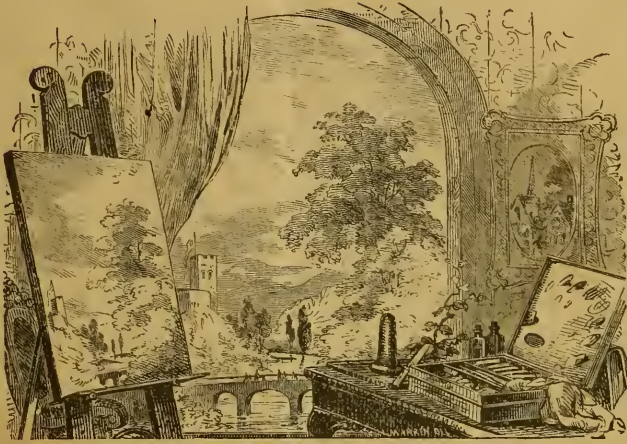


PRICED AND ILLUSTRATED

CATALOGUE

OF



ARTISTS' MATERIALS,

SWISS, GERMAN, FRENCH AND ALTENADER'S

Mathematical Instruments,

AND

DRAWING STATIONERY AND MATERIALS,

FOR

ARCHITECTS, ENGINEERS AND SURVEYORS,

IMPORTED AND SOLD BY

F. C. HASTINGS & CO.,

54 and 56 Cornhill, Boston.

NOTICE.

When goods are forwarded by express with C.O.D. (collect on delivery) bill, the express company's charge for collecting money and returning same will be added to said bill.

The best and surest method of remitting money is by bank draft or post-office order, made payable to us.

Goods will be packed with the utmost care; but all packages must be at the risk of the purchaser after leaving our hands, except under special agreement.

**Liberal Discounts to Teachers, Schools, and Purchasers
in Quantities.**


F. C. HASTINGS & CO.,

54 & 56 CORNHILL, BOSTON.

THE HENRY FRANCIS *du PONT*
WINTERTHUR MUSEUM
LIBRARIES

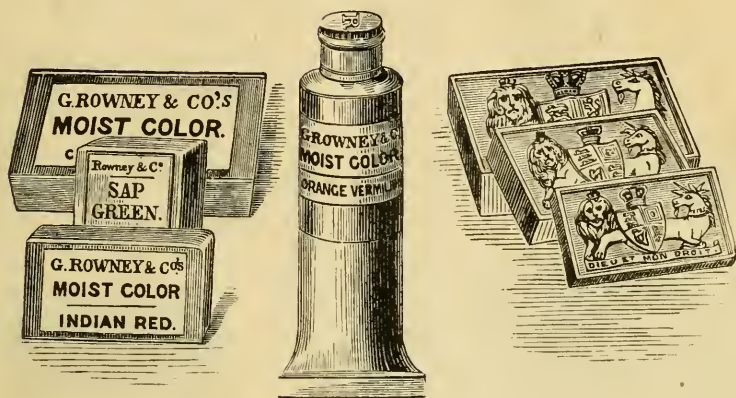


The Waldron Phoenix Belknap, Jr.
Research Library of American Painting



Digitized by the Internet Archive
in 2010 with funding from
Lyrasis Members and Sloan Foundation

185
25
"Prize Medal Awarded." Paris Universal Exhibition, 1867.



GEO. ROWNEY & CO.

Have the pleasure to announce the completion of their

NEW SYSTEM OF GRINDING COLORS BY MACHINERY,

Which enables them to supply ARTISTS' COLORS IN OIL, WATER, OR POWDER, perfectly fine, and at the same prices as hitherto charged for colors less finely ground.

Messrs. G. R. & Co. feel assured the OIL COLORS ground by their improved process will be found to be *finer, brighter, less oily*, and to *dry quicker*, than any others at present manufactured; and that their WATER COLORS, prepared by the same process, will prove to be *finer, brighter*, and to *float more evenly without granulation*, than any other colors hitherto produced.

They therefore solicit a trial in full confidence of giving satisfaction.

The most eminent artists and professors of painting in Europe and America recommend GEO. ROWNEY & CO.'S OIL AND WATER COLORS as the finest ground, and most brilliant manufactured.

GEORGE ROWNEY & CO.'S

— AND —

WINSOR & NEWTON'S

WATER COLORS.

HARD COLORS IN CAKES, OR MOIST IN CHINA PANS.



Whole Cake.



Half Cake.

Whole cakes or pan, 25 cents each; half cakes or pan, 13 cents each.

Antwerp Blue,	Flake White,	Payne's Gray,
Bistre,	Gamboge,	Prussian Blue,
Blue Black,	Hooker's Green, No. 1,	Prussian Green,
British Ink,	Hooker's Green, No. 2,	Raw Sienna,
Brown Ochre,	Indigo,	Raw Umber,
Brown Pink,	Indian Red,	Red Chalk,
Bronze,	Italian Pink,	Red Lead,
Burnt Sienna,	Ivory Black,	Red Ochre,
Burnt Umber,	King's Yellow,	Roman Ochre,
Chinese White,	Lamp Black,	Sap Green,
Chrome Yellow,	Light Red,	Terre Verte,
Cologne Earth,	Naples Yellow,	Vandyke Brown,
Constant White,	Neutral Tint,	Venetian Red,
Deep Chrome,	New Blue,	Vermilion,
Dragon's Blood,	Olive Green,	Yellow Lake,
Emerald Green,	Orange Chrome,	Yellow Ochre.

Whole cakes or pan, 45 cents each; half cakes or pan, 23 cents each.

Black Lead,	Indian Yellow,	Roman Sepia,
Brown Madder,	Magenta,	Rubens' Madder,
Chalon's Brown,	Mars Yellow,	Scarlet Lake,
Chinese Orange,	Mauve,	Scarlet Vermilion,
Cæruleum,	Neutral Orange,	Sepia,
Crimson Lake,	Purple Lake,	Warm Sepia.

Whole cakes or pan, 55 cents each; half cakes or pan, 28 cents each.

Orange Vermilion,	Violet Carmine.	Cobalt Blue.
-------------------	-----------------	--------------

Whole cakes or pan, 90 cents each; half cakes or pan, 45 cents each.

Aureolin,	French Blue,	Pale Cadmium Yellow,
Burnt Carmine,	Gallstone,	Pink Madder,
Cadmium Yellow,	Green Oxide of Chromium,	Pure Scarlet,
Cadmium Orange,	Indian Purple,	Rose Madder,
Carmine,	Intense Blue,	Viridian,
Dahlia Carmine,	Lemon Yellow,	Madder Lake.

Whole cakes or pan, \$1.40 each; half cakes or pan, 70 cents each.

Field's Orange Vermilion,	Purple Madder,	Deep Rose.
Madder Carmine,	Smalt,	
Mars Orange,	Ultramarine Ash,	

GOLD AND SILVER CUPS AND SHELLS.

Gold Shells, each, 20 cents. Silver Shells, each, 10 cents.
 Gold Saucers, 1 inch, 25 cents; 1½ inch, 35 cents; 2 inch, 60 cents. Silver Saucers, 1 inch,
 15 cents; 1½ inch, 25 cents.

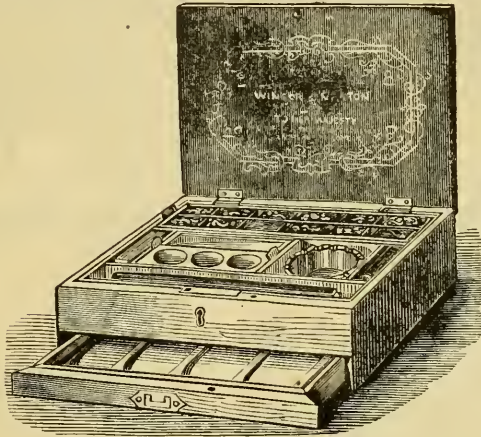
54 and 56 Cornhill, Boston.

GEORGE ROWNEY & CO.'S

— AND —

WINSOR & NEWTON'S

WATER-COLOR BOXES
(FITTED).



" SLIDE " HALF-CAKE BOXES.

6	Half Cake, Polished Mahogany, "Slide-Cover" Box, with Brushes, each	\$1.30
12	" " " " " " " " " " " "	2.20
18	" " " " " " " " " " " "	3.25
24	" " " " " " " " " " " "	4.25

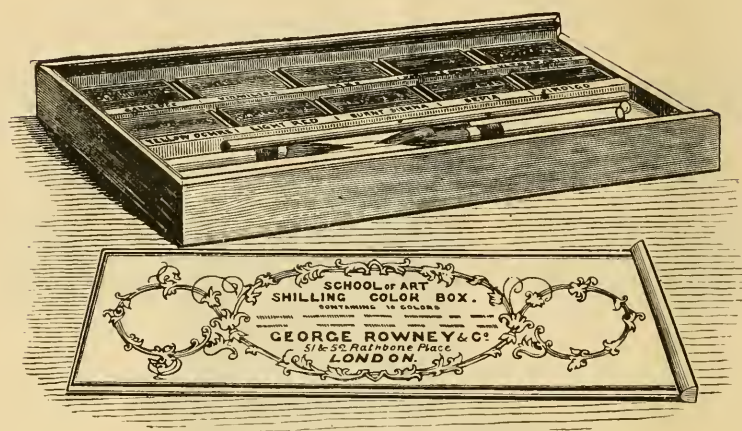
" LOCK " HALF-CAKE BOXES.

12	Half Cake, Polished Mahogany, "Lock" Box, with Brushes and Pencil, each	\$3.15
18	" " " " " " " " " " " "	4.25

" LOCK-AND-DRAWER " HALF-CAKE BOXES.

12	Half Cake, Polished Mahogany, "Lock-and-Drawer" Box, with Fittings, each	\$4.00
18	" " " " " " " " " " " "	5.00
12	" " " " "Complete" Box, with Brushes and Fittings, each	4.60
18	" " " " " " " " " " " "	5.75
12	" " " " "Caddy-Lid" Box, with Brushes, Pencils, Stumps and Fittings, each	7.00
18	" " " " " " " " " " " "	8.50
6	Cake, " " "Slide-Cover" Box, with Brushes, each	2.00
12	" " " " " " " " " " " "	4.25
18	" " " " " " " " " " " "	6.25
12	" " " " "Lock-and-Drawer" Box, with Brushes, Saucers, etc., each	6.00
18	" " " " " " " " " " " "	7.75
12	" " " " "Complete" Box, with Brushes, China, Chalk, etc., each	7.50
18	" " " " " " " " " " " "	10.00
24	" " " " " " " " " " " "	13.75

GEORGE ROWNEY & CO.'S



School of Art Color Box,

Fitted according to the formula recommended by the Department of Science and Art in England, and consisting of the following colors: —

Gamboge,
Yellow Ochre,
Vermilion,

Light Red,
Burnt Sienna,
Sepia,
Ultramarine.

Lake,
Vandyke Brown,
Indigo.

45 CENTS A BOX.

Superior School Water Colors,

Used in all the Government Schools in England. Between the Best and Ordinary Colors in quality.

12 Cake, Polished Mahogany Hook and Eye Boxes	.	.	\$2.00
18 " " " " " " " "	.	.	2.50
24 " " " " " " " "	.	.	3.00

54 and 56 Cornhill, Boston

Winsor & Newton's Water Color Liquids.



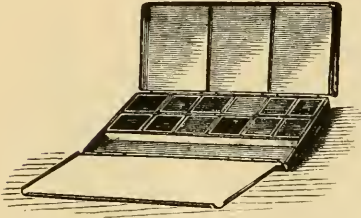
Permanent Chinese White	30 cents
Liquid Indelible Brown Ink	40 "
Liquid Prout's Brown	40 "
Liquid Sepia	40 "
Liquid Carmine	40 "
Liquid Indian Ink	30 "
Liquid Ox Gall	30 "
Water-Color Megilp	60 "
Water Mat Gold Size	50 "
Prepared Ox Gall, in Pot	17 "
Liquid Prussian Blue	30 "
Gold Ink	50 "
Prepared Gum Water	20 "
Bessimer's Gold Paint, with Liquid	45 "
Silver Ink	35 "

INDIA INK.



