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## 巻 E. G. SOLTMANN, 䒵

$\therefore$ NEW YORK. $\%$

(i) ——ESTABLISHED $18 S 0$.

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

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

## E. G. SOLTMANN, <br> 11

119 Fulton Street,


> FIRST EDITION

TELEPHONE CALL:

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"Nassau" 660.
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## 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.

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The Post-Office accepts no liquids of any kind.
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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.

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Owing to the miscellaneous nature of goods, in this line of business, many of which are of foreirn make, variations in yalues 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 by registered mail.

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

E. G. SOLTMANN.



## DRAWING PAPERS

## In Sheets.

100. Whatman's Drawing Papers.

Mredium 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 Rough" should be stated when ordering.

## SELECTED BEST OR FIRST QUALITY.


102. Whatman's Heavy Drawing Papers.

Imperial..... ...... $22 \times 30$ inch., Ex. Heary, "C. P.," "H. P." and "Extra Rough""......... 8.00 . 40
101. Whatman's Antiquarian. Quire. Sheet.
$31 \times 53$ inches, Retree or Second Quality, "C. P.," "H. P."..... \$16.00 . 55
(Whatman's Paper mounted on Muslin, see No. 295.)

103. Imitation Creswick Drawing Papers.

Imperial ............ $22 \times 30$ inches, "C. P." .................. 6.2. . .30
105. "NEW LEONA" Drawing Papers, Cold Pressed, Rongh Surface.

Will bear severe rubbing and erasing; is tough and well mapted for general dawing and painting.
Mammoth. . . . . . . . . . . . . . . $42 \times 62$ inches. . . . . . . . . . . . . . . . . . . . 81200 . 0.5
Extra Latre Dbl. Elephant $31 \times 42$ ".....
" " Imprial. ..... $24 \times 32$ " ....................... 2.5 .5 13
" "Royal ...... $20 \times 25$ " ...................... 1.60 . ns
Medium ................. $155^{1}: \times 21 \quad$ "...................... $1.25 \quad .06$
("New Laona," mounted on Muslin, son No. 29(i.)
106. Harding's Drawing Papers.
Imperial.................... $22 \times 30$ inches, Extra Thick. quire, $\$ 7.20$ $22 \times 30$
107. "FALCON" 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 " 17 . 13
" " Royal.......... $20 \times 25$ " ........ " 1.60 " 08
108. "EMPIRE" Drawing Papers.

Double Elephant (heary) ... $27 \times 40$ inches........................... quire, 2.50
Imperial. .................... $22 \times 30$ " ........................... " 1.50
Royal....................... $19 \times 24$ " .......................... " 1.00
Medium ....... ............. $17 \times 22$ " ............. ............ " . 70
Demy....................... $15 \times 20$. " .......................... " . 55
Сар...................... $14 \times 17$ " $\ldots . . . \ldots$................. " . 35
112. "QUEEN" 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. "CROWN" Tinted Water Color Papers, hand made.

Imperial................. $22 \times 30$ inches, various tints, quire, $\$ 5.00$ sheet, .22
114. "ROMAN" Tinted Crayon Papers, Rough Surface.

Royal...................... $18 \times 24$ inches, various tints
quire, 1.10
116. "JULLIEN" Tinted Crayon Papers, fine 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.......... ". .70
120. Reynolds' English White Bristol Boards.

| Royal | $181 / 4 \times 221 / 4$ inches. | ozen, | 4 sheet. $\$ 3.15$ | 3 sheet. | sheet. 1.60 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Medium | $161 / 2 \times 203 / 4$ | " | 2.25 | 1.60 | 1.20 |
| Demy. | $141 / 2 \times 181 / 2$ | " | 1.60 | 1.35 | . 90 |
| Cap | $121 / 2 \times 151 / 4$ |  | 1.20 | 90 | . 60 |

121. "TRIUMPH" 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, $\$ 6.40$ dozen, . 60
" Thin..................................... . 1.20
" Medium Thick .. ........................ ". 1.50
1221/2. English Patent Office Smooth Imperial Payer, cut to the required size, same as the Brisiol Board
quire. 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
12312. 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.

|  |  |  | 4-ply. | 3-ply. | 2-ply. |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Royal | $\times 22$ | inches. | \$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. Freneh White Bristol Boards.

126. French Tinted Bristol Boards.

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

|  |  |  |  | 4-ply | 3-ply. | 2-ply |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Imperial. | $201 / 2 \times 32$ | inches | dozen, | 83.90 | 3.25 | 2.50 |
| Medium | 16 $\times 20$ 年 |  | ، | 2.15 | 1.75 | 1.35 |
| Cap. | . $101 / 4 \times 16$ |  |  | 1.15 | . 90 | .i0 |
| Hall Cap | $8 \times 101 / 4$ |  |  |  | 50 |  |

128. Bond Paper, See New Number, 142.


## 1281/2. Mechanical Drawing Cards.

Ms,de of Extra Heavy and Strong Binders' Boards, covered with white, smooth finish drawing paper on face and edges. Many large machine shops use these cards for drawing and for mounting tracings or blue prints, which, when varuished, can be washed clean at any time, and are easily handled or filed away for future reference. The smaller sizes are $1 / 2,1 / 4$ and $1 / 8$ of the largest sheet.

|  | $\underset{22 \times 30}{\text { Imperial. }}$ | $\underset{15 \times 22}{\text { Medium. }}$ |  | Half Cap. $71 / 2 \times 11$ inches. |
| :---: | :---: | :---: | :---: | :---: |
| Dozen. | \$4.20 | 2.40 | 1.44 | . 96 |
| Each. | . 35 | . 20 | 12 | 08 |

Other sizes and grades furnished at short notice.

129. 'SCRATCH or CHALK" BOARDS, with white enameled surface.

For Black and White work and photographic or process reproductions. The space to be drawn upon is covered with a solid coating of very black drawing ink; with a steel point, needle, or any sharp instrument, the picture is produced by scratching away the black and exposing the original white color of the board. The reverse side of this board is tinted but not enameled.

| Imperial | - |  | zen, | \$4.00 | sheet, | . 35 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Medium | . $14 \times 22$ | " | 6 | 2.25 | 66 | . 20 |
| Cap. | $11 \times 14$ | 6 | ، | 1.25 | " | . 12 |

Samples sent on application.
130. "ORIOLE" Tinted and White Sketching and Mounting Boards, extra heavy and strong, best quality.
Antiquarian. . $36 \times 50$ inches, White and Gray . . . dozen, $\$ 13.35$ sheet, 1.25 Dbl. Elephant. $30 \times 40$ " White, Gray and Buff " 8.00 " 75
Atlas ....... $25 \times 35$ " White, " " " 6.00 " 55

White, Light Buff, Mottled Blue, Light Blue, Light French Grey, Light Yellow, Light Olive, Grey.
Medium . . . . . . $14 \times 22$ inches . . . . . . . . . . . . . . . . . . dozen, $\$ 1.75$ sheet, . 15
(Same tints as Imperial.)
Сар.......... $11 \times 14$ inches ................... " 1.00 " . 09
(Same tints as Imperial.)
Samples sent on application.
131. "ORIOLE" Tinted and White Sketching and Mounting Boards,
heavy, GOOD QUALITY.
Imperial. . . . . $22 \times 28$ inches . . . . . . . . . . . . . . . . . . dozen, $\$ 2.40$ sheet, 22
White, Mottled Drab, Light Drab, Slate, Grey, Light Olive, Light Buff, Mottled Blue, Buff, Red.
133. White Mounting Boards (Formerly No. 138).

Imperial............ $22 \times 28$ inches, Extra Thick ........... dozen, $\$ 2.20$
" $\ldots . . . . . . . .22 \times 28$ " Тніск....................... ". 1.60
" $\ldots . . . . . . . .22 \times 28$ " Medium..................... ". 1.30
" $\ldots . . . . . . . .22 \times 28$ " Thin......................... " 1.10
134. Gelatine or Glass Paper.

Large Cap
$13 \times 19$ inches, Thick.........dozen, $\$ 4.20$ sh
$13 \times 19$ "، Medium...... "، 3.60
$13 \times 19$ " Thin......... " 3.00
Pressed, Cream Tinted Mounting Boards, for
Tracings, Drawings, etc.
Lickness vary, but are uniform in general appearance.
Thick. Medium. Thin.

|  | Quire. | Sheet. | Quire. | Sheet. | Quire. | Sheet. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $181 / 2 \times 251 / 2$ | \$4.45 | 20 | 3.50 | . 16 | 2.50 | . 11 |
| $121 / 2 \times 251 / 2$ | 3.25 | . 15 | 2.50 | 12 | 2.00 | . 09 |
| $121 / 2 \times 181 / 2$ | 2.50 | -. 11 | 2.00 | . 09 | 1.50 | . 07 |
| $91 / 4 \times 121 / 2$ | 1.35 | 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. $\ldots \ldots \ldots \ldots$ | 1.40 | 1.30 | .90 | .70 | .50 |

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

Drawings made with a 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 'Fints, 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.

139c. Pastel Boards.


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

Imperial
$22 \times 28$ inches
yuire, $\$ 2.40$ sheet, 10
$1401 / 2$. Chagrine or Pebbled Papers. White and rarions 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 can be produced from drawings in India Ink made on this paper.


Other regular sizes and grades furnished to order.
See Extra Thin and Extra Tough Drawing Papers in Rolls Nos. 194 and 195.

## 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 fer reference, or for drawings to be mailed, thus saving a considerable amount for postage

100 yard Roll, 48 inches wide .. $\$ 4.00 \quad 100$ yard Roll, 40 inches wide... $\$ 3.25$


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."

|  | $24 \times 30$ | $24 \times 24$ | $18 \times 24$ | $12 \times 18$ | $9 \times 12$ inches. |
| :--- | ---: | ---: | :--- | :--- | :--- | :--- |
| 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.)

## ${ }^{〔}$ VICTOR ${ }_{\text {(Registered Trade Mark.) }}^{\text {D }}$ DAPERS.

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.

147. "VICTOR" Thick Cold Pressed Detail Papers.

100 yard Roll, 48 inches wide... $\$ 9.00 \quad 100$ yard Roll, 40 inches wide... $\$ 7.85$

25 " " " ". .2 .50 25 " " " "... 2.25
Also sold in rolls weighing from 125 to 150 pounds.-Pound, 15 c . $11 \%$.

## DETAIL PAPERS-Continued.

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

153. "STANIARD" Medium Thick, Medium Smooth Detail Papers.

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

155. "STANDARI)" Extra Thick, Medium Smooth Detail Papers.


## 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. ${ }^{66}$ PAR EXCELLENCE" Thin, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| ---: | :---: | :---: | :---: | :---: |
| 58 inches wide $\ldots \ldots \ldots . \$ 10.75$ | 7.25 | 3.75 | .40 |  |
| Rolls of about 35 to 50 Pounds.-Pound, 45 c. |  |  |  |  |

1571/2. "6PAR EXCELLENCE" Medium Thick, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | ---: |
| 36 inches wide. $\ldots \ldots . \ldots$ | $\$ 8.25$ | 5.60 | 2.85 | .30 |
| Rolls of about 35 to 50 Pounds.—Pound, 45 c. |  |  |  |  |

157. ${ }^{66}$ PAR EXCELLENCE's Medium Thick, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 42 inches wide. $\ldots \ldots \ldots .259 .25$ | 6.25 | 3.25 | .36 |  |
| Rolls of about 35 to 50 Pounds.-Pound, 45 c. |  |  |  |  |

158. '6PAR EXCELLENCE" Medium Thick, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 58 inches wide. $\ldots \ldots \ldots$. | $\$ 12.25$ | 8.25 | 4.20 | .45 |
| Rolls of about 35 to 50 Pounds.—Pound, 45 c. |  |  |  |  |

159. '66AR EXCELLENCE" Tнiск, Rough Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 58 inches wide $\ldots \ldots .$. | $\$ 15.85$ | 10.65 | 5.40 | .65 |
| Rolls of about 35 to 50 | Pounds.-Pound, 45 c. |  |  |  |

161. ${ }^{66}$ PAR EXCELLENCE" Medium THick, Medium Smooth Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 42 inches wide. $\ldots \ldots \ldots$ | $\$ 9.25$ | 6.25 | 3.35 | .36 |
| Rolls of about 35 to 50 Pounds. |  |  |  |  |

162. ${ }^{66}$ PAR EXCELLENCE" Medium Thick, Medium Smooth Surface.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 58 inches wide $\ldots \ldots \ldots .512 .25$ | 8.25 | 4.20 | .45 |  |
| Rolls of about 35 to 50 | Pounds.-Pound, 45 c. |  |  |  |

170. ${ }^{6}$ LINNIEN" Medium Thick, Medium Grain.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 36 inches wide $\ldots \ldots \ldots$ | $\$ 6.00$ | 4.25 | 2.25 | .25 |
| Rolls of about 35 to 50 Pounds.-Pound, 50 c. |  |  |  |  |

171. ${ }^{66}$ LINNIEN' ${ }^{\prime}$ Medium Thick, Medium Grain.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| 42 inches wide. $\ldots \ldots \ldots$. | $\$ 9.25$ | 6.25 | 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 Machine Shops, New Buildings, Stone Yards, etc.

30 Yard. 20 Yard. 10 Yard Roll. Yard. 62 inches wide . . . . . . . . . . . . . . . . . . . . . . . $\$ 1200 \quad 8.00 \quad 4.25 \quad .45$

Rolls of about 50 to 75 Pounds.-Pound, 45 c .
177. "HERCULES" Medium Thick, Fine Grain.

|  | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: |
| il inches wide. | \$6.50 | 4.50 | 2.35 | 25 |
|  | s. -Poun |  |  |  |

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.

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

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.

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. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 36 inches wide. | \$22.00 | 11.25 | 6.90 | 4.80 | 2.50 | 26 |
| 30 * | 18.50 | 9.50 | 6.00 | 4.20 | 2.20 | 23 |
| 27 " 6 | 16.00 | 8.25 | 5.00 | 3.60 | 1.90 | 20 |

185. "SOVEREIGN" (formerly "Monitor") Medium Thick, Medium Grain. 30 Yard. 20 Yard. 10 Yard Roll. Yard. 36 inches wide . . . . . . . . . . . . . . . . . . . . . . . . . $\$ 5.00 \quad 3.40 \quad 1.75 \quad .20$ Rolls of about 35 to 50 Pounds.-Pound, 36 c .
186. "SOVEREIGN" (formerly "Monitor") Mediuin Thick, Medium Grain. 30 Yard. 20 Yard. 10 Yard Roll. Yard.
42 inches wide. . . . . . . . . . . . . . . . . . . . . . $\$ 6.50 \quad 4.35 \quad 2.25 \quad .25$
Rolls of about 35 to 50 Pomnds. - Pound, 36 c .
187. "SOVEREIGN" (formerly "Monitor") Medium Thick, Medium Grain. 30 Yard. 20 Yard. 10 Yurd Foll. Yard. 56 inches wide. . . . . . . . . . . . . . . . . . . . . . \$7.75 $7.70 .25 \quad 2.70-30$ Rolls of about 35 to 50 Pounds.-Pound, 3tic.
188. "SAXON" Thin, Pliable and Strong.

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

|  |  | 100 Yard. | 50 Yard. | 30 Yurd. | 20 Yard. | 10 Yard lioll. | Yard. |  |
| :--- | :---: | ---: | ---: | :---: | :---: | :---: | :---: | :---: |
| 42 inches wide | $\ldots$ | $\$ 17.50$ | 8.75 | 5.95 | 4.25 | 2.25 | .23 |  |
| 36 | 6 | 6 | $\ldots$ | 15.30 | 7.65 | 4.80 | 3.25 | 1.85 |

## 195. "ANCH0R," Extra Thin and Extra Tough.

Is extensively used for map and other drawings 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."

| 'Blue Process." |  |  | 100 Fard. | 50 Yard. | 30 Yard. | 20 Yard. | 10 Yard Roll. | Yard. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 42 | he | wide | \$17.50 | 8.75 | 5.95 | 4.25 | 2.25 | 23 |
| 36 | ، | 6 | 15.30 | 7.65 | 4.80 | 3.25 | 1.85 | 20 |
| 30 | 6 | 66 | 13.00 | 6.50 | 4.15 | 2.85 | 1.50 | . 17 |
| 27 | '6 | 66 | 1150 | 5.75 | 3.60 | 2.50 | 1.35 | 15 |

200. 66SATURN" 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.

| 54 inches wide |  |  | 0 Yard. <br> 22.70 | 50 Yard. 11.35 | $30 \text { Yard. }$ | 20 Yard. $5.00$ | $10 \text { Yard Roll. }$ | Yard. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 42 | " | " | 17.50 | 8.75 | 6.00 | 4.25 | 225 | 23 |
| 36 | " | " | 15.30 | 7.65 | 5. 00 | 3.25 | 1.85 | 20 |
| 30 | " | ، | 13.00 | 650 | 4.20 | 2.85 | 1.50 | 17 |
| 27 | ، | " | 11.50 | 5.75 | 3.70 | 2.50 | 1.35 | 15 |

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 THIN.


## TINTED ROLL DRAWING PAPERS.

220. ${ }^{66}$ ROMAN" Medium Thick, Rough ("Par Excellence") Surface. Variocs Tints. For drawing, mounting, and mats for pictures.
30 Yard. 20 Yard. 10 Yard Roll. Yard.
54 inches wide......................... $\$ 9.90 \quad 7.00 \quad 3.60 \quad .38$

Roll of about 35 to 50 pounds.-Pound, 45 c .
225. "6GRIFFIN", Medium Thick Medium Grain.

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

226. ${ }^{66}$ GRIFEIX " THIN, Medium Grain.

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

## WHITE DRAWING PAPERS

In Rolls.

## 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, Rough Surface,
251. 42
253. 58

6 6 66 6 6

| 20 Yard. | 10 Yard Roll. | Yard. |
| ---: | :---: | ---: |
| $\$ 16.00$ | 8.00 | 100 |
| 1800 | 9.00 | 1.10 |
| 2400 | 12.00 | 1.40 |
| 22.00 | 11.00 | 1.25 |
| 26.70 | 13.35 | 1.60 |
| 16.00 | 8.00 | 1.00 |
| 1800 | 9.00 | 1.10 |
| 24.00 | 12.00 | 1.40 |

" Hercules" Very Strong, Hard Surface.
268. 301/2 inches wide, Medium Thick, Med. Grain . . . . .
14.50
7.25
.85

| 269. | 54 | 6 | 6 | 6 | 6 | 6 | $\ldots$ | $\ldots$ | 24.00 | 12.00 | 1.40 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- | :--- |

270. 61
27.00
13.50
271. 60
272. "ANCH0R" Extra Thin and Extra Tough, for Maps, etc., or drawings which are to be mailed, or frequently folded or handled.

20 Fard. 10 Yard Roll. Fard.
42 inches wide
\$15.00
7.50
.85
"\$OVEREIGN" (formerly "Monitor") For general use.
280. 36 inches wide, Medium Thick, Medium Grain . . . . \$15.00
$7.50 \quad .85$

$\begin{array}{lllllllllll}282.54 & 6 & 6 & 6 & 6 & 6 & \ldots .21 .00 & 10.50 & 1.12\end{array}$

## WHITE DRAWING PAPERS

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

295. Whatman's Drawing Papers.

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

Mammoth..................... $42 \times 62 \ldots . . . . . . . .$. . .quire, $\$ 36.00$ sheet, 1.50
Extra Large Double Elephant, $31 \times 42 \ldots . . . . .$. . . . " 18.00 ". . 5
" " Imperial......... $24 \times 34 \ldots \ldots .$. ..... " 10.80 .. . 45

Medium.................... $151 . \times 21 \ldots$............ ". 6.00 ." 25
Sheots aud Rolls of other sizes monnted to order. Large shoets for city, county and other maps, mounted on muslin, fmonished at aloret notioe.

## E. G. SOLTMANN - NEW YORK.

## 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.
302.
'"IMPERLAL" Dull Back or Glazed. Rolls of 24 Yards.

|  | 42 | 36 in . | 30 in . | 18 in. |
| :---: | :---: | :---: | :---: | :---: |
| List Price. | (\$11.50) | (8.25) | (7.50) | (4.25) |
| Roll | \$10.50 | 7.60 | 6.90 | 4.00 |
| Yard. | . 50 | 40 | 35 | 22 |

303. '"MPERIAL'" Tracing Cloth, Dull Back in Sheets.

Imperial. ........ $22 \times 30 \ldots$............................ " 4.75 ". . 20

Demy...... ..... . $13 \times 20$ (English Patents)........... " 1.75 ، . 07
Cap............. $10 \times 15$ (American Patents)..... ... " 1.00 " . 05
304. "RELIANCE" Extra Heavy and Strong, not as transparent as the "Imperial." Dull Back. Rolls of 24 Yards.

|  | 43 in. | 40 in. | 36 in. | 30 in. | 18 in. Wide. |
| :--- | ---: | ---: | ---: | ---: | ---: |
| Roll. $\ldots \ldots \ldots \ldots$. |  |  |  |  |  |
| $\$ 9.30$ | 8.00 | 6.80 | 6.00 | 3.75 |  |
| Yard............. | .45 | .40 | .35 | .30 | .20 |

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

42 in. $\quad 36$ in. 30 in .Wide.


## 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................... $13 \times 17$ " ................................ " 1.10
322 "PRINCESS" Oiled.
Double Elephant...... $30 \times 40$ inches.................................quire, $\$ 2.70$
Imperial.
$.20 \times 30$
1.35

## TRACING PAPERS

## In Rolls.

340. "PREMIUM" Oiled, thin.
$\qquad$
341. "MAMMOTH" Oiled, Extra Heary.
"Mammoth " 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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{6}$ | 22 | 66 | 6 | 54 | 6 | 6 | ( " | 2.75) | 2.50 |
| 66 | 44 | 66 | 6 | 27 | 66 | 66 | 1 6 | 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 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ${ }^{6}$ | 22 | 6 | 6 | 54 | 6 | 66 | 6 | 2.75) | 2.50 |
| 66 | 44 |  | 66 | 27 | ، | 6 | " | $3.10)$ | 2.7 |

346. "CRYSTAL" Extra Thin, very transparent.

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


347. '6 LEATHERINE', Strong, very clear.

This paper is less liable to wrinkle when Water Color is applied than many other Traciug Papers. India Ink Hows freely and pencil marks ean be erased withont tearing the paper.
Roll, 20 yards long, 54 inches wide . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$if. 85


350. "LION" Parchment, very tough and transparent.

Is an excellent substitute for tracing eloth ; it can be folded, takes India Ink and Culor freely, and may be stretched like Drawing Puper, by gumming down the edges first. and when it adheres thoroughly, moistoning the surface with a spongo or brush.
Roll, 20 yards long, 37 inches wide
. (list lrice, \$5.51))
$\$ 500$
352. "ELEPHANT VELLUM" Extra Heavy, Extra Strong.
"Elephant Vellmm" is strong enough to bo used liko a drawing paper. Drawings, connstructed in poncil. on it, can be maily erasod without toaring. A fluo "lbluo Print" is produced from an buk drawing made on this paper, which saven the expense of trating the origimal. 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.

## 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.

$$
\text { Roll, } 44 \text { yards long, } 54 \text { inches wide. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . \$4. } 75
$$


" 22 " ${ }^{\prime}$ " 54 " ${ }^{4}$ "............................................... 275
" 22 "، ${ }^{6} 42$ " ${ }^{4}$ "..................................................... 2.00
" 44 "، 27 " " .... .............................................. 2.50

## 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 divisions, 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....................................... ". . 5

## PROFILE PAPERS-Continued.



Plate B. Hormzontal 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
377. " 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 twentr-fifth vertical division line heavier than the rest.

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, .2.5

386. Cross Section, Printed, $10 \times 10$ to inch, size of Engraving, $16 \times 20$ inches, quire, 5.5 .00 sheet. 25

## CROSS SECTION PAPERS-Continued.

Printed in Orange or Green.


387. Cross Section, Printed, $5 \times 5$ to $1 / 2$ 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,

3891⁄2. " " Millimeter, in Rolls, 27 inches wide, 11 yards Long,

## CROSS SECTION PAPERS

Ruled in Blue.

390. Cross Section, Ruled; $10 \times 10$ to inch, sheets, $17 \times 22$ inch., quire, $\$ 1.50$ sheet, 08


> E. G. SOLTMANN-NEWYORK.

391. Cross Section, Ruled $8 \times 8$ to inch, sheets, $17 \times 22$ inches. . quire, $\$ 1.50$ sheet; .08 3911/2. " $8 \times 8$

392. Cross Section, Ruled $5 \times 5$ to inch, sheets, $17 \times 22$ inches. . .quire, $\$ 1.50$ sheet, .08


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393. Cross Section, Ruled $4 \times 4$ to inch, sheets, $17 \times 22$ inches . . quire, $\$ 1.50$ sheet, .08 $3931 \%$ " " " $4 \times 4$ " " $23 \times 36$ ".. " 4.45 " . 22 Also used for topographical drawing, reading 400 feet to the inch. The inch lines are Bluf, other lines Rel).

394. Cross Section, Ruled $12 \times 12$ to inch, sheets, $19 \times 24$ iuches.quire, $\$ 2.00$ sheet, .10 $3941 / 2$ " " " $12 \times 12$ " $\quad$ " $23 \times 36$ " . " 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 $395 \frac{1}{2}$. " " " $16 \times 16$ " " $23 \times 36$ " " 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.

CROSS SECTION SKETCMING BLOCKS, see No. 14,340.
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## THE "BLUE PROCESS."

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"CRYSTALLINE" INK, WHITE AND RED.
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For तriting and Drawing on "Blue Frints."
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# "BLUE PROCESS" PAPERS. 

Frubarea ready for use

## DIRECTIONS FOR USING.

All Tracings should be drawn with Black India Ink and the lines to be as heavy as possible.

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## "BLUE PROCESS" PAPERS.

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 and every roll or sheet is freshly prepared when sold
 racturing Paper of good ghadits.
 Ready for Lhe.

Will rit ther wher inrated ith water, and will lear cowsid sill thating whelunt HFinime. This Paper was awarded a "Medal of Excellence" by the Aure IIcan Institute Exhibition of 1882

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|  | ; 7 | $11 \times 14$ | E. G. SOLTMANN-NEWYORK. ZINC LINED BATHS,


"1BKした PRRINTS."



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## ZINC LINED BATHS.-Lighter Construction.

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## HEAVY FELT

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## BLOTTING PAPER.


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## ENGINEERS' NOTE BOOKS.

Horizontal Ruling only, similar to Field and Level Books
See Next Page.

780. $41 / 2 \times 71 / 2$ inches, Leather Cover, Round Corners, 60 leaves. . . .......dozen, $\$ 4.50$
$782.4 \times 61 / 2$ " " " " " 60 " ............ " 4.00

## ENGINEERS' CROSS SECTION BOOKS.

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. $5 \frac{1}{2} \times 7 \frac{1}{2}$ " " " " 80 " $\ldots . . .$. .... 6.00

## ARCHITECTS' "DIAGRAM BOOKS."

Ruled in squares, 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 BOOKS," $41 / 2 \times 71 / 2$ inches, Leather Covers,

802 . $66 \quad 41 / 2 \times 71 / 2$ " " "

810. "LEVEL BOOKS," $4 \times 61 / 2$ inches, Leather Covers, 812 $\qquad$ $4 \times 61 / 2$

820. " TRANSIT B00KS," $41 / 2 \times 71 / 2$ inches, Leather Covers, 822.

## AND TRANSIT BOOKS.

the words "Field Book," etc. printed on the outside of cover.




Round Corners, 80 leaves. dozen, \$5.50
" " 60 "
" 4.00

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## 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

900. "SOUNDING B00KS," $4 \times 18$ inches, Special rates

902. "TIDE BOOKS," $4 \times 18$ inches, Special rates

## LOCALITY

| No. | TIME | ANGLES | OBJJECTS OBSERVED |
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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.

[^1]REMARKS
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| OBSERVATIONS OF TIDES at <br> Year $\qquad$ Month $\qquad$ |  |  |  |  |  | Dray of Month. |  |  |
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strong cover, 100 leaves
dozen, \$10.50
for quantities.

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REMAIKKS
strong cover, 100 leaves..............................lozen, \$10.50
for quantities.

## 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 continuous piece of muslin, with close joints evenly matched to present a continuous profile 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 protile.

The Books of "Plate A" show a profile of 100 feet in width, on a horizontal scale of 4 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 vertical of 30 to an inch; size of book is $43 / 4 \times 8$ inches.
920. Continuous Profile Books, Plate A, Bound in Flexible Morocco Cover.

|  | 100 | 50 | 25 | 15 miles. |
| :---: | :---: | :---: | :---: | :---: |
| Each. | \$8.00 | 5.00 | 3.00 | 2.50 |

926. Continuous Profile Books, Plate B, Bound in Flexible Morocco Cover.

|  | 100 | 50 | 25 | 15 miles. |
| :---: | :---: | :---: | :---: | :---: |
| Each. | \$8.00 | 5.00 | 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, $53 / 8 \times 81 / 2$ inches. The paper is strong and heavy, and priuted on both sides.
932. Pocket Profile Books, Plate A, Bound in Flexible Morocco Cover.
Each.................................... $\$ 5.00 \quad 100 \quad 50 \quad 25$ leaves.
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Each...................................... . $\$ 5.00 \quad 3.50 \quad 25$ leaves.
Profile, and Cross Section Papers, See Nos. 370 to 396.

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

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Divider Points . . . . . . . . . . . . .................................................. . \&s. 50
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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.......................................................... . . . . $2 . i 5$

## SWISS PIVOT JOINT INSTRUMENTS,

Contimued.
Made of Selected German Silver and Best English Steel.

ALL PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.


No. 1012.

1014.

1016.

1018.


1020,

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, 31⁄2 inch, " " " ............................ " 4.25
1020. Hair Spring Dividers, $31 / 2$ inch............................................. 3.00
1022. Dividers, $31 / 2$ " $\ldots$................................... " 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.

ALI PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.

1030. Compasses, 7 inch with Joint in each Divider Point, Pen, Pencil,
Needle l'oint, Lengthening Bar and Dotting Pen...................ach, \$10.i5
1034. Compasses, 6 inch, with Pen, Pencil, Lengrthening Bar, Needle and Divider P'oints
1038. Compasses, $41 / 2$ inch, with Pen, Pencil, Lengthenhag Bar, Divider and Fixed Needle Point

## EXTRA FINE SWISS INSTRUMENTS,

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


No. 1040.
1040. Compasses, $51 / 2$ inch, with Pen, Pencil, Lengthening Bar and Fixed

Needle Point
each, \$7.00

1044. Hair Spring Dividers, 5 inch

1048. Dividers, 6 inch.
1050. Dividers, 5

- 2.20


No. 1060.

1062.


IUTio.

1068.

1074.

1060. Bow Compasses, $31 / 2$ inch, with Hand e, Pen, Pencil, Needle and Divider
Points.
1061. Bow Compasses, $31 / 2$ inch, with Handle, Pen, Pencil, fixed Needle Point. ..... 5.25
1062. Bow Pen, $31 / 2$ inch, with Handle and fixed Needle Point. ..... 3.50
1063. Bow Pencil, 31/2 ..... 3.50
1064. Dividers, ..... 1.75

## EXTRA FINE STEEL SPRING BOW INSTRUMENTS.

ALL PENCIL POINTS ARRANGED TO HOLI FABER'S LEADS.

1124. Steel Spring Bow Pen, 5 in., German Silver Handle, Needle Point. 84.35
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, 3½" " " " 2.85
1138. Steel Spring Bow Dividers, $31 / 2$ " " $"$............ 2. 20
1142. Steel Spring Bow Pern, 21/4" " " Needle Point. 285
1143. Steel Spring Bow Pencil, 21/4" " " " ${ }^{21 / 85}$
1144. Steel Spring Bow Dividers, 21/4" " " .......... 2.20
1150. Steel Spring Sliding Pivot Centre Bow Pen and Pencil, $31 / 2$ inches... 4.00
1152. Steel Spring Sliding Pirot Centre Bow Pen, 316 Inches............... . 3.25

EXTRA FINE SWISS INSTRUMENTS.


No. 1160.
1166.
1172.

1161.
1167.
1173.

1162.
1168.
1174.

1190.









1174. Steel Spring Bow Dividers, 3 " " " ...................... 2.20
1190. Miniature Bow Pen, 21/2 " Metal " ..................... 2.50

1192. Miniature Bow Dividers, $21 / 2$ " "، "................... 2.20

Morocco Cases for sets of $43 / 4$ " Bows............................... 1.25
$31 / 2$ ، " ................................ 1.00
3 "، 3 .................................. . 90

1250. Ruling Pen, with Hinge and Pin. Ivory Handle, $61 / 4$ inch $\qquad$

1251. Ruling Pen, with Hinge and Pin, Ivory Handle, $51 / 2$ inches
each, $\$ 1.80$
1252. Ruling Pen, with Hinge and Pin, Ivory Handle, $43 / 4$ inches. $\ldots$....each, $\$ 1.60$
1253. Ruling Pen, " "" ". " "

RULING PENS WITH SPRING BLADE, NO HINGE.

1270. Ruling Pen, with Improved Bent Spring Blade, Ebony Handle, 6 in., each, \$2.00
1271. Kuling Pen, "
1272. Ruling Pen, " " " " " " ، $4 \frac{1}{2}$ " " 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, $51 / 4$ inch...... ............. ". 1.70
(W)
1282. Ruling Pen, no Hinge, Ebony Handle, $41 / 2$ inch ..... .... . ..... " 1.55

EXTRA FINE SWISS INSTRUMENTS.

1306. Border Pen for heavy lines, Ivory Hande, $6 \frac{1}{2}$ inch
each, \$3.00

1310. Curve Pen, Ivory Hande, $41 / 2$ inch.

1316. Railroad P'en, new style, Ivory Handle, $51 / 2$ inch
each, 3.75
Both Blades fuce the samo way. Tho inside blade can bo pressod elosely to the $T$ Square, Triangle, etc.

1334. Dotting Pen, new style, with 6 Wheels, Ivory Handle, 6 inch
ench, 8.2 .25
Tho lower portion of the penforms a motal case which is closed by serowing down the upper hinged hade. The caso is thled with lak wheh is comed to the paper by the revolsing wheel.

# EXTRA FINE SWISS INSTRUMENTS. Continued. 

ALL PENCIL POINTS ARRANGED TO HOLD FABER'S LEADS.

No. 1340.
1340. Tracer, Ivory Handle, 5 inches. each, \$1.35
1342. Tracer, made of Ivory, 4 "


No. 1344.
1344. Pricker, Irory Handle, 5 inches .each
Ruling Peus carefully Sharpened. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . " . 20

## SWISS BEAM COMPASSES WITH TANGENT AND WHEEL ATTACHMENT.



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. $\qquad$ each, \$12.75
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. each, 11.25
1356. Beam Compasses, in case ..... 10.00
1357. Beam Compasses, without case ..... 9.00
1360. Wheel Attachment, to fasten to a Straight Edge or Bar. The instrument orercomes 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 | 24 | inch. |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Each, | .90 | .75 | .65 | .55 | .45 | .40 | .35 |  |

## TUBULAR BEAM COMPASSES.



1370-1374.
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 | 1374 |
| :---: | :---: | :---: | :---: |
| Each .... | $\$ 2.50$ | 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.
meh, 88.75
1382. Beam Compasses, Smatl, with Pen, Pencil and Needle Points........ .. 8.25

Morocco Cases for 1380 and 1382 . . ..................................... . . . . . 1.00

## CASES OF SWISS INSTRUMENTS

WITH PIVOT JOINTS.

No. 1410 .


IN POLISHED ROSEWOOD BOXES
With Tray, Look and Key.
1400. Contents: Nos. 1000, 1005, 1008, 1016, 1018, 1022, 1124, 1125, 1126, 1136, 1137, 1138, 1250, 1270, 12ヶ1, 1272, 1306, 1316, 1340, 1360, 1380

Each.
1402. Contents: Nos. 1000, 1005, 1016, 1018, 1022, 1130, 1131. 1132, 1142, 1143, 1144, 1250, 1270, 1271, 1272, 1340, 1380.
$\$ 80.00$
1404. Contents: Nos. 1000, 1005, 1012. 1022, 1136, 1131, 1138, 1250, 1251, 1252. 1253, 1272, 1340. 1380
65.00
1406. Contents: Nos. 1000, 1009, 1016, 1018, 1136, 1137, 1138, 1251, 1252, 1254, 1281

```
1408. Contents: Nos. 1002, 1009, 1014, 1136, 1137, 1138, 1251, 1252

\section*{SWISS INSTRUMENTS WITH PIVOT JOINTS.}

\section*{In Morocco Pocket Cases.}

1414. Contents: Nos. 1000, 1005, 1016, 1018, 1022, 1136, 1137, 1138, 1251,

Each. \$38. 50
1416. Contents: Nos. \(1000,1009,1014,1136,1137,1138,1251,1252\). ..... 30.00
\(1418 . \quad\) " " \(1003,1008,1012,1136,1251,1253\) ..... 25.00
1420 . " " \(1002,1009,1136,1137,1138,1251\) ..... 22.00
1422. " " \(1002,1009,1014,1251\) ..... 20.00
1424. " " \(1002,1009,1251\) ..... 13.50
\(1426 . \quad\) " " \(1016,1018,1022,1142,1143,1144,1252,1254\). ..... 23.75
1428 . " " \(1016,1018,1022,1136,1252\). ..... 17.00
1430 . " " \(1012,1142,1253 \ldots\) ..... 12.75


\title{
EXTRA FINE SWISS INSTRUMENTS
}

\section*{In Rosevvood Cases (Continued).}
```

1460. Rosewood Case, with Tray, Lock and Key.
Contents: Nos. 1030, 1038, 1044, 1050, 1066, 1068, 1074, 1172, 1173,
1174, 1250, 1251, 1252, 1254, 1306, 1316, 1357, 1360, 1648 ........each, \$90.00
1461. Rosewood Case, with Tray, Lock and Key.
Contents: Nos. 1034, 1038, 1044, 1050, 1062, 1172, 1173, 1174, 1250,1251, 1252, 1254, 1357, 1360, 1648.70.001464. Rosewood Case, with Tray, Lock and Key.Contents: Nos. 1034, 1044, 1062, 1074, 1142, 1160, 1172, 1173, 1174,1250. 1251, 1252, 1254.50.001466. Rosewood Case, with Tray, Lock and KeyContents: Nos. 1034, 1050, 1062, 1172, 1173, 1174, 1251, 1253, 1357,136045.00
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1468. Rosewood Case, with Trar, Lock and Key.
```Contents: Nos. 1034, 1044, 1066, 1068, 1074, 1172, 1173, 1174, 1251,1252, 1254.40.00
```

1470. Rosewood Case, with Tray; Lock and Key.
```Contents: Nos. 1040, 1050, 1060, 1172, 1173, 1174, 1251........... " 32.0014i2. Rosewood Case, with Tray, Lock and Key.Contents: Nos. 1034, 1050, 1172, 1173, 1174, 125125.00
```

1474. Rosewood Case, with Tray, Lock and Key.
```Contents: Nos. 1034, 1050, 11i2, 125218.75Other Cases made to order at short notice.
```

EXTRA FINE SWISS INSTRUMENTS
In Fine Pocket Cases.

1480. Contents: Nos. 1034, 1044, 1066, 1068, 1074, 1172, 1173, 1174, 1251, 1252, 1254 each, $\$ 35.00$
1482. Contents: Nos. 1034, 1050, 1060, 1172, 1173, 1174, 1251, 1253 ..... " 30.00
1484. Contents: Nos. 1034, 1050, 1172, 1173, 1174, 1251 ..... " 22.00
1486. Contents: Nos. 1040, 1050, 1172, 1252. ..... " 15.50
VERY SMALL POCKET CASES:
1490. Contents: Nos. 1038, 1044, 1066, 1068, 1172, 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 ..... 11.75Other Cases made to order at short notice.
CHAMOIS SKINS FOR CLEANING INSTRUMENTS (Same as No.17,910).

SWISS INSTRUMENTS of lighter and more delicate construction, with and without Pivot Joints. See Nos. $\mathbb{1 0 0 0}$, etc.

## SWISS INSTRUMENTS.

GERMAN 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, \$10.10) each, \$9.00 1504. Compasses, 6 inches, with Pen, Pencil, Lengthening Bar, Needte and Divider Points . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . (List Price, \$7.25)

```
1512. Hair Spring Dividers, 5 inches....................... . . . 2.51)
```

1513. Hair Spring Dividers, 4 " ...................... (" ./ 2.50 )
1518, Dividers, 6 " ....................... " .. 2. 610
1514. Dividers, 5 " ......................... " ." 2.010)
1515. Dividers, 4 " ........................ ." ." 1.6і) ." 1.50


No. 1530.
1530. Bow Compasses, $31 / 2$ inches, with Handle, Pen, Pencil, Needle and Divider Points....... ................................. (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, 4.50
1536. Bow Pen, $31 / 2$ inches, with fixed Needle Point ... (" ". 3.25 ) " 3.00
1537. Bow Pencil, 31/2 " "Needle Point.... " " 3.25) " 3.00
1538. Bow Dividers, $31 / 2$ " 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

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


No. 1582.


No. 1584.
1582. German Silver Spring Bow Pen and Fencil........... (List Price, \$3.30) \$3.00 1584. German Silver Spring Bow Pen...................... .f .. ${ }_{2} .20$ ) 2.00

1600. Ruling Pen, with Hinge and Pin, Ivery Handle, 6 fuches. . (List Price, \$1.65) \$1.60
1602. Ruling Pen, " " " " 5 " . . ${ }^{\text {. }}$ 1.55) 1.40



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


No. 1624.
1622. Dotting Pen, with 6 Wheels, Ivory Handle, 6 inches....... (List Price, $\$ 3.60$ ) $\$ 3.25$
1624. Dotting Pen, Ivory Handle, 6 inches..................... . .! "f 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 Movement, 9 inches, graduated for lines and circles . (List Price, \$11.60) \$10.50


No. 1648.
1648. Proportional Dividers, 9 inches, graduated for lines and circles,
(List Price, $\$ 11.00$ ) \$10.00


No. 1660.


No. 1660.
1600. Pocket Pillar Compasses, with Handles, Pen and Pencil Points, to draw Each. 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 and Round Points.................................................. (List Price, $\$ 7.50$ ) $\$ 6.75$

Morocco Case for do


Each. . . 90
60
.75

## WOODEN BARS

FOR BEAM COMPASSES.
(Same as No. 6200.)

Chamols skins for Cleaning instruments (same as No. 17,910). Medium, 30c. Small, 20c. Mach.

## ENGLISH INSTRUMENTS,

## SUPERIOR QUALITY.

German Silver, Double Seetor Joints. All attachments have bayonet slides.

1700. Compasses, 6 inches, with joint in each leg, one Needie Point fixed, the other detachable, Pen, Pencil Points, Lengthening Bar and Knife Key,
Each.
$\$ 12.50$
1704. Compasses, 6 inches, with Pen, Pencil Points, Lengthening Bar and Knife Key
10.00
1706. Compasses, 41/2 inches, with fixed Needle Point, Pen and Pencil Point, $\quad 9.75$
 3.00
1714. Dividers, 5 inches
2.00
1720. Bow Pen, fixed Needle Point, $31 / 2$ inches................................ 3.90
1721. Bow Pencil, " "31/2 " .............................. 3.90
1:26. Bow Pen, Round Point, $31 / 2$ inches......................................... 3.25
1727. Bow Pencil, " 31⁄2 " .......................................... 3.25

## 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, $61 / 2$ inches............. | Each |
| :--- | :--- |
| $\$ 2.25$ |
1751. Ruling Pe:n, " " " " $51 / 2$ " $\ldots$.......... 2.00
1752. Ruling Pen, " " " $41 / 2$ " $\ldots \ldots . .$.


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


No. 1770-1772.



No. 1780.
1780. Tracer, Ivory Handle, 5 inches.......................................... $\begin{array}{r}\text { Each. } \\ \$ 1.00\end{array}$


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


No. 1790.




## EXTRA FINE GERMAN INSTRUMENTS,

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


No. 2030.

2036.

2042.

2060.
2030. Bow Compasses, $31 / 2$ inches, with Handle, Pen, Pencil, Needle and Each. Divider P'oints................................................................ $\$ 3.00$
2030. Bow Compasses, $3 \underline{1} / 2$ inches, with Handle, Pen, Pencil and fixed
Needle Pont....................................................................
2040. Bow Pen, $31 / \frac{1}{2}$ inches, with Handle and fixed Needle Point...... 2.20
2042. Bow Pencil, 3 "́к " " " " ".... 2.20
2060. Bow Dividers, $31 / 2$ " " ".............................. 1.00


No. 2070.
2070. Spring Bow Compasses, with detachable long Ifory Handle, two Pen Earlh.

Points, Pencil, Needle and Divider Points..... ..................... \& . $i 5$


No. 247.


2075. German Silver Spring Bow Pen, 3 inehes
1.50

## EXTRA FINE GERMAN INSTRUMENTS,

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


No. 20 so.

2082.


20 st.

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....3 " " " 6 "...... 2.10
2084. Steel Spring Bow Dividers.. 3 " Round Points, " "...... 1.65


No. 2090.


2092 2102.

2004. 2104.
2090. Steel Spring Bow Pen...... 3 inches, Needle Point, White Handle ..... \$1.70
2092. Steel Spring Bow Pencil.... 3 ..... 1.70
2094. Steel Spring Bow Dividers. . 3 ..... 1.25
2100. Steel Spring Bow Pen .....31/2 Needle Point, White Handle ..... 1.70
2102. Steel Spring Bow Pencil....3½ ..... 1.70
2104. Steel Spring Bow Dividers. . $31 / 2$ ..... 1.25

## EXTRA FINE GERMAN INSTRUMENTS.

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


No. 2110.

2112.
2110. Steel Spring Bow Pen,
2114.
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, 2094............" " 5.40
2124. Morocco Case, containing Set of Bows, 2100, 2102, 2104.... . ...... .، 5.40
2126. Morocco Case, containing Set of Bows, 2110, 2112, 2114............ " 6.25

Empty Morocco Cases for German Spring Bows............ ......... " " . 75
IN MOROCCO CASE.

## EXTRA FINE GERMAN INSTRUMENTS,

 Continued.
2180. Cluster Hatching Pen, with 3 Blades, for one Ebony Handle, Pushing
Screw, 6 inches......................................................... ..... $\$ 2.25$2182. Cluster Hatching Pen, with 1 Blade, for one Ebony Handle, PushingScrew, 6 inches


No. 2190.
2190. Ruling Pen, German Silver Blades, for Colored Inks, with Hinge, White Handle, 5 inches


No. 2196.
2196. Dotting Wheel, White Handle


No. 2198.
2198. Railroad Pent, $5 \frac{1}{2}$ inches, White Handle.

2206. Pocket Folding Compasses, with Reversible Pen, Pencil and Needle Points


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............................................................................ $\$ 3.50$

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


Nos. 2280, 2281.
2284.
2280. Beam Compasses, to fasten to a Straight Edge or Bar, with Pen,
Pencil, Needle and Round Points, in case............................... $\$ 7.50$
2281. Beam Compasses, to fasten to a Straight Edge or Bar, with Pen, Pencil, Needle and Round Points, without case.
6.50


## GERMAN INSTRUMENTS,

## SECOND GRADE.

ALI PENCIL POINTS AREARRANGED 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, $51 / 2$ inches, with Pen, Pencil and fixed Needle Point........ . 2.50
2422. Dividers, 5 inches . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 75
2430. Bow Compasses, $31 / 2$ inches, with Handle, Pen, Pencil, Needle and Divider
Points. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 2.50
2460. Ruling Pen, with Hinge, $51 / 2$ inches . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 75
2464. Ruling Pen, " 4 " . ........................................... . . . . . 65
2470. 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 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.

Each.
Repaired equal to new
75 to $\$ 1.00$
Polishing 6 inch Compasses, and attachments........................... $\$ 1.00$ to 1.50
Polishing $31 / 2$ 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 Points, special sizes made to order............................. ". . . . . . to to . 25

## ADJUSTABLE INSTRUMENT KEY.



No. 2180.
2480. Adjastable Instrmment 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 Ruling 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 Ker.

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.

## EXTRA FINE

GERMAN DRAWING INSTRUMENTS (continued).


No. 2508.
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 Ruling 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: $51 / 2$ 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, Key, 6 Inch Ivory Scale. Rubber Triangle, Metal Protractor, Wooden Curve, and i dozen Tacks.

# EXTRA FINE GERMAN INSTRUMENTS, 

In Pocket Morocco Cases<br>Best Quality German Silver.<br>ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.



No. 2524.
2524. Contents: $51 / 2$ inch 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 binge and pin, 4 inch Ruling Pen, Lead Case and Kег

Each.
$\$ 18.00$


No. 252 s .
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 (continuect).

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 ioch Dividers, 3 inch Spring Bow Pen, 3 inch Spring Bow Pencil, 3 inch Spring Bow Dividers, $51 / 2$ inch Ruling Peu with hinge and pin, 4 inch Ruling Pen, Lead Case and Key.......each, \$13.25


No. 2536.
2536. Contents: $51 \times$ í2 inch Compasses with Pen. Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, $31 / 2$ inch Bow Compasses with Pen, Pencil and Needle Points, $511 / 2$ inch Ruling Pen with hinge and pin. 4 fuch Ruling Pen, Lead Case and Key.

## EXTRA FINE GERMAN INSTRUMENTS

IN CASES (continued).
ALL PENCIL POINTS ARE ARRANGED TO HOLD FABER'S LEADS.


No. $25 \pm 0$.
2540. Contents: $41 / 2$ inch Compasses with handle, Pen, Pencil and Divider Points, Lengthening Bar and fixed Needle Point, 5 inch Dividers, $31 / 2$ inch German Silver Spring Bow Pen, two Ruling Pens, Lead Case and Key.................................................................. . each, $\$ 10.00$


No. 2542.
2542. Contents: 51/2 inch Compasses, with Pen, Pencil, Needle 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: $51 / 2$ inch Compasses with Pen, Pencil, Needle Points and Lengthening Bar, 5 inch Dividers, $51 / 2$ inch Ruling Pen with hinge and pin, Lead Case and Key

EXTRA FINE GERMAN INSTRUMENTS,
Continued.
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
.each, 6.00


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: 31/2 inch Bow Compasses with Handle, Pen, Pencil and

Needle Points, 4 inch Ruling Pen, Lead Case and Key

## 70 E.G. SOLTMANN-NEWYORK.

Cases of Extra Fine German Instrumerís, see Nos. $2500-2560$. CASES OF GERMAN INSTRUMENTS.

German Si rer, Steel Points, Metal Joints.
Morocco Cases lined with Black Velvet.
THESE CASES ARE OF GOCD QUALITY, AND VERY MODERATE IN PRICE.


No. 2600.
2600. Contents: 51/2 inch Compasses with Pen, Penci!. 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 Divirlers, $51 / 2$ inch Ruling Pen with hinge and pin, 4 inch Ruling Pen and Key .
.each, $\$ 12.00$


No. 2604, with 1 Ruling Peu.
2604. Contents: 51/2 inch Compasses with Prn, Pencil, Neerlle 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 hince and pin

## CASES OF GERMAN INSTRUMENTS,

Continued.
Cases of Extra Fine German 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 Handle, 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 Points and Lengthening Bar, 5 inch Dividers, 3 inch Steel Spring Bow Pen, Key, and $51 / 2$ inch Ruling Pen with hinge and pin. .


No. 2616
2616. Contents: 5! $\underset{2}{ }$ inch Compasses with Pen, Pencil, Noedle Points and Lengthening Bar, 5 inch Divider=, Kery, and $51 / 2$ inch Ruling Pen with hingre and pin.

# CASES OF GERMAN INSTRUMENTS, 

Continued.

## Cases of Extra Fine German Instruments, 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.
.each, \$4.25
2636. Contents: $51 / 2$ 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 INSTRUMEN゙TS.

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 reneered and polished. Plated Metal Work, Tray, Lock and Key.

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

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

| Inside Measure. | Trar fitted with Cotton Velvet, to hold the Instruments. | Inside Measure. |  | Empty Case, Tray not fitted. |
| :---: | :---: | :---: | :---: | :---: |
| $10 \times 14$ inches. | each, S12.50 | $10 \times 14 \mathrm{i}$ | ches. | each, \$8.00 |
| $7 \times 13$ | 7.25 | $7 \times 13$ | " | 4.00 |
| $5 \times 121 / 2$ " | 5. 75 | $5 \times 121$ ¢ | ، | 3.00 |
| $7 \times 11$ | 5.75 | $7 \times 11$ | ، | 3.00 |
| $6 \times 10$ " | 5.00 | $6 \times 10$ | 6 | 2.50 |
| $5 \times 9$ " | 4.00 | $5 \times 3$ | ، | 2.25 |
| $3 \frac{1}{2} \times 9$ ' | 3.25 | $3 \frac{1}{2} \times 9$ | " . | " 1.75 |

Lined with Silk Velret, 50 c . to $\$ 2.00$ extra. Polished Cases, 50 c . to $\$ 1.50$ extra.
Other Cases made to order at short notice.
E. G. SOLTMANN-NEW YORK.

## FRENCH INSTRUMENTS,

Brass and German Silver. on Cards.


No. 2902.
2902. ${ }^{6}$ COLLEGE SET," Brass.
$51 / 2$ inch Compasses with fixed Needle Point, Pen, Pencil Point, Lengthening Bar and Key .each, \$1.00
2912. 'STSUDENT'S SET," German Silver.
$51 / 2$ inch Compasses with fixed Needle Point, Pen, Pencil Point,
Lengthening Bar and Key...... ......................................each, 1.75


No. 2922.
2922. "(XEOMETRY SET'," Brass.
$51 \underline{2}$ inch Compasses with one flxed Divider Point, Pen, Pencil Point, Lengthening Bar, Ruling Pell and Key

## FRENCH INSTRUMENTS,

Brass, on Cards (continver).


No. 2930. 2932. 2934.
2930. "SCHOLAR'S SET," Brass.
$61 / 4$ inch Compasses with one fixed Divider Point, Pen, Pencil Point, Lengthening Bar and Key
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, Pên, Pencil Point,
Lengthening Bar and Key


No. 2950. 2952.2954.

```
2950. '6 SCHOOL SET,'" Brass.
\(61 / 4\) inch Compasses with one fixed Divider Point, Pencil Point and Key, each, . 65
2952. '6SCHOOL SET," Brass.
\(51 / 2\) inch Compasses with one fixed Divider Point, Pencil Point and Key, " . 55
2954. "'SCHOOL SET," Brass.
\(43 / 4\) inch Compasses with one fixed Divider Point, Pencil Point and Key,


No. 2960. 2962.2964.
2960. Dividers, BRASS, \(61 / 4\) inches each, ..... 40
2962 Dividers, BRASS, \(51 / 2\) ..... 35
2964. Dividers, BRASS, 43/4 ..... 30

\title{
FRENCH INSTRUMENTS,
}

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


No. 2990.
2990. Spring Bow Pent, 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


No. 3020.
3020. Proportional Dividers, GERMAN SILVER, 7 inches, with rectangular bent points ; graduated for lines and circles, in Case........ . .each, \(\$ 7.00\)


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


No. 3036. 30:38.
3036. Proportional Dividers, (ELRMAN SHNER, 61/4 inches, in Case, (List Price, \(\$ 2.78\) ) each, \(\$ 2.50\) 3038. Proportiomal Dividers, BRASS, \(61 / 4\) inches, in Case, (List Irice, \(\$ 1.92\) ) each, \(\$ 1.75\)

3050. Beam Compasses, GERMAN SILYER, 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

\section*{FRENCH INSTRUMENTS,}

\section*{In Rosewood Polished Cases.}
3200. Rosewood Polished and Inlaid Case, with Tray, Lock and Key. GERMAN SILVER, containing a complete outtit 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........................ea
3204. Rosewood Polished and Inlaid Case, with Tray, Lock and Key. GER-

MAN SILVER, containing outtit of 50 Pieces: \(61 / 4\) 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, Three Ruling Pens, 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, 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


\section*{FRENCH INSTRUMENTS}

\author{
IN CASES (continued).
}


No. 3216. 3220.
3216. Rosewood Polished Case, with Tray, Lock and Key. GERMAN SILVER, outfit of 3.5 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, 「encil 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: \(61 / 4 \mathrm{inch}\) 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 suft Pencil, small Pencil for Instruments, 3 Lettering Pens, Penholder, and Cake of Black India Ink .each,

\title{
FRENCH INSTRUMENTS,
}

\section*{IN CASES (continued).}


No. 3224. 3228.
3224. Rosewood Polished Case, with Tray, Lock and Key. (EERMAN SILVER, outfit of 30 Picces: \(61 / 4\) inch Compasses with fixed Needle Point, Pen, Pencil Points and Lengthening Bar, \(41 / 4 \mathrm{~m}\) inch Compasses with fixed Needle Point. Pen and Pencil Points, \(41 / 4 \mathrm{inch}\) 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
each, 87.00
3228. Rosewood Polished Case, with Tray, Lock and Key. BRASS, outtit of 30 Pieces: \(61 / 4\) inch Compasses with fixed Needte Point, Pen, Pencil Points and Lengthening Bar, \(41 / 4\) inch Compasses with tixed Needle Point, Pen and Pencil Points, \(41 / 4\) inch Dividers, Spring Bow Pen, Ruling Pen, Key, Rule, Boxwond Scale, Horn Protractor, Wooden Curve, Wooden Triangle, Crayon Hohler, 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. each, \$3.70
3252. Rosewnod Polished Case, BRASS, outfit of 9 Pieces: \(41 / 4\) inch Compasses 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, outfit 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, aud Cake of Black India Ink.

\section*{FRENCH INSTRUMENTS}

\author{
IN CASES (continued).
}

3264. Rosewood Polished Case, with Tray, Lock and Key. BRASS, outfit of 25 Pieces: \(61 / 4 \mathrm{inch}\) 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, Rale, Crayon Holder, 6 Tacks, Pencil Rubber, small Pencil for lnstruments, and Cake of Black India Ink.


3272 Rosewood Polished Case, with Tray, Lock and Key. BRASS, ontit of 20 Pieces: \(51 / 2\) inch Compasses with one fixed Divider 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. 3290.

3290. Mahogany Polished Case. BRASS, 12 Pieces : 41/2 inch Compasses with one tixed Dirider Point, Pen, Pencil Points and Lengthening Bar, \(31 / 2\) inch Dividers, \(31 / 2\) inch Bow Compasses with Handle and fixed Needle Point, Pen and Pencil Points, Ruling Pen, Ker, Rule, Crayon Holder and Protractor.

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.
\[
\begin{aligned}
& \text { 3304. Mahogany Polished Case. BRASS, M Picces: } 41 / 2 \text { inch Compasses } \\
& \text { with one fixed Divider Point. Pen, Pencil Points and Lengthening } \\
& \text { Bar, Ruling Pen, Key, Rule, Crayon Holder and Protractor. .......each, .so }
\end{aligned}
\]
3308. Mahogany Polished Case. BRASS, S Pieces: \(41 / 2\) inch Compasses 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, linle, and Crayon Holder.
3316. Mahogany Polished Case. BRASS, 5 Pieces: 41 inch Compasses
with one detachable Divider Point, Pen and Pencil Points, and Key. . 50

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

Small, 20c. mach.


\section*{FASTENING PINS OR THUMB TACKS.}

German Silver, Best Quality.

\section*{Points Screwed in and Riveted.}

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


\section*{GERMAN SILVER TACKS.} SECOND QUALITY, HEADS ROUNDED, POINTS RIVETED.


On Cork covered with Blue Paper.


\section*{BRASS TACKS,}

\section*{Points Riveted.}

On Cork covered with Blue Paper.


\section*{BRASS TACKS, for Schools, etc.}



\section*{"BAYONET" TACKS.}

No. 358.

3587.

MADE OF ONE PIECE OF STEEL, A PORTION OF THE HEAD FORMING THE POINT.

\section*{On Cards covered with White Paper.}
3585. BAYONET TACKS, \({ }_{16}^{6}\) inch diameter......Gross, \(\$ 1.75\). . ........dozen, . 17

35ヶ7. BAYONET TACKS, \({ }_{16}^{46}\) " ...... " 1.50.......... " . 15

3590. SPIRAL TACKS,
\(1 \frac{2}{6}\) inch diameter dozen,35

3592. 66 66 \(\frac{8}{16}\) " " \(\quad\) ".................................. " 25


\section*{TACK LIFTER.}


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
each,


No 3610.


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

\section*{SWISS PROTRACTORS.}

\author{
German Silver. With Arm and Vernier,
}


Nos. \(3700,3704,3706\).
3700. Swiss Full Circle Vernier Protractor, with Horn Centre, 10 inches, \(1 / 4\) degrees, reading to 1 minute.....................................each, \(\$ 20.00\)
3704. Swiss Full Circle Veruier Protractor, with Horn Centre, 8 inches, \(1 / 2\) degrees, reading to 3 minutes
3706. Swiss Full Circle Vernier Protractor, with Horn Centre, \(51 / \mathrm{l}\) inches, \(1 / 2\) degrees, reading to 3 minutes


Nos. 3720, 3724, 3726.
3720. Swiss Half Circle Vernier Protractor, with Horn Centre, 10 inches, \(1 / 4\) degrees, reading to 1 minute
each \(\$ 18.00\)
3724. Swiss Half Circle Vernier Protractor, with Horn Centre, 8 inches, \(1 / 2\) degrees, reading to 3 minutes
14.50
3726. Swiss Half Circle Vernier Protractor, with Horn Centre, \(51 / 2\) inches, \(1 / 2\) degrees, readinr to 3 minutes

Moroceo Cases for Vernier Protractors, from \$1.50 to \$500
E. G. SOLTMANN-NEW YORK.


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

3756. Swiss Half Circle Protractor, German Silver, Centre on inner edge, 4 inches, degrees
2.50


Nos. 3760-3766.
3760. Swiss Half Circle Protractor, German Silver. Centre on outer elge, 6 inches, \(1 / 4\) degrees . ............................................. each, \(\$ 4.00\)
3762, Swiss Half Circle Protractor, German Silver, Centre on outer edge, \(\quad\) inches, \(1 / 2\) degrees................................................ 3.25
3764. Swiss Half Circle Protractor, German Silver, Centre on outer edgre,
5 inches, \(1 / 2\) degrees.............................................................
3766. Swiss Half Circle Protractor, German Silver, Centre oll outer \(\in\) dge,
4 inches, degrees.............................................................. 2.00

3780. Half Circle Protractor, GERMAN SILVER, \(81 / 2\) inch, \(1 / 2\) degrees... each, \(\$ 2.00\)
3782. Half Circle Protractor, " " 71/6 "1/2 "...
378.4. Half Circle Protractor, " " \(63 / 8\) " 4.0 ... " 1.25
3786. Half Circle Protractor, " " \(51 / 8\) " 16 "... " 1.00


Nos. 3801-3808.

3804. Half Circle Protractor, BRASS, \(63 / 8\) inches, \(1 / 2\) degrees.. ..........e each, 75

3808. Half Circle Protractor, " \(41 / 4\) " \(1 / 2 \quad . \quad\)....... " 30
3812. Half Circle Protractor, " \(33 / 4\) " deqrees (common) .... " . 15

3830. Half Circle Horn Protractor, \(83 / 4\) inches, \(1 / 2\) degrees................each, \(\$ 1.00\)
3832. Half Circle Horn Protractor, 8 " \(1 / 2\) "............ ". . 75
3834. Half Circle Horn Protractor, 7 " \(1 / 2\) "......... ... " 60
3836. Half Circle Horn Protractor, 61/4 " \(1 / 2\) "........ .... " 40
3838. Half Circle Horn Protractor, 51/4 " \(1 / 2\) " ............. ". . 30
3840. Half Circle Horn Protractor, 41/4 " degrees ................ ". . 25
3850. Railroad Curve Horn Protractor, 8 inch, \(1 / 2\) degrees, with circular curves from \(1 / 2\) to 8 degrees, 400 feet to the inch

OBLONG IVORY PROTRACTORS.

3904. Ivory Oblong Protractor, 8 inches long, 2 'nches wide, scales of \(1 / 8\), \(1 / 4,3 / 8,1 / 2,5 / 8,3 / 4,7 / 8\). I inch to the foot. scale of chords, \(20,25,30\), \(35,40,45,50,60\) purts to the inch, and diagonal scale
3908. Ivory Oblong Protractor, 6 inches long, 2 inches wide, scales of \(1 / 8,1 / 4,3 / 8,1 / 2,5 / 8,3 / 4,7 / 8,1,11 / 8,11 / 4\) inches to the foot, scale of chords, \(30,35,40,45,50,60\) parts to the inch, and diagonal scale.

\footnotetext{
3912. Ivory Oblong Protractor, 6 inches long, \(13 / 4\) inches wide, scales of \(1 / 8,1 / 4,3 / 8,1 / 2,5 / 8,3 / 4,7 / 8\), and 1 inch to the foot, scale of chords,
\(30,35,40,45,50\), and 60 parts to the inch, and diagonal scale
}

\section*{IVORY AND BOXWOOD PROTRACTORS,}

Continued.


Nos. 3916-3930,
\[
\begin{aligned}
& \text { 3916. Ivory Oblong Protractor, } 6 \text { incles long, } 13 / 4 \text { iuches wide, scales of } \\
& 1 / 4,1 / 2,3 / 4,1 \text { inch to the foot, scale of chords, } 25,30,35,40,45 \text { parts } \\
& \text { to the inch, and diagonal scale..................................................... } \$ 1.50
\end{aligned}
\]
3920. Boxwood Oblong Protractor, 6 inches long, \(13 / 4\) inches wide, scales of \(1 / 8,1 / 4,3 / 8,1 / 2,5 / 8,3 / 4,7 / 8,1\) inch to the foot, scale of chords, diagonal and decimal scales
3930. 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.

\section*{PAPER PROTRACTORS.}
3950. Large Bristol Board, Full Circle, \(1 / 4\) degrees ..... each, . 40
3952. Large Drawing Paper, " " \(1 / 4\) ..... 30
3954. Large Fine Tracing Paper, " " \(1 / 4\) ..... 30
The Tracing Paper Protractors are used for topographical drawing in the U. S. Engineers' offices, and have given entire satisfaction.

\section*{MACHINE DIVIDED DRAWING SCALES.}

\section*{Best Quality.}

Other Scales made to order at short notice.


Nos. 4000-4009.


4002. Double Beveled 6618 "... " " . " . " " 300
4004. Double Beveled 6 15 "... " " ".. " ." .. 2.20
4006. Double Beveled 6612 "... . . " \(\ldots\) ". .. ". 1.50

4009. Double Beveled 6 6 " . " ." ". .. ." ." " 85

Nos. 4020 to 4026 have but one seale on each edtee, and are tigured to read from left to right, and right to left.

4022. Double Beveled " 18 "..." "......." " " " .. 3.00
4026. Double Bevelad " 12 "..." "......." ". " " .. 1.65

\section*{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 edoe to the other, and are figured from leift to right. At a glance a distance can be measured in any of the lour scales. Inches and \(\frac{1}{12}\) ths are easily reduced to inches and \(\frac{x}{16}\) ths, Metric measure to inches, etc.
4030. Double Beveled Boxwood, 24 inch, \(\frac{1}{12}\) One side. \(\frac{1}{16}\) inch, \(\frac{1}{10}\) inch and Metric Each 4032 Doube Beveled 66



Nos. 4050 to \(40591 / 2\).


\section*{ARCHITECTURAL AND MECHANICAL DRAFTING SCALES.}

The Scales, which have but one scale on each edge, are figured to read from left to right and right to left.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 4090. & Flat & Boxwood, & 24 inch, & \begin{tabular}{l}
One edge. \\
. i/4 meh.
\end{tabular} & Other edge. 3/4 inch to foo & Each.
\[
\$ 3.00
\] \\
\hline 4092. & Flat & 66 & 18 ، & " & " " & 200 \\
\hline 4096. & Flat & 66 & 12 " & " & . \(\cdot\). & 1.00 \\
\hline 4100. & Flat & 66 & 21 ، D & DetailScale, 1/4 \& 1/8inch, & \(\frac{1}{16}\) inch to foot & 3.00 \\
\hline 4102. & Flat & 66 & 18 & " ، 6 & ، 6 & 200 \\
\hline 4106. & Flat & 66 & 12 " & ، 6 .6 & ". & 1.00 \\
\hline 4116. & Flat & 66 & 12 & . \(1 / 8 \mathrm{inch}\) & \(1 / 4\) inch to foot & 1.00 \\
\hline 4126. & Flat & 66 & 12 " & " & 3/1 " & 1.00 \\
\hline 4136. & Flat & 66 & 12 " & 1/4 inch. & 11/2 inch to foot & 1.80 \\
\hline 4146. & Flat & 66 & 12 " & .......1/2 \({ }^{1 /}\) & 1 ، & 1.00 \\
\hline
\end{tabular}

\section*{VARIOUS SCALES.}


\section*{OFFSET SCALES.}


Nos. 4341-4347.
\begin{tabular}{|c|c|c|}
\hline One edge. & Other edge. & Each. \\
\hline 100 & larts to inch. & 90 \\
\hline
\end{tabular}



4347. Flat Ofiset 66 " 2 . ... \(40 \ldots \ldots\)......... . . . . . . 50

See \({ }_{10}^{1}\) and \({ }_{12}^{12}\) inch, and Metric Comparing Scales, Nos. 4030-4036.

\section*{ENGINEERS' DECIMAL SCALES.}
\({ }_{10}^{1}\) and \(\left.\frac{1}{10}\right)_{0}\) of a foot.


\section*{MACHINE DIVIDED SCALES (continued)}

METRIC SCALES.
```

4501. Flat Boxwood, 50 Centimetres long
% .. ..............................each, \$1
each, \$1.75
4502. Flat 66 301.20
```
4505. Flat 6. 20 ..... 90
4507. Flat \(6 \quad 10\) ..... 55
Same as 4785 . 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 tigures read from left 10 right.
One edge. Other edge Each. Metric, ...... . .... \(\frac{1}{16}\) inch. ..... \(\$ 300\)
4522. Flat ..... 1.12



One edge. Other edge.
One edge. Other edge. Same as 4030. Double Beveled Boxwood, 24 inch, \(\frac{1}{12} \mathbb{E} \frac{1}{16}\) inch, \(\frac{1}{10} \&\) Metric. ..... 4.00
" 4032. Donble Beveled ..... 3.00
". 4036. Double Beveled ..... 1.65
IVORY MACHINE DIVIDED SCALES.

Best Quality.



\section*{ENGINEERS’ SCALES.}

\begin{tabular}{|c|c|c|c|c|c|c|c|c|c|c|c|}
\hline & & \multicolumn{5}{|l|}{\multirow[t]{2}{*}{\[
\text { Flat, } 12 \text { inch, . . . . . . } 100 \ldots \text {.. }
\]}} & \multicolumn{4}{|c|}{Other edge.} & \\
\hline 4631. & Ivory, & & & & & & 80 p & & & & \$6.00 \\
\hline 4633. & Ivory, & & 12 & " & & 60 & . 30 & ، & . 6 & & 4.00 \\
\hline 4635. & Ivory, & 66 & 12 & ، & & 50 & . 10 & " & " & & 4.00 \\
\hline 4637. & Ivory, & 66 & 12 & " & & 40 & . 20 & - & . 6 & & 4.00 \\
\hline 4641. & Ivory, & 66 & 6 & ، & & 100 & 80 & " & " & & 4.50 \\
\hline 4643. & Ivory, & 66 & 6 & ، & & 60 & . 30 & " & " & & 300 \\
\hline 4645. & Ivory, & 66 & 6 & '6 & & 50 & . 10 & " & " & & 3.00 \\
\hline 4647. & Ivory, & 66 & 6 & " & & 40 & . 20 & * & " & & 3.00 \\
\hline 4651. & Ivory, & & 0 Ofiset & , 2 i & nch. & 100. & . 80 & ، & " & & 1.50 \\
\hline 4653. & Ivory, & & Ofiset & , 2 & " & 60 & . 30 & ، & 6 & & 1.00 \\
\hline 4655. & Ivory, & & Offiset & , 2 & " & 50 & . 10 & " & . 6 & & 1.00 \\
\hline 4657. & Ivory, & & Offset & , 2 & ، & 40 & 20 & 6: & ، & & 1.00 \\
\hline
\end{tabular}

\section*{TRIANGULAR BOXWOOD SCALES.}


No. 4700-4709.
4700. Triangular Boxwood, 24 inch, div. \(1 / 8,1 / 4,3 / 8,1 / 2,3 / 4,1,1 \frac{1}{2}, 2,3,4 \mathrm{~m}\). to foot.

Each.


\section*{COMBINATION TRIANGULAR SCALES.}
4726. Triangular Boxwood, 12 inch, divided

\section*{ENGINEERS' TRIANGULAR SCALES.}


Nos. 4751-4759.


DARLING, BROWN \& SHARPE'S NEW METALLIC TRIANGULAR SCALES.
4806. Metal, 12 inch, divided \({ }_{3}^{3} 2,16,1 / 8,1 / 4,3 / 8,1 / 2,3 / 4,1,11 / 2,3\) inch and \(\frac{1}{16}\) inch, Ench. (List Price, \(\$ 3.25\) ) \(\$ 3.00\)
4845. Metal, 12 inch, divided \(10,20,30,40,50,60\) parts to inch, \(\mid\) "

\section*{TRIANGULAR SCALE GUARDS. \\ }
4880. Triangular Scale Guard or Holder each, . 25
This appliance is made of plated metal. It can he attached to any part of the scale, and overcomes the necessity of searching for the scale in use.

\section*{HAND DIVIDED SCALES.}

\section*{Boxwood and Ivory.}

Machine Divided Scales, Best quality, see Nos. 4000, etc.


Nos. 5000-5024.
5000. Boxwood, Hand Divided, Flat, 12 inch, \(1 / 8,1 / 4,1 / 2,1\) inch to foot........ . . 50
5004. Boxwood, Hand Divided, 66 " " " " " \(6 . \ldots\). . 35
5020. Ivory, Hand Divided, 6 12 " " " " "...
5024. Ivory, Hand Divided, 6 6 " " " " " ......... 2.00


Nos. 5040. 5054.
Each.
5040. Boxwood, Hand Divided, Flat, Universal Scale, 12 inch, cont. 16 scales, \(\$ 1.50\)
5054. Ivory, Hand Divided, 66 66 66 12 " " 16 "6 3.00

5060. Boxweod Hand Nos. 5060. 5064.
16 scales. all running to the edge.
Each. ..... \(\$ 1.50\)
5064. Ivory, Hand Divided, Flat, Universal Scale, 12 inch, containing 16 scales, all running to the edge ..... 3.00

\section*{ENGINEERS' SCALES.}


\section*{PLOTTING SCALES.}

Nos. 5140. 5142

5140. Ivory Plotting Scale, 6 inches ..... each, ..... 75
5142. Boxwood Plotting Scale, 6 inches ..... 15
GUNTER SCALES.
5160. Boxwood Gunter Scale, 24 inches ..... each, \(\$ 1.50\)
5162. Boxwood Gunter Scale, 12 " ..... 1.00
Gunter Scales are also made in a cheaper grade.
BRISTOL BOARD OR PAPER SCALES.
19 inches long.
5200. Set F, 18 Scales, \(\frac{3}{32}, 1 / 8, \frac{3}{16}, 1 / 4, \frac{5}{16}, 3 / 8,1 / 2,3 / 4,7 / 8,1,11 / 2,3\) inch to foot, 10, 20. 30, 40. 50, 60 parts to inch. ..... Set, \(\$ 3.00\)
5204. Set E, 12 Scale. \(\frac{3}{32}, 1 / 8, \frac{3}{16}, 1 / 4, \frac{5}{16}, 3 / 8,1 / 2,3 / 4,7 / 8,1,11 / 2,3\) 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 ..... " 1.00
5216. Set B, 6 " \(\frac{3}{3}, \frac{1}{8}, \frac{3}{16}, \frac{5}{16}, 3 / 8,7 / 8\) inch to foot. ..... 1.00
5220. Set A, 6 " \(1 / 4,1 / 2,3 / 4,1,11 / 2,3\) ..... 100
Separate Scales of any of above ..... each, . 20
SHRINKAGE RULES.
Each.
5300. Boxwood, \(241 / 2\) inches long, Double Shrinkage, with Scales ..... \(\$ 2.50\)
5304. Boxwood, 241/4 " " Single ..... 2.25
5310. Boxwood, \(241 / 4\) 1/8 and \(\frac{1}{16}\) ths, ..... 1.00
5320. Boxwood, 241/4 " jointed to fold to half length
\(1 / 8\) and \(\frac{1}{16}\) ths, 1.50

\section*{SCHOOL RULES.}


No. 5330.
5330. Boxwood, 12 inches long, \(\frac{1}{16}\) inches ............................................... 10

\section*{BRASS INLAID EDGE RULERS.}
\begin{tabular}{|c|c|c|c|c|c|c|c|}
\hline 5350, Boxwood, & & & \({ }_{16}\) & & & & 25 \\
\hline 5352. Boxwood, & ، & ، & ، & 18 & & ، & 1.00 \\
\hline 5354. Boxwood, & " & ، & " & 15 & & 6 & 90 \\
\hline 5356. Boxwood, & 6 & " & ، & 12 & & : & 65 \\
\hline 5370. Maple, & 66 & ، & 1/8ths, & 24 & ، 6 & ، & 55 \\
\hline 5372. Maple, & ، & ، & ، & 18 & & ، & 35 \\
\hline 5374. Maple, & ، & ، & ، & 15 & & . & 30 \\
\hline 5376. Maple, & & " & ، & 12 & " & , & 25 \\
\hline
\end{tabular}

\section*{BOXWOOD AND IVORY SECTORS.}


Nos. 6380. 6382.
5380. Ivory Sector, 1 foot, folds to 6 inches . . . . . . . . . . . . . . . . . . . . . . . . . . . each, S2 . 25
5382. Boxwood Sector, 1 foot, folis to 6 inches . . . . . . . . . . . . . . . . . . . . . . . . ، 1.00

\section*{FOLDING SCALE RULES.}

\section*{Very Best Quality.}

INSIDE EDGES BEVELED AND DIVIDED LIKE DRAWING SCALES.


Nos. 5386-5404.
5386. Ivory, Beveled Eige, 2 fout, 4 fold, German Silver Mountings, high
tinish, uutside divided into inches and \(\frac{1}{16}\) ths and inches and \(\frac{1}{12}\) 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.......................................................each, \(\$ 7.50\)
5388. Ivory, Beveled Edge, 2 foot, 4 fold, German Silver Monntings, high finish, outside divide. into inches and \(\frac{1}{16}\) ths and inches and \({ }_{12}\) 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
other graduations furnished at short notice.
5396. Ivory, Beveled Edge, 2 foot, 4 fold, German Silver Mountings, divided: \(1 / 8, \frac{1}{16}, \frac{1}{10}\) inches, 10 of feet, beveled edges contain \(1 / 2,3 / 8,1 / 8,1 / 4\) inch scales..................................................................
5400. Boxwood, Beveled Edge, 2 foot, 4 fold, Brass Mountings, various scales on beveled edges


\section*{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, Beyel, 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.

5410. Boxwood Combination Rule, 1 foot, 2 fold............................each, \(\$ 2.50\)
5411. Boxwood Combination 66 1 " 2 " in neat Morocco Case... " 3.50

\section*{SKELETON POCKET RULE.}

\author{
Very Light.
}

5420. Skeleton Rule, Ivory, 1 meter, 10 fold, one side inches, and other side Metric. ........................................................each, \(\$ 1.75\)
5422. Skeleton Rule, Ivory, \(1 / 2\) meter, 10 fold, one side inches, and other side Metric. ............................................................. " 1.00
5428. Skeleton Rule, Boxwood, 1 meter, 10 fold, one side inches, and otber
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, \({ }_{16}^{16}\) inch on both sides..... .. " 50
5442. Skeleton Rule, Boxwood, 4 " 8 " one side \(\frac{1}{16}\) inches, and other side Metric.
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

\section*{BOXWOOD SKELETON RULES, With Springs.}
5454. Skeleton Rule, with
straight position, 4 foot, 8 folding \({ }_{1}\) Springs, to keep the Rule in a
Sene................................. \(\$ 1.00\)
5456. Skeleton Rule, with Springs, 2 foot, 4 fold, \(\frac{1}{16}\) inches............. ". . 60

\section*{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 cond prominent, and finish far superior to factory made Rules.
5464. Boxwood. 2 foot, 4 fold, Brass Mountings, having but one seale on each edye. Outside edges, \(\frac{1}{16}\) \& \(\frac{1}{6}\) inches. Inside ediges, \(\frac{1}{12}\) d \(\frac{1}{10}\) inches.each, \(\$ 1.00\)
5470. Boxwood, 2 foot, 4 fold, Brass Mountings, with only oue seale on each
side, and extra large ligures. Outside edge, it inches. Inside
edge, \(1 / 3\) inches
1.00

Other divisions furniahod at whort notico.

\section*{POCKET RULES.}

5500. Ivory, 2 foot. 4 fold, German Silver Mountings, and both edges lined with German Silver
5504. Ivory, 2 foot, 4 fold, German Silver Mountings ..... 4.00
5508. Ivory, 2 " 4 " " narrow ..... 4.0055\%0. Ivory, 1 " " " " and both edges linedwith 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 ..... 80
5550. Boxwood, 2 foot, 4 fold, Brass Mountings, with Drawing Scales ..... 35
5554. Boxwood, 2 " 4 " 4 " .....  25
5560. Boxwood, 2 " 4 " " narrow. .....  25
5564. Boxwood, 2 " 4 " " "
and both edges lined withBrass65
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


\footnotetext{
5596. Boxwood, 3 foot, 6 fold (folds to 6 inch)
.each, \(\$ 1.00\)
}
5598. Boxwood, 2 " 6 " (" 4 ،) .............................. ". . 60
E. G. SOLTMANN-NEWYORK.

\section*{SLIDE RULES.}

5616. Slide Rule, Boxwood, Edges lined with Brass, Gunter's Slide, \(1_{1}^{1}\) and \({ }_{1}^{16}\) inches, Drafting and Engineers' Scales ............................ \({ }^{1}\). 2.00
Treatise on the use of the Slide Rule (Weale's Series) ................ " 1.00
The Engineers' Slide Rule and its Applications. By William Tonkes ". . 25

\section*{MEASURING RODS AND YARD STICKS.}
5630. Six-Foot Measuring Rod, divided \(1 / 8\) inches, one side figured from left
to right, other side from right to left.............................each, \(\$ 2.50\)
5632. Five-Foot Measuring Rod, divided \(1 / 8\) inches, one side figured from left to right, other side from right to left.......................... " 1.75
5634. Four-Foot Measuring Rod, divided \(1 / 8\) inches, one side figured from left to right, other side from right to left . ........................... " 1.00
5636. Three-Foot Measuring Rod, divided \(1 / 8\) inches, one side figured from left to right, other side from right to left ..... 55
5640. Yard Stick, Wide and Thin ..... 50
5644. Yard Stick, Plain. ..... 25

\section*{CEILING MEASURING RODS.}

For Measuring height of Rooms, sizes of Windows, etc.
The Rods are in two sections, one of which can be extended and is held in position by self-acting springs. The graduations are so arranged that the measurements are read on the lower rod.
5660. Ceiling Measuring Rod, 16 feet, slides and closes to 8 feet............. each, \(\$ 8.75\)
5661. Ceiling Measuring Rod, 12 " " 6 "..........." 6.50
5662. Ceiling Measuring Rod, 10 " " 5 "..........." 5.00
5663. Ceiling Measuring Rod, " " " 8 "..........." 4.00
5664. Ceiling Measuring Rod, 6 " " " 3 ".......... " 3.00

Special sizes made to order.

\section*{GAUGE AND WANTAGE RODS.}

For Measuring Liquicl contents of Barrels.
5674. Boxwood Ganging and Wantage Rods . ................ Set of 2 Rods, \(\$ 3.10\)
5676. Hardwood Ganging and Wantage Rods................... ". " 1.12

Other styles and qualities furnishod to order.

\section*{ROLLING PARALLEL RULERS.}


No, 5700-5738.
5700. Metal Rolling Parallel Ruler, Fine Finish, 24 inches.............each, \(\$ 20.00\)
5702. Metal 66 66 66 " " 66 "............. " 18.00
5704. Metal 66 66 66 " " 66 "............. " 1200
5706. Metal 66 66 66 " " 12 ".............. ، 10.00
5716. Metal 66 66 66 GoodQuality,12 "............. " 850
5732. Ebony 66 66 6 \(6 . . . . . . . . .18\) " ................ " 5.00
5734. Ebony 66 6 6 6 ..............15 "........... ". 4.00
5736. Ebony 66 66 6 66 ............12 " ............... ، 3.00
5738. Ebony 66 66 66 ............. 9 ".............. " 2.50


No. 5752. 5754.
5752. Ebony Rolling Parallel Ruler, with Ivory divided edges, 18 inches .each, \(\$ 7.50\) 5754. Ebony 666666 " 66 " 12 " .. " 5.00

\section*{PARALLEL RULERS.}


No. 5758-5780.
5758. Ivort, German Silver Bars
.each, \$1.50 5760. Hard Rubber, Best Quality.
\begin{tabular}{cccccc} 
& 24 & 18 & 15 & 12 & 9 \\
Each, & 53.50 & 2.50 & 2.00 & 150 & 1.00 \\
\hline
\end{tabular}
5770. Ebony, American make, superior to the imported ones, which frequently warp, on account of climatic changes.
\(\begin{array}{llllll}\text { Each, } \$ 2.50 & 1.50 & .20 & .90 & .65\end{array}\)
5780. Ebony, Imported, Second Grade.
\begin{tabular}{cccccc} 
Each, & \(\$ 2.00\) & 18 & 15 & 12 & 9 \\
\hline
\end{tabular}

No. 5800. 5820.
5800. HARD RUBBER, Fixed Head.
\begin{tabular}{ccccccccc}
36 & 30 & 24 & 21 & 18 & 15 & 12 & 9 & 6 inch. \\
Each, \\
\(\$ 3.00\) & 2.40 & 1.75 & 1.50 & 1.20 & 1.00 & .90 & .85 & .65
\end{tabular}
5820. HARD RUBBER, Swivel Head.
\begin{tabular}{ccccccccc} 
& 36 & 30 & 24 & 21 & 18 & 15 & 12 & 9 \\
Eacn, \\
\(\$ 4.00\) & 3.25 & 2.75 & 2.25 & 2.00 & 1.75 & 1.60 & 1 & 25 \\
\hline
\end{tabular}

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

\begin{tabular}{cccccccccc} 
& 60 & 54 & 48 & 42 & 36 & 30 & 24 & 18 & 15 \\
Each, \\
\(\$ 3.90\) & 3.25 & 250 & 2.00 & 1.75 & 1.50 & 1.20 & 1.00 & .90 & .80
\end{tabular}
5870. MAHOGANY, with Ebony Edges, Swivel Head.
\begin{tabular}{cccccccc} 
\\
Each, & \(\$ 4.90\) & 54 & 48 & 42 & 36 & 30 & 24 \\
\(\$ 4.25\) & 3.50 & 3.00 & 2.65 & 2.35 & 2 & 00 & 1.60
\end{tabular}

5900. MaPle blade, Walnut Fixed Head.
\begin{tabular}{cccccccccccc}
84 & 72 & 60 & 54 & 48 & 42 & 36 & 30 & 24 & 21 & 18 & 15 inch. \\
Each, \(\$ 3.50\) & 2.80 & 2.20 & 1.60 & 1.25 & 1.15 & 1.00 & .90 & .75 & .60 & .50 & .40
\end{tabular}
5920. MAPLE BLADE, Wannt Swivel Head.
\begin{tabular}{ccccccccc}
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
\end{tabular}

\section*{T SQUARES (continued).}

5940. HARDW00D BLADE and Fixed Head.
\begin{tabular}{crrrrrrr}
48 & 42 & 36 & 30 & 24 & 21 & 18 & 15 inch. \\
Each, \(\$ 1.00\) & .75 & .65 & .50 & .45 & .40 & .35 & .30
\end{tabular}
5960. HARDWOOD BLADE and Shifting Head.
\begin{tabular}{cccccccc} 
& 48 & 42 & 36 & 30 & 24 & 21 & 18 \\
Each, & \(\$ 1.60\) & 1.35 & 1.15 & 1.00 & .95 & .80 & .75 \\
& & & .70
\end{tabular}
5980. HARDW00D TAPERED BLADE, Fixed Walnut Head.
\begin{tabular}{ccccccc}
60 & 54 & 48 & 42 & 36 & 30 & 24 inch. \\
Each, \(\$ 3.00\) & 2.50 & 2.00 & 1.75 & 1.50 & 1.20 & 1.00
\end{tabular}

\section*{SKETCH BLOCK T SQUARES,}

6000. HARDWOOD BLADE, Fixed Walnut Head.
\begin{tabular}{ccccccc} 
& 18 & 15 & 12 & 9 & 6 & 4 inch. \\
Each, & .42 & .38 & .34 & .30 & .26 & .22
\end{tabular}

> E. G. SOLTMANN-NEW YORK.

6020. STEEL Engravers T Squares, Nickel Plated Blade, Fixed Brass Head. Each, \(\$ 2.25150 \quad 1.25 \quad 1.00\)
6040. STEEL Engravers T Squares, Nickel Plated Blade, Swivel Brass Head.
\begin{tabular}{ccccc} 
Each, & \(\$ 2.50\) & 9 & 6 & 6 \\
& \(\$ 2.75\) & 1.75 & 1.50 & 125
\end{tabular}
6060. STEEL Nickel Plated Blade, Fixed Metal Head.

36
30
24
18 inch. 3.25
6070. STEEL, Nickel Plated Blade, Swivel Metal Head.

Each, \(\quad \begin{aligned} & 36.00\end{aligned}\) 30

24
18 inch. 4.75

\section*{T SQUARE}


No. 6080. 6082.
 SWIVELS.
6080. Plated Swivel, with Nut and Warher.
6082. Brass Swivel, " " " ................................... ". . 60
6084. Brass Swivel, Milled Head............................................... ". ". . 40
6086. Brass Swivel, with Cross Bar Head. .................................... " . . 30

\section*{STRAIGHT EDGES.}

6100. HARD RUBBER.
\begin{tabular}{ccccccccc} 
& 42 & 36 & 30 & 24 & 21 & 18 & 15 & 12 inch. \\
Each, & \(\$ 2.50\) & 2.00 & 1.50 & 100 & .90 & .10 & .50 & .40
\end{tabular}

6120. MAHOCANY, EBONY LINED.
\begin{tabular}{ccccccccc}
60 & \(5 t\) & 48 & 42 & 36 & 30 & 24 & 18 & 15 inch. \\
Each, \(\$ 2.75\) & 200 & 1.60 & 1.25 & 1.00 & .70 & .55 & .50 & .40
\end{tabular}

6140. HARDW001, Beveled Edges, Thick.
\begin{tabular}{ccccccccccc} 
& 72 & 60 & 54 & 48 & 42 & 36 & 30 & 24 & 18 & 15 \\
Each, \\
\(\$ 1.75\) & 1.25 & .90 & .65 & .50 & .40 & .30 & .25 & .20 & .18 & .15
\end{tabular}

6160. STCELL, Nickel Plated, Beveled Edges.
Fach, \begin{tabular}{ccccccccc}
72 & \(\$ 15.00\) & 11.00 & 8.00 & 42 & 36 & 30 & 24 & 18 \\
\hline
\end{tabular}
6180. STEEL, Straight Edges, with Square Edges.

48 inch, \(\$ 6.00\)
36 inch, 84.00
24 inch, \(\$ 2.00\) each.
```

104 E.G. SOLTMANN-NEW YORK.

```


No. 6200.

\section*{WOODEN BARS}

\section*{FOR BEAM COMPASSES.}
\begin{tabular}{llllllll} 
& \begin{tabular}{ccc}
72 & 60 & 48 \\
Each,. & 42 & 36 \\
\hline
\end{tabular} & .90 & .75 & .65 & .55 & 45 & .40 \\
& & & & & & &
\end{tabular}

\section*{TRIANGLES.}


No. 6300. 30 and 60 Degrees.

6400.

45 Degrees.

6500. \(221 / 2\) and \(67 \frac{1}{2}\) Degrees.
6300. HARD RUBBER, 30 and 60 Degrees.
\begin{tabular}{llllllllllllll}
16 & 15 & 14 & 13 & 12 & 11 & 10 & 9 & 8 & 7 & 6 & 5 & 4 & 3 inch.
\end{tabular}
6400. HARD RUBBER, 45 Degrees.
\begin{tabular}{cccccccccccccc}
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, & 22 \(1 / 2\) & and \(671 / 2\) & Degrees. & & & & & & \\
Each, & \(\$ 1.50\) & & 13 & 1.00 & & 11 & & 9 & & 7 inch.
\end{tabular}
6550. HARD RUBBER, Solid, 30 and 60 Degrees.

8 inch, 356 inch, 25 4 inch, 18 each.
6570. HARD RUBBER, Solid, 45 Degrees.

6 inch, . 35
5 inch, \(25 \quad 4\) inch, .18 each.


No. 6600.

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

6620. MAHOGANY, Ebony lined inside and outside, 45 Degrees.
Each, \begin{tabular}{cccccccccc}
24 & 20 & 18 & 16 & 2.20 & 1.75 & 1.50 & 1.25 & 1.00 & 10 \\
.80 & .65 & 7 & 6 & inch. \\
\hline
\end{tabular}

TRIANGLES (continued).


No. 6700.

6.20.

6800.

6820. 6700. HARDW0OD, 30 and 60 Degrees.
\begin{tabular}{crrr} 
& 15 & 13 & 11 \\
Each, & .70 & .55 & .45
\end{tabular}
6720. HARDWOOD, 45 Degrees.
\(\begin{array}{llll}14 & 12 & 10\end{array}\)
Each, 70 . 55.45
9
.35
8
30
7
.25
( \({ }^{\text {inch}}\)
. 22
5 inch. .22
6800. HARDWOOD, Solid, 30 and 60 Degrees.

Each,
6820. HARDWOOD, Solid, 45 Degrees.

Each,
\begin{tabular}{c|c}
8 & 7 \\
35 & .30 \\
\hline
\end{tabular}

6

7 inch. .15

6 inch. 15

\section*{METAL TRIANGLES.}
6900. STEEL, Nickel Plated, 30 and 60 Degrees, Open Centre.


6 inch.
3.25

5 inch.
3.25

5 inch.
1.00
6950. STEEL, Solid, Nickel Plated, with Knob for Lithographers. \(\begin{array}{ccccc}\text { Each, } & \$ 3.00 & 10 & 8.75 & 2.25 \\ & & 1.80\end{array}\)

6960. HARD RCBBER Lettering Triangles, Set of 3

6964. HARI RUBBER, Roof Pitches, Set of 6.............................. . Set, s3.00

> HARD RUBBER COPENHAGEN SHIP CURVES.


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-NEWYORK.


No. 7000.
7000. Set of 45 Hard Rubber Ship Curves, Nos. 1 to 45 (see illustration on previous page), in neat Polished Case.
7020. Hard Rubber Ship Curves, Separate, illustration on previous page:
\begin{tabular}{rrcccccccccrr} 
\\
Pattern No. 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 \\
Each, \(\$ 1.25\) & 1.25 & 1.25 & 1.25 & 1.25 & 1.25 & 1.25 & 1.25 & 1.25 & .80 & .80 & .75 \\
Pattern No. 1.3 & 14 & 15 & 16 & 17 & 18 & 19 & 20 & 21 & 22 & 23 \\
Each, & .80 & .75 & .90 & 80 & .50 & .50 & .55 & .55 & .45 & .45 & .45 \\
Pattern No. 24 & 25 & 26 & 27 & 28 & 29 & 30 & 31 & 32 & 33 & 34 \\
Each, .45 & .45 & .45 & .45 & .35 & .35 & .40 & .35 & .35 & .40 & .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
\end{tabular}

Set of 10 Ship Curves, for Mechanical Drawing.


CARRIAGE AND SLEIGH BUILDERS' CURVES,

7080. Set of 8 Hard Rubber Curves, in Case.

\section*{WOODEN SHIP CURVES.}
\[
108
\]
E. G. SOLTMANN-NEW YORK.

HARD RUBBER CURVES.

56.
57.
58.
59.
60.
61.

7100. Hard Rubber Curves, complete Set of 23 Curves, containing:

Nos. 50 to 70, Spiral No. 7130, and Combination No. 7135... Set, in Case, \$16.50
7105. Hard Rubber Curves, 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 Curves, SEPARATE (see illustrations) :
\begin{tabular}{crrrrrrrrrr} 
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 \\
\hline
\end{tabular}

7160. Wooden Curves, set of 15 Curves, containing Nos. is to 95 . Set, in isox, S5.75 7165. Wooden Curres, sEPARATE.
\begin{tabular}{ccccccccr} 
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
\end{tabular}

\section*{SPLINES AND WEIGHTS.}


No. 7200-7230.
7200. Hard Rubber Splines, with Groove, to hold points of weights.
\begin{tabular}{lrrrrrrl} 
& 42 & 36 & 30 & 24 & 18 & 12 inch. \\
Each, & .50 & .45 & .40 & .35 & .30 & .25
\end{tabular}
7220. Hardwood Splines, Grooved ...... 24 inch, . 25 each. 36 inch, .30 each.
7230. Lead Weights, for Splines, with Metal Point .........(List Price, \$1.12) each, \$1.00
7240. Iron Weights, for Splines . . . . . . . . . . . . ............................. " . 60

\section*{WOODEN}


\section*{ELLIPSES.}
7300. Hardwood Ellipses, 10 in set, from \(11 / 2\) to 6 inches .set, \(\$ 2.00\)

\section*{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 bnilding, and for long curves in general.

\section*{ADJUSTABLE CURVE 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.

\section*{ADJUSTABLE CURVE RULER, Small.}

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

\section*{RAILROAD CURVES.}
7400. Hard Rubber Railroad Curves, Set of 102. With Tangent, length of Curves from 7 to 21 inches. Finished on concare and convex side. Contents : 200, 197, 195, 193, 190, 187, 185, 183, 180, 177, 175, 173, \(170,167,165,163,160,157,155,153,1150,147,145,143,140,137\), \(135,133,130,127,125,123,120,117,115,113,110,107,105,103\), \(100,97,95,93,90,88,85,83,80,78,75,73,70,67,65,63,60,57\). \(55,53,50,48,46,45,44,42,40,38 ; 36,35,34,32,30,29,28,27\), \(26,25,24,23,22,21,20,19,18,17,16,15,14,13,12,11,10,9,8,7\), \(6,5,41 / 2,4,31 / 2,3\) 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, 870.00
7450. Hard Rubber Railroad Curves, Set of 43. Finished only on the couvex 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 convex 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, 87.75

\section*{WOODEN RAILROAD CURVES.}
7640. Best Quality Wooden Railroad Curves, Set of 100. Finished only on the conrex 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, \(\$ 45.00\)
7650. 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
7660. Best Quality Wooden Railroad Curves, Set of 17. Finished only on the convex side.
Contents : \(60,57,54,51,4^{\mathrm{Q}}, 45,42,39,36,33,30,27,24,21,18,15\), 12 inch Radius....................................................... Box,
7.50
7670. 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.

\section*{DRAWING BOARDS.}

Grooved Back.


Nos. 7800-7812.
7800. Grooved Back, best quality, Antiquarian, \(\quad 33 \times 55\). . each, \(\$ 12.00\)
7804. Grooved Back, " " Double Elephant, \(31 \times 42 \ldots . .\). ....... " 8.50
7808. Grooved Back, " " Atlas, \(27 \times 34 \ldots . . . . .\). .... " 6.50
7812. Grooved Back, " " Imperial, \(23 \times 31 \ldots . . . . . .\). .... 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 hoard 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 \(\mathbf{T}\) square a smooth working edge. They are also cut at every few inches, to allow for contraction and expansion of the board.

\section*{DRAWING BOARDS,}

\section*{WITH WALNUT CROSS BARS.}


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.
7830. Drawing Board, Hardwood Cross Bar, \(42 \times 12\) .each, \(\$ 14.50\)
7834. Drawing Board, " " " \(42 \times 60 \ldots \ldots \ldots . . . . .\). ............. 11.50
7838. Drawing Board, " " " \(42 \times 48 \ldots \ldots . . . . . . .\). .......... 8.50
7860. Drawing Board, " " " \(36 \times 72 \ldots \ldots . . . . . . .\). .......... 13.00
7864. Drawing Board, " " " \(36 \times 60 \ldots \ldots . . . . . . . .\). .......... 10.00
7868. Drawing Board, " " " \(36 \times 54 . . . . . . . . . . . . . . .\). " 8.00
7872. Drawing Board, " " " \(36 \times 48 \ldots \ldots . . . . . . .\). ........... 7.00
7876. Drawing Board, " " " \(36 \times 42 \ldots . . . . . . . . . .\). ". 6.00
7880. Drawing Board, " " " \(31 \times 42 \ldots . . . . . . . . . . .\). ........ 500
7884. Drawing Board, " " " \(27 \times 34 \ldots . . . . . . . . . .\). ........ 4.25
7888. Drawing Board, " " " \(23 \times 31 \ldots . . . . . . . . . .\). ........ 3.50
7892. Drawing Board, " " " \(20 \times 26\)................... " 2.20
7896. Drawing Board, " " " \(16 \times 21 . . . . . . . . . . . . .\). ..... 1.50

\section*{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.

Inches.

7944. Framed Board, \(16 \times 21\)................................................ . . 3.00
7918. Framed Board, \(14 \times 19\)... .............................................. . . . 2.50


\section*{LIGHT DRAWING BOARDS.}

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

7970. Light Drawing Board, Inches. each, \$2.25
7974. Light Drawing Board, \(20 \times 26\). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ، 1.75
7978. Light Drawing Board, \(16 \times 21 . \ldots . . .\). . . . . . . . . . . . . . . . . . . . . . . ، 6 . 1.20



\section*{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


\section*{WOODEN BLACK BOARD DIVIDERS}


\section*{8100. Wooden Black Board Dividers.}
\begin{tabular}{cccc}
30 & 24 & 18 & 15 inch. \\
\(\$ 2.00\) & 1.60 & 1.25 & \(\$ 1.00\) each.
\end{tabular}

WOODEN BLACK BOARD DRAWING SET.

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

8300. Soltmann's Patent Section Liner, in Case .each, \$2.75
Consists of a rule deeply notched at every \(1 / 8\) 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 fitsinto the notches on the rule, and by the pressure of the finger remains until the line is drawu. 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 contains lines, 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 \(\frac{1}{16}\) inch. Figure 3 reduces three times ; figure 4 four times, etc.

\section*{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, by 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, " " \(12 \times 16\) " 6


8320. Positive Section Liner, with heary weights to place on any part of the drawing without injuring it.

\section*{DOTTING}


INSTRUMENT.
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.

\section*{PANTOGPAPHS.}


No. 8506.
8506. Pantograph, Black Wood, Metal Mountings and Joints, heavy weight and complete attachments, Strong construction, 24 inch. .in Case, each, \(\$ 24.00\) 8510. Pantograph, Black Wood, Metal Mountings and Joints, heavy 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 enlárging and reducing drawings................................. (List Price, \(\$ 5.55\) )
8544. Pantograph of Hardwood, Arms \(31 / 2\) feet long, for enlarging and reducing drawings....................... ...........(List Price, 84.45) 4.00
8546. Pantograph of Hardwood, Arms \(21 / 2\) feet long, for enlarging and reducing drawings .................................(List Price,. s3.33)
8548. Pantograph of Hardwood, Arms 2 feet long, for enlarging and reducing drawings.................................. (List Price, \$2.22)200
8550. Pantograph of Hardwood, for enlarging and reducing drawings, (List Price, \$1.12)
8554. Pantograph of Hardwood, for enlarging and reducing drawings....." " 50
8556. Pantograph of Hardwood, " " " ".... " . 25

8600. Hardwood Lined, with Brass Screw, 36 inches..........................pair, \(\$ 6.50\)
8604. Hardwood Lined, " " " 24 " ....................... " 5.00
8608. Hardwood Lined, " " " 18 " ....................... " 4.00

\section*{PLANIMETER,}

8650. Planimeter, Complete in Case, with directions for use
each, \(\$ 30.00\)

\section*{ECCENTRO LINEAD.}

8660. Eccentro Linead, Fbony, German Silver Monntugs, for drawing ec-

\section*{ELLIPSOGRAPH.}


No. 8700.8702.
8700. Ellipsograph, Strong and substantial make, with directions for use.

In Wooden Box.............................................each, \(\$ 7.90\)

872. 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, \(\$ 3.50\) Illustrated Treatise on the Use of the Odontograph, by Prof. S. W. Robinson
8728. Willis' Odontograph, No. 1, for drawing the teeth of small wheels by diametrical pitch, when only a single arc is required
8730. Willis' Odontograph, No. 2, for drawing the teeth of larger wheels by circular pitch, where it is necessary to have separate arcs for flanks and faces, - with drawings, and directions for use.

\title{
MEASURING INSTRUMENT
}


No. 8750.8752.
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.

\section*{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 lar of soft lead, which can easily be bent, and remains so. To improve the working of it, the lead is lined with two thin hands of steel, and the drawing edge covered with rubber, which is hed in place by the small ribs.
8762. ADJUSTABLE CURVE RULER, Small.

Entire length, 14 log inches; rullog edge, 10 Inches . (Liat Prlce, \(\$ 1\) (67) ench, \(\$ 1.50\)

TRAMMEL HEADS.

8629. Trammel Heads, Broated. Medium size.......... . ............................... \(\$\). 00

8a9t. Trammel Heais. " ミニsll "

\section*{PAPER CUTTING INSTRUMENT.}

Sa seal


3s30. Paper Catting Instrument, for cathing suretcheil shers of Dranme
Peres frum the besed . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .esch,
DARLING, BROWN \& SHARPE'S GOODS


FLRNISHED AT MANTFACTCRER*S PRICES.
E. G. SOLTMANN-NEW YORK.

TEAPES REPAIRED AT SHORT NOTICE. MEASURING TAPES.


No. 890 .
8900. Chesterman's Steel Tapes, Leather Case, Flush IIandle.
\begin{tabular}{lcccccc} 
Divided \(\frac{1}{12}\) or \({ }_{10}^{1}\) of foot, & 100 & 75 & 66 & 50 & 33 & 25 feet. \\
Each............... \(\$ 15.00\) & 12.00 & 10.00 & 8.00 & 6.25 & 5.50
\end{tabular}
8920. Chesterman's Metallic Tapes, Lea.her Case, Folding Handle.
\begin{tabular}{ll|cccccc} 
Divided \(\frac{1}{12}\) or \({ }_{1}^{10}\) of foot, & 100 & 75 & 66 & 50 & 33 & 24 feet. \\
Each \(\ldots \ldots \ldots \ldots \ldots\) & \(\$ 4.75\) & 3.75 & 3.30 & 3.00 & 2.35 & 2.00.
\end{tabular}

\section*{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 grood q:allties. The handles of all tapes (50 feet and ower) are detachable; compensating, and other handies can be put on. The entire tupe, if tak en out of the case, by fastening an extra handle to theother end, can be used as a chain.
8960. Paine's Steel 'Tapes, Leather Covered Case, Flush Handle
\begin{tabular}{|c|c|c|c|c|c|}
\hline Divided \(\frac{1}{2}\) or if of foot & 100 & 75 & 66 & 50 & 33 f \\
\hline Each & 0 & 0) & 10.00 & 8.00 & \\
\hline
\end{tabular}
8980. Paine's Steel Tapes, Leather Covered Case, Flush Hamdle.


9000. Paine's Steel Tapes, Japanned Metal Case, Folding Handle.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline Divided \({ }^{1} \frac{1}{2}\) or \({ }^{1} 10\) of foot.
Each................ & \[
\begin{gathered}
100 \\
\$ 12.00
\end{gathered}
\] & \[
\begin{gathered}
75 \\
10
\end{gathered}
\] & \[
\begin{gathered}
66 \\
8.00
\end{gathered}
\] & \[
\begin{gathered}
50 \\
6.00
\end{gathered}
\] & \[
\begin{gathered}
33 \\
4.50
\end{gathered}
\] & \[
\begin{aligned}
& 25 \text { feet. } \\
& 3.50
\end{aligned}
\] \\
\hline \multicolumn{7}{|l|}{aine's Steel Tapes, without Case.} \\
\hline Each, \(\begin{aligned} & 100 \\ & \$ 10.00\end{aligned}\) & & & & 66
6.60 & & 50 feet \\
\hline
\end{tabular}
9030. Graduated Compensating Handles, for various temperatures
.pair, \$3.35
9020. Paine's Steel Tapes, without Case.

Each, \(\$ 10.00 \quad 7.50\)

9050. Case \(2 \frac{1}{4}\) inch diam.
9050. Steel Nickel Plated Pocket Tapes, very light, Flush Handle, divided
\(\frac{1}{12}\) or \(\frac{1}{10}\) of foot, 25 feet long.........................................each, \(\$ 5.50\)
9060. 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.

\section*{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.... \(100 \quad 75 \quad 66\) 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. \(100 \quad 75\)
3.75
50 feet.
3.00
9110. Metallic Tapes, Wire Woven, without Case.

Divided \(\frac{1}{12}\) or \(\frac{1}{10}\) of foot. ............................... 100
50 feet.
Each
\(\$ 3.25\)


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


Each
\(\$ 1.75\)
1.50
1.25

\section*{POCKET TAPES,}
```

WITH SPRING AND STOP.

```

9200. Steel Spring Pocket Tapes, in Nickel Plated Case.
\begin{tabular}{llcccc} 
Divided \({ }_{1}^{12}\) or \(\frac{1}{10}\) of foot....... 12 & 8 & 6 & 5 & 3 feet. \\
Each....................... \(\$ 3.50\) & 2.50 & 2.00 & 1.80 & 1.50
\end{tabular}
9210. Steel Spring Pocket Tapes, in Nickel Plated Case.

Divided \({ }_{12}^{\frac{1}{2}}\) foot on one, and Metric on other side.
\begin{tabular}{|c|c|c|c|c|c|}
\hline & 12 & 8 & 6 & 5 & 3 feet. \\
\hline Each. & \$3.75 & 2.75 & 2.25 & 2.00 & 1.65 \\
\hline
\end{tabular}
9220. Linen Spring Pocket Tapes, in Nickel Plated Case (case like 9200).

Best Quality. Divided into inches. ...... 6
Each............................................ \(\$ 125\)

9230. Linen Spring Pocket Tapes, in Nickel Plated Case.

Divided into inches ........................ if
Each
. 70
. 60

\section*{SURVEYORS' AMERICAN, METER AND VARA CHAINS. \\ }
9300. Steel, 100 feet, Best Grade, Brazed or Soldered Links and Rings. . .each, \(\$ 11.50\)
9302. Steel, 66 " " " Brazed " " " " "... " 10.00
9304. Steel, 50 " " " Brazed " " " " "... " \(6: 00\)
9306. Ste l, 33 " " "Brazed " " " " "... " 5.50
9320. Steel, 100 " Oval Rings........................................... " 8.00
9322. Steel, 66 " " " ............................................ ". 6.50
9324. Steel, 50 " " " .......................................... " 4.50
9326. Steel, 33 " " " .............................................. " 3.50
9340. Iron, 100 " Oval Rings ............................................ ". 5.50

9344. Iron, 50 " " " \(\ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .\). .......... 3.50
9346. Iron, 33 " " " \(\ldots . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .\). ............ 2.70
9360. Iron, 100 " Round Rings......................................... " 3.50


9366. Iron, 33 " " " ........................................ " 200
9380. Steel, 20 METER, Best Grade, Brazed orSoldered Links and Rings, " 10.00
9382. Steel, 15 " " " Brazed " " " " " " 7.50
9384. Steel, 10 " " " Brazed " " " " " " 5.50
9400. Steel, 20 " Oval Rings. ....................................... ". 6.20
9402. Steel, 15 " " " ..................................... " 5.00
9404. Steel, 10 " " " .................................... " 350
9420. Steel, 20 FARAS, Best Grade, Brazed or Soldered Links and Rings, " 10.00
9424. Steel, 10 " " "Brazed " " " " " " 5.50
9440. Steel, 20 " Oval Rings........................................ ". 6.50
9444. Steel, 10 " ". " . ..................................... ". 3.50

ROE'S IMPROVED STEEL TAPE CHAIN,
With Folding Reel.

Nos. 9450-9459.

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., withont catching or kinking, and as they are nickel-plated (mat finish) they do not rust, and require no oiling or cleaning a fter 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
9455. Roe's Improved Tape Chain, NICKEL-PLATED, 50 feet long, graduated every foot, end feet in tenths.............. . (List Price, \$6.12) 5.50
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.

\section*{SPRING BALANCE TAPE CHAINS.}

9465. Spring Balance Tape Chain, 50 feet long. \({ }^{3}\) Inch wide, with Spirit Level, Thermometer, Spring Balance and Brass Handles. They are extensively used for accurate measurements in large cities.

\section*{ARROWS OR MARKING PINS.}




No. 9550 .

\section*{PLUMB BOBS.}

9560.
9562.
9564.

9574.

9576.
9577.
9550. Brass, Large, Long Neck, Steel Point, Screw Cap....................each, \(\$ 3.00\)
9560. 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 Builders' and general use ............... .................. ". 1.25
9574. Brass, with Centre Reel... . .............. ....................... " 2.50 The string is wound up by turning the Bob.
9576. Brass, Large, with Reel containing the cord, which is lengthened by dropping the Bob and wound up by turning the wheel .9577. Brass, Medium, with Reel containing the cord, which is lengthenedby dropping the Bob and wound up by turning the wheel1.75

IRON PLUMB BOBS.

9584. Iron, for Builders and general use. each . 75

\section*{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

\section*{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 Plmumet.

Two Lamps packed in strong Box, with Strap
9624. Mining Lamp and Plummet.

In Box each, 13.00

LEVELING RODS AND POLES.

9700. New York Leveling Rod, Hardwood, with Target
each, \(\$ 16.00\)
9710. Philadelphia Leveling Rod, Mahogany, White Face, Self Reading.
9720. Boston Leveling Rod, Mahogany, with Target
" 16.00
9760. Leveling, or Flag Poles, each foot painted alternately red and white.
\begin{tabular}{cccr}
10 & 8 & 6 & 5 feet \\
Each, & \(\$ 3.50\) & 3.00 & 2.50
\end{tabular}

\section*{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 \(20 \mathrm{~min}-\) utes 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 minutes, 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..............................................extra, 10.00
Reflecting Shades for mining purposes........................... " 8.00

\section*{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

\section*{SURVEYING INSTRUMENTS (continued).}

9814. Engincer's or Surveyor's Transit. Telescope, 11 to 12 inches long; magnifying power, 18 times; horizontal liml, 6 inches diameter, divided to 20 minutes; doublo vernier, reading to 30 seconds; \(4 \frac{1}{2}\) inch needle; long, sensitive level to telescope, with clamp and tangent attachment. Complete in Mahogany Box, with Strap, inchuding Plumb Bob, Magnifying Glass, Adjusting Pins, etc., and 'Tripod . .each, \$210.00 Shifting Centre .extra, 10.00
9818. Engineer's or Surveyor*s Phin 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; \(41 /\) inch meedle. Complete in Mahogany Box, with Strap, including Plamb Bob, Marnitying Glass, Aujnsting Pins, ete., and Triporl

\section*{SURVEYING INSTRUMENTS (continued).}

9824. Engineer's Leveling Instrument. Telescope 18 to 20 inches long, magnifying power 22 times. Complete, in Mahogany Box, with Strap, including 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

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, \(\$ 38.00\)

\section*{SURVEYORS' COMPASSES.}

9900. Surveyor's Compass, with double Sights, two Bubbles, Ball and Socket.

Joint, with Jacob Stafl Mountings, 5-inch Needle, in Case.
.each, \(\$ 35.00\)



\[
\text { 9950. Tripod, with Jacob Staff Top, for Compasses. . . . . . . . . . . . .......... . each, } \$ 3.00
\]
9960. Jacob Staff, with metal foot.... ...................................... . . . 1.00
9970. Surveyor's Cross, for Jacob Staff in Case.................... . ....... . " 3.00

\title{
ABNEY'S HAND LEVEL AND CLINOMETER.
}


10,000. Abney's Reflecting Hand Level and Clinometer, with divided arc to show angles In Case, each, \$15.00

\section*{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 laving ghass on top and bottom. When used for tracing ore, the prospector should hotd the ring, and keep the needle pointing worth and south.

\section*{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
10,150. Compass, with Clinometer and Pendulum, \(21 / 2\) inches............. " 5.50


10,160. Compass, Round, Brass, Slip Cover, Stop, Jeweled Centre, 2 inch, each, \$2.25 10,162. Compass, Round, Brass, "
\(11 / 2\) "


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 66

10,222 . Compass, Watch Pattern, Brass, \(11 / 2\) inch.
10,260. Compass, Round, Brass, 2 inch
10,262. Compass, Round, Brass, \(11 / 2\) inch


No. 10,350.
On account of its extreme sensitiveness, the slightest variations in gradients, levels, etc., are easily ascertained, and therefore this instrmment 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, \(\frac{1}{10} \overline{0}\) 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 camot be made quite so minute as in the more open scales.

10,350. Mining and Surveying Aneroid Barometer, 5 inch diameter, silvered 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 each, \(\$ 50.00\)
10,380. Pocket Monntain Aneroid, \(2 \frac{1}{2}\) inch, compensated for temperature, with ring altitude scale, 15,000 feet, In Case.
" 24.00
10,400. Poeket Monntain Aneroid, 2 fuch, with ring altitude seale 8,000 feet, in Case.
" 16.00
10,420. Pocket Momitain Aneroid, 13/4 inches, metal case, altitude 8,000 feet, in Casa

\title{
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 \(\qquad\) ........... .................. each, \(\$ 33.00\)
10,510. Field and Marine Glasses, with revolving eye-pieces. 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

\section*{TELESCOPES,}

IN LEATHER-COVERED BODY.


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.

\section*{MAGNIFYING GLASSES.}


10,700. Keading Glasses, German Silver Ring, Ebony Handle, Best Quality.
\begin{tabular}{ccccccccc} 
Each, & \(\$ 5.00\) & \(41 / 2\) & 4 & \(31 / 2\) & 3 & \(21 / 2\) & 2 & \(112 /-\) inch. \\
& 4.00 & 3.50 & 3.00 & 2.50 & 1.75 & 1.00 & .75
\end{tabular}


10,730. O val Pocket Magnifying Glasses, Rubber Case, 2 inch, 2 Lenses, each, \$2.20 10,734. Oval Pocket Magnifying Glasses, "i \(11 \frac{1}{2}\) " 2 " 10,738 . Oval Pocket Magnifying Glasses, " \(11 / 4\) " 2 " " 1.00 10,742. Oval Pocket Magnifying Glasses, " 1 " 2 " " . 70 10,750. Oval Pocket Magnifying Glasses, 10,754 . Oval Pocket Magnifying Glasses, 10,758. Oval Pocket Magnifying Glasses, 10,762. Oval Pocket Magnifying Glasses,


10,850. Coddington Magnifler, with Hande, \(15 / 8\) inch, \(\$ 3.25 ; 1\) inch .....each, \(\$ 2.00\) 10,860. Coddington Magnifter, in Plated Foldiner Case with Ring, 0,860. Coddington Magnifler,
10,870. Coddington Magniller, with twisted handle, White Metal, 16 inch. " 1.50

\section*{MAGNIFYING GLASSES (continued).}


No. \(10,875\).


10,880-10,888.

10,875. Three Legged Microscope, adjustable to Focus, Brass. .each, . 75 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 . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . ، 1.25
10,888. Thread Counter, Brass, for Linen, Cotton, Silk, Burlap, etc., Small50

\section*{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.
11,180. \({ }^{66}\) Double Golden Dragon,'g Fine Gilt. . . . . . . . . . . . . . . . . . . . . . . . . . . each, \(\$ 5.00\)
11,184. "Double Golden Dragon," Second Grade Gilt.


No. 11, 190.
11,190. Hexagon, Soft and Black, \(41 / 2\) inches. .................................each, \(\$ 3.00\)
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. "(GOLDEN STORK," \(27 / 8\) inch, Gilt, Extra Quality...............each, \(\$ 3.00\)


No. 11,230.
11,230. Oblong Gilt, \(27 / 8\) inch, Fine Quality................................................. \&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............each, \(\$ 2.25\)

\section*{INDIA OR CHINESE INK (continued).}


No. 11,250.
11,250. OBLONG POLISHED, 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. '6ELEPHANT" INK, Small, Oblong Black. .each, \$1.00


No. \(11,280\).
11,280. Gilt \({ }^{66}\) Sword \({ }^{\prime \prime}\) Ink, \(31 / 8\) inch, Oblong, Black, with figures. each, \$1.50


11,290. Single Dragon, 25/8 inch, Black, Gilt Figures, extra qua!ity ........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,


11,350. Lion Head, Black, Oval, Polisheḍ, \(21 / 2\) inch......................each, .25


11,400. BLUE CHINESE INK ..................................................................... 75
11,404. RED 66 6 ................................................ ". . 75





\section*{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 reasou a line drawn with it can be washed over with color, without blurring.
11,450. Ohlong, Black, Best Quality, Large .each, \(\$ 3.00\)
11,454. Ohlong, Black, Best Quality, Medimm.... ........................ " 2.00
11,458. Ohlong, Black, Best Quality, Small............................." ". 1.00

\section*{INK AND COLOR SLABS.}


11,500. Slate Ink Stone, 5 inch, with heavy glass cover..................each, . 75
11,504. Slate Ink Stone, 312 " " " "................ " . 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,50


11,520. Patent Ink Slab, with cover, \(21 / 8 \times 51 / 2\) inches......................each, . . 60
11,522. Patent Ink Slab, with cover, \(13 / 4 \times 41 / 2\) " ...................... " .50


11,540. Nests of Cabinet Saucers, \(33 / 4\) inches, 6 in Nest....................each, \(\$ 1.00\)
11,542. Nests of Cabinet Saucers, 31/4 " 6 " .................... " 80
11,544. Nests of Cabinet Saucers, 25/8 " 6 " .................... ". 70
11,546. Nests of Cabinet Saucers, 23/8 " 6 " .................... " . 60

\section*{INK AND COLOR}


No. 11,566.


11,560.

SLABS (continued).


11,572.

11,560. Slanting Tiles, 12 divisions, \(6 \times 75 / 8\) inches
each, \(\$ 1.20\)
11,562. Slanting Tiles, 10
\(0 \quad\) " \(6 \times 75 / 8 \quad\) "
11,564. Slanting Tiles, 8 " \(6 \times 75 / 8\) " \(\ldots . . . . . . . . . . . .\). ........ 70
11,566. Slanting Tiles, 6 " \(3 \frac{1}{8} \times 73 / 4\) " \(\ldots \ldots . . . . . . . . . . .\). ............ 55
11,568. Slanting Tiles, 5 " \(3 \frac{1}{8} \times 73 / 4\) " \(\ldots . . . . . . . . . . . . .\). ". . 45
11,570. Slanting Tiles, 4 " \(3 \frac{1}{8} \times 73 / 4\) " ....................... " 35
11,572. Slanting Tiles, 3 \(3 \frac{1}{2} \times 4\) " ....................... " 20


11,590. Ink or Color Slab, 3 Wells and Slant, \(3 \times 41 / 2\) inches..............each, .35
11,592. Ink or Color Slab, 3 " " \(2 \frac{3}{4} \times 41 / 4\) " ............... " 30
11,594. Ink or Color Slab, 3 " " \(2 \frac{3}{8} \times 35 / 8\) "............. " . 25
11,596. Ink or Color Slab, 3 " " \(1 \frac{1}{2} \times 23 / 4\) " ............. " 15

No. 11,610.


No. 11,614.

11,610. Ink or Color Slab, 5 Wells and 5 Slants, \(4 \times 75 / 8\) inches.......... each, .70
11,614. Ink or Color Slab, 3 " 3 " \(2 \frac{1}{2} \times 4\)
25


11,620. Box Slab, 5 divisions, \(23 / 8 \times 6\) inches.... ............................each,


11,630. Architect's Slant and Basin, 8 divisions, and Cup

INK AND COLOR SLABS (continued).



11,680. China Palettes, Oblong or Oval.
\begin{tabular}{rrrrrrrr} 
& 10 & 9 & 8 & 7 & 6 & 5 & 4 inch. \\
Each, & .70 & .60 & .50 & .40 & .35 & .30 & .25
\end{tabular}

\section*{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

\section*{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:

\section*{w. W BOYNTON,}

HENRY LORD GAY,
J. M. VAN OSDELL \& CO.
E. BAUMAN,

EDBROOK \& BURNHAM,

WHEELOCK CLAY,
A. M. F. COLTON, BURNHAM \& ROOT, ADLER \& SULLIVAN, JOHN C. COCHRAN,

JAMES J. EGAN, BAUER \& HILI, TREAT \& FOLZ, L. B. DIXON, (And many others).

Office of the City Civil Engineer, Cleveland, Oct. \(2 \mathrm{~d}, 1883\). \(\}\)

\section*{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,

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. Lega, Architect,
Sr. Louts, 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.

St. Louis, July 9th, 1884.
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.

> Oflice of E. E. Myers, Arehitect, Dethoir, Mich., Allg. 1st, 1883.

\section*{F. B. Turek, Esq.}

Dear Sir: We have been using your Drafting Inks and Colors, which excel nll others for drafting purposes. This is a boon to the profession.

Very truly yours,
E E. MYERS. E.G. SOLTMANN-NEW YORK. See Testimonials on previous page.

\section*{CABINET}

TURCK'S DRAFTING INKS.


The above cut represents the style of Cabinet, No. 11,820 . Price \(\$ 10.00\).
```

SOLD AT MANUFACTURER'S PRICES.

```

11,820. Cabinet No. 5 (see Illustration), containing one Extra Large Bottle each : Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green, Indelible Yellow, Indelible Orange. Not Indelible Burnt Sienna, for Coloring, and Not Indelible " 8 B" Black, for Tracing Cloth and for general use.......... .................each, \(\$ 10.00\)

\section*{SEPARATE BOTTLES OF INKS OF ABOVE SIZE,}

11,832. Indelible Black, Not Indelible "8B" Black, for Tracing Cloth and for general use, extra large size ......................each bottle,
11,833. Indelible Carmine, Indelible Blue, extra large size ...... " " 175
11,834. Indelible Green, Indelible Yellow, Indelible Orange, Not Indelible Burnt Sienna, for Coloring, extra large size
each bottle, 1.50
E. G. SOLTMANN-NEW YORK.

\section*{"CRYSTALLINE" INK,} for writing and dorawing on blue prints.

This Ink contains no acid injurious to steel pens; it has the consistency of India Ink, and flows evenly.


CBAYSTALLINĒ"

 FOR BLUE PRINTS

\section*{TURCK'S DIAMOND DRAFTING INKS.}

\section*{SOLD AT MANUFACTURER'S PRICES.}

STRONG PARTITIONEID CABINETS COVERE 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 "8B" Black for Tracing Cloth and for general use. .
11,824. Catoinet No. 1, containing one small 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. . ..... 2.50
SEPARATE BOTTLES OF TURCK'S INKS.
11,830. Indelible Black, Manmoth size. ..... each Bottle, \$3.50
11,832. Indelible Black, Not Indelible " 8 B " Black for Tracing Cloth and for general use, extra large size ..... 2.00
11,833. Indelible Carmine, Indelible Blue, extra large size ..... 1.75
11,834. Indelible (xreen, Indelible Yellow, Indelible Orange, Not Indelible Burnt Sienna, extra large size. ..... 1.50
11,836. Indelible Black, Indelible Carmine, Indelible Blue, Indelible Green, Indelible Yellow, Indelible Orange. Not Indelible Burnt Niemma for coloring, Not Indelible " 83 " Back for Tracing Cloth and for general use, medium size. ..... 50
11,838. Indelible Black, Indelible Carmine, Indelible Blue, Indelible (Xreen, Indelible Yellow, Indelible Orange. Not Indelible Burnt Nioma for coloring, Not Indelible "81" Black for Tracing Cloth and general use, small size ..... 25
TURCK'S TRACING CLOTH COLORS.

11,844. Cabinet containing one Botlle each: Carmine, Vellow, Burnt Sienna, Blue, Green, Neutral 'Tint, and botle of Diluting Liquid each, \(\$ 5.00\)
These colors do not destroy the glose of the traching cloth, and canse no wrinkles or shrinkage.

\title{
higgins's liquid drawing inks.
}

11,850. Higgins's Drawing Inks, Waterproof, and General. Box of 1 doz. \$3.00. Bottle,

\section*{WINSOR \& NEWTON'S LIQUID COLORS.}


No. \(11,870\).


11,872
11,860. Winsor \& Newton's Liquid Carmine ..... 40
11,862. 66 Liquid Indelible Brown Ink ..... 40
11,864. 66 66 Liquid Prout's Brown ..... 40
11,866. 66 Liquid Sepia ..... 40
11,868. 66 . 66 Liquid Gold Ink. ..... 40
11,869. 6666 Liquid Silver Ink ..... 40
11,870. 66 66 Liquid Indian Ink ..... 35
11,872. 66 Liquid Chinese White ..... 35
11,874. 66 66 Liquid Prussian Blue. ..... 35
11,876. 66 . 66 Liquid Oxgall ..... 35
11,880. 66 Liquid Water Color Megilp ..... 35
11,882. 66 . 66 Liquid Water Mat Gold Size. ..... 35
11,884. 66 66 Liquid Gum Water ..... 35
11,886. \(66 \quad 66\) Pots of Oxgall ..... 25
11,888. Schoenfeld's Liquid Chinese White ..... 35
11,892. Rowney's Liquid Chinese White ..... 35

\section*{GOLD AND SILVER SHELLS, CUPS, etc.}

11,920. Gold Cakes11,920. Gold Cakeseach, \(\$ 2.00\)
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.
11,956. Williams' Lifuid Gold Paint, Box containing Gold Paint, Brush,and Directions for Use..............................................each, \(\$ 1.00\)11,960. Williams' Liquid Silver Paint, Box containing Silver Paint, Brush,and Directions for Use75
11,964. Ruby's Royal Gilding, Box containing Gilding, Brush, and Direc- tions for Use ..... 50
G
For All Ornamental Giliding DECOPATIVNDURPOSES. - , TIVE PURPO.
\begin{tabular}{|c|c|c|}
\hline 11,970. & Marschin & Gold Paint and Liquid . . . . . . . . . . . . . Set of 2 Bottles, \\
\hline 11,974. & 66 & Gold Paint, without Liquid. ......... . . . . . . . . . Bottle, \\
\hline 11,976. & 66 & Silver Prant, " \\
\hline 11,978. & 6 & Lisuid for Gold or Silver Paint \\
\hline 11,982. & 66 & Gold Paint and Liquid, small outfit in Box....... .ach, \\
\hline 11,986. & 6 & Silver Praint and Liquid, small outfit in hox \\
\hline
\end{tabular}

\section*{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.


12,202. 269. Cobalt Blue

\section*{FILLED JAPANNED TIN BOXES}

OF


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 " " " \(\quad\) "....... " 7.25
12,226. Japanned Tin Box, " 12 " " " ........." " 5.50
12,228. Japanned Tin Box, " 10 " " "......\({ }^{\text {. }}\). 4.50
12,230. Japanned Tin Box, " 8 " " " ......... " 3.75
12,232. Japanned Tin Box, " 6 " " " 1 .......... " 3.00

\section*{WINSOR \& NEWTON'S WATER COLORS.}

Whole Cake.


Half Pan.

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

\section*{Price List arranged according to Grades.}


\section*{WINSOR \& NEWTON'S WATER COLORS.}

\section*{ALPHIABETICALIX ARRANGED}

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

COLORS MARKED * ARE NOT MADE MOIST.

Colors can be ordered by their numbers.


\title{
WINSOR \& NEWTON'S WATER COLORS.
}

\section*{Arranged according to Tints.}

COLORS MARIED \(\because\) ARE NOT MADE MOIST.

Colors can be ordered by their numbers.
\begin{tabular}{|c|c|c|c|c|c|}
\hline WHITE. & Whole Cake or Pan. & Half Cake or Pan & REDS, LAKES AND & Whele Cake or Pan. & \(\underset{\text { Cake or }}{\text { Half }}\) Pan \\
\hline No. . WHITE. & & & MADDERS. & & \\
\hline 109. Chinese White & . 25 & . 15 & No. MADDERS. & & \\
\hline 155. * Constant Whi & . 45 & . 25 & 178. Burnt Carmine. & . 90 & . 45 \\
\hline 115. *Flake White. & . 25 & . 15 & 181. Carmine....... & . 90 & . 45 \\
\hline & & & 156. Crimson Lake & . 45 & . 25 \\
\hline BLACK. & & & 113. * Dragon's Blood & . 25 & . 15 \\
\hline 151. *Black Lead. & . 45 & & 194. *Field's Orange Vermilion & \$1.40 & . 70 \\
\hline 102. Blue Black... & . 25 & .15 & 119. Indian Red.. & . 25 & . 15 \\
\hline 103. * British Inlr & . 25 & . 15 & 121 Italian Pink. & . 25 & . 15 \\
\hline 122. Ivory Black. & . 25 & . 15 & 125. Light Red..... & .25
1.40 & . 70 \\
\hline 124. Lamp Black. & . 25 & . 15 & 189. Pink Madder. & 1.40
.90 & . 45 \\
\hline BLUE AND PURPLE. & & & 190. Pure Scarlet. & . 90 & . 45 \\
\hline & & & 137. *Red Lead & . 25 & . 15 \\
\hline 100. Antwerp Blue & . 25 & . 15 & 191. Rose Madder. & . 90 & . 45 \\
\hline 153. Cerulean Blue & . 45 & . 25 & 161. Ruben's Madd & . 45 & .25 \\
\hline 169. Cobalt Blue. & . 65 & . 35 & 163. Scarlet Vermilion........... & . 45 & . 25 \\
\hline 182. French Blue. & . 90 & . 45 & 143. Venetian Red............... & . 25 & . 15 \\
\hline 185. Indian Purpl & .90
.25 & . 15 & 144. Vermilion.................... & . 25 & . 15 \\
\hline 186. Intense Blu & .90 & . 45 & 173. Violet Carmine & . 65 & . 35 \\
\hline 128. New Blue. & . 25 & . 15 & & & \\
\hline 132. Prussian Blue & 25 & . 15 & & & \\
\hline 159. Purple Lake. & 45 & 25 & & & \\
\hline 196. Purple Madder & \$1.40 & . 70 & YELLOW AND ORANGE. & & \\
\hline 197. Smalt & 140 & . 70 & & & \\
\hline 198. Ultramarine Ash & 1.40 & . 70 & 177. Aureolin. & . 90 & 45 \\
\hline & & & 179. Cadmium Orange & . 90 & 45 \\
\hline GREEN. & & & 180. Cadmium Yellow & . 90 & 45 \\
\hline 114. Emerald Green. & . 25 & . 15 & 110. Chrome Yellow & . 25 & \\
\hline 184. Green Oxide of Chromium. & . 90 & . 45 & 112. Deep Chrome & . 25 & . 15 \\
\hline 117. Hooker's Green, No. 1.... & . 25 & . 15 & 116. Gamboge. Indian Yelow & . 25 & . 15 \\
\hline 118. Hooker's Green, No. 2 & . 25 & . 15 & 123. *King's Yellow & . 25 & . 15 \\
\hline 133. Prussian Gree & .25 & . 15 & 171. Lemon Yellow. & . 65 & . 35 \\
\hline 140. Sap Green. & . 25 & . 15 & 187. Mars Orange. & . 90 & . 45 \\
\hline 141. Terre Verte & 25 & . 15 & 157. Mars Yellow. & . 25 & \\
\hline 174. Viridian & . 65 & . 35 & 158. Nentral Orang & . 45 & . 25 \\
\hline & & & 130. Orange Chrome & . 25 & . 15 \\
\hline URMBERS. & & & 172. Orango Vermilion & . 65 & . 35 \\
\hline UMBERS. & & & 188. Pale Cadminm Yel & . 90 & 45 \\
\hline 152. Brown Madder & . 45 & 25 & 145. Yellow Lake. & 25 & . 15 \\
\hline 105. Brown Ochre. & . 25 & . 15 & 146. Yellow Och & 25 & 15 \\
\hline 106. Brown Pink. & . 25 & . 15 & & & \\
\hline 107. Burnt Sienna. & . 25 & . 15 & & & \\
\hline 108. Burnt Umbor. & . 25 & . 15 & VARIOUS. & & \\
\hline 154. *Chalons Brown & . 45 & . 25 & Various. & & \\
\hline 111. Cologne Earth & . 25 & . 15 & & & \\
\hline 134. Raw Slenna. & . 25 & . 15 & 101. Bistre.... & 25 & 15 \\
\hline 135. Raw Umber & . 25 & . 15 & 104. \(\% 13\) ronze & 25 & . 15 \\
\hline 160. Roman Sepla & . 45 & . 25 & 183. Ginlstone & . 90 & 45 \\
\hline 164. Sepia. & . 45 & . 25 & 127. Nentral Tint & 25 & 15 \\
\hline 142. Vandyke 13row & . 25 & 15 & 131. Prayue's (irey & . 25 & 15 \\
\hline 165. Warm Sopia. & .45 & . 28 & 139.) Roman Oehre & . 25 & . 15 \\
\hline
\end{tabular}

\title{
WINSOR \& NEWTON'S BOXES OF WATER COLORS.
}


12,350. Mahogany Complete Box, 24 Whole Cakes........................each, \(\$ 18.00\)
12,352. Mahogany Complete Box, 18 " " ... ..................... " 14.00
12,354. Mahogany Complete Box, 12 " " ........................ " 10.00
12,362. Mahogany Complete Box, 18 Half Cakes ......................... " 8.00
12,364. Mahogany Complete Box, 12 " " ........................ " 6.00
"LOCK AND DRAWER BOX."


Containing Colors, Brushes, Color Saucers, etc.
 12,373. 12 " " " " \(650 \mid 12384.12\)

Containing Colors, Brushes, etc.
 12,394. 12

12,404. 124.50

\section*{WINSOR \& NEWTON'S COLOR BOXES (continued).}

\author{
'SLIDE TOP \\ BOX."
}


Containing Colors and Brushes.

12,410. 24 Colors, Whole Cakes, each, \(\$ 10.00 \mid 12,420\). 24 Colors, Half Cakes, each, \(\$ 5.40\)




\section*{SMALL JAPANNED TIN BOXES,}
```

With Colors. To carry in the Pocket.

```

12,500. Pocket Japanned Tin Boxes, filled.
\begin{tabular}{ccccc}
24 & 16 & 12 & 10 & 8 Colors. \\
Each, \(\$ 4.50\) & 3.00 & 2.20 & 1.80 & 1.50
\end{tabular}
"MURILLO" \& "REMBRANDT" COLOR BOXES.
12,520. Murillo Japanned Box, containing 18 Colors, and Brushes each, \(\$ 1.00\)
12,524. Rembrandt Japanned Box, " 12 50

FRENCH WATER COLOR BOXES.


No. 12,520.
12,500. Dark Polished Hinged Wooden Gase, containing a variety of Colors and Brushes, India luk, Color Cups, Crayons, Crayon Holder, Stump, and Sundries.00

12,504. Polished Wooden Case, dark finish, Hinged Cover, with Tray, containing a grood selection of Color, Brushes, Color Culs, Crayons, and Sundries

12,512. Hinged Wooden Case, Polished, with Tray, containing a collection
of Colors, Brushes, Cups, and Sundries........................... " 2.50
12,520. Imilation Satin Wood Case, hinged Cover, with Tray, containing 18 Colors, 4 Cups, and Colored Crayons

\section*{FRENCH WATER COLOR BOXES (continued).}


12,530. Imitation Satin Wood, Hinged Case, containing Colors, Brushes, Crayons, etc.
..each, \$1.12
12,532. Imitation Satin Wood, Hinged Case, containing 12 Colors, 2 Cups,
and Colored Crayons


12,550. Slide Lid Box, Imitation Satin Wood, containing large variety of Colors, Color Cups, and Colored Crayons....................... .each, \(\$ 1.00\)
12,554. Slide Lid Box, Imitation Satin Wood, containing 15 Colors and 4
Color Cups.
12,558. Slide Lid Box, Imitation Satin Wood, containing 15 Small Colors
and 4 Color Cups .................................................. 60

EMPTY JAPANNED TIN BOXES,
For Whole and Half Pans.

\begin{tabular}{|c|c|c|c|c|c|c|c|c|}
\hline 700. & Japanned Box, & for & & & Hal & an & & . 00 \\
\hline 12,702. & Japanned Box, & 0 & " & 40 & " & " & " & 1.75 \\
\hline 12,706. & Japanned Box, & " 16 & " & 32 & " & ' & ، & 60 \\
\hline 12,708. & Japanned Box, & " 12 & ! & 24 & " & " & ، & . 45 \\
\hline 12,710. & Japanned Box, & ' 10 & " & 20 & " & " & " & 1.25 \\
\hline 12,714. & Japanned Box, & & " & 16 & ' & ' & & 1.15 \\
\hline 12,716. & Japanned Box, & " 6 & & 12 & " & " & " & 1.0 \\
\hline
\end{tabular}

\section*{EMPTY WOODEN BOXES.}

For Winsor and Nevvton's Colors.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 12,800. & For Whole Cakes Each. \(\qquad\) & Spaces for & \[
\begin{gathered}
24 \\
\$ 1.00
\end{gathered}
\] & \[
\begin{array}{r}
18 \\
.75
\end{array}
\] & 12
.60 & Culors. \\
\hline 12,810. & For Half Cakes, Each & paces for & \[
\begin{array}{r}
24 \\
.75
\end{array}
\] & \[
\begin{array}{r}
18 \\
.60
\end{array}
\] & . 12 & Colors. \\
\hline
\end{tabular}

WATER


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......" ." 70

13,100. BLaCK Sable, Black Handle, Albata Ferrules.8570

\begin{tabular}{cccccccccccc} 
& 22 & 20 & 18 & 16 & 14 & 12 & 10 & 8 & 6 & 4 & 2 \\
Each, & \(\$ 3.50\) & 3 & 00 & 2.25 & 1.75 & 1.25 & .90 & .75 & .60 & .45 & .35 \\
.30
\end{tabular}

13,120. RED SABLE, Black Hande, Albata Ferrules, EXTRA QUALITYY.
\begin{tabular}{lllllllllll}
22 & 20 & 18 & 16 & 14 & 12 & 10 & 8 & 6 & 4 & 2
\end{tabular}

13,140. "SABELENE," a grade between Camel Hair and Sable. Yellow Handles.
\begin{tabular}{llccccc} 
No. & 12 & 10 & 8 & 6 & 4 & 2 \\
Fach, & .35 & .30 & .25 & .20 & .18 & .15
\end{tabular}

160 E. G. SOLTMANN-NEW YORK.

\section*{WATER COLOR BRUSHES (continued).}


\section*{SWAN QUILL BRUSHES.}


13,370. BLACK SABLE Swan Quill.
\begin{tabular}{lccccccc} 
No. & 0 & 1 & 2 & 3 & 4 & 5 & 6 \\
Each, & \(\$ 2.75\) & 250 & 200 & 1.35 & 1.00 & .75 & .65
\end{tabular}

13,400. CAMEL HAIR Swan Quill. No. \(0 \quad 1\)
\(2 \quad 3\)

\section*{QUILL BRUSHES.}


13,440. BLACK SABLE, in Quills.
\begin{tabular}{lcccccccc} 
No. & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\
Each, & .50 & .40 & .35 & .30 & .20 & .18 & .15 & .12
\end{tabular}

13,460. "SABELENE," a grade between Sable and Camel Hair, in Quills.
\begin{tabular}{lcccccccc} 
No. & 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 \\
Each, & .25 & .22 & .20 & .18 & .15 & .12 & .10 & .8
\end{tabular}

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

13,490. CAMEL HAHR, in Quills, Extra Large Size

\section*{CAMEL HAIR BRUSHES.}

13,500. CAMEL HAIR Wash or Sky Brosh, Bound in Quills with Handle.
No.
Eachi
\(\stackrel{2}{9}\)


13,520. CAMEL, HAIR Wash or Sky Brosh, Albatac Ferrule, with Handle.
No....
Each.
\[
162 \text { E. G. SOLTMANN-NEW YORK. }
\]


13,550. FLAT CAMEL HAIR Wash Brushes, Polished Red Handles, for bold Sky Washes and coloring large surfaces.
\begin{tabular}{llllll} 
Width, & 2 & \(11 / 2\) & \(11 / 4\) & 1 & \(3 / 4\) \\
Each, & .65 & .50 & .40 & .35 & .30 \\
\hline
\end{tabular}

DOUBLE END ROUND CAMEL HAIR WASH BRUSHES.



13,570. CAMEL HAIR Double End Round Wash or Sky Brushes, with Polished Handles.
\begin{tabular}{lcccccc} 
No. & 3 & 2 & 1 & 0 & 00 & 000 \\
Each. & .75 & .60 & .50 & .45 & .40 & .35
\end{tabular}

SINGLE END ROUND CAMEL HAIR WASH BRUSHES.




13,580. CAMEL HAIR Round Wash or Sky Brushes, with Polished Handles
\begin{tabular}{lcccccc} 
No. & 3 & 2 & 1 & 0 & 00 & 000 \\
Each, & .40 & 35 & .30 & .25 & .22 & .20
\end{tabular}



13,900. Whatman's Sketching Blocks, bound in strong Cover, with Pocket.
\begin{tabular}{lccll}
\(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) & \(6 \times 9\) & \(5 \times 7\) inches. \\
Each, \(\$ 2.60\) & 2.25 & 1.65 & 1.40 & 1.00
\end{tabular}

\section*{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 remove 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. 147, Cold Pressed Detail Paper. They are useful for bold, off-hand sketches.
\begin{tabular}{lcccc} 
& \(24 \times 30\) & \(24 \times 24\) & \(18 \times 24\) & \(12 \times 18\) \\
\hline\(\$ 3.50\) & 3.00 & 2.50 & 150 & \(9 \times 12\) inches. \\
Each, & \(\$ 3.50\) \\
List Prices, \((\$ 3.90)\) & \((3.35)\) & \((2.80)\) & \((1.70)\) & \((.95)\)
\end{tabular}

14,100. Whatman's Sketching Blocks, for Water Color, made of EXTRA HEAVY WHATMAN'S PAPER.
\begin{tabular}{ccccc} 
& \(14 \times 20\) & \(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) \\
Each, & \(\$ 5.50\) & 3.25 & 2.85 & 1.65 \\
\hline 7
\end{tabular}

14,120. Whatman's Sketching Blocks.
\begin{tabular}{ccccccccc} 
& \(14 \times 20\) & \(12 \times 18\) & \(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) & \(6 \times 9\) & \(5 \times 7\) & \(4 \times 6\) \\
Each, \\
\(\$ 3.25\) & 2.20 & 1.75 & 1.35 & .85 & .75 & .55 & .45 & .30
\end{tabular}

\section*{SKETCHING BLOCKS (continued).}

14,160. "LEONA" Sketching Blocks, made of "Leona" Paper, for Color and Pencil, and General Drawing.
\begin{tabular}{cccc} 
\\
Each, & \begin{tabular}{c}
\(15 \times 20\) \\
\(\$ 2.50\)
\end{tabular} & \(10 \times 15\) & \(71 / 2 \times 10\) \\
\hline 75 & \(5 \times 71 / 2\) inches. \\
\hline
\end{tabular}

14,180. "Empire" Sketching Blocks, for Pencil and General Drawing.
\begin{tabular}{ccccccc} 
& \(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) & \(6 \times 9\) & \(5 \times 7\) & \(4 \times 6\) \\
Each, \(\$ 1.00\) & .85 & .55 & .45 & .35 & .30 & .20
\end{tabular}

14,220. "QUEEN" Tinted Sketching Blocks. Assorted Tints. Made of "Queen" Best Tinted Paper.
\begin{tabular}{llllll} 
& \(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) & \(6 \times 9\) & \(5 \times 7\) inch. \\
Each, & \(\$ 1.75\) & 1.35 & .85 & .75 & .55
\end{tabular}

14,260. "JULLIEN" Tinted Sketching Blocks, Assorted Tints. Made of "Jullien" Tinted Paper.
\begin{tabular}{llllll} 
& & \(9 \times 12\) & \(6 \times 9\) & \(5 \times 7\) & \(4 \times 6\) inch. \\
Each............. & \(\$ 1.00\) & 60 & .50 & .30
\end{tabular}

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


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.
\begin{tabular}{|c|c|c|c|c|}
\hline & \(16 \times 20\) & \(10 \times 16\) & \(8 \times 10\) & \(4 \times\) \\
\hline Fach. & \$3.00 & 1.75 & 1.00 & . 55 \\
\hline
\end{tabular} Cross Section Books, see Nos. 840, etc.

\section*{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 atlected by moisture. Metallic Sketching Books, see No. 14,470.

SKETCH BLOCK T SQUARES.


\section*{SKETCHING BOOKS.}


14,400. Whatman's Sketching Books.
\begin{tabular}{llllllll} 
& \(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) & \(6 \times 9\) & \(5 \times \overline{1}\) & \(4 \times 6\) & \(31 / 2 \times 5\) inch. \\
Each, & \(\$ 2.35\) & 2.00 & 1.50 & 1.20 & .85 & .65 & .50
\end{tabular}

14,420. "LE0NA" Sketching Books, made of "Leona" Paper. For Water Color, Pencil and General Drawing.


14,440. "EMPIRE" Sketching Books, made of "Empire" Drawing Paper.
\begin{tabular}{cccccccc} 
& \(10 \times 14\) & \(9 \times 12\) & \(7 \times 10\) & \(6 \times 9\) & \(5 \times 7\) & \(4 \times 6\) & \(31 / 2 \times 5\) inch. \\
Each, & \(\$ 1.50\) & 125 & 1.00 & .85 & .65 & .50 & .40
\end{tabular}

14,460. "JULLIEN" Tinted Sketching Books, made of "Jullien" Tinted Paper.
\begin{tabular}{|c|c|c|c|c|}
\hline & \(9 \times 12\) & \(6 \times 9\) & \(5 \times 7\) & \(4 \times 6\) inch. \\
\hline Each. & \$1.60 & . 95 & 80 & . 55 \\
\hline
\end{tabular}

\section*{14,470. METALLIC PAPER SKETCHING B00KS,}
\(8 \times 10\) inches each, \(\$ 2.00 ; 5 \times 8\) inches, each, \(\$ 1.12\). Metallic Pencils, No. 16,604, dozen, 60c.
Sketches made on this paper do not rub off, and are not affected by moisture.
MrTALIIC SKPTCHING BLOCKS, see No. 14,360.

\section*{COMBINED SKETCHING BOOKS AND BLOCKS.}


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

The advantage claimed is, that it possesses the firm drawing surface of a block, and when the sheets are separated they do not get lost, but remain bound to the back of the book.

14,500. COMBINED SKETCHING B00K and BLOCK, Whatman's Paper,
nicely bound in muslin, with gilt lines.
\begin{tabular}{ccccccc} 
& \(10 \times 14\) & \(9 \times 12\) & \(i \times i 0\) & \(6 \times 9\) & \(5 \times 7\) & \(4 \times 6\) inch. \\
Each, & \(\$ 3.00\) & 2.50 & 2.00 & 1.75 & 1.00 &.\(i 5\)
\end{tabular}

> E.G. SOLTMANN-NEW YORK.

\section*{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.
\begin{tabular}{ccccccl} 
& \(18 \times 24\) & \(14 \times 20\) & \(12 \times 17\) & \(10 \times 11\) & \(9 \times 13\) & \(8 \times 10\) inch. \\
Each, & \(\$ 2.00\) & 1.25 & 1.00 & .85 & .75 & .60
\end{tabular}

\section*{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, \(71 / 4 \times 9 \frac{1}{2}\) Small, \(61 / 2 \times 8 \frac{1}{2}\) in.
Each, . 30

\section*{PORTFOLIOS.}


14,700. Portfolios, Best Quality, Strongest Board, Fine Leather Back and Corners, Muslin Sides, ormamented wiol gilt lines, with flaps to keep ont dust.
\begin{tabular}{ccccccc}
\(32 \times 42\) & \(26 \times 36\) & \(22 \times 31\) & \(19 \times 25\) & \(16 \times 22\) & \(1.1 \times 18\) & \(11 \times 16\) inch. \\
Each, \\
\(\$ 7.50\) & 6.00 & 4.50 & 3.00 & 2.50 & 2.00 & 1.75
\end{tabular}

\section*{14,720. Portfolios, Good Quality, Muslin Back and Corners, Paper Sides.}
\begin{tabular}{ccccccc}
\(33 \times 42\) & \(26 \times: 37\) & \(23 \times: 3\) & \(20 \times 25\) & \(31 \times 2\) & \(14 \times 18\) & \(11 \times 16 \mathrm{hnch}\) \\
Each, 84.45 & 2.50 & 1.35 & 1.25 & 1.00 & .40 & .60
\end{tabular}

\section*{PENCIL RUBBERS.}


14,i80. "'WAFFLE" Rubber. Soft and pliable. Does not rub away the paper.
\[
\text { Large, } .28 \text { each. Small, } .17 \text { each. }
\]


14,800. Davilson'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.

\section*{PENCIL AND INK RUBBERS (continued).}

14,880. A. W. Faber's Black Rubber.
Fach, 50 extra large. 35 large. 25 medium. 15 small cake.
14,900. A. W. Faber's Virgin Rubber. This is pure gum, of irregular sizes.
Each, . 50 extra large. . 35 large. . 25 medium. .15 small cake.


14,920. A. W. Faber's Pointed Rubler.
Each, 12 large.
.09 medium.
.no small cake.


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

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

Each
25 mammoth. . 15 small.


14,950. A. W. Faher's Ink Eraser, Long Oval, Pencil Shape


15,100. Wedre Rubher.
Each, 20 extra harge. . 15 harge. 10 medinm. . 0 s small cake.

\section*{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,20

\section*{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. SOLTMANN'S Firm Sponge Rubber. Cakes about \(3 \times 6 \times 1\) inch..each, \(\$ 1.80\) SOLTMANN'S Firm Sponge Rubber. " " \(3 \times 4 \times 1\) ".. " 1.20 SOLTMANX'S Firm Sponge Rubber. " " \(2 \times 3 \times 1\) ". " . 60 SOLTMANN'S Firm Sponge Rubber. " " \(1 \frac{1}{2} \times 2 \times 1\) " .. " . 30

\section*{A. W. FABER'S DRAWING PENCILS.}


\section*{EXPLANATION OF LETTERS.}
\begin{tabular}{|c|c|c|c|}
\hline & & About equal to Faber's Number. & About equal to Dixon's Number. \\
\hline НННННН (6H) & Hardest & & VTI \\
\hline НННН (4Н) & Extra Extra Hard. & 5 & VH \\
\hline ННН & Extra Hard & & H \\
\hline HH & Very Hard. & 4 & Mr \\
\hline H & Hard & & M \\
\hline F & Firm & 3 & MB \\
\hline HB & Medium, Hard and Black. & 2 & SM \\
\hline B & Soft & & S \\
\hline BB & Soft, and very Black. & 1 & vs \\
\hline BBB & Very Soft, and very Black & & vvs \\
\hline BBBB (4B) & Very Soft, and Extra Black & & \\
\hline BBBBBB (6B) & Extra Extra Soft, and Extra & & \\
\hline
\end{tabular}
16,100. A. W. Faber's Siberian Pencils. \(6 \mathrm{H}, 4 \mathrm{H}, 3 \mathrm{H}, 2 \mathrm{H}, \mathrm{H}, \mathrm{F}, \mathrm{HB}, \mathrm{B}, \mathrm{BB}\) ..... dozen, \$1.25
Box, containing 3 dozen of a kind, or assorted ..... 3.75
16,110. A. W. Faber's Siberian Pencils. 3B, 4B dozen, ..... 1 : 40
16,112. A. W. Faber's Siberian Pencils. 6B ..... 1.55
EXPLANATION OF NUMBERS.
Ko. 5, Extra Extra Hard; No. 4, Very Hard; No. 3, Firm; No. 2, Medium Hard, and Black; No. 1, Soft, and Very Black.
16,120. A. W. Faber's Red Hexagon, Gilt, lencils.Nos. \(1,2,3,4,5\)dozen, . 75
Package, containing 3 dozen of a kind, or assorted ..... each, 2.25
16.130. A. W. Faber's Black, Round, Pencils. Nos. 1, 2, 3, 4 ..... dozen, 60
Package, containing 3 dozen of a kind, or assorted ..... each, 1 so
16140. A. W. Faber's Yellow, Round, Silver Pencils. Nos. \(4 \mathrm{H}, 3 \mathrm{H}, 2 \mathrm{H}, \mathrm{H}, \mathrm{F}, \mathrm{HB}, \mathrm{B}, 2 \mathrm{~B}, 3 \mathrm{~B}, 4 \mathrm{~B}\) ..... dozen, . 60
Box, containing 3 dozen of a kind, or assorted ..... each, 1.80
16,150. A. W. Faber's Mathematical Instrument Pencils.
Very small, hexagon, gilt, No. 4 dozen, ..... 70
16,152. A. W. Faber’s Mathematical Instrument Pencils.
Very small, black polished, round, No. 4 ..... 60

\section*{DIXON'S PENCILS.}


\author{
EXPLANATION OF LETTTERS.
}
VH Very Very Hard, about the same as Imported ..... 6 H
VH Very Hard, ..... 4 II or 5
H Hard, .....  1 I
MH Medium 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 Tery Soft, ..... BB
VVS Very Very Soft, ..... BBB
16,180. Dixon's "ARTISTS'" Pencils, Very best quality.VVH, VH, H, MH, M, MB, SM, S, VS, VVS.dozen, \$1.10
Box containing 6 dozen of a kind, or assorted each, ..... 6.60
16,200. Dixon's Hexagon Pencils, VH, H, M, SM, S dozen, ..... 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, ..... 55
Box containing 6 dozen of a kind, or assorted each, ..... 3.3916,220. Dixon's Rubber Tip Pencils.dozen,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 Universelle, 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. \(\mathrm{HB}=1 . \quad \mathrm{F}=2 . \quad \mathrm{H}=3 . \quad 2 \mathrm{H}=4 . \quad 3 \mathrm{H}=5\)
E. G. SOLTMANN-NEW YORK.

\section*{GILBERT'S PENCILS (continued).}


16,270. Gilbert's Round Pencils, 0, 1, 2, 3, 4, 5.........................dozen, . 50

\section*{EAGLE PENCILS.}


16,290. Eagle \({ }^{6}\) 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 ..........................
3.00


Box containing 6 dozen of a kind, or assorted....................... . each, \$2. . 67
STAR PENCHIS.
16,330. Star Pencils, 1, 2,3,4................................................................ 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.

\section*{A. W. FABER'S ARTISTS' PENCILS.}


16,400. A. W. Faber's Siberian Artists' Pencils, with Movable Lead.
 (iH, 4H, 3H, 2H, H, F, HB, B, BB.... .......... ........(List P-ice, .2sis each,

Box containing \({ }^{6}\) Artists' Pencils of a kind, or assorted of any
 momber from 6 H to BB
16.410. A. W. Faber's Niberian Artists' Pencils, 3B, AB ..... 30
16,412. A. W. Faber's Siberian Artists' Pencils, \(6 B\) ..... 35


16,414. A. W. Faber"s Niberian Artists' Pencils, Donble End otist brice, ameach, aso

\section*{A. W. FABER'S ARTISTS' PENCILS (continued).}


16,420. A. W. Faber's Artists' Pencils, with Movable Leads.


\section*{16,430. A. W. Faber's Artists' Pencils, with Movable Leads, Medium} Length. 20
16,432. A. W. Faber's Artists' Pencils, with Movable Leads, Short ..... 17
16,440. Ivory, Artists' Pocket Pencils, to hold Faber's Leads
Each,

\section*{A. W. FABER'S ARTISTS' LEADS.}


\section*{These Leads can be used for the Pencil Points of Mathematical Instruments.}16,460. A. W. Faber's Siberian Artists' Leads, for Artists' Pencils.\(6 \mathrm{H}, 4 \mathrm{H}, 3 \mathrm{H}, 2 \mathrm{H}, \mathrm{H}, \mathrm{F}, \mathrm{HB}, \mathrm{B}, 2 \mathrm{~B}\)box, . 65Large case, containing 12 small boxes of a kind, from 6 H to 2 B , orassortedcase, \(\$ 7.80\)
16,470. A. W. Faber's Siberian Artists' Leads, for Artists' Pencils, \(3 \mathrm{~B}, 4 \mathrm{~B}\) box, ..... 75
16,4i2. A. W. Faber's Siberian Artists' Leads, for Artists' Pencils, 6B ..... 85
16,480. 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
16,608. Indelible Pencils, Large ..... 1.25
16,620. Indelible Pencil, with movable Copying Lead each, ..... 2516,624. Copying Leads, for Indelible Pencil25
16,640. A. W. Faber's Black Chalk Pencils, in Cedar, Hard and Soft . .dozen, ..... 55


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


16,680. Carpenters' Pencils, extra quality, in Polished Cedar.
Dozen, \(\$ 1.00 \quad .75\)
AT\% 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 Movable Leads......................................................... . .
 Movable Lead......................................................... " 2.50
16,754. Cabinet containing 5 Faber's, Siberian Artists, Pencils, with Movable Leads. ....................................................

\section*{CABINETS OF FABER'S SIBERIAN PENCILS.}

16,760. Cabinet contaning 10 Fabers Sibrrian Pencils ..... ench, 31.75
16,762. Cabinet containing 7 Faberes Siberian Pencils ..... 125
16,764. Cabinet contaning 5 Faberos Siberimn Pencils ..... 1.00
16,766. Cabinet containing 5 Faber's Sibreian P'encils and Kinife andRubler.1.25

\section*{CABINETS OF FABER'S ROUND PENCILS.}
16,7i0. Cabinet containing 10 Faber's Yellow Round Silver Pencils.... each, ..... 85
16,7i2. Cabinet containing i Faber's Yellow Round Silver Pencils ..... 75
16,774. Cabinet containing 5 Faber's Yellow Romd Silver Pencils ..... 65
16,776. Cabinet containing 5 Faber's Yellow Round Silrer Pencils andKnife and Rubber.\(\$ 1.00\)
CABINETS OF DIXON'S ARTISTS' PENCILS.


\section*{CASES OF FABER'S WAX CRAYONS.}

\section*{EACH PENCIL IS POLISFED IN THE COLOR OF THE LEAD.}

16,850. Case containing 48 assorted Faber's Wax Crayons ..... each, \$4.40
16,852 . Case containing 36 assorted Faber's Wax Crayons ..... 3.50
16,854. Case containing 24 assorted Falber's Wax Crayons ..... 50
16,856. Case containing 18 assorted Faber's Wax Crayous .....  00
16,858. Case containing 12 assorted Faber's Wax Crayons ..... 1.50
16,860. Case containing 6 assorted Faber's Wax Crayous ..... 80Separate Tax Crayons, see next page.

\section*{A. W. FABER'S WAX CRAYONS-continued.}
16,870. A. W. Faber's Wax Crayons, SEPARATE COLORS..doz., \$1.25, each, . 12 No. 1, White. 2, Yellow. 13, Dark Blue. 3t, Sienna. 38, Vermilion. 41, Black. 54, Purple. 62, Orange. 63, Light Green. 69, Dark Green. 75, Carmine. 88, Light Blue. And numerous other colors.

\section*{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 16.940. 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......................................... . 55 each, .0.5

\section*{LARGE LUMBER AND MARKING PENCILS.}

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

\section*{ATW= VABEER}
17,104. A. W. Faber's Thick Blue Artists' Pencil, with Movable Learls. .each, . 30
17,106. A. W. Faber's Thick Red Irtists' Pencil, with Movable Leads. ،" \(\quad . .00\)


17,110. A. W. Faber's Red Lads, for Nos. 17,100 and 17,106 ............ box, 30
\[
\text { Box, containing } 12 \text { small boxes . . . . . . . . . . . . . . . . . . . . . . . . . . . each, } \$ 3 \text { si }
\]

Box, containing 1's small boxes ...................................... each, is so EXTRA HEAVY COLORED PENCILS, see next page.

\section*{EXTRA HEAVY COLORED PENCILS,}

FOR
Coloring Details, Marking Lumber, etc.


These Pencils are of fine quality. The heary 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 Blae, Red, Yellow, Brown, and Green

\section*{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 uncorered 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. P0CKET LEAD PENCIL POINTER, Narrow Oblong ............each, . 22
Package, containing 1 dozen.


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. each, ..... 15
Package, containing 1 dozen ..... 1.80
17,264. Lead Pencil Pointer, Narrow Oblong ..... 12
Package, containing 1 dozen ..... 1.30
E. G. SOLTMANN-NEW YORK.

\section*{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

AUTOMATIC SHADING PENS. Six Sizes.

\begin{tabular}{|c|c|c|c|c|c|c|}
\hline No. & 5 & 4 & 3 & 2 & 1 & 0 \\
\hline Width of Nil), & \(!\) & 318 & 1 & 3: & : & 116 \\
\hline
\end{tabular}

17 310. Box rontaininer above ( Pens, with Sample sheet of Letters and Directions for Use . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . each, sl 50 17,314. Separate Pens. 25

\section*{THE "SHADENE" SHADING INK.}
for writing with the shading pen.
In Square, Wide Necked Botties, with Rubber Corks.

PURPLE, BROWN,

CARMINE.


BRILLLANT CARMINE,


BLACE,

YELLOW.
. .each, \$1 90
" " " " 6 " ............ " 1.00
Bottle........................................................................ " . 15

\section*{GISBURNE'S RULING PEN.}


PENHOLDERS.

17,334. Penholders, extra fine, highly finished handle ..... dozen, \$1 00
17,336, Penholders, fine, .....  80
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 smallPens25

\section*{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. 1i0, " " 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 crampeti. This Holder is of the size of a regular pen holder.

Package containing one dozen



17.45ci.

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 Honse" med.
point........................................................... . . . . . . .
15
17,454. Spencerian Lettering Pens, No. 3, "Commercial" coarse point . 38 . 15
bex cont. 1 gross.
17,456. Spencerian Lettering Pens, No. 14, "Artistic," wery tine point 150 . 15
17,458. Spencerian Lettering Pens, No. 15, "Queen," extrafne point 1.50 . 15
17,460. Spencerian Lettering P'ens, No. 25, "Drawing," extra the
point.............. ............................................. 1.50
Box cont. 3 doz.
17,480. Pickwick Pen, for coarse writing and for marking on rough
paper. The end of nib is bent upwards
38


No. 17,502.

\section*{ESTERBROOK'S STEEL PENS.}

17,500. Esterbrook's Writing and Lettering Pens, No. 128 "Extra Gross Box. Doz.
\(\qquad\)

17,502. Esterbrook's Writing and Lettering Pens, No.048, "Falcon"
 medium point
17,504. Esterbrook's Writing and Lettering Pens, No. 182, "Ladies' Falcon". ..... 12
17,520. Esterbrook's Engrossing Pens, No. 117, extra fine point. ..... 12
17,522. Esterbrook's Engrossing Pens, No. 122, medium point ..... 12
17,524. Esterbrook's Engrossing Pens, No. 161, Short Nib, medium point. ..... 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. 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. ..... 25
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.


17,570. 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, \(34,5,6 \ldots \ldots . . .\). . . . . .......box of 3 dozen, . 35 dozen, . 15
17,594. Assortment of 25 Single and Double Pens, in Box.............. .35


17,600. Penholder, for Round Writing Pens each,
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, ..... 25

\section*{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

\section*{CRAYONS, etc.}

17,780. Conte Crayons, Black, in Wood, (Pencil Shape) "Velvet," very soft

Dozen. 17,782. Conte Crayons, Black, in Wood, " " No. 3, soft........ 17,784. Conte Crayons, Black, in Wood, " " No. 2, medium........ . 60 17,786. Conte Crayons, Black, in Wood, " " No. 1, hard............ . . 0 17,792. Conte Crayons, White, in Wood, " " ......................... . 60


No. 1, Hard. No. 2, Medium. No. 3. Soft.
17,800. Conte Crayons, Black, in Romnd Sticks, Polished, Medium Hard, Box containing 1 dozen. ......... ......... ..... ................ box, ..... (i)
17,804. Conte Crayons, Black, in Round Sticks, Nos. 1, 2, 3, Box con- taining I dozen ..... 40
17,808. Conte Crayons, Black, in Sifuare Sticks, Nos. 1, 2, 3, Box con- taining 1 dozen ..... 20
17,812. Conte Crayons, White, in Romm Sticks, Box containing 1 dozen ..... 40
17,816. Conte Crayons, White, in Spuare Sticks, ..... 20
17,820. Conte Crayons, Red, in Rouml Sticks, ..... 40
17,830. Conte Crayon Sance, in Tin Foil packages. Large, do\%, §1.20. Small, doz., ..... 35
A. W. Faber's Blark Clank Crayons, in C'edar, (same as \(16,6: 40\) ) Hard :und Soft dozen, ..... 55
Red Chalk, same as I 6,644 , In Polished Cedar dozen, ..... 75
Red Chalk, same ats 1 li, 6,50 , in Cedar. ..... 5.5

\section*{STUMPS.}


Extra
Large.


Large.


Medium.


Small.


17,850. Yellow Chamois Leather Stumps.
.doz., assorted, \$1.25
6. 66 6s Separate sizes:

Each, .25 extra large. .20 large. .15 medium. .12 small. .10 very small. 17,860. Extra White Kid Stumps.......................................... assorted, \(\$ 150\)
17,870. Extra Cork Stumps.... ........................................ " " 150
17,880. Paper Stımps......................................... " " " 35


17,900. Miniature Paper Stumps
doz.,


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.

\section*{CRAYON HOLDERS.}

No. 17,950-17,052.
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, Woorlen Centre ....each, . 40
17,952. Crayon Holder, Double End, Brass, " ". .... " 2.5


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............................... ، . . 0 .

\section*{CHARCOAL, FOR DRAWING.}


HARD PASTEL CRAYONS.

Best Quality,


Colored.

No. 18.180.
18,180. Hard Pastel Crayons, Best Quality, in Romad Boxes.

Containing Each,
\(\$ 1.10\)

18,190. Hard Pastel Crayons, Second Grade, in Romid Boxes.

\section*{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 containing 1 dozen. .
18,314. Lithographic Crayons, French, in Sticks, 1, 2, 3, Box containing 1 dozen.

\section*{SCHOOL (CHALK) CRAYONS.}

\title{
18,330. School Crayons, Assorted Colors, for Blackboard use. Box containing 1 gross \\ 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,

Hy 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 bottle, ..... 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 .each30
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.

\section*{ARKANSAS OIL STONES,}

Best Quality,
FOR SHARPENING DRAWING INSTRUMENTS, CUTLERY, ETC.


No. 19000.
19,000. Arkansas Oil Stones, in Wooden Boxes, with Cover.
\begin{tabular}{cccccc} 
& 8 & 7 & 6 & 5 & 4 \\
Each, & \(\$ 2.80\) & 2.50 & 2.25 & 2.00 & 1.50
\end{tabular}

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, is


No. \(19,015\).
19,015. Arkansas Oil Stone Silip, for Instruments, Kinives, etc.
Each, . 50 large.
40 medium.
. 30 small.


No. 19,020 .
19,020. Arkansas Wedge Shape Oil Stones.
each,
.3.5


No. 1!,030.
19,030. Arkamsas Pointed oil Stones.
each,

For stretching Drawing Paper, and for general Office use.


It is strictly pure; is made very thick, and can be diluted with water, and still retain binding qualities equal to mucilage.

19,110. "PAR EXCELLENCE" GUM.
Large bottle (large quart) . . . . . . . . . . . . . . . . . . . . . . . (List Price, \$1.12) each, \$1.00 Medium " (large pint) ..... ........ .............(List Price, .55) " " 50


RESERVOIR GUM POTS.


19,120. Reservoir Gum Pots, with Brush. for using "Par Excellence"
Gum or Mucilage.............................. 55 large.
MOUTH GLUE.
19,128. MOUTH GLUE, in thin cakes


\section*{STEEL INK ERASERS.}

No. 19,200.


19,200. Roger \& Son's Steel Eraser, White Handle, \(51 / 2\) in., knife shape. .each,

No. \(19,202\).


19,202. Roger \& 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................. ". . 50
No. \(19,208\).


19,208. Roger \& Son's Steel Eraser, Cocoa Handle, 5 in ............... " . 45

No. 19,210.


19,210. Roger \& Son's Steel Eraser, Cocoa Handle, 4 in

\section*{PEN KNIVES,}

For Sharpening Pencils and for general use.


19,220. English Pen Knife, 4 blades........................................................ \(\$ 1.35\)
19,225. English Pen Knife, 3 " .......................................... " 1.12
19,230. English Pen Knife, 2 " ........................................ " . 85

\section*{AUTOMATIC POCKET PEN KNIFE.}


The knife blade 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. Automatic Pocket Pen Knife. (List Price, .28) each,


19,250. Paper Shears, Best Quality, carefully ground :
Each,
12
\(\$ 2.50\)
10
1.50
1.25

8 inch.

\section*{SUSPENSION RINGS}

FOR HANGING UP

No. 19.300.



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,


19,350. Rubber Bands, Best Quality. \(\frac{1}{4}\) inch Wide.
Gross Box, \(\quad \$ 1.75 \quad 1: 50\)
\(\begin{array}{cc}21 \\ 1.25 & 1.0 \\ 1.25\end{array}\)
Assorted sizes.
wher Bands, Best quality. Ka inch Wide.
\[
\begin{array}{cccccccc} 
& 31 / 0 & 3 & 21,0 & 2 & 11 / 0 & 11 / 3 & 1 \text { in. long. Assorted sizes. } \\
\text { Gross Box, } \$ 1.00 & .90 & .80 & .70 & .65 & .60 & .50 & .85
\end{array}
\]

19,375. Rubher Bands, Best Quality. in Iuch Wide.
Gross Box,
\begin{tabular}{cccccc}
25 \\
\(.35^{3}\) & 216 & 13 & 138 & 1 luchlong, Assorted sizes. \\
.30 & .25 & \(.20^{3}\) & .15 & .25
\end{tabular}

\section*{PINK TAPE,}

For Binding Documents, Specifications, etc.


19,390. Pink Tape.
Each................................................ .55 large. .Is small spool.

19.404. Iron Paper Weight, Oblong, with Knob, about 3 lbs................each, . 80
19.40s. Iron Paper Weight, Round, " " " 11/2 lbs............." . 40
19.412. Iron Paper Weight, Round or Oral, with Knob, about \(3 / 4 \mathrm{lbr}\)..... ". . 25

\section*{PAPER FOLDERS.}

19,430. Paper Folders. convenient for pressing down the edges, when stretching drawing paper. etc.
Each..................... .is tine. . 50 medium. . 25 plain.


19,440. Sponge Cups, Plain Glass, without Sponges.
Each........................... 25 large.
19,450. Sponges for Sponge Cups...
. 25 medium.
10
19.45t. Sponges for Wetting Drawing Papers, Stretching, etc.

Fine Quality, various sizes
. from 25 c . to \(\$ 1.00\). Water Glasses, see No. 11,690, etc.
E. G. SOLTMANN-NEW YORK.

\section*{LIGHT WOODEN BLACKBOARDS,}

\section*{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 Momited on Revolving Rack, with Rollers.
\(31 / 2 \times 41 / 2\)
\(3 \times 4\) feet. 13.00

19,510. Blackboard in Wooden Frame, to hang up.

FLEXIBLE BLACKBOARD CLOTH.
Can 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 any wooden or plaster wall, with an ordinary paint brush. A quart will cover about 40 to 50 square feet with three coats, or about 100 square feet with one coat, and transform a white wall into an excel- lent Blackboard.
Each.......... \(\$ 6.00\) 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, "، " 1 " ..... 25
WOODEN BLACKBOARD DIVIDERS.


Wooden Blackboard Dividers, Same as No. 8,100.
\begin{tabular}{ccccc} 
& 30 & 24 & 18 & 15 inch. \\
Each. \(\ldots \ldots \ldots \ldots . . \$ 2.00\) & 1.60 & 1.25 & 1.00
\end{tabular}

\section*{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

> E. G. SOLTMANN-NEW YORK.

\title{
HEKTOGRAPHS，
}

FOR
Copying Drawings，Specifications，Legal Documents， Letters，Etc．

Fifty to One Hundred Copies can be produced from the Original． SOLDAT 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．

\section*{EXTRA LARGE HEKTOGRAPHS，}

\author{
FOR COPYING DRAWINGS， 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．
\begin{tabular}{ccccccc} 
& \(36 \times 42\) & \(30 \times 36\) & \(27 \times 40\) & \(26 \times 34\) & \(23 \times 31\) & \(20 \times 24\) inches． \\
Each， & \(\$ 75.60\) & 54.00 & 54.00 & 44.20 & 35.65 & 24.00
\end{tabular}

\section*{SMALL HEKTOGRAPHS．}

19，606，Hektugraphs，Small Sizes，Deep Filling，for Copying Letters，Speci－ fications，etc．
Folio Size， \(12 \times 18\) inches．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．each， 89.50
Spectification or Lergal Cap Size， \(10 \times 15\) inches．．．．．．．．．．．．．．．．．．．．．．．＂．＂ 8.00
Large Lettersi\％e， \(10 \times 12\) 1．inches．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．＂ 6.10
Large Notu Si\％ \(61_{4}^{1} \times 10\) inches．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．．＂ 4.00
Hektographs are also made in other grades．
TたAV゙S REだい」にD ATHALF PRICた。
19，608．Hektograph Composition，put up in Tin Cans for Export，with di－ rections for use．
pound，\(\$ 1.00\)
19，610．Hektograph Inks，Prepared Realy for I＇se．Violet，Curmine，Blue， （ireen
bottle，

\section*{HEKTOGRAPH PAPERS.}

FOR COPYING DRAWINGS, WRITING, ETC.
"VULCAX" Hektograph Roll Papers, Best Quality, Smooth Finish.
\begin{tabular}{llllllll} 
\\
& & & 100 & 50 & 30 & 20 & 10 Yard Roll. \\
42 & inches & wide, & \(\$ 17.50\) & 8.75 & 6.00 & 4.25 & 2.25 \\
36 & " & " & 15.30 & 7.65 & 5.00 & 325 & 1.85 \\
27 & " & 11.50 & 5.75 & 3.70 & 2.50 & 1.35 \\
20 & " & " & .9 .00 & 450 & 3.00 & 2.15 & 1.15
\end{tabular}
"DRAGON" Hektograph Roll Papers, Extra Thin, Extra Tough.
Can be folded repeatedly without breaking, and is a desirable paper for mailing, causing a saving on postage.

"ARGAND" Hektograph Roll Paper, Smooth Finish, Medium Quality. 36 inches wide, \(\begin{array}{ccccc}200 & 100 & 50 & 30 & 20 \text { Yard Roll. } \\ \$ 15.50 & 7.75 & 4.00 & 2.50 & 1.75\end{array}\)
Hektograph Sheet Papers, Smooth Finish.
Imperial, \(23 \times 31\) in., quire, \(\$ 1.50\) Super Royal, \(22 \times 28\) in., quire, \(\$ 1.00\) Other sizes furnished at short notice.
Papers in Pads, Nos. 19,660-19,670, are suitable for Hektograph Copies.

\section*{"ALLISENE" WRITING INK.}


\section*{TURNS \\ DEEP BLACK.}

\section*{19,615. " ALLISENE " Combined Writing and Copying Ink.}

This Ink flows evenly, copies clearly, turns deep black and possesses all the good qualities of a first-class ink.

\section*{SPECIFICATION PAPERS.}


19,624. Specification Legal C'ap, Extra Quality.
Ream................ \$4.75 extra heavy. 4.25 heavy. 3.75 medium.
Package cont'g 5 quires. \(1.25 \quad\) " 1.12 " 1.00
PRINTED COVERS FOR SPECIFICATIONS, SEE 19,700-19,702.

\section*{PRINTED SPECIFICATIONS}

Are in the form of regular Specifications, giving a printed heading for every part of the work connected with a building, with blank space opposite for extra remarks.
19,635. Printed Specifications, LARGE. For structures \(\$ 5,000\) and orer. . each, .50
19,637. Printed Specifications, SMALL. For structures less than \(\$ 5,000\).

\section*{PRINTED BUILDING AGREEMENTS.}

19,640. Printed Building Igreements.....................................................

\section*{WRITING AND FIGURING PADS.}


19,660. Pads, White Paper', Extra Quality, Ruled.
Specification or Lerral Cap size
Larre Letter Size
dozen, s4.25 each,
. 38
Large Letter Size.................................... . . . 36.0 ." . 33

Large Note Size20

19, 670. Pads, White Paper, (food Quality, not Ruled.
Large Letter Si\%e\(2 s\)
Large Note siza ..... 17
19, 680. Pads, Light Buff Paper, Ruled.Specification or Leral Cap Size, extrathick55050
Specification or Lamal Cap Size. ..... 3. 0 ..... 2s
Large Lettor Size ..... 22
120 Latre Note Size ..... 12
19,690. Pads, Light Bufl Paper, not Ruled.
Large Ietter Size ..... 17
Large Note Size ..... 1.10 ..... 11

\section*{PRINTED COVERS FOR SPECIFICATIONS.}


Part of inside view of cover.


Part of outside view of cover.

19,700. Printed Covers for Written Specifications, large enough to cover back and front of sheets............... \(\$ 2.20\) griss package. . 20 dozen.
19,702. Printed Covers for Written Specifications, with Purchaser's Name, Business and Address Printed on each.....................gross, \(\$ 295\) Paper Fasteners, see Nos. 19,150 to 19, 174.

\section*{HINGED BOX FOR SPECIFICATION PAPER.}

19,710. Strong Hinged Paper Box, to hold about one ream of Specification or Legal Cap Paper. each,

\section*{BLOTTING PAPER.}

19,720. Blotting Paper in Large Sheets, Extra Quality, Royal, \(19 \times 24\) inches . ................................................. quire, \(\$ 2.00\) sheet, . 10
19,722. Blotting Paper, Extra Quality ..............small package of one dozen, . 10 STRONG PASTEBOARD TUBES,

For Mailing Drawings.


19,740. Pasteboard Tubes, 2 inch diameter.
\begin{tabular}{ccccccc} 
& 38 & 30 & 24 & 18 & 15 & 12 inches long. \\
Dozen, & \(\$ 1.00\) & .80 & .60 & .50 & .40 & .30
\end{tabular}

19,750. Pasteboard Tubes, \(11 / 2\) inch diameter.
Dozen,


Other sizes furnished at short notice.

\section*{TIN BOXES, WITH SLIP COVER,}

For Tracing Cloth, Drawings, etc.


19,770. Tin Boxes, with Slip Cover, 3 inch diameter, to keep Tracing Cloth and Paper free from moisture, etc.
\begin{tabular}{|c|c|c|c|c|c|c|}
\hline 60 & 50 & 45 & 40 & 35 & 31 & 25 inches long. \\
\hline \multirow[t]{2}{*}{Each, \$3.30} & 3.00 & & & 180 & 1.40 & 1.00 \\
\hline & & \multicolumn{5}{|l|}{Other sizes furnished at short notice.} \\
\hline
\end{tabular}

\section*{RUBBER STAMPS.}

In ordering Rabber Stamps, state the Catalogae Number or describe as definitely as possible, ANY SIZE FURNISHED AT SHORT NOTICE. SELF-INKING STAMPS WITH RUBBER DIES.
 Per.


These stamps are made of brass, nickel plated, and have polished wooden handles. In using this stam! it requires a dirm downward prossure (not a
 inks the die, and is immediately ready for use.

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19,850. Self-Inking DATING Ntamp, with Ruhber Die, \(13 / 4 \times 21 \frac{6}{2}\) inches. contaninit several lines of descripive mater, including box of rubber datiner type (rool for ten lears) and can of ink...........e each, \(\$ 7.75\)
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"Blue Process"
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PAPERS.


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} *APPARATUS. *```


[^0]:    792. $611 / 2 \times 81 / 2$ inches, Leather Cover, Round Corners, 80 leaves dozen, $\$ 10.00$
    793. $5 \frac{1}{2} \times 71 / 6$

    80
    Cross Nection Blocks, same as No. 14,340.

    Each........................ | $16 \times 20$ | $10 \times 16$ | $8 \times 10$ | 1.75 |
    | :--- | :--- | :--- | :--- |

[^1]:    ANGLES AND RANGES

