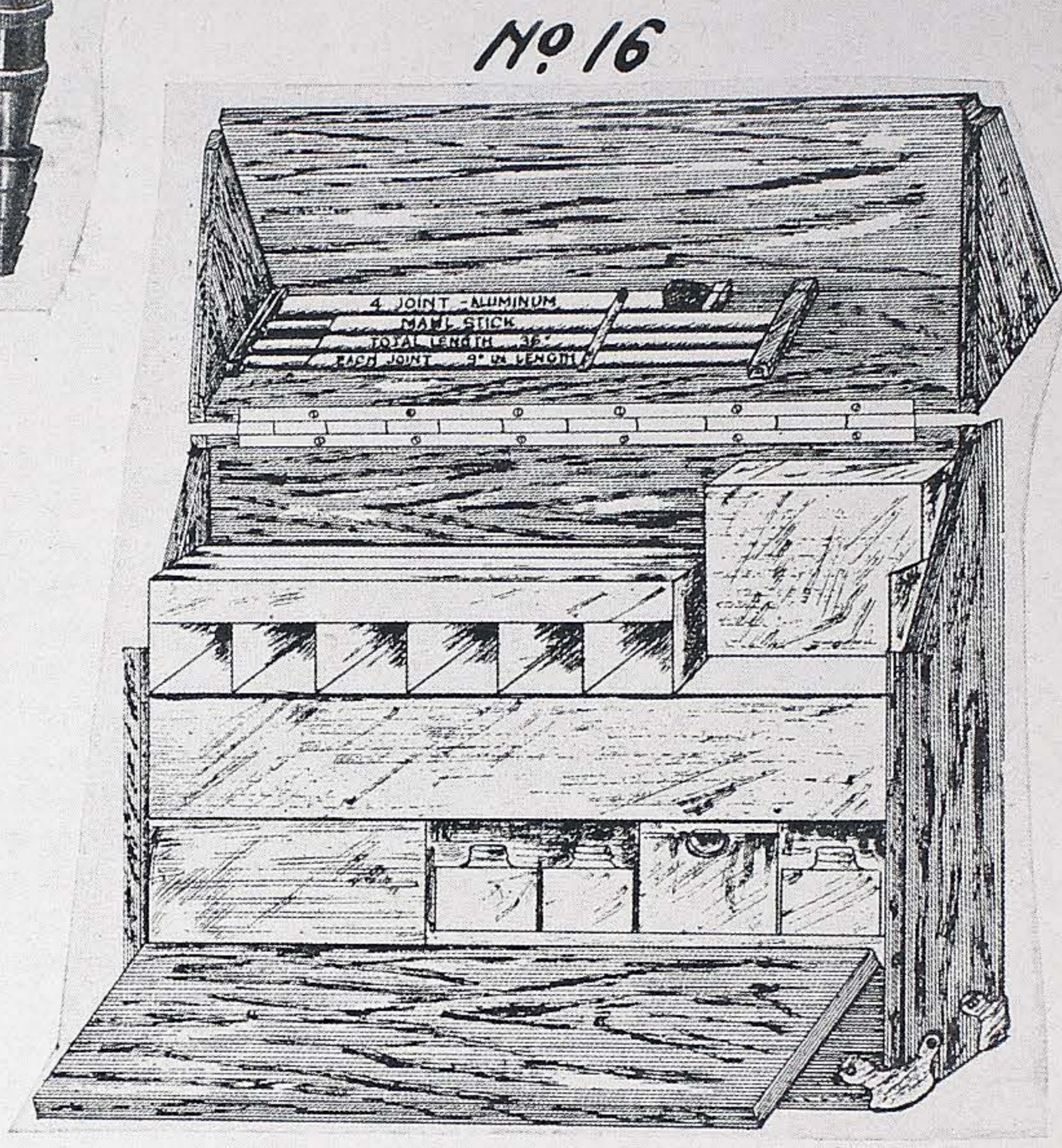
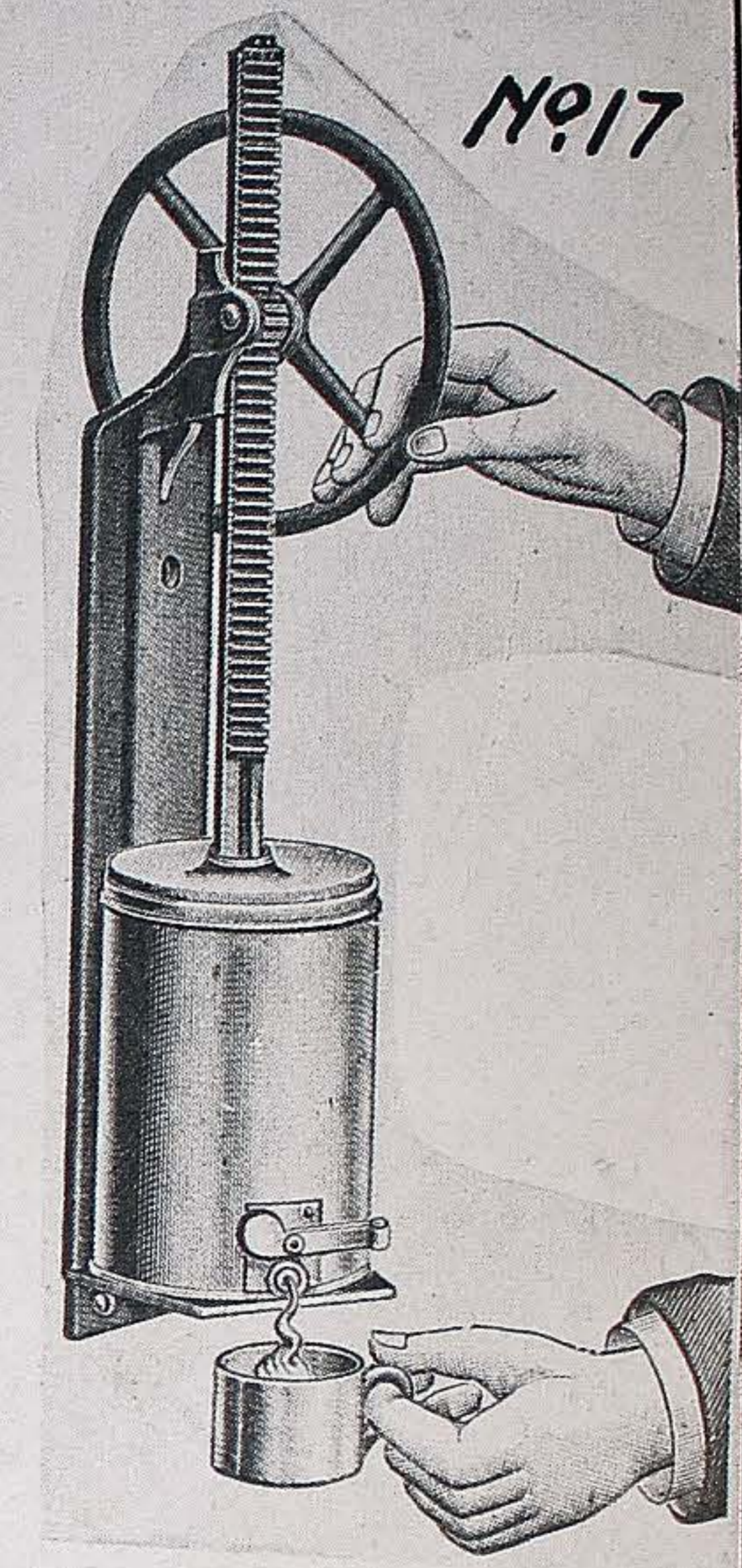
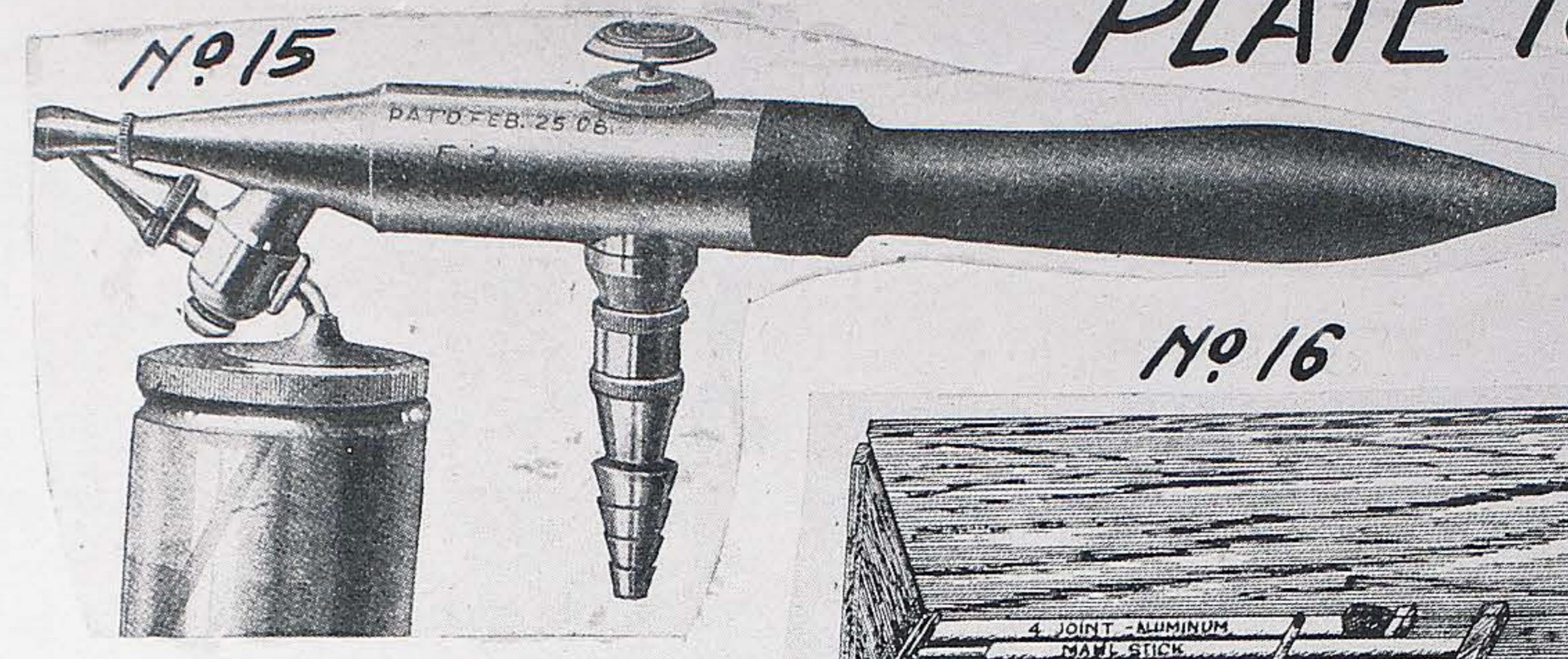
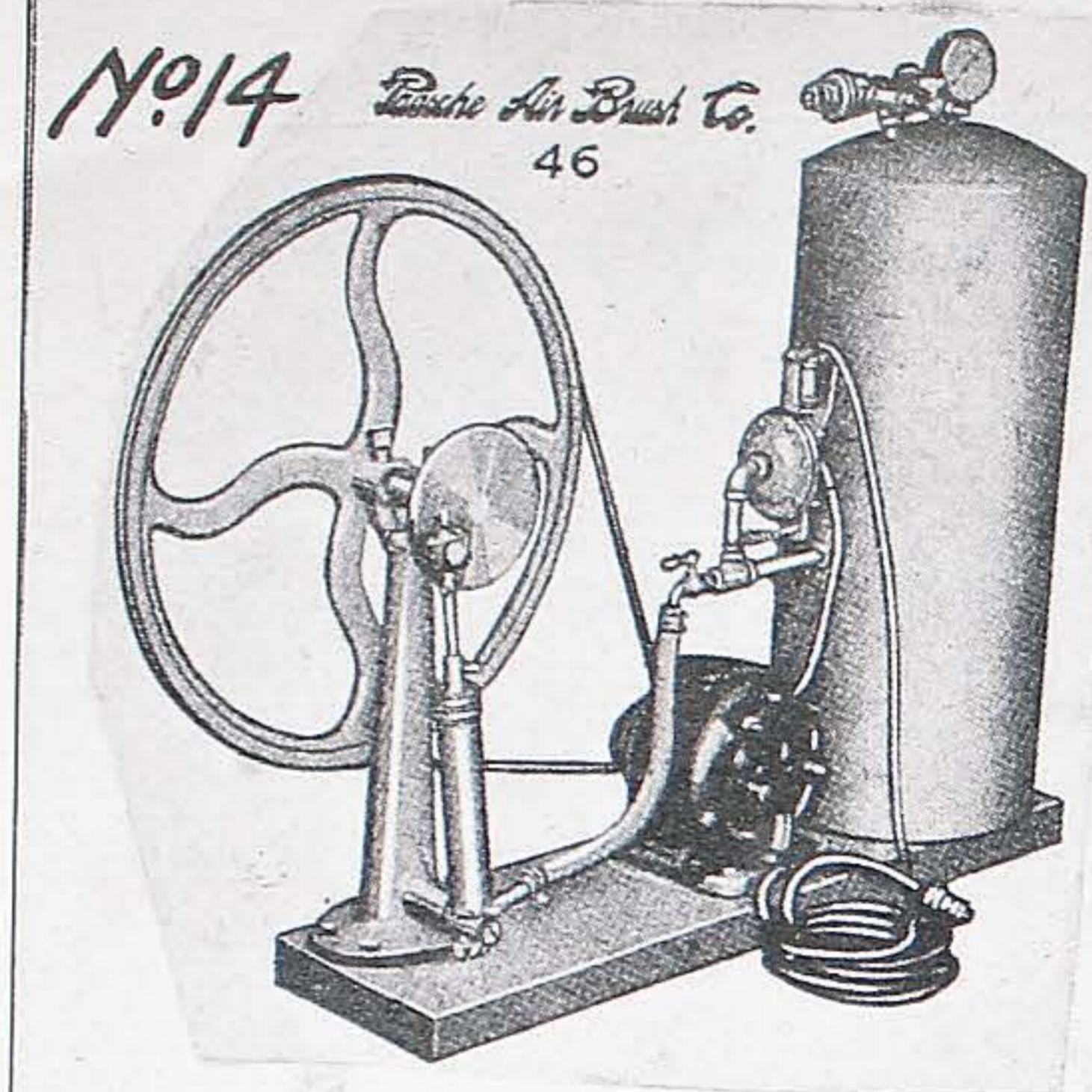
**No. 13 Liquid Carbonic Acid Gas Drum.** Furnished pressure for Air Brush.

**No. 14 Air Compressor for Air Brush.**

**No. 15 Air Brush.**



# PLATE 100



**No. 1**

283 No. 16 S  
No. 17 F  
No. 18 C  
sizes.  
No. 19 B  
on cloth and p  
No. 20 Fr  
glass, cards do  
size 1 to 16.  
No. 21 Ca  
For applying w

BASIC LETTERING

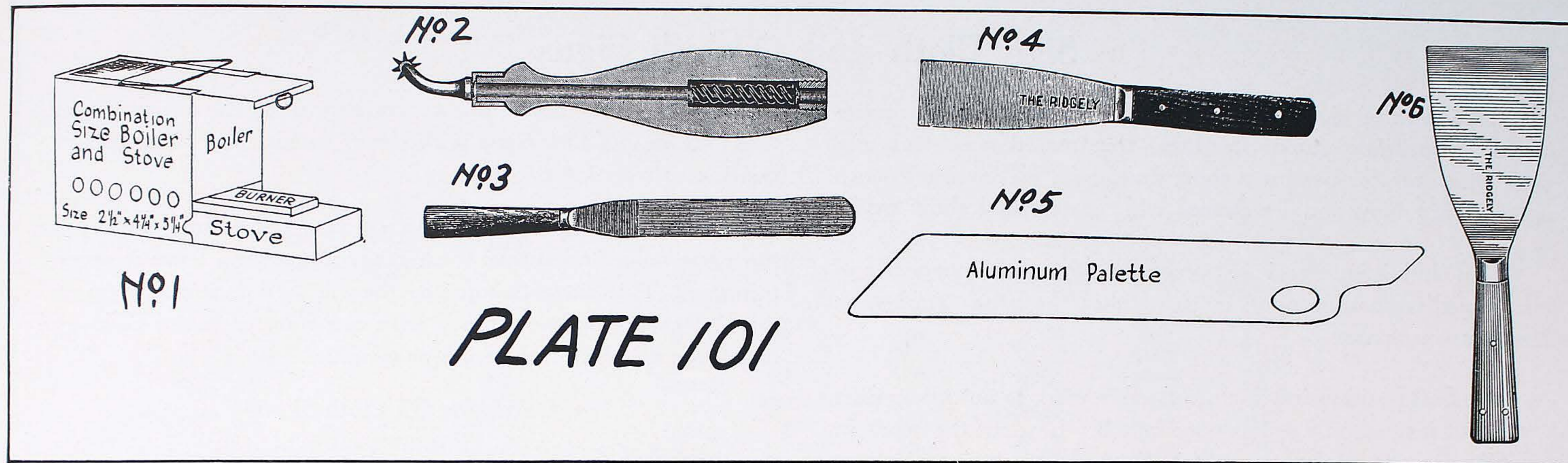


PLATE 101

283 No. 16 Sign Painters' Tool Chest.

No. 17 Paint Press for extracting paint from press cans.

No. 18 Camel's Hair Flat One Stroke Brush, 1/2 to 2 inch sizes.

No. 19 Black Sable Banner Brush, unexcelled for fast work on cloth and paper signs; 1/2 to 3 inch sizes.

No. 20 French Camel's Hair Lettering Pencils. Excellent for glass, cards done in oil or Japan colors and all smooth surfaces; size 1 to 16.

No. 21 Camel's Hair Water Size Brush. Sizes, 1/2 to 3 inches. For applying water size to glass. 2 inch width is preferable.

284 No. 22 Bulletin Cutter. Used for large lettering on bulletins and walls. Made from French bristles. Sizes, 1 to 3 inches.