Very Choice, square sticks, 3½ inches long	\$2.00
Choice, " 2½ " . . . . .	.35
Medium Quality Round Gilt, Lion Head . . . . .	.40
" " " small . . . . .	.15
Ordinary . . . . .	.10

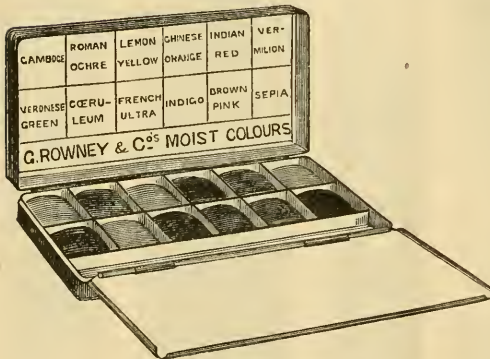
Winsor & Newton's Japanned Tin Boxes. FOR MOIST WATER COLORS.



These Boxes are made of japanned tin, and their flaps, being of a dead white color inside, serve as palettes.

To contain 6 Whole Cakes, each	\$1.30	To contain 6 Half Cakes, each	\$1.25
“ 8 “ “ “	1.40	“ 8 “ “ “	1.35
“ 10 “ “ “	1.65	“ 10 “ “ “	1.45
“ 12 “ “ “	1.90	“ 12 “ “ “	1.55
“ 16 “ “ “	2.25	“ 16 “ “ “	1.90
“ 18 “ “ “	2.40	“ 18 “ “ “	2.00
“ 20 “ “ “	2.60	“ 20 “ “ “	2.10
“ 24 “ “ “	3.00	“ 24 “ “ “	2.30

Japanned Tin Sketching Boxes, FILLED WITH MOIST COLORS.



Boxes fitted with Colors
to order from \$2.50 to
\$25.00 each.

PORTE CRAYONS.

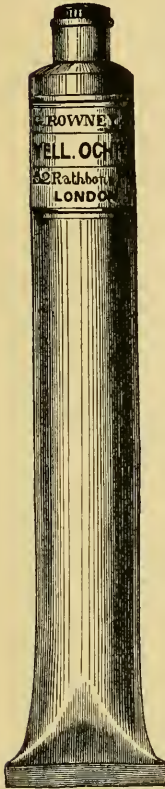
Common Brass, 4 to 6 inches long	5 to 10 cents.
Washed or Plated, 4 to 6 six inches long	8 to 15 “
Conte Porte Crayons, Hollow Cedar Centres	20 “
“ “ “ “ Ebony, Plated Ends	30 “

STUMPS.

Chamois Stumps, 8 sizes, each from	8 to 13 cents.
Kid “ 6 “ “	8 to 13 “
Cork “ 6 “ “	8 to 15 “
Paper “ 6 “ “	5 to 8 “
Amadou	25 “

**WINSOR & NEWTON'S
FINELY PREPARED TUBE OIL COLORS.**

A discount by the doz.
10 CENTS per TUBE.



Antwerp Blue	Cologne Earth	Payne's Gray
Asphaltum	Cremnitz White	Permanent White
Bitumen	Crimson Lake	Permanent Blue
Blue Black	Emerald Green	Prussian Blue
Black d'Argent	Flake White	Prussian Brown
Black Lead	Gamboge	Purple Lake
Bone Brown	Indian Lake	Pyne's Megilp
Brown Ochre	Indian Red	Raw Sienna
Brown Pink	Indigo	Raw Umber
Burnt Umber	Italian Pink	Roman Ochre
Burnt Rom. Ochre	Ivory Black	Scarlet Lake
Burnt Sienna	King's Yellow	Sugar of Lead
Brilliant Yellow	Lamp Black	Terre Verte
Caledonian Brown	Light Red	Terre Rosa
Cappah Brown	Megilp	Trans. Gold Ochre
Cassel Earth	Mummy	Vandyke Brown
Chrome Green, 1	Naples Yellow	Venetian Red
Chrome Green, 2	Naples Yellow, Fr.	Verte Perroquet
Chrome Green, 3	Neutral Tint	Verdigris
Chrome Yellow	New Blue	Verona Brown
Chrome Deep	Nottingham White	Yellow Lake
Chrome Orange	Olive Lake	Yellow Ochre
Chrome Red	Orpiment	Zinc White

18 CENTS per TUBE.

Burnt Lake	Chinese Vermilion	French Vermilion
Cerulean Blue	Vermilion	

28 CENTS per TUBE.

Brown Madder	Lem. Yellow, Deep	Oxide of Chromium
Citron Yellow	Madder Lake	Ditto Transparent
Cobalt Blue	Malachite Green	Pink Madder
Carmine, No. 2	Mars Brown	Rose Madder
Ext. Vermilion	Mars Red	Rembrant's Madder
Fr. Ultramarine	Mars Violet	Rubens' Madder
Fr. Veronese Green	Mars Yellow	Scarlet Vermilion
Indian Yellow	Mineral Gray	Strontian Yellow
Lem. Yellow, Pale	Orange Vermilion	

40 CENTS per TUBE.

Brilliant Ultramarine	Extra Malachite Green	Purple Madder
Burnt Carmine	Madder Carmine	Violet Carmine
Carmine	Mars Orange	Viridian

80 CENTS SINGLE TUBE.

Aureolin	Cadmium, Yellow, Pale	Ultramarine Ash
Cadmium, Orange	Field's Orange Vermilion	Orient Yellow
Cadmium, Yellow, Deep		

MAHL STICKS.

White Wood, 30 to 40 inches long, . . . . .	.20
Stained and Varnished, 30 to 40 inches long, . . . . .	.30
Folding in three pieces, a new article,	1.00

PALETTE CUPS.

Brush Washers,33
--------------------------	-----

**Winsor & Newton's Prepared Canvas,
FOR OIL PAINTING.
IN ROLLS OF SIX YARDS.**

	Smooth.	Roman.	Twilled.
27 inches wide, per yard, . . .	1.16	1.25	1.40
30 " " " " . . .	1.25	1.40	1.60
36 " " " " . . .	1.40	1.55	1.80
38 " " " " . . .	1.55	1.68	2.00
42 " " " " . . .	1.68	2.00	2.25
45 " " " " . . .	2.10	2.50	2.55
54 " " " " . . .	2.75	3.20	3.30
62 " " " " . . .	3.25	3.50	3.50
74 " " " per roll, . . .	23.50	31.50	32.00
86 " " " " . . .	27.00		33.00

Single prime Canvas same price as smooth.

Extra widths imported to order.

Winsor & Newton's Prepared Canvas on Frames.

	Smooth.	Roman.	Twilled.		Smooth.	Roman.	Twilled.
8x10 each, .35	.38	.45	20x24 each, 1.15	1.35	1.45		
9x12 " .35	.38	.45	20x27 " 1.20	1.40	1.45		
9x13 " .40	.45	.50	22x27 " 1.25	1.50	1.65		
10x12 " .40	.50	.55	20x30 " 1.30	1.50	1.60		
10x14 " .45	.55	.60	22x30 " 1.35	1.55	1.70		
10x16 " .50	.60	.60	25x30 " 1.40	1.60	1.90		
11x15 " .55	.60	.70	24x34 " 1.55	1.80	2.00		
12x14 " .55	.65	.70	27x34 " 1.65	2.00	2.20		
12x15 " .60	.70	.75	24x36 " 1.80	2.10	2.25		
12x16 " .60	.70	.75	26x36 " 1.90	2.15	2.30		
12x18 " .65	.80	.90	28x48 " 2.75	3.10	3.60		
12x20 " .70	.80	.90	29x36 " 1.75	2.35	2.50		
14x17 " .70	.85	.95	30x40 " 2.70	2.90	3.15		
14x18 " .75	.85	.95	30x42 " 2.75	3.10	3.25		
14x20 " .75	.85	1.00	30x44 " 2.85	3.25	3.50		
16x20 " .85	.90	1.10	26x42 " 2.20	2.55	2.75		
16x22 " .85	.90	1.10	36x42 " 2.80	3.20	3.65		
16x24 " .90	1.05	1.15	34x60 " 4.00	4.50	5.00		
17x21 " .95	1.05	1.15	34x44 " 2.95	3.35	3.65		
18x24 " 1.05	1.05	1.25	40x50 " 3.80	4.00	4.75		
18x30 " 1.10	1.10	1.40	40x54 " 3.90	4.25	5.00		

Special and irregular sizes made and stretched to order.

FRENCH CANVAS.

Winsor & Newton's Academy Boards.

Academy Boards, . . .	18½x24½ inches, each, . . .	38 cents.
Half size " " . . .	12¼x18½ " " . . .	20 "
Quarter size " " . . .	9 x12 " " . . .	12 "
Eighth " " . . .	6 x 9 " " . . .	8 "

Winsor & Newton's Prepared Millboards.

Oil Sketching Paper.

Prepared Oil Sketching Paper, Thin, per sheet, . . .	25 cents.
Prepared Oil Sketching Paper, Extra Thick, per sheet, . . .	45 "
Grecian Oil Sketching Paper, per sheet, . . .	40 "

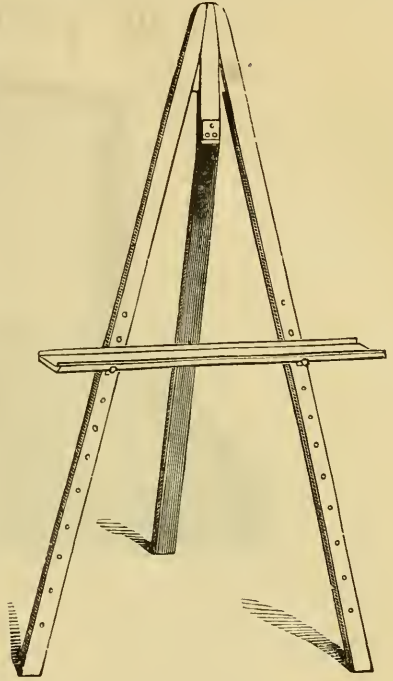
BLACK PANELS. See Page 76.

EASELS.

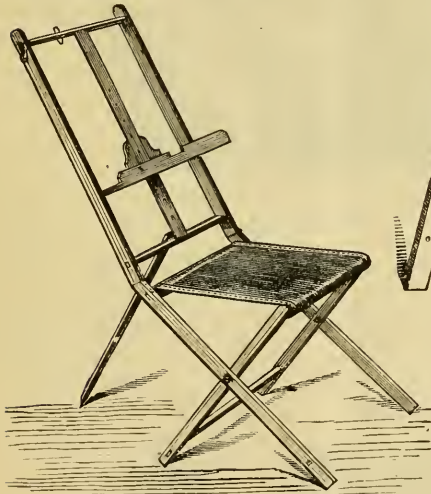
Pine Rack Easels,	\$2.25
Black Walnut (oiled) Rack Easel,	3.50
Black Walnut, 3 pieces to fold,	1.75
Pine, 3 " " "	1.30
Black Walnut Table Easel,	2.75
Black Walnut, with shelf for brushes and colors,	4.00

Sketching Easels for out-door sketching. Height, when ready for use, 54 inches; folded, 33½ inches by 2½ inches. Will easily hold a canvas 18 by 24 inches. Weight, 2 lbs. 5 oz. Made of maple, and very durable; each,

2.50



Black Walnut, 3 pieces to fold.



The Easel open.

Sketching Seat and Easel combined. The cut represents the Seat and Easel opened for use. The Easel, when closed, occupies a space 27 by 14, inches; weight, 6 lbs. 8 oz; made of hardwood, \$4.00

PALETTE KNIVES.

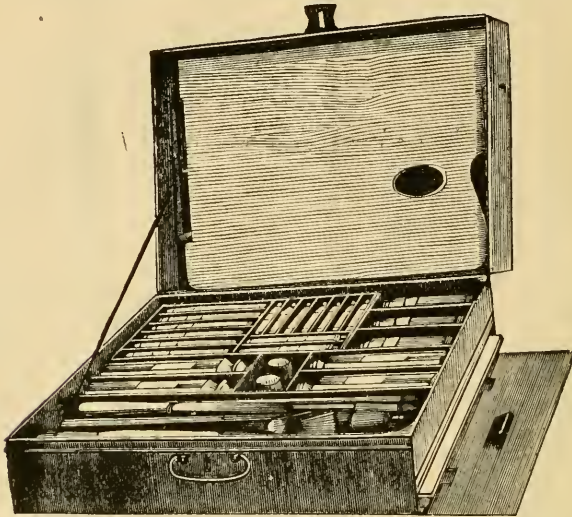
3 inch blade, fine steel, cocoa or ebony handles, each,	\$.25
3½ " " " " " " " " " " . . . . .	.25
4 " " " " " " " " " " . . . . .	.30
4½ " " " " " " " " " " . . . . .	.33
5 " " " " " " " " " " . . . . .	.35
6 " " " " " " " " " " . . . . .	.40
4½ " " Trowel Palette Knife, " " " " . . . . .	.50
5 " " " " " " " " " " . . . . .	.62
Pocket Palette Knives, pearl handle, each, . . . . .	. . . . .
" " " " shell " " . . . . .	. . . . .
" " " " ivory " " . . . . .	. . . . .



GILDERS' KNIVES.

Superior Gilders', 6 inch, each,60
--	-----

TIN OIL SKETCHING BOXES.

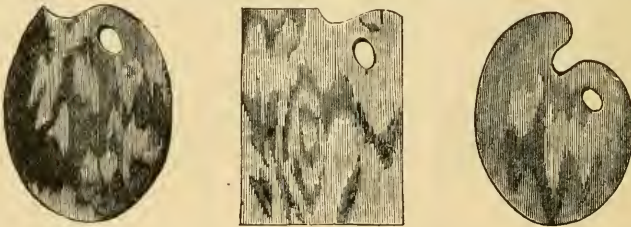


- No. 1.** Japanned Tin Sketch Box, arranged for Palette, Colors, Brushes, Oils, etc., bottom compartment for Mill Boards, size 10x14, each, **\$2.15**
- No. 2.** Japanned Tin Sketch Box, same as No. 1, without the compartment for Mill Boards, size 9½x13½, each, **2.00**
- No. 3.** Japanned Tin Sketch Box, arranged for Palette, Colors, Brushes, Oils, etc., size 9x13, each, **1.80**

Boxes "fitted" to order with Colors, Brushes, Oils, etc., complete.

- Winsor & Newton's Sketching Folios,** (4to Imperial, 11x15 inches, each, 3.50
 with Japanned Tin Frames and { 8vo " 7½x11 " " 2.63
 pocket for paper sketches. { 4to Royal 9½x12 " " 2.00

PALETTES. Oval or Square.



	Oiled Mahogany.	Polished Mahogany.	Oiled Walnut.	Polished Walnut.	Polished Satin Wood.
9 inch, . . .	\$.30	\$.60	\$.30	\$.60	\$.65
10 " . . .	.35	.70	.35	.70	.75
11 " . . .	.38	.80	.38	.80	.85
12 " . . .	.40	.90	.40	.90	.95
15 " . . .	.50	1.20	.50	1.20	1.20
18 " . . .	.90	1.40	1.00	1.40	1.50

Varnishes.

2 Oz. Round Glass Bottles.

Winsor & Newton's Strong Mastic Varnish	\$0.90
“ “ Picture “ “ . . . . .	.75
“ “ Picture Copal “ . . . . .	.45
“ “ Crystal “ . . . . .	.35
Retouching Varnish, 2 oz. bottles . . . . .	.25
French Retouching Varnish, 1 oz. square bottles . . . . .	.25
Grecian Varnish . . . . .	.25
Picture “ . . . . .	.25
Copal “ . . . . .	.25
Florence “ . . . . .	.30
Roberson's Medium . . . . .	.40
Extra Picture Varnish . . . . .	.35

Oils.

2 Oz. Round Glass Bottles.

Winsor & Newton's Nut Oil	\$0.25
“ “ Poppy Oil . . . . .	.25
“ “ Linseed Oil . . . . .	.20
“ “ Strong Drying Oil . . . . .	.25
“ “ Pale “ . . . . .	.25
Hoit's Clarified Drying Oil . . . . .	.20
Light or Pale Drying Oil . . . . .	.20
Deep or Strong Drying Oil . . . . .	.20
Linseed Oil . . . . .	.15
French Nut Oil . . . . .	.20
“ Poppy Oil . . . . .	.20

Siccative.

Siccative de Harlem	\$0.50
Siccative de Courtrai . . . . .	.25

Oil and Water Bottles.

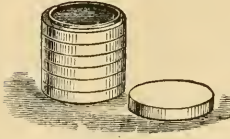
No. 1, Round Japanned Tin Water Bottles, with two cups, each	\$1.00
No. 3, Oval “ “ “ “ “ “	1.30
No. 4, “ “ “ “ “ “	1.50
No. 5, “ “ “ “ “ “	1.80
No. 6, “ “ “ “ “ “	2.25
Flat Japanned Tin Oil Bottles, each . . . . .	.60 to 1.00

Canvas Scrapers.

Small	\$.40	Large	\$.60
-----------------	--------	-----------------	--------

Winsor & Newton's China Ware. Palettes.

Oval or Square, 6 inches, each \$.30 " " 7 " " .35 " " 8 " " .40	Oval or Square, 9 inches, each \$.56 " " 10 " " .60
---	---



Nests of Cabinet Saucers.

No. 1	Containing 6 Saucers,	2½ in. in Diam.,	per set,	\$.50
No. 2	6 " "	2¾ " " "	" "	.60
No. 3	6 " "	3½ " " "	" "	.70

Divided Slants.

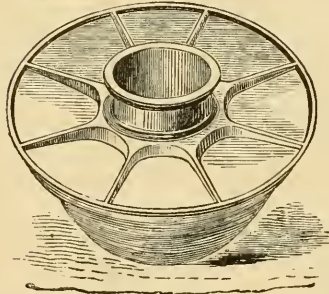


3 Divisions, each \$.18 4 " " .30 5 " " .40	No. 43. 6 Divisions, each \$.45 8 " " .60 12 " " .80
--	---

India Ink and Color Slabs.



No. 1	Ink Slab, measuring	2¾ by 1½ inches,	each	\$.15
No. 4	" "	2½ " 4 " "	" "	.20
No. 11	" "	2¾ " 4½ " "	" "	.30
No. 11½	" "	3½ " 5 " "	" "	.40



Round Slant and Basin.

FOR ARCHITECTS' AND ENGINEERS'
OFFICE USE.

Each. \$1.25



Square Divided Flat Tiles.

3 Square, each \$.20 6 " " .40	No. 46. 9 Square, each \$.60 12 " " .70
------------------------------------	---



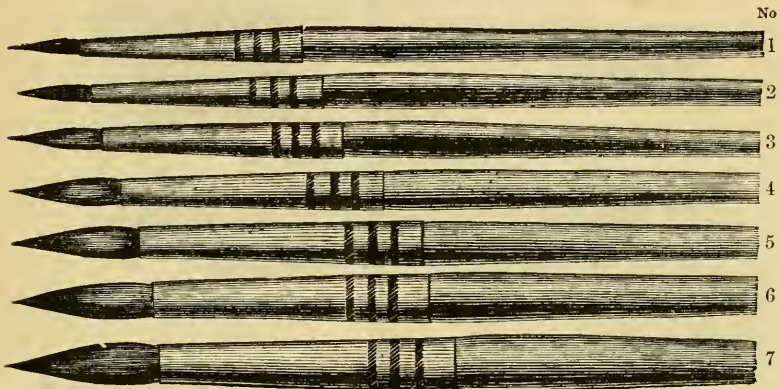
Centre Slant.

Centre Slant, each \$.30	Well Slab, each60
Box Well Slab, each . . . \$.30	

Glass Ware.

Glass Slabs, 6 x 6 \$.70	Glass Mullers, 1-inch, . . . \$.15
" " 8 x 885	" " 2-inch,35
" " 12 x 12.1.75	Water Glasses,15 to .45
Patent Ink Slab, with cover, 1¾ x 4½ inch, each, . . . \$.50	
" " 2½ x 5¼ " "60	

**WINSOR & NEWTON'S FINEST BROWN AND RED WATER
COLOR SABLES, IN ALBATA.**



No. 0 size, each	\$.33	No. 4 size, each	\$.65
“ 1 “ “ . . . . .	.33	“ 5 “ “ . . . . .	.80
“ 2 “ “ . . . . .	.40	“ 6 “ “ . . . . .	.95
“ 3 “ “ . . . . .	.50	“ 7 “ “	1.30

Round and Flat, same price.

FRENCH BROWN AND RED WATER-COLOR SABLES.

Black Polished Handles, Plated Ferrules.

Red.		Black.	
No. 0 size, each	\$.18	No. 0 size, each	\$.22
“ 1 “ “ . . . . .	.20	“ 1 “ “ . . . . .	.25
“ 2 “ “ . . . . .	.20	“ 2 “ “ . . . . .	.30
“ 3 “ “ . . . . .	.30	“ 3 “ “ . . . . .	.35
“ 4 “ “ . . . . .	.35	“ 4 “ “ . . . . .	.40
“ 5 “ “ . . . . .	.40	“ 5 “ “ . . . . .	.45
“ 6 “ “ . . . . .	.45	“ 6 “ “ . . . . .	.50
“ 7 “ “ . . . . .	.55	“ 7 “ “ . . . . .	.60

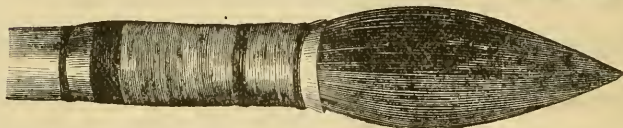
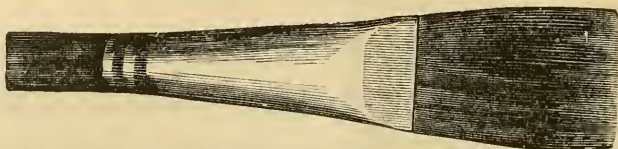
Camel-Hair Pencils, fine quality, wood handles, and metal tubes, Nos. 1 and 2, 10 cents each; 3 and 4, 12 cents; 5 and 6, 15 cents.

FRENCH CAMEL-HAIR BRUSHES.

In Tin. For Water-Color Painting, Tinting or Lacquering.

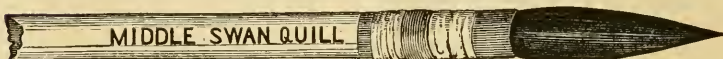
Round, each	\$.17
Flat, 3-8 to 1 inch wide, each, from . . . . .	.12 to .20
Double-Enders, brush at either end, each . . . . .	.35

SKY OR WASH BRUSHES, FOR WATER-COLOR PAINTING.



Round Wire Bound Siberian Hair, each	. . . . .	\$1.00
Flat Dyed Sables, in Tin,	"	1.50
Round Dyed Sables, in Tin,	"	1.50

FRENCH CAMEL HAIR BRUSHES, in Quills.



Extra Small Swan Quill, each	. . . . .	\$ .20
Small Swan Quill,	" . . . . .	.35
Middle " "	" . . . . .	.45
Large " "	" . . . . .	.55

NEW SIBERIAN BRUSHES.

Plated Ferrules, Tinting Brush, for Architects' and Engineers' use.

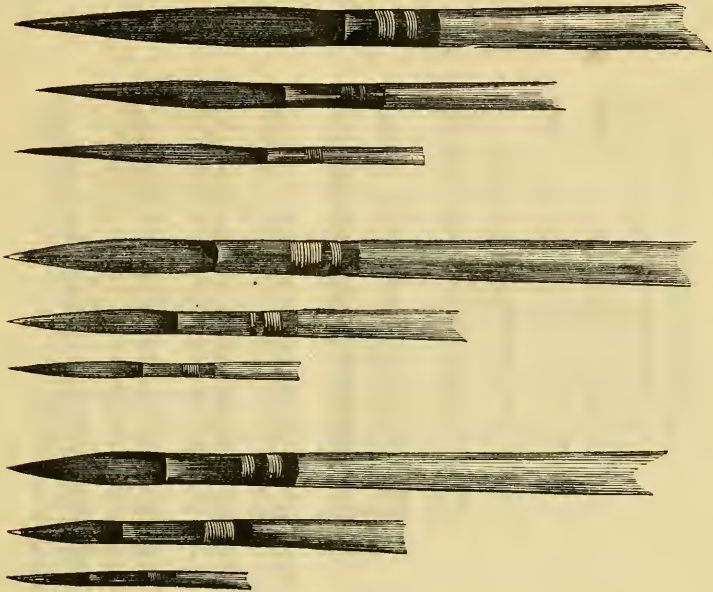
6 sizes, Round, each, from	. . . . .	\$ .15 to .35
Double-Enders, brush at either end, each	. . . . .	.65

FRENCH SABLE BRUSHES, in Quills.

Swan Quill, ranging in price, from	. . . . .	\$ .75 to \$3.50 each.
Crow Quill to Swan Quill,	" . . . . .	.10 to .50 each.

BRISTLE POONAH BRUSHES, Stained Handles.

6 sizes, either size,	\$.08
-----------------------	-----------	--------



CAMEL HAIR STRIPING BRUSHES,

For Letterers, Writers, Scrollers, etc.

From Nos 1 to No. 8, assorted.

From $\frac{1}{2}$ inch to $2\frac{1}{2}$ inches long, per doz.	\$.33
“ “ “ “ “ “ each . . . . .	.05

SIBERIAN OX-HAIR STRIPERS.

1, $1\frac{1}{4}$, $1\frac{1}{2}$, and 2 inch, each	\$.10 to .60
---	---------------

Superior brush for Fresco and Carriage Painters.

BLACK SABLE STRIPERS.

A very complete assortment, various lengths and sizes, each	\$.10 to .60
---	---------------

CAMEL'S HAIR MINIATURE PENCILS.

Sup. Ex. Gold and Silk Bound,	\$.05 to .12
---	---------------

BRISTLE FRESCO BRUSHES.

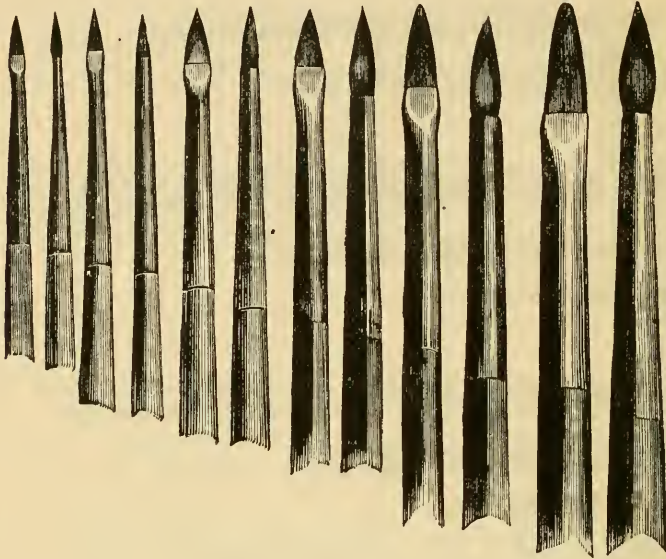
Round and Flat. Extra. In Tin. Polished Handles,	\$.10 to .20
--	---------------

LANDSEER'S BRISTLE ARTISTS' BRUSHES.

BRIGHT'S BRISTLE ARTISTS' BRUSHES.

WINSOR & NEWTON'S RED SABLE ARTISTS' BRUSHES.

FOR OIL PAINTING. ROUND AND FLAT. POLISHED HANDLES.



In Tin. For Oil Painting. Red Polished Cedar Handles.

No. 1 size, each	\$.20	No. 6 size, each	\$.50
" 2 " " " " " " " " " " " "	.25	" 7 " " " " " " " " " "	.70
" 3 " " " " " " " " " " " "	.30	" 8 " " " " " " " " " "	.80
" 4 " " " " " " " " " " " "	.35	" 9 " " " " " " " " " "	1.00
" 5 " " " " " " " " " " " "	.40		

SUPERFINE ARTISTS' RED SABLE BRUSHES.

For Oil Colors. Round and Flat. Polished Handles.

No. 1, each	\$.10	No. 8, each,	\$.20
" 2, " " " " " " " " " " " "	.10	" 9, " " " " " " " " " " " "	.20
" 3, " " " " " " " " " " " "	.10	" 10, " " " " " " " " " " " "	.25
" 4, " " " " " " " " " " " "	.15	" 11, " " " " " " " " " " " "	.25
" 5, " " " " " " " " " " " "	.15	" 12, " " " " " " " " " " " "	.25
" 6, " " " " " " " " " " " "	.15	" 13, " " " " " " " " " " " "	.30
" 7, " " " " " " " " " " " "	.20	" 14, " " " " " " " " " " " "	.30

RUSSIAN SABLE ARTISTS' BRUSHES.

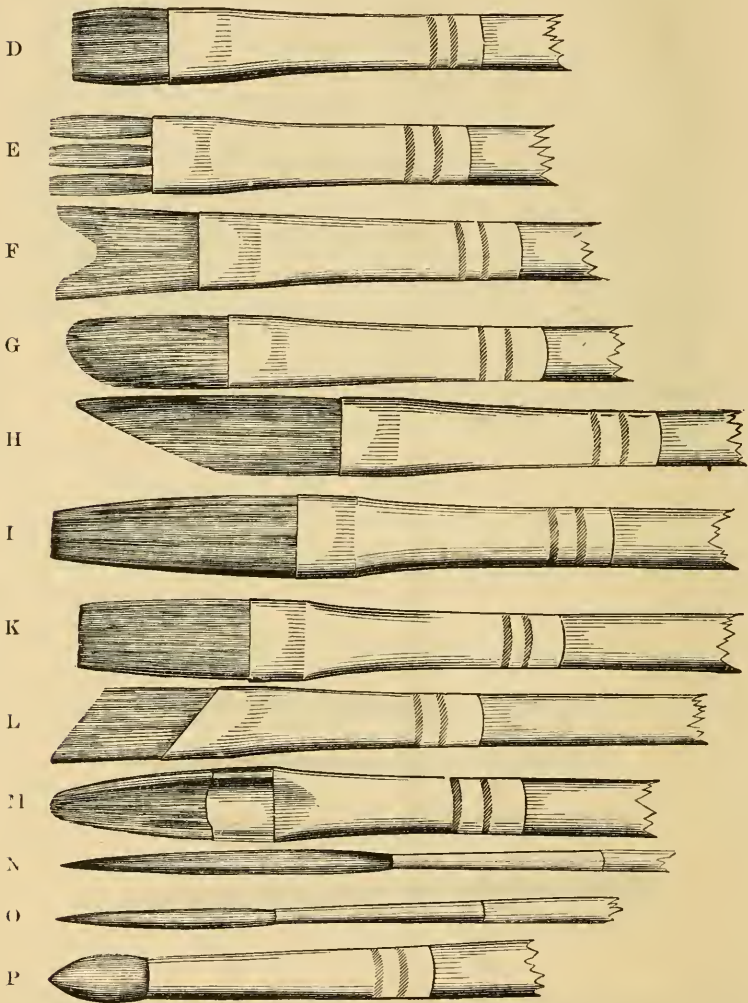
(SUBSTITUTE FOR RED SABLE.)

For Oil Painting. Round and Flat. Polished Handles.

No. 1 each	\$.08	No. 8 each :	\$.15
" 2 " " " " " " " " " " " "	.09	" 9 " " " " " " " " " " " "	.16
" 3 " " " " " " " " " " " "	.10	" 10 " " " " " " " " " " " "	.18
" 4 " " " " " " " " " " " "	.11	" 11 " " " " " " " " " " " "	.19
" 5 " " " " " " " " " " " "	.12	" 12 " " " " " " " " " " " "	.20
" 6 " " " " " " " " " " " "	.13	" 14 " " " " " " " " " " " "	.25
" 7 " " " " " " " " " " " "	.14		

WINSOR & NEWTON'S "SPECIAL" EXTRA FINE BRISTLE BRUSHES.

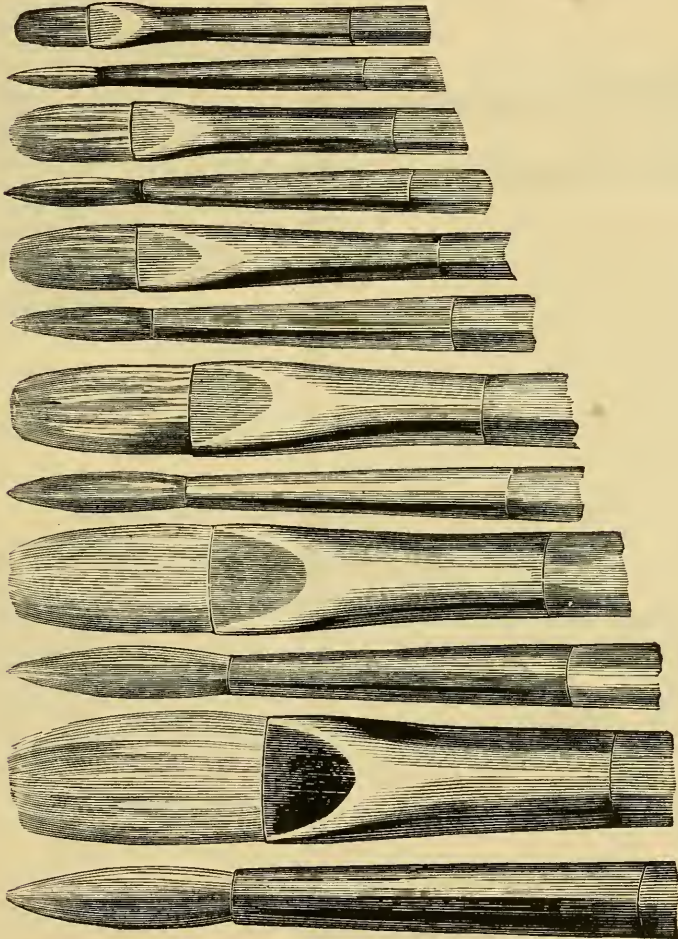
These Brushes are specially made at the suggestion, and after the patterns, of some of the most eminent artists of the day.



Description on page 17.

WINSOR & NEWTON'S FLAT AND ROUND BRISTLE BRUSHES.

In Tin, Polished Cedar Handles.



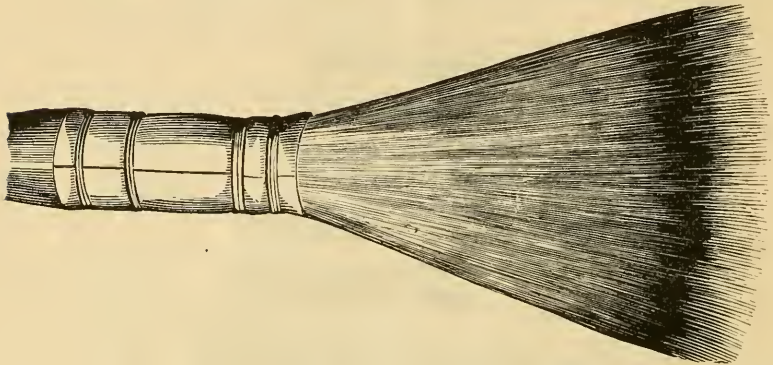
No. 0 size, each	\$.10	No. 7 size, each	\$.17
" 1 " " . . . . .	.10	" 8 " " . . . . .	.19
" 2 " " . . . . .	.12	" 9 " " . . . . .	.22
" 3 " " . . . . .	.12	" 10 " " . . . . .	.26
" 4 " " . . . . .	.13	" 11 " " . . . . .	.30
" 5 " " . . . . .	.14	" 12 " " . . . . .	.33
" 6 " " . . . . .	.15		

SUPERFINE ARTISTS' BRISTLE BRUSHES.

Polished Handles. Round and Flat.

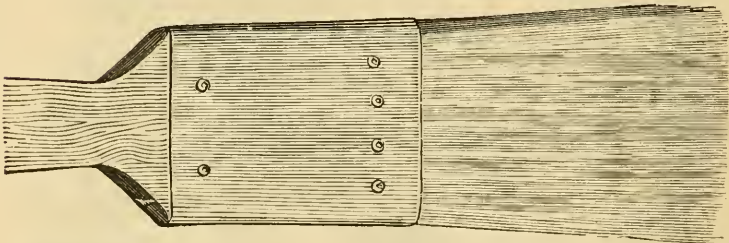
No. 0 to 12, assorted, per doz.,	\$1.00	each	\$.10
--	--------	----------------	--------

FRENCH ROUND BADGER BLENDERS, Polished Handles.



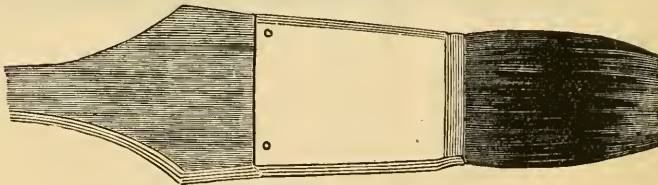
No. 1 size, each	\$.20	No. 7 size, each	\$.66
“ 2 “ “ . . . . .	.25	“ 8 “ “ . . . . .	.75
“ 3 “ “ . . . . .	.33	“ 9 “ “ . . . . .	.87
“ 4 “ “ . . . . .	.42	“ 10 “ “	1.00
“ 5 “ “ . . . . .	.50	“ 11 “ “	1.12
“ 6 “ “ . . . . .	.58	“ 12 “ “	1.25

BRISTLE VARNISH BRUSHES, Cedar Handles, Nailed.



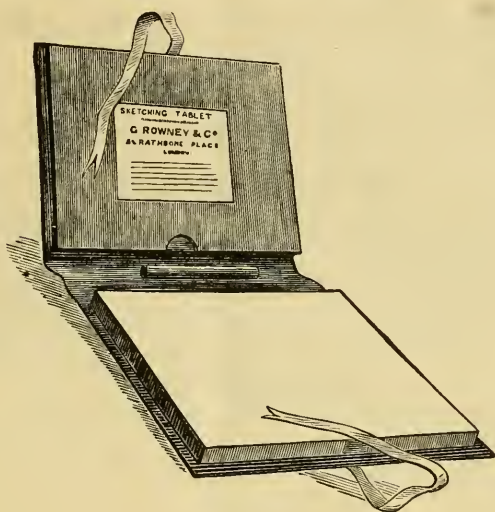
1 inch wide, each	\$.17	2½ inch wide, each	\$.43
1½ “ “ “ . . . . .	.25	3 “ “ “ . . . . .	.50
2 “ “ “ . . . . .	.34		

CAMEL-HAIR VARNISH BRUSHES, Long Cedar Handles.



1 inch wide, each	\$.25	2 inch wide, each	\$.50
1¼ “ “ “ . . . . .	.30	2½ “ “ “ . . . . .	.63
1½ “ “ “ . . . . .	.38	3 “ “ “ . . . . .	.75

SKETCH BLOCKS.



Half Bound.

SOLID SKETCH BLOCKS, Whatman's Papers.

	Solid Blocks only.		Solid Blocks only.
16mo, Royal, $4\frac{1}{2} \times 5\frac{1}{2}$	\$.35	8vo, Imperial, 7 x 10	\$.75
16mo, Imperial, 5 x 7 . . . . .	.45	4to, Royal, 9 x $11\frac{1}{2}$	1.13
8vo, Royal, $5\frac{1}{2} \times 7$ . . . . .	.50	4to, Imperial, 10 x 14	1.40

SOLID SKETCH BLOCKS, Whatman's Thick Papers.

	Solid Sketch Blocks, Half Bound.	Solid Blocks only.
16mo, Royal, $4\frac{1}{2} \times 5\frac{1}{2}$ inches, each	\$1.00	\$.40
16mo, Imperial, 5 x 7 " "	1.10	.55
8vo, Royal, $5\frac{1}{2} \times 7$ " "	1.30	.60
8vo, Imperial, 7 x 10 " "	1.40	.90
4to, Royal, 9 x $11\frac{1}{2}$ " "	1.75	1.20
4to, Imperial, 10 x 14 " "	3.00	1.70
Half Royal, 11 x $18\frac{1}{2}$ " "	3.40	2.25
Half Imperial, 14 x 20 " "	4.00	3.25

SOLID SKETCH BLOCKS, Whatman's Extra Thick Papers.

	Solid Sketch Blocks, Half Bound.	Solid Blocks only.
16mo, Double Elephant, 6 x 9 inches	\$1 80	\$1.25
8vo, Imperial, 7 x 10 " "	2.30	1.50
8vo, Double Elephant, 9 x 12 " "	3.25	2.40
4to, Imperial, 10 x 14 " "	4.00	2.75
4to, Double Elephant, 12 x 18 " "	7.00	4.50
Half Imperial	8.00	5.00

Sketch Blocks, Continued.

CHARCOAL SKETCH BLOCKS, Berville Superior Paper.

First Quality.

Half Royal, 11 x 18 inches, each	. . . . .	\$1.00
4to, " 9 x 11 " "	. . . . .	.65

Gray tinted paper, same sizes and prices as above.

SKETCH BOOKS.

SKETCH BOOKS, White Paper, for Pencil Sketching.

No. 1 size, $3\frac{3}{4} \times 5\frac{3}{4}$ inches, each	. . . . .	\$.40
" 2 " $4\frac{1}{2} \times 6\frac{3}{4}$ " "	. . . . .	.50
" 3 " $4\frac{1}{2} \times 7\frac{1}{4}$ " "	. . . . .	.55
" 4 " $5\frac{3}{4} \times 6\frac{3}{8}$ " "	. . . . .	.65
" 5 " 7 x 11 " "	. . . . .	1.00

TINTED SKETCH BOOKS.

Made of French Tinted Paper, for Pencil Drawing.

No. 1 size, $3\frac{3}{4} \times 5\frac{3}{4}$ inches, each	. . . . .	\$.45
" 2 " $4\frac{1}{2} \times 6\frac{3}{4}$ " "	. . . . .	.55
" 3 " $4\frac{1}{2} \times 7\frac{1}{4}$ " "	. . . . .	.65
" 4 " $5\frac{3}{4} \times 7\frac{1}{8}$ " "	. . . . .	.75
" 5 " 7 x 11 " "	. . . . .	1.00

CHARCOAL.

Choice Conte, per box containing 50 sticks	. . . . .	\$.45
" Berville, small, per box containing 50 sticks	. . . . .	.50
" " large, " " 50 "	. . . . .	.45
" Rouget, " " 25 " assorted	. . . . .	.40
Ordinary, small, " " 50 "	. . . . .	.25
" large, per bundle " 50 "	. . . . .	.40
Stumping Sauce, per stick	. . . . .	.05
Charcoal Sketching Boxes, Nos. 1, 3	. . . . .
" " Folios, Nos. 1, 3	. . . . .

FIXATIF ROUGET.

Box containing Apparatus, Liquids, etc.	. . . . .	\$2.25
Small Bottle Fixatif, each	. . . . .	.38
Large " " " "	. . . . .	.60
Blowing Apparatus, separate	. . . . .	1.60
Liquid, special	. . . . .	.20

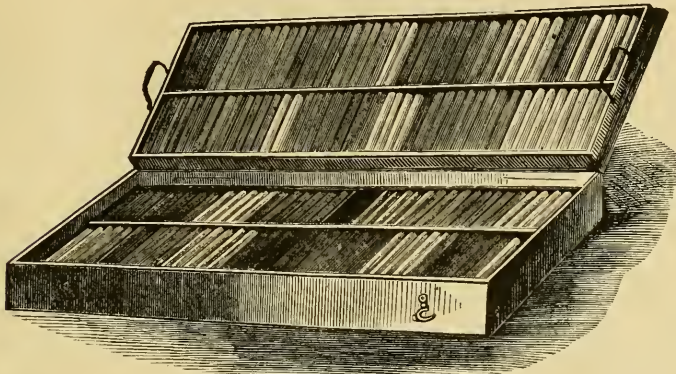
CHAMOIS SKINS.

Chamois Skins20 to \$1.00 each
-------------------------	--------------------

CHALK CRAYONS.

White, per gross	. . . . .	\$.25
Assorted colors, per gross	. . . . .	1.00
Carpenter's Chalk (red), per gross	. . . . .	1.25
" " " per doz.	. . . . .	.15

PASTELS, CRAYONS, Etc.



No. 1, Lefranc's First Quality, box containing 26 Crayons	.	.	.	\$.80
" 2, " " " " 42 "	.	.	.	1.10
" 3, " " " " 56 "	.	.	.	2.00
" 4, " " " " 62 "	.	.	.	2.70
" 5, " " " " 129 "	.	.	.	4.50
" 6, " " " " 156 "	.	.	.	5.50
Boxes of 30 Pastels each, containing an assortment of either Gray, Blue, Brown, Green, Yellow, etc., per box	.	.	.	.80

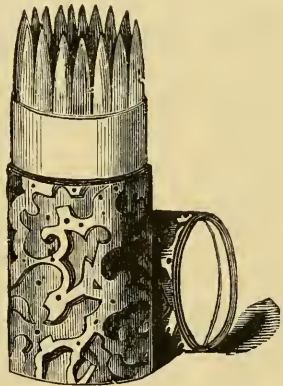
Hard French Pastel Crayons.

Round Boxes, containing 6 sticks, per box,	\$.10
" " " 12 " "	.18

First Quality.

Round Boxes, containing 12 sticks, per box	.30
" " " 18 " "	.40
" " " 24 " "	.50
" " " 36 " "	.80
" " " 48 " "	1.10

Black Square Conte Crayons, Nos. 1, 2, 3, per doz.	.20
White Square or Round Conte Crayons	.20
Black Round Varnished Crayons	.38
Red Square Crayons	.20



PASTEL PAPERS, BOARDS, ETC.

Pastel Paper, Royal, size 19 x 24 inches, per sheet	.	.	.	\$.30
" " Imperial, size 21 x 28 inches, "	.	.	.	.35
" Board, " 21 x 28 " "	.	.	.	.65
Monochromatic Board, " 21 x 28 " "	.	.	.	.45

DRAWING BOARDS.

PANEL DRAWING BOARDS.

4to, Imperial, size of panel 9 x 13½ inches	\$1.75
Half " " " 13½ x 19 "	2.00
Imperial, " " " 19 x 28 "	2.50

The above boards are made of thoroughly-seasoned stock; frames of hard wood, and panels of pine.

PLAIN DRAWING BOARDS.

Imperial, size 22 x 30 inches	\$1.35
Half Imperial, size 16 x 22 inches	1.00
4to, " " 11 x 16 "	.65

PORTFOLIOS.

Cloth Sides, Leather Corners and Backs, Silk Strings.

10 x 14 inches, plain	\$1.20	with inside flaps	\$1.88
12 x 16 " "	1.50	" "	2.25
14 x 18 " "	1.80	" "	2.63
15 x 20 " "	1.90	" "	3.00
16 x 22 " "	2.10	" "	3.38
18 x 24 " "	2.40	" "	3.75
22 x 30 " "	3.00	" "	4.50

Larger and irregular sizes made to order at short notice.

PORTFOLIOS.

Paper Sides, Leather Corners and Backs, for Architects' and Engineers' use.

10 x 14 inches, each	\$.75	16 x 22 inches, each	\$1.30
11 x 16 " "	.85	18 x 24 " "	1.45
14 x 18 " "	1.20	22 x 30 " "	1.50

French Sketching Boxes, Umbrellas and Seats.

LANDSCAPE WALNUT BOXES.

Interior fitted in Tin, with Palette, Oil Bottles, etc.

Size 11½ x 15 inches, each	\$5.50
" 10½ x 14 " "	5.00

SKETCHING UMBRELLAS.

With Cane mountings, jointed stick, 28 inches, each	\$8.50
" " " 30 " "	9.50
" " " 36 " "	10.50

SKETCHING SEATS.

Club Seat, 1st quality, each	\$2.50
" " 2d " "	2.00
Cane " " " "	3.38

54 and 56 Cornhill, Boston.

DRAWING PENCILS, ETC.**FABER'S TUBULAR SIBERIAN PENCILS.**

For Architects' and Engineers' use, and all general purposes.

10 grades, from 3B to 6H, each,	\$.30
Leads for Tubular Pencils, 6 Leads in box, . . . . .	.60

FABER'S PENCILS.

A. W. Faber's Black Round Gilt, Nos. 1, 2, 3, 4, per dozen,	\$.55
“ “ Extra Siberian, 10 grades, from 3B to 6H, best manufactured, per dozen,	1.00
Faber's Mathematical Pencils, for dividers, per dozen, . . . . .	.70
“ English Yellow Silver, 10 grades, from 3B to 4H, per dozen, . . . . .	.55

FABER'S PENCILS. IN BOXES.

5 Grades Siberian Pencils, each,	\$.90
7 “ “ “ “	1.10
5 “ “ “ “ and Knife and Rubber,	1.10
10 “ “ “ “	1.50
10 “ “ “ “ on cards,	1.25
5 “ English Yellow Silver, . . . . .	.55
7 “ “ “ “ . . . . .	.60
5 “ “ “ “ Knife and Rubber,	1.00
10 “ “ “ “ . . . . .	.85
4 “ Round Black Gilt, . . . . .	.35

COLORED PENCILS IN BOXES.

6 Assorted Colors, in box 7 inches long, per box,	\$.75
12 “ “ “ “ “ “	1.20
18 “ “ “ “ “ “	1.75
24 “ “ “ “ “ “	2.25

MAPPING AND DRAWING PENS.

Gillott's Mapping Pens, on cards, per dozen,	\$.60
“ Lithographic Crow Quill Pens, per dozen, . . . . .	.60
“ “ Pens, on cards, “ . . . . .	.60

RUBBER, ETC.

Faber's Ink and Pencil Eraser, small size, each,	\$.15
“ “ “ mammoth size, . . . . .	.20
“ Ink Eraser, each, . . . . .	.06
“ Black Gum, “ . . . . .	.10 to .50
“ White Rubber, best in the market, each, . . . . .	.05 to .50
“ Pencil “ each, . . . . .	.12
Webster's Chalk Eraser, . . . . .	.20
Erasers Conte a Paris, medium, . . . . .	.20
“ “ “ small, . . . . .	.12

ERASERS.

Ivory Handle Erasers, each,	\$.50
Cocoa “ “ “ . . . . .	.40

DRAFTING AND DRAWING PAPERS.

WHATMAN'S PERFECT DRAWING PAPERS.

Smooth or Rough Surface.

	Per Sheet.	Per Quire.
Antiquarian, 31x52 inches,	\$1.50	\$30.00
Double Elephant, 27x40 inches . . . . .	.25	5.25
Imperial, 21x30 " . . . . .	.13	2.50
Super Royal, 19x27 " . . . . .	.11	2.20
Royal, 19x24 " . . . . .	.08	1.70
Medium, 17x24 " . . . . .	.07	1.30
Demy, 15x20 " . . . . .	.06 . . . . .	.95

WHATMAN'S PERFECT PAPERS.

Thick and Double Thick, Smooth, Rough, and Extra Rough Surface.

WINSOR & NEWTON'S GRIFFIN ANTIQUARIAN.

A pure, choice and first-class Drawing Paper of Whatman's manufacture.

Size. 31x52 inches, per sheet, \$2.25

WHITE AND BROWN ROLL DRAWING PAPERS.

60 inches wide, white, per yard,	\$.50
59 " " " " . . . . .	.45
54 " " " " . . . . .	.30
48 " " Buff Tint Manilla, thin, per yard, . . . . .	.10
48 " " " " " thick, " . . . . .	.12
48 " " " " " extra thick, per yard, . . . . .	.15

CLOTH BACKED OR MOUNTED CONTINUOUS PAPERS.

A. Whatman's D. E., 40 inches wide, per sheet,	\$1.00
F. English Mounted, 54 " " 10 yd. rolls, \$12.00 per yard	1.30
F. " " 54 " " 10 " " 12.50 " "	1.35
G. " " 60 " " 10 " " 14.00 " "	1.60
G. " " 30 " " 10 " " 7.50 " "	.85
E. " " 30 " " 10 " " 7.50 " "	.85
L. Leonine Mounted, 60 " " 10 " " 14.00 " "	1.60

Samples of either of the above furnished on application.

TRACING OR VELLUM CLOTH.

Imperial, in rolls of 24 yards, 30 inches wide,	\$7.00 per yard, \$.40
" " 24 " 36 " "	8.00 " .50
" " 24 " 42 " "	10.50 " .60

The Imperial Cloth, designated "Dull Back," having one side unglazed, takes pencil, ink, and color much better than the ordinary glazed surface.

SUPERIOR TRACING PAPER.

Roll 21 yards by 44 inches, per roll,	\$2.80
" 11 " 44 " "	1.40
" 11 " 44 " white, per roll,	1.00
" 21 " 44 " " "	2.00
Double Elephant, 27x40 inches, per quire,	\$1.80 per sheet, .15
Imperial, 20x30 " "	1.12 " .08
Vegetal, 19x24 " "	1.80 " .12
D. E. Vegetal, 27x40 " "	8.00 " .35

Drafting and Drawing Papers, Continued.

HARDING'S WATER-COLOR PAPER.

Thin, 22x29 inches, per sheet,	. . . . .	\$ .13
Thick, 22x29 " " "	. . . . .	.25

A most desirable paper for Flower Painting in Water Colors. A regular texture, and slightly buff tinted — superior for Pencil Drawing.

GERMAN DRAWING PAPERS, Hard Finished Surface.

For Pencilling or Drafting.

		Per Sheet.	Per Quire.
Double Elephant, 26 x40,	\$.25		\$3.00
Imperial, 22 x30, . . . . .	.10		1.10
Super Royal, 19 x27, . . . . .	.10		1.00
Royal, 19 x24, . . . . .	.08		.95
Medium, 17 x22, . . . . .	.06		.80
Demy, 15½x19½, . . . . .			.50
Cap, 14 x17, . . . . .			.40

Tinted Crayon Papers, Etc.

English Double Elephant, 27x40 inches, per sheet,	\$.25
" Imperial, 22x30 " " . . . . .	.13
French " 21x28 " " . . . . .	.10
" Royal, 19x24 " " . . . . .	.08
Charcoal or Design Paper, . . . . .	.05
Best Lalanne " . . . . .	.06

REYNOLD'S BRISTOL BOARD, Finely Finished Surface.

Cap, 12 x15 inches, per sheet, 2 sheet, .08	3 sheet, .10	4 sheet, .12
Demy, 14½x18 " " " .12	" .15	" .20
Medium, 16½x20½ " " " .15	" .20	" .25
Royal, 18 x23 " " " " .25	"	"

REYNOLDS & TURNBULL'S ABRADED BOARDS.

Hand-Made Tinted Papers.

Extra Stout. — Weighing 90 pounds to the Ream.

FOR WATER COLORS.

Imperial, 30x21½ per sheet, .20	per quire, \$4.00
---	-------------------

Field Books.

Level Books, 4x6½ inches, made of superior paper, per dozen,	\$6.00
Transit " " " " " " " "	6.00
Level " " " made with front flap, " " " "	7.50
Transit " " " " " " " "	7.50

Drafting and Drawing Papers, Continued.

“LEONINE”

(TRADE MARK.)

DRAWING PAPER.

Now used by Draughtsmen throughout Europe.

1. It is of a singular toughness.
2. Is easily erasible from either ink or pencil mark.
3. After an erasure, a smooth surface is left, and can be written on without the ink spreading.

60 inches wide, white, per yard \$.50

Eggshell Drawing Paper, in Sheets, Best Quality.

	Per Sheet.	Per Quire.
Double Elephant, 26 x 40 in.	\$.25	\$4.50
Imperial, 22 x 30 in. . . . .	.12	2.25
Royal, 19 x 24 in. . . . .	.10	1.40

Tracing Paper.

German, very best, very tough and transparent, 54 inches wide, in rolls of 44 yards, per roll	\$6.00
Flaxine Paper, in sheets, 21 x 31 in., per quire	2.50
Crystalline Paper, in sheets, 24 x 32 in., per quire	1.00
Bond Paper, 16 x 21 in., 19 x 30 in., per 100 sheets, \$3.00 and \$5.00	
Gelatine or Glass Paper, 13 x 19 in., per sheet, thin . . . . .	.30
medium, .35; thick, .45	
Transfer Paper, blue, red and black, 11½ x 18½ in., Royal, per sheet . . . . .	.10
White Mounting Board, 22 x 28 in., according to thickness, per sheet . . . . .	.15 to .25

Sundries.

Very Superior Japanese Ink.

This Ink is best adapted for mechanical drawings, where lines are frequently washed, in applying brush tints. The lines drawn with this Ink will remain clear and distinct, and will not be blurred or defaced by the brush.

$3\frac{5}{8} \times \frac{7}{8} \times \frac{1}{2}$ inch, per stick \$1.25

Sponge Rubber.

FOR CLEANSING DRAWINGS.

Empty Mahogany Color Boxes.

For W. & N. Half Cakes, 12, 18, and 24 colors, 50, 60, and 75 cents each.

Drawing Pins or Tacks.

	Per Dozen.
Brass Tacks, steel points, $\frac{3}{8}$ inch diam.	\$.20
Solid Steel Tacks, $\frac{5}{16}$ " . . . . .	.25
" " fine, $\frac{5}{16}$ " . . . . .	.80
German Silver, steel points, screwed in and riveted, round head, $\frac{5}{16}$ inch. diam. . . . .	.60
" " $\frac{3}{8}$ " . . . . .	.65
" " $\frac{7}{16}$ " . . . . .	.70
" " $\frac{1}{2}$ " . . . . .	.80
" " $\frac{9}{16}$ " . . . . .	.90
" " $\frac{5}{8}$ "	1.00
" " beveled head, $\frac{3}{8}$ inch diam. . . . .	.65
" " " $\frac{7}{16}$ " . . . . .	.70
" " " $\frac{1}{2}$ " . . . . .	.80
" " " $\frac{9}{16}$ " . . . . .	.90
" " " $\frac{5}{8}$ "	1.00

McGill's Patent Paper Fasteners.

Materials for Wax Flower Making.

SHEET WAX.

White, per package	\$.15
Green, " . . . . .	.15
Pink, " . . . . .	.15
Yellow, " . . . . .	.15
Blue, " . . . . .	.15
Tea Rose, " . . . . .	.15
Purple, " . . . . .	.15
Variegated, " . . . . .	.25
Red, " . . . . .	.25
Scarlet, " . . . . .	.25
Double Thick, White, per package . . . . .	.25
Pond Lily, " . . . . .	.25
Calla Lily, " . . . . .	.35

Our Wax is warranted the best in the market. Each package contains 12 sheets, except the Pond Lily, which contains 6.

The Pond Lily is double in size and thickness, suitable for making Wax Crosses, etc.

White Wax, per pound	\$.70
--------------------------------	--------

WIRE.

Spool Cotton	}	per spool	\$.10
Green and White,			
Coil Silk or Cotton,	}	per coil . . . . .	.10
Green and White,			
Uncovered Wire . . . . .			.05

Extra Fine Colors,

PREPARED FOR COLORING WAX, WOODEN MOULDING TOOLS.

Miscellaneous.

Curling Pins, each	\$.05
Moss, per bunch . . . . .	.25
Sprig Moss, per package . . . . .	.05
Arrowroot, $\frac{1}{4}$ lb. package, each . . . . .	.17
Stamens, per bunch . . . . .	.05
Rose Cups, per doz. . . . .	.06
Brushes (for veining), each . . . . .	.05 to .10
Brushes (for coloring), " . . . . .	.08
Palettes, each . . . . .	.20 to .50
Palette Knives, small . . . . .	.25
"Lessons in Modelling Wax," by J. H. Mintorn; price	1.50
"The Art of Modelling Flowers in Wax," by George Worgan; price	1.00
"The Art of Modelling and Making Flowers and Fruit," by Charles Pepper and Madam Elise; price . . . . .	.75
Wooden Crosses, Harps, Lyres, etc., each . . . . .	.25 to 1.00
Chenille, for Glass Shades, in suitable colors, per yard . . . . .	.20 and .30

GILT LEAF MOULDS.

FINELY VEINED AND MOULDED FROM NATURE.

Azalea,	3 sizes, each,	.	.	.	.	.	.	\$ .08, .10 and .12
Abutilon,	2 "	"	"	"	"	"	"	.10 and .12
Blackberry,	3 "	"	"	"	"	"	"	.08, .10 and .12
Butterflies,	3 "	"	"	"	"	"	"	.08, .10 and .12
Chestnut,	3 "	"	"	"	"	"	"	.12, .16 and .20
Camelia,	2 "	"	"	"	"	"	"	.12 and .16
Currant,	2 "	"	"	"	"	"	"	.08 and .10
Clemestine,	3 "	"	"	"	"	"	"	.12, .12 and .16
Dogwood,	2 "	"	"	"	"	"	"	.12 and .20
Elm,	2 "	"	"	"	"	"	"	.12 and .16
Fuchsia,	3 "	"	"	"	"	"	"	.10 and .12
Fish Geranium,	3 "	"	"	"	"	"	"	.08, .10 and .12
Grape,	2 "	"	"	"	"	"	"	.20 and .25
Heliotrope,	3 "	"	"	"	"	"	"	.08, .10 and .12
Honey Suckle,	3 "	"	"	"	"	"	"	.10, .12 and .16
Ivy,	3 "	"	"	"	"	"	"	.08, .10 and .12
Jessamine,	2 "	"	"	"	"	"	"	.08
Lily of Valley,	2 "	"	"	"	"	"	"	.12 and .16
Laurestina,	3 "	"	"	"	"	"	"	.08, .10 and .12
Maple,	3 "	"	"	"	"	"	"	.15, .20 and .25
Myrtle,	3 "	"	"	"	"	"	"	.08 and .10
Orange,	2 "	"	"	"	"	"	"	.08 and .10
Oak,	3 "	"	"	"	"	"	"	.15, .20 and .25
Pond Lily,	2 "	"	"	"	"	"	"	.12 and .16
Passion Leaf,	1 "	"	"	"	"	"	"	.12
Pansy,	2 "	"	"	"	"	"	"	.08 and .10
Rose Geranium,	2 "	"	"	"	"	"	"	.08 and .10
Rose,	5 "	"	"	"	"	"	"	.08, .10 and .12
Sumac,	2 "	"	"	"	"	"	"	.08 and .10
Salvia,	3 "	"	"	"	"	"	"	.08, .10 and .12
Strawberry,	3 "	"	"	"	"	"	"	.08, .10 and .12
Sassafras,	2 "	"	"	"	"	"	"	.20 and .25
Verbena,	3 "	"	"	"	"	"	"	.08, .10 and .12
Violet,	3 "	"	"	"	"	"	"	.08, .10 and .12
Willow,	2 "	"	"	"	"	"	"	.12 and .16
Wild Cherry,	3 "	"	"	"	"	"	"	.12, .16 and .25
Woodbine,	4 "	"	"	"	"	"	"	.12, .16 and .20

TIN FLOWER CUTTERS.

Azalea,	each,	.	.	\$.12	Pink,	each,	.	.	\$.15
Camelia,	"	.	.	.20	Pyrus Japonica,	"	.	.	.10
Clemestine,	"	.	.	.12	Pansy,	"	.	.	.15
Dahlia,	"	.	.	.25	Pond Lily,	"	.	.	.30
Easter Lily,	"	.	.	.10	Quaker Lady,	"	.	.	.15
Fuchsia,	"	.	.	.12	Rose,	"	.	.	.30
Forget-me-not,	"	.	.	.10	Star Flower,	"	.	.	.12
Geranium,	"	.	.	.10	Sweet Pea,	"	.	.	.15
Honeysuckle,	"	.	.	.10	Sweet Alysium,	"	.	.	.12
Heliotrope,	"	.	.	.10	Tube Rose,	"	.	.	.20
Jessamine,	"	.	.	.10	Verbena,	"	.	.	.10
Lily of Valley,	"	.	.	.10	Violet,	"	.	.	.12
Moss Rose Calix,	"	.	.	.12	Wisteria,	"	.	.	.15
Narcissus,	"	.	.	.10	Wild Rose,	"	.	.	.10
Orange,	"	.	.	.12					

GEO. ROWNEY & CO.'S

TREATISES ON THE FINE ARTS.

HINTS ON SKETCHING FROM NATURE. Part I. By N. E. GREEN. <i>Illustrated by the Author. 4th edition</i>	\$.40
HINTS ON SKETCHING FROM NATURE. Part II. By N. E. GREEN. <i>Illustrated by the Author. 3d edition</i> . . . . .	.40
HINTS ON SKETCHING FROM NATURE. Part III. By N. E. GREEN. <i>Illustrated by the Author. 4th edition</i> . . . . .	.40
GUIDE TO FIGURE PAINTING IN WATER-COLORS. By SYDNEY T. WHITEFORD. <i>3d edition</i> . . . . .	.40
GUIDE TO SKETCHING FROM NATURE IN WATER-COLORS. By L. C. MILES. <i>With numerous illustrations by the Author</i> . . . . .	.40
PRINCIPLES OF PERSPECTIVE. By HENRY LEWIS, B.A. <i>6th edition, enlarged and revised</i> . . . . .	.40
GUIDE TO WATER-COLOR PAINTING. By R. P. NOBLE. <i>With an illustration in colors. 13th edition</i> . . . . .	.40
GUIDE TO OIL PAINTING. Part I. By J. S. TEMPLETON. <i>13th edition</i> . . . . .	.40
GUIDE TO OIL PAINTING. Part II. (LANDSCAPE FROM NATURE.) By A. CLINT. <i>6th edition</i> . . . . .	.40
GUIDE TO LIGHT AND SHADE DRAWING. By Mrs. M. MERRIFIELD. <i>With illustrations. 5th edition</i> . . . . .	.40
GUIDE TO PENCIL AND CHALK DRAWING. <i>With illustrations.</i> By G. HARLEY. <i>9th edition</i> . . . . .	.40
GUIDE TO PICTORIAL ART. By H. O'NEIL. <i>5th edition</i> . . . . .	.40
GUIDE TO LEVELLING AND SURVEYING. By W. PEASE . . . . .	.40
GUIDE TO PICTORIAL PERSPECTIVE. By B. R. GREEN. <i>With illustrations. 4th edition</i> . . . . .	.40
GUIDE TO FIGURE DRAWING. By G. E. HICKS. <i>With illustrations. 3d edition</i> . . . . .	.40
GUIDE TO FLOWER PAINTING IN WATER-COLORS. By G. ROSENBERG. <i>With illustrations. 7th edition</i> . . . . .	.40
GUIDE TO PAINTING ON GLASS. By H. BIELFELD . . . . .	.40
GUIDE TO MINIATURE PAINTING AND COLORING PHOTOGRAPHS. By J. S. TEMPLETON. <i>8th edition</i> . . . . .	.40
HINTS FOR SKETCHING TREES FROM NATURE, IN WATER-COLORS. By THOMAS HATTON. <i>4th edition</i> . . . . .	.40
ON THE MATERIALS USED IN PAINTING, with remarks on varnishing and cleansing pictures. By CHARLES MARTEL . . . . .	.40
GUIDE TO ANIMAL DRAWING. <i>With numerous illustrations.</i> By C. H. WEIGALL. <i>6th edition</i> . . . . .	.40
GUIDE TO ILLUMINATING AND MISSAL PAINTING. By W. & G. AUDSLEY. Extra bound with gilt edges, etc., and additional illustrations	1.25
THEORY OF COLORING. By J. BACON. Cloth and gilt. <i>2d edition, revised and enlarged</i>	1.25
PRACTICAL MANUAL OF HERALDIC ILLUMINATION. By F. J. BAIGENT and C. J. RUSSELL. Demy, 8vo, cloth and gilt	3.00

Winsor & Newton's Griffin Series of Handbooks on Art, with Illustrations, Etc.

The Artistic Anatomy of the Dog and Deer	each \$.40
The Artistic Anatomy of Cattle and Sheep	" .40
The Art of Wood Engraving	" .40
The Art of Mural Decoration	" .40
The Artistic Anatomy of the Horse	" .40
A Manual of Illumination	" .40
A Companion to Manual of Illumination	" .40
The Art of Marine Painting in Water Colors	" .40
The Art of Landscape Painting in Water Colors	" .40
System of Water Color Painting	" .40
The Art of Portrait Painting in Water Colors	" .40
The Artistic Anatomy of the Human Figure	" .40
Transparency Painting on Linen	" .40
The Art of Transparent Painting on Glass	" .40
The Principles of Coloring in Painting	" .40
The Art of Sketching from Nature	" .40
Drawing Models and their Uses	" .40
The Art of Marine Painting in Oil Colors	" .40
The Art of Landscape Painting in Oil Colors	" .40
The Art of Portrait Painting in Oil Colors	" .40
The Elements of Perspective	" .40
The Art of Figure Drawing	" .40
Hints for Sketching in Water Colors from Nature	" .40
The Art of Flower Painting	" .40
The Principles of Form in Ornamental Art	" .40
The Art of Miniature Painting	" .40
Instructions for Cleaning, Repairing, Lining and Restoring Oil Paintings	" .40
The Art of Painting and Drawing in Colored Crayons	" .40
A Guide to Painting Photographic Portraits	" .90
Half-Hour Lectures on Drawing and Painting	" .40
Practical Instructions for Painting on China, etc.	" .50
China and Pottery Painting, by Sparks	" .40

TEXT BOOKS, Etc.

Tawtwine's Pocket Edition of Engineers' Measurements	\$5.00
Hints to Young Painters in Portraiture. By Thomas Sully	1.00
Decorative Design	3.50
Rowney's Various, in 16 Plates, for Crayon Studies	8.00
Herme's Copy Books . . . . .	.20
Cassell's Copy Books . . . . .	.25
Little Artists . . . . .	.15
Little Painters . . . . .	.30

NEW CHEAP BOOK OF ALPHABETS,

FOR SIGN-PAINTERS, DRAUGHTSMEN, ETC.

This volume is designed to meet the want of a cheap and handy collection of Alphabets suitable for all ordinary purposes. While confessedly inferior in some respects to the very expensive works, yet it has *some* points of superiority over even these, and, notwithstanding its low price, has become a standard work of reference in the trade. Encouraged by the favorable reception of our first edition, we have issued a new, carefully revised and greatly extended one, which is proving even more popular. Accurate copies of all standard styles of lettering, and a great variety of ornamental styles are included, embracing late novelties just coming into notice. The book is designed as an aid in all classes of work, from the simplest to the most elaborate. Some alphabets are inserted for the special benefit of draughtsmen and designers. **Price, 50 Cents.**

Schoenfeld's Dusseldorf Tube Oil Colors.

Brun Rouge,	per tube	\$.15	Jaunde de Gaude,	per tube	\$.40
Blue Celeste,	"	.30	Japanisch Gelb,	"	.35
Cadmium, hell,	"	.45	Kobaltblau, No. 0,	"	.40
Cadmium, dunkel,	"	.45	" 1,	"	.35
Cremserweiss,	"	.25	" 2,	"	.30
Chromgelb,	"	.15	Laque Robert, 7 and 8,	"	.40
Caput mortuum,	"	.15	Mineralgelb,	"	.30
Chinesischer Zinnober,	"	.25	Mangan Braun,	"	.15
Cassler Braun,	"	.15	Mumie,	"	.15
Dunkel Ockre,	"	.15	Madder Braun,	"	.40
Dunkelgruner Zinnober,	"	.15	Mineralblau,	"	.15
Deckgrun,	"	.15	Mineralgrun,	"	.15
Elfenbeinschwarz,	"	.15	Neapelgelb,	"	.15
Goldocker,	"	.15	Neapelroth,	"	.15
Gerbranter lichte Ocre,	"	.15	Persish Roth,	"	.30
" Goldocker,	"	.15	Pariserroth,	"	.30
" Dunkel Ocre,	"	.15	Pigment,	"	.30
" Grund Erde,	"	.15	Preussisch Braun,	"	.15
" Ter'a di Sien,	"	.15	Romischer Ocker,	"	.15
" Umbra,	"	.15	Romischer Braun,	"	.15
Gelbruner Zinnober,	"	.15	Schuttgelb,	"	.15
Grune Erde,	"	.15	Stil de Grain Braun,	"	.50
Halgebrannter Ocker,	"	.15	Terra de Sienna,	"	.15
Hell English Roth,	"	.15	Turkisch Roth,	"	.30
Hellgruner Zinnober,	"	.15	Umbra,	"	.15
Indischgelb,	"	.40	Ultramarin dunkel,	"	.35
Indisch, Roth hell,	"	.25	" Heller,	"	.30
Indisch, Roth dunkel,	"	.25	" Pasrier,	"	.30
Jaune de Naples rothlich,	"	.15	Venetianisch Roth,	"	.15
" Brilliant, hell,	"	.15	Vandyke Braun,	"	.15
" " dunkel,	"	.15	Vert Emeraude,	"	.50
" de Rome,	"	.15	Wienerroth,	"	.30

EDOUARD'S FRENCH TUBE OIL COLORS.

BRONZE POWDERS,

Of All Desirable Shades, including Green and White.

No. 6000, per oz.	. . . .	\$ .33	No. 2000, per oz.	. . . .	\$ .23
" 5000, "	. . . .	.30	" 1000, "	. . . .	.20
" 4000, "	. . . .	.28	" 800, "	. . . .	.18
" 3000, "	. . . .	.25	" 500, "	. . . .	.15

COPPER FOIL, OR TINSEL.

White, per dozen	. . . .	\$ .60	Red, per dozen	. . . .	\$ .80
Green, "	. . . .	.80	Yellow, "	. . . .	.80
Blue, "	. . . .	.80			

COLORED FOIL, OR METALLIC PAPER.

TIN FOIL.

GILT AND SILVER PAPER.

Royal Academy Crayons,

MANUFACTURED ONLY BY

GEO. ROWNEY & CO.

The great desideratum in BLACK DRAWING CHALKS is to obtain a material that will work freely and pleasantly without coarseness of grit, having great depth of color in the softest degree, and a more delicate shade of black for the harder degrees.

The ROYAL ACADEMY CRAYONS possess those properties to a degree far beyond any other crayons hitherto manufactured, being perfectly free from grit; working smoothly and freely, like the Italian chalk; and, while possessing equal depth with the Conte crayons, have all the delicacy and fineness of a black-lead pencil.

The ROYAL ACADEMY CRAYONS have met with very general approval, and have been adopted by all the schools of design and drawing academies in which they have been introduced.

From H. O'NEILL'S Guide to Pictorial Art.

“The Royal Academy Chalk works very like the Italian, but is better in color. This is the cheapest and best chalk in use.”

Boxes containing One Dozen assorted — Red, White, and Black, or Black only — 25 Cents a Box.

PEARL, FOR ORNAMENTING.

Aurora	.	.	per lb.	\$8.00	|	Crushed	.	.	per lb.	\$3.00
“	.	.	“ oz.	.63	|	“	.	.	“ oz.	.25
Scrap per lb. \$5.00; per oz. .45										

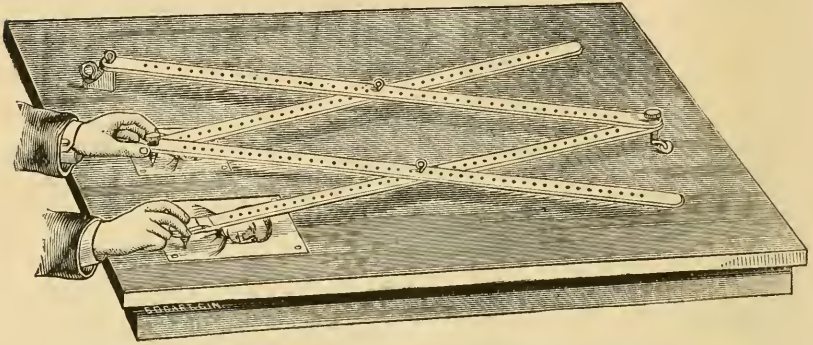
CARMINES.

PURE CARMINE NO. 40.

In 1-lb. Bottles or 1-ounce Vials.

Carmine, No. 40	.	.	per lb.	\$9.00	.	.	per oz.	\$0.75
“ Nakarat	.	.	“	12.00	.	.	“	1.00
“ Oriental	.	.	.	.	.	.	.	.

Improved Practical Pentagraph.



This Instrument ENLARGES or DIMINISHES Portraits, Landscapes, Figures, Machinery, Mathematical and Architectural Drawings, etc., etc. Its accuracy in working, and its finish, are equal to any instrument in the market selling for three times its price.

It combines two longer and two shorter arms moving on two centre pivots. Attached to one of them is a block, that fastens to the drawing-board and remains stationary. The four arms have each forty-nine holes, at graduated distances, numbered from one to forty-nine, with a graduated scale from one-eighth of a size to seven sizes (or eight times larger), on one of them, showing the proportions that each number on the scale will reduce or enlarge the picture.

When you wish to enlarge, look on the scale for the number denoting the required enlargement, and the number opposite; then adjust the four arms together, ALL AT THE SAME NUMBER, by shifting the two steel screws.

Drawings are reduced in the same manner, by changing the Tracing-point and Pencil-holder.

The instrument closes at one size added to the drawing (or making it twice as large); the number on all the arms, at the centre pivots, being twenty-six. PRICE, \$2.00.

F. C. HASTINGS & CO.,

54 and 56 Cornhill, Boston, Mass.

54 and 56 Cornhill, Boston.

JUST THE THING WANTED!

The Standard Scroll Book.

This is a collection of upward of *two hundred* designs suitable for Painters, Jewellers, Designers, Decorators, Draughtsmen and almost every branch requiring ornamental scroll-work.

It is thoroughly practical, aiming to meet the wants of practical men, rather than to merely present a "pretty book." It is the result of many months' labor, and we feel we are not exaggerating in saying that it is a perfect treasury of useful designs. It must be seen to be appreciated; and we hope every painter will examine it; all we want is to have it examined — it will sell itself.

Prominent features in this book are the *Shaded Scrolls* and the designs for *Sign* painters, *Wagons* and *Omnibuses*. It is the most comprehensive book of the kind ever issued, and supplies almost every conceivable want in the line of Scrolls.

PRICE, ONLY ONE DOLLAR.

Haney's Book of Scrolls and Ornaments.

By J. H. LOUDOLPHE.

This book has been steadily growing in favor. Its contents are entirely different from those of the STANDARD SCROLL-BOOK, being principally devoted to FLAT ornaments. It is the best one for Car work, but has been found useful in many other branches.

PRICE, ONE DOLLAR.

Either or both these books mailed post paid on receipt of price.

HANEY'S MANUAL

OR

SIGN, CARRIAGE AND DECORATIVE PAINTING.

PRICE, FIFTY CENTS.

PAINTER'S MANUAL.

A *new and enlarged* edition now ready of this practical guide to House and Sign Painting, Graining, Varnishing, Polishing, Kalsomining, Papering, Lettering, Staining, Gilding, etc.

PRICE, FIFTY CENTS.

GILDER'S MANUAL.

A very complete and thoroughly practical guide to all forms of Gilding as used in different trades. Also complete articles on *Silvering*, and Picture-Framing and Frame-Making. It also gives some useful instructions on the treatment of pictures, engravings, etc.

PRICE, FIFTY CENTS.

54 and 56 Cornhill, Boston.

TEXT BOOKS, Etc.

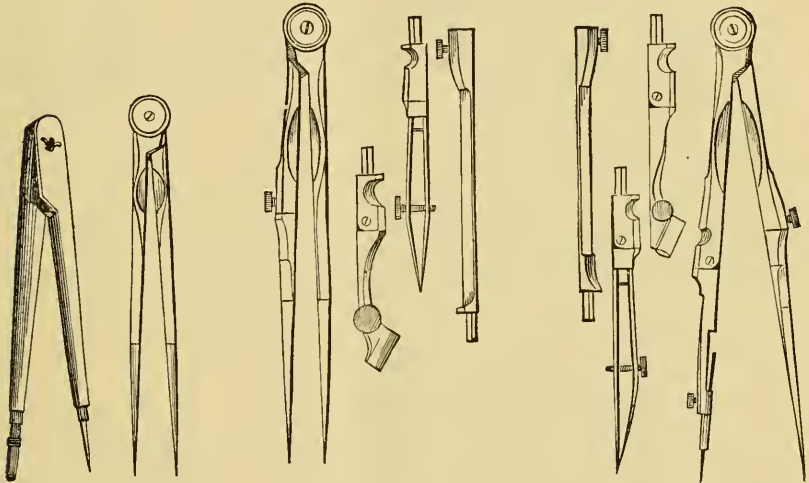
Art of Lettering,	each	\$3.50
Becker's Ornamental Text-Book,	"	4.50
Copley's Alphabets, Plain and Ornamental,	"	3.00
Dearborn's Text-Book for Letters,	"	2.00
Dearborn's Ornaments, Scroll, etc.,	"	2.00
Prang's Alphabet,	"	2.50
Cave on Color,	"	1.00
Cave on Drawing,	"	1.00
Barnard's Sketching from Nature,	"	10.50
Barnard's Handbook of Foreground and Foliage,	"	2.50
Harding's Lessons on Art,	"	6.50
Harding's Lessons on Trees,	"	6.50
Harding's Elementary Art,	"	10.50
Barnard's Landscape Painting in Water Colors,	"	9.00
Prang's State Arms of the Union,	"	2.00
Bacon's Theory of Color,	"	1.25
Mