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UNITED STATES OF AMERICA.
(


## PRICE LIST <br> of <br> Drawing Materials,

ARCHITECTS \& ENGINEERS’<br>SUPPLIES,<br>BLUE PROCESS PAPERS, ETC.

## E. G. SOLTMANN,

119 Fulton Street,


TELEPHONE CALL:
"Nassau" 660.

NEW YORK :
JOHN C. RANKIN JR., PRINTER AND STATIONER, No. 34 Cortlanitt Street.

## NOTICE.

HE numbers and prices will generally explain each article, and are sufficient description when ordering.
Goods ordered to be sent by mail should be registered, and are mailed at buyer's risk.

Postage is added to the cost of goods.
The Post-Otfice accepts no liquids of any kind.
Cash on delivery orders will be sent by express, with privilege of examining before paying if desired; a moderate sum, about equal to cost of expressage back and forth is requested with the order. The express charges for return of money to be added to bill.

Every care is observed in the packing of goods and no responsibility is assumed by the shipper for breakages or loss in transit.

Rolls of drawing paper should be ordered to be boxed; the damage done by twine marks and other injuries frequently amounts to more than the cost of a box.

Packing boxes and cartanez are charged at cost.
Owing to the miscellaneous nature of goods, in this line of business, many of which are of foreign make, variations in ralues of materials, etc., may cause alterations in prices, which are subject to change without notice.

Terms are Cash, payable by Bank Draft, Post-Office or Express Money Order or otherwise, in New York City. Bank Notes are less liable to go astray if sent hy registered mail.

To satisfy the purchaser has been, and always shall be, the aim.

E. G. SOLTMANN.



E. G. SOLTMANN-NEW YORK.

SAMPLES of Drawing Papers mailed on application.

## DRAWING PAPERS

In Sheets.

100. Whatman's Drawing Papers.

Medium grain surface, known as "C. P.," "Cold Pressed," "N." and "Not" is best suited for general drawing and coloring.
Smooth surface, known as "H. P.," "Hot Pressed" and "Smooth" is generally used for mechanical and fine line drawing.
Very rough surface, known as "R.," "Rough" and "Extra Rough" has too coarse and open a grain for general drawing and is extensively used for bold water color sketches. The surface desired, whether "Cold Pressed," "Hot Pressed" or "Extra Rongh" should be stated when ordering.

## SELECTED BEST OR FIRST QUALITY.

Double Elephant.. .... $27 \times 40$ inches "C. P." and "H. P."........quire, $\$ 550$
Atlas........ .. .... $26 \times 34$ " " "...... " 4.75
Imperial............ $22 \times 30$ " " $\quad$ "...... " 3.00
Super Royal ........ $19 \times 27$ " " $\ldots$..... " 2.21
Royal............... $19 \times 24$ " " "....... " 175
Medium............. $17 \times 22$ " " " ........ " 1.40
Demy.............. $15 \times 20$ " " " ........ " 100
Сар.................. $13 \times 17$ " " " $\ldots . .$. ". " . 5
Antiquarian.......... $31 \times 53$ " " "...... " 2750
" ........... $31 \times 53$ " " " ... ....sheet, 1.50
Imperial .......... . $22 \times 30$ " "Extra Rough "...... .... quire, 3.50
Double Elephant...... $27 \times 40$ " " " ........... " 6.00
Grtffin Antiquarian... $31 \times 53$ " "C. P."...... ............. .sheet, 2.70
101. Whatman's Antiquarian. Quire. Sheet.
$31 \times 53$ inches, Retree or Secord Quality, "C. P.," "H. P."..... \$16.00 . 75 (Whatman's Paper mounted on Muslin, see No. 295.)
102. Whatman's Heary Drawing Papers.

Imperial. . . . . ..... $22 \times 30$ inch., Ex. Heary, "C. P.," "H. P." and "Extra Rough"......... 8.00 . 40
$22 \times 30$ " Exira Extra Heary, "C. P.".... 16.50 . 00
$22 \times 30$ " Heariest (as heavy as Bristol Board, ) "C. P.". ............. . 24.45
1.10

Double Elephant. ..... $27 \times 40$ " Extra Heavy, "C. P.".......... 13.25 . 60
103. Imitation Creswick Drawing Papers.

Imperial ............ $22 \times 30$ inches, "C. P."
105. "NEW LEONA" Drawing Papers, Cold Pressed, Rough Surface.

Will bear severe rubbing and erasing; is tough and well adap,ted for general drawing and painting.

106. Harding's Drawing Papers.
Imperial. $\therefore$................. $22 \times 30$ inches, Extra Thick. ..... quire, 87.20
$22 \times 30$ ..... 3.60
10i. "FALC0N" Drawing Papers, Hot Pressed, Smooth Surface.For Mechanical and other fine line drawing.
Extra Large Dbl. Elephant $31 \times 42$ inches. ......quire, $\$ 4.25$ sheet, ..... 22
" " Imperial...... $24 \times 32$ ..... 2.75 ..... 13
" "، Royal. $20 \times 25$ ..... 08
108. "EMPIRE" Drawing Papers.
Double Elephant (heary). $27 \times 40$ inches ..... quire, 2.50
Imperial. ..... $22 \times 30$ ..... 1.50
Roral $19 \times 24$ ..... 1.00
Medium $17 \times 22$ ..... $i 0$
Demy $15 \times 20$ ..... 35
Cap. $14 \times 17$ ..... 35
112. "QLEEN" Tinted Drawing Papers. for Water Color. Crayon, etc.
Imperial. $22 \times 30$ inches, various tints ..... 2.70
Double Elephant $.27 \times 40$ ..... 4.25
113. "CROWS" Tinted Water Color Papers, hand made.
Imperial $22 \times 30$ inches, various tints, quire, $\$ 5.00$ sheet, ..... 22
114. "R0MAN" Tinted Crayon Papers, Rough Surface.
Royal $18 \times 24$ inches, rarious tints ..... quire, 1.10
116. "JULLIEN" Tinted Crayon Papers, tine grain
Royal........................ $19 \times 24$ inches, various tints ..... 1.10
Atlas $.24 \times 34$ ..... 3.25
118. "ANTLER" (formerly "Farorite") Tinted Charcoal Papers.
Royal.. .................... $19 \times 25$ inches, various tints. .....  0
120. Reynolds' English White Bristol Boards.
Roral ..... . ............. $181 / 4 \times 221 / 4$ inches...... dozen, $\$ 3.15 \quad 2.35 \quad 1.60$
Medium $16 \frac{1}{2} \times 203 / 4$ ..... $225 \quad 1.60 \quad 1.20$
Demy. $141 / 2 \times 181 / 2$ ..... $1.60 \quad 1.35$ ..... 90
Cap $121 / 2 \times 151 / 4$ $1.20 \quad .90$ ..... 60
121. "TRILMPH" White Bristol Boards.
A fair blue print can be made from an ink drawing on the two-ply board.

122. "PATENT OFFICE" Bristol Boards, cut to the required size.
American Patent Size, Thin gross, §6 40 duzen, ..... 60
" Meditm Thick ..... 85
English ". Thin ..... 1.20
1.50
1221/2. English Patent Office Smooth Imperial Payer, cut to the requiredsize, same as the Bristol Boardquire. 1.50


No. 123.

Printed Patent Office Bristol Boards, with the wording or ruling as required by the Patent Offices.
123. American Patent Size, Thin............................gross, $\$ 8.00$ dozen, . 80
" " " Medium Thick.......... ..... " 10.00 " 1.00
1231/2. English Patent Size, Thin......................... " " 1.50
Medium Thick................ " 1.75
Patent Office Bristol Boards, as required by other countries, furnished to order.
124. Turnbull's Bristol Boards, with rough surface for Water Color Painting.

| Royal |  |  |  | 4 -ply. | 3-ply. | 2-ply. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | $\times 22$ | inches. | zen, | \$9.00 | 7.75 | 5.25 |
| Medium | $\times 201 / 2$ | " | " | 7.50 | 6.00 | 4.20 |
| Demy. | $\times 18$ | " | / | 5.75 | 4.50 | 3.00 |
| Cap. | $\times 15$ | " | " | 3.90 | 2.90 | 1.90 |

125. French White Bristol Boards.

126. French Tinted Bristol Boards.

Imperial...... $22 \times 28$ inches, Thicк, Various Tints...............dozen, 2.50
Royal.... ... $19 \times 24$ " Medium Thick, " .............. " 1.25
127. "FLORENCE" Cream Tinted Bristol Boards.

The rich Cream tint gives pen and ink sketches a warm hue.

|  |  |  |  | 4-ply. | 3 -ply. | 2-ply |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Imperial. | $201 / 2 \times 32$ | inches. | ozen, | \$3.90 | 3.25 | 2.50 |
| Medium | $16 \times 201 / 2$ | ، | ، | 2.15 | 1.75 | 1.35 |
| Cap.... | .101/4 $\times 16$ | " | . | 1.15 | . 90 | .i0 |
| Half Cap | $.8 \times 101 / 4$ | " | ، | . 60 | . 50 | . 35 |

128. Bond Paper, See New Number, 142.


## 12：13．Mechanieal Drawing Card．

















131．＂ORIOLE＂Tinted and White Sketching and Moanting Beands， सEsTI 000

 By ジッ
133. White Mounting Boards (Formerly No. 138).
Imperial............. $22 \times 28$ inches, Extra Tıick ........... dozen, $\$ 2.20$

134. Gelatine or Glass Paper.

Large Cap. .......... . $13 \times 19$ inches, Thick........... dozen, $\$ 4.20$ sheet, . 40 " $\ldots . \ldots \ldots . .13 \times 19$ " Medium....... " 3.60 " . 35
$13 \times 19$ " Thin........... " 3.00 " . 30
135. "HONEYCOMB" Cold Pressed, Creain Tinted Mounting Boards, for Mounting Sketches, Tracings, Drawings, etc.

The surface and thickness vary, but are uniform in general appearance.
Thick. Medium. Thin.

|  | Quire. | Sheet. | Quire. | Sheet. | Quire. | Sheet. |
| :---: | ---: | :---: | :---: | :---: | :---: | :---: |
| $181 / 2 \times 251 / 2 \ldots \ldots \ldots$ | $\$ 4.45$ | .20 | 3.50 | .16 | 2.50 | .11 |
| $121 / 2 \times 251 / 2 \ldots \ldots \ldots .3 .25$ | .15 | 2.50 | 12 | 2.00 | .09 |  |
| $121 / 2 \times 181 / 2 \ldots \ldots \ldots .2 .50$ | .11 | 2.00 | .09 | 1.50 | .07 |  |
| $91 / 4 \times 121 / 2 \ldots \ldots \ldots .135$ | .06 | 1.12 | .05 | .90 | 04 |  |

136. Transfer or Impression Papers.

Cap... $11 \times 18$ inches, Black, Red, Blue. .quire, $\$ 2.00$ dozen, $\$ 1.00$ sheet, . 12 Special colors and sizes furnished at short notice.
137. English Parchment, first quality.

|  | $23 \times 31$ | $21 \times 29$ | $18 \times 24$ | $16 \times 20$ | $14 \times 18$ inches. |
| :--- | ---: | ---: | :---: | :---: | :---: |
| Dozen $\ldots \ldots \ldots \ldots$ | $\$ 14.00$ | 13.00 | 9.00 | 7.20 | 5.50 |
| Sheet. . . . . . . . . . | 1.40 | 1.30 | .90 | .70 | .50 |

138a. Ross' Stipple or Autographic Papers, various surfaces, from fine to coarse.

Drawings made withoa soft pencil or crayon, have the peculiar appearance of a steel engraving. It is extensively used for photographic and other process reproductions.
Cap
$11 \times 14$ inches
.................
dozen, $\$ 4.80$ sheet, 40 Other sizes furnished at short notice.
138c. Printed Tints, on thin paper, for photo-engraving.
Cap................... $11 \times 14$ inches, various kinds
1.20
.12
139. Wood's Monochromatic Boards, for pastels, etc.

Royal...... .......... $18 \times 24$ inches.......No. 1, sheet, . 50 No. 2, sheet, . 40
139A. French Monochromatic Boards.
Imperial
$22 \times 28$ inches
dozen, \$4.00 sheet. . 35
139c. Pastel Boards.

|  | $20 \times 24$ | $18 \times 22$ | $15 \times 18$ | 121/2 $\times 16$ inches |
| :---: | :---: | :---: | :---: | :---: |
|  | . 75 | 60 | . 50 |  |

139E. Pastel Papers.
Royal.
$19 \times 25$ inches
dozen, $\$ 2.85$ sheet,
.25
140. Chagrine or Pebbled Boards. White and various tints for passepartouts.

Imperial
$22 \times 28$ inches
quire, $\$ 2.40$ sheet, 10
$1401 / 2$. Chagrine or Pebbled Papers. White and various tints.
Imperial.
$22 \times 28$ inches
.quire, 1.44 sheet, . 06
141. "KAN-SUNE" India Proof Paper for Wood Engravers.

142. Bond Papers (Formerly No. 128), Extra Tough, suitable for tracing.

Can be folded without breaking. Not affected by age. An excellent blue print san be produced from drawings in India Ink made on this paper.


## DETAIL PAPERS

## In Rolls.

## 144. "CRESCENT" Mat Finish Sketching Detail Papers, Extra Thin.

Have a smooth but unpolished surface, and are admirable for pen and ink drawing and sketching. A want has long been felt for a thin, low-priced roll detail paper, strong enough to bear rubbing and folding without tearing or breaking, suitable for sketches to be filed for reference, or for drawings to be mailed, thus saving a considerable arrount for postage

100 yard Roll, 48 inches wide... $\$ 4.00 \quad 100$ yard Roll, 40 inches wide... $\$ 3.25$
50 " " " ". .2 .25 50 " 6 " ". .1 .85

25 " " " ". . 1.25 25 " " " ". .1 .00

(Registered " VICTOR" Trade Mark.)

## "VICTOR" SKETCH BLOCKS.

Containing 48 sheets (same as No. 14,000 .)
For bold, off-hand sketching, these blocks will be found convenient. The paper is the same as the 147 " Victor."

|  |  | $24 \times 30$ | $24 \times 24$ | $18 \times 24$ | $12 \times 18$ |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Each $\ldots \ldots \ldots .$. | $\$ 3.50$ | 3.00 | 2.50 | 1.50 | .85 |
| List Prices........ | $(3.90)$ | $(3.35)$ | $(2.80)$ | $(1.70)$ | $(.95)$ |

(See Sketch Block T Squares No. 6,000.)

## E. G. SOLTMANN-NEW YORK. <br> "VICTOR" DETAIL PAPERS. <br> (Registered Trade Mark.)

146. "VICTOR" Thin Cold Pressed Detail Papers.

The "Victor" Detail has a surface similar to white drawing paper; it acts well under the rubber; Incia Ink and Water Color do not spread, and the cold pressed grain displays Pencil or Crayon to better advantage than any smooth Detail Paper.

100 yard Roll, $\mathbf{4 8}$ inches wide... $\$ 7 . i 5100$ yard Roll, 40 inches wide.. . $\$ 6.90$
50 " " " " ... 4.25 50 " " " " ... 3.75

25 " " " " $\ldots 2.25$ 25 " " " ".${ }^{2} 2.00$
Also sold in rolls weighing from 125 to 150 pounds.-Pound, 15 c .
147.
"VICTOR" Thick Cold Pressed Detail Papers.
100 yard Roll, 48 inches wide... $\$ 9.00 \quad 100$ yard Roll, 40 inches wide... $\$ 7.85$
50 " " " ". .4 .75 50 " " " ". 4.425
25 " " " "، ... 2.50 25 " " " " ... 2.25
Also sold in rolls weighing from 125 to 150 pounds.-10und, 15 c .

## DETAIL PAPERS-Continued.

152. "STANDARD" Thin, Medium Smooth Detail Papers.


Rolls of about 100 Pounds.-Pound, 14c.
153. "STANDARD" Medium Thick, Medium Smooth Detail Papers.

154. "standard" Тнick, Medium Smooth Detail Papers.


Rolls of about 100 Pounds.-Pound, 14c.
155. "STANIARD" Extra Thick, Medium Smooth Detail Papers.

|  |  |  | 100 Yard. | 50 Yard. | 25 Yard Roll. |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  | che | ide | \$11 75 | 6.25 | 3.25 |
| 40 | " | " | 9.50 | 5.00 | 265 |
| 36 | " | " | 8.50 | 4.50 | 2.35 |

Rolls of about 100 Pounds,-Pound, 14c.

## WHITE DRAWING PAPERS

In Rolls.

"PAR EXCELLENCE" Drawing Papers.
Although similar in grain to the former, "Eggshell" have to a great extent taken the place of the latter. The surface is more uniform, and the quality, both for erasing and coloring purposes excellent. The reverse side is smooth, and is well adapted for fine line drawing.
156. "PAR EXCELLENCE" This, Rough Surface.


15i12. "PaR EXCELLENCE" Medium Thick, Rovgh Surface.
30 Fard. 20 Yard. 10 Yard Roll.
Fard.
. 30
Rolls of about 35 to 50 Pounds.-Pound, 45̌c.
157. "'PAR EXCELLENCE" Medium Thick, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Fard. |
| :---: | :---: | :---: | :---: | :---: |
| 42 inches wicle. .......... $\$ 9.25$ | 6.25 | 3.25 | .36 |  |
| Rolls of about 35 to 50 Pounds. -Pound, 45 c. |  |  |  |  |

158. "'PAR EXCELLENCE" Medium Thick, Rough Surface.

159. "PAR EXCELLENCE" Thick, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| j 8 inches wide $\ldots . . . . .$. | $\$ 15.85$ | 10.65 | 5.40 | .65 |

Rolls of about 35 to 50 Pornds.-Pound, 45 c .
161. "Par EXCELLENCE" Mediam Thick, Medium Smooth Surface.

162. "PAR EXCELLENCE" Yedium Thick, Medium Smooth Surface.

170. "LINNIEN" Medium Thick, Medium Grain.

171. "LLINIEN" Medium Thick, Medium Grain.

|  | 30 Tard. | 20 Tard. | 10 Tard Roll. | Tard. |
| :---: | :---: | :---: | :---: | :---: |
| 42 inches wide. | \$9.25 | 625 | 3.25 | . 33 |
| Rolls of about 35 to 50 Pounds.-Pound, 50 c . |  |  |  |  |

176. 'HERCULES'" Medium Thick, Fine Grain.
"Hercules" Drawing Paper surpasses all other roll paper for strength; it will bear any amount of erasing, can be folded without breaking, which is a desirable consideration in drawings subjected to rough usage in Machıne Shops, New Buildings, Stone Yards, etc.

30 Yard. 20 Yard. 10 Yard Roll. Yard. 62 inches wide. ........................... $\$ 1200 \quad 8.00 \quad 4.25$. 45 Rolls of about 50 to 75 Pounds.-Pound, 45c.
177. "HERCULES" Medium Thick, Fine Grain.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 31 inches wide. | \$6.50 | 4.50 | 2.35 | . 25 |
|  | ds. -Poun | 45c. |  |  |

182. "VELVETEEN" Medium Thick, Smooth Surface.

This paper is recommended for mechanical and other fine line drawing. The quality is good, and the well sized surface allows heavy erasures.

183. "EAGLE" Medium Thick, Rough Surface.

Has a surface suitable for general drawing ; takes ink and color readily, and is not easily broken when folded.

|  | 100 Yard. | 50 Yard. | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 42 inches wide | \$22.00 | 11.25 | 6.90 | 4.80 | 250 | 26 |
| 36 " 6 | 18.50 | 9.50 | 6.00 | 4.20 | 2.20 | 23 |

184. "LINOLA" Medium Thick, Medium Rough.

Linola Drawing Papers are made of pure selected linen stock; they are very tough and can be folded without breaking; color and ink flow freely and the eraser may be liberally applied without injury to the quality of the surface.

|  |  |  |  | 100 Yard. | 50 Yard. | 30 Yard. | 20 Yard. | 10 | Yard Roll. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | Yard.

185. "SOVEREIGN" (formerly "Monitor") Medium Thick, Medium Grain.

30 Yard. 20 Yard. 10 Yard Roll. Yard.
36 inches wide............................... $\$ 5.00$ 3.40 1.75 . 20
Rolls of about 35 to 50 Pounds.-Pound, 36c.
186. "SOVEREIGN" (formerly "Monitor") Medium Thick, Medium Grain. 30 Yard. 20 Yard. 10 Yard Roll. Yard.
42 inches wide. . . . . . . . . . . . . . . . . . . . . . $\$ 6.50$ 4.35 2.25 . 25
Rolls of about 35 to 50 Pounds.-Pound, 36c.
187. "SOVEREIGN" (formerly "Monitor") Medium Thick, Medium Grain.

30 Yard. 20 Yard. 10 Yard Roll. Yard.
j6 inches wide. . . . . . . . . . . . . . . . . . . . . . . . . $\$ 7.75 \quad 5.25 \quad 2.70 \quad .30$
Rolls of about 35 to 50 Pounds.-Pound, 36c.
194. "SAX0N" Thin, Pliable and Strong.

Can be folded repeatedly without breaking; very thin, tenacious and tough ; for map and other drawing and rough tracing. A perfect "Blue Print" can be printed from an ink drawing made on this paper.

|  |  |  | 100 Yard. | 50 Yard. | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :--- | :---: | ---: | ---: | ---: | :---: | ---: | ---: | ---: |
| 42 inches wide | $\ldots$ | $\$ 1750$ | 8.75 | 5.95 | 4.25 | 2.25 | .23 |  |
| 36 | " | $\ldots$ | $\ldots$ | 15.30 | 7.65 | 4.80 | 3.25 | 1.85 |

195. "ANCHOR," Extra Thin and Extra Tough.

Is extensively used for map and other drawiugs which are intended for mailing, or to be folded and frequently handled. A drawing made on this paper can be reproduced by the "Blue Process."

|  |  |  | 100 Yard. | 50 Yard. | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 42 | es | wide. | \$17.50 | 8.75 | 5.95 | 4.25 | 2.25 | 23 |
| 36 | " | " | 15.30 | 7. 65 | 4.80 | 3.25 | 1.85 | 20 |
| 30 | " | " | 13.00 | 6.50 | 4.15 | 2.85 | 1.50 | 17 |
| 27 | " | 6 | I1 50 | 5.75 | 3.60 | 2.50 | 135 | 15 |

200. "satury" Medium Thin Fine Grain.

This paper is frequently used as a substitute for Steinbach's Paper. The surface is similar, and for crayon work has been utilized to good advantage. As it is thoroughly sized and made of linen stock, it possesses the qualities of a good drawing paper.

205. Steinbach's Thick, Chemically Pure.

For Solar printing and Crayon Drawing.
50 Yard. 30 Yard. 20 Yard. 10 Yard Roll. Yard.


206. Steinbach's This.

|  | 50 Yard. | 30 Yard, | 20 Yard. | 10 Yard Roll |
| :---: | :---: | :---: | :---: | :---: |
| 53 inches wide | \$17.50 | 10.50 | 7.00 | 3.50 |
| 26 " '* | 9.50 | 5.70 | 3.80 | 1.90 |

## TINTED ROLL DRAWING PAPERS.

220. "R0MaN" Medium Thick, Rough ("Par Excellence") Surface. Variots Tints. For drawing, mounting, and mats for pictures.

30 Yard. 20 Yard. 10 Yard Roll. Yard.
$5 t$ inches wide
89.90
7.00
3.60
.38
Roll of about 35 to 50 pounds.-Pound, 45 c .
225. "GRIFFIN" Medium Thick Melium Grain.

For fine detail and general drawing. It acts well under the rubber, and takes ink and color freely.

|  | 50 Yard. | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: | ---: |
| 42 inches wide. $\ldots \ldots \ldots \ldots \ldots$ | 8825 | 5.20 | 3.50 | 1.80 | 19 |
| Rolls of about 35 to 50 pounds.-Pound, 25 c. |  |  |  |  |  |

226. "(XRIFFIX" Thin, Medium Grail.

blue process papers, prepared and not prepared. (See Nos. 400, etc.)

## WHITE DRAWING PAPERS

In Rolls.<br>\section*{MOUNTED ON MUSLIN.}

"PaR EXCELLENCE" Drawing Papers.
Although similar in grain to the paper known as Eggshell, have to a great extent taken the place of the latter. The surface is more uniform and the quality, both for erasing and coloring purposes, excellent.
250. 36 inches wide, Medium Thick, Rongh Surface, $\$ 16.00 \quad 8.00 \quad 100$
251. 42
" " " " " 1800
$9.00 \quad 1.10$

|  |  |  |
| :---: | :---: | :---: |

255. 58 " " Thin, " " $22.00 \quad 11.00 \quad 1.25$
256. 58 ". " Тніск, " " $26.70 \quad 13.35 \quad 1.60$
257. 36 " " Medium Thick, Smooth Surface, $16.00 \quad 8.00 \quad 1.00$


"HERCLLES" Very Strong, Hard Surface.

258. "ANCHOR" Extra Thin and Extra Tough, for Maps, etc., or drawings which are to be mailed, or frequently folded or handled.

" SOVEREI(GN" (formerly "Monitor") For general use.


## WHITE DRAWING PAPERS

## In Sheets. <br> MOUNTED ON MUSLIN.

295. Whatman's Drawing Papers.

296. "NEW LEONA" Medium Thick, Medium Grain.

Mammoth................... $42 \times 62 \ldots \ldots$..........quire, $\$ 36.00$ sheet, 1.50
Extra Large Double Elephant, $31 \times 42 \ldots \ldots . .$. ... " 18.00 ". 75
" " Imperial......... $24 \times 34 \ldots .$. ......... " 10.80 " . 45
" " Royal.......... $20 \times 25 \ldots .$. ......... " 840 " 35
Medium....................151⁄2 $\times 21 \ldots . .$. ......... " 600 " 25
Sheets and Rolls of other sizes mounted to order. Large sheets for city, county and other maps, mounted on muslin, furnisked at short notice.

## TRACING MUSLIN OR CLOTH.

Owing to fluctuations abroad, the prices of Tracing Cloth frequently vary.

## Special quotations will be sent on application.

-Dull Back" or "D. B." signifies dull on one side and glazed on the other. "Glazed" signifies glazed on both sides.
"IMPERLAL" Dull Back or Glazed, Rolls of 24 Yards.

| List Price. | $\begin{aligned} & 42 \mathrm{in} . \\ & (\$ 11.50) \end{aligned}$ | $\begin{aligned} & 36 \mathrm{in} . \\ & (8.25) \end{aligned}$ | $\begin{aligned} & 30 \mathrm{in} . \\ & (7.50) \end{aligned}$ | $\begin{gathered} 18 \mathrm{in} . \\ (4.25) \end{gathered}$ |
| :---: | :---: | :---: | :---: | :---: |
| Roll | \$10.50 | 7.60 | 6.90 | 4.00 |
| Yard. | . 50 | 40 | . 35 | 22 |

303. "LMPERIAL" Tracing Cloth, Dull Back in Sheets.

304. "RELIANCE" Extra Heavy and Strong, not as transparent as the "Imperial." Dull Back. Rolls of 24 Yards.

|  | 43 in. | 40 in. | $36 \mathrm{in}$. | 30 in. | 18 in . Wide. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Roll. | \$9.30 | 8.00 | 6.80 | 6.00 | 3.75 |
| Yard | . 45 | . 40 | . 35 | . 30 | 30 |

310. "SAGARS" Dull Back or Glazed. Rolls of 24 Yards.

42 in.
36 in. 30 in. Wide.
Roll.. .............................................. $\$ 11.00$ 8.10 7.40

## TRACING PAPERS

In Sheets.

320. "CHAMPION" Vegetable, Extra tough ; very clear. Does not become brittle with age.
Double Elephant. .... $27 \times 38$ inches.................................. quire, $\$ 8.00$
Imperial............. $21 \times 27$ " ...... ........................ " 3.00
Royal............... $18 \times 24$ " .............................. ". 2.25
Demy.................. $15 \times 20$ "
1.35

Cap................... $13 \times 17 \times$
1.10

322 "PRINCESS" Oiled.
Double Elephant...... $30 \times 40$ inches. .......................................... $\$ 2.70$
Imperial............. $20 \times 30$ " ............................ " 1.35

## TRACING PAPERS

In Rolls.

340. '6 PREMILM" Oiled, thin.

$$
\text { Roll } 20 \text { yards long, } 40 \text { inches wide . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . } \$ 3.00
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341. "MAMMOTH" Oiled, Extra Heary.
"Marmmoth " Tracing Paper is used for Pen and Ink Sketches, which are to be mounted on Card or Mounting board.

India Ink or Water Color are easily applied, and pencil marks can be erased without tearing the paper.
Roll 20 yards long, 40 inches wide
344. "VICTORIA" Hot Pressed, Satinized, Unprepared.
"Victoria" Tracing Paper contains no oil or paraffine, and will not become brittle or yellow with age.

It can be folded without breaking; India Ink or Water Color do not spread or soak through, and on account of the low price it is preferable to many other Tracing Papers.
Roll 44 yards long, 54 inches wide.....................(List Price, $\$ 5.50$ ) $\$ 5.00$
" 22 " " 54 " " $\ldots \ldots . . . . . . . . . . . i^{2.75)} 2.50$
" 44 " " 27 " " $\ldots . . . . . . . . . . . . .$. . ${ }^{27}$ 3.10) 2.75
345. "MONARCH" Cold Pressed, unglazed, unprepared.
"Monarch" Cold Pressed Unprepared Tracing Paper has a slightly rough surface ; it contains no oil, will not turn yellow or brittle with age, and is not injured in folding.

Water Color and India Ink do not spread or soak through, and the low price has made it a very popular tracing paper.
Roll 44 yards long, 54 inches wide..................... (List Price, $\$ 5.50$ ) $\$ 5.00$


346. "CRYSTAL"' Extra Thin, very transparent.

Roll, 20 yards long, 57 inches wide............................................... . $\$ 5.50$

" 20 " " 28 " " $\ldots$....................................... 2.85
347. '6LEATHERINE", Strong, very clear.

This paper is less liable to wrinkle when Water Color is applied than many other Tracing
Papers. India Ink flows freely and pencil marks can be erased without tearing the paper.
Roll, 20 yarls long, 54 inches wide
$\$ 6.85$

" 20 " " 27 " " ................................................ 3.50
350. 'LION" Parchment, very tough and transparent.

Is an excellent substitute for tracing cloth; it can be folded, takes India Ink and Color freely, and may be stretched like Drawing Paper, by gumming down the edges first, and when it adheres thoroughly, moistening the surface with a sponge or brush.
Roll, 20 yards long, 37 inches wide
. (List Price, $\$ 5.50$ )
$\$ 500$
352. "ELEPHANT VELLUM" Extra Heavy, Extra Strong.
"Elephant Vellum" is strong enough to be used like a drawing paper. Drawings, constructed in pencil, on it, can be easily erased without tearing. A fine "Blue Print" is produced from an ink drawing made on this paper, which saves the expense of tracing the original. To stretch it, gum down the edges, and when it adheres, moisten the surface with a sponge or brush.
Roll, 20 yards long, 37 inches wide
$\$ 6.00$

## TRACING PAPERS IN ROLLS.-Continued.

360. "IVORINE" White Smooth Finish, not prepared.

Will not break in folding. It is of fair strength, remains white, does not become brittle with age, and Color and Ink flow freely.
Roll, 44 yards long, 54 inches wide. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$4. 75




361. "CANARY" Amber Tinted.

The surface of this paper is well suited for tracing with pencil. It is strong enough to bear erasing; takes India Ink and Water Color; can be folded without breaking; has a fair amount of strength, and on account of the moderate price it is recommended for general use and TRACINGS OF DETAILS.
Roll, 44 yards long, 48 inches wide......................................... $\$ 2.00$
362. "ARCADIA" Detail Tracing Paper.

A low priced paper for general Rough Tracing, where no great transparency is required. Roll, 50 yards long, 40 inches wide. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$1. 25
368. "SILK" Pencil Tracing Paper.

Will answer the purpose for Tracing where no strength or durability is required. This paper does not take Ink.
Roll, 50 yards long, 48 inches wide. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 1.50$

## PROFILE PAPERS

Printed in Orange or Green.


Profile Paper, Plate A.
Plate A. Horizontal divisious, 4 to the inch. Vertical divisions, 20 to the inch; every tenth horizontal and each fiftieth vertical division line heavier than the rest.
370. Plate A. Sheets, $15 \times 42$ inches.
quire, $\$ 8.50$ sheet, . 40
371. "A. Rolls, 50 yards long, 22 inches wide...........roll, 15.00 yard, . 30
372.، " A. Mounted on Muslin. In Rolls.................................. " . 75
E. G. SOLTMANN-NEW YORK.

## PROFILE PAPERS-Continued.



Plate B. Horizontal divisions, 4 to the inch. Vertical divisions, 30 to the inch; each tenth horizontal and every twenty-fifth vertical division line heavier than the rest.
375. Plate B. Sheets, $13 \times 42$ inches. quire, $\$ 8.50$ sheet,40
376. " B. Rolls, 50 yards long, 22 inches wide ...........roll, 15.00 yard, 30

37i. " B. Mounted on Muslin. In Rolls............................... " 75
Plate C. Horizontal divisions, 5 to the inch. Vertical divisions, 25 to the inch; each fifth horizontal, and every twenty-fifth vertical division line heavier than the rest.
380. Plate C. Sheets, $15 \times 42 \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots$.................................. $\$ 8.50$ sheet, . 40 Profile Books, see Nos. 920 to 935.

## CROSS SECTION PAPERS

## Printed in Orange or Green.

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385. Cross Section, Printed, $8 \times 8$ to inch, size of Engraving, $16 \times 22$ inches, quire, $\$ 5.00$ sheet, .2 ;

386. Cross Section, Printed, $10 \times 10$ to inch, size of Engraving, $16 \times 20$ inches, quire, $\$ 5.00$ sheet, 25

## CROSS SECTION PAPERS-Continued.

## Printed in Orange or Green.

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387. Cross Section, Printed, $5 \times 5$ to $\frac{1}{2}$ inch, size of Engraving, $16 \times 20$ inches, quire, $\$ 5.00$ sheet, .25

## METRIC CROSS SECTION PAPER

## Printed in Orange.


389. Cross Section, Printed, Millimeter, size of Engraving, $18 \times 24$ inches,

$$
\text { quire, } \$ 5.00 \text { sheet, . } 25
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389. " ${ }^{2}$. Millimeter, in Rolls, $\mathbf{2 7}$ inches wide, 11 yards Long,

$$
\text { roll, } \$ 4.00 \text { yard, . } 40
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## CROSS SECTION PAPERS

Ruled in Blue.

390. Cross Section, Ruled, $10 \times 10$ to incb, sheets, $17 \times 22$ inch., quire, $\$ 1.50$ sheet, .08
$3901 / 2$." " " $10 \times 10$ " " $23 \times 36$ " " 4.45 " 22


# CROSS SECTION PAPER.-Continued. 

Ruled in Blue.


395. Cross Section, Ruled $16 \times 16$ to inch, sheets, $19 \times 24$ inches, quire, $\$ 2.00$ sheet, .10 $3951 / 2$. " " $16 \times 16$ " " $23 \times 36$ " " 4.45 " . 22

## WEAVER'S DESIGN PAPERS.



Designs are in black lines.


Field, Cross Section, Profile and other Engineers' Books, see Nos. 800 to 938.

## THE "BLUE PROCESS."

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For Writing and Drawing on "Blue Prant-."
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## BRUSHES FOR PREPARING BLUE PROCESS PAPERS.



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# NOT PREPARED BLUE PRINT PAPERS. 

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ZINC LINED BATHS.-Lighter Construction.


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## ENGINEERS' NOTE BOOKS.

Horizontal Rulinix only, similar to Field and Level luooks See Next Page.

i80. $41 / 2 \times 71 / 2$ inches, Leather Cover, Round Corners, 60 leaves.. .......dozen, $\$ 4.50$
782. $4 \times 61 / 2$ " " " " 60 "......... " 4.00

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Ruled in Blue, 10 parts to the inch, every inch line heavier than the rest.

786. $61 / 2 \times 81 / 2$ inches, Leather Cover Round Corners, 80 leaves.......... dozen, $\$ 10.00$ 788. $5 \frac{1}{2} \times 71 / 2$ " " " " 80 " $\ldots \ldots . .$. . 6.00

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Ruled in sfuares, convenient for sketching plots of ground, sizes of rooms, etc. Every inch line heavier than the rest.


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## ENGINEERS' FIELD, LEVEL

These books have round corners, are well bound, and have

800. "FIELD B00KS," $41 / 2 \times 71 / 2$ inches, Leather Covers, 802. 66 6 $41 / 2 \times 71 / 2$ " " "

810. "LEVEL BOOKS," $4 \times 61 / 2$ inches, Leather Covers,
812. 66 66 $4 \times 6 \frac{1 / 2}{}$ " " "

820. " TRANSIT BOOKS," $41 / 2 \times 71 / 2$ inches, Leather Covers, 822.

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Round Corners, 80 leaves
dozen, $\$ 6.00$
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" " 60 "
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Round Corners, 80 leaves
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made to order in arny quantity.

## HYDROGRAPHIC

## Sounding, Tide and Angle Records, which are fac-similes

A few alterations and additions have been made which will probably be acknowledged The pages are numbered consecutively from 1 to 100 . An index of four pages is indexes on the fly leaves. The word locality is printed at the head of left hand page of the

The paper is of the best quality which will bear erasing, but it is not highly glazed, so These books have been extensively introduced into many of the United States proper columns and printed headings for the classification of reduced Tides and Soundings The Tidal Records contain space for meteorological data, thereby making the record of

SAMPLE SHEETS OF THESE BOOKS
SOUNDINGS
Year.......................................................................... Month.

900. "SOUNDING BOOKS," $4 \times 18$ inches,

Special rates

| OBSERVATIONS OF TIDES at <br> Year. $\qquad$ Month $\qquad$ Day of Month |  |  |  |  |  |  |  |  |
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| No. |  |  |  | time |  | angles |  | objects observed |
| 904. "ANGLE B00KS," $4 \times 18$ inches, Special rates |  |  |  |  |  |  |  |  |

## SURVEYING BOOKS.

## of those used by the United States Coast Survey.

as improvements, viz.:
inserted in the fore part of each book, thus saving the labor and inconvenience of marking Angle Books.
as to show the pencil marks to better advantage.
Engineers' Departments in various parts of the country. They are ruled with the to mean low water.
the survey systematic and complete.
MAILED ON APPLICATION.

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dozen, $\$ 10.50$
for quantities.
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for quantities.

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## PROFILE BOOKS.



These books are printed upon tough, thin sheets of linen parchment paper, which will take color and stand erasures, and mounted upon a continuons piece of muslin, with close joints evenly matched to present a continuous protile of any desired length and bound in book form, with an index printed on the back of each fold, showing the Station and Section Numbers, thus giving a ready reference to any part of the profile.

The Books of "Plate A" show a profile of 100 feet in width, on a horizontal scale of $t$ and vertical of 20 to an inch; size of book is $5 \frac{1}{2} \times 8$ inches.

The Books of "Plate B" show a profile of 125 feet in width, on a horizontal scale of 4 and rertical of 30 to an inch ; size of book is $4^{3} \times 8$ incbes.
920. Continuous Profile Books, Plate A, Bound in Flexible Morocco Corer.

|  | 100 | 50 | 25 | 15 miles. |
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| Each. | 8. 00 | 5.00 | 3.00 | 2.50 |

926. Continnons Profile Books, Plate B, Bound in Flexible Morocco Corer.

|  | Each...................... 88.00 | 50 | 25 | 15 miles. |
| :---: | :---: | :---: | :---: | :---: |
| 8.00 | 3.00 | 2.50 |  |  |

## POCKET PROFILE BOOKS.

Every two pages facing, contain six thousand feet, equal to an average section, as laid out for construction of Railroads. The book is convenient for carrying in the pocket, or for office use, and is more easily handled than a long roll of profile paper. Size of book, $53 / 8 \times 8 \frac{1}{2}$ inches. The paper is strong and heary, and priuted on both sides.
932. Pocket Profile Books, Plate A, Bound in Flexible Morocco Cover.

938. Pocket Profile Books, Plate B, Bound in Flexible Morocco Cover.


Profile and Cross Section Papers, See Nos. 370 to 396.

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ALL PENCIL POINTS ARRANGED TO HOLD FABER'S ARTISTS' LEADS.

1000. Compasses, 6 inch, with Pen, Pencil, Lengthening Bar, Needle and
Divider Points..................................................................... $\$ 80$
1002. Compasses, 6 inch, with Pen, Pencil, Lengthening Bar and Fixed Needle Point
1003. Compasses, 41/2 inch, with Pen, Pencil, Lengthening Bar and Fixed Needle Point
1004. Hair Spring Dividers, 6 inch ..... " 4.00
1005. Hair Spring Dividers, 5 inch. ..... " 3.50
1008. Dividers, 6 inch ..... " 3.25
1009. Dividers, 5 inch ..... 2.75

## SWISS PIVOT JOINT INSTRUMENTS,

Continued.

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ALL PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.


No. 1012.

1014.

1016.

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1022.
1012. Compasses, $31 / 2$ inch, Pen, Pencil, Needle and Divider Points.... .... each, $\$ 6.85$ 1014. Compasses, $31 / 2$ inch, Pen, Pencil and Fixed Needle Point........ .. " 6.00
1016. Bow Pen, $31 / 2$ inch, Fixed Needle Point............................. ، 4.50
1018. Bow Pencil, $3 \stackrel{1}{2}$ inch, " " " ............................. " 4.25
1020. Hair Spring Dividers, 3 ½́inch..................................... " 3.00
1022. Dividers, $31 / 2$ " $\ldots \ldots \ldots$................................. 2.25

Steel Spring Bows and Ruling Pens to match, see Nos. 1124, etc.

## EXTRA FINE SWISS INSTRUMENTS.

Made of Selected German Silver and Best English Steel.

ALL PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.

1030. Compasses, 7 inch with Joint in each Divider Point, Pen, Pencil,
Needle Point, Lengthening Bar and Dotting Pen...................each, \$10.75
1034. Compasses, 6 inch, with Pen, Pencil, Lengthening Bar, Needle and Divider Points
8.00
1038. Compasses, $41 / 2$ inch, with Pen, Pencil, Lengthening Bar, Divider and
Fixed Needle Point.

## EXTRA FINE SWISS INSTRUMENTS，

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1040．Compasies， $5^{5}$ ，iect，with Peb，Fencil Lenztieaing Bar and Fired Neerlle Point．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．eack，$ミ: ~ 00$


104t．Hair Spring Dividers， 5 inch．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．

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Points

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1052．Bow Compasses，3Lý inch，with Hualle，Pen，Peacil，tred Neeile Poict ..... 3.25
1055．Bow Pen， 3 he inch，with Handle and tuen Nesile Point． ..... 350
106E．Bow Pemeil， $3 t_{2}$ ..... $35)$
10：1．Dividers． 3 2／2 ..... 1.35

## EXTRA FINE STEEL SPRING BOW INSTRUMENTS.

ALL PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.


Each
1124. Steel Spring Bow Pen, 5 in., German Silver Handle, Needle Point. $\$ 4.35$
1125. Steel Spring Bow Pencil, 5 " " " $"$ 4.35
1126. Steel Spring Bow Dividers, 5 " " " ............ 3.50
1130. Steel Spring Bow Pen, 41/4" " " Needle Point. 3.25
1131. Steel Spring Bow Pencil, 41/4" " " " $"$ 3.25
1132. Steel Spring Bow Dividers, 41/4" " " .............. 2.75
1136. Steel Spring Bow Pen, $31 / 2$ " " " Needle Point. 2.85
1137. Steel Spring Bow Pencil, $31 / 2$ " " " $"$ 2.85
1138. Steel Spring Bow Dividers, 31⁄2" " " .............. 2.20
1142. Steel Spring Bow Pen, $21 / 4$ " " Needle Point. 2.85
1143. Steel Spring Bow Pencil, 21/4" " " " ${ }^{\text {" }}$. 2.85
1144. Steel Spring Bow Dividers, $2 \frac{1}{4}$ " " " ........... 2.20
1150. Steel Spring Sliding. Pivot Centre Bow Pen and Pencil, $31 / 2$ inches... 4.00
1152. Steel Spring Sliding Pivot Centre Bow Pen, $31 / 2$ inches................ 3.25

1250. Ruling Pen, with Hinge and Pin. Ivory Handle, $61 / 4 \mathrm{inch}$ each, \$2.00

1251. Ruling Pen, with Hinge and Pin, Ivory Handle, $51 / 2$ inches .each, \$1.80

1252. Ruling Pen, with Hinge and Pin, Irory Handle, $43 / 4$ inches. ........each, $\$ 1.60$
1253. Ruling Pen, " " " " " . $41 / 4$ "......... " 1.50

1254. Ruling Pen, with Hinge, Ivory Handle, 4 inches
each, $\$ 1.40$
1256. Ruling Pen, no Hinge, Ebony Handle, 5 "

## RULING PENS WITH SPRING BLADE,

 no hinge.
1270. Ruling Pen, with Improved Bent Spring Blade, Ebony Handle, 6 in., each, $\$ 2.00$ 1271. Buling Pent, " " ". ". ". " $\quad$ " $54 . "$ " 1.85 1272. Ruling P'en, " " " " " " " $4 \frac{1}{2} "$ " 1.70

## RULING PENS WITH EBONY HANDLES.


1280. Ruling Pen, no Hinge, Ebony Handle, 6 inch.........................each, 1.85

1281. Ruling Pen, no Hinge, Ebony Handle, $5 \frac{1}{4}$ inch

1282. Ruling Peln, no Hinge, Ebony Handle, $41 / 2$ inch

## EXTRA FINE SWISS INSTRUMENTS.


1306. Border Pen for heavy lines, Ivory Hanule, $61 / 2$ inch .each, \$3.00

1310. Curve P'en, Ivory Handle, $41 / 2 \mathrm{inch}$.
.each,
1.25

1316. Railroad Pen, new style, Ivory Handle, $51 / 2$ inch
each, 3.75
Both Blades face the sarne way. The inside blade can be pressed closely to the $\mathbf{T}$ Square, Triangle, etc.
1334. Dotting Pen, new style, with 6 Wheels, Ivory Handle, 6 inch

The lower upper hinged blade. The case is flled with ink which is carried to the paper by the revolving wheel.

## EXTRA FINE SWISS INSTRUMENTS.

## Contimued.

ALL PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.

$$
\text { No. } 1340 .
$$

1340. Tracer, Ivory Handle, 5 inches each, \$1.35
1341. Tracer, made of Ivory, 4 "
" $\quad 1.00$


No. 1344.
1344. Pricker, Ivory Handle, 5 inches ..............................................each 1.75

Ruling Pens carefully Sharpened...................................... ". . . 20

## SWISS BEAM COMPASSES WITH TANGENT AND WHEEL ATTACHMENT.



No. 1356-7.


No. 1350. Case containing Beam Compasses and Wheel Attachment. " 1351. Case containing Beam Compasses.
1350. Beam Compasses, Improved Pattern. To fasten to a Straight Edge or Bar, with Tangent Attachment, Pen, Pencil, Needle and two round Points, also Wheel Attachment, complete in case.
1351. Beam Compasses, Improved Pattern. To fasten to a Straight Edge or Bar, with Tangent Attachment, Pen, Pencil, Needle and two round Points, also Wheel Attachment, complete without case.
1356. Beam Compasses, in case.................... .................... " 10.00
1357. Beam Compasses, without case9.00
1360. Wheel Attachment, to fasten to a Straight Edge or Bar. The instrument overcomes the necessity of placing the Beam Compasses on its side when not in use each,
Wooden Bars for Beam Compasses. Same as 6200.

|  |  | 72 | 60 | 48 | 42 | 36 | 30 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Each, | .90 | .75 | .65 | .55 | .45 | .40 | .35 |

## TUBULAR BEAM COMPASSES.


1370. Tubular Beam Compasses in 4 Sections, 36 inches long, with Pen, Pencil, Needle and 2 round Points
each, $\$ 17.00$
1372. Tubular Beam Compasses in 3 Sections, 21 inches long............." " 11.75
1374. Tubular Beam Compasses in 2 Sections, 20 inches long.............. " 10.30

| Morocco Cases for | 1370 | 1372 |  |
| :---: | :---: | :---: | :---: |
| Each $\ldots$. | $\$ 2.50$ | 1374 |  |
|  |  | 1.75 | 1.50 |

## BEAM COMPASSES WITH TANGENT SCREW.



> 1380. Beam Compasses, to fit a Straight Edge or Bar, with Pen, Pencil and Needle Points. ........................................................................ 88.75
1382. Beam Compasses, Small, with Pen, Pencil and Needle Points........ ." 8.25

Morocco Cases for 1380 and 1382 .

## CASES OF SWISS INSTRUMENTS

No. 1410.


IN POLISHED ROSEWOOD BOXES,
With Tray, Lock and Key.

Each.
1400. Contents: Nos. 1000, 1005, 1008, 1016, 1018, 1022, 1124, 1125, 1126, $1136,1137,1138,1250,1270,1271,1272,1306,1316,1340,1360$, 1380.
$\$ 80.00$
1402. Contents: Nos. 1000, 1005, 1016, 1018, 1022, 1130, 1131, 1132, 1142, $1143,1144,1250,1270,1271,1272,1340,1380$.
65.00
1404. Contents: Nos. 1000, 1005, 1012, 1022, 1136, 1137, 1138, 1250, 1251, $1252,1253,1272,1340.1380$
55.00
1406. Contents: Nos. 1000, 1009, 1016, 1018, 1136, 1137, 1138, 1251, 1252, 1254,1281
40.00
1408. Contents: Ňos. $1002,1009,1014,1136,1137,1138,1251,1252 \ldots \ldots \ldots . \quad 33.50$
1410. Contents: Nos. 1002, 1009, 1136, 1137, 1138, 1251
25.00

## SWISS INSTRUMENTS WITH PIVOT JOINTS.


1414. Contents: Nos. 1000, 1005, 1016, 1018, 1022, 1136, 1137, 1138, 1251, Each. 1252, 1254
$\$ 3850$
1416. Contents: Nos. $1000,1009,1014,1136,1137,1138,1251,1252 \ldots \ldots .$. ..... 30.00
1418. " " 1003, 1008, 1012, 1136, 1251, 1253..................... 25.00
1420. " " 1002, 1009, 1136, 1137, 1138, 1251....................... 22.00
1422. " " 1002, 1009, 1014, 1251............................................ 20.00
1424. " " 1002, 1009, 1251................................................ 13.50
1426. " " 1016, 1018, 1022, 1142, 1143, 1144, 1252, 1254......... 23.75
1428. " " 1016,1018, 1022, 1136, 1252...................................... 17.00
1430. " " 1012,1142,1253_............................................ 12.75


## EXTRA FINE SWISS INSTRUMENTS

In Rosewood Cases (Continued).

1460. Rosewood Case, with Tray, Lock and Key.<br>Contents: Nos. 1030, 1038, 1044, 1050, 1066, 1068, 1074, 1172, 1173, $1174,1250,1251,1252,1254,1306,1316,1357,1360,1648 \ldots \ldots$. . each, $\$ 90.00$

1462. Rosewood Case, with Tray, Lock and Ker.

Contents: Nos. 1034, 1038, 1044, 1050, 1062, 1172, 1173, 1174, 1250, 1251, 1252, 1254, 1357, 1360, 1648. .............................. ". 70.00

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1466. Rosewood Case, with Tray, Lock and Key.

Contents: Nos. 1034, 1050, 1062, 1172, 1173, 1174, 1251, 1253, 1357, 1360 .
45.00

14i0. Rosewood Case, with Tray, Lock and Key.
Contents: Nos. 1040, 1050, 1060, 1172, 1173, 1174, 1251........... " 32.00
1472. Rosewood Case, with Tray, Lock and Key.

Contents: Nos. 1034, 1050, 1172, 1173, 1174, 1251.................. " 25.00
1474. Rosewood Case, with Tray, Lock and Key.

Contents: Nos. 1034, 1050, 1172,1252
18.75 Other Cases made to order at short notice.

## EXTRA FINE SWISS INSTRUMENTS

In Fine Pocket Cases.




## VERY SMALL POCKET CASES.

1490. Contents: Nos. 1038, 1044, 1066, 1068, 11i2, 1173, 1174, 1252, 1254..each, 30.00
1491. Contents: Nos. 1038, 1050, 1060, 1172, 1252, 1254................... " 23.00
1492. Contents: Nos. 1038, 1050, 1172, 1252................................ "، 15.50
1493. Contents: Nos. 1066, 106, 1074, 1172, 1253........................... " 14.50
1494. Contents: Nos. 1060, 1172, $1253 \ldots .$. ................................... .، 11.75

Other Cases made to order at short notice.
CHAMOIS SKINS FOR CLEANING INSTRUMENTS (Same as No. 17,910).
Medium, 30c. Small, 20c. each.

Rec SWISS INSTRUMENTS of lighter and more delicate construction, with and without Pivot Joints. See Nos. 1000 , etc.

## SWISS INSTRUMENTS.

GERMAAN SILVER AND ENGLISH STEEL.

1500. Compasses, $61 / 2$ inches, with Joint in each Divider Point, Pen, Pencil,

Lengthening Bar, Dotting Pen and Needle Point, (List Price, $\$ 10.00$ ) each, $\$ 9.00$
1504. Compasses, 6 inches, with Pen, Pencil, Lengthening Bar, Needle and

Divider Points. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . (List Price, 87.25) $^{\text {( }}$
1512. Hair Spring Dividers, 5 inches. . . . . . . . . . . . . . . . . . . (" ". 2.70 ) " 2.50
1513. Hair Spring Dividers,

1518, Dividers,
1519. Dividers,
1520. Dividers, 4
2.50)

225

4 "
$2.60)$
235
....................... ". " ${ }^{2.00}$ )
1.75
1.50


No. 1530.
1530. Bow Compasses, $31 / 2$ inches, with Handle, Pen, Pencil, Needle and Divider Points $\qquad$ . . (List Price $\$ 5.50$ each, $\$ 5.00$
1532. Bow Compasses, $31 / 2$ inches, with Handle, Pen, Pencil and fixed

Needle Point................. . . . . . . . . . . . . . . . . . (List Price, $\$ 5.00$ ) each,
1536. Bow Pen, 3½ inches, with fixed Needle Point ...(" " 3.25) " 3.00
1537. Bow Pencil, 31/2 " " Needle Point....(" " 3.25) " 3.00
1538. Bow Dividers, 3½ " with two Needle Points...(" " 3.25) " 3.00


STEEL SPRING BOWS, Nos. 1124 to 1192,
Are of lighter and more delicate construction.



No. 1570.
Each.
1570. Large Steel Spring Dividers, $53 / 4$ inches, Ivory Handle . (List Price, $\$ 2.70$ ) $\$ 2.50$


No. 1578.
1578. Spring Bow Compasses, with Detachable long Ivory Handle and Divider

Points, two Pen Points, Pencil ard Needle Points. ...... (List Price, \$7.75) \$7.00


Each.
1582. German Silver Spring Bow Pen and Fencil.......... (List Price, $\$ 3.30$ ) $\$ 3.00$
1584. German Silver Spring Bow Pen
2.20) 2.00


Each.
1600. Kuling Pen, with Hinge and Pin, Ivory Handle, 6 inches. . (List Price, \$1.75) \$1.60
1602. Ruling Pen, " " " " 5 ".. ( ${ }^{\text {. }} 1.55$ ) 1.40



No. 1620.
1620. Railroad Pen, Hinged Blades, 5 inches (List Price, $\$ 3.25$ ) $\$ 3.00$


$$
\text { No. } 1624 .
$$

1622. Dotting Pen, with 6 Wheels, Irory Handle, 6 inches. ...... (List Price, \$3.60) \$3.25
1623. Dotting Pen, Ivory Handle, 6 inches...................... . . " 2.20 ) 2.00


No. 1640.
Each.
1640. Proportional Dividers, with Micrometer Adjustment, $91 / 2$ inches, gradu-
ated for lines and circles.
. (List Price, \$13.25) \$12.00


No. 1644.
Each.
1644. Proportional Dividers, with Rack Morement, 9 inches, graduated for
lines and circles . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . (List Price, \$11.60) \$10.50


$$
\text { No. } 1648 .
$$

Each.
1648. Proportional Dividers, 9 inches, graduated for lines and circles,
(List Price, $\$ 11.00$ ) $\$ 10.00$


No. 1660.


Each.
16ô0. Pocket Pillar Compasses, with Handles, Pen and Pencil Points, to draw out and can be used as small bow instruments. (List Price, \$8.85) \$8.00


No. 1664.


No. 1664.
1664. Pocket Folding Compasses, with Pen and Pencil Points . (List Price, $\$ 8.00$ ) $\$ 7.25$


No. 1670.
Each.
1670. Beam Compasses, to fit a Straight Edge or Bar, with Pen, Pencil, Needle

Each.
and Round Points.............................................(List Price, $\$ 7.50$ ) $\$ 6.75$
Morocco Case for do


## WOODEN BARS

FOR BEAM COMPASSES.
(SAME AS No. 6200.)

|  | 72 | 60 | 48 | 42 | 36 | 30 |
| ---: | ---: | ---: | ---: | ---: | ---: | :--- |
| Each.. 90 | .75 | .65 | .55 | .45 | .40 | 35 |

CHAMOIS SKINS FOR CLEANING INSTRUMENTS (same as No. 17,910). Medium, 30c. Small, 20c. each.

## ENGLISH INSTRUMENTS,

## SUPERIOR QUALITY:

German Silver, Double Sector Joints. All attachments have bayonet slides.
1:00. Compasses, 6 inches, with joint in each leg, one Needle Point fired, theother detachable, Pen. Pencil Points, Lengthening Bar and Knife Key.
1:04. Compasses, 6 inches, with Pen, Pencil Points, Lensthening Bar and Knife Key ..... 10.00
1:06. Compasses, $41 / 2$ inches, with fixed Needle Point, Pen and Pencil Point, ..... 975
1710. Hair Spring Dividers, 5 inches ..... 300
1714. Dividers, 5 inches ..... 200
1i20. Bow Pen, fixed Needle Point, $31_{2}$ inches ..... 390
1:21. Bow Pencil, .. " 31 1 2 ..... 3.90
1:26. Bow Pen, Rounl Point. $3^{2}$, inches ..... 3.25
1727. Bow Pencil, * $3^{3}$ e ..... 3.25
E. G. SOLTMANN-NEW YORK.

## ENGLISH INSTRUMENTS,

Continued.


Nos. 1750-1752.
The Square Handle prevents the Pen from rolling off the drawing table.
1750. Ruling Pen, with Hinge, square Ivory Handle, $61 / 2 / 2$ inches.. ........... $\$ 2.25$
1751. Ruling Pen, " " " $"$ " 12 "........... 2.00
1752. Ruling Pen, " " " " 41/2 " ............. 1.75


Nos. 1760-1762.
1760. Ruling Pen, with Hinge, Ivory Handle, $61 / 2$ inches..................... Each.
1761. Ruling Pen, " " " $5 \frac{1}{2}$ " $\ldots . . . . . .$. . .. . 1.75
1762. Kuling Pen, " " " 41/2 " ..................... 1.50


No. 1770-1772.
1770. Ruling Pen, no Hinge, Ivory Handle, $61 / 2$ mehes. ..................... ${ }_{\$ 1}^{\text {Each. }} 50$
1771. Ruling Pen, " " " $51 / 2$ ".................
1772. Ruling Pen, " " $41 / 2$ " ......................... 1.25


No. 1780.
Each. $\$ 1.00$
1780. Tracer, Ivory Handle, 5 inches


No. 1782.
1782. Pricker, Ivory IIandle, 5 inches.

No. 1790.
1790. C'urve Pell, New Pattern

By loosening the screw at end of handle, the bar running through the hollow centre acts as a pivot for the pen, which will follow any curve readily without blotting the edges of the curve ruler.

If the upper screw is fastened, it can be used as a Drawing Pen, and is useful for ruling into corners and for fine work.

Cases of Enirlish Instruments put up to Order.
CHAMOIS SKINS FOR CLEANING INSTRUMENTS (same as No. 17,910). Medium, 30c. Small, 20c. each.

## EXTRA FINE GERMAN INSTRUMENTS,

Made of Superior German Silver and Steel.
ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.
(Second quality of German Instrumente, see Nos. 2400 to 24i0.)


2000. Compasses, $51 / 2$ inches, with Pen, Pencil, Lengthening Bar, Needle and
Divider Points ..... $\leq \pm 00$
2001. Compasses, $511 / 2$ inches, with Pen, Pencil, Lengthening Bar and fixed Needle Points ..... 3.50
2002. Compasses, $4^{112}$ inches, with Handle, Pen, Pencil, Lengthening Bar, Divider and fixed Needle Points ..... 3.75
2003. Hair Spring Dividers, 6 inches ..... 2.10
2004. Hair Spring Diriders, 5 ..... 1.90
2005. Dividers, 6 inches ..... 1.12
2006. Dividers, 5 ..... 1.00
2007. Dividers, 4 ..... 90

## EXTRA FINE GERMAN INSTRUMENTS,

Continued.
ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


No. 2030.

2036.

2042.

2060.
2030. Bow Compasses, $3 \frac{1}{2}$ inches, with Handle, Pen, Pencil, Needle and Each. Divider l'oints
t3...
2036. Bow Compasses, $3!1 / 2$ inches, with Handle, Pen, Pencil and fixed Needle Point............................................................ ..... 2.65
2040. Bow Pen, $31 / 2$ inches, with Handle and fixed Needle Point...... ..... 2.20
2042. Bow Pencil,

31 ́ㅡㄴ ..... 2.20
2060. Bow Dividers, $31 / 2$ ..... 1.00


No. 2070.
20i0. Spring Bow Compasses, with detachable long Ivory Handle, two Pen Each.
Points, Pencil, Needle and Divider Points
Points, Pencil, Needle and Divider Points
84.75

*) 75
2074. German Silver Spring Bow Pen and Pencil, 3 inclies ..... $1 . \varepsilon 0$

## EXTRA FINE GERMAN INSTRUMENTS,

Continued.

ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


Spring Bow Instruments Nos. 2080, 2082 and 2084 are of extra fine German make, and shaped like the Swiss Bows.
2080. Steel Spring Bow Pen...... 3 inches, Needle Point, White Handle........ $\$ 2.10$
2082. Steel Spring Bow Pencil.... " " " " " ....... 2.10
2084. Steel Spring Bow Dividers.. 3 " Round Points, " "...... 1.65

2090. Steel Spring Bow Pen...... 3 inches, Needle Point, White Handle...... \$1.70
2092. Steel Spring Bow Pencil.... 3 \% " " "
2094. Steel Spring Bow Diriders.. 3 "..................................... 1.25
2100. Steel Spring Bow Pen .....31/2" Needle Point, White Handle...... 1.70
2102. Steel Spring Bow Pencil....3̌2 " " " " " ....... 1.70
2104. Steel Spring Bow Dividers..31/2" ................................... 1.25

## E. G. SOLTMANN-NEW YORK.

## EXTRA FINE GERMAN INSTRUMENTS. <br> Continued.

> ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


No. 2110. $2112 . \quad 2114$.
2110. Steel Spring Bow Pen, 31/2 inch, Needle Point, Metal Handle..each, \$2.00
2112. Steel Spring Bow Pencil, 31/2 " " " " " .. " 2.00
2114. Steel Spring Bow Divider, 31/2 " Round Points, " " .. " 1.50
2120. Morocco Case, containing Set of Bows, 2080, 2082, 2084............. " 6.60
2122. Morocco Case, containing Set of Bows, 2090, 2092, 2091............ " 5.40
2124. Morocco Case, containing Set of Bows, 2100, 2102, 2104.... ........ " 5.40
2125. Morocco Case, containing Set of Bows, 2110, 2112, 2114............. " 6.25

Empty Morocco Cases for German Spring Bows............. ......... " . . 75

2156. Ruling Pen, with Knife Blade, convenient for ruling into corners or for drawing heavy and light lines without adjusting the screw, by pressing more or less of the beveled edge on the paper


No. 2160, 2162.
2160. Ruling Pen, with Hinge and Pin, White Handle, $51 / 2$ inches ..... Each.
2161. Ruling Pen,$43 / 4$90
2162. Ruling Pen, ..... 80


No. $21 \% 0$.
2170. Cluster Pen, with 3 Blades, for one White Handle, $51 / 2$ inches.
EXTRA FINE GERMAN INSTRUMENTS; Coritinued.

2180. Clnster Hatching Pen, with 3 Blades, for one Ebony Handle, Pushing Screw, 6 inches.
2182. Cluster Hatching Pen, with 1 Blade, for one Ebony Handle, Pushing Screw, 6 inches

̌. 2190.
2190. Ruling Pen, German Silrer Blades, for Colored Inks, with Hinge, White
Handle, 5 inches ................................................................ 12
2192. Ruling Pen, German Silver Blades, White Handle, 5 inches. 80

No. 2196.
2196. Dotting Wheel, White Handle
$\$ 1.00$

No. 2198.
2198. Railroad Pen, $51 / 21$ inches, White Handle.
§2. 75

No. 2206.
2206. Pocket Folding Compasses, rith Reversible Pen, Pencil and Needle
Points.......................................................................50

No. 2210.
2210. Pocket Dividers, with detachable Sheath


2260. Triangular Dividers, 5 inches, can be set to any 3 points, within the limit of its size each, $\$ 3.50$

2262. Whole and Half Dividers, $61 / 2$ inches
each, $\$ 2.80$


Nos. 22s0, 2281.
2284.

> 2280. Beam Compasses, to fasten to a Straight Edge or Bar, with Pen, Pencil, Needle and Round Points, in case....................................... 50
2281. Beam Compasses, to fasten to a Straight Edge or Bar, with Pen, Pencil, Needle and Round Points, without case ..... 6.50
2284. Beam Compasses, (French Make, same as 3050). with Pen, Pencil and Needle Points, in case ..... 5.00

## GERMAN INSTRUMENTS,

## SECOND GRADE.

ALI PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS. (First quality German Instruments, see Nos. 2000, etc.)
2400. Compasses, $51 / 2$ inches, with Pen, Pencil, Lengthening Bar, Needle and Divider Points ..... $\$ 3.00$
2406. Compasses, $5 \frac{1}{2}$ inches, with Pen, Pencil and fixed Needle Point ..... 2.50
2422. Diriders, 5 inches ..... 75
2430. Bow Compasses, $31 / 2$ inches, with Handle, Pen, Pencil, Needle and Dirider Points ..... 2.50
2460. Ruling Pen, with Hinge, $5 \frac{1}{2}$ inches ..... 75
2464. Ruling Pen, " " 4 ..... 65
24i0. Ruling Pen, without " 5 ..... 40

## REPAIRING DRAWING INSTRUMENTS.

The following are the approximate prices for repairs, which are of frequent occurrence. For complicated repairs, special estimates will be furnished, or the charges made according to the amount of labor.
Sharpening worn off Ruling Pens..: .................................................. . . . . 20
Sharpening and Cleaning, Ruling Pens................................................... 35


Grinding, Tempering, Sharpening and Cleaning broken off Pens............ . 50
(A pen broken off by a fall, often would be too blunt if only sharpened, in which case it is necessary to repair it as mentioned above.)
New Ebony Handle, for Ruling Pen..................................................... Each. 22
New White Bone Handle, for Ruling Pen ....................................... . . 30
Inserting the original broken Handle in Ruling Pens........................... . . 15
New Screws for Ruling Pens, Compasses, etc., made to order..................... . 25
New Thread and Nut for Steel Spring Bow Instruments.......................... 35

## VARIOUS REPAIRS.



Broken Shank.
The above break is of frequent occurrence, and often renders a complete compass and attachments useless, if the broken part remains in the socket.
Repaired equal to new 75 to $\$ 1.00$
Polishing 6 inch Compasses, and attachments ............................. $\$ 1.00$ to 1.50
P'olishing $31 / 2$ inch Compasses and attachments.
.85 to 1.25


Proportional Dividers, with broken Points carefully repaired 1.00 to 3.00

Parts of Sets of Instruments furnished at reasonable prices.
Needle Points with shoulder, Small .each, . 10 to .15
Needle Joints, special sizes made to order.............................. ". . 15 to . 25

## ADJUSTABLE INSTRUMENT KEY.



No. 2480.
2480. Adjustable Instrument Key and Screw Driver. each,

# GERMAN DRAWING INSTRUMENTS, 

Best Quality German Silver. Lined with fine Velvet.
ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


No. 2500.
2500. Polished Walnut Case, with Tray, Lock and Key.

Contents: $61 / 2$ inch Proportional Dividers, $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Hair Spring Dividers, 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil, and Needle Points, $31 / 2$ inch Dividers, with handle, 3 inch Steel Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, Railroad Pen, $51 / 2$ inch Kuling Pen with hinge and pin, 4 inch Ruling Pen. Key, Lead Case, 1 dozen Tacks, 6 inch Ivory Scale, Rubber Triangle, Metal Protractor, and Wooden Curve. .each, $\$ 30.00$
2504. Polished Walnut Case, with Tray, Lock and Key.

Contents: $61 / 2$ inch Proportional Dividers, $51 / 2$ inch Compasses with
Pen, Pencil, Needle Points and Lengthening Bar, $31 / 2$ inch Bow Com passes with Pen, Pencil and Needle Points, 5 inch Dividers, 3 inch Steel Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling Pen, Key, Lead Case, 6 inch Ivory Scale, Rubber Triangle, Metal Protractor, Wooden Curve, and 1 dozen Tacks.

ENTIRA FINE
GERMAN DRAWING INSTRUMENTS (continued).

2508. Polished Walnut Case, with Tray, Lock and Key.

Contents: 51/2 inch Compasses with Pen. Pencil, Needle Points and Lengthening Bar. 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, 3 inch Steel Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Rulinr Pen, Lead Case, Key, 6 inch Ivory Scale, Rubber Triangle, Metal Protractor, Wooden Curve, and 1 dozen Tacks each, $\$ 19.50$

2512. Polished Walnut Case, with Tray, Lock and Key.

Contents: $5 \frac{1}{2}$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar. 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, 3 inch Steel Spring Bow Pen, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling Pen, Lead Case, Key, 6 inch Ivory Scale, Rubber Triangle, Metal Protractor, Wooden Curve, and 1 dozen Tacks

## EXTRA FINE GERMAN INSTRUMENTS,

In Pocket Morocco Cases

Best Quality German Silver.
ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


No. 2524.
2524. Contents: $51 / 2$ incl Compasses with Pen, Pencil, Needle Points and

Lengthening Bar, 5 inch Hair Spring Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, 3 inch Steel Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling Pen, Lead Case and Key.


No. 2528.
2528. Contents: $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, 3 inch Steel Spring Bow Pen, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling Pen, Lead Case and Key

## EXTRA FINE GERMAN INSTRUMENTS

IN CASES (contimue().

ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


No. 2532
2532. Contents:. $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, 3 inch Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, 51/2 inch Ruling Pen with hinge and pin, 4 inch Ruling Pen, Lead Case and Key.......each, \$13.25


No. 2536.
2536. Contents: $5^{1 ⁄ 2}$ anch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling Pen, Lead Case and Key.

## EXTRA FINE GERMAN INSTRUMENTS

UN CASES (continuert).

## ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.



No. 2510.
2540. Contents: $41 / 2$ inch Compasses with handle, Pen, Pencil and Divider

Points, Lengthening Bar and tixed Needle Point, 5 inch Dividers, $31 / 2$
inch German Silver spring Buw Pen, two Ruling Pens, Lead Case
and Key.


No. 2542.
2542. Contents: 51/2 inch Compasses, with Pen, Pencil, Neelle Points and

Lengthening Bar, 5 inch Dividers, 3 inch Steel Spring Bow Pen, 51/2
inch Ruling Pen with hinge and pin, Lead Case and Key..........each, §8.75


No. 2544.
2544. Contents: $5^{12}$ inch Compasses with Pen, Pencil, Needle Points and

Lengthening Bar, 5 inch Dividers, $5 \frac{1}{2}$ inch Ruling Pen with hinge and
pin, Lead Case and Key

## EXTRA FINE GERMAN INSTRUMENTS,

ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.
VERY SMALL POCKET CASES.


No. 2548.
2548. Contents: $31 / 2$ inch Bow Compasses with Handle, Pen, Pencil and Needle Point, $31 / 2$ inch Dividers with Handle, 3 inch Steel Spring Bow Pen, 4 inch Ruling Pen, Lead Case and Key.


No. 2552.
2552. Contents: $31 / 2$ inch Spring Bow Compasses with long detachable white Handle, 2 Pen Points, Pencil and Needle Points, 4 inch Ruling Pen, Lead Case and Key.


No. 2556.
2556. Contents: $31 / 2$ inch Bow Compasses with Handle, Pen, Pencil and Needle Points. $31 / 2$ inch Dividers with Handle, 4 inch Ruling Pen, Lead Case and Key.


No. 2560.
2560. Contents: 3 夏 inch Bow Compasses with Handle, Pen, Pencil and Needle Points, 4 inch Ruling Pen. Leal Case and Key.

## Cases of Extra Fine German Instruments, see Nos. 2500-2560.

## CASES OF GERMAN INSTRUMENTS.

German Siiver, Steel Points, Metal Joints.

Morocco Cases lined with Black Velvet.
THESE CASES ARE OF GOOD QUALITY, AND VERY MODERATE IN PRICE.


No. 2600.
2600. Contents: $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, 3 inch Steel Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling $P e n$ and Key.
.each, \$12.00


No. 2604, with 1 Ruling Peu.
2604. Contents: $51 / 2 \mathrm{inch}$ Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers. 3 inch Steel Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, Key, and $51 / 2$ inch Ruling Pen with hinge and pin
E. G. SOLTMANN-NEW YORK.

CASES OF GERMAN INSTRUMENTS,

Cases of Extra Fine Cerman Instruments, see Nos. 2500-2546.

2608. Contents: $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, $31 / 2$ inch Bow Compasses with Hendle, Pen, Pencil and Needle Points, Key, and $51 / 2$ inch Ruling Pen with hinge and pin.

2612. Contents: $51 / 2$ inch Compasses with Pen, Pencil, Needle Poiuts and Lengthening Bar, 5 inch Dividers, 3 inch Steel Spring Bow Pen, Key, and $51 / 2$ inch Ruling Pen with hinge and pin.
each, $\$ 7.00$


No. 2616.
2616. Contents: $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, Key, and $51 / 2$ inch Ruling Pen with hinge and pin

# CASES OF GERMAN INSTRUMENTS, 

Continued.
Cases of Extra Fine German mistruments, see Nos. 2500-2560.
2628. Contents: $51 / 2$ inch Compasses with fixed Needle Point, Pen and Pencil Points, 5 inch Dividers, Key, and 5 inch Ruling Pen.
2636. Contents: $5 \frac{1}{2}$ inch Compasses with one fixed Divider Point, Pen and Pencil Points, Key, and 5 inch Ruling Pen
each, 3.00

CHAMOIS SKINS FOR CLEANING INSTRUMENTS (Same as No. 17,910). Medium, 30c. Small, 20c. each.
Repairing instruments, see page 63 .

## EMPTY CASES FOR DRAWING INSTRUMENTS.

Made of well-seasoned wood. Each case has a Tray to lift out, with space underneath the same to hold Triangles, Curves, Pencils, etc.
2800. Rosewood veneered and polished. Plated Metal Work, Tray, Lock and Key.

| Inside Measure. | Tray fitted with silk Velvet. to hold the Instruments. | Inside Measure. | Empty Case, Tray not fitted. |
| :---: | :---: | :---: | :---: |
| $10 \times 14$ inches. | . each, \$18.00 | $10 \times 14$ inches. | . each, \$12.00 |
| $7 \times 13$ " | " 10.75 | $7 \times 13$ | 6.50 |
| $5 \times 121 / 2$ " | 8.50 | $5 \times 121 / 2{ }^{\text {\% }}$ | 5.00 |
| $7 \times 11$ " | 8.50 | $7 \times 11$ " | 5.00 |
| $6 \times 10$ " | 7.25 | $6 \times 10$ " | 4.25 |
| $5 \times 9$ " | 600 | $5 \times 9$ " | 3.75 |
| $3 \frac{1}{2} \times 9$ " | 5.00 | $3 \frac{1}{2} \times 9$ | 3.00 |

2830. Black Walnut oiled, Brass Metal Work, Tray, Lock and Key.

| Inside Measure. | Tray fitted with Cotton Velvet, to hold the Instrunents. | Inside Measure. | Empty Case, Tray not fitted. |
| :---: | :---: | :---: | :---: |
| $10 \times 14$ inches. | each, \$12.50 | $10 \times 14$ inches. | each, \$8.00 |
| $7 \times 13$ " | 7.25 | $7 \times 13$ | 4.00 |
| $5 \times 121 / 2$ | 5.75 | $5 \times 121 / 2$ | 3.00 |
| $7 \times 11$ | 5.75 | $7 \times 11$ | 3.00 |
| $6 \times 10$ | 5.00 | $6 \times 10$ | 2.50 |
| $5 \times 9$ " | 4.00 | 5x ${ }^{\text {a }}$ " | 2.25 |
| $3 \frac{1}{2} \times 9$ " | 3.25 | $3 \frac{1}{2} \times 9$ " | 1.75 |

Lined with Silk Velvet, 50 c . to $\$ 2.00$ extra. Polished Cases, 50 c . to $\$ 1.50$ extra.
Other Cases made to order at short notice.


## FRENCH INSTRUMENTS,

Brass and German Silver, on Cards.


No. 2902.
2902. "COLLEGE SET," Brass.

512 inch Compasses with fixed Needle Point, Pen, Pencil Point, Lengtheningr Bar and Key.
2912. "STUDENT's SET," (Xerman Silver.

51/2 inch Compasses with fixed Needle Point, Pen, Pencil Point,
Lengthening Bar and Key.. ... ......................................each, 1.75


No. 2922.
2922. '6(iEOMETRY SET," Brass.

51⁄2 inch Compasses with one fixed Divider Point, Pen, Pencil Point, Lengthening Bar, Ruling Pen and Key.

## FRENCH INSTRUMENTS,

Brass, on Cards (continued).


No. 2930. 2932. 2934.

## 2930. '6SCHOLAR'S SET," Brass.

$61 / 4$ inch Compasses with one fixed Divider Point, Pen, Pencil Point, Lengthening Bar and Key85
2932. 'SCHOLAR'S SET," Brass.
$51 / 2$ inch Compasses with one fixed Divider Point, Pen, Pencil Point, Lengthening Bar and Key75

2934. "SCHOLAR'S SET," Brass.

43/4 inch Compasses with one fixed Divider Point, Pen, Pencil Point,

Lengthening Bar and Key


No. 2950. 2952.2954.
2950. "SCHOOL SET," Brass.
$61 / 4$ inch Compasses with one fixed Divider Point, Pencil Point and Key, each, . 65
2952. "SCH00L SET," Brass.
$51 / 2$ inch Compasses with one fixed Divider Point, Pencil Point and Key, " . 55
2954. "SCHOOL SETT," Brass.
$43 / 4$ inch Compasses with one fixed Divider Point, Pencil Point and Key, " . 45

No. 2960. 2962.2964.
2960. Dividers, BRASS, $61 / 4$ inches..........................................each, . 40

2962 Dividers, BRASS, 51/2 " .............................................. " . 35
2964. Dividers, BRASS, $43 / 4$ " ...... ..................................... ". . 30

## FRENCH INSTRUMENTS,


2980. Bow Compasses, BRASS, 3 inches, with Handle, fixed Needle Point,
Pen and Pencil Points..................................................................... 75
2984. Bow Compasses, GERMAN SILVER, 3 inches, with Handle, fixed
Needle Point, Pen and Pencil Points................................" $\$ 1.00$


No. 2990.
2990. Spring Bow Pen, BRASS, fixed Needle Point..........................each, . 80
2992. Spring Bow Pencil, BRASS, " " " .........................." " 80


No. 3000.
(These Pens are of a cheap grade, and intended for ordinary use.)
3000. Ruling Pen, with White Handle............................................each, . 30
3002. Ruling Pen, " Black " .............. .......................... " . 20

3020. Proportional Dividers, GERMAN SILVER, 7 inches, with rectangu-
lar bent points ; graduated for lines and circles, in Case.......... .each, $\$ 7.00$


No. 3028.
3028. Proportional lividers, GERMAN SILVER, 7 inches, with rack movement ; graduated for lines and circles, in Case each, $\$ 6.00$

3036. Proportional Dividers, (GERMAN SILVER, 61/4 inches, in Case, (List Price, $\$ 2.75$ ) each, $\$ 2.50$
3038. Proportional Dividers, BRASS, $61 / 4$ inches, in Case, (List Price, $\$ 1.90$ ) each, $\$ 1.75$

3050. Beam Compasses, GERMAN SILVER, to fasten to a Straight Edge or Bar, with Pen, Pencil and Needle Points, in Case. ............... each, $\$ 5.00$

3054. Pocket Folding Compasses, GERMAN SILVER, with reversible Pen, Pencil and Needle Points, in Case each, \$5.50

## FRENCH INSTRUMENTS,

## In Rosevvood Polished Cases.

3200. Rosewood Polished and Inlaid Case, with Tray, Lock and Key. GERMAN SILVER, containing a complete outfit of 65 Pieces : $61 / 4$ inch Compasses with fixed Needle Point, Pen, Pencil and Lengthening Bar, $43 / 4$ inch Compasses with fixed Needle Point, Pen and Pencil Points, $51 / 2$ inch Dividers. Steel Spring Bow Pen with fixed Needle Point, Spring Bow Pencil with fixed Needle Point, Spring Bow Dividers, 3 Ruling Pens Ivory handles, $61 / 4$ inch Proportional Dividers, Beam Compasses with Pen, Pencil and Needle Points, Key, Ivory Scale, Boxwood Scale, Horn Protractor, Metal Protractor, Case of Leads, small Screw Driver, $45^{\circ}$ Rubber Triangle, $30 \& 60^{\circ}$ Rubber Triangle, Wooden Triangle, Horn Centre, Crayon Holder, Rubber Curve, 2 Wooden Curves, 6 German Silver Tacks, Pocket Rule, Cake Red India Ink, Cake Blue India Ink, Ink Dish, Pencil Rubber, Ink Rubber, Oil Stone, small, medium and large Brush, hard, medium and soft Pencil, 2 small Pencils for Instruments, 6 Lettering Pens, 2 Penholders, and Cake of fine Black India Ink
3201. Rosewood Polished and Inlaid Case, with Tray, Lock and Key. GERMAN SILVER, containing outtit of 50 Pieces: $6 \frac{1}{4} \mathrm{inch}$ Compasses with tixed Needle Point, Pen, Pencil and Lengthening Bar, $43 / 4$ inch Compasses with fixed Needle Point, Pen and Pencil Points, $43 / 4$ inch Dividers, Spring Bow Pen, Proportional Dividers, Tbree Ruling Pens, Key, Ivory Scale. Boxwood Scale, Horn Protractor, Metal Protractor, Case of Lpads, small Screw Driver, $45^{\circ}$ Rubber Triangle, $30 \& 60^{\circ}$ Rubber Triangle. Wooden Triangle, Horn Centre, Crayon Holder, 2 Wooden Curves, 6 German Silver Tacks, Oil Stone, small, medium and large Brush, hard, medium and soft Pencil, small Pencil for Instruments, 6 Lettering Pens, 2 Penholders, Pencil Rubber, Ink Dish, and Cake of fine Black India Ink.


## FRENCH INSTRUMENTS

2TA IN CASES (continued). 187


No. 3216. 3220.
3216. Rosewood Polished Case, with Tray, Lock and Key. GERMAN SILVER, outfit of 35 Pieces: $61 / 4$ inch Compasses, with fixed Needle Point, Pen, Pencil Points and Lengthening Bar, $41 / 4$ inch Compasses with fixed Needle Point, Pen and Pencil Points, $41 / 4$ inch Dividers, Spring Bow Pen, Ruling Pen, 61/4 inch Proportional Dividers, Key, Rule, Scale, Horn Protractor, Case of Leads, 2 Wooden Curves, Wooden Triangle, Crayon Holder, 6 German Silver Tacks, Pencil Pointer, Pencil Rubber, Brush, hard, medium and soft Pencil, small Pencil for Instruments, 3 Lettering Pens, Penholder, and Cake of Black India Ink......:
each, \$9.75
3220. Rosewood Polished Case, with Tray, Lock and Key. BRASS, outfit of 3. Pieces: $61 / 4$ inch Compasses, with fixed Needle Point, Pen, Pencil Points and Lengthening Bar, $41 / 4$ inch Compasses, with fixed Needle Point, Pen and Pencil Points, $41 / 4$ inch Dividers, Spring Bow Pen, Ruling Pen, $61 / 4$ inch Proportional Dividers, Key, Rule, Scale, Horn Protractor, Case of Leads, 2 Wooden Curves, Wooden Triangle, Crayon Holder, 6 German Silver Tacks, Pencil Pointer, Pencil Rubber, Brush, hard, medium and soft Pencil, small Pencil for Instruments, 3 Lettering Pens, Penholder, and Cake of Black India Ink. .each, 7.00

# FRENCH INSTRUMENTS, 

IN CASES (continued).


No. 3224. 3228.
3224. Rosewood Polished Case, with Tray, Lock and Key. . GERMAN SILVER, outfit of 30 Pieces: $61 / 4$ inch Compasses with fixed Needle Point, Pen, Pencil Points and Lengthening Bar, $41 / 4$ inch Compasses with fixed Needle Point, Pen and Pencil Points, $41 / 4$ inch Dividers, Spring Bow Pen, Ruling Pen, Key, Rule, Boxwood Scale, Horn Protractor, Wooden Curve, Wooden Triangle, Crayon Holder, 6 German Silver Tacks, Pencil Pointer, Pencil Rubber, Brush, 3 Lettering Pens, Penholder, small Pencil for Instruments, and Cake of Black India Ink
3228. Rosewood Polished Case, with Tray, Lock and Key. BRASS, outfit of 30 Pieces: $61 / 4$ inch Compasses with fixed Needle Point, Pen, Pencil Points and Lengthening Bar, $41 / 4$ inch Compasses with fixed Needle Point, Pen and Pencil Points, $41 / 4$ inch Dividers, Spring Bow Pen, Ruling Pen, Key, Rule, Boxwood Scale, Horn Protractor, Wooden Curve, Wooden Triangle, Crayon Holder, 6 German Silver Tacks, Pencil Pointer, Pencil Rubber, Brush, 3 Lettering Pens, Pen holder, small Pencil for Instruments, and Cake of Black India Ink.. each,


No. 3240.
3240. Pocket Case, covered with Morocco Cloth. BRASS, outfit of 9 Pieces: $51 / 2$ inch Compasses with tixed Needle Point, Pen and Pencil Points and Lengthening Bar, $41 / 4$ inch Dividers, Spring Bow Pen, Key, Ruling Pen, Rule and Protractor.
3252. Rosewnod Polished Case, BRASS, outfit of 9 Pieces: 41/4 inch Cornpasses with tixed Needle Point, Pen and Pencil Points and Lengthening Bar, 4 inch Dividers, Ruling Pen, Key, Rule and Protractor


No. 3260.
3260. Rosewood Polished Case, with Tray, Lock and Key. BRASS, outit of 26 Pieces: $61 / 4$ inch Compasses with one fixed Divider Point, Pen and Pencil Points and Lengthening Bar. $41 / 4$ inch Compasses with Pen and Pencil Points, $41 / 4$ inch Dividers, Proportional Dividers, 3 inch Bow Compasses with Handle and fixed Needle Point, Pen and Pencil Points, Ruling Pen, Key, Brass Protractor, Horn Protractor, Rule, Crayon Holder, 6 Tacks, Pencil Rubber, small Pencil for Instruments, and Cake of Black India Ink.
E. G. SOLTMANN-NEW YORK.

## FRENCH INSTRUMENTS

IN CASES (continued).

3264. Rosewood Polished Case, with Tray, Lock and Key. BRASS, outfit of $\mathbf{2 5}$ Pieces: $61 / 4$ inch Compasses with one fixed Divider Point, Pen, Pencil Points and Lengthening Bar, 41/4 inch Compasses with Pen and Pencil Points, $41 / 4$ inch Dividers, 3 inch Bow Compasses with Handle and fixed Needle Point, Pen and Pencil Points, Ruling Pen, Key, Brass Protractor, Horn Protractor, Rule, Crayon Holder, 6 Tacks, Pencil Rubber, small Pencil for Instruments, and Cake of Black India Ink.


3272 Rosewood Polished Case, with Tray, Lock and Key. BRASS, outfit of 20 Pieces: $51 / 2$ inch Compasses with one tixed Dirider Point, Pen, Pencil Points and Lengthening Bar, $41 / 4$ inch Dividers, 3 inch Bow Compasses with Handle and fixed Needle Point, Pen and Pencil Points, Kuling Pen. Key, Rule Crayon Holder, Protractor. small Pencil for Instruments, 6 Tacks, Pencil Rubber, and Cake of Black India Ink, each, \$2.60

No. 3291.

3290. Mahogany Polished Case. BRASS, 12 Pieces: 41/9 inch Compasses with one fixed Divider Point, Pen, Pencil Points and Lengtheninur Bar, $31 / 2$ inch Dividers, $31 / 2$ inch Bow Compasses with Handle and fixed Needle Point, Pen and Pencil Points, Ruling Pen, Key, Rule, Crayon Holder and Protractor
E. G. SOLTMANN-NEWYORK.

3300. Mahogany Polished Case. BRASS, 10 Pieces: 41/2 inch Compasses with one fixed Divider Point, Pen, Pencil Points and Lengthening Bar, $31 / 2$ inch Dividers, Ruling Pen, Key, Rule, Crayon Holder and Protractor.


No. 3304.

$$
\begin{aligned}
& \text { 3304. Mahogany Polished Case. BRASS, 9 Pieces: 41/2 inch Compasses } \\
& \text { with one fixed Divider Point, Pen, Pencil Poinis and Lengthening } \\
& \text { Bar, Ruling Pen, Key, Rule, Crayon Holder and Protractor. ........each, . } 80
\end{aligned}
$$ with one fixed Divider Point. Pen, Pencil Points and Lengthening Bar, Key, Rule, Crayon Holder and Protractor70

3312. Mahogany Polished Case. BRASS, 6 Pieces: $41 / 2$ inch Compasses with one fixed Divider Point, Pen and Pencil Points, Key, Rule, and Crayon Holder ..... 60
3313. Mahogany Polished Case. BRASS, j) Pieces: $41 / 2$ inch Compasses with one detachable Divider Pcint, Pen and Pencil Points, and Key. ..... 50

## FASTENING PINS OR THUMB TACKS.

German Silver, Best Quality.

## Points Screwed in and Riveted.

HEADS ROUNDED SO AS TO ENABLE THE T SQUARE TO SLIDE OVER WITHOUT HINDRANCE.


On Cork covered with Black Velvet Paper.


## GERMAN SILVER TACKS.

SECOND QUALITY, HEADS ROUNDED, POINTS RIVETED.


On Cork covered with Blue Paper.


## BRASS TACKS,

Points Riveted.
On Cork covered with Blue Paper.


## BRASS TACKS, for Schools, etc.





Made of metal, and plated. Is convenient for pushing in, as well as extracting Tacks from the drawing board, without injury to the points. The handle can be used as a paper cutter, and is serviceable for pressing down the edges in stretching paper, and removing sheets which have been gummed to the board

## HORN CENTRES.



No 3610.


No. 3616.
3610. Horn Centre, with German Silver Rim.... ...........................each, . . 50
3616. Horn Centre.

## SWISS PROTRACTORS.

German Silver. With Arm and Vernier,


Nos. $9700,3704,3705$.
3700. Swiss Full Circle Vernier Protractor, with Horn Centre, 10 inches,
$1 / 4$ degrees, reading to 1 minute............................each, $\$ 20.00$

3:04. Swiss Full Circle Vernier Protractor, with Horn Centre, 8 inches, 1/2 degrees, reading to 3 minutes. .
3706. Swiss Full Circle Vernier Protractor, with Horn Centre, $5 \frac{1}{\mathbf{z}}$ inches.

1/2 degrees, reading to 3 minutes. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 14.00


So1 3:20, 3:24, 5726.
3720. Swiss Half Circle Veruier Protractor, with Horn Centre, 10 inches.
$1 / 4$ degrees. reading to 1 minute
each $\$ 18.00$
3:24. Swiss Half Circle Ternier Protractor, with Horn Centre, s incbes.
$1 ⁄ 2$ degrees, reading to 3 minutes
3726. Swiss Half Circle Vernier Protractor, with Horn Centre, $51 / 2$ inches,
$1 / 6$ degrees, readin $£$ to 3 minutes........................................... 11.00

Morocce Cases for Vernier Protractors, from $\$ 1.50$ to $\$ 500$


Nos. 3750-3756.
3750. Swiss Half Circle Protractor, German Sileter, Centre on inner edge,
6 inches, $1 / 4$ degrees
each, \$4.50
3752. Swiss Half Circle Protractor, German Silver, Centre on inner edge, 6 inches, $1 / 2$ degrees
3.75

| 3754. Swiss Half Circle Protractor, German Silter, Centre on inner edge, |
| :--- |
| 5 inches, $1 / 2$ |
| degrees........................................................ |

3756. Swiss Half Circle Protractor, German Silver, Centre on iuner edge, 4 inches, dlegrees

3757. Swiss Half Circle Protractor, German Silver. Centre on outer edge, 6 inches, $1 / 4$ degrees
each, \$4.00
3762, Swiss Half Circle Protractor, German Silver, Centre on outer edge,
6 inches, $1 / 2$ degrees....... ..................
3.25
3758. Swiss Half Circle Protractor, German Silier, Centre on outer edge,
5 inches, $1 / 2$ degrees......................................................... 2.60
3759. Swiss Half Circle Protractor, German Silver, Centre on outer $\epsilon$ dge, 4 inches, degrees.
2.00


Nos 3780-3788.
3780. Half Circle Protractor, GERMAN SILVER, $81 / 2$ inch, $1 / 2$ degrees... each, $\$ 2.00$
3782. Half Circle Protractor, " " $71 / 2$ " $1 / 2$ "... " 1.50
3784. Half Circle Protractor,
$63 / 8 \quad$ " $1 / 2 \quad$ : $\quad . . . \quad$ " 1.25
3786. Half Circle Protractor, " " $51 / 8 \quad$ " $1 / 2$ "...


3804. Half Circle Protractor, BRASS, $63 / 2$ incbes. $1 / 2$ degrees. . ...........each. is

3803. Half C'irele Protractor, ". $41 / 4$ " 12 .. ........... ". . 30
3812. Half Circle Protractor, " $33 / 4$ " fegrees (common) ... ". . 15

3830. Half Circle Horn Protractor, $83 / 4$ inches, $1 / 2$ degrees ..... each, $\$ 1.00$
3s32. Half Circle Horn Protractor, 8 ..... : 5
3834. Half Cirele Horn Protractor, : ..... 60
3836. Half Circle Horn Protractor, 61/4 ..... 40
3838. Half Circle Horn Protractor, $51 / 4$ ..... 30
3840. Half Circle Horn Protractor, 41/4 ..... 25
3850. Railroad Curve Horn Protractor, 8 inch. $1 / 3$ degrees, with circular carves from ${ }^{1}$ é to 8 degrees, 400 feet to the inch ..... 1.60
OBLONG IVORY PROTRACTORS.

3904. Irory 0blong Protractor. 8 inches long. 2 nehes wide. scules of 18 , $1 / 7.3 / 2.1=5 / 5,3,7 / 8.1$ inch to the foot. scale of choris, $20,25,30$. $35,40,45,50,60$ purts to the inch, and diagonal scale
3905. Irory Oblonz Protractor, 6 inches long, 2 inches wide, scales of $1 / 8.14 .3 / 8,1,8 / 8.3 / 4,7 / 8,1,11 \frac{1}{8}, 11 / 4$ inches to the fout, scale of chords. 30. $35,40,45,30$, 60 parts to the ineh, and diagonal scale.
3912. Irory Oblong Protractor, 6 inches long, $13 / 4$ inches wide, scales of $16,1 / 4,3 / 8,1, \frac{3}{8}, 3 / 4,7 / 6$, and 1 inch to the foot, scale of chords, 30. $35,40,45,50$, and 60 parts to the inch, and diagonal scale
E. G. SOLTMANN-NEW YORK.

## IVORY AND BOXWOOD PROTRACTORS,

Continued.


Nos. 3916-3930.

$$
\begin{aligned}
& \text { 3916. Ivory Oblong Protractor, } 6 \text { inches long, } 13 / 4 \text { iuches wide, scales of } \\
& 1 / 1 / 1 / 2,3 / 4,1 \text { inch to the foot. scale of chords, } 25,30,35,40,45 \text { parts } \\
& \text { to the inch, and diagonal scale...... ......................................... } \$ 1.50
\end{aligned}
$$

3920. Boxwood Oblong Protractor, 6 inches long, $13 / 4$ inches wide, scales of $1 / 8,1 / 4,3 / 8,1 / 2,3 / 8,3 / 4,7 / 8,1$ inch to the foot, scale of chords, diagonal and decimal scales ..... 60
3921. Boxwood Oblong Protractor, 6 inches long, $13 / 4$ inches wide, scales of $1 / 4,1 / 2,3 / 4,1$ inch to foot, scale of chords, diagonal and decimal scales. ..... 40
PAPER PROTRACTORS.
3922. Large Bristol Board, Full Circlr, $1 / 4$ degrees ..... 40
3923. Large Drawing Paper, ..... 30
3924. Large Fine Tracing Paper, " " $1 / 4$ ..... 30

The Tracing Paper Protrac tors are used for topographical drawing in the U. S. Engineers' offices, and have given entire satisfaction.

## MACHINE DIVIDED DRAWING SCALES.

## Best Quality.

Other Scales made to order at short notice.


Nos. 4000-4009.
4009. Double Beveled ". 6 " " " " ... " " " . 85

Nos. 4020 to 4026 have but one scale on each edge, and are figured to read from left to right, and right to left.
4020. Donble Beveled Boxwood, $24 \mathrm{in} \ldots \begin{gathered}\text { One side. } \\ 1 / 4 \\ , 1 / 2 \\ \text { in }\end{gathered} \ldots . .3 / 4,1$ inch ther side. the foot.. $\$ 4.00$
4022. Double Bervled ". 18 "... " ........ " " ". 3.00
4026. Double Beveled 6 . 12 "... " "........ " " " .. 1.65

## MACHINE DIVIDED SCALES (continued).

COMPARING SCALES.


Nos. 4030-4036.
Nos. 4030 to 4036 have only one scale on each edge; all graduations begin on the same line. which extends across the scale from one edge to the other, and are figured from left to right. At a glance a distance can be measured in any of the four scales. Inches and $\frac{1}{12}$ ths are easily reduced to inches and $\frac{1}{16}$ ths, Metric measure to inches, etc.
4030 Double Bereled Boxwood, 24 inch One side. Other side. Each. , $\frac{1}{12}$ and $\frac{1}{16}$ inch, $\frac{1}{10}$ inch and Metric.. 4032. Donble Bereled "6 18 " " " ". ". " .. 3.00 4036. Double Bereled 6 12 " . " . . ${ }^{\text {. }}$ " " .. 1.65


Nos. 4050 to $4059 \frac{1}{2}$.
One edge. Other edge. Each. 4050. Flat Boxwood, 24 inch $\ldots .{ }^{1 / 8}, 1 / 4$ inch $\ldots . .1 / \frac{1}{2}, 1$ inch to foot. ............. $\$ 3.00$ 4052. Flat $\quad$. 18 " $\ldots$ ". " $\ldots$... 6 ". ............. 2.00 4054. Flat $\quad . \quad 15$.. .... ". .. .... " " ${ }^{\text {. }}$........... 1.50 4055. Flat $\quad 12 \frac{1}{2}$ " ... " "... " " $\ldots$........... 1.25

 4059. Flat 6 6 6 ... " 6 .... " ". ......... . 55 40592 . Flat $\because 4$ "Pectet Size, " " .... " " $4 . . .$. 4070. Flat $6 \quad 24$ "...3/8, $\frac{3}{4}$ inch $\ldots$. $1 \frac{1}{2}, 3$ inch to foot............ 3.00

 4078. Flat " 9 " $\ldots$ ". " $\ldots$. " . $\quad$............ . 85


## ARCHITECTURAL AND MECHANICAL DRAFTING SCALES.

The scales, which hare but one scale on each edge. are figured to read from left to right and right to left.

E. G. SOLTMANN-NEW YORK.

## VARIOUS SCALES.



## OFFSET SCALES.



Nos. 4341-4347.
One edge. Other edge. Each.
4341. Flat Offset Boxwood, 2 inch, $\ldots .100 \ldots . . . .80$ parts to inch........ $\quad .90$
4343. Flat Offset 6 " 2 ".... $60 \ldots \ldots . .30$ "..... "...... . 50
4345. Flat Offset $6 \quad 2$ " $\ldots . .50 \ldots \ldots . .10$ "..... "...... . 50
4347. Flat Offset 66 " 2 ..... $40 \ldots . . . . .20$ ". "..... . 50

See $\frac{1}{10}$ and $1^{\frac{1}{2}}$ inch, and Metric Comparing Scales, Nos. 4030-4036.

## ENGINEERS' DECIMAL SCALES.

## ${ }_{10}^{1}$ and $\frac{1}{10} \overline{0}$ of a foot.

One edge.
Other edge.
Each.


## MACHINE DIVIDED SCALES (continued) METRIC SCALES.

```
4501. Flat Boxwood, 50 Centimetres long .. ............................................ $1. %
4503. Flat | 30 " " ......................................... 1. }2
4505. Flat < 20 " " ........................................... . }9
450i. Flat | 10 " " ......................................... . }5
Same as 4i85. Triangular, 12 inches long.................................." 2.00
```


## METER AND INCH COMPARING SCALES.

All divisions begin on the same line (which extends across the scale, from one edge to the other). The tigares read from left to right.


IVORY MACHINE DIVIDED SCALES.
Best Quality.


ENGINEERS' SCALES.


E. G. SOLTMANN-NEW YORK.

## TRIANGULAR BOXWOOD SCALES.



No. $4700-4709$.
Each.
4700. Triangular Boxwood, 24 inch, div. $1 / 8,1 / 4,3 / 8,1 / 2,3 / 4,1,11 / 2,2,3,4 \mathrm{~m}$. to foot.
4706. Triangular 6612 " " $\frac{3}{32}, \frac{s}{16} \cdot 1 / 8,1 / 4,3 / 8,1 / 2,3 / 4,1,11 / 2,3 \mathrm{in}$. to foot, and $\frac{1}{16}$ inch, 2.00
4708. Triangular 6 9 " " " " " 6 . 1.65
4709. Triangular 6 6 " " " " " " " 6.25

## COMBINATION TRIANGULAR SCALES.

4726. Triangular Boxwood, 12 inch, divided


Nos. 4751-4759.
4751. Triangular Boxwood, 24 inch, divided $10,20,30,40,50,60$ parts to inch, $\$ 5.00$
4753. Triangular 6618 " " " " " " 3.00
4755. Triangular $66 \quad 12$ " " " " $6 \quad$ " ${ }^{47}$ " 2.00
4757. Triangular 66 9 " " " " " " 1.65
4759. Triangular 666 " " " " " " 6 1.25
4761. Triangular $66 \quad 0 \mathrm{ff}$ set, 2 inch, div. $10,20,30,40,50,60$ parts to inch, .75
4775. Triangular 6612 inch, divided $20,30,40,50,60,80$ parts to inch. . 2.00

4i85. Triangular Boxwood, 12 inch, Metric Measure ............................ 2.00
Flat Metric Scales, see Nos. 4501 to 4526 , and 4030 to 4036.
DARLING, BROWN \& SHARPE'S NEW METALLIC TRIANGULAR SCALES.
4806. Metal, 12 inch, divided $\frac{3}{3} 2, \frac{3}{16}, 1 / 8,1 / 4,3 / 8,1 / 2,3 / 4,1,11 / 2,3$ inch and $\frac{1}{16}$ inch, Each. (List Price, \$3.25) \$3.00
4845. Metal, 12 inch, divided $10,20,30,40,50,60$ parts to inch, । ". " 3.25 ) 3.00

## TRIANGULAR SCALE GUARDS.


4880. Triangular Scale Guard or Holder each, . 25
This appliance is made of plated metal. It can be attached to any part of the scale, and overcomes the necessity of searching for the scale in use.

## HAND DIVIDED SCALES.

Boxwood and Ivory.
Machine Divided Scales, Best quality, see Nos. 4000, etc.


Nos. 5000 -502t. Each.
5000. Boxwood, Hand Divided, Flat, 12 inch, $1 / 8.1 / 4,1 / 2,1$ inch to $100 t . . . . . .$.
5004. Bexwood, Hand Dirided, ". 6 " " " " " ........ 35
5020. Ivory, Hand Divided, ." 12 ." ." ." " ". .......\$3.00
5024. Ivory, Hand Divided, ". 6 " " " " ......... 2.00


Fos. 5040.5054 . Esch.
5040. Boxwood, Hand Divided, Flat, Universal Scale, 12 inch, cont. 16 scales, $\$ 1.50$
5054. Ivory, Hand Divided, *. $6 \quad$. $\quad 12$." $\quad$ " 16 .. 3.00

3060. Boxwood. Hand Divided, Flat. Niversal Scale, 12 inch, containing
Each.
16 scales all running to the edge


ENGINEERS' SCALES.
5103. Boxwood, Hand Divided, Flat, 12 inch.

One edge.
5105. Boxwood, Hand Divided,

- 12

60
50
40
10
$-\quad 20$
Other edge.
30 parts to inch .... $\$ 1.00$
10 " " .... 100
20 " $\quad$. ... 1.00

## PLOTTING SCALES.

Nos. 514 ). 5142.

5140. Ivory Plotting Scale, 6 inches

## GUNTER SCALES.

5160. Boxwood funter Scale, 24 incheseach, $\$ 1.50$5162. Boxwood Gunter Scale, 12 ..... 1.00

## BRISTOL BOARD OR PAPER SCALES.

19 inches long.

|  | 0, 20, 30, 40. 50, 60 parts to | Set, \$3.00 |
| :---: | :---: | :---: |
| 5204. | Set E, 12 Scalez, $\frac{3}{32}, \frac{1 / 8}{}, \frac{3}{16}, 1 / 4, \frac{5}{16}, 3 / 8,1 / 2,3 / 4,7 / 8,1,11 / 2,3$ in to foot | 2.00 |
| 5208. | Set D, 6 " $1 / 8,1 / 4,1 / 2,3 / 4,1,11 / 2$ inch to foot. | 1.00 |
| 5212. | Set C, 6 " 10, 20, 30, 40, 50, 60 parts to inch | 00 |
| 5216. | Set B, 6 " $\frac{3}{32}, 1 / 8, \frac{3}{16}, \frac{5}{16}, 3 / 8,7 / 8$ inch to foot. |  |
| 5220. | Set A, 6 " $1 / 4,1 / 2,3 / 4,1,11 / 2,3$ " 3 ................ | 1.00 |
|  | Separate Scales of any of above .............................. each, . 20 |  |

## SHRINKAGE RULES.

5300. Boxwood, 241/2 inches long, Double Shrinkage, with Scales................ $\$ 2.50$
5301. Boxwood, 241/4 " " Single " " " ................ 2.25
5302. Boxwood, 241/4 " " " $1 / 8$ and $\frac{1}{16}$ ths, $\ldots \ldots . .$.
5303. Boxwood, 241/4 " " " jointed to fold to half length $1 / 8$ and ${ }_{16}^{\frac{1}{16}}$ ths, $\quad 1.50$

## SCHOOL RULES.



No. 5330.
5330. Boxwood, 12 inches long, $\frac{1}{16}$ inches ....................................each, . 10

## BRASS INLAID EDGE RULERS.

| 50, Boxwood, |  | es | and $\frac{1}{16}$ ths |  |  |  | . 25 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 5352. Boxwood, | " | ، |  | 18 | " | " | 1.00 |
| 5354. Boxwood, | " | " |  | 15 | ، | " | 90 |
| 5356. Boxwood, | " | * | " | 12 | ، | ، | 65 |
| 5370. Maple, | " | " | 1/8/8ths, | 24 | " |  | 55 |
| 5372. Maple, | " | " | " | 18 | " | " | 35 |
| 5374. Maple, | " | " | ' | 15 | " |  | 30 |
| 5376. Maple, |  |  |  | 12 | ' |  | 25 |

BOXWOOD AND IVORY SECTORS.


Nos. 5380. 5382.
5380. Ivory Sector, 1 foot, folds to 6 inches
each, \$2.25
5382. Boxwood Sector, 1 foot, folds to 6 inches

## FOLDING SCALE RULES.

Very Best Quality.

INSIDE EDGES BEVELED AND DIVIDED LIKE DRAWING SCALES.


Nos. 5386-5404.

5388. Ivory, Beveled Edge, 2 foot, 4 fold, German Silver Mountings, high finish, outside divide 1 into inches and $\frac{1}{16}$ ths and inches and ${ }_{1}^{18}$ ths; the inside, not beveled edge, into inches and $\frac{1}{10}$ ths. Each beveled edge has but one scale, thus avoiding all confusion, viz.: $1 / 8,1 / 4,1 / 2$, $3 / 4$ inch to foot. In neat Morocco Case
No. 5388 is nicely put up, and has been frequently sold as a holiday present.
5392. Boxwood, Beveled Edge, 2 foot, 4 fold, Brass Mountings, same as
No. $5386 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ~$ .00

Other graduations furnished at short notice.

5400. Boxwood, Beveled Edge, 2 foot, 4 fold, Brass Mountings, various
scales on beveled edges..................................................
2.00
5404. Boxwood. Beveled Edge, 2 foot, 4 fold, stamped, with Drawing Scales on beveled edges

## COMBINATION RULE.

This is the most convenient and useful Pocket Rule ever made; it combines in itself a Carpenter's Rule, Spirit Level. Square, Plumb, Bevel, Indicator, Brace, Scale, Drafting Scale of eqnal parts, T Square, Protractor, Right angle, Triangle, and with a Straight edge can be used as a Parallel Rule, all the parts being in their separate applications perfectly reiiable.

No. 5410.
5411.
5410. Boxwood Combination Rule, 1 foot, 2 fold..........................each, $\$ 2.50$
5411. Boxwood Combination 661 " 2 " in neat Morocco Case... " 3.50

## SKELETON POCKET RULE.

## Very Light.


5420. Skeleton Rule, Ivory, 1 meter, 10 fold, one side inches, and other side Metric..................................... ................. .each, $\$ 1.75$
5422. Skeleton Rule, Irory, $1 / 2$ meter, 10 fold, one side inches, and other side Metric. ..... 00
5428. Skeleton Rule, Boxwood, 1 meter, 10 fold, one side inches, and other side Metric ..... 50
5430. Skeleton Rule, Boxwood, $1 / 2$ meter, 10 fold, one side inches, and other side Metric. ..... 30
5440. Skeleton Rule, Boxwood, 4 foot, 8 fold, $1_{16}^{\frac{1}{6}}$ inch on both sides ..... 50
5442. Skeleton Rule, Boxwood, 4 " 8 " one side $\frac{1}{16}$ inches, and other side Metric. ..... 50
5444. Skeleton Rule, Boxwood, 2 foot, 4 fold, $\frac{1}{16}$ inches ..... 35
5450. Skeleton Rule, Boxwood, 4 foot, 8 fold, flexible, one side $\frac{1}{16}$ inches, and other side Metric ..... 75
BOXWOOD SKELETON RULES,
With Springs.
5454. Skeleton Rule, with Self-Acting Springs, to keep the Rule in a straight position, 4 foot, 8 fold, ${ }_{16}^{16}$ inches.
60
5456. Skeleton Rule, with Springs, 2 foot, 4 fold, $\frac{1}{16}$ inches ..... "
PRACTICAL POCKET RULES.


These Rules are machine-divided, and not stamped with steel dies; the lines are consequently sharp and distinct, and the sub-divisions accurate.

All figures are large and prominent, and finish far superior to factory made Rules.
5464. Boxwood, 2 foot, 4 fold, Brass Mountings, having but one scale on each edge. Outside edges, $\frac{1}{16} \& 1 / 8$ inches. Inside edges, $\frac{1}{12} \& \frac{1}{10}$ inches.each, $\$ 1.00$
5470. Boxwood, 2 foot, 4 fold, Brass Mountings, with only one scale on each
side, and extra large figures. Outside edge, $1 \frac{1}{16}$ inches. Inside edge, $1 / 8$ inches

## POCKET RULES.


5500. Ivory, 2 foot. 4 fold, German Silver Mountings, and both edges lined with German Silver .
$\$ 5.00$
5504. Ivory, 2 foot, 4 fold, German Silver Mountings......................... " 4.00
5508. Ivory, 2 " 4 " " " " narrow,............... " 4.00
5520. Ivory, 1 " 4 " " and both edges lined
with German Silver
1.75
5524. Ivory, 1 foot, 4 fold, German Silver Mountings................................... 1.25
5540. Boxwood, 2 foot, 4 fold, Brass Mountings, and both edges lined with Brass
1.00
5544. Boxwood, 2 foot, 4 fold, Brass Mountings, and outside edge lined with Brass
5550. Boxwood, 2 foot, 4 fold, Brass Mountings, with Drawing Scales...... " .35
5554. Boxwood, 2 " 4 " " " ............................ ". . 25
5560. Boxwood, 2 " 4 " " ${ }^{4}$ narrow...................... " . 25
5564. Boxwood, 2 " 4 " " ${ }^{4}$........................... " 20

5574. Boxwood, 1 foot, 4 fold, Brass Mountings .................... ......... " . 25
5578. Boxwood, 1 " 4 " " " .............................. " . 17

5580. Boxwood, 1 foot, 4 fold, Brass Mountings, with Caliper................each, 85
5584. Boxwood, 6 iuch, 2 " " " "..............." . " 40
5590. Boxwood, 2 foot, 2 fold (folds to 1 foot), and both edges lined with Brass ........................................................ 1.00
5592. Boxwood, 2 foot, 2 fold (folds to 1 foot).................................. " . 50




## ROLLING PARALLEL RULERS.



No, 5:00-5:38.
5700. Metal Rolling Parallel Ruler, Fine Finish, 24 inches
5702. Metal 6 " 6 " " 18 "............. " 15.00
5704. Metal " 6 . $\quad$. . 15 ".............. " 1200
5706. Metal 6 . 6 . 6 " 12 ".............. " 10.00

5:16. Metal $\because$ $\because$ GoodQualitry,12 "............. ". 850
5732. Ebony $\because$ " $\because$............. 18 ".............. " 5.00
5734. Ebony " 6 "............. 15 ".............. " 4.00
5736. Ebony 6 6 6 .............12 ".............. " 3.00
5738. Ebony 6 6 6 .............. 9 ".............. " 2.50


No. 5752. 5754.
5752. Ebony Rolling Parallel Ruler, with Ivory dirided edges, 18 inches .each, $\$ 7.50$ 5754. Ebony

## PARALLEL RULERS.



No. 5758-5780.
5758. Ivort, German Silver Bars
.each
$\$ 1.50$
5760. Hard Rubber, Best Quality.

Each, |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\$ 3$ |  |  |  |  |  |
| 3 |  |  |  |  |  |
| 50 | 18 | 2.50 | 200 | 15 | 9 |

5iio. Ebony, American make. superior to the imported ones, which frequently warp, on account of climatic changes.

|  | $24$ | 18 | 15 | 12 | 9 | 6 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | §2. 50 | 1.50 | 1.20 | . 90 | 65 | 35 |
| Imported, Second Grade. |  |  |  |  |  |  |
|  | 24 | 18 | 15 | 12 | 9 | 6 inch. |
| Each, | \$2.00 | 1.25 | 90 | . 65 | 40 | 20 |

## E. G. SOLTMANN-NEW YORK.



## SQUARES.

No. 5800. 5820.
5800. HARD RUBBER, Fixed Head.

|  | 36 | 30 | 24 | 21 | 18 | 15 | 12 | 9 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 3.00$ | 2.40 | 1.75 | 1.50 | 1.20 | 1.00 | .90 | .85 |

5820. HARD RUBBER, Swivel Head.

| 36 | 30 | 24 | 21 | 18 | 15 | 12 | 9 | 6 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Eacn, |  |  |  |  |  |  |  |  |
| $\$ 4.00$ | 3.25 | 2.75 | 2.25 | 2.00 | 1.75 | 1.60 | 1 | 25 |
| 1.10 |  |  |  |  |  |  |  |  |

No. 5850. 5870.
5850. MAH0GANY, with Ebony Edges, Fixed Head.

Each, | 60 | 54 | 48 | 42 | 36 | 30 | 24 | 18 | 15 | 12 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3.25 | 250 | 2.00 | 1.75 | 1.50 | 1.20 | 1.00 | .90 | .80 |  |

5870. MAHOGANY, with Ebony Edges, Swivel Head.

|  | 60 | 54 | 48 | 42 | 36 | 30 | 24 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 4.90$ | 4.25 | 3.50 | 3.00 | 2.65 | 2.35 | 2.00 |


5900. MaPle Blaide, Walnut Fixed Head.

$$
\begin{array}{cccccccccccc}
84 & 72 & 60 & 54 & 48 & 42 & 36 & 30 & 24 & 21 & 18 & 15 \text { inch. } \\
\text { Each, } \$ 3.50 & 2.80 & 2.20 & 1.60 & 1.25 & 1.15 & 1.00 & .90 & .75 & .60 & .50 & .40
\end{array}
$$

5920. Maple BLade, Walnut Swivel Head.

| 60 | 54 | 48 | 42 | 36 | 30 | 24 | 21 | 18 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 285$ | 2.00 | 1.75 | 1.65 | 1.50 | 1.35 | 1.20 | 1.10 | 1.00 |

T SQUARES (continued).

5940. HARDW00D BLADE and Fixed Head.
$\left.\begin{array}{ccrrrrrr} & 48 & 42 & 36 & 30 & 24 & 21 & 18\end{array}\right) 15$ inch.
5960. HaRDW00D BLADE and Shifting Head.

|  | 48 | 42 | 36 | 30 | 24 | 21 | 18 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 1.60$ | 1.35 | 1.15 | 1.00 | .95 | .80 | .75 | .70 |

5980. HARDW00D TAPERED BLADE, Fixed Walnut Head.

| 60 | 54 | 48 | 42 | 36 | 30 | 24 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 3.00$ | 2.50 | 2.00 | 1.75 | 1.50 | 1.20 | 1.00 |

## SKETCH BLOCK T SQUARES,



6020. STEEL Engravers T Squares, Nickel Plated Blade, Fixed Brass Head.
Each, $\$ 2.25$
150
1.25
1.00

4 inch.
6040. STEEL Engravers T Squares, Nickel Plated Blade, Swivel Brass Head.

| 12 | ${ }^{12}$ | 9.75 | 6 | 4.50 |
| :---: | :---: | :---: | :---: | :---: |
| 2.50 | 1.75 | 125 |  |  |

6060. STEEL Nickel Plated Blade, Fixed Metal Head.

|  | 36 | 30 |
| :---: | :---: | :---: |
| Each, | $\$ 6.50$ | 5.50 |

6070. STEEL, Nickel Plated Blade, Swivel Metal Head.

| 36 | -30 | 24 |
| :---: | :---: | :---: |
| 8.00 | -00 | 6.00 |

18 inch.
Each, $\$ 8.00$
700
6.00
4.75

## T SQUARE



No. 6080. 6082.


No. 6084.
6080. Plated Swivel, with Nut and Wa-her.............. . ....................each, . 75
6082. Brass Swivel, " " "................................. " . 60
6084. Brass Swivel, Milled Head.............................................. "، . 40
6086. Brass Swivel, with Cross Bar Head.................................. ". . . 30

## STRAIGHT EDGES.

6100. HARD RUBBER.

|  | 42 | 36 | 30 | 24 | 21 | 18 | 15 | 12 inch. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 2.50$ | 2.00 | 1.50 | 100 | .90 | .70 | .50 | .40 |

6120. MAHOGANY, EBONY LINED.

Each, | 60 | 54 | $5 t$ | 48 | 200 | 1.60 | 1.25 | 36 | 30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | 24 | 18 | 15 inch. |  |
|  | .70 | .55 | .50 | .40 |  |  |  |  |


6140. HARDW00D, Bereled Edges, Thick.

| 72 | 60 | 54 | 48 | 42 | 36 | 30 | 24 | 18 | 15 | 12 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 1.75$ | 1.25 | .90 | .65 | .50 | .40 | .30 | .25 | .20 | .18 | .15 |

6160. STEEL, Nickel Plated, Beveled Edges.

| 72 | 60 | 48 | 42 | 36 | 30 | 24 | 18 | 15 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 15.00$ | 11.00 | 8.00 | 6.50 | 5.00 | 4.00 | 3.00 | 2.00 | 1.75 |

6180. STEEL, Straight Edges, with Square Edges. 48 inch, $\$ 6.00 \quad 36$ inch, $\$ 4.00$

24 inch, $\$ 2.00$ each.


No. 6200.

## WOODEN BARS

## FOR BEAM COMPASSES.

|  | 72 | 60 | 48 | 42 | 36 | 30 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, . . . 90 | .75 | .65 | .55 | 45 | .40 | .35 |

TRIANGLES.


No. 6300.
30 and 60 Degrees.

6400.

45 Degrees.

6500.
$221 / 2$ and $671 / 2$ Degrees.
6300. HARD RUBBER, 30 and 60 Degrees.

| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Each, $\$ 1.75$ | 1.50 | 1.25 | 1.00 | .90 | .75 | .65 | .60 | .50 | .40 | .35 | .30 | .25 | .20 |

6400. HARD RUBBER, 45 Degrees.

| 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 2.50$ | 2.25 | 2.00 | 1.75 | 1.50 | 1.25 | 1.00 | .80 | .65 | .55 | .45 | .40 | .35 | .30 |

6500. HARD RUBBER, $221 / 2$ and $671 / 2$ Degrees.

|  | 15 | 13 | 11 | 9 | 7 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 1.50$ | 1.00 | .75 | .60 | .40 |

6550. HARD RUBBER, Solid, 30 and 60 Degrees.
8 inch, . 35
6 inch, 25
4 inch, . 18 each.
6551. HARD RUBBER, Solid, 45 Degrees.

6 inch, 35
5 inch, . 25
4 inch, .18 each.


No. 6600 .

6620.
6600. MAHOGANY, Ebony lined inside and outside, 30 and 60 Degrees.

Each, | 24 | 21 | 18 | 15 | 13 | 11 | 9 | 8 | 7 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2.00 | 1.50 | 1.25 | 1.00 | .75 | .60 | .50 | .45 |  |

6620. MAHOGANY, Ebony lined inside and outside, 45 Degrees.

| 24 | 20 | 18 | 16 | 14 | 12 | 10 | 8 | 7 | 6 inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 3.00$ | 2.20 | 1.75 | 1.50 | 1.25 | 1.00 | .80 | .65 | .55 | .45 |

TRIANGLES (continued).

No. 6700.
6700. HARDWOOD, 30 and 60 Degrees.

6720.
$\square$ 11
.45
10
45

6800.

6820.


## METAL TRIANGLES.

6900. STEEL, Nickel Plated, 30 and 60 Degrees, Open Centre.

| 15 | $101 / 2$ | 8 | 7 |
| :---: | :---: | :---: | :---: |
| Each, | $\$ 6.50$ | 4.50 | 4.00 |

6 inch. 3.25
6920. STEEL, Nickel Plated, 4.5 Degrees, Open Centre Each, $\$ 6.50$

8
4.50
$61 / 2$
3.75
5 inch.
3.25
6950. STEEL, Solid, Nickel Plated, with Knob for Lithographers.

|  | 12 | 10 | 8 | 7 | 6 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 3.00$ | 2.75 | 2.25 | 1.80 | 1.40 |
|  |  |  | 1.00 |  |  |


6960. HARD RLBBER Lettering Triangles, Set of 3 Set, $\$ 1.25$

6964. HARD RUBBER, Roof Pitches, Set of 6
106 E.G.SOLTMANN-NEW YORK.

HARD FUBBER COPENHAGEN SHIP CURVES.


So. 8000.8020.
Copies of the original Danish "Kopenhagen" Curves; as they are made of rubber, they keep their shape, and have smooth working edges
E.G. SOLTMANN-NEW YORK.

$$
\text { No. } 7000 .
$$

7000. Set of 45 Hard Rubber Ship Curves, Nos. 1 to 45 (see illustration on previous page), in neat Polished Case...
7001. Hard Rubber Ship Curves, Separate, illustration on previous page:

| Pattern No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |




| Pattern No. 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | Each, $\begin{aligned} & .45 \\ & .45 \\ & .45 \\ & .45 \\ & .35 \\ & .35 \\ & .40 \\ & .35 \\ & .35\end{aligned} .40 \quad .40$


| Pattern No. 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 |  |
| :---: | ---: | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Each, | .35 | .35 | .35 | .30 | .25 | .30 | .30 | .30 | .30 | .30 | .25 |

## Set of 10 Ship Curves, for Mechanical Drawing.


7050. MARD RUBBER in strong, neat Case...

Set, $\$ 6.00$
7052 HARD RUBBER, in Box
5.25

CARRIAGE AND SLEIGH BUILDERS' CURVES,

7080. Set of 8 Hard Rubber Curves, in Case..................................... . Set, $\$ 5.5 n$

## WOODEN SHIP CURVES.

E. G. SOLTMANN-NEW YORK.

HARD RUBBER CURVES.

7100. Hard Rubber Curres, complete Set of $\mathbf{2} 3$ Curves, containing:

Nos. 50 to $\mathbf{7 0}$, Spiral No. 7130 , and Combination No. $7135 \ldots$. Set, in Case, $\$ 16.50$
7105. Hard Rubber Curres, Set of 12 Curves, containing:

Nos. $51,53,55,57,58,59,60,61,63,64,66,67 \ldots \ldots . . .$. . Set, in Case, 7.25
7120. Hard Rubber Curres, SEPARATE (see illustrations) :

| Pattern Nos. 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 |  |  |
| ---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | ---: |
| Each, | $\$ 1.00$ | .85 | .85 | .75 | .75 | .50 | .40 | .50 | .50 | .50 |  |
| Pattern Nos. 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |  |
| Each, | .50 | .50 | .45 | .35 | .40 | .40 | .35 | .35 | .35 | .25 | .22 |
|  |  | Other styles farnished at short notice. |  |  |  |  |  |  |  |  |  |



No. 7130.

7135.
7130. Hard Rubber Spiral Curve...............................................each, \$1.50

The Spiral Curve contains every curve to the limit of its size.
7135. Hard Rubber Combination Curve each, 2.25

## WOODEN CURVES.


7160. Wooden Curves, Set of 15) Curves, containing Nos. 81 to 95 . . Set, in Box, $\$ 5.75$ 7165. Wooden Curves, SEPARATE.

| Pattern Nos. | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Each, | 55 | .38 | .35 | .35 | .35 | .35 | .35 | .35 |
| Pattern Nos. | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 |
| Each, | .35 | .30 | .30 | .25 | .25 | .25 | .15 | .15 |

## SPLINES AND WEIGHTS.



No. 7200-i230.
7200. Hard Rubber Splines, with Groove, to hold points of weights.

| 42 | 36 | 30 | 24 | 18 | 12 inch. |
| ---: | ---: | ---: | ---: | ---: | ---: |
| Each, | .50 | .45 | .40 | .35 | .30 |
| .25 |  |  |  |  |  |

7220. Hardwood Splines, Grooved ...... 24 inch, . 25 each. 36 inch, 30 each.
7221. Lead Weights, for Splines, with Metal Point .........(List Price, \$1.12) each, \$1.00
7222. Iron Weights, for Splines

7223. Hardwood Ellipses, 10 in set, from $11 / 2$ to 6 inches ....................set, $\$ 2.00$

## ADJUSTABLE CURVE RULERS.



This Rule consists of a band of thin, flexible steel, $3 / 4$ of an inch wide; this is attached to a bar of soft lead, which is corered by a long, spiral spring.

The Rule is bent to the required position, and the soft leaden bar prevents any springing back.

This size is nickel plated, and is adapted for railroad and ship building, and for long curves in general.

ADJUSTABLE CLRYE RULER, Large.
Entire length and ruling edge, 30 inches............(List Price, $\$ 3.25$ ) each, $\$ 2.87$


Same as No. 8762 (small).
The basis of this Ruler is a bar of soft lead, which can easily be bent, and remains so. To improve the working of it. the lead is lined with two thin bands of steel, and the drawing edge covered with rubber, which is held in place by the small ribs.
adJUSTABLE CURVE RULER, Small.
Entire length, $141 / 2$ inches; ruling edge, 10 inches ..(List Price, $\$ 167$ ) each, $\$ 1.50$

## RAILROAD CURVES.

7400. Hard Rubber Railroad Curves, Set of 102. With Tangent, length of Curves from 7 to 21 inches. Finished on concare and conrex side. Contents : 200, 197, 195, 193, 190, 187, 185, 183, 180, 177, 175, 173, $170,167,165,163,160,157,155,153,150,147,145,143,140,137$, $135,133,130,127,125,123,120,117,115,113,110,107,105,103$, $100,97,95,93,90,88,85,83,80,78,75,73,70,67,65,63,60,5$ i. $55,53,50,48,46,45,44,42,40,38,36,35,34,32,30,29,28,27$, $26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9,8,7$, 6, 5, 41/2, 4, $31 \frac{1}{2}, 3$ inch Radius....Complete, in Box (List Price, $\$ 110.00$ ) $\$ 100.00$


No. 7440.
7440. Hard Rubber Railroad Curves, Set of 100. Finished only on the convex side.
Contents : 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, $84,83,82,81,80,79,78,77,76,75,74,73,72,71,70,69,68,67,66$, $65,64,63,62,61,60,59,58,57,56,55,54,53,52,51,50,49,48,47$, $46,45,44,43,42,41,40,39,38,37,36,35,34,33,32,31,30,29,28$, $27,26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9$, 8, 7, 6, 5, 4, 31/2, 3, 2 inch Radius.
in Box, $\$ 70.00$
7450. Hard Rubber Railroad Curves, Set of 43. Finished only on the convex side.
Contents : 200, 180, 160, 140, 130, 120, 110, 100, 90, 84, 78, 72, 66, 60, $54,48,42,39,36,33,30,27,24,22,20,18,16,14,12,10,91 / 2,9$, $81 / 2,8,71 / 2,7,61 / 2,6,51 / 2,5,41 / 2,4,31 / 2$ inch Radius............in Box, 28.00
7460. Hard Rubber Railroad Curves, Set of 17. Finished only on the con-
vex side.
Contents : 60, 57, 54, 51, 48, 45, 42, 39, 36, 33, 30, 27, 24, 21, 18, 15, 12 inch Radius.
in Box, 13.25


No. 7470.
7470. Hard Rubber Railroad Curves. Set of 10. Finished only on the convex side.
Contents : 120, 108, 96, 84, 72, 60, 48, 36, 24, 12 inch Radius....in Box, $\$ 7.75$

## WOODEN RAILROAD CURVES.

7640. Best Quality Wooden Railroad Curves, Set of 100 . Finished only on the convex side.
Contents: 100, 99, 98, 97, 96, 95, 94, 93, 92, 91, 90, 89, 88, 87, 86, 85, $84,83,82,81,80,79,78,77,76,75,74,73,72,71,70,69,68,67,66$, $65,64,63,62,61,60,59,58,57,56,55,54,53,52,51,50,49,48,47$, $46,45,44,43,42,41,40,39,38,37,36,35,34,33,32,31,30,29,28$, $27,26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9$, 8, 7, 6, 5, 4, 31/2, 3, 2 inch Radius
in Box, $\$ 45.00$
7641. Best Quality Wooden Railroad Curves, Set of 43. Finished only on the convex side.
Contents : 200, 180, 160, 140, 130, 120, 110, 100, 90, 84, 78, 72, 66, 60, $54,48,42,39,36,33,30,27,24,22,20,18,16,14,12,10,91 / 2,9$, $81 / 2,8,71 / 2,7,61 / 2,6,51 / 2,5,41 / 2,4,31 / 2$ inch Radius............in Box, 1600
7642. Best Quality Wooden Railroad Curves, Set of 17. Finished only on the convex side.
Contents : 60, 57, 54, 51, $4^{\text {Q }}, 45,42,39,36,33,30,27,24,21,18,15$, 12 inch Radius....................................................... in Box, 7.50
7643. Best Quality Wooden Railroad Curves, Set of 10 . Finished only on the convex side.
Contents : 120, 108, 96, 84, 72, 60, 48, 36, 24, 12 inch Radius. ....in Box, 4.50 And various other grades.

Curves of Metric and other measurements furnished at short notice.

## DRAWING BOARDS.

Grooved Back.


Nos. 7800-7812.

| 7800. | Grooved Back, | best quality, Antiquarian, |  |  | Inches. $33 \times 55$. | ach, \$12.00 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 7804. | Grooved Back, | " | " | Double Elephant, | $31 \times 42$ |  | 8.50 |
| 7808. | Grooved Back, | ، | ، | Atlas, | $27 \times 34$ |  | 6.50 |
| 7812. | Grooved Back, | " | ، | Imperial, | $23 \times 31$. | \% | 5.00 |

A glance at the illustration above will explain the good qualities of this style of board. The wood used is carefully selected pine, with hardwood cross-bars at back. To prevent the warping of the pine, the board is sawed half way through at about every two inches, and for the purpose of allowing the board to contract and expand, the cross-bars are not glued on, but fastened with screws, which run in oblong metal slots. At the ends, pieces of hardwood are inlaid, to give the $T$ square a smooth working edge. They are also cut at every few inches, to allow for contraction and expansion of the board.

## DRAWING BOARDS,



Nos. 7840-7896.
Nos. 7840 to 789 ; are well made of narrow boards. The cross-bars are fastened with screws, running in brass slots to allow for contraction and expansion of the pine board.


## FRAMED DRAWING BOARDS.



Nos. 7940-7952.
Framed Boardsare used for stretching drawing paper. The inside cross pieces can easily be removed and the board taken out. A sheet of paper is wet and placed on the pine board; press the frame down ; secure the cross pieces; allow the paper to dry and it is ready for use.
7940. Framed Board, $18 \times 26 \ldots .$. . ............................................each, $\$ 4.00$
7944. Framed Board, $16 \times 21$................................................. . . 3.00
7918. Framed Board, $14 \times 19$... ............................................ ". 2.50

114 E. G. SOLTMANN-NEW YORK.

## LIGHT DRAWING BOARDS.

WELL MADE. FOR SCHOOL USE, PATENT OFFICE AND OTHER SMALL DRAWINGS, etc.

7970. Light Drawing Board, $23 \times 31$......................................................... $\$ 2.25$
7974. Light Drawing Board, $20 \times 26$...................................... ". 1.75
7978. Light Drawing Board, $16 \times 21 \ldots .$. ............................... ". 1.20
7982. Light Drawing Board, $14 \times 18 \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . .$. ........... 1.10
7986. Light Drawing Board, $11 \times 16 \ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .$. . " 85

## HORSES OR TRESTLES for Drawing Boards.

8000. Pair of Horses, 36 inches high


No. 8008.8010.
8008. Walnut Folding Easel, 6 feet high, with shelf. each, $\$ 2.00$
8010. Pine Folding Easel,

6 •"
"
(List Price, \$1.12)
1.00

## ADJUSTABLE AND PORTABLE DRAWING TABLES.



No. 8020-8024.
This table can be fixed at any required height, so one can use it either sitting or standing; and by turning back the screw at the right, it is allowed to rotate, bringing either side in front. The shelf or ledge for instruments is attached to the reverse side of the table, so that it is alwoys level, whatever inclination is given to the desk. This is very convenient for the water-caps, inkstands, etc. The second figure shows the table fixed at a slight inclination, the dotted lines showing it horizontal or vertical. When the table is nearly vertical the whole occupies but little space, and forms a perfect easel.

Under the instrument shelf are provided two drawers, one on each side, for working materials. The table and drawers are made of black walnut or other appropriate wood, nicely finished.

Cast iron is used for the tripod, hollow standard and sliding spindle, which are neatly painted and bronzed. The working parts are well finished, and very easily operated. The stand is sufficiently firm to hold a large drawing board. It can be raised to a level of 44 inches and lowered to 30 inches.
8020. Black Walnut Top, $22 \times 26$ inches, bronzed and ornamented stand, with shelf and two drawers, on castors
....each, \$15.50
3024. Black Walnut Top, $22 \times 26$, with shelf and two drawers, on castors. " 12.50
8028. Hard Wood Top, $22 \times 24$, with shelf, on castors.................... " 10.00

WOODEN BLACK BOARD DIVIDERS

8100. Wooden Black Board Dividers.

| 30 | 24 | 18 | 15 inch |
| :---: | :---: | :---: | :---: |
| $\$ 2.00$ | 1.60 | 1.25 | $\$ 1.00$ each. |

WOODEN BLACK BOARD DRAWING SET.

8120. Wooden Black Board Drawing Set, consisting of 24 inch $\mathbf{T}$ square, 36 inch straight a dge, 24 inch triangle, all divided to inches, and $151 / 2$
inch protractor

set, $\$ 5.00$
Black Boards. See 19,500 , etc. SOLTMANN'S PATENT SECTION LINER.

8300. Soltmann's Patent Section Liner, in Case.
each, $\$ 2.75$
Consists of a rule deeply notched at every $1 / 8 \mathrm{inch}$ on one and $\frac{1}{10}$ inch on the other side, having brass ends with holes, to fasten the rule to the board with weights or tacks. The movable square is held to the rule by a metal arm ; to produce uniform distances apart, the angle has a small conical shaped piece of metal which fits into the notches on the rule, and by the pressure of the finger remainsuntil the line is drawn. A spring (not shown in cut) underneath the angle raises the latter out of the notch, and enables the draughtsman to move the angle back and forth without lifting it. The movable angle and the notched rule have each a small brass hook, to which a rubber band can be attached, which draws the angle towards the right. The metal arc holds the angle at any point by means of a thumb screw.
With this instrument very close shading and hatching can be quickly and correctly done. The arc containslines, and the figures $2,3,4,5$, etc. When the angle is set to figure 2, the sections produced are $1 / 2$ of the distance between the notches; if used on the $\frac{1}{10}$ side, the hatching is $\frac{1}{20}$ of an inch, and on the $1 / 8$ side the result is ${ }_{16}^{1}$ inch. Figure 3 reduces three times; figure 4 four times, etc.

## SECTION LIINERS.



This i:strument can be attached to a drawing board, by fastening the clamp screws. As the motion is produced by means of notched wheels, the movements are uniform. The ruler may be set at any angle. Printed round diagrams for various diameters are attached to the wheel B , with which cylinders can be shaded, loy simply following the lines on the diagrams.
8310. Positive Section Liner, to fit Board $20 \times 31$ inches or less, in Case, each, $\$ 15.00$
8312. Positive Section Liner, " " $12 \times 16$ " $"$ " 12.00
8314. Positive Section Liner, " " $10 \times 14$ 6 6 " 10.00

8320. Positive Section Liner, with heavy weights to place on any part of

## DOTTING

- 


8400. Dotting Instrument, with extra Wheels.
in Case, each, $\$ 3.25$
By pressing the metal edge against the ruler, the round notched wheel rests on the latter. The movement of the wheel causes the pen to rise and fall, thus producing the dotted lines. The wheels are variously notched, and produce dots accordingly. To change the wheel, raise the spring.


No. 8506.
8506. Pantograph, Black Wood, Metal Mountings and Joints, heayy weight and complete attachments, Strong construction, 24 inch. .in Case, each, $\$ 24.00$ 8510. Pantograph, Black Wood, Metal Mountings and Joints, heary weight and complete attachments, Strong construction, 20 inch. in Case, each, 18.00

8540. Pantograph of Hardwood, Arms $51 / 2$ feet long, for enlarging and reducing drawings.............................. (List Price, $\$ 6.67$ ) each, $\$ 6.00$
8542. Pantograph of Hardwood, Arms $41 / 2$ feet long, for enlarging and reducing drawings................... .............. (List Price, \$5.55) $^{\text {. }}$
8544. Pantograph of Hardwood, Arms $31 / 2$ feet long, for enlarging and reducing drawings....................... ...........(List Price, \$4.45) ..... 4.00
8546. Pantograph of Hardwood, Arms $21 / 2$ feet long, for enlarging and reducing drawings $\ldots . . . . .$. . .................... (List Price, $\$ 3.33$ ) ..... 3.00
8548. Pantograph of Hardwood, Arms 2 feet long, for enlarging and re- ducing drawings (List Price, \$2.22) ..... 200
8550. Pantograph of Hardwood, for enlarging and reducing drawings, (List Price, \$1.12) ..... 1.00
8554. Pantograph of Hardwood, for enlarging and reducing drawings. ..... 50
8556. Pantograph of Hardwood, ..... 25


8700. Ellipsograph, Strong and substantial make, with directions for use.

In Wooden Box........................................................each, $\$ 7.90$
8702. Ellipsograph, Strong and substantial make, with directions for use.. " 6.65

8720. Templet Odontograph, with full description, for drawing teeth of Gear Wheels ; useful for Machinists and general Mechanical Drawing......... ................................................ In Case, each, \$3.50 Hlustrated Treatise on the Cse of the Odontograph, by Prof. S. W.
8728. Willis' Odontograph, No. 1, for drawing the teeth of small wheels by diametrical pitch, when only a single are is required
8730. Willis' Odontograph. No. . , for drawing the teeth of larger wheels by circular pitch, where it is necessary to have sevarate arcs for flanks and faces,-with drawings, and directions for use

# MEASURING INSTRUMENT 


8750. Measuring Instrument, in fine Morocco Case ........................ . .each, \$2.25
8752. Measuring Instrument. .............................................. " 2.00

To measure, it is only necessary to move the instrument over the surface. The small dial registers the feet and the large one, the inches. When 25 feet have been traversed, the small hand has made a complete revolution, and begins the second one, etc. It is about the size of a small locket, and convenient to carry.

## ADJUSTABLE CURVE RULERS.



No. 8760 (large).
This Rule consists of a band of thin, flexible steel, $3 / 4$ of an inch wide; this is attached to a bar of soft lead, which is covered by a long spiral spring.

The Rule is bent to the required position, and the soft leaden bar prevents any springing back.

This size is nickel plated, and is adapted for railroad and ship building, and for long curves in general.
8760. ADJUSTABLE CURVE RULER, Large.

Entire length and ruling edge, 30 inches
(List Price $\$ 3.25$ ) each, $\$ 2.87$


No. 8762 (small).
The basis of this Ruler is a har of soft lead, which can easily be bent, and remains so. To improve the working of it, the lead is lined with two thin bands of steel, and the drawing edge covered with rubber, which is held in place by the small ribs.
8762. ADJUSTABLE CURVE RULER, Small.

Entire length, $141 / 2$ inches; ruling edge, 10 inches . . (List Price, $\$ 167$ ) each, $\$ 1.50$

## TRAMMEL HEADS.


8822. Trammel Heads, Bronzed, Medium size........................................... $\$ 2.00$
8824. Trammel Heads, " Small " .............................. " 1.50

8830. Paper Cutting Instrument, for cutting stretched sheets of Drawng Paper from the board
.each,
DARLING, BROWN \& SHARPE'S GOODS


FURNISHED AT MANUFACTURER'S PRICES:
E. G. SOLTMANN-NEW YORK.

ZQ TAPES REPAIRED AT SHORT NOTICE. MEASURING TAPES.


No. 8900.
8900. Chesterman's Steel Tapes, Leather Case, Flush Handle.

| Divided $\frac{1}{12}$ or ${ }_{10}^{10}$ of foot, 100 | 75 | 66 | 0 | 33 | 25 feet. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Each.............. $\$ 15.00$ | 12.00 | 10.00 | 8.00 | 6.25 | 5.50 |

8920. Chesterman's Metallic Tapes, Lea:her Case, Folding Handle.

| Divided ${ }_{1}^{1}{ }^{1}$ or ${ }_{10}^{1}$ ( of foot, | 100 | 75 | 66 | 50 | 33 | 24 feet. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each | 4.7 | 3. | 3.30 | 3.00 | 2.35 | 2.00 |

## PAINE'S PATENT STANDARD STEEL TAPES.



Nos. 8960-8980.
These tapes have been in the market for a number of years. The increased demand is the best evidence of their good qualities. The handles of all tapes ( 50 feet and over) are detachable; compensating, and other handies can be put on. The entire tape, if taken out of the case, by fastening an extra handle to the other end, can be used as a chain. 8960. Paine's Steel Tapes, Leather Covered Case, Flush Handle

| Divided $\frac{1}{12}$ or in of foot 100 | 75 | 66 | 50 | 33 feet. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Each................. $\$ 15.00$ | 12.09 | 10.00 | 8.00 | 5.50 |

8980. Paine's Steel Tapes, Leather Covered Case, Flush Handle.

Divided $1_{12}^{1 \frac{1}{2}}$ foot on one, and Metric on other side. . 100
Each
$\$ 18.00$

9000. Paine's Steel Tapes, Japanned Metal Case, Folding Handle.

| Divided ${ }_{12}^{12}$ or ${ }_{10}^{12}$ of foot. | 100 | 75 | 66 | 50 | 33 | 25 feet. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Each................ $\$ 12.00$ | 10 | 00 | 8.00 | 6.00 | 4.50 | 3.50 |

9020. Paine's Steel Tapes, without Case.

|  | 100 | 75 | 66 |
| :--- | :---: | :---: | :---: |
| Each, |  |  |  |
| $\$ 10.00$ | 7.50 | 6.60 | 50 feet. |

9030. Graduated Compensating Handles, for various temperatures $\qquad$ pair, \$3.35

9031. Case $21 / 4$ inch diam.
9032. Steel Nickel Plated Pocket Tapes, very light, Flush Handle, divided
$\frac{1}{12}$ or $\frac{1}{10}$ of foot, 25 feet long............................................each, $\$ 5.50$
9033. Steel Nickel Plated Pocket Tapes, very light, Flush Handle, divided $\frac{1}{12}$ of foot on one, and Metric on other side, 25 feet long.

## AMERICAN METALLIC TAPES.



No. 9080.
9080. Metallic Tapes, Red Leather Case, Wire Woven, Folding Handle.

| Divided $\frac{1}{12}$ or $\frac{1}{10}$ of a foot.... 100 | 75 | 66 | 50 feet. |
| :--- | :--- | :---: | :---: | :---: |
| Each................... $\$ 4.45$ | 3.50 | 3.00 | 2.75 |

9090. Metallic Tapes, Red Leather Case, Wire Woven, Folding Handle.

Divided $\frac{1}{12}$ of foot on one, and Metric on other side. $100 \quad 75$
50 feet.
Each.............................................. \$4.75 3.753.00

50 feet.


No. 9120.
9120. Corded Linen Tapes, in Patent Leather Case.

| Divided $\frac{1}{12}$ of foot. | 100 | 75 | 50 feet. |
| :---: | :---: | :---: | :---: |
| Each... | \$1.75 | 1.50 | 1.25 |

## POCKET TAPES,

WITH SPRING AND STOP.

9200. Steel Spring Pocket Tapes, in Nickel Plated Case.

| Divided $1_{12}^{12}$ or $\frac{1}{10}$ of foot....... 12 | 8 | 6 | 5 | 3 feet. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Each........................... 80 | 2.50 | 2.00 | 1.80 | 1.50 |

9210. Steel Spring Pocket Tapes, in Nickel Plated Case.

Divided $\frac{1}{12}$ foot on one, and Metric on other side.

|  | 12 | 8 | 6 | 5 | 3 feet. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Each. | \$3.75 | 2.75 | 2.25 | 2.00 | 1.65 |

9220. Linen Spring Pocket Tapes, in Nickel Plated Case (case like 9200).

[^2]
# SURVEYORS' AMERICAN, METER AND VARA CHAINS. 


9300. Steel, 100 feet, Best Grade, Brazed or Soldered Links and Rinrs. ..each, $\$ 11.50$9302. Steel, 66 " ". " Brazed " " 0 " ". .. .. 10.009304. Steel, 50 " " " Brazed " " $"$ ". ${ }^{2}$... " 6.009306. Ste l, 33 " " " Brazed " " " " "... " 5.509320. Steel, 100 " Oval Rings.............................................. " 8.00
9322. Steel, $66^{\circ}$ " " " ................................................ " 6.50
9324. Steel, 50 :" ." ". .................. .......................... . . . 4.509326. Steel, 33 ". .: 6 ............................................... " 3.509340. Iron, 100 " Oval Rings ............................................. " 5 . 50

9344. Iron. 50 " " " ...................................................... 3.50
9346. Iren. 33 ..... " 2.70
9360. Iron, 100 " Round Rings ..... 3. 50
9362. Iron. 66 ..... 66 ..... 3. 20
9364. Iron, 50
9366. Iron, 33 ..... 30
9350. Steel. METER, Best Grade, Brazed or Soldered Linksand Rings, ..... 10.00
9382. Steel, 15 Brazed ..... - 50
9384. Steel, 10 Brazed ..... 5.50
9400. Steel, 20 Oral Rings. ..... 6.20
9402. Steel. 15 ..... 5.00
9404 . Steel, 10 ..... 350
9420. Steel, 20 ViRAS. Best Grade, Brazed or Soldered Linksand Rings, ..... 10.00
9424. Steel, 10 Brazed ..... 5.50
9440. Steel, 20 nat.r Oral Rings ..... 6.50
944. Steel. 10 ..... 3.50

## ROE'S IMPROVED STEEL TAPE CHAIN,

With Folding Reel.


These tapes are made of spring steel about $1 / 4$-inch wide. Each consecutive foot has a brass rivet, and every five and ten feet have large plates with figures stamped thereon. For country and field work the tapes have given excellent satisfaction. They can be dragged through woodland, brush, etc., without catching or kinking, and as they are nickel-plated (mat finish) they do not rust, and require no oiling or cleaning after being used.
9450. Roe's Improved Tape Chain, NICKEL-PLATED, 100 feet long, graduated every foot, end feet in tenths. ................(List Price, $\$ 7.78$ ) $\$ 7.00$
9453. Roe's Improved Tape Chain, NICKEL-PLATED, 66 feet long, graduated every link ....................................(List Price, \$7.22) 6.50
9456. Roe's Improved Tape Chain, NICKEL-PLATED, 50 feet long, graduated every foot, end feet in tenths.............. . (List Price, \$6.12)
9459. Roe's Improved Tape Chain, NICKEL-PLATED, 33 feet long, graduated every foot, end feet in tenths..................(List Price, \$4.45)

Meter and Vara Tapes furnished at short notice.

## SPRING BALANCE TAPE CHAINS.


9465. Spring Balance Tape Chain, 50 feet long. ${ }^{3} \frac{3}{2}$ inch wide, with Spirit Level, Thermometer, Spring Balance and Brass Handles. They are extensively used for accurate measurements in large cities.........each, $\$ 20.00$

## ARROWS OR MARKING PINS.




No. 9550 .

## PLUMB BOBS.



9376.
$93 \%$
9550. Brass, Large, Long Neck, Steel Point, Screw Cap ..... each, $\$ 3.00$
95560. Brass, Large, Steel Point, Screw Cap ..... 2.50
9562. Brass, Medium, ..... 2.25
9564. Brass, Small, ..... 2.00
9566. Plated, Pocket Size, Steel Point, Screw Cap ..... 1.25
9570. Brass, for Bailders' and general use ..... 125
9574. Brass, with Centre Reel ..... 2.50The string is wound up by turning the Bob.
9576. Brass, Large, with Reel containing the cord, which is lengthened by dropping the Bob and round up by turning the wheel ..... 2.00
95i7. Brass, Medium, with Reel containing the cord, which is lengthened by dropping the Bob and wound up by turning the wheel. ..... 1.75

## IRON PLUMB BOBS.


9584. Iron, for Builders and general use.

BRAIDED LINEN PLUMB BOB LINE.
With this line, the Bob will become stationary sooner than with ordinary cord.
9600. Braided Plumb) Bob Line, Block containing 50 feet . ..................each, . 80

Coil of 10 yards...................................................... ". . 50

## MINING LAMP OR PLUMMET.

Made of Brass.
The upper part is hollow, and contains an oil lamp. When lowered into a dark shaft, the sight is taken to the centre of the light.

9620. Mining Lamp and Plummet.

Two Lamps packed in strong Box, with Strap
case, $\$ 25.00$
9624. Mining Lamp and Plnmmet.

In Box
each,
13.00


No. 9700.


## SURVEYING INSTRUMENTS.


9800. Improved City Transit or Theodolite, with Right Angle Telescope. Powerful Telescope 12 inches long, magnifying power 20 to 22 times, $41 / 2$ inch needle, long sensitive ground Bubble under telescope with tangent screw, adjustable brace attached to object end of telescope, 7 inch horizontal limb, reversible axis, divided on silver to 20 minutes with double vernier reading to 20 seconds. The standards are not as high as those of other transits, which greatly adds to the steadiness of the instrument. Complete, in Mahogany Case, with Strap, including Plumb Bob, Magnifying Glass, Adjusting Pins, etc., and Tripod. .each, $\$ 325.00$
With Shifting Centre . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .extra, 10.00
Reflecting Shades for mining purposes........................ " 8.00
9805. Improved City Transit or Theodolite. (Style similar to No. 9800.)

Powerful telescope 12 inches long, magnifying power 20 to 22 times, $41 / 2$ inch needle, long sensitive ground Bubble under telescope with tangent screw, adjustable brace attached to object end of telescope, 7 inch horizontal limb, reversible axis, divided on silver to 20 min utes, with double vernier reading to 20 seconds. The standards are not so high as those of other transits, which greatly adds to the steadiness of the instrument. Complete, in Mahogany Case, with Strap, including Plumb Bob, Magnifying Glass, Adjusting Pins, etc., and Tripod each, \$275.00
With Shifting Centre $\ldots \ldots$.....................................extra, 10.00
Reflecting Shades for mining purposes........................... " 8.00

## SURVEYING INSTRUMENTS,

Continued.

9810. Engineer's or Surveyor's'Transit, Telescope 11 to 12 inches long, magnifying power 18 times, horizontal limb 6 inch diameter, divided to 20 minutes, double vernier reading to 30 seconds, $41 / 2$ inch needle, long sensitive level to telescope with clamp and tangent attachment, 5 inch vertical circle reading to 1 minute. Complete in Mahogany Box, with Strap, including Plumb Bob, Magnifying Glass, Adjusting Pins, etc., and Tripod....................................... .................each, $\$ 230.00$ Shifting Centre....................................................... . . . . . 10.00

## SURVEYING INSTRUMENTS (continued).


9814. Engineer's or Surveyor's Transit. Telescope, 11 to 12 iuches long; magnifying power, 18 times; horizontal limb, 6 inches diameter, divided to 20 minutes; double vernier, reading to 30 seconds; 41/2 inch needle; long, sensitive level to telescope, with clamp and tangent attachment. Complete in Mahogany Box, with Strap, including Plumb Bob, Magnifying Glass, Adjusting Pins, etc., and Tripod . .each, $\$ 210.00$ Shifting Centre .extra,
9818. Engineer's or Surveyor's Plain or Railroad Transit. Telescope, 11 to 12 inches long; magnifying, power 18 times; horizontal limb 6 inches diameter, divided to 20 minutes; double vernier, reading to 30 seconds; $41 / 2$ inch needle. Complete in Mahogany Box. with Strap, including Plumb Bob, Magnifying Glass, Aujusting Pins, etc., and Tripod

Shifting Centre........................................................................................... 10.00

9824. Engineer's Leveling Instrument. Telescope 18 to 20 inches long, magnifying power 22 times. Complete, in Mahogany Box, with Strap, meluding Sun Shade, Adjusting Pin, and Tripod.................each, \$130.00

ARCHITECT'S AND BUILDER'S LEVEL.

9830. Architect's and Builder's Level, with divided Circle. This instrument is light in weight and convenient in shape for easy transportation. The construction is on the principle of a regular surveying instrument. Complete, in Box, including Plumb Bob and Tripod..each, \$45.00
E. G. SOLTMANN-NEWYORK.

9840. Builder's Level, very strong construction, with large divided circle. A servicable instrument for general use. Complete, in Wooden Box, including Plumb Bob and Tripod......................................each, $\$ 38.00$

## SURVEYORS' COMPASSES.


9900. Surveyor's Compass, with double Sights, 1 wo Bubbles, Ball and Socket Joint, with Jacob Staff Mountings, 5-inch Needle, in Case.

9920. Surveyor's Compass, with Ball and Socket Joint for attaching to Jacob Staff, and two Bubbles, Needle 4 -inch diameter, in Case....each, \$17.00 9924. Surveyor's Compass, with Ball and Socket Joint for attaching to Jacob Siaff, and two Bubbles, Needle 3-inch diameter, in Case......" 9928. Surveyor's Compass, with Ball and Socket Joint for attaching to Jacob Staff; $31 / 2$-inch diameter, without Bubbles, in Case14.50
9932. Surveyor's Compass, with Ball and Socket Joint for attaching to Jacob Staff, $21 / 2$-inch diameter, without Bubbles, in Case11.50


[^3]9960. Jacob Staff, with metal foot.... ....................................... ". " 1.00
9970. Surveyor's Cross, for Jacob Staff, in Case .................... . ....... " 3.00

## ABNEY'S HAND LEVEL AND CLINOMETER. <br> 

10,000. Abney's Reflecting Hand Level and Clinometer, with divided are to show angles

In Case, each, \$15.00

LOCKE'S HAND LEVELS.


10,020. Locke's Hand Level, with Reflector, White Metal............... In Case, $\$ 10.00$
10,040. Locke's Hand Level, with Reflector, Brass . . . . . . . . . . . . . . . . . ، 9.00
These are also made in cheaper grades.


## MINER'S DIPPING NEEDLE

## AND COMPASS.

For tracing iron ore. Consists of a needle mounted in a metal ring, graduated to degrees, and having glass on top and bottom. When used for tracing ore, the prospector should hold the ring, and keep the needle pointing north and south.

## POCKET COMPASSES.


10,120. Compass, Gilt, Hunting Case Watch Pattern, with Stop, Metal Dial, Jeweled Centre, 2 inches.......................................each, $\$ 6.50$
10,140. Compass, Nickel Plated, Hunting Case Watch Pattern, with Stop, Metal Dial, Jeweled Centre, $13 / 4$ inches ..... 3.75
10,150. Compass, with Clinometer and Pendulum, $21 / 2$ inches. ..... 5.50


10,160. Compass, Round, Brass, Slip Corer, Stop, Jerreled Centre, 2 inch, each, \$2.25 10,162. Compass, Round, Brass, "

10,180. Compass, Square, Mahogany Case, with Stop and Cover. ..... each, $\$ 1.00$
10,200. Compass, Watch Pattern, Brass, Jeweled Centre, 2 inch ..... 1.25
10,202. Compass, Watch Pattern, Brass, " $11 / 2$ inch ..... 1.00
10,220. Compass, Watch Pattern, Brass, 2 inch ..... 80
10,222. Compass, Watch Pattern, Brass, $11 / 2$ inch ..... 60
10,260. Compass, Round, Brass, 2 inch ..... 60
10,262. Compass, Round, Brass, $1 \frac{1}{2}$ inch ..... 30


No. 10,350.
On account of its extreme sensitiveness, the slightest variations in gradients, levels, etc., are easily ascertained, and therefore this instrument is adapted for general mining and surveying. By a new arrangement, the scale of altitude can be subdivided by a vernier. The barometrical scale of inches has been made progressive so as to give the correct relative readings with the scale of altitudes.

For mining purposes the entire circle of the dial is graduated to represent 6 inches of the mercurial column, i. e., from 27 inches to 33 . This scale will register about 2,000 feet below sea-level to 4,000 feet above ; the finest divisions, $\frac{1}{10}$ ths of the altitude scale, represent 10 feet measurements, which can be again subdivided by the vernier scale to single feet. The vernier scale is moved by a rack-work adjustment, and a magnifying lens which rotates on the outer circumference of the instrument facilitates the reading of minute quantities.

For surface surveying purposes only, not to be used below sea-level, the instrument is made with the scale divided from 25 to 31 inches, thus giving an altitude scale of 6,000 feet above sea-level only, and with this open scale and the assistance of the vernier, the same minute readings can be easily taken.

The instruments are also constructed for measuring greater altitudes, i. e., 10,000, 15,000 , or 20,000 feet, but with these scales the measurements cannot be made quite so minute as in the more open scales.
10,350. Mining and Surveying Aneroid Barometer, 5 inch diameter, sil-
vered dial, raised rings for divisions, altitude 2,000 feet below and
4,000 feet above sea-level, with rack vernier scale reading to 1 foot
and magnifying lens, in Leather Case.......................ach, $\$ 50.00$ 10,380. Pocket Mountain Aneroid, $21 / 2$ inch, compensated for temperature, with ring altitude scale, 15,000 feet, in Case.
" 24.00
10,400. Pocket Momntain Aneroid, 2 inch, with ring altitude scale 8,000 feet, in Case .
" 16.00
10,420. Pocket Mountain Aneroid, 13/4 inches, metal case, altitude 8,000 feet, in Case............ ................................................

# FIELD AND MARINE GLASSES AND BINOCULAR TELESCOPES. 



10,500. Field and Marine Glasses, Bronzed and covered with Leather, Sun Shade extending over Object Glasses, in strong Leather Case with straps
10,510. Field and Marine Glasses, with revolving eye-piece. Suitable for Field, Marine or Theatre purposes. Bronzed and covered with Leather, in Case .....................................................
10,540. Binocular Telescopes, Bronzed and covered with Morocco, with jointed body, to adjust to distance between eyes, Sun Shade, in strong Leather Case, adapted for military and naval service...... " 4200

## TELESCOPES,



10,600. Telescope in Leather Covered Body, with strap and caps, opens to 33 inches, closes to 11 inches. Power, 35 times...............each, $\$ 26.00$ 10,620. Telescope in Leather Covered Body, with straps and caps, opens to 17 inches, closes to 6 irches. Power, 20 times.

## TRIPOD FOR TELESCOPES.

10,640. Tripod for Telescopes

## MAGNIFYING GLASSES.



10,700. Reading Glasses, German Silver Ring, Ebony Handle, Best Quality.

|  | 5 | $41 / 2$ | 4 | $31 / 2$ | 3 | $21 / 2$ | 2 | $13 / 2$-inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 5.00$ | 4.00 | 3.50 | 3.00 | 2.50 | 1.75 | 1.00 | .75 |



10,730. O ral Pocket Magnifying Glasses, Rubber Case, 2 inch, 2 Lenses, each, \$2.20
10,734. Oral Pocket Magnifying Glasses,

| 10,734 | Oral Pocket Magnifying Glasses, | " | 11/2 | " | 2 | " | ، | 1.50 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 10,738. | Oral Pocket Magnifying Glasses, |  | $11 / 4$ | " | 2 | ، |  | 1.00 |
| 10,742 | Oral Pocket Magnifying Glasses, |  | 1 | " | 2 | " |  | 70 |
| 10,750 | Oral Pocket Magnifying Glasses, |  | 2 | " | 1 | Lense, |  | 1.12 |
| 10,754 | Oral Pocket Magnifying Glasses, |  | 11/2 | " | 1 | ، |  | . 60 |
| 10,758 | Oral Pocket Magnifying Glasses, |  | $11 / 4$ | " | 1 | ، |  | 50 |
| 10,762 | Oval Pocket Magnifying Glasses, |  | 1 | ' | 1 | ، |  | . 35 |



No. 10,850 .


10,860 .

10,850. Codlington Magnifier, with Handle, $15 / 8$ inch, $\$ 3.25 ; 1$ inch $\ldots .$. each, $\$ 2.00$ 10,860. Coddington Magnifier, in Plated Folding Case with Ring,
$15 / 8$ inch, $83.75 ; 1$ inch................ " 2.75
10,870. Coddington Magnifier, with twisted handle, White Metal, $1 / 2$ inch. " 1.50

## MAGNIFYING GLASSES (continued).



No. $10,875$.


10,880-10,888.

10,875. Three Legged Microscope, adjustable to Focus, Brass............each,
10,880. Thread Counter, Brass, for Linen, Cotton, Silk, Burlap, etc., Extra Large. .
" $\$ 2.00$
10,884. Thread Counter, Brass, for Linen, Cotton, Silk, Burlap, etc., Medium
10,888. Thread Counter, Brass, for Linen, Cotton, Silk, Burlap, etc., Small

## INDIA OR CHINESE INK.


11,150. Oblong Black, 4 inch, ornamental figures ..... each, $\$ 10.00$
11,160. Oblong Black, 4 " black and gilt figures ..... 700
11,170. Oblong Black, 4 " various black lettering and figures ..... 5.00


No. 11,180. $11,184$.

11,184. ${ }^{6}$ Double Golden Dragon," Second Grade Gilt.
E. G. SOLTMANN-NEW YORK.

## INDIA OR CHINESE INK (continued).



No. $11,190$.
11,190. Hexagon, Soft and Black, $41 / 2$ inches.
11,194. Hexagon, " " 2 " very small, extra quality...... " 1.00
11,198. Hexagon, " " $11 / 2$ " Miniature, " " ...... " . 60


No. 11,210 .
11,210. "CHINESE VASE," Oblong Black, $31 / 2$ inch. .each, $\$ 3.00$


No. 11,220.
11,220. " ${ }^{\text {GOLDEN STORK, }}$, $27 / 8$ inch, Gilt, Extra Quality.... ..........each, $\$ 3.00$


No. 11,230.
11,230. Oblong Gilt, $27 / 8$ inch, Fine Quality
each, \$2.25
11,234 , Oblong Gilt, $27 / 8$ " Second Grade . . . . . . . . . . . . . . . . . . . . . . . . ، 1.50


No. 11,240 .
11,240. OBLONG BLACK, with Pearl, $27 / 8$ inch, Fine Quality.

## INDIA OR CHINESE INK (continued).



No. 11,250 .
11,250. OBLONG P0LISHED, Large, $35 / 8$ inch


No. 11,254.
11,254. OBLONG POLISHED, Small, $27 / 8$ inch


No. 11,260.
11,260. "ELEPHANT" INK, Large, Oblong Black


No. 11,264 .
11,264. "ELEPHANT" INK, Small, Oblong Black


No. 11,280.
11,280. Gilt "sword" Ink, 31/8 inch, Oblong, Black, with figures.

11.290. Single Draģon, 25/8 inch, Black. Gilt Figures, extra quality....... each, \$1.50

11,294. Single Dragon, $25 / 8$ " all Gilt, second grade.

## INDIA OR CHINESE INK (continued).


11,320. Lion Head, Black, Oval, Polished, 3 inch..........................each, . 50

No. 11,330.
11,330. Square, Black, Gilt Figures, $21 / 8$ inch .each,50

11,340. Pointed, Gilt, $21 / 4$ inch, with Figures each,40

11,350. Lion Head, Black, Oval, Polished, $21 / 2$ inch each,

11,400. BLUE CHINESE INK ..... each, . 75
11,404. RED 66 66 ..... 75
11,408 . BROWN 66 66 ..... 75
11,412. YELLOW $66 \quad 66$ ..... 75
11,416. GREES ..... 75
11,420. WHITE $66 \quad 66$ ..... 75

## JAPANESE INK.

The Japanese Inks are not always made of the same patterns, which are varied from time to time by the makers.


Japanese Ink is harder than the Chinese. For this reason a line drawn with it can be washed over with color, without blurring.
11,450. Oblong, Black, Best Quality, Large .each, $\$ 3.00$
11,454. Oblong, Black, Best Quality, Medium .... ........................ ". " 2.00
11,458. Oblong, Black, Best Quality, Small
1.00

MANY OTHER GRADES KEPT IN STOCK.

## INK AND COLOR SLABS.



11,500. Slate Ink Stone, 5 inch, with heavy glass cover...................each, . . 75
11,504. Slate Ink Stone, $31 / 2$ " " " .................. " . 50
With these stones the ink can be quickly and uniformly ground. The slate surface is smooth, but not polished. The deep well in the centre gathers the ink and makes it more convenient for filling the pen.


11,510. Round White Glass Ink Slab, with cover .each,


11,520. Patent Ink Slab, with cover, $21 / 8 \times 51 / 2$ inches....
11,522 . Patent Ink Slab, with cover, $13 / 4 \times 41 / 2$50


[^4]11,542. Nests of Cabinet Sancers, $31 / 4$ " 6 " .................... " 80
11,544. Nests of Cabinet Saucers, 25/8 " 6 " ................... " . 70
11,546. Nests of Cabinet Saucers, $23 / 8$ " 6


## INK AND COLOR SLABS (continued).

11,640. China Color Cups.

|  | $31 / 2$ | 3 | $21 / 2$ | 2 | $13 / 4$ | $11 / 2$ inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .25 | .20 | .15 | .10 | .08 | .06 |
| Deep China | Cups, | with Cover. |  |  |  |  |
| Each, |  | .25 large. |  | .22 medium. | .18 small. |  |



11,670. China Brush Rest......... ...............................................each, . 15


11,680. China Palettes, Oblong or Oval.

|  | 10 | 9 | 8 | 7 | 6 | 5 | 4 inch. |
| ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Each, | .70 | .60 | .50 | .40 | .35 | .30 | .25 |

## WATER GLASSES,

With Lips, to Clean and Dry Brushes.

11,690. Artists' Water Glasses, $41 / 4$ inches each, ..... 45
11,692. Artists' Water Glasses, 33/4 ..... 35
11,694. Artists' Water Glasses, $31 / 4$ ..... 25
11,696. Artists' Water Glasses, 23/4 ..... ". . 15

## TESTIMONIALS.

The following Testimonials are furnished by the manufacturers of Turck's Inks, and published with their permission :

Chicago, March 2d, 1885.
We, the architects of the City of Chicago. use Turck's Diamond Drafting Inks and Colors, and recommend their use to the Architectural Profession:

```
W. W BOYNTON,
HENRY LORD GAY,
J. M. VAN OSDELL'& CO.
E. BAUMAN,
EDBROOK \& BURNHAM,
```


## WHEELOCK CLAY,

 A. M. F. COLTON, BURNHAM \& ROOTT, ADLER \& SULLIVAN, JOHN C. COCHRAN,JAMES J. EGAN, BAUER \& HILL, TREAT \& FOLZ, L. B. DIXON, (And many others).

Office of the City Civil Engineer, Cleveland, Oct. 2d, 1883.

## F. B. Turck, Esq.

Dear Sir: I am very much pleased with your Waterproof Drafting Ink and Colors; they are the finest and best materials for drafting and coloring that I have ever used.

> Yours truly,

B. F. MORSE,<br>City Civil Engineer.

Messrs. F. B. Turck \& Co.
Gentlemen: I like your Drafting Ink. I have used your brand " 8 B " some time, and like it the best of any India Ink I have tried. You may use this letter as a recommendation.

Very respectfully yours,
THOMAS DREW STETSON,
Patent Solicitor and Mechanical Expert, New York.

Office of J. B. Legg, Architect,
St. Lours, July 15th, 1884.
F. B. Turck, Esq.

Dear Sir : I have been using Turck's Drafting Inks in my business, and I am pleased to state that I find them fully satisfactory in every particular,--they being entirely waterproof, of deep brilliant colors, and flow smooth and evenly, and besides they are always ready for use, save much time, and are far cheaper than cakes. Respectfully,
J. B. LEGG.

Fenton B. Turck, Esq.
Dear Sir : We use your Drafting Inks and Colors in preference to any in the market. Your inks and colors being ready for use, and waterproof, are superior for making finer work and saving time. Respectfully yours,

GEO. J. BARNETT \& SON.

## F. B. Turck, Esq.

Office of E. E. Myers, Architect, Detroit, Mich., Aug. 1st, 1883.
Dear Sir: We have been using your Drafting Inks and Colors, which excel all others for drafting purposes. This is a boon to the profession.

Very truly yours,
E. E. MYERS.

Office of James Freret, Architect,
F. B. Turck, Esq.

New Orleans, La., April 14th, 1884.
Dear Sir: We use your Waterproof Liquid Indian Ink, and find it very convenient as being ready liquid and waterproof-allowing the colors being run over the lines without spreading.

Yours truly,
JAS. FRERET.


The above cut represents the style of Cabinet, No. 11, $\$ 20$. Price $\$ 10.00$.

```
SOLD AT MANUFACTURER'S PRICES.
```

11, 520 . Cabinet No. 3 (see Illustratiou), containing one Extra Large Bottle each : Indelible Black, Indelible Carmine, Indelible Blue. Indelible (rreen, Indelible Yellow, Indelible Orange. Not Indelible Burnt Sienna, for Coloring, and Not Indelible " 8 B" Black, for Tracing Cluth and for general use.
each, $\$ 10.00$

## SEPARATE BOTTLES OF INKS OF ABOVE SIZE.

11,832. Indelible Black, Not Indelible " $\& B$ " Black, for Tracing Cloth and for general use, extra large size
.. each bottle, 200
11,833. Indelible Carmine, Indelible Blue, extra large size .... .. " 1 is
11,834. Indelible Green, Indelible Yellow, Indelible Orange, Not Indel-
ible Burnt Sienna, for Coloring, extra large size

## "CRYSTALLINE" INK,

 FOR WRITING ANDIDRAWYNG ON BLUE PRINTS.This Ink contains no acid injurious to steel pens; it has the consistency of India Ink, and flows evenly.


11,815. "Crystalline" Ink,
White or Red. Neat, Polished Partitioned Box, containing 12 bottles, each, $\$ 1.90$ Neat, Polished Partitioned Box, containing 6 bottles, each, 1.00
Bottle ............... . . 15

## TURCK'S DIAMOND DRAFTING INKS.

## SOLD AT MANUFACTURER'S PRICES.

STRRONG PARTYTIONED CABINETS COVEREX WITh LEATHER.
11,820. Cabinet No. 5, containing one Extra Large Bottle each: Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green, Indelible Yellow, Indelible Orange. Not Indelible Bt. Sienna for coloring, and Not Indelible "8B" Black for Tracing Cloth and general use each, $\$ 10.00$
11,823. Cabinet No. 2, containing one Medium-size Bottle each: Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green, Indelible Yellow, Indelible Orange. Not Indelible Bt. Sienna for Coloring, and Not Indelible " 8 B" Black for Tracing Cloth and for general use..

> 11,824. Cabinet No. 1, containing one small Bottle each: Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green, Indelible Yellow, Indelible Orange. Not Indelible Bt. Siena for Coloring, and Not Indelible "8B" Black for Tracing Cloth and for generaluse..

SEPARATE BOTTLES OF TURCK'S INKS.
11,830. Indelible Black, Mammoth size. ................................each Bottle, \$3.50
11,832. Indelible Black, Not Indelible " 8 B " Black for Tracing Cloth and for general use, extra large size.
11,833. Indelible Carmine, Indelible Blue, extra large size............. .. "، 1.75
11,834. Indelible (rreen, Indelible Yellow, Indelible Orange, Not Indelible Burnt Sienna, extra large size......................................
11,836. Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green,
Indelible Yellow, Indelible Orante. Not Indelible Burnt Sienna
for coloring, Not Indelible " 8 B " Black for Tracing Cloth and
for general use, medium size................................................. 50

11,838. Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green, Indelible Yellow, Indelible Orange. Not Indelible Burnt Sienna for coloring, Not Indelible "8B" Black for Tracing Cloth and general use, small size25

TURCK'S TRACING CLOTH COLORS.
11,844. Cabinet containing one Bottle each: Carmine, Yellow, Burnt Sienna, Blue, Green, Neutral Tint, and bottle of Diluting Liquid
each, $\$ 5.00$
These colors do not destroy the gloss of the tracing cloth, and cause no wrinkles or shrinkage.

## HIGGINS'S LIQUID DRAWING INKS.

11,850. Higgins's Drawing Inks, Waterproof, and General. Box of 1 doz.................. .............................. $\$ 3.00$. Bottle,<br>\section*{WINSOR \& NEWTON'S LIQUID COLORS.}



No. $11,8 \%$.


11,872
11,860. Winsor \& Newton's Liquid Carmine. ..... 40
11,862. 66 66 Liquid Indelible Brown Ink ..... 40
11,864 . 66 66 Liquid Prout's Brown ..... 40
11,866 . 66 66 Liquid Sepia ..... 40
11,868. 6 66 Liquid Gold Ink. ..... 40
11,869 . 66 6. Liquid Silver Ink ..... 40
11,870. 66 66 Liquid Indian Ink ..... 35
11,872 . 6 6 Liquid Chinese White ..... 35
11,874 . 66 " Liquid Prussian Blue ..... 35
11,876 . 66 " Liquid 0xgall. ..... 35
11,880 . 66 " Liquid Water Color Megilp ..... 35
11,882 . 66 " Liquid Water Mat Gold Size ..... 35
11,884 . 66 "6 Liquid Gum Water ..... 35
11,886 . 66 6 Pots of 0xgall ..... 25
11,888. Schoenfeld's Liquid Chinese White ..... 35
11,892. Rowney's Liquid Chinese White. ..... 35

GOLD AND SILVER SHELLS, CUPS, etc.

11,920. Gold Cakes
11,924. Silver Cakes. ..... 50
11,930. Gold Cups, $13 / 4$ inch diameter ..... 50
11,932. Gold Cups, $11 / 4$ ..... 25
11,934. Gold Cups, 1 ..... 15
11,940. Silver Cups, $11 / 4$ ..... 15
11,944. Gold Shells ..... 20
11,948. Silver Shells ..... 10
GOLD AND SILVER PAINT. each, $\$ 2.00$
11,956. Williams' Liquid Gold Paint, Box containing Gold Paint, Brush,and Directions for Use.................................................each, \$1.00
11,960. Williams' Liquid Silver Paint, Box co.tainingSilver Paint, Brush,and Directions for Use75
11,964. Ruly's Royal Gilding, Box containing Gilding, Brush, and Direc- tions for Use. ..... 50

11,970. Marsching's Mold Paint and Liquid Set of 2 Bottles, ..... 75
11,974. 66 Gold Paint, without Liquid Bottle, ..... 50
11,976. 66 Silver Paint, ..... 50
11,978. $66 \quad$ Liquid for Gold or Silver Paint ..... 25
11,982. 66 Gold Paint and Liquid, small outflit in Box ..... 50
11,986. Silver Paint and Lifuid, small outfit in box. ..... 50

## THE "IMPERIAL" MOIST WATER COLORS.



These Colors are of good quality, and will answer all purposes for general use.
Colors can be ordered by their numbers.
IN WHOLE PANS.
12,200.
21\%. Hooker's Green, No. 1 23t. Raw Sienna 208. Burnt Umber 218. Hooker's Green, No. 2 235. Raw Umber 209. Chinese White 219. Indian Red Vandyke Brown 210. Chrome Yellow 224. Lamp Black 243. Venetian Red20
212. Deep Chrome 225. Light Red
244. Vermilion
214. Emerald Green 228. New Blue
246. Yellow Ochre
216. Gamboge 232. Prussian Blue
264. Sepia
256. Crimson Lake 262. Scarlet Lake

12,202. 269. Cobalt Blue .65

## FILLED JAPANNED TIN BOXES

or
"IMPERIAL" MOIST WATER COLORS
AND BRUSHES.


12,220. Japanned Tin Box, containing 24 Colors, with Brushes...........each, $\$ 10.00$
12,222. Japanned Tin Box, " 20 " " " ........... " 8.75
12,224. Japanned Tin Box, " 16 " " "........ " 7.25
12,226. Japanned Tin Box, " 12 " " " .......... " 5.50
12,228. Japanned Tin Box, " 10 " " "....... ". 4.50
12,230. Japanned Tin Box, " 8 " " " .......... " 3.75
12,232. Japanned Tin Box, " 6 " " " $\ldots$....... " 3.00

WINSOR \& NEWTON'S WATER COLORS.

Whole Cake.


## COL,ORS MARKED * ARE NOT MADE MOIST.

Colors can be ordered by their numbers.

## Price List arranged according to Grades.

|  |  |  |  | Whole Cake or | $\underset{\substack{\text { Half } \\ \text { Cake or } \\ \text { Dan }}}{\text { nen }}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 12,300. | 100. Antwerp Blue | 116. Gamboge | 130. Orange Chrome |  |  |
|  |  | 117. Hooker's Green, No. 1 | 131. Payne's Grey 132. Prussian Blue |  |  |
|  | 103. $*$ British Ink | 118. Hooker's Green, | 133. Prussian Green |  |  |
|  | 104. :\% Bronze | No. 2 | 134. Raw Sienna |  |  |
|  | 105. Brown Ochre | 119. Indian Red | 135. Raw Umber |  |  |
|  | 106. Brown Pink | 120. Indigo | 137. \%Red Lead |  |  |
|  | 107. Burnt Sienna | 121. Italian Pink | 139. Roman Ochre | . 25 | 15 |
|  | 108. Burnt Umber | 122. Ivory Black | 140. Sap Green |  |  |
|  | 109. Chinese White | 123. $\%$ King's Yellow | 141. Terre Verte |  |  |
|  | 110. Chrome Yellow | 124. Lamp Black | 142. Vandyke Brown |  |  |
|  | 111. Cologne Earth | 125. Light Red | 143. Venetian Red |  |  |
|  | 112. Deep Chrome | 126. Naples Yellow | 144. Vermilion |  |  |
|  | 113. * Dragon's Blood | 127. Neutral Tint | 145. Yellow Lake |  |  |
|  | 114. Emerald Green | 128. New Blue | 146. Yellow Ochre |  |  |
|  | 115. \$FFlake White | 129. Olive Green |  |  |  |
| 12,301. | 151. *Black Lead 152. Brown Madder | 156. Crimson Lake <br> 157. Mars Yellow | 161. Rubens Madder <br> 162. Scarlet Lake |  |  |
|  | 153. Cerulean Blue | 158. Neutral Orange | 163. Scarlet Vermilion | 45 | 25 |
|  | 154. * Chalons Brown | 159. Purple Lake | 164. Sepia |  |  |
|  | 155. *Constant White 1 | 160. Roman Sepia | 165. Warm Sepia |  |  |
| 12.302. | 169. Cobalt Blue | 171. Lemon Yellow | 173. Violet Carmine | 65 | 35 |
|  | 170. Indian Yellow | 172. Orange Vermilion | 174. Viridian |  |  |
| 12,303. | 177. Aureolin | 183. Gallstone | 188. Pale Cadmium |  |  |
|  | 178. Burnt Carmine | 184. Green Oxide of | Yellow |  |  |
|  | 179. Cadmium Orange | Chromium | 189. Pink Madder | 90 | 45 |
|  | 180. Cadmium Yellow | 185. Indian Purple | 190. Pure Scarlet |  |  |
|  | 181. Carmine | 186. Intense Blue | 191. Rose Madder |  |  |
|  | 182. French Blue | 187. Mars Orange |  |  |  |
| 12,304. | 194. *Field's Orange | 195. \% MadderCarmine | 197. Smalt |  |  |
|  | Vermilion | 196. Purple Madder | 198. Ultramarine Ash | \$1.40 | . 70 |
|  | RICE LIST OF COLO | ORS ALPHABETICALL | LY ARRANGED, see | e 154. |  |
|  | RICE LIST OF COLO | ors arranged accor | ORDING TO TINT | e page | 55. |

## WINSOR \& NEWTON'S WATER COLORS.

## AHPHABETTICAYIEY ARRANGED

TO FACILITATE FINDING PRICE OF ANY COLOR WITHOUT KNOWING ITS GRADE.

COLORS MAREED * ARE NOT MADE MOIST.
Colors can be ordered by their numbers.

| No. | Whole Cake or Pan. | Half Cake or Pan. | No. | Whole Cake or Pan. | $\begin{aligned} & \text { Half } \\ & \text { Cake or } \\ & \text { Pan. } \end{aligned}$ |
| :---: | :---: | :---: | :---: | :---: | :---: |
| 100. Antwerp Blue | . 25 | . 15 | 124. Lamp Black | . 25 | . 15 |
| 177. Aureolin. | . 90 | . 45 | 171. Lemon Yello | . 65 | . 35 |
|  |  |  | 125. Light Red. | . 25 | . 15 |
| 101. Bistre. | . 25 | . 15 |  |  |  |
| 151. \% Black Lead | . 45 | . 25 | 195. * Madder Carmine. .. | 1.40 | . 70 |
| 102. Blue Black. | . 25 | . 15 | 187. Mars Orange | . 90 | . 45 |
| 103. \% British Ink | . 25 | . 15 | 157. Mars Yellow. | . 45 | . 25 |
| 104. \% Bronze | . 25 | . 15 |  |  |  |
| 152. Brown Madder | . 45 | . 25 | 126. Naples Yellow. | . 25 | . 15 |
| 105. Brown Ochre. | . 25 | . 15 | 158. Neutral Orange | . 45 | . 25 |
| 106. Brown Pink | . 25 | . 15 | 127. Neutral Tint. | . 25 | . 15 |
| 178. Burnt Carmine | . 90 | . 45 | 128. New Blue. | . 25 | . 15 |
| 107. Burnt Sienna. | . 25 | . 15 |  |  |  |
| 108. Burnt Umber. | . 25 | . 15 | 129. Olive Green | . 25 | . 15 |
|  |  |  | 130. Orange Chrome | . 25 | . 15 |
| 179. Cadmium Orange. | . 90 | 45 | 172. Orange Vermilion.......... | . 65 | . 35 |
| 180. Cadmium Yellow | . 90 | . 45 |  |  |  |
| 181. Carmine.. | . 90 | . 45 | 188. Pale Cadmium Yellow..... | . 90 | . 15 |
| 153. Cerulean Blue | . 45 | . 25 | 131. Payne's Grey .............. | . 90 | . 15 |
| 154. \%Chalons Brown | . 45 | . 25 | 132. Prussian Blue.............. | . 25 | . 15 |
| 109. Chinese White | . 25 | . 15 | 133. Prussian Green............. | . 25 | . 15 |
| 110. Chrome Yellow | . 25 | .15 | 190. Pure Scarlet... | . 90 | . 45 |
| 111. Cobalt Blue. | . 65 | . 15 | 159. Purple Lake. | . 45 | . 25 |
| 111. Cologne Earth. | . 25 | . 15 | 196. Purple Madder | 1.40 | . 70 |
| 156. Crimson Lake.. | . 45 | . 25 | 134. Raw Sienna. | 25 | 15 |
| 112. Deep Chrome. | 25 | . 15 | 135. Raw Umber | . 25 | . 15 |
| 113. *Dragon's Blood | . 25 | . 15 | 137. $\because$ Red Lead | . 25 | . 15 |
|  |  |  | 139. Roman Ochre | . 25 | . 15 |
| 114. Emerald Green | 25 | . 15 | 160. Roman Sepia | . 45 | . 25 |
| 114. Emerald Green | . 25 | . 15 | 191. Rose Madder | . 90 | . 45 |
| 194. *Field's Orange Vermilion | \$1.40 | . 70 | 161. Ruben's Madder | .45 | . 25 |
| 115. $\%$ Flake White. | . 25 | . 15 | 140. Sap Green. | 25 |  |
| 182. French Blue.. | . 90 | . 45 | 16.2. Scarlet Lake | . 45 | . 25 |
| 183. Gallstone | . 90 |  | 163. Scarlet Vermilion | . 45 | . 25 |
| 116. Gamboge | . 25 | . 15 | 164. Sepia. | 45 | . 25 |
| 184. Green Oxide of Chromium. | .90 | . 45 | 197. Smalt | 140 | . 70 |
|  |  |  | 141. Terre Ver | 25 | . 15 |
| 117. Hooker's Green, No | . 25 | . 15 |  |  |  |
| 118. Hooker's Green, No. 2 | . 25 | . 15 | 198. Ultramarine Ash | 1.40 | . 70 |
| 185. Indian Purple. | . 90 | . 45 | 142. Vandyke Brown. | . 25 | . 15 |
| 119. Indian Red.... | . 25 | . 15 | 143. Venetian Red. | . 25 | . 15 |
| 170. Indian Yellow | . 65 | . 35 | 144. Vermilion..... |  |  |
| 120. Indigo. | . 25 | . 15 | 173. Violet Carmine | . 65 | . 35 |
| 186. Intense Blue | . 90 | . 45 | 174. Viridiau. |  |  |
| 121. Italian Pink | 25 | . 15 | 165. Warm Sepia. | . 45 | . 25 |
| 122. Ivory Black....... . | 25 | . 15 | 145. Yellow Lake | . 25 | 15 |
| 123. F King's Yellow | . 25 | . 15 | 146. Yellow Ochre | . 25 | . 15 |

## WINSOR \＆NEWTON＇S WATER COLORS．

Arranged according to Tints．<br>COLORS MARFED＊ARE NOT MADE MOIST．

Colors can be ordered by their numbers．

| WHITE． | Whole Cake or Pan． | Half Cake or Pan． |  | Whole <br> Cake or Pan． | Half Cake or Pan． |
| :---: | :---: | :---: | :---: | :---: | :---: |
| No． |  |  | MADDERS． |  |  |
| 109．Chinese White | 25 | ． 15 |  |  |  |
| 155．＊Constant White | ． 45 | ． 25 | 178．Burnt Carmine | ． 90 | ． 45 |
| 115．丷Flake White． | ． 25 | 15 | 181．Carmine．．．．．．． | ． 90 | ． 45 |
|  |  |  | 156．Crimson Lake | 45 | ． 25 |
| BLACK． |  |  | 113．\％Dragou＇s Blood | 25 | ． 15 |
| 151．丷＊Black Lead． | 45 | ． 25 | 191．\％Field＇s Orange Vermilion | \＄1．40 | ． 70 |
| 102．Blue Black．．． | ． 25 | ． 15 | 119．Indian Red．．．．．．．．．．．．．．．． | ． 25 | ． 15 |
| 103．$*$ British Ink | ． 25 | 15 | 121 Italian Pink．．．．．．．．．．．．．． | ． 25 | ． 15 |
| 122．Ivory Black． | ． 25 | ． 15 | 125 Light Red．．．．．．．．．．．．．．．． | 1． 25 | ． 15 |
| 124．Lamp Black． | ． 25 | ． 15 | 195．\％Malder Carmine．．．．．．．． 189．Pink Madder．．．．．．．．．．．． | 1.40 .90 | ． 70 |
|  |  |  | 190．Pure Scarlet．．．．．．．．．．．．．．．． | ． 90 | ． 45 |
| BLUE AND PURPLE． |  |  | 137．＊＊Red Lead | ． 25 | 15 |
| 100．Antwerp Blue | ． 25 | ． 15 | 191．Rose Madder． | ． 90 | 45 |
| 153．Cerulean Blue | ． 45 | ． 25 | 161．Ruben＇s Madder．．．．．．．．．．． | ． 45 | ． 25 |
| 169．Cobalt Blue． | ． 65 | ． 35 | 162．Scarlet Lake．．．．．．．．．．．．． | 45 | ． 25 |
| 182．French Blue． | ． 90 | ． 45 | 163．Scarlet Vermilion．．．．．．．．．． |  | ． 25 |
| 185．Indian Purple | ． 90 | ． 45 |  |  | ． 15 |
| 120．Indigo． | ． 25 | ． 15 | 173．Violet Carmine．．．．．．．．．．．．．．． |  | ． 15 |
| 186．Intense Blue | ． 90 | ． 45 | 173．Violet Carmine． |  | ． 35 |
| 128．New Blue | ． 25 | ． 15 |  |  |  |
| 132．Prussian Blue | 25 | 15 |  |  |  |
| 159．Purple Lake． | 45 | 25 |  |  |  |
| 196．Purple Madder | \＄1．40 | 70 | YELLOW AND ORANGE． |  |  |
| 197．Smalt | 140 | ． 70 |  |  |  |
| 198．Ultramarine Ask | 1.40 | ． 70 | 177．Aureolin．．．．．．．．．．．．．．．．．．． | ． 90 | ． 45 |
| GREEN． |  |  | 179．Cadmium Orang | 90 | 45 |
|  |  |  | 180．Cadmium Yellow | ． 90 | ． 45 |
| 114．Emerald Green．．．．．．．．．．．． | ． 25 | ． 15 | 112．Deep Chrome．． | ． 25 | ． 15 |
| 117．Hooker＇s Green，No．1．．．．． | ． 90 | ． 15 | 116．Gamboge． | 25 | ． 15 |
| 118．Hooker＇s Green，No．2．．．．． | ． 25 | ． 15 | 170．Indian Yellow．． | ． 65 | ． 35 |
| 129．Olive Green．．．．．．．．．．．．．．．． | ． 25 | ． 15 | 123．$\%$ King＇s Yellow | ． 25 | ． 15 |
| 133．Prussian Gree | 25 | ． 15 | 171．Lemon Yellow | ． 65 | ． 35 |
| 140．Sap Green． | ． 25 | ． 15 | 187．Mars Orange．． | ． 90 | ． 45 |
| 141．Terre Verte | 25 | ． 15 | 157．Mars Yellow．．．．．．．．．．．．．．． | ． 45 | ． 25 |
| 174．Viridian | 65 | ． 35 | 126．Naples Yellow．．．．．．．．．．．．．． | ． 25 | ． 15 |
|  |  |  | 130．Orange Chrome．．．．．．．．．．．．． | ． 25 | ． 15 |
| BROWNS，SIENNAS AND |  |  | 172．Orange Vermilion．．．．．．．．．．． | ． 65 | ． 35 |
| UMBERS． | \％ |  | 188．Pale Cadmium Yello | ． 90 | ． 45 |
| 152．Brown Madder | ． 45 | ． 25 | 145．Yellow Lake． | .25 | ． 15 |
| 105．Brown Ochre | ． 25 | ． 15 | 146．Yellow Ochre | ． 25 | 15 |
| 106．Brown Pink． | ． 25 | ． 15 |  |  |  |
| 107．Burnt Sienna． | ． 25 | 15 |  |  |  |
| 108．Burnt Umber． | ． 25 | ． 15 |  |  |  |
| 154． Chalons Brown | ． 45 | ． 25 | VARIOUS． |  |  |
| 111．Cologne Earth | ． 25 | ． 15 |  |  |  |
| 134．Raw Sienna． | 25 | ． 15 | 101．Bistre． | 25 | ． 15 |
| 135．Raw Umber | 25 | ． 15 | 104．兴Bronze | 25 | 15 |
| 160．Roman Sepia | 45 | ． 25 | 183．Gallstone | ． 90 | 45 |
| 164．Sepia． | 4.5 | 25 | 127．Neutral Tint | 25 | ． 15 |
| 142．Vandyke Brow | ． 25 | ． 15 | 131．Payne＇s Grey ．．．．．．．．．．．．．．． | 25 | ． 15 |
| 165．Warm Sepia． | ． 45 | ． 25 | 139．Roman Ochre．．．．．．．．．．．．．． | ． 25 | ． 15 |

156 E.G. SOLTMANN-NEW YORK.

## WINSOR \& NEWTON'S BOXES OF WATER COLORS.

"MAHOGANY COMPLETE BOX FITTED."


Containing Colors, Brushes, Water Glass, Ink Slabs,
ach, \$18.00
12,350. Mahogany Complete Box, 24 Whole Cakes

| 12.352. Mahogany Complete Box, 18 " |  |  |
| :--- | :--- | :--- | :--- | :--- |
| 12,354. Mahogany Complete Box, 12 " | ". ...................... ". . | 14.00 |

12,362. Mahogany Complete Box, 18 Half Cakes ......................... " " 8.00
12,364. Mahogany Complete Box, 12 " " ........................ " 6.00 .


Containing Colors, Brushes, Color Saucers, etc.

12,372. 18 Colors, Whole Cakes, each, $\$ 10.00 \mid 12,382$. 18 Colors, Half Cakes, each, $\$ 7.00$ 12,373. 12
$650 \quad 12384.12$
5.50


Containing Colors, Brushes, etc.

## WINSOR \& NEWTON'S COLOR BOXES (continued).

"SLIDE TOP BOX."


Containing Colors and Brushes.

12,410. 24 Colors, Whole Cakes, each, $\$ 10.00 \mid 12.420$. 24 Colors, Half Cakes, each, $\$ 5.40$
12,412. 18 " " " " $7.50 \mid 12,422.18$ " " " " 4.25
$12,414.12$ " " " " $5.00 \mid 12,424 \quad 12$ " " $\quad$ " $\quad 3.00$

12,416. 6 " " " " $6.50 \mid 12,426.6$ " " " " 1.75

## SMALL JAPANNED TIN BOXES,

With Colors. To carry in the Pocket.
12,500. Pocket Japanned Tin Boxes, filled.

| 24 | 16 | 12 | 10 | 8 Colors. |
| :---: | :---: | :---: | :---: | :---: |
| Each, $\$ 4.50$ | 3.00 | 2.20 | 1.80 | 1.50 |

"MURILLO" \& "REMBRANDT" COLOR BOXES.
12,520. Murillo Japanned Box, containing 18 Colors, and Brushes........each, \$1.00
12,524. Rembrandt Japanned Box, " 12
FRENCH WATER COLOR BOXES.


No. 12,520.
12,500. Dark Polished Hinged Wooden Case, containing a variety of
Colors and Brushes, India Ink, Color Cups, Crayons, Crayon
Holder, Stump, and Sundries........................................... $\$ 7.00$
12,504. Polished Wooden Case, dark finish, Hinged Cover, with Tray, containing a good selection of Color, Brushes, Color Cups, Crayons, and Sundries
12,508. Polished Wooden Case, with hinged Cover; Tray, to lift out; con- tai ing an assortment of Colors, Brushes, Crayons, Cups, and Sundries ..... 3.50
12,512. Hinged Wooden Case, Polished, with Tray, containing a collection of Colors, Brushes, Cups, and Sundries ..... 2.50
12,520. Imitation Satin Wood Case, hinged Cover, with Tray, containing 18 Colors, 4 Cups, and Colored Crayons ..... 1.50

# FRENCH WATER COLOR BOXES (continued). 


12.530. Imitation Satin Wood, Hinged Cave, containing Colors, Brushes,
12,532. Imitation Satin Wood, Hinged Case, containing 12 Colors, 2 Cups, and Colored Crarons

12.550. Slide Lid Box, Imitation Satin Wood, containing large variets of Colors, Color Cups, and Colored Crayons
12.554. Slide Lid Box, Imitation Satin Wood, containing 15 Colors and 4 Color Cups. ..... so
12.558. Slide Lid Box, Imitation Satin Wood, containing 15 Small Colors
and 4 Color Cups ..... 60
12.562. Slide Lid Box, Imitation Satin Wood, containing 12 Colors and Color Cups ..... 50
EMPTY JAPANNED TIN BOXES,

For Whole and Half Pans.




## EMPTY WOODEN BOXES.

For Vinsor and Newton's Colors.
12,800. For Whole Cakes, Spaces for 24
Each..................... $\$ 1.00$. 75
12,810. For Half Cakes, Spaces for 24
Each........................ . . 75 . 60
12 Culors.
12 Colors.
50


12,900. Japanned Tin Water Bottles, med. size, with two cups to slip off...each, 85
12,904. Japanned Tin Water Bottles, small, with two cups to slip off...... "

## WATER COLOR BRUSHES.



160 E. G. SOLTMANN - NEW YORK.

## WATER COLOR BRUSHES (iontinued).



13,150. RED SABLE, Extra Long Hair, Wincor \& Newton Style. American make.

| No. | 6 | 5 | 4 | 3 | 2 | 1 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 1.00$ | -80 | .60 | .50 | 40 | .30 |



13,200. RED SABLE, Double End.


## SWAN QUILL BRUSHES.



13,3:0. BLACK SABLE Swan Oaill.


13,400 . CAMEL HAIR Swan Quill.
$\begin{array}{lr}\text { No. } & 0 \\ \text { Each, } & .00\end{array}$
1
.45
$\begin{array}{rrrrr}2 & 3 & 4 & 5 & 6 \\ 35 & .25 & .20 & .18 & .15\end{array}$

## QUILL BRUSHES.



13,440. BLACK SABLE, in Quills.

| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .50 | .40 | .35 | .30 | .20 | .18 | .15 | .12 |

13,460. "SABELENE," a grade between Sable and Camel Hair, in Quills.

| No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .25 | .22 | .20 | .18 | .15 | .12 | .10 | .8 |

13,480. CAMEL HAIR in Quills, Nos. 1 to 8 .each; . 5 to .10


13,490. CAMEL HAIR, in Quills, Extra Large Size each, 15

## CAMEL HAIR BRUSHES.

13,500. CAMEL HAIR Wash or Sky Brush, Bound in Quills, with Handle.


13,520. CAMEL, HAIR Wash or Sky Brush, Albata Ferrule, with Handle.

|  |
| :---: |
|  |  |

$$
162 \text { E. G. SOLTMANN-NEW YORK. }
$$



13,5:50. FLAT CAMEL HAIK Wash Brushes, Polished Ked Handles, for bold Sky Washes and coloring large surfaces.

| Width, | 2 | $11 / 2$ | $11 / 4$ | 1 | $3 / 4$ | $1 / 2$ inch. |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .65 | .50 | .40 | .35 | .30 | .25 |

DOUBLE END ROUND CAMEL HAIR WASH BRUSHES.
0

13,570. CANEL HAIR Double End Round Wash or Sky Brushes, with Polished Handles.

| No. | 3 | 2 | 1 | 0 | 00 | 000 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Each. | .15 | .60 | .50 | .45 | .40 | .35 |

SINGLE END ROUND CAMEL HAIR WASH BRUSHES.


13,580. CAMEL HAIR Round Wash or Sky Brushes, with Polished Handles

| No. | 3 | 2 | 1 | 0 | 00 | 000 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .40 | 35 | .30 | .25 | .22 | .20 |

## SMALL CAMEL HAIR BRUSHES.




13,600. CAMEL HAIR, in Tin Ferrules, Red Handles.

| No. | 6 | 5 | 4 | 3 | 2 | 1 |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .15 | .12 | .12 | .10 | .10 | 10 |

## GUM BRUSHES.



No 13,700 .
13,700. GUM BRUSHES, with Long Handles.
Each,
.20 large.
.15 medium.
. 12 small.
Convenient for applying the "Par Excellence" Gum, No. 19,110, or any Mucilage.
BRUSHES FOR PREPARING "BLUE PROCESS" PAPER, ETC.


No. 13,710.
13,710. CAMEL HAIR, Flat, Extra Quality, FOR PREPARIN(x BLUE PROCESS PAPERS, Stretching Drawing Papers, Letter Press Copies, etc.

[^5]

13,900. Whatman's sketching Blocks, bound in strong Corer, with Pocket.

| $10 \times 14$ | $9 \times 12$ | $i \times 10$ | $6 \times 9$ | $5 \times$ inches. |
| :---: | :---: | :---: | :---: | :--- |
| Each, |  |  |  |  |
| § 260 | 2.25 | 1.65 | 140 | 1.00 |

## SKETCHING BLOCKS.



Sketching Blocks consist of a number of sheets of drawing paper pressed together and glued at the sides, thus forming a solid surface for drawing.

To remore sheets, insert a knife at the uncovered part of sides, and cut all around. 14,000 . "YICTOR" Sketching Blocks, containing 48 sheets, made of "Victor." No. 14i. Cold Pressed Detail Paper. They are useful for bold, off-hand sketches.

|  | $24 \times 30$ | $24 \times 24$ | $18 \times 24$ | $12 \times 18$ | $9 \times 12$ inches. |
| :--- | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 3.50$ | 3.00 | 2.50 | 150 | 85 |
| List Prices, $(\$ 3.90)$ | $(3.35)$ | $(2.80)$ | $(1.70)$ | $(.95)$ |  |

14,100. Whatman's Sketching Blocks, for Water Color, made of EXTRA HEAYY WHATMIN'S PAPER.

|  | $14 \times 20$ | $10 \times 14$ | $9 \times 12$ | $7 \times 10$ |
| :---: | :---: | :---: | :---: | :---: |
| Each, |  |  |  |  |
| $\$ 5.50$ | 3.25 | 2.85 | 1.65 | .85 |

14,120. Whatman's Sketching Blocks.

Each, | $14 \times 20$ | $12 \times 18$ | $10 \times 14$ | $9 \times 12$ | $i \times 10$ | $6 \times 9$ | $5 \times 7$ | $4 \times 6$ | $31 / 2 \times 5$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\$ 3.25$ | 2.20 | 1.75 | 1.35 | .85 | .75 | .55 | .45 | .30 |

## SKETCHING BLOCKS (continued).

14,160. "LEONA" Sketching Blocks, made of "Leona" Paper, for Color and Pencil, and General Drawing.
$15 \times 20$
$10 \times 15$
Each, \$2.50
1.35
$\underset{.71 / 2}{.75} \times 10$
$5 \times 71 / 2$ inches. . 40
14.180. "Empire" Sketching Blocks, for Pencil and Geueral Drawing.

Each, | $10 \times 14$ | $9 \times 12$ | $7 \times 10$ | $6 \times 9$ | $5 \times 7$ | $4 \times 6$ | $312 \times 5$ inchfs. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $\$ 1.00$ | .85 | .55 | .45 | .35 | .30 | .20 |

14,220. "QUEEX" Tinted Sketching Blocks. Assorted Tints. Made of "Queen" Best Tinted Paper.

|  | $10 \times 14$ | $9 \times 12$ | $7 \times 10$ | $6 \times 9$ | $5 \times 7$ inch. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Each, | $\$ 1.75$ | 1.35 | .85 | .75 | .55 |

14,260. "JULLIEN" Tinted Sketehing Blocks, Assorted Tints. Made of "Jullien " Tinted Paper.

|  |  | $9 \times 12$ | $6 \times 9$ | $5 \times 7$ | $4 \times 6$ inch. |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Each................... | $\$ 1.00$ | 60 | .50 | .30 |  |

14,300. "ANTLER" Charcoal Blocks, Assorted Tints. Made of "Antler " Charcoal Paper.

Each
$18 \times 24 \quad 12 \times 18$
$9 \times 12$ inch.
The sizes of Charcoal Blocks occasionally are a triffe smaller, owing to the uneren edges of the original sheets, which frequently are wrinkled.
14,340. CROSS SECTION BLOCKS, made of Cross Section Paper ruled in squares, convenient for sketching plots of ground, sizes of rooms, and general drawing. Every inch line heavier than the rest.

|  | $16 \times 20$ | $10 \times 16$ | $8 \times 10$ | $4 \times 5$ inch. |
| :---: | :---: | :---: | :---: | :---: |
| Each............ | $\$ 3.00$ | 1.75 | 1.00 | .55 | Cross Section Books, see Nos. 840, etc.

14,360. METALLIC PAPER Sketching Blocks.


Metallic Pencils, No. 16,604, for above dozen, . 60 Sketches made on this paper do not rub off, and are not affected by moisture. Metallic Sketching Books, see No. 14,470.

## SKETCH BLOCK T SQUARES.



## SKETCHING BOOKS.


14.400. Whatman's sketching Bonks.

$$
\begin{array}{cccccccc} 
& 10 \times 14 & 9 \times 12 & 7 \times 10 & 6 \times 9 & 5 \times 5 & \div \times 5 & 316 \times 3 \text { isch. } \\
\text { Eack. } & \$ 2.35 & 200 & 150 & 1.20 & 85 & .55 & 50
\end{array}
$$

1t, $\frac{2}{2}$ O). "LEOY 1 " Sketching Bowks, made of "Leoma " Paper. For Thatez Color, Pencil and General Draming.


14, 4 t). "EMPIRE" Sketching Books, male of "Empine" Draming Paper.

$$
\begin{array}{cccccccc} 
& 10 \times 14 & 9 \times 12 & i \times 10 & 6 \times 9 & 5 \times 5 & 4 \times 6 & 31 \\
\text { Each, } & \$ 150 & 125 & 1.00 & \$ 5 & 05 & -50 & \div 0
\end{array}
$$

1t,460. "JULLIEN" Tinted Sketching Books, mad? of "Jellien - Tiutel Paper.

|  | $9 \times 12$ | $8 \times 9$ | 5x: | $4 \times 5$ in |
| :---: | :---: | :---: | :---: | :---: |
| Each | \$1.60 | 95 | . 80 | 55 |

14,470. METALLIC PAPER SKETCHLSt B00KS, $8 \times 10$ inches each. $\$ 2.00: 5 \times 8$ inches, each. $\$ 1.12$. Metallic Peacilis, No. 16,604, doten, 60c.


MRTAIIIC SKETCEISG BLOCES, see 50. 14,360 .

## COMBINED SKETCHING BOOKS AND BLOCKS.



This is a Sketch Book with the front and two side eures of the paper fastenen to the lower cover, like a sketching block.

The adramiage claimed is, that it possesses the frum drawing surface of a block, a-d whem the sheets are separated they do mot get lost, but remain bourd to the back of the book.
14.500. COMBNED sKETCHL'ti B00K and BLOCK, Whatman's Paper, nicely bound in muslin, with gilt lines.

|  | $10 \times 14$ | $9 \times 12$ | $i \times: 0$ | $6 \times 9$ | $5 \times 7$ | $4 \times 6$ itch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each. |  |  |  |  |  |  |
|  | $\$ 3.00$ | 250 | 200 | 1.35 | 1.00 | -5 |

E. G. SOLTMANN-NEW YORK.

## EASEL, OR LAP BOARDS.



14,580. Easel or Lap Boards. Made of heavy board, covered with paper; the leather corners hold the paper in position.

|  | $18 \times 24$ | $14 \times 20$ | $12 \times 17$ | $10 \times 1 t$ | $9 \times 13$ | $8 \times 10$ inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | $\$ 2.00$ | 1.25 | 1.00 | .85 | .75 | .60 |

## STUDENTS' DRAWING BOOKS.



Made of good quality of paper, interleaved with sheets of thin white paper, to prevent the pencil marks from soiling the adjacent sheets.
14,600. Ex. large, $9 \times 111 / 2$ Large, $81 / 4 \times 103 / 4$ Gen'l size, $71 / 4 \times 91 / 2$ Small, $61 / 2 \times 81 / 2 \mathrm{in}$.
Each, .30
. 25
. 20

## PORTFOLIOS.



14,700. Portfolios, Best Quality, Strongest Board, Fine Leather Back and Corners, Muslin Sides, ornamented wi'h gilt lines, with flaps to keep out dust.

| $32 \times 42$ | $26 \times 36$ | $22 \times 31$ | $19 \times 25$ | $16 \times 22$ | $14 \times 18$ | $11 \times 16$ inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, |  |  |  |  |  |  |
| $\$ 7.50$ | 6.00 | 4.50 | 3.00 | 250 | 2.00 | 1.75 |

14,720. Portfolios, Good Quality, Muslin Back and Corners, Paper Sides.

| $33 \times 42$ | $26 \times 37$ | $23 \times 31$ | $20 \times 25$ | $11: \times 2-2$ | $14 \times 18$ | $11 \times 16$ inch |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, $8+45$ | 2.50 | 1.75 | 1.25 | 1.00 | .80 | .60 |

## PENCIL RUBBERS.



14,i80. "WAFFLE" Rubber. Soft and pliable. Does not rub away the paper.

Large, . 28 each. Small, . 17 each.


14,800. Davidson's Velvet Rubber, Oblong Shape. Each. . 20 extra large. 10 large. .08 medium. .06 small cake.


14,820. A. W. Faber's Artists' Gum, or Rubber.
Each, 40 extra large. . 20 large. . 16 medium. . 10 small cake.


14,840. A. W. Faber's Elliptic Rubber.
Each, . 35 extra large. 25 large. . 20 medium. . 15 small cake.


14,860. A. W. Faber's Para Pencil Rubber.
Each, 20 extra large. 10 large. 08 medium. 06 small cake.

## PENCIL AND INK RUBBERS (rontinuer).

14,880. A. W. Faber's Black Rubber.
Fach, . 50 extra large. 35 large. . 25 medinm. . 5 m small cake.
14,900. A. W. Faber's Virgin Rublere This is pure grm, of irregular sizes.
Each, . 50 extral large.
.35 large.
.25 medium.
1.5 small cake.


14,920. A. W. Faber's Pointed Rubber.
Each, . 12 large.
.09 medium:.
. 06 small cake.


14,930. A. W. Faber's Ink Eraser.
Fach, . 20 extra large.
. 10 medium.
.05 small.

14.940. A. W. Faber's Ink and Pencil Eraser, Wooden Centre.

Each
.25 mammoth.
15 small.


14,950. A. W. Faber's Ink Eraser, Long Oval, Pencil Shape . ........... . . each, . 12
14,960. 6. 6 Ink and Pencil Eraser, Long Oral, Pencil Shape... ". . 15


15,100. Wedge Rubber.
Each, . 20 extra large. 15 large. . 10 medium.
.os small cake.
170 E. G. SOLTMANN-NEW YORK.

RUBBERS (continued).


15,110. "Crystal" Rubber.
Each,
.10 large.
05 small.


15,120. Rubber Stumps, Wooden Centre.
Each. .35 large.
.25 medium.
.15 small.


15,130. Rubber Stumps, all Rubber.
Each, 12 large.
.09 medium.
.06 small.


15,140. Rubber Pencil Tips dozen,

## SOLTMANN'S FIRM SPONGE RUBBER.



Has a thin coating of rubber on one side, which holds the porous rubber more firmly.

This quality keeps longer than the soft kind, and is less liable to crumble.
15,200. SOLTMANI'S Firm Sponge Rubber. Cakes about $3 \times 6 \times 1$ inch..each, $\$ 1.80$ SOLTMANX'S Firm Sponge Rubber. " " $3 \times 4 \times 1$ ".. " 1.20 SOLTMAN'S Firm Sponge Rubber. " " $2 \times 3 \times 1$ " . " . 60 SOLTMAN'S Firm Sponge Rubber. " " $1 \frac{1}{2} \times 2 \times 1$ " .. " 30

## A. W. FABER'S DRAWING PENCILS.



## EXPLANATION OF LETTERS.



## EXPLANATION OF NUMBERS.

No. 5, Extra Extra Hard; No. 4, Very Hard; No. 3, Firm; No. 2, Medium Hard, and Black; No. 1, Soft, and Very Black.

16,121. A. W. Faber's Red Hexagon, Gilt, Pencils.

Package, containing 3 dozen of a kind, or assorted.................. . each, 2.25
16.1:30. A. W. Faber's Black, Round, Pencils.

Nos. 1, 2, 3, 4 ... . ................................... . . . . . . . . . . . . . . . .lozen, 60
Package, containing 3 dozen of a kind, or assorted..................each, 1.80
16 140. A. W. Faber's Yellow, Round, Silver Pencils.
Nos. $4 \mathrm{H}, 3 \mathrm{H}, 2 \mathrm{H}, \mathrm{H}, \mathrm{F}, \mathrm{HB}, \mathrm{B}, 2 \mathrm{~B}, 3 \mathrm{~B}, 4 \mathrm{~B} \ldots \ldots . \ldots \ldots \ldots$.......................en, 60
Box, containing 3 dozen of a kind, or assorted.......................each, 1.80
16,150. 1. W. Faber's Mathematical Instrument Pencils.
Very small, hexagon, gint, No. 4................................... dozen, . 70
16,152. A. W. Faber's Mathematical Instrument Pencils.
Very small, black polished, round, No. 4
172 E. G. SOLTNANN-NEW YORK.

## DIXON'S PENCILS.



> EXPLANATION OF LETTERS.

ITH Very Very Hard, about the same as Imported.

## VH Vers Hard,

3 II
MH Hard, 2 H or 4
M Medium, ..... H or 3
MB Medium Black, .....  $F$
SII Soft Medium, ..... HB or 2
S Soft, ..... B or 1
vS Yery Soft, ..... BB
UTS Tery Very Soft, ..... BBB
16,180. Dixon's "ARTISTS' " Pencils, Very best quality.VVH, VH, H, MH, M, MB, SM, S, VS, VVS....................... . dozen, s 1.10
Box containing 6 dozen of a kind, or assorted . each, ..... 6.60
16,200. Dixon's Hexagon Pencils, VH, H, M, SM, Sdozen,67
Box containing 6 dozen of a kind, or assorted . each, ..... 4.00
16,210. Dixon's Round Pencils, VH, H, M, SM, S .dozen, ..... 5.5
Box containing 6 dozen of a kind, or assorted .each, ..... 3.3916,220. Dixon's Rubber Tip Pencilsdozen,85

## GILBERT'S PENCILS (French).



These Pencils are extensivelv used abroad, and are rapidly gaining favor in this country. The manufacturers have been awarded Gold Medals by the Exposition Unirerselle, Paris, 1878, and the Society for the Encouragement of Arts, in 1880.

The following Artists and professional men have recommended them in highest terms : E. Meissonièr, L. Gérome, E. Grandsirè, A. Cabanel, J. Schubert, Gustare Doré, A. Lenoir, H. Clerget, and A. Cassagne.
16,250. Gilbert's Siberian Pencils, Best Quality.
$\mathrm{B}=$ No. 0. $\quad \mathrm{HB}=1 . \quad \mathrm{F}=2 . \quad \mathrm{H}=3 . \quad 2 \mathrm{H}=4 . \quad 3 \mathrm{H}=5$
dozen, $\$ 1.00$
E. G. SOLTMANN-NEW YORK.

## GILBERT'S PENCILS (continued).



.50

## EAGLE PENCILS.

16,290. Eagle " Fine Arts" Pencils, best Quality.
$6 \mathrm{H}, 5 \mathrm{H}, 4 \mathrm{H}, 3 \mathrm{H}, 2 \mathrm{H}, \mathrm{H}, \mathrm{F}, \mathrm{FHB}, \mathrm{HB}, \mathrm{B}, 2 \mathrm{~B}, 3 \mathrm{~B}, 4 \mathrm{~B}, 5 \mathrm{~B}, 6 \mathrm{~B} \ldots$. dozen, $\$ 1.00$
Box, containing half dozen of a kind
Box, containing 3 dozen of a kind, or assorted

## TAGMRPGMEITS COMPAMY NEWYOPK.


Box containing 6 dozen of a kind, or assorted.......................each, $\$ 2.67$
STAR PENCILS.
16,330. Star Pencils, 1, 2, $3,4 \ldots \ldots$................................................................ 30
Box containing 6 dozen of a kind, or assorted. . . . . . . . . . . . . . . . . . . . each, \$1.65
Various other standard grades of Pencils in stock or furnished at short notice.

## A. W. FABER'S ARTISTS' PENCILS.

- 



16,400. A. W. Faber's Siberian Artists' Pencils, with Movable Lead.
25Box containing 6 Artists' Pencils of a kind, or assorted of anynumber from 6 H to BB
16,410. A. W. Faber's Siberian Artists' Pencils, 3B, 4B ..... 30
16,412. A. W. Faber's Siberian Artists' Pencils, 6B ..... 35
ase nax


16,414. 1. W. Faber's Siberian Artists' P’encils, Double End.(List Price, 33 ) each, 30
E. G. SOLTMANN-NEW YORK.

## A. W. FABER'S ARTISTS' PENCILS (continued).



16,420. A. W. Faber's Artists' Pencils, with Morable Leads.
Nos. 1, 2, 3, 4. 5..............................................each, .20
Box, containing 1 dozen of a kind, or Assorted
16,430. A. W. Faber's Artists' Pencils, with Morabie Leads, Melium Length. 20
16,432. A. W. Faber's Artists' Pencils, with Morable Leads, Short ..... 17
16,440. Irory, Artists' Pocket Pencils, to hold Faber's Leads.

Each,

## A. W. FABER'S ARTISTS' LEADS.



These Leads can be used for the Pencil Points of Mathematical Instruments.
16,460. A. W. Faber's Siberian Artists' Leads, for Artists' Pencils.
6H, 4H, 3Н, 2H, Н, F, HB, B, 2B ........................................... . 65
Large case, containing 12 small boxes of a kind, from 6 H to 2 B , or assorted
case, $\$ 7.80$
16.4;0. A. W. Faber's Siberian Artists' Leads, for Artists' Pencils, box, is

16,4i2. A. W. Faber's Siberian Artists' Leads, for Artists' Pencils, 6B .. " . 85
16,450. A. W. Faber's Leads.
Nos. 1, 2, 3, 4, 5
35
Large case, containing 12 small boxes of one kind, or assorted...... case, 4. 20

## VARIOUS PENCILS.

16.600. Stenographic Pencils, Hexagon........................................ dozen, $\$ 1.00$

16,604. Metallic, for Writing and Sketching on Metallic Paper ............ ". . 60
16,603. Indelible Pencils, Large... ........................................ ". 125

16,620. Indelible Pencil, with movable Copring Lead
eacb,
25

16,624. Copring Leads, for Indelible Pencil25
16,6 10 . A. W. Faber's Black Chalk Pencils, in Cedar, Hard and Soft . .dozen, ..... 55
E. G. SOLTMANN-NEW YORK.


16,648. Red Chalk, in Polished Cedar, best quality, for marking Stakes, etc. .dozen, . 75 16,650. Red Clalk, in Cedar, for marking Stakes, etc........................ " . 55


16,680. Carpenters' Pencils, extra quality, in Polished Cedar.

$$
\text { Dozen, } \quad \$ 1.00 \quad . \quad 9
$$

an any of the pencils in the following sets can be replaced when used. CABINETS OF FABER'S ARTISTS' PENCILS.
16,750. Cabinet containing 10 Faber's Siberian Artists' Pencils, with

$$
\text { Movable Leads................................................................... } \$ 30
$$

16,752. Cabinet containing 7 Faber's Siberian Artists’ Pencils, with
Morable Lead......................................................" 2.50
16,754. Cabinet containing 5 Faber's Siberian Artists' Pencils, with $\begin{aligned} & \text { Movable Leads...................................................... } 2.00\end{aligned}$
16,756. Cabinet containing 5 Faber's Siberian Artists' Pencils, with Moveable Leads and File and Rubber .............................. "

CABINETS OF FABER'S SIBERIAN PENCILS.

16,760. Cabinet containing 10 Faber's Siberian Pencils ..... each, $\$ 1.75$
16,762. Cabinet containing 7 Faber's Siberian Pencils ..... 1.25
16,764. Cabinet containing 5 Faber's Siberian Pencils. ..... 1.00
16,766. Cabinet containing 5 Faber's Siberian Pencils and Knife andRubber1.25

## CABINETS OF FABER'S ROUND PENCILS.

16.7:0. Cabinet containing 10 Faber's Yellow Round Silver Pencils each,
16,7 -2.2. Cabinet containing ; Faber's Yellow Round Silver Pencils
"
16.7i4. Cabinet containing 5 Faber's Yellow Round silver Pencils
.. •
15
16, $\boldsymbol{i}$ 6. Cabinet containing 5 Faber's Yellow Round Silver Pencils and Knife and Rubber.............................................................. 100

## CABINETS OF DIXON'S ARTISTS' PENCILS.


16,790. ('al)inet containing \& Dixon's Artists' Pencils ..... ,each, \$1.50
16,79?. Cabinet containing 6 Dixon's Artists’ Pencils ..... 1.12
16.794. Cabinet containing 4 Dixon's Artists' Pencils ..... 75

## CASES OF FABER'S WAX CRAYONS.

## EACH PENCIL IS POLISHED IN THE COLOR OF THE LEAD.

16,850. Case containing 48 assorted Faber's Wax Crayons ..... each, § 440
16,852. Case containing 36 assorted Faber's Wax Crayons ..... 3.50
16.854. Case containing 24 assorted Faler's Wax Crayons ..... 2 ร0
16,856. Cave containing 18 assorted Faber's Wax Crayons ..... 2.00
16.85s. Case containing 12 assorted Faber’s Wax Crayons ..... 1.50
16,860. Case containing 6 assorted Faber’s Wax Crayons ..... 80
E. G. SOLTMANN-NEW YORK.

## A. W. FABER'S WAX CRAYONS-continued.

16,870. A. W. Faber's Wax Crayons, SEPARATE COLORS. .doz., \$1.25, each, . 12No. 1, White. 2, Yellow. 13, Dark Blue. 34, Sienna. 38, Vermilion. 41, Black.54, Purple. 62, Orange. 63, Light Grepn. 69, Dark Green. 75, Carmine. 88, LightBlue. And numerous other colors.
SMALL BOXES OF COLORED PENCILS.
16,900. Small box containing 12 Short Colored Wax Crayons each, ..... 50
16,910. Small box containing 12 Short Colored Pencils ..... 35
16,914. Small box containing 6 Short Colored Pencils ..... 22
CARMINE AND BLUE PENCILS.
16,930. A. W. FABER'S Large Carmine and Blue Pencils, Hexagon.. dozen, \$1.25 16940. Carmine and Blue Pencils, Fine Quality ..... 1.00
Carmine and Blue are also made in cheaper grades.
PENCIL POINT PROTECTOR.


16,970. Pencil Point Protector dozen, . 55 each,

## LARGE LUMBER AND MARKING PENCILS.

17,100. A. W. Faber's Thick Red and Blue Artists' Pencil, with Movable Leads
each,

## AENE FABEER

17,104. A. W. Faber's Thick Blue Artists' Pencil, with Movable Leads . .each, . 30
17,106. A. W. Faber's Thick Red Artists' Pencil, with Morable Leads.. " .i0

17,110. A. W. Falber's Red Leads, for Nos. 17, 100 and 17,106 ..... box, . 30
Box, containing 12 small boxes ..... each, \$3.30
17,114. A. W. Faher's Blue Leads for Nos. 17, 100 and 17, 104 box, ..... 30
Box, containing 12 small boxes ..... each, 330EXTRA HEAVY COLORED PENCILS, see next page.

## EXTRA HEAVY COLORED PENCILS,

Coloring Details, Marking Lumber, etc.


These Pencils are of fine quality. The heavy lead does not break easily, and large surfaces can be colored in a short space of time.
17,130. Blue, Red, Yellow, Brown, Green.................... dozen, $\$ 1.75$ each, . 17
17,136. Box, containing Blue, Red, Yellow, Brown, and Green....... . 85

## POCKET LEAD PENCIL POINTER.



$$
\text { No. } 17,250 .
$$

Consists of a number of sheets of fine sand-paper pressed into a block; when the upper sheet is used, insert a knife at the uncovered part of the side, and cut all around. To prevent the loose lead which adheres to the sand-paper from soiling the pocket, the block is enclosed in a small, neat, folding case, with rubber band, to keep it closed when not in use.

17,250. POCKET LEAD PENCIL PONTER, Narrow Oblong ...........each, . 22
Package, containing 1 dozen................................................ $\$ 2.50$


No. 17,254 .
17,254. Lead Pencil Pointer, with Wooden Handle, Narrow Oblong.....each, . 15
Package, containing 1 dozen.......................................... $\$ 1.80$


17,260. Lead Pencil Pointer, Wide Oblong................................................. 15
Package, containing 1 dozen ......................................... " $\$ 1.80$
17,264. Lead Pencil Pointer, Narrow Oblong................................ " . 12
Package, containing 1 dozen......................................... " 1.30

## AUTOMATIC SHADING PENS AND INKS.

HEAVY AND LIGHT LINES PRODUCED BY A SINGLE STROKE OF THE PEN.
One-half of the lower nib contains small notches which cause more ink to flow on one side and produce the shaded appearance.


No. 17,300.
17.300. Complete Shading Pen and Ink Cabinet.

A neat case, so arranged that each pen is separated from the other, and the inks cannot upset. Containing 6 Pens and 6 assorted Inks, Sample Sheet of Letters and Directions for Use...... . . . . . . . . . . . . . each, $\$ 300$

AUTOMATIC SHADING PENS. Six Sizes.


| No. | 5 | 4 | 3 | 2 | 1 | 0 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Width of Nib, | $1 / 2$ | $3 / 8$ | $1 / 4$ | 3 | $1 / 6$ | $1 / 6$ | inch. |

[^6]180 E.G. SOLTMANN-NEW YORK.

## THE "SHADENE" SHADING INK.

## FOR WRITING WITH THE SHADING PEN.

In Square, Wide Necked Botties, with Rubber Corks.

PURPLE, BROWN,

GREEN,

## CARMINE.

BRILLLANT CARMINE,

## BLUE,

BLACE,

YELLOW.

17,320. "SHADENE", Shading Ink. Any of above 8 colors.
Neat Polished Partitioned Box, containing 12 Bottles....... ....each, $\$ 190$
Bottle............................................................................... . 15

## GISBURNE'S RULING PEN.




## PENHOLDERS.


17,334. Penholders, extra fine, highly finished handle ..... dozen, $\$ 100$
17,336, Penholders, fine, .....  50
17,337. Penholders, medium, well ..... 40
17,338. Penholders, good quality ..... 30
17,339. Penholders, plain ..... 20
17,340. Penholders, very small, to hold Gillott's Mapping and other small Pens ..... 25

## STEEL LETTERING AND WRITING PENS.





No. 17,354.
17,350. Gillott's Extra Fine Long Nib Crow Quills, on Cards with Holder. . doz., . 85
17,352. Gillott's Crow Quills, on Cards with Holder......................... " . 65
17,354. Gillott's Mapping Pens, on Cards with Holder ....... ........... " . 65
17,356. Gillott's Lithographic Pens, on Cards with Holder ............. " 65
17,360. French Crow Quills, on Cards, each Pen with Holder.... ..... . " . 50
17,370. Gillott's Lettering Pens ............... No. 303, gross box, \$1.50 ." . 15
17,372. Gillott's Lettering Pens .......... ....No. 1:0, " " 1.12." . 12
17,374. Gillott's Lettering Pens ................No. 404, " " 1.00." . 12

The sticks generally used for Crow Quills are so thin that the hand becomes crampeil. This Holder is of the size of a regular pen holder.
17,394. Crow Quill Pen Holder, Polished...................................each,
.10
Package containing one dozen
$\$ 1.20$


17,452.

17450.

$17,458$.

$17,456$. Box cont. 3 doz. Doz.
17,450. Spencerian Lettering Pens, No. 1, "College" fine point. . .....  38 ..... 15
17,452. Spencerian Lettering Pens, No. 2, "Counting House" med.point. 3815
17,454. Spencerian Lettering Pens, No. 3, "Commercial" coarse point . 38 ..... 15
17,456. Spencerian Lettering Pens, No. 14, "Artistic," very fine point 150 ..... 15
17,458. Spencerian Lettering Pens, No. 15, "Queen," extra fine point ..... 1.50 ..... 15
17,460. Spencerian Lettering Pens, No. 25, "Drawing," extra tine point ..... 15
Box cont. 9 doz.

17,480 . Pickwick Pen, for coarse writing and for marking on rough
paper. The end of nib is bent upwards.


17,500. Esterbrook's Writing and Lettering Pens, No. 128 "Extra Gross Box. Doz.
Fine Double Elastic............................................. s $1.00^{\text {. }}$

17,502. Esterbrook's Writing and Lettering Pens, No.048, "Falcon"
medium point

1.00
17,504. Esterbrook's Writing and Lettering Pens, No. 182, "Ladies' Falcon" ..... 1.00 ..... 12
17,520. Esterbrook's Engrossing Pens, No. 117, extra fine point.... 1.00 ..... 12
17,522. Esterbrook's Engrossing Pens, No. 122, medium point...... ..... 1.00 ..... 12
17,524. Esterbrook's Engrossing Pens, No. 161, Short Nib, medium
point. ..... 1.00 ..... 12
17,526. Esterbrook's Engrossing Pens, No. 239, Chancellor, medium point ..... 1.00 ..... 12
17,528. Esterbrook's Engrossing Pens, No. 267, Franklin, med. point. ..... 1.00 ..... 12
17,536.



$17,538$.

17,536. Esterbrook's Double Line Ruling Pen, No. 344, on Cards .......dozen, . 35 17,538. Esterbrook's 'Red Ink" Pen, of German Silver, 343, on Cards.35

## ROUND WRITING PENS AND BOOKS.



17,560. Round Writing Combination Pen. Consists of a Holder and nine small Pens. for Ornamental Writing in Double or Treble Lines ...each, $\$ 1.00$

17,570.


17,580.
17,570. Round Writing Pens, Double. Nos. 10, Wide; 20, Medium;
30 ,' Narrow....... ............. Box of 3 dozen, $\$ 1.00$; dozen. assorted, . 50
17,580. Round Writing Pens, Single. Widest, No. 1; narrowest, No. 6. Nos. 1, 2, $34,5,6 \ldots \ldots . .$. ...................... of 3 duzen, . 35 dozen, . 15
17,594. Assortment of 25 Single and Double Pens, in Bnx................. 35 .


17,600. Penholder, for Round Writing Pens............................each, . 10
17,620. Round Writing Copy Book, with Assortment of 25 Pens............. . 90
17,622. Round Writing Copy Book, without Pens............................ " . 60
Round Writing Copy Book (same as 2 n, 152) .........(List Price, .28) " . 25
E. G. SOLTMANN-NEW YORK.

## CRAYON DRAWING OUTFITS.

17,750. Polished Wooden Box, containing Crayons of various grades, Crayon Pencils, Charcoal, Crayon Sauce, Leather and Paper Stumps, Chamois Palette, Rubbers, Rubber Stumps, Crayon Holders, Tacks, Chamois Leather for Shading, Knife, Pencils, and a Treatise on Crayon Drawing
each, \$7. 50
17,754. Wooden Box containing Crayons, Crayon Pencils, Charcoal, Crayon
Sauce, Stumps, Chamois Leather for Shading, Tacks, Knife, Crayon
Holder.................................................................................
17,758. Wooden Box containing a variety of Crayons, Stumps, etc., for gen- eral Crayon Drawing. ..... 2.50

## CRAYONS, etc.


17,780. Conte Crayons, Black, in Wood, (Pencil Shape) "Velvet," very soft.
Dozen. ..... $\$ 1.25$
17,782. Conte Crayons, Black, in Wood, " " No. 3, soft ..... 90
17,784. Conte Crayons, Black, in Wood, " " No. 2, medium. ..... 60
17,786. Conte Crayons, Black, in Wood, " " No. 1, hard
17,792. Conte Crayons, White, in Wood,

No. 1, Hard. No. 2, Medium. ..... No. 3, Soft.
17,800. Conte Crayons, Black, in Romnd Sticks, Polished, Medium Hard, Box containing 1 dozen. ..... 60
17,804. Conte Crayons, Black, in Round Sticks, Nos. 1, 2, 3, Box con- taining l dozen ..... 40
17,808. Conte Crayons, Black, in Square Sticks, Nos. 1, 2, 3, Box con- taining 1 dozen ..... 20
17,812. Conte Crayons, White, in Round Sticks, Box containing 1 dozen. ..... 40
17,816: Conte Crayons, White, in Square Sticks, ..... 20
17,820. Conte Crayons, Red, in Round Sticks, ..... 40
17,830. Conte Crayon Sauce, in Tin Foil packages. Large, doz., \$1.20. Small, doz., ..... 75
A. W. Faber's Black Chalk Crayons, in Cedar, (same as $\mathbf{1 6 , 6 4 0}$ ) Hard and Soft dozen, ..... 55
Red Chalk, same as 16,648, in Polished Cedar ..... dozen, ..... 75
Red Chalk, same as 16,650, in Cedar. ..... 55

## STUMPS.



Extra
Large.


Large.


Medium.


Small.


17,850. Yellow Chamois Leather Stumps
doz., assorted, \$1.25
$66 \quad 66 \quad 66 \quad 65$ Separate sizes:
Each, .25 exıra large. . 20 large. 15 medium. 12 small. .10 very small.
17,860. Extra White Kid Stumps..................................... doz., assorted, \$1 50
17,850. Extra Cork Stumps.... ....................................." " " 150
17,880. Paper Stumps............................................ " " . 35


17,900. Miniature Paper Stumps


Rubber Stumps, Wooden Centre, same as 15,700:
Each,............................... . 35 large. . 25 medium. . 15 small.


Rubber Stumps. All Rubber, same as No. 15, 720 :
Each, ................................... . 12 large. . 09 medium. 06 small.
17,910 . Fine Chamois Skins for Stumping and Shading and for Cleaning Instruments.
Each, . . . . . . ................ .. .............. . . 30 medium. . 20 small size.


17,914. Chamois Palettes for holding and mixing crayon ready for stumping. Each, 35 large. 25 small.

## CRAYON HOLDERS.

No. 17,950-17,952.
This style of Crayon Holder is the most durable kind. The Crayon or Pencil is placed in the metal jaws and clamped by pressing the metal towards the centre of wooden handle.
17,950. Crayon Holder, Double End, German Silver, Wooden Centre.... each, . 40
17,952. Crayon Holder, Double End, Bras:",


No. 17,960-17,980.
17.960. Crayon Holder, Brass, Extra Large, for Charcoal, etc... ........each, . 20
17.970. Crayon Holder, Brass, Wooden Handle, 5 inch............. .... " . 10

17,980. Crayon Holder, Brass, with Rings....... ......................... " . 08

## CHARCOAL, FOR DRAWING.



18,100. Charcoal, extra fine Willow box, containing 50 sticks, . 50
18,104. Charcoal, fine .. .................................. " " 50 " . 40

18,108. Charcoal, for general use ........................ " " " 50 " . 25
18,120. Charcoal, extra large........................... " " 50 " . 45
18,130. Charcoal, Rouget, Nos. 1, 2, 3.................. " " 25 " . 50


## HARD PASTEL CRAYONS.

Best Quality,


| 18,180. Hard Pastel Crayons, Best | Quality, |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| Hartaining Round Boxes. |  |  |  |  |  |
| Containg | 48 | 36 | 24 | 18 | 12 Colors. |
| Each, | $\$ 1.10$ | .80 | .55 | .40 | .28 |

18,190. Hard Pastel Crayons, Second Grade, in Round Boxes. Containing

# LITHOGRAPHIC CRAYONS. 

## THESE CRAYONS CAN ALSO BE USED FOR BOLD, OFF-HAND DETAIL AND ORNAMENTAL DRAWING.

The wax contained in the Crayons prevents the lines from becoming blurred.

18,300. Lithographic Crayons, in Wood, Pencil Shape, 1, 2, 3. ..... dozen, $\$ 1.00$
18,310. Lithographic Crayons, Curriers, in Sticks, 1, 2, 3, Package con- taining 1 dozen. . ..... 35
18,314. Lithographic Crayons, French, in Sticks, 1. 2, 3, Box contain- ing 1 dozen. ..... 30
SCHOOL (CHALK) CRAYONS.
18,330. School Crayons, Assorted Colors, for Blackboard use. Box con- taining 1 gross ..... $\$ 1.25$
18,334. School Crayons, White, for Blackboard use. Box cont'g 1 gross, ..... 25 Blackboards, see 19,500, etc. Blackboard Dividers, see 8,100. etc.

ATOMIZERS,
For Fixing Crayon

Drawings,



By blowing a
Spray of FIXATIVE
over the Drawing.

No. 18,850 .
18,850. Atomizer, Extra Quality, in Box ..... each, \$1.12
18,856. Atomizer ..... 55
18,860. Fixative, Ready for use ..... 50
18,864. Preparation for cleaning the tubes of Atomizers ..... 25The Fixative should not be allowed to remain in the tube anylength of time, as it will clog by hardening. A few sprays of thepreparation will remove the Fixative from the inside of tube, if at-tended to promptly, and keep the Atomizer ready for immediate use.
18,870. Soehnee's Composition, for fixing Crayon Drawings ..... each ..... 30
J. B. Crocker's Hand Book,"On the Art of Crayon Portraiture in Black and White."35
This little book gives many useful hints on this class of work.

## ARKANSAS OIL STONES,

Best Quality,

FOR SHARPENING DRAWING INSTRUMENTS, CUTLERY, ETC.


No. 19000.
19,000. Arkansas Oil Stones, in Wooden Boxes, with Cover.

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Each, |  |  |  |  |  |
| $\$ 2.80$ | 2.50 | 2.25 | 2.00 | 1.50 | 1.00 |

19,010. Arkansas Oil Stones.
Each, \$2.00 large.
1.50 medium.
1.00 small.


19,012. Arkansas Desk Oil stones, on Wood, with Handle ................. each, . 75


No. $19,015$.
19,015. Arkansas Oil Stone Slips, for Instruments, Knives, etc.
Each, 50 large. 40 medium.
. 30 small.

19,020. Arkansas Wedge Shape Oil Stones. .each, . 35


No. 19,030.
19,030. Arkansas Pointed Oil Stones..............................................each, . 25

188 E.G.SOLTMANN-NEW YORK.

## "PAR EXCELLENCE" GUM.

For stretching Drawing
Paper, and for general Office use.


It is strictly pure: is made rery thick, and can be diluted with water, and still retain binding qualities equal to mucilage.

19,110. "PAR EXCELLEN(E" GUM.
Large bottle (large quart) .............................(List Price, $\$ 1.12$ ) each, $\$ 1.00$ Medium .. (large pint) .... ........ ............(List Price, .55) " 50 Small ، (large half-pint) ..........................ist Price, .28) " 25 RESERVOIR GUM POTS.


19,120. Reservoir Gum Pots, with Brush. for using "Par Excellence"
Gum or Macilage.............................. 55 large.
MOUTH GLUE.
19,128. MOUTH GLUE, in thin cakes


## STEEL INK ERASERS.

No. $19,200$.


19,200. Roger \& Son's Steel Eraser, White Handle, $51 / 2 \mathrm{in}$., knife shape. .each,

No. 19,202.


19,202. Roger d Son's Steel Eraser, Ebony Handle, $51 / 2 \mathrm{in}$., knife shape,

No. 19,204.


19,204. Roger \& Son's Steel Eraser, White Handle, 5 in.

No. 19,208.


19,208. Roger \& Son's Steel Eraser, Cocoa Handle, 5 in45

No. 19,210.
19,210. Roger \& Son's Steel Eraser, Cocoa Handle, 4 in

## PEN KNIVES,

For Sharpening Pencils and for general use.


19,220. English Pen Knife, 4 blades............................................each, $\$ 1.35$
19,225. English Pen Knife, 3 " ........................................... " 1.12
19,230. English Pen Knife, 2 " ......................................... " . 85

## AUTOMATIC POCKET PEN KNIFE.



The knife blacle is concealed within the handle. By a slight pressure on a knob at the end, the blade drops out to the required length, and is held in position by a self-acting clamp. The same pressure in an inverted position causes the blade to drop back into the handle.
19,240. Antomatic Pocket Pen Knife..................... (List Price, .28) each,


19,250. Paper Shears, Best Quality, carefully ground :
Each,
$\$ 2.50$
1.50
1.25

## SUSPENSION RINGS

FOR HANGING UP

No. 19.300


DRAWINGS, ETC.

19,306.

19,300. Extra Tough Gummed Paper Suspension Rings.... Box cont'g 100,
These rings or holders are attached to a drawing or sheet of paper by wetting the gummed sides and pressing them together, with the paper between the lower part.
19,306. Brass Suspension Rings
Box containing 250,
 RUBBER BANDS.

19,350. Rubber Bands, Best Quality. $1 / 4$ inelı Wide.

$$
\begin{array}{cccccc} 
& 31 / 2 & 3 & 21 / 2 & 2 \text { inch long. } & \text { Assorted sizes. } \\
\text { Gross Box, } & \$ 1.75 & 1.50 & 1.25 & 1.00 & 1.50
\end{array}
$$

19,360. Rubber Bands, Best Quality. $1 / 8$ inch Wide.

$$
\begin{array}{cccccccc}
\text { Gross Box, } \$ 1.00 & .90 & 21 / 2 & 2 & 11 / 2 & 11 / 4 & 1 \text { in. long. } & \text { Assorted } \\
\hline 80 & .70 & .65 & .60 & .50 & .80
\end{array}
$$

## 19,375. Rubber Bands, Best (quality. $\frac{1}{16}$ inch Wide.

$\begin{array}{lllllll}\text { Gross Box, } & \begin{array}{lllll}25 / 8 & .21 / 8 & 13 / 4 & 13 / 8 & 1 \text { inch long, } \\ .35 & .30^{2} & .25 & .20^{2} & .15\end{array} & .25\end{array}$

## PINK TAPE,

For Binding Documents, Specifications, etc.


## 19,390. Pink Tape.

Each
. 55 large.
28 small spool.


19,404. Iron Paper Weight, Oblong, with Knob, about 3 lbs................each, . 80
19.408. Iron Paper Weight, Round, " " " $11 / 2 \mathrm{lbs}$.40

19,412. Iron Paper Weight, Round or Oval, with Knob, about $3 / 4 \mathrm{lb}$..... " . 25

## PAPER FOLDERS.

19.430. Paper Folders, convenient for pressing down the edges, when stretching drawing paper, etc.
Each................... .is fine. . 50 medium. 25 plain.

SPONGE

CUPS


19,440. Sponge Cups, Plain Glass, without Sponges.
Each
. 25 large
.20 medium.
15 small.
19,450. Sponges for Sponge Cups.... . 25 " . 20 " .15 "
19,454. Sponges for Wetting Drawing Papers, Stretching, etc.
Fine Quality, various sizes.
from 25c. to $\$ 1.00$. Water Glasses, see No. 11,690, etc.

## LIGHT WOODEN BLACKBOARDS,

## Coated with Liquid Slating.

Sold at Manufacturer's Prices.
For laying out ornamental and other work, a board of this kind is often of great advantage. They are made very light but strong, and are easily transported or handled. Can be used on either side.


19,500. Blackboards Mounted on Revolving Rack, with Rollers.
$4 \times 5 \quad 31 / 2 \times 41 / 2$
$3 \times 4$ feet.
Each...................... \$18. 00
15.50
13.00

19,510. Blackboard in Wooden Frame, to hang up.

|  | $4 \times 5$ | $31 / 2 \times 41 / 2$ | $3 \times 4$ | $21 / 2 \times 31 / 2$ | $2 \times 3$ feet. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Each........ | $\$ 12.00$ | 9.50 | 7.00 | 5.25 | 2.50 |

PORTABLE

ROLLING

BLACKBOARDS.

No. 19,520 .

19,520. Portable Rolling Blackboards, on Map Rollers.

FLEXIBLE BLACKBOARD CLOTH.
San be rolled up and carried like a drawing. For lectures, etc., or in caseswhere a board is only occasionally used, it supplies all requirements. Tackit to the wall, and it is ready for use.
19,524. Flexible Blackboard Cloth, 46 inches wide, Both Sides Prepared. Roll containing 12 yards ..... \$24.00
Yard ..... 2.00
19,526. Flexible Blackboard Cloth, 36 inches wide, One Side Prepared. Roll containing 12 yards ..... 15.00
Yard ..... 1.25
LIQUID SLATING \& BLACKBOARD ERASERS.19,530. Liquid Slating, for repainting old Blackboards, or painting on anywooden or plaster wall, with an ordinary paint brush. A quartwill cover about 40 to 50 square feet with three coats, or about 100square feet with one coat, and transform a white wall into an excel-lent Blackboard.

| Gallon. | Half Gallon. | Quart. | Pint Tin Can. |
| :--- | :---: | :---: | :---: |
| $\$ 6.00$ | 3.25 | 1.75 | 1.00 |

19,540. Blackboard Erasers each, ..... 25
BLACKBOARD SCHOOL (CHALK) CRAYONS.
Same as 18,330, Assorted Colors, Box containing 1 gross ..... $\$ 1.25$
" 18,334, White, ..... 25
WOODEN BLACKBOARD DIVIDERS.

Wooden Blackboard Dividers, Same as No. 8,100.

|  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Each............ $\$ 2.00$ | 24 | 18 | 15 inch. |
|  | 1.60 | 1.25 | 1.00 |

## WOODEN BLACKBOARD DRAWING SET.


Wooden Blackboard Drawing Set, Same as No. 8,120, consisting of 24 inch T Square, 36 inch Straight Edge, 24 inch Triangle, all divided into inches, and $151 / 2$ inch Protractor

## HEKTOGRAPHS, <br> FOR

Copving Dravings, Specifications, Legal Documents, Letters, Etc.
Fifty to One Hundred Copies can be produced from the Original. SOLD AT MANUFACTURER'S PRICES.


Hektographs are of great service for copying Drawings, Specifications, or any written matter rapidly. The original is carefully drawn or written with the prepared ink; moisten the preparation with a sponge or brush, and remove the superfluous water by blotting with ordinary newspapers (not blotting paper); the original is then placed on the adhesive surface (face down), and removed after a few minutes. The greater portion of the highly concentrated ink remains on the pad, from which numerous copies can be produced by successively placing sheets of white paper on the adhesive surface.

The pad is cleaned with a sponge saturated with warm or cold water; warm water preferred.

## EXTRA LARGE HEKTOGRAPHS,

FOR COPYING DRAWINGS,<br>Or numerous pages of written matter.

Any size made to order at 5 cents per square inch of surface.
19,600. Hektographs, Large Sizes, Strong Cases, Extra Deep Filling.

|  | $36 \times 42$ | $30 \times 36$ | $27 \times 40$ | $26 \times 34$ | $23 \times 31$ | $20 \times 24$ inches. |
| :--- | ---: | ---: | ---: | ---: | :--- | :--- |
| Each, | $\$ 75.60$ | 54.00 | 54.00 | 44.20 | 35.65 | 24.00 |

## SMALL HEKTOGRAPHS.

19,606, Hektographs, Small Sizes, Deep Filling, for Copying Letters, Specifications, etc.
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$1008$

## "Blue: Process"

 * PAPERS. *
"Blue Process" *APPARATUS. *



[^0]:    

[^1]:    792. $61 / 2 \times 81 / 2$ inches, Leather Cover, Round Corners, 80 leaves dozen, $\$ 10.00$ 794. $51 / 2 \times 7 / 1 / 2$

    80
    6.00

    Cross Section Blocks, Same as No. 14,340 .

    Each..................... | $16 \times 20$ | $10 \times 16$ | $8 \times 10$ | $4 \times 5$ inches |
    | ---: | :--- | :--- | :--- |

[^2]:    9230. Linen Spring Pocket Tapes, in Nickel Plated Case.

    Divided into inches 6
    Each

[^3]:    9950. Tripod, with Jacob Stafl Top, for Compasses
    each, \$3.00
[^4]:    11,540. Nests of Cabinet Saucers, $33 / 4$ inches, 6 in Nest.
    .each, $\$ 1.00$

[^5]:    Each, $\$ 2.75$

[^6]:    17310. Box containing ahove 6 Pens, with Sample Sheet of Letters and

    Directions for Use.
    each, \$1 50
    17,314. Separate Pens.