No. 23 Wall Coater or Filler. Used for coating large surfaces and for "filling in" on large signs. Sizes, 2 1/2 to 6 inches.

No. 24 Razor Blade Holder. Used for removing old signs from glass.

No. 25 Varnish Flowing Brush. Used for varnishing panels, etc. Comes in 1 1/2 to 3 1/2 inch widths.

No. 26 Artists' Chiseled Fitch. Used for "surface lettering" and "cutting in" on walls and bulletins.

No. 27 Water Size Heater.

## Sign Cloth and Oilcloth Signs

This class of sign work is used for store sales, announcements, expositions, fairs, openings, theatres, dances and any signs which are for use for a short time only. They are known as temporary signs and are classed with posters and show cards.

Sign cloth is an especially prepared cloth for the purpose and great speed is possible upon it, as it takes the brush strokes as though it were paper.

The best position in which to do this work is not up against a wall, but instead on a long sloped bench. Lay out the work in the same manner as shown on Plate A, using the string method, and a stick of charcoal used lightly.

**285** The best brushes for this purpose are Black Sable Banner Brushes. See No. 19, Plate 100. These are made in sizes  $\frac{1}{2}$  inch to 3 inches and are the fastest brush for one stroke work, and they carry plenty of color, which permits an entire letter to be made without refilling. See Plate B.

The best paints for this work are colors ground in Japan because this kind of paint dries immediately, permitting the sign to be rolled up as soon as it is finished.

### How to Mix Colors for This Purpose

**No. 1.** Japan colors thinned with three quarters turpentine and one quarter varnish. Colors must be thin as the cloth is absorbent. Do not use heavy paint.

**No. 2.** Use dry colors thoroughly moistened with turpentine. Then mix to a paste with cheap varnish and thin with turpentine to working consistency.

**No. 3.** Oil colors may be used if mixed as follows: Take the paste color and spread it on a newspaper and leave it several minutes. This extracts some of the oil. Then scrape it up and mix it to working consistency with one quarter Japan Gold Size and three quarters turpentine or gasoline.

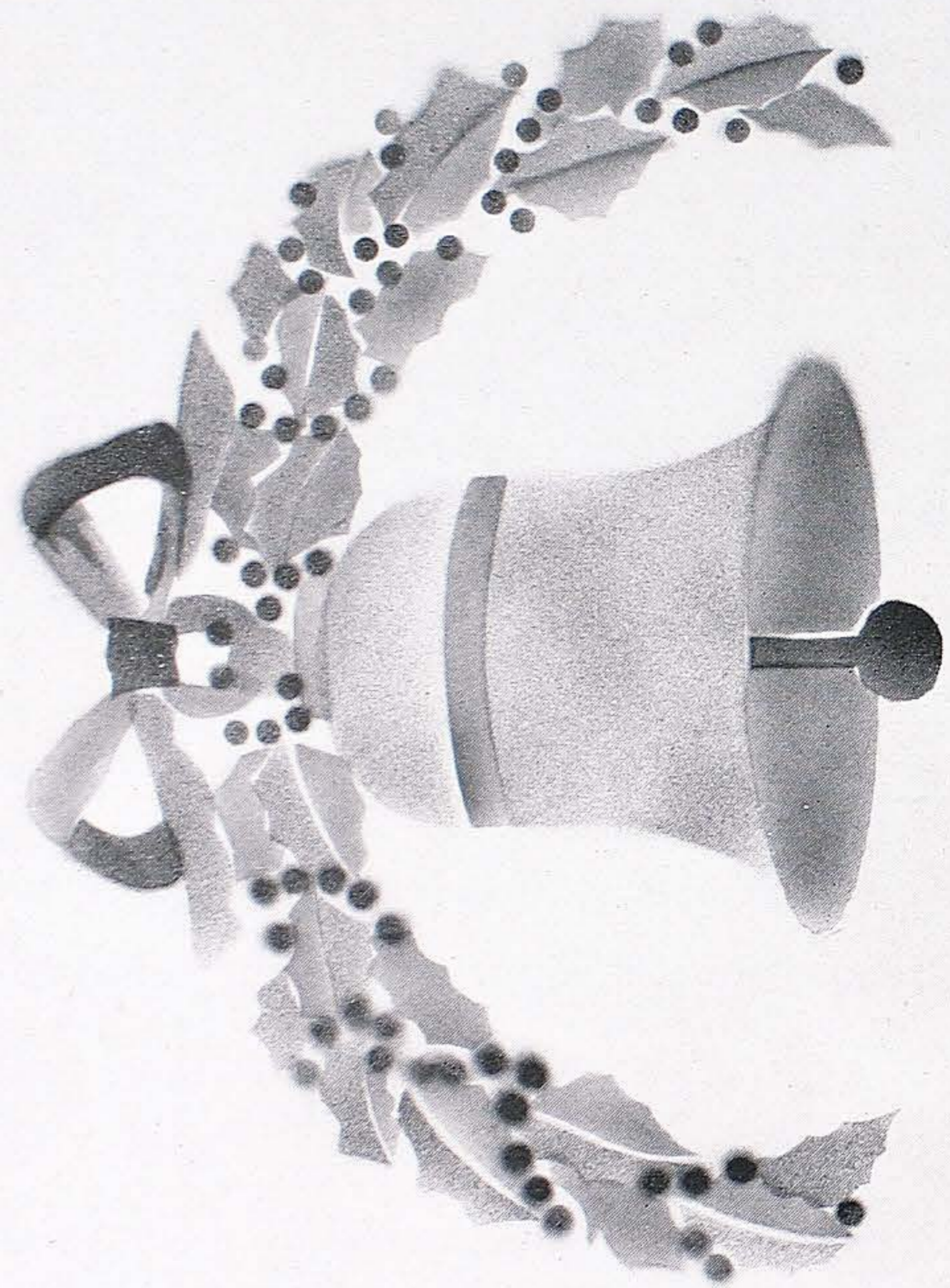
### Colors for Oil Cloth Signs

Colors should not be as thin as for sign cloth, as the absorbing qualities are not so pronounced. For hurried work, Japan colors are best. If plenty of time is allowed, oil colors may be used. For brushes see Plate 99, Nos. 10, 11, 12, Plate 100, No. 18, 19, 20.

**286** For signs painted on canvas, the procedure is as follows: Lay out the work with charcoal and retrace it with a soft lead pencil. Then wet two or three letters with water, using a sponge or cloth and proceed to paint the letters with oil colors mixed with gasoline and turpentine Japan half and half. The water applied stops a great amount of the absorption, thereby taking less paint and making the cloth easier to cover.

Use brushes No. 26 or 22 on Plate 100, in different sizes as the work requires.

See Plate 54-A, No. 5, for frames for cloth signs.



We wish for  
all a holiday  
season of  
good cheer,  
contentment  
and Prosperity

PLATE 102

### Geometrical Paper Cutting

**287** See Plate 55. Use a paper about 6 inches square as shown at No. 1. Fold it double as in No. 2. Fold No. 2 again at dotted line, making No. 3. Fold No. 3 at dotted line, making No. 4. Cut with scissors or razor blade at line and unfold paper, thus making an OCTAGON.

#### Five Pointed Star

**288** Use a paper about six inches square as in No. 1, Plate 55. Fold it double as shown in No. 2. Fold again as in No. 5, and again as in No. 6. Cut off at line.

#### Six Pointed Star

**289** Use a paper about six inches square as in No. 1, Plate 55. Fold it as No. 7. Fold again as in No. 8. Fold again as in No. 9. Fold again as in No. 10 and cut off.

#### Scroll Construction

**290** Make geometrical spaces as shown in dotted lines, making such subdivisions as necessary to guide proportions, as in Nos. 11, 12, 13, Plate 55.

Plate 55.  
again as in

es, making  
ions, as in

Supreme  
Values

**KNOX  
HATS**

Quality, Elegance  
Durability

PLATE 103

HEERLING

### To Make Uniform Designs Quickly

Any method which will produce quickly, but semi-mechanically, would not have much consideration in "Art for Art's Sake." For commercial purposes anything that will produce the same result in a short manner is permissible.

**291** Plate 48, No. 1, shows a quarter design. Draw one quarter of a design of which four quarters are repetitions and use it either as a trace pattern by rubbing the opposite side with any dry color or rubbing it with a soft lead pencil, then using it as though it were carbon paper. For glass work or boards, it should be perforated and used as a pounce pattern, placing it in the last three quarters in relative positions as shown in first quarter. This makes the design complete as shown in No. 2, Plate 48.

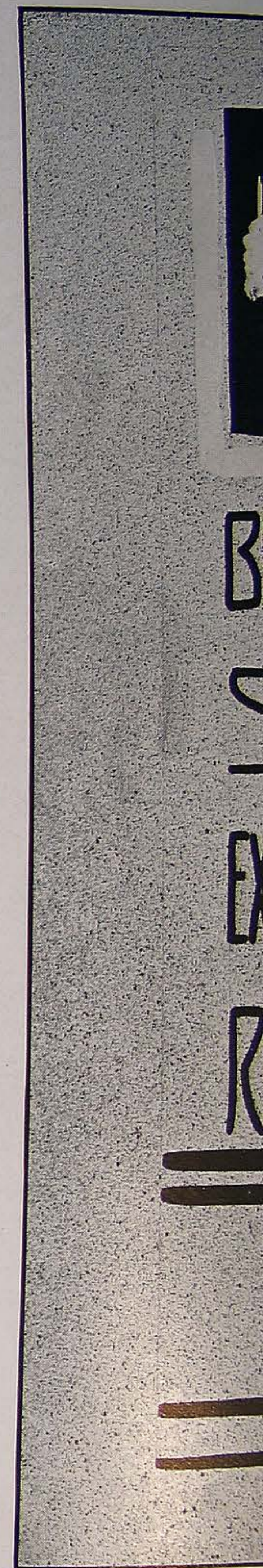
**292** Another method often employed is shown in Nos. 3 and 4. Use two pieces of paper the size required and fold them in

the center. Rub one of them all over with dry color or charcoal. Place this one inside the other one with treated side against the untreated sheet; lay on table and draw half of the design, which is duplicating the side being drawn on the other side as the drawing proceeds. Open the paper and it will appear as in No. 4, Plate 48.

It is advisable to lightly sketch the outline as a guide before doing any tracing. That is, as shown in Fig. 3. Corrections are easier than when tracing has been finished.

**293** For small designs it is customary to fold a sheet of carbon paper in the center, carbon side out, and insert this into a folded sheet of drawing paper. However, if water color is to be used, the carbon lines do not take the water color well.

See Plate 46 for border and ribbon construction.



# RECORDS

BOUGHT  
SOLD  
EXCHANGED  
RENTED

ALL STANDARD  
MAKES

TALKING  
MACHINES  
=  
REPAIRING  
REFINISHING  
E T C.

BRAYTON·PAGE CO.  
ANY STREET, ANY PLACE

HEBERLING

PLATE 104



#### **Preventing Water Color Paper From Buckling**

Wash drawings and sketches rendered in water colors can be kept from buckling by the following method. Take the paper (which must be a little larger than the sketch) and apply glue around the edges and press to the drawing board. When glue dries, go over entire paper with water and then allow to dry. Paper will not buckle as all the buckling is eliminated by the water bath.

#### **Tracing Designs, Etc.**

To trace a design from another drawing or painting, use ordinary drawing or bond sketch paper, lay it over the subject to be traced. With cotton saturated with turpentine, wipe over the tracing paper. This renders the paper transparent and enables the worker to follow every line. Trace while wet and if it dries before finishing, wet it again.

#### **Japan Colors**

Never use Colors Ground in Japan for "Cutting in" except on inside glass work. Japan Colors dry so quickly that it is impossible to work sufficiently fast to eliminate the marks where

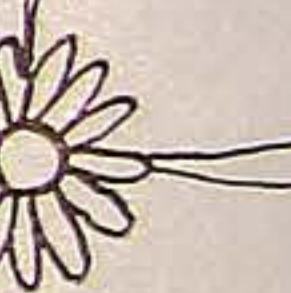
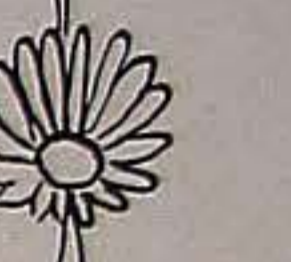
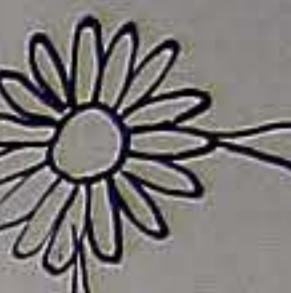
paint overlaps that previously applied. Oil colors are preferred for all "Cutting in." For hurried work on glass, Japan Colors will answer the purpose.

#### **A Hurry-Up Sign Board**

Any rough board may be converted into a sign board by tacking oil cloth over it and having it stretched nicely and finished off with a moulding around the edge. Before lettering any oil cloth, rub with whiting and benzine, or whiting and vinegar. Do not use regular sign oil cloth because it is not as heavily coated as white table oil cloth and will not last as long, although cheaper. Signs that are "cut in" on this style of sign board will stand for several years as the paint gives an additional protection to the oil cloth.

#### **A Reliable Wash for Galvanized Iron Before Painting**

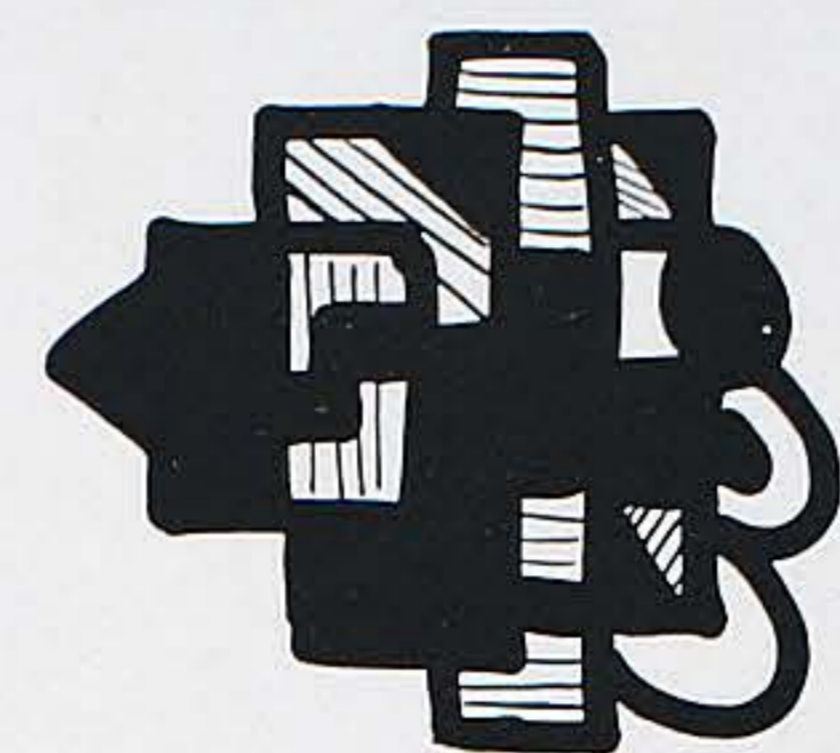
Take about a gallon of vinegar and deposit some old iron or nails in same and let stand for two or three days. This forms iron acetate. Take a large brush or rag and go over the surface which is to be painted. Allow wash to dry and proceed with painting.



The *Mollie* CHOCOLATES

*They're different*

193 Varieties



38 Assortments

*Try them today.*

PLATE 105

## The Air Brush

The air brush is a mechanical art tool. Constant experiments by expert mechanics have made the present day air brush a perfect and indispensable assistant to the show card and sign artist. Its range of usefulness is varied and unlimited. While it is a mechanical tool, it adapts itself readily to free-hand use and to use in connection with stencils. Without the use of the air brush, many of the wonderful advertising designs would not be seen in the various magazines. Its use makes it possible to render effects almost impossible by any other method and the air brush does the work in a fraction of the time otherwise required.

Artistic creations adaptable to and in connection with lettering may be rendered quickly, not showing any trace of hurried work.

While the air brush is a tool, it is unlike a brush. It is a tool that throws a spray of color onto the work and the operator governs this with a trigger, making it fine or heavy as the work requires.

The word "air" means just that, but the word "Brush" is misleading to one not really familiar with an air brush.

If there is such a thing in connection with the show card business as "Cleanliness being next to Godliness" it surely is with the air brush that its application should be put to use. *A dirty air brush, or color which is lumpy and gritty, will not work properly, but will spit and sputter and ruin any work attempted with it. The control of a dirty brush is lost. The air passages and color passages get clogged and a uniform spray is absolutely impossible.*

As to the kind of an air brush to use, there are five different manufacturers in Chicago. Any of their brushes are good and will work properly if treated properly. None will work if they are not treated with the same carefulness as a watch or other delicate instrument. Many times the operator blames the air brush when it is carelessness on his part as to its desire to function improperly.

### Air Brush Equipment and Its Use

The air pressure for the air brush is furnished either by an automatic electric air compressor, or a liquid carbonic gas outfit, or the foot pump compressor, which is used by artists having only occasional use for the air brush.

The electric machine is king of them all for general use and is easily handled.

The carbonic acid gas outfit is the same identical arrangement used for charging soda fountains.

The electric compressor retains a pressure as desired by the operator. An automatic cut-out starts and stops the motor at any point between ten and sixty pounds pressure. It will maintain a pressure of sixty pounds and when the brush uses up from eight to twelve pounds of the sixty pounds, the cut-out connects and pumps until the pressure again reaches sixty. The cut-out may be set at a lower pressure if desired. The electric compressor comes ready to use immediately.

**Yuletide**  
**Greetings**  
**Peace on earth**  
**and Good Will to**  
**all Mankind...**

*Saxford Bros.*

NEW YORK

CHICAGO

PLATE 106

## The Liquid Carbonic Gas Outfit

The handling of this outfit demands exacting care, if safety is desired. No accidents ever occurred with this outfit not traceable to carelessness or ignorance.

Follow the directions given below and do so carefully. Safety depends upon this:

Insert two washers into the reducing valve to insure an air tight connection. Connect it to the drum of gas.

Second: After a tight connection has been made, close the air cock on the regulator which leads to the tubing. The regulating screw should be unscrewed until all pressure on it has been released, but is still held in place by a few threads of the screw. This screw is generally released by an outward or downward unscrewing motion. The threads being right hand.

Third: The wrench for these drums or tanks have two openings, one at each end. Use neither one of these for the following operation. Instead, use the square opening in the center of the wrench. Turn on the gas by opening the valve at the top of the gas drum. This valve is square and generally enclosed by a large hexagonal ring.

Fourth: Do not be disappointed if no pressure is registered by the gauge. The regulating screw which was previously un-

screwed may have relieved all pressure. If pressure is shown on the gauge, wait until the indicator hand becomes stationary and if the pressure is below twenty pounds, turn the regulating screw slowly to the right and very slowly as this increases the pressure at the gauge. The proper working pressure for best results is between twenty and thirty pounds.

Fifth: *Never, Never, Never screw outward the regulating screw while any pressure is registered on the gauge.* If the gauge registers thirty pounds and only twenty is desired, do not try to reduce the pressure by unscrewing the regulating screw. Instead, *shut gas off with wrench at top of drum and then go about it as explained in "second" part of directions until pressure is right.* Remember, never try to reduce pressure by regulating screw, and never unscrew it while pressure is registered on gauge.

Sixth: Assuming the pressure shown at gauge is between 20 and 30, the air brush is attached to one end of the tubing and the other end is attached to the hose nipple near the gauge. Turn the pet cock on and the brush is ready for work.

Do not touch the regulating screw after it is adjusted to working pressure. This will not be necessary until another drum of gas is needed. Shut off gas at drum when leaving for any length of time to prevent any leakage.

shown on  
ary and if  
ing screw  
e pressure  
results is

ating screw  
e registers  
reduce the  
d, shut gas  
plained in  
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**L M N O P Q R S T U**  
**V W X Y Z & ? ! & ,**  
**EGYPTIAN VARIATION**

Plate 107 For Posters, Cards, Cloth, Etc. HERBING

## Air Brush Stencils

Stencils make possible many duplicates of the original at small cost and a hundred copies may be made in the same length of time it would require the operator to make one free hand. (See chapter on Stencil Cutting).

A separate stencil is required for each color used and an extra one for shadows to be sharp and strong.

The best practice for the beginner is to procure a few leaves, such as the oak leaf, locust, etc., and pin them down on a piece of cardboard and spray around them with the air brush. Use any of the commercial air-brush colors for this.

Then cut out various shaped pieces of cardboard and lay them over another card and spray around them and try shading the left and bottom sides a little heavier than the top and right sides. This will make the shapes stand out in relief.

Do not attempt to do any actual work with the air brush until it can be used with good control. That is so that the finger will operate the lever so as to diminish or increase the size of the spray as the case may be.

This practice will give more information than a hundred pages of text matter on the subject.

Coins, rope, chain and, in fact, any small article may be laid on a card and its impression made by spraying.

The student should not attempt to cut stencils of a complex nature. Simple straight lines with corner pieces are easier and are not so bewildering for the first lessons.

The air brush is also used for shading brush-made letters.


air brush  
the finger  
size of the  
  
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a complex  
easier and  
  
letters.



**SPRING**  
MODES  
Now on Exhibit

YOUR INSPECTION  
IS  
INVITED

PLATE 108



**C**lever  
collar  
creations

ALL STYLES  
ALL SIZES

HEBERLING



**Price List Based on Union Scale for Chicago District**

**Minimum \$12.00 Per Day**

Add 10 percent if scale of wages is one dollar per day more; if less, deduct 10% for each dollar.

**Show Cards on 8-Ply Bristol Board**

Double Sheet, 28 x 44.....	\$4.20
Full Sheet, 22 x 28.....	2.10
Half Sheet, 14 x 22.....	1.25
Quarter Sheet, 11 x 14.....	.75
Eighth Sheet, 5½ x 7.....	.55
Sixteenth Sheet, 2¾ x 3½.....	.35
Sixteenth Sheet, 2¾ x 3½ (Price Tickets).....	.20

These prices are for three color work and three or four lines of lettering. For rapid price tickets with figures only and in lots of 100 or more, deduct 30%. Add 10% for each additional line of lettering over four on all cards. If white or colored matboard is used, add 20% to prices charged for Bristol Board.

**"Sign Cloth" Signs**

One display line, 2 subordinate lines, per sq. yd., 2 colors, \$2.00.

Charge \$2.00 for frames under 3'x6', over 6' add 10% per yard for framing. Hanging extra, depending on location to be

hung and distance from shop. Half widths (18") muslins are charged for at the same rate as full width unless the customer has work at the same time to use up the left over. Then charge 75% of full price for 36" width. It takes the same amount of time to put three lines on 18" as it does on 36".

**"Dull Finish Oil Cloth" Signs**

Add 30% to prices on sign cloth or muslin signs.

**Black Office Door Lettering**

Lineal foot, 2" letters.....	\$0.50
Lineal foot, 3" letters.....	.75
Single Line.....	1.50

Add 50% for gold on oil size with black outline.

**Transom Numbers**

4 numbers, 5" high.....\$6.00

Add 25% for matt centers. Deduct \$1.00 for each transom if three or more are done at one trip.

**"Deliver All Goods in Rear"**

Black letters, gold background.....	\$10.00
Gold letters, black background.....	10.00

Deduct \$1.00 each if 3 or more are done at one trip.

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arge 75%  
of time to

ransom

o.

Signists demand highest grade materials. Without them, a serious handicap is encountered...

Heberling  
CHICAGO

Plate 109

**Price List**

**Store Window Lettering**

**ALUMINUM BRONZE—**

4" without outlines or shades for letter, \$0.25

Add \$0.10 per letter for outline or shade.

Add 20% for each inch over four inches and up to nine inches.

Deduct 10% if over \$100.00.

**Painted Letters**

Same as aluminum bronze.

**Transparent Panels on Windows**

All paint lettering per sq. ft. . . . . \$2.00

Gold outlines with colored center or solid gold lettering per sq. ft. . . . . 4.00

Add 20% for over two lines of lettering on same space.

**Gold Window Lettering**

Burnished gold letters, 2½" or less, each . . . . . \$0.40

Over 2½" high, per upright inch. . . . . .17

Matt centers (one gild), 2½" or less, each . . . . . .60

Over 2½" high, per upright inch. . . . . .19

Matt centers (two gilds), letters 2½" or less, each. . . . . .65

Over 2½" high, per upright inch. . . . . .25

Convex effect (one gild), letters 2½" or less, each. . . . . .75

Over 2½" high, per upright inch. . . . . .40

Convex effect (two gilds), letters 2½" or less. . . . . .85

Over 2½" high, per upright inch. . . . . .45

Silver Leaf same price as gold.

**Gold Border Lines Around Panels, Etc., on Glass**

½ in. wide, per lineal foot. . . . . \$0.40

1 in. wide, per lineal foot. . . . . .50

**Glass Panel Hanging Window Signs**

Double the cost of glass and estimate lettering in the usual manner for window lettering.

**Glass Strip Window Ledge Signs**

Double the cost of glass, add 25% to cost of frame and figure lettering in the usual manner for window lettering.

**Outlined Letters, in Paint, on Glass**

On inside of glass without background and with opaque outline and transparent centers, or vice versa.

Letters 3½ inches or less, each. . . . . \$0.30

Over 3½ inches up to 10 inches. . . . . .40

Over 10 inches, per upright inch. . . . . .06

**Principles**

of style in the use  
of alphabets, har-  
monious arrange-  
ment in composition  
and the correct use  
of color, produce  
clever creations....

PLATE 110

HERZLING

**Price List**

**Gold Outlined Letters on Glass**

On inside of glass with opaque or transparent centers, without background. Charge as in "Transparent Panels on Windows" and deduct 15%.

**Fascia Board Signs**

Made either on wood or metal.

Plain black and white work, per square foot, less than 60 square feet and over 20 square feet, \$0.75 per sq. ft.

For background and lettering extra as per list.

For letters under 4 inches charge per upright inch, \$0.06.

Letters over 4 inches per upright inch, \$0.05.

For Gold Leaf Lettering figure the board as for paint and add 10%.

Lettering up to 4", per upright inch...	\$0.09
Lettering over 4", per upright inch....	.12
Border lines 3/4" wide or less, per lineal foot. ....	.18
For gold panels with black lettering, square foot. ....	2.00
Embossed gold panels with black lettering, square foot. ....	3.00

**Double-Faced Signs**

If two boards are used, double the price; if only one is used, deduct 75% less than for two boards.

**Raised Wood Letters**

Figure background as above, letters extra.

3-inch letters or less, each.....	\$0.80
Letters over 3" to 10", per upright inch	.22
Letters over 10" to 15", per upright inch .....	.28
Letters over 15" to 25", per upright inch .....	.38
Letters over 25", per upright inch....	.50

These prices are for standard stock letters as made by manufacturers and not special work, which is charged extra.

If letters are attached direct to building instead of being mounted on a board, charge price of letters plus 30% and extra for attaching, depending on surface to be drilled and its height.


**Small Board Signs for Doctors, Etc.**

Lettered two sides. Charge 25% profit on board.	
Lettering up to 4", per upright inch...	\$0.10
Over 4" up to 8", per upright inch....	.13
Gold background with black letters, per square foot. ....	5.00

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Offerings*


*Splendid  
Values*

*Latest Designs*

HEBERLING



*Attractive  
Waists*



*Dainty and Cool  
for  
Summer Wear*

HEBERLING

*Emerald  
Shirts*

*Dependable for  
Style Quality  
and Service.*

*\$2 \$2<sup>50</sup> \$3 Up*

HEBERLING

PLATE III

**Price List**

**Silk Lodge Banners**

Charge 20% profit if banner is not furnished by customer.

- Lettering with split shade, per lineal foot in gold. . . . . \$3.00
- Gold panels or ribbons with letters in colors, per lineal foot. . . . . 4.00
- Emblems and ensignias extra, per hour. 3.00

**Vehicle Lettering**

- Gold letters with outline and shade, up to 3", per lineal foot. . . . . \$1.50
  - Letters up to 6", per lineal foot. . . . . 2.50
  - Aluminum leaf, same as gold.
  - Paint letters, per lineal foot. . . . . \$1.00
  - Extra shades or high lights, per lineal foot. . . . . .75
  - Monograms, per pair, in gold. . . . . 5.00
- Trade marks, pictorials and "trade mark" lettering if elaborate, are charged extra at \$3.00 per hour.

**Varnished Ground Signs**

Figure lettering as in "Vehicle Lettering." Add cost of board plus 20% and 30 cents per square foot for preparing surface for lettering.

**Japanned Tin Stair Strips**

- Add 20% to cost of Japanned plate.
- Lettering, per lineal foot. . . . . \$1.00

**Real Estate and Agency Signs**

- (In quantity) on wood or metal.
- 1 x 2 ft., two coats white and stenciled lettering, in 100 lots. . . . . \$1.50
- 2 x 3 ft., in 100 lots. . . . . 3.00
- 3 x 4 ft., in 50 lots. . . . . 5.25
- 4 x 5 ft., in 25 lots. . . . . 8.00

Erecting is charged for extra.  
 Repainting old signs, deduct 15%.  
 For single signs, hand lettered, add 50%.

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All Wool  
Hosiery

Our positive  
Guarantee  
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each pair...  
Guarantee  
means  
Guarantee.

HEBERLING



**1 9 2 1**  
SPRING SUMMER

HEBERLING

PLATE 112



**Price List**

**Banners Made of Canvas**

Add 20% to cost of canvas, rope and grommets for hanging. Charge for each square foot, sixty cents. Hanging is extra.

**Canvas Banners, Served on Net for Campaign and Other Purposes**

Including net and banners, per square foot. . . . . \$0.90  
 Insignia and pictorial, extra, per hour. . . 3.00

**Wire Mesh Backgrounds**

If metal panels are used for lettering, figure same as varnished ground signs. For wood letters, figure same as for "Wood Letters Attached to Building." Lettering is extra and not included in background prices.

5 x 8 ft. background, 3 coats metal  
 paint. . . . . \$40.00  
 5 x 16 ft. background, 3 coats metal  
 paint. . . . . 76.00  
 Over 100 sq. ft., per sq. ft. . . . . .95

**Stand Pipes, Smoke Stacks and Water Tanks**

No job should be done for less than \$25.00. It involves the hanging of a stage and the cost of cartage is the same for a small job as for a large one.

Charge for each 10-ft. in height over 50 ft., an extra amount of \$7.00.

For painting 2 showing on tank, letters double coated and "cut in," \$85.00.

Structural iron work, not included, but tank is included.

Add 40% for an additional showing.

Trade marks, extra, per hour, \$5.00.

Stacks and standpipes are figured as tanks, except areas not lettered are figured at a charge per sq. ft., 10 cents.

Repaints are figured at 80% of new work.

Red and blue backgrounds when used must be charged at an advance, per square foot, 3 cents.

**Highway and Railroad Bulletins**

12' x 25' standard bulletin:

Erected and painted (location lease not included) . . . . . \$250.00  
 8' x 32" Railroad Board . . . . . 200.00  
 Double-faced bulletins on one structure, figure 80% of doubled prices.  
 Repainting old bulletins with same inscription, per sq. ft. . . . . .22  
 Repainting with new inscription, per sq. ft. . . . . .32

Package facsimiles, pictorials, extra, from \$12.00 to \$60.00, governed by the job.



The  
Chocolates  
with the  
Wonderful  
Centers

Liggett's

PLATE 113

Do not  
forget our  
Jewelry Dept.

JEWELRY

4<sup>th</sup>  
FLOOR

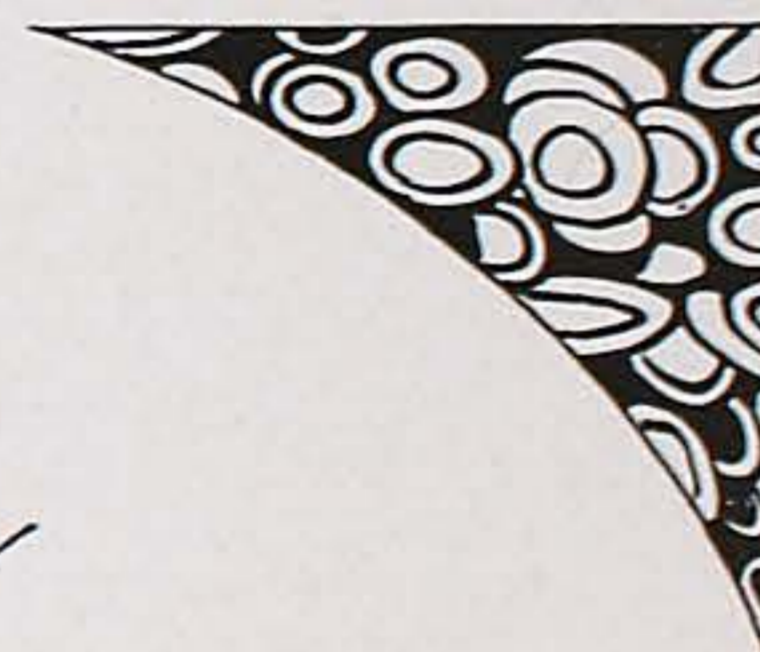
GIFTS THAT LAST



On Display  
Haviland

CHINA WARE

8<sup>th</sup> floor



HEBERLING

**Price List**

**Fences and Sheds**

Without use of scaffold.

1000 sq. ft. or less, 2 coats on letters and "cut in," sq. ft. . . . . \$0.12

Small jobs, such as 150 sq. ft., must be figured at an advance, depending on the expense, time, etc.

2000 ft. 2 coats on letters and "cut in" .11

5000 ft. 2 coats on letters and "cut in" .08

If colored grounds of red or blue, add 20% to total.

If white or light grounds with "surface lettering," add 25%.

Pictorials extra.

**Wall Signs**

One coat "Break on" and "cut in," per square foot. . . . . \$0.12

Two coats "Break on" and "cut in," per square foot. . . . . 14

Backgrounds of red or blue, per sq. ft. . . . . 17

Minimum job, repairings, same inscription, 80% of new work. . . . . 60.00

Pictorials and trade marks extra.

**Wall Strips Between Floors**

Four-foot widths or less, one coat letters, per lineal foot, 65 cents.

Deduct 10% for strips below the top one if all can be done at one stretch before moving stage.

Four-foot widths or less, 2 coat letters, per lineal foot, 80 cents.

Over 50 feet from ground, add 10%.

Red or blue backgrounds, add 10%.

**Note**

The art of Sign Painting and Show Card Writing has developed into a profession. Modern business men look upon it in that light and are willing to pay a good price for good work. If a sign costs One Hundred Dollars and lasts for one year, its rate per month is very low, considering its worth as a business card to the public.

Notwithstanding the fact that the unions establish a minimum wage scale, many high grade letterers and pictorial men are receiving far in excess of the stipulated union scale.

Surgical operations are not charged for by the hour, but as scientific skill is involved, they are charged for by the job which in few cases last for an hour.

It is ability to do work quickly and neatly that is required in the high grade sign studios of the present time. The employer and the customer do not object to the price if workmanship, service and materials are a little in advance of what they expected. Do not cultivate the habit of timidity. Ask what you think your work is worth. Always reserve the right to set the price on your ability.



*Good Values*

**STARK  
HOSER**

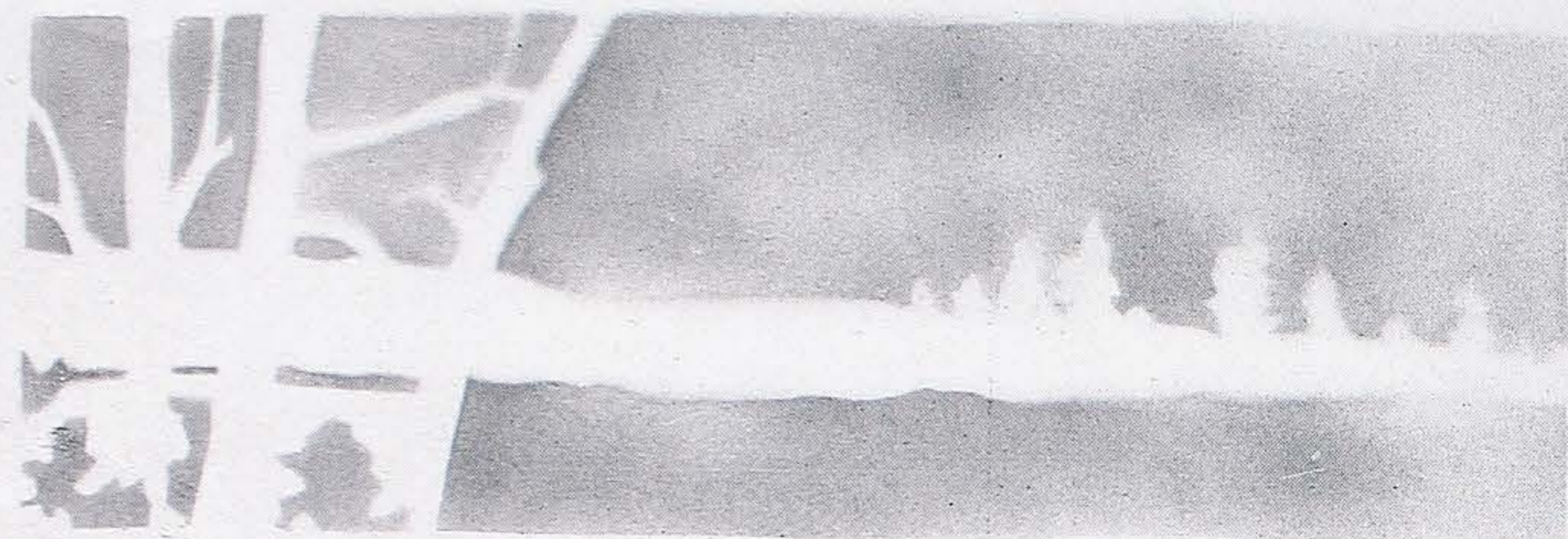


Plate 114



PLATE 115

HEBERLING



*No. 1*



*No. 2*

Plate 116



*No. 3*



*No. 4*

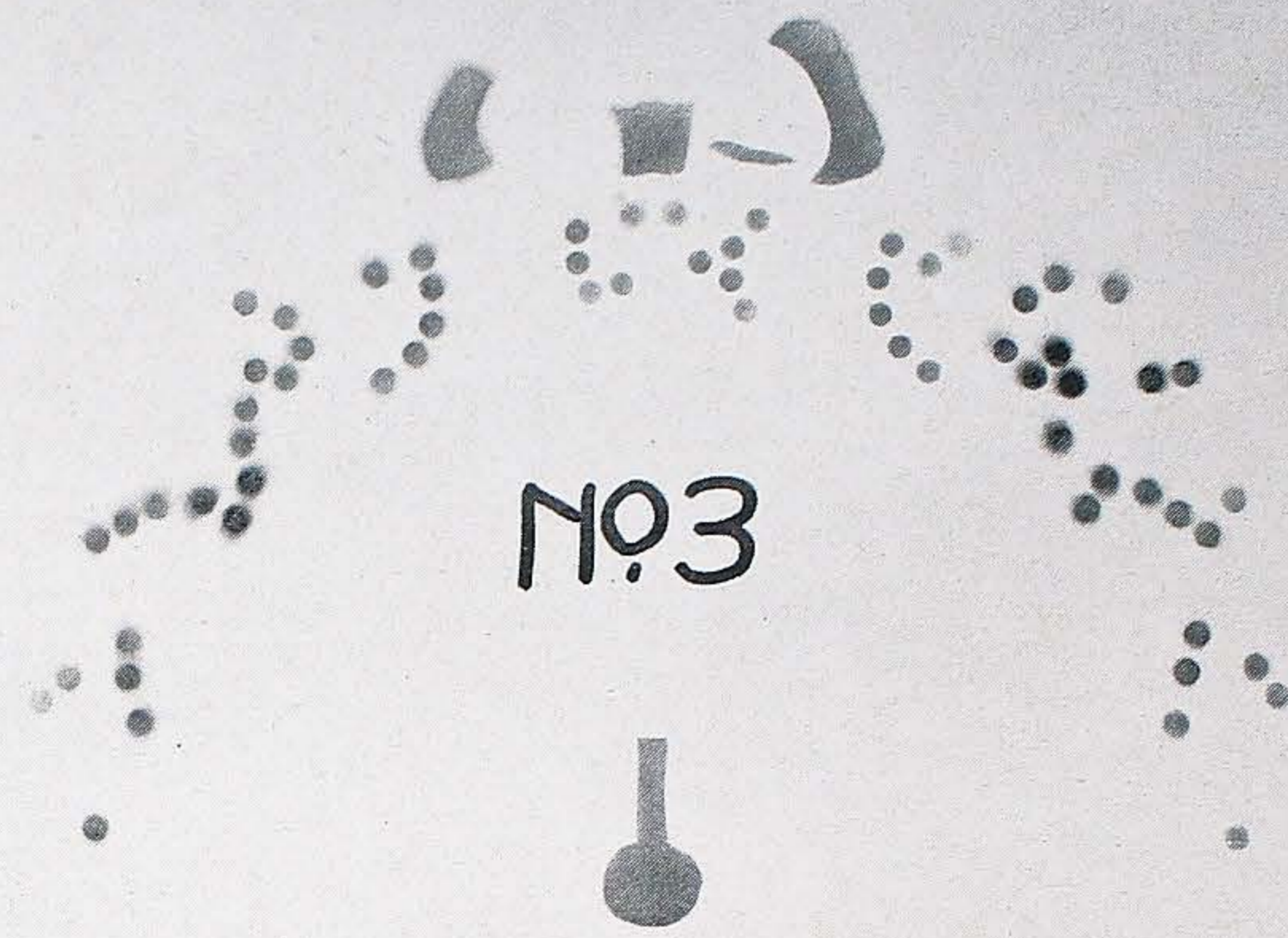


*Completed*

4 STENCIL AIR BRUSH  
... LANDSCAPE ...  
STENCILS, UNLESS USED IN  
ORDER NUMBERED WILL NOT REGISTER



No. 1



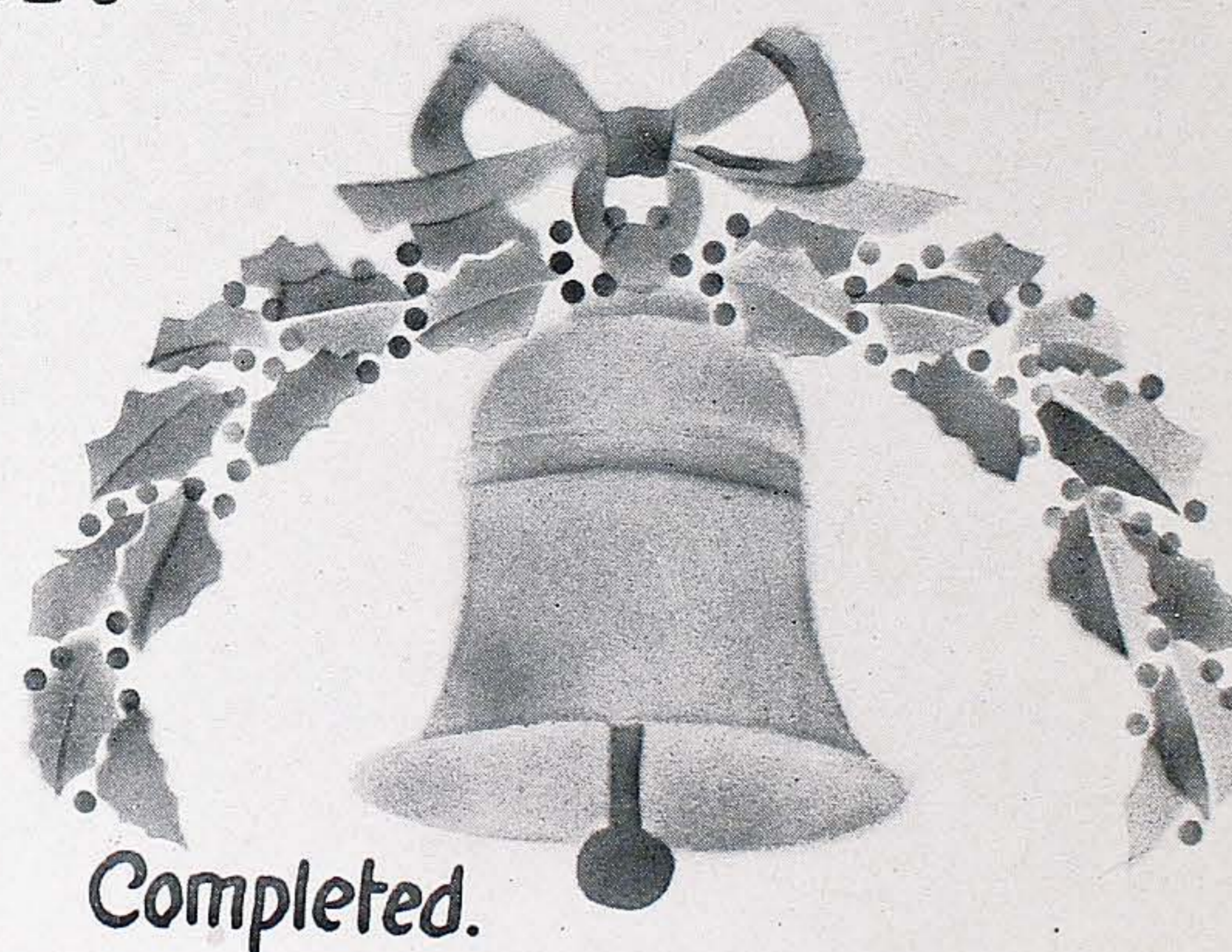
No. 3



No. 2

# PLATE 117

3 STENCIL  
AIR BRUSH  
DESIGN.



Completed.

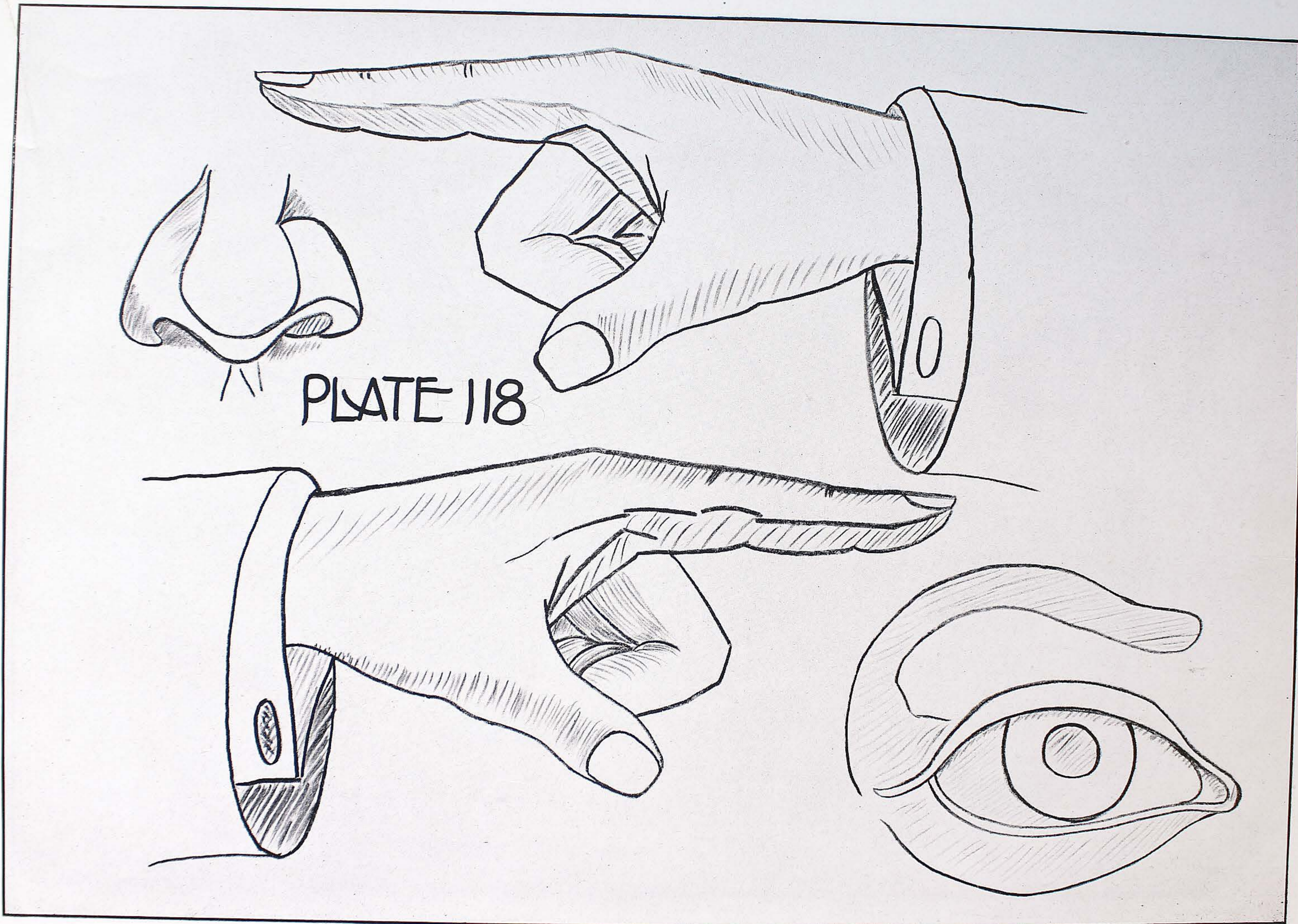


PLATE 118



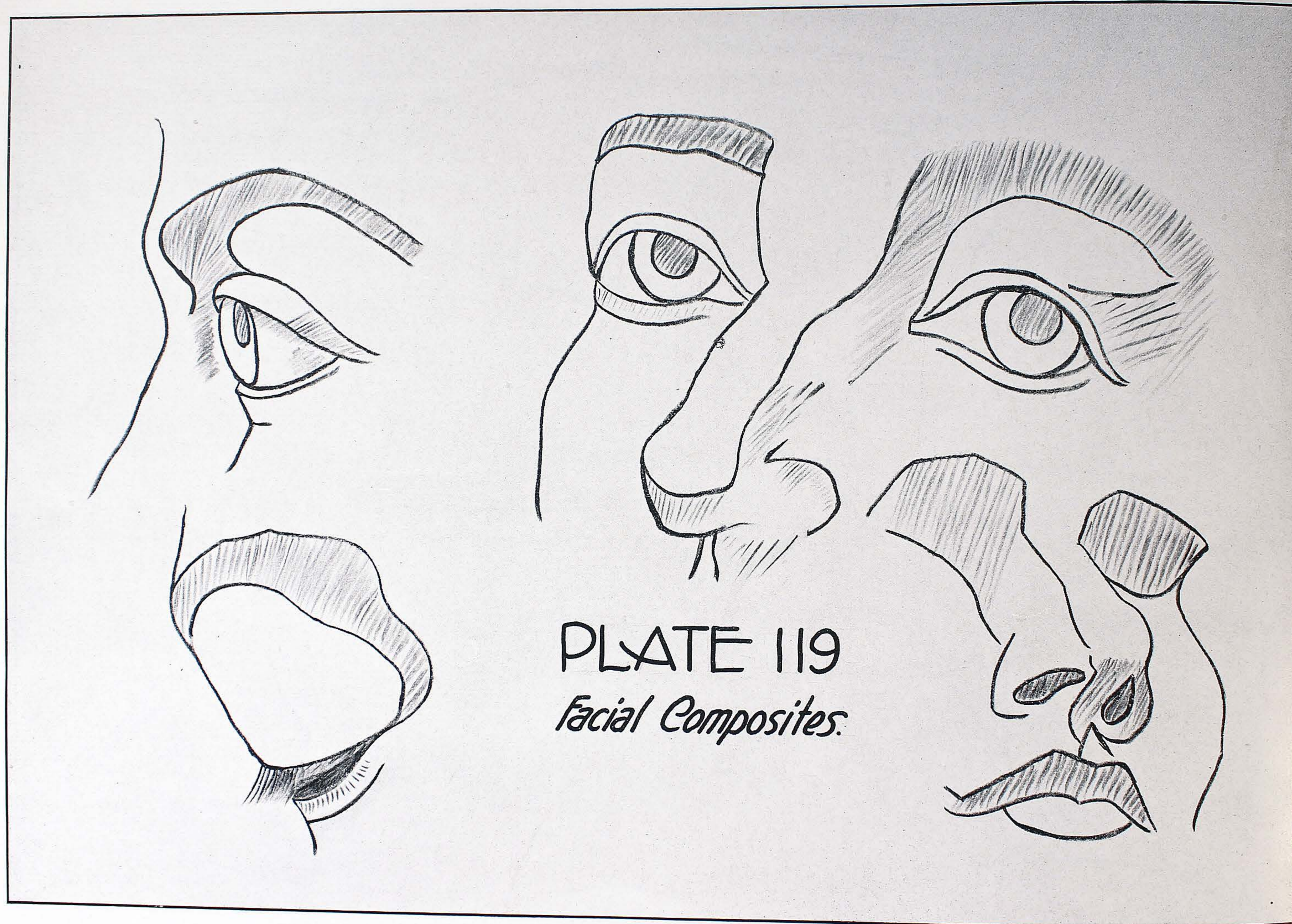
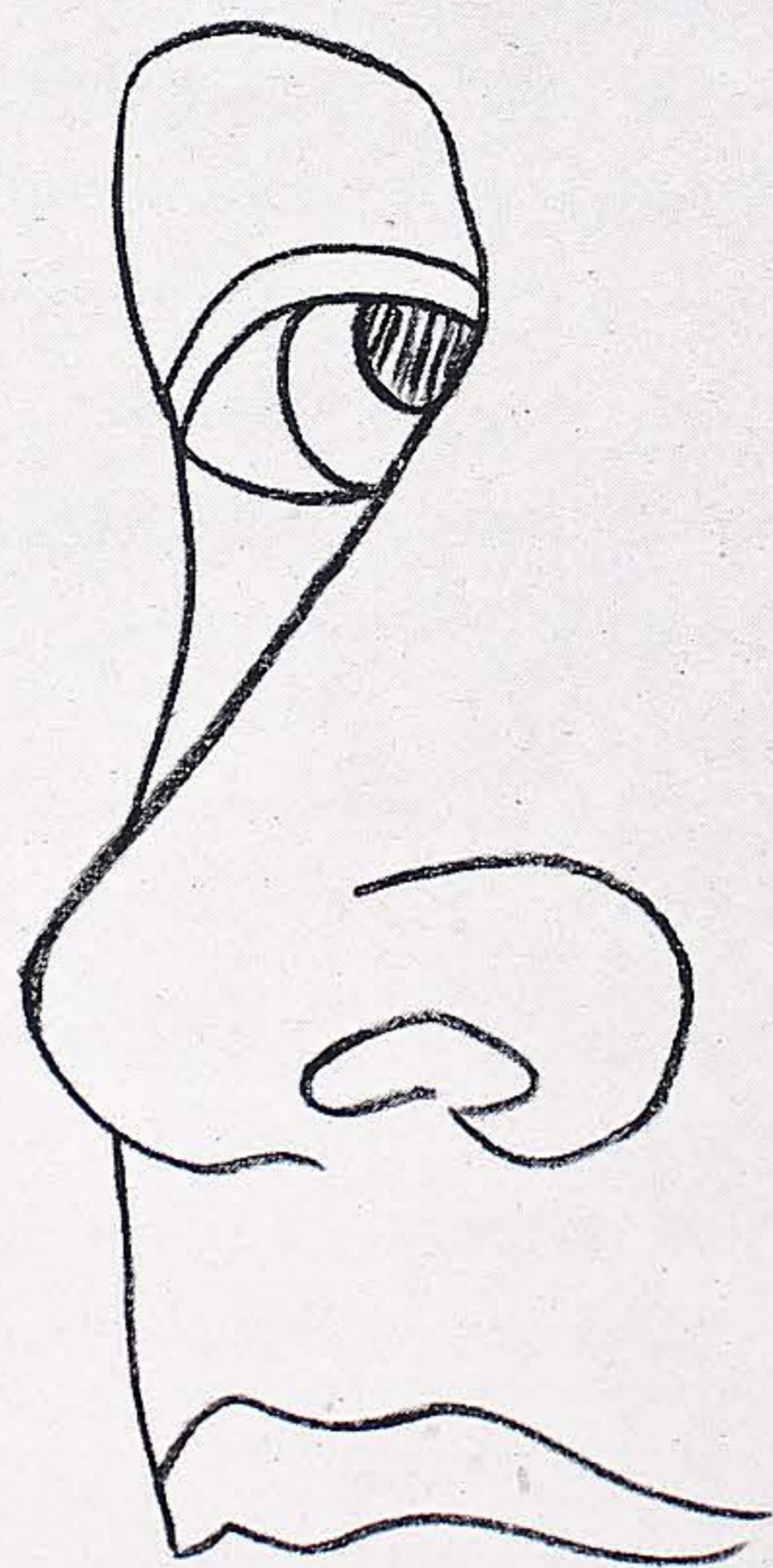
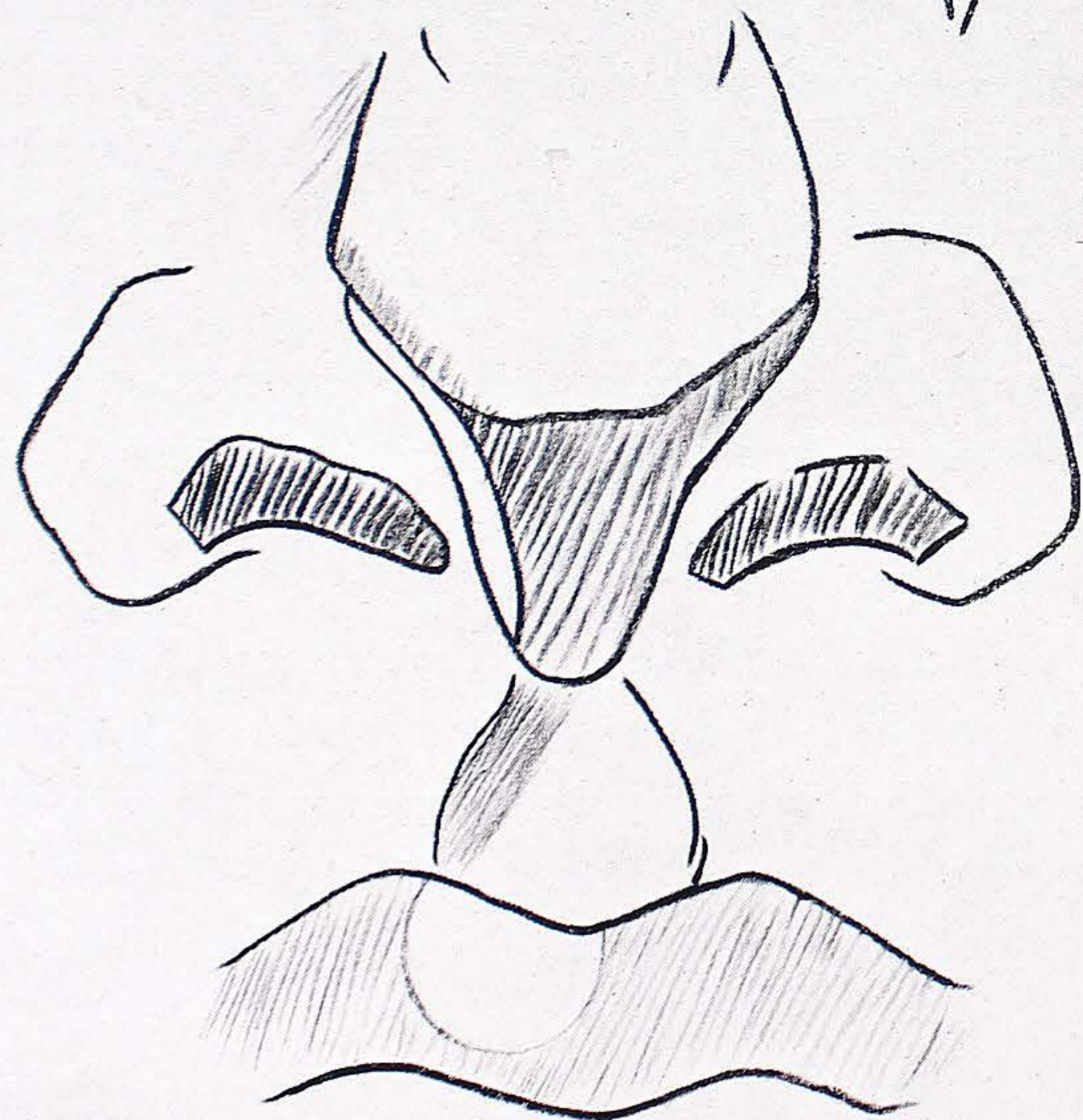
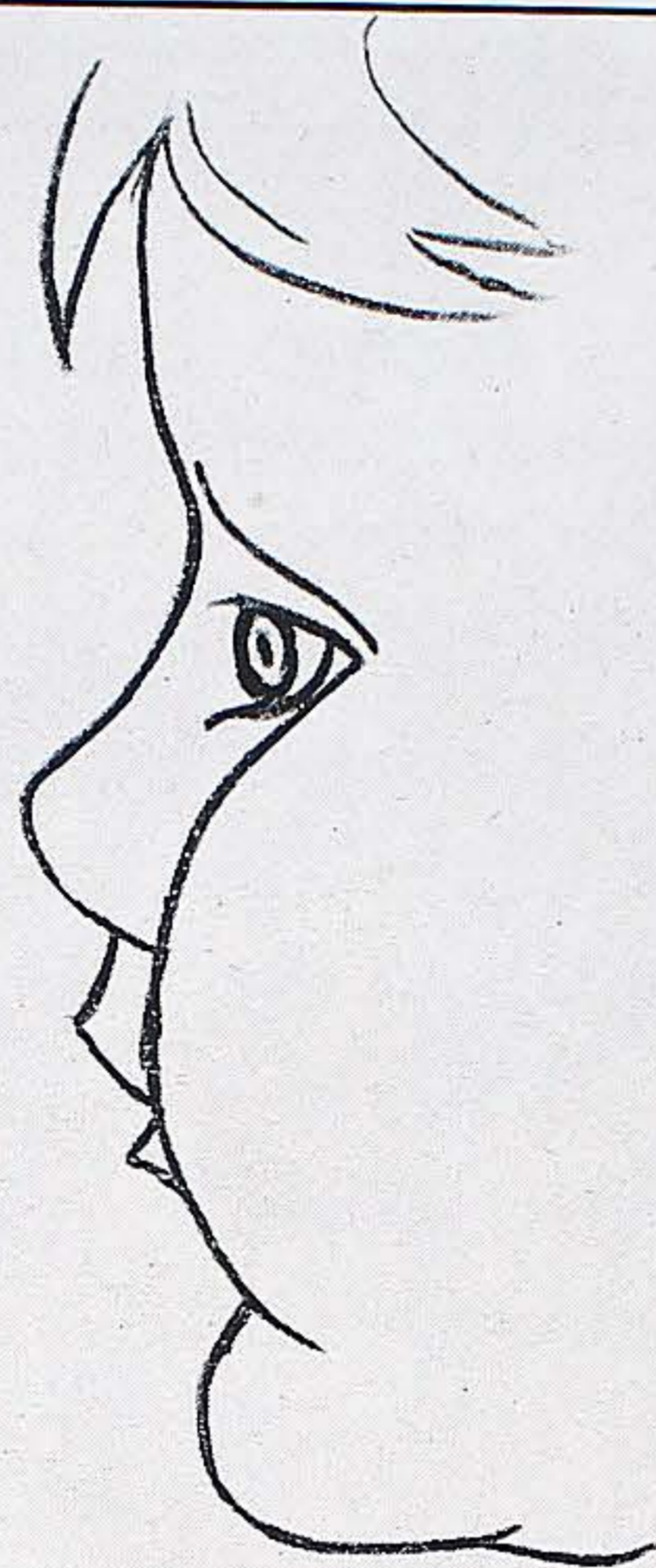


PLATE 119  
*Facial Composites.*

Facial  
Composites

PLATE 120



## Rope Splicing

Fig. No. 1-A shows the proper way to unlay the strands. The rope is held in the left hand and one strand is taken at a time and unlayed as far back as necessary, depending upon the kind of a splice to be made. For a short or butt splice (see Fig. 4-B), twelve times the diameter of the rope to be spliced is about the right length to unlay, each of the strands to be joined. If the rope is a one inch rope, unlay it twelve diameters or twelve inches. Remember that in splicing one must be careful that two strands are not put through one opening.

**Eye or Loop Splice.** Unlay each strand of rope about ten diameters as shown in Fig 1-A. Strand marked No. 1 is the center of the rope and must remain so after the splice is started. Fig. 2-A shows end of rope turned back to allow it to enter the main rope and Strand No. 1 is put through the strand on top. See Fig. 3-A, which shows rope opened ready to receive Strand No. 1. The proper way to open a rope is to grab the rope tightly and with the left hand twist toward you and with the right hand turn it away from you. This opens the rope so that you can place each strand in its proper place. When Strand No. 1 has been pulled taut, take Strand No. 2 (see Fig. 4-A), put it under the strand next to the one that No. 1 occupies and No. 3 goes under the next one (see Fig. 5-A). Notice in Fig. 6-A that after each strand has been put under the proper strand, they will form

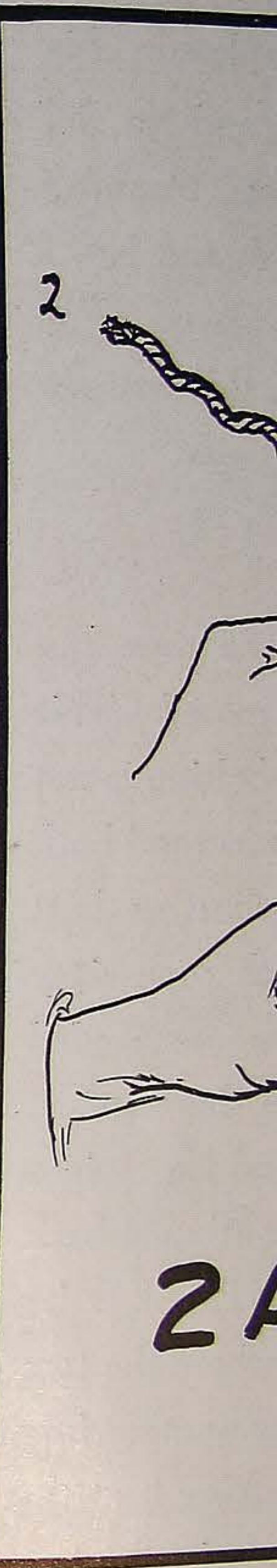
a triangular shape in a three strand rope. This is a good way to tell whether it has been started properly. The operations shown in Figures No. 3-A, 4-A and 5-A are repeated until the splice has been completed. Figure 7-A shows splice completed but not trimmed or rolled. The ends are cut off, as shown in Fig. 5-B, and the splice is then rolled under the foot on the floor to compress it.

Remember that a spliced rope IS NOT AS STRONG as one not spliced for the reason that, in splicing, the short bends have a tendency to break the fibre and if the rope is overtaxed, it will part at the splice as each fibre has been broken. It is safe to allow seven-eighths of the strength of the rope after a splice has been made, as the rope is weakened at the spliced point about one-eighth.

Rope is not measured in exact diameter, but one-third of its circumference is considered the diameter.

### Short or Butt Splice

Used to connect a broken rope and also to make endless ropes or swings. Fig. 1-B shows two ends ready to be butted together with strands alternating from each rope. Fig. 2-B shows beginning of splice. Do not get two strands of one rope between two strands of the other. Be sure they alternate. The splice is

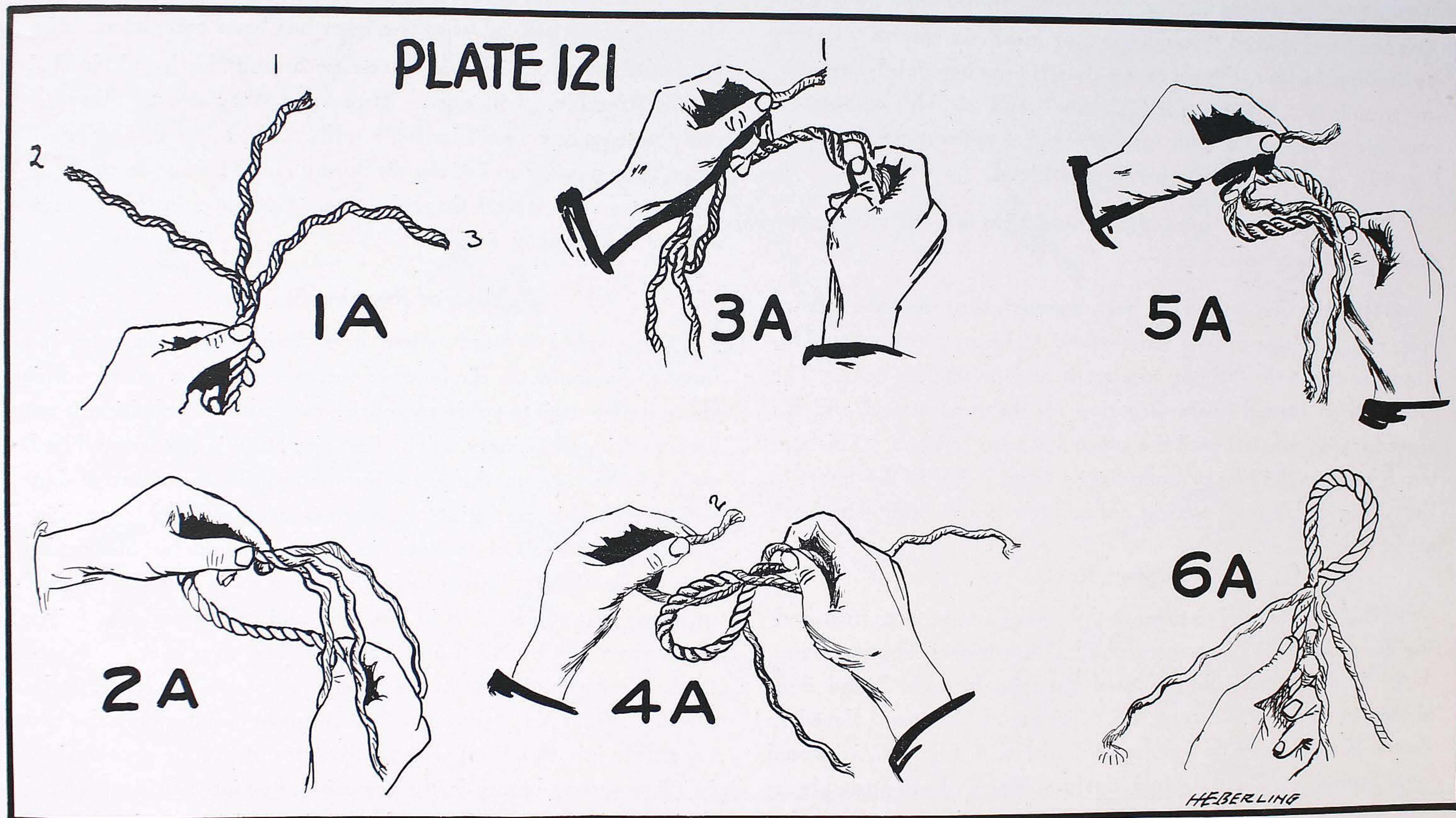


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commenced as shown in Fig. 3-B. This shows rope after each side has been spliced through once or in all six inserts. Before proceeding further, the ropes are drawn together tightly by pulling strands No. 1 and 1, 2 and 2, and 3 and 3. This completed, continue to splice through until the splice appears as shown in Fig. 4-B. Fig. 5-B shows how to cut off end.

The manner of running a strand through the main rope should be simply this:

After the first strand has been inserted, turn the rope toward you, which brings up the next strand to be put through. This strand is run over the one nearest it and under the next. The rope is then turned again, bringing up the next strand and the procedure is repeated until the splice has been finished. This system is used in the Eye or Loop Splice (Fig. 7-A), in the Short or Butt (Fig. 4-B), and also in splice after crown knot has been made (Fig. 5-C).

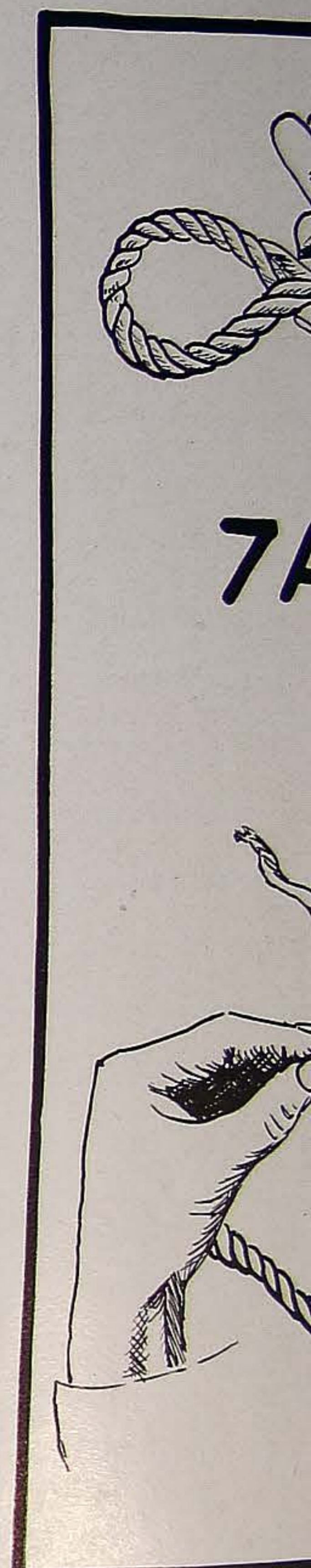
#### Crown Knot

This knot is used to prevent the end of a rope from unstranding (see Fig. 3-C). Commence by holding rope as shown in Fig. 1-A. Draw Strand No. 1 down between Strands 2 and 3 as shown in Fig. 1-C. Strand No. 2 in Fig. 1-C is now placed in crotch X and drawn to top and Strand No. 3, Fig. 1-C, is passed over Strand No. 2 and through opening No. 4. Each strand locks the other as shown in Fig. 2-C. The knot is shown as being

drawn taut in Fig. 3-C. If a permanent knot is to be made, it should be back spliced after the knot has been completed. Fig. No. 4-C shows rope opened to receive Strand No. 1 and No. 5-C shows Strand No. 1 in place. Strand No. 2 is run over Strand X and the next one (see Fig. 6-C). Fig. 6-C shows Strand No. 2 being placed and Fig. 7-C shows Strand No. 3 being placed. Fig. 8-C shows each strand through once. Continue in this manner and splice as long as desired.

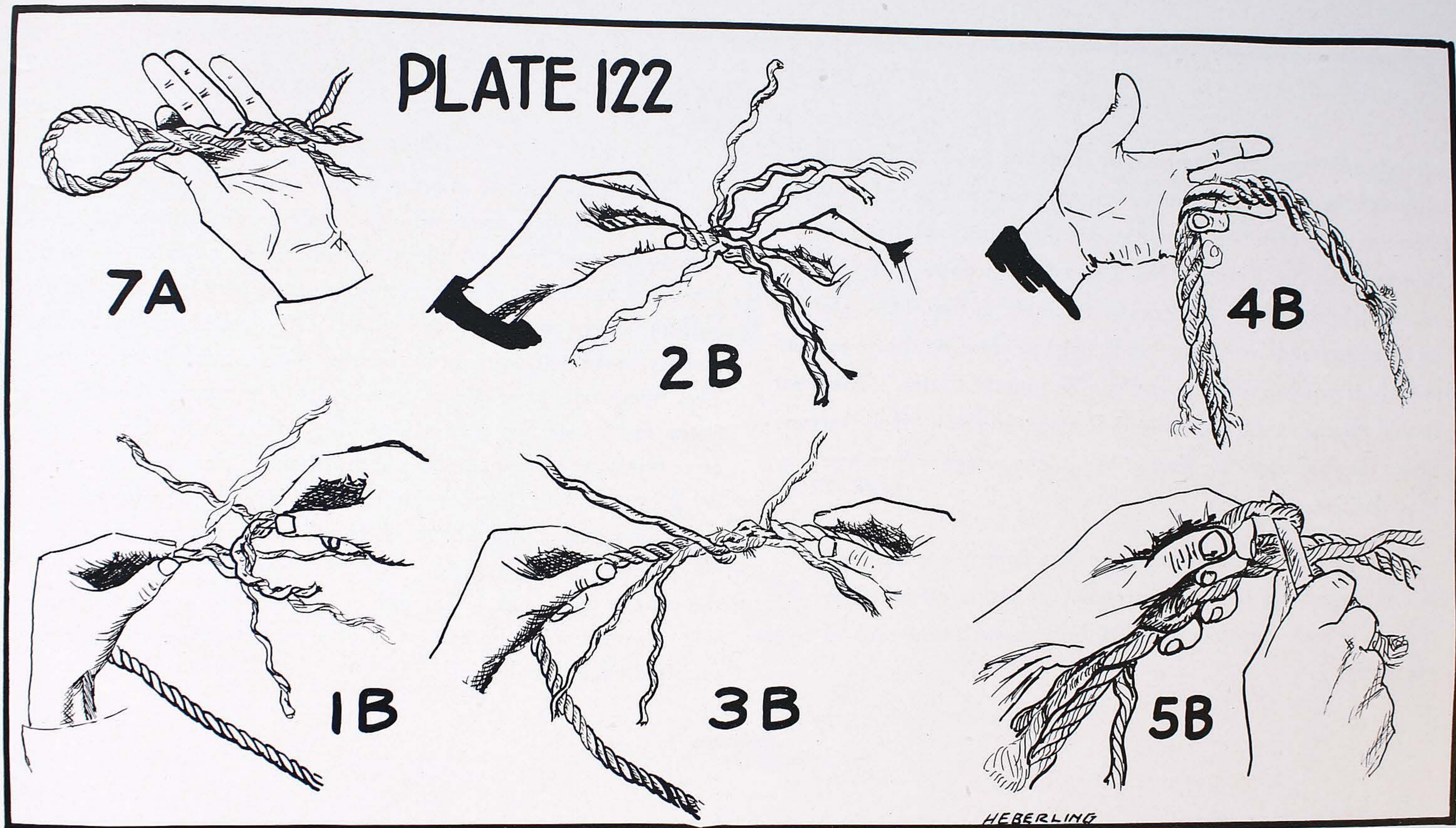
#### Long or Running Splice

This splice is used where it is desired that the rope run through blocks as the diameter of the rope is not increased. This splice is also used to splice rope drives where leather belting is not used to drive machinery. The first operation is to unstrand both ends of the rope in the same manner as for the short or butt splice, with this exception: Unstrand back on each rope sixty diameters of itself, i. e., one inch rope would be unstranded sixty inches back. Instead of proceeding as in the short splice, unstrand Strand No. 2 as in Fig. 1-D and roll Strand No. 1 into the channel left by No. 2 and when this has been continued back to the desired point, lock the strands as shown in Fig. 2-D by placing Strand No. 2 over No. 1 back to the point where the two ends were joined and untwist another strand, rolling another into its place just as before in the opposite direction locking it at the desired point. Returning to the starting point, untwist the two



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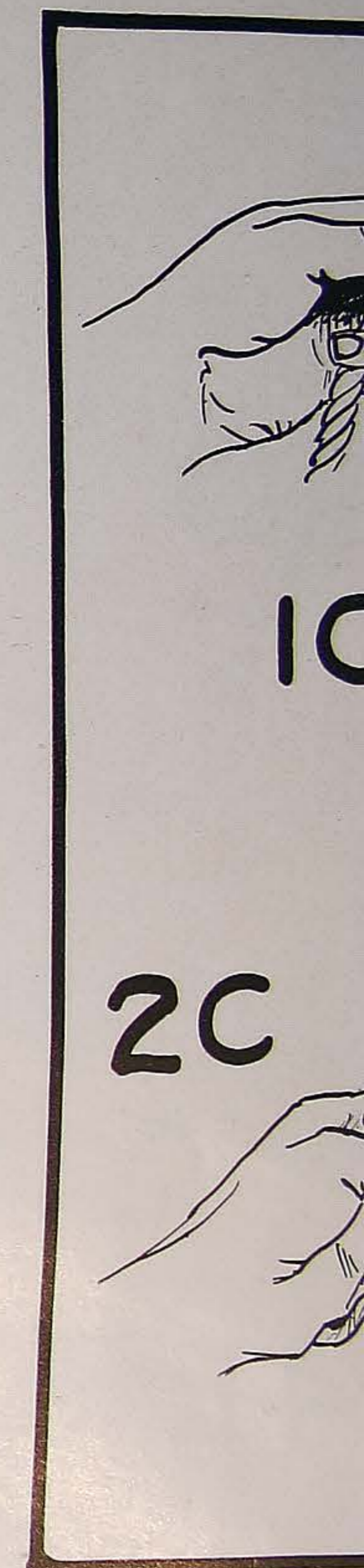


strands a little so that when the tie is made, it will conform to the shape of the rope. The knot is tied as shown in Fig. 3-D and the direction in which the strand is running must not be changed. Simply wrap No. 1 around No. 2 and draw it down. To lock it, run each end through the strands as shown in Fig. 4-D. Do this at all points and cut off the ends not too close as the rope may stretch, if you do, and the end can be removed later. The knot should appear as shown in Fig. 5-D when finished. Roll the rope under the foot upon the floor at the joints, which will reduce any irregularities.

In splicing a four-strand rope, the core in the center is cut out as far back as rope is unstranded. Cutting off a little of the fibre from each strand as it is put through each time will taper it off nicely.

### Sheep Shank

This tie is used to shorten a rope without cutting it, to get by a bad place in a rope and also where a mechanic must use a rope to descend from a building or other high object and has no means of untying it after descending. It is simply a loop with a half-hitch over each end, see Fig. 4-E. Fig. 2-E shows method of placing half-hitch over loop and Fig. 3-E shows it drawn taut. This operation repeated on opposite ends produces the finished sheep shank, see Fig. 4-E. In making a descent by this method, after tying the rope securely, a sheep shank is tied and rope No. 2 is cut in two but a little tension must be kept on the rope to keep it from becoming undoubled. It is now ready for use and is safe if made and cut as directed. After the mechanic has slid down the rope, a few quick jerks, with some slack thrown in the rope, will release it with the exception of a couple of feet of the rope required to tie the sheep shank.



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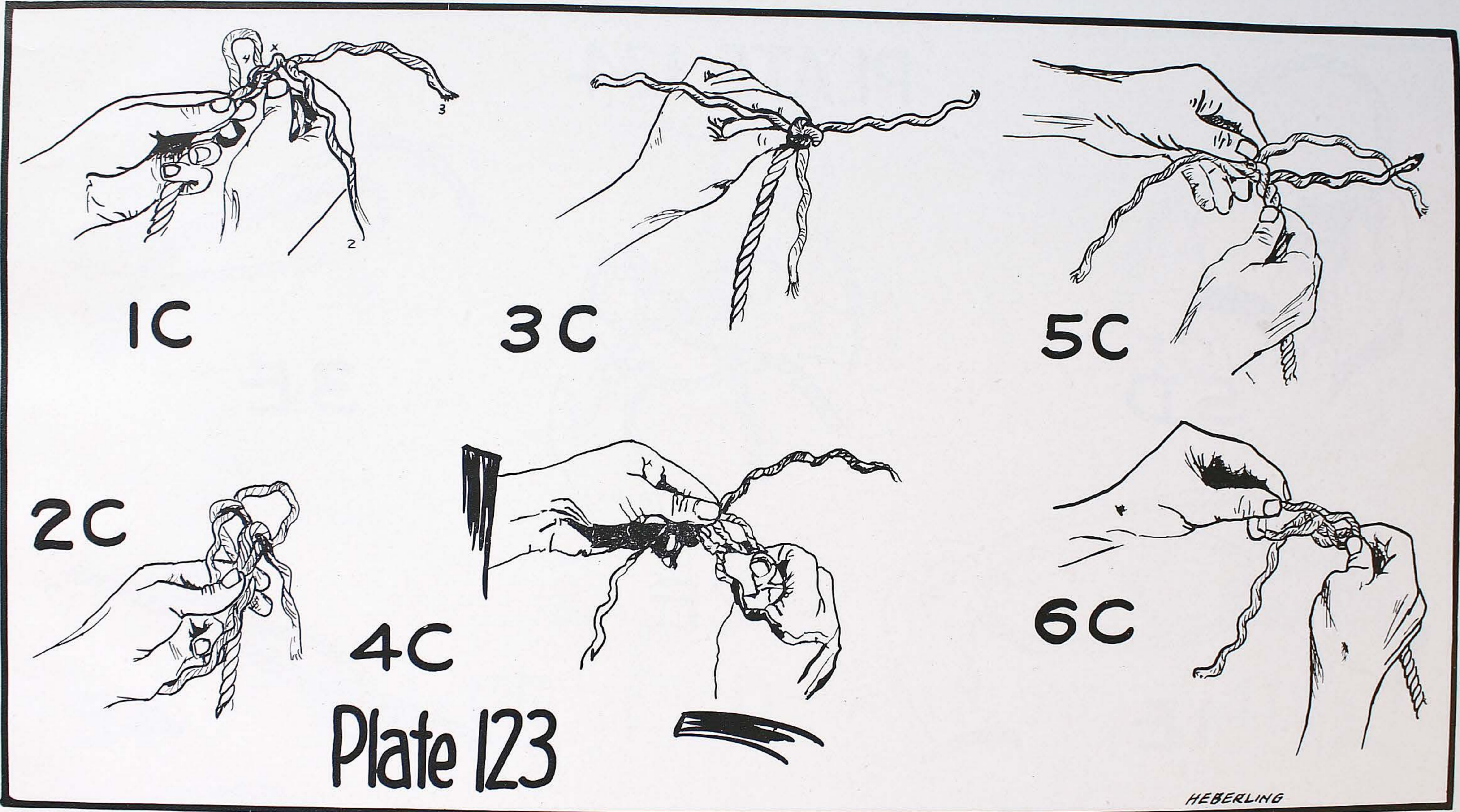
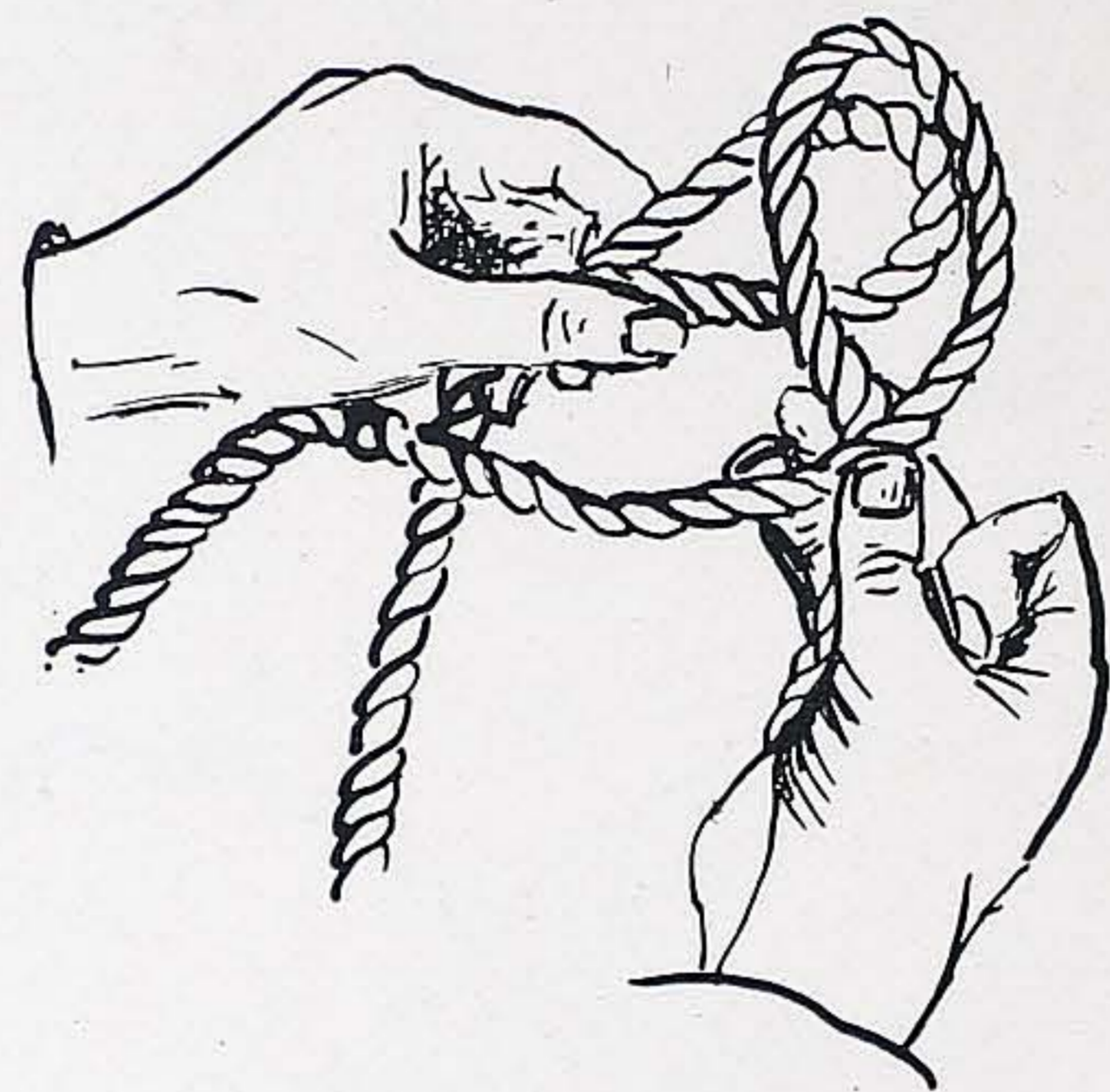




PLATE 124



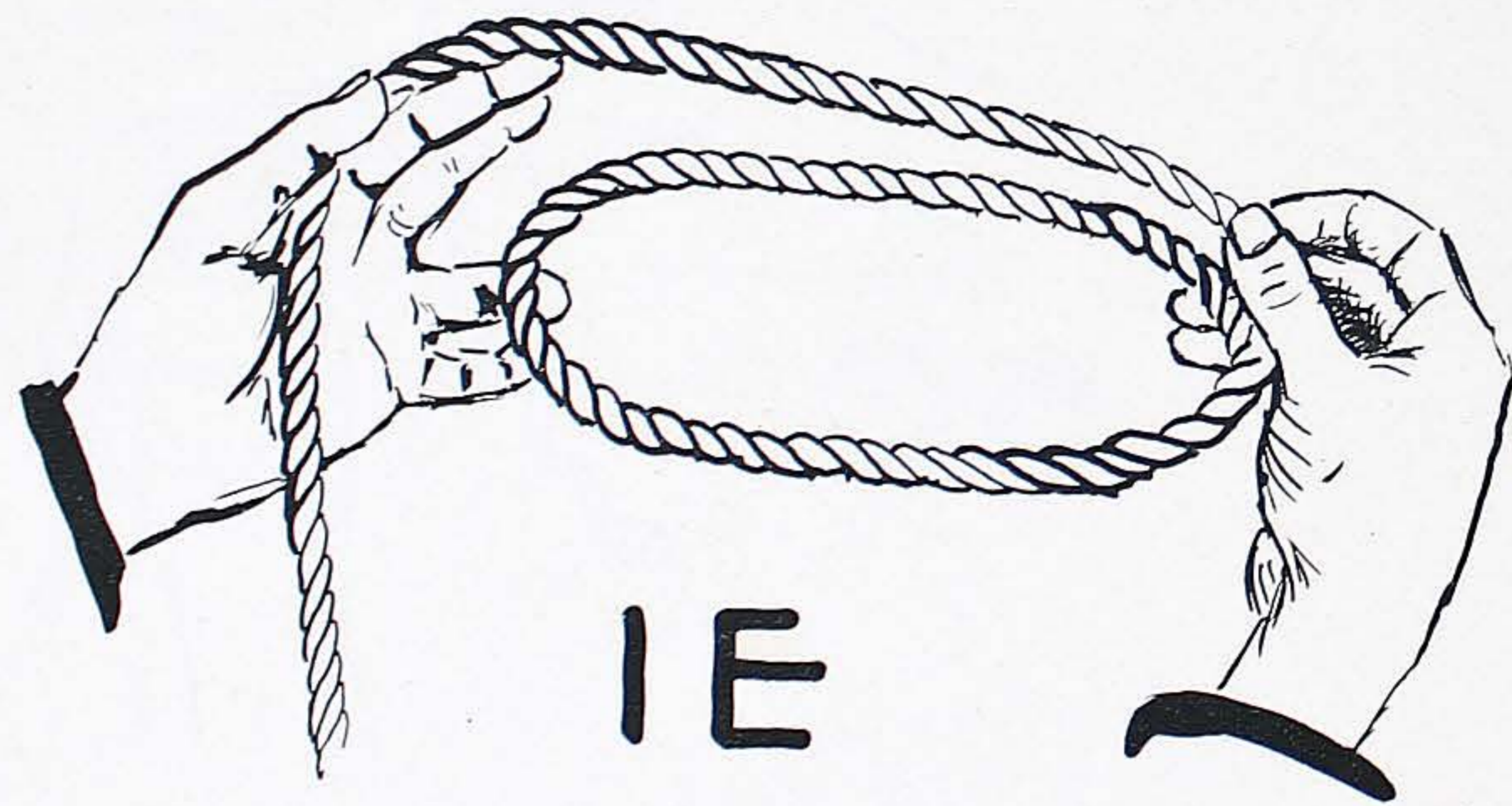
5D



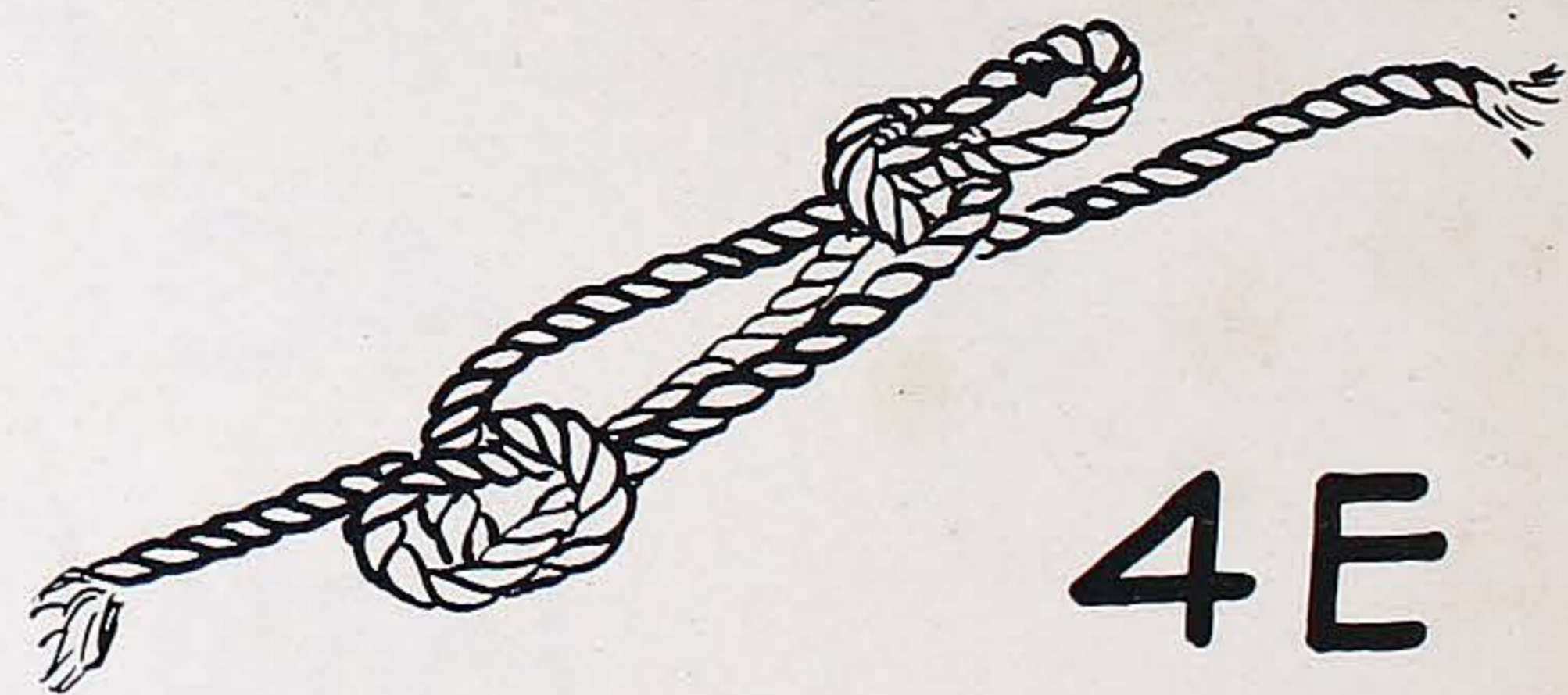
2E



3E



1E

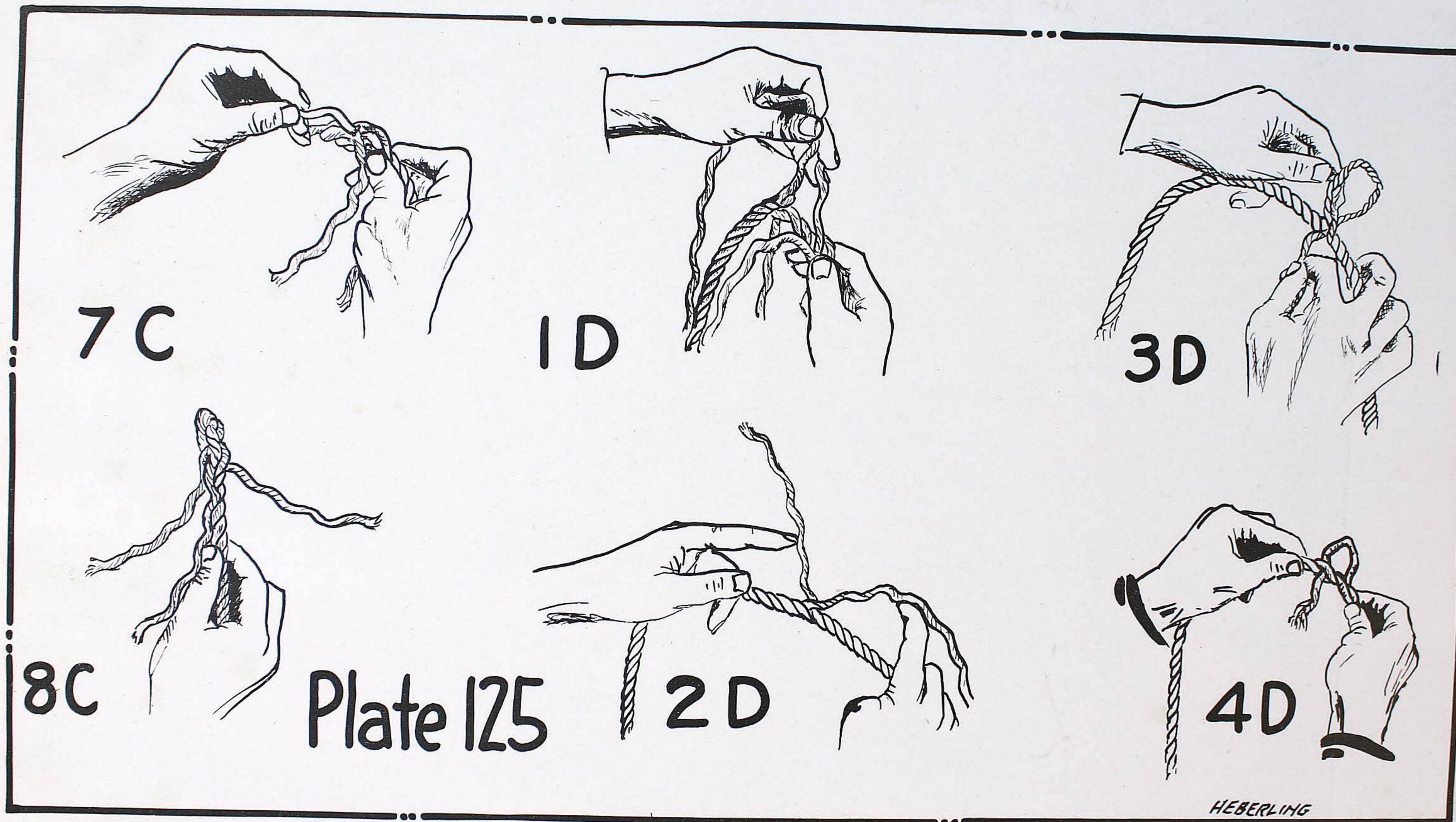


4E

HEBERLING

7C

8C



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NOW PLAYING

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IN THE PATRIOT

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T  
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14  
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BUSY CO  
HENRY S

25 MINUTES  
TO  
**The**  
**14<sup>TH</sup>**  
**STREET**  
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NEW YORK  
6<sup>th</sup> AVE'S  
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**HENRY SIEGEL**  
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See that it has  
**The Dawson Taste**



OUR TASTE  
How to Taste  
of T

AUTH

**OUR TEETH**  
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By V.C. BELL

**POPULAR ESSAYS**  
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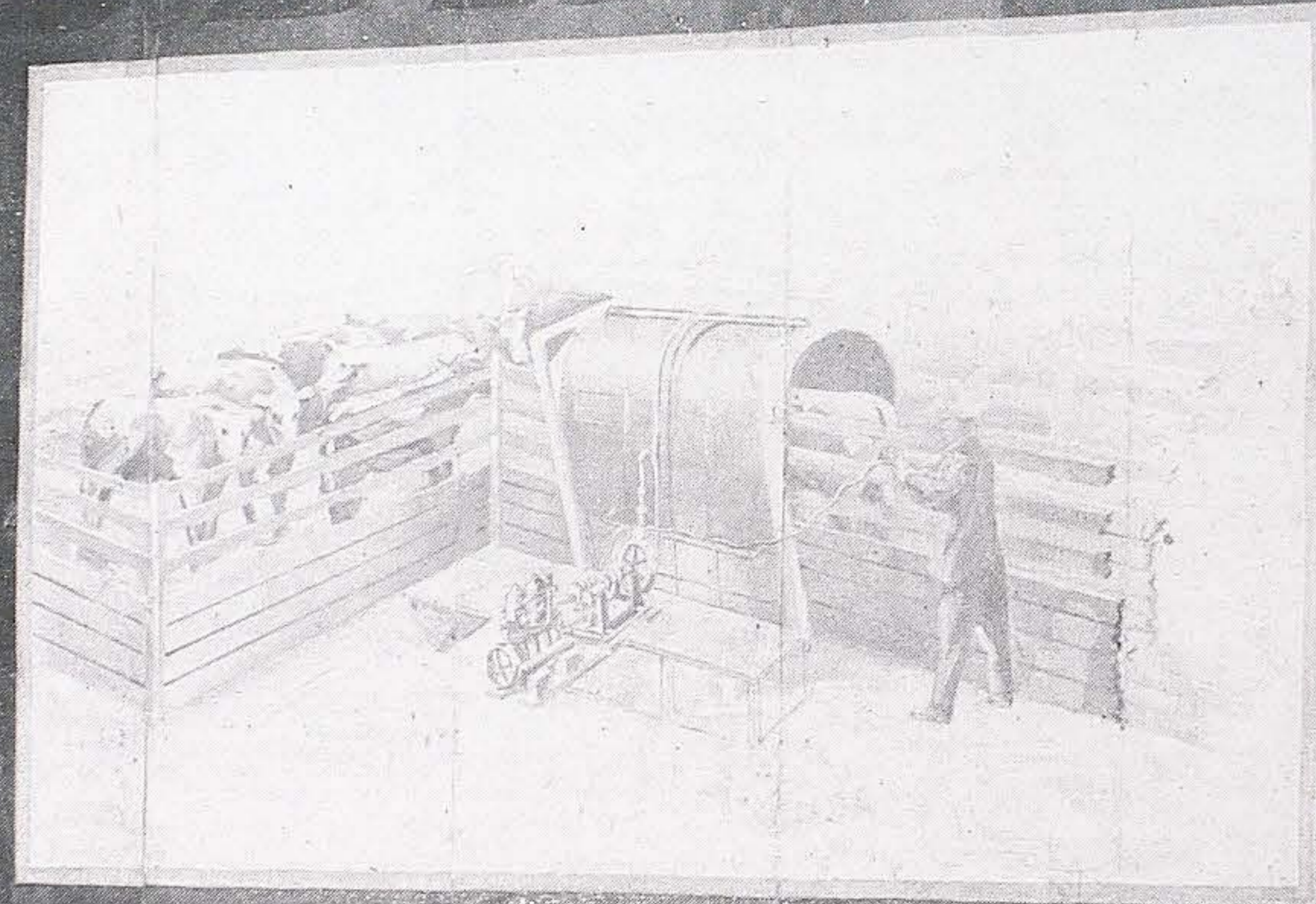
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DO  
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FOR  
CATTLE,  
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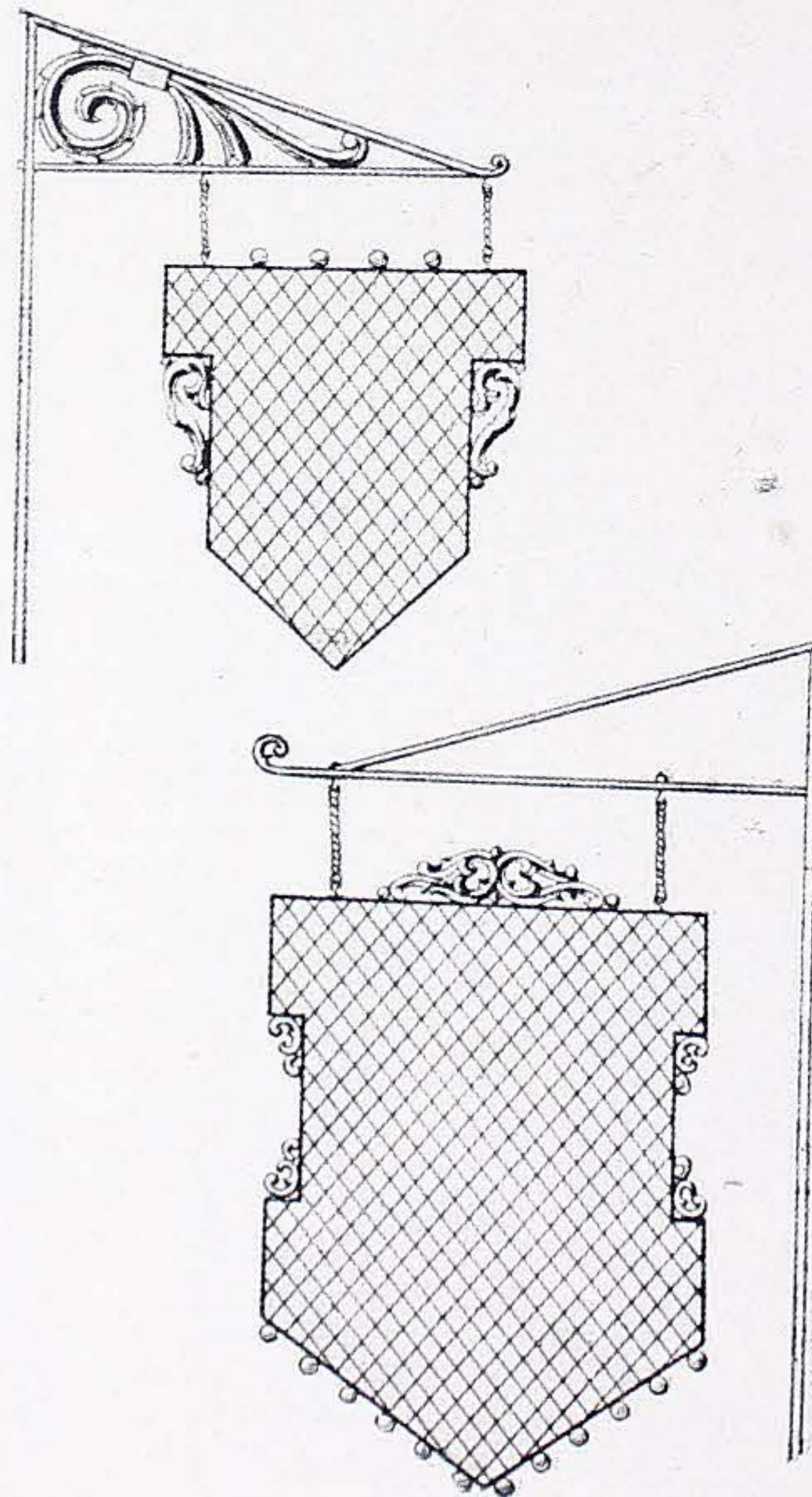
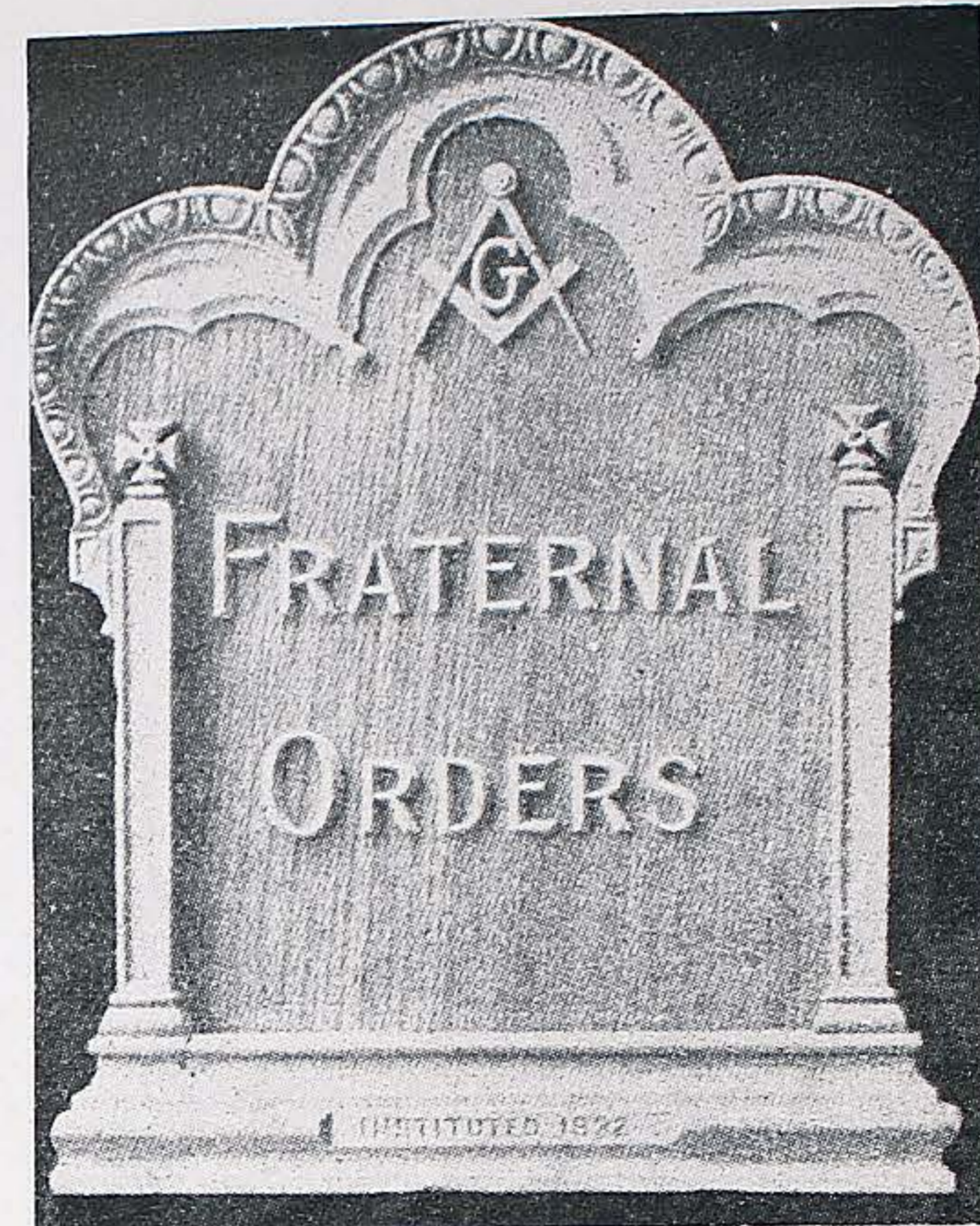
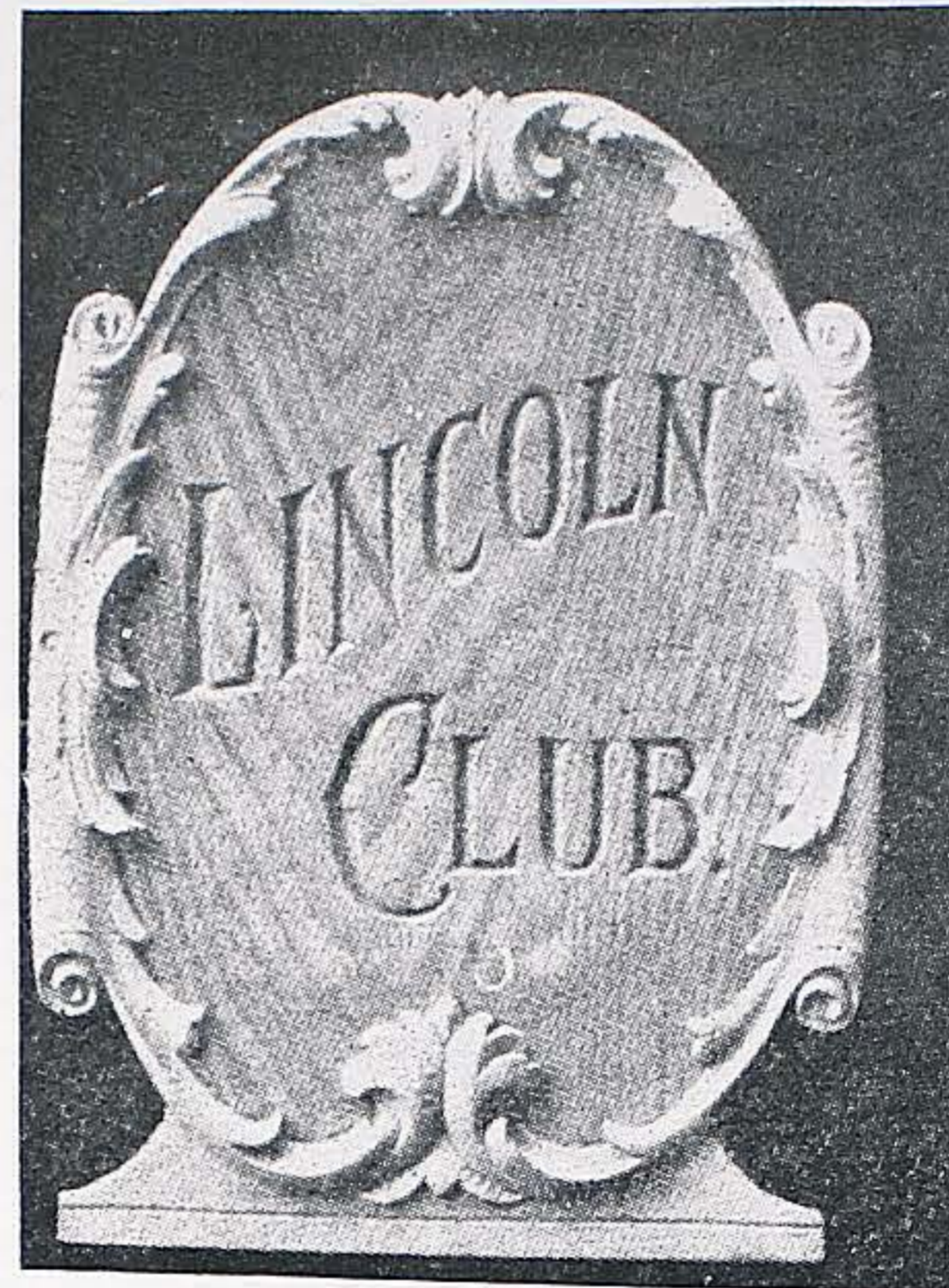
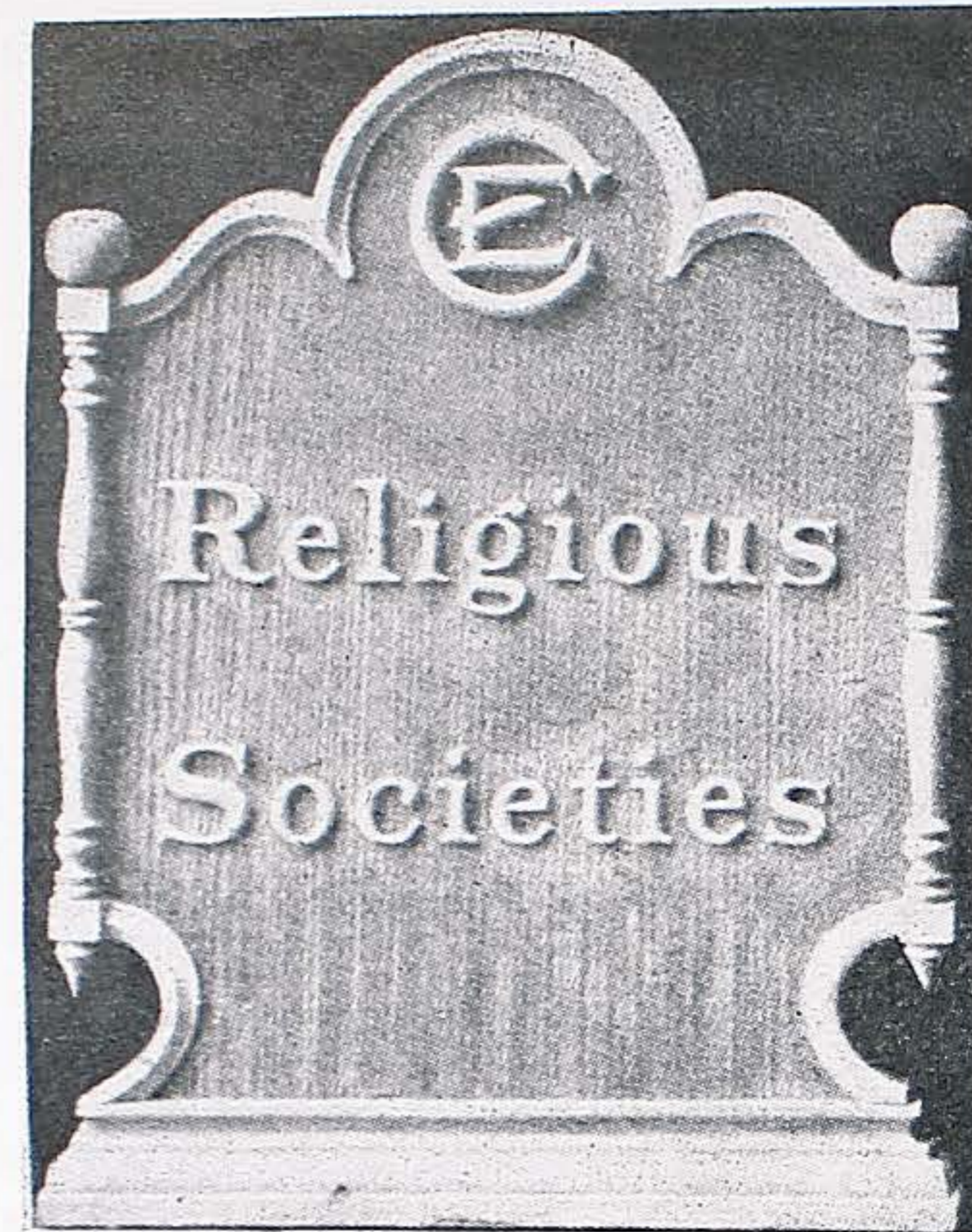
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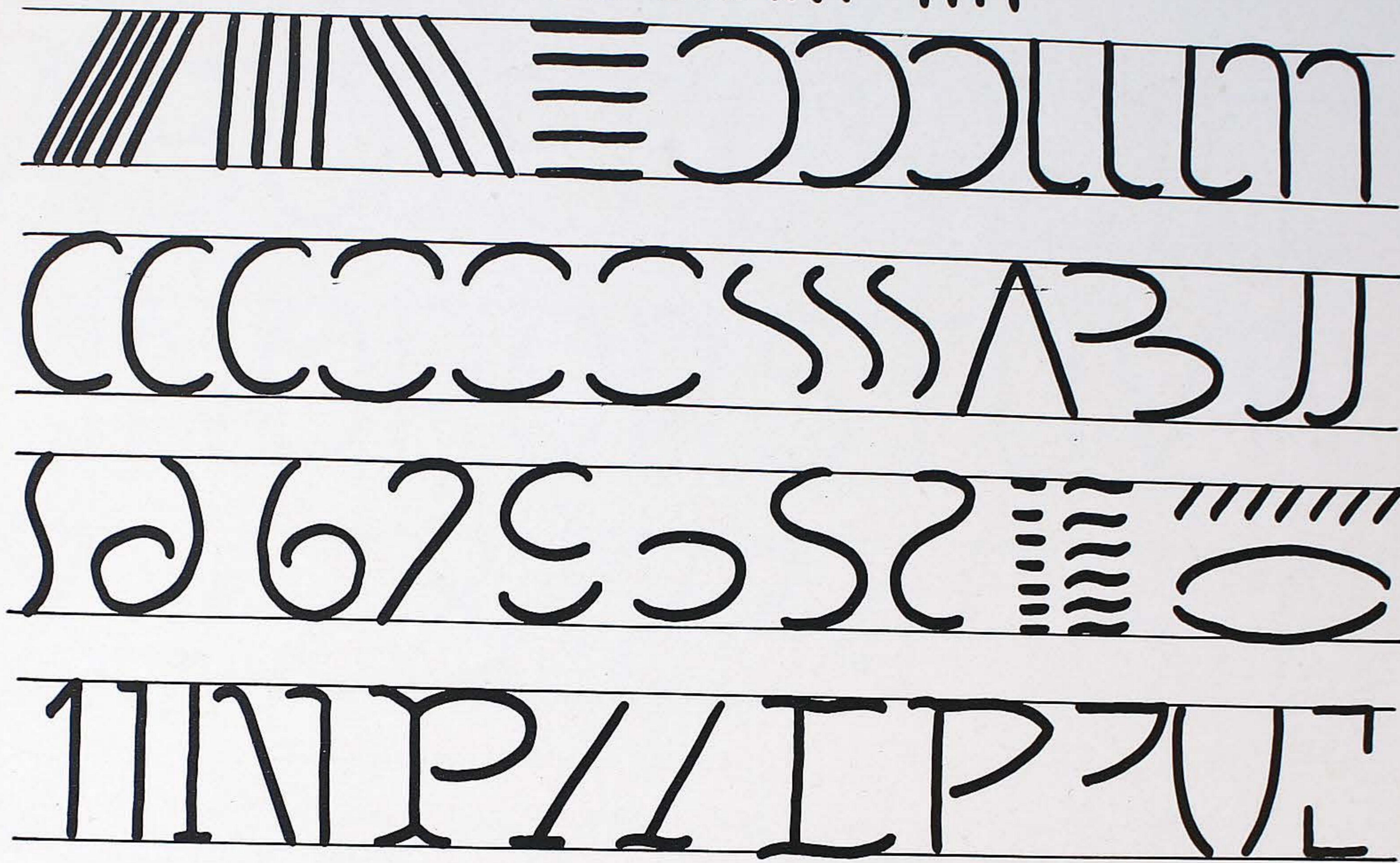
 DEERIN & CO. 



CUT OUT CHART ALONG THIS LINE

CUT OUT CHART ALONG THIS LINE

### TRACE CHART No 1



Lay this Chart upon a table or drawing board. Cover it with a piece of white tracing paper, and fasten with Thumb tacks. With a No 2 B "Speedball Pen", trace the strokes until they are easily made. Then try Alphabets on Charts on next 3 pages. Use Ink purposely for these pens HEBERLING.

TRACE CHART NO 2

A B C D E F G H I J K L

M N O P Q R S T U V W

X Y Z & 1 2 3 4 5 6 7 8

9 \$ ¢ a b c d e f g h i j

k l m n o p q r s t u v w

x y z Trace Pattern

CUT ALONG THIS LINE

TRACE CHART No 3

A B C D E F G H I J

K L M N O P Q R S T

U V W X Y Z 1 2 3 4

5 6 7 8 9 a b c d e f g

h i j k l m n o p q r s

t u v w x y z \$ ¢ % ?

HEBERLING

CUT ALONG THIS LINE.

CUT ALONG THIS LINE

TRACE CHART NO. 4

TRY TO DO IT

WITHOUT

THE USE OF

CHARTS

SEE PLATES OF PEN WORK.

HEBERLING

BASIC LETTERING

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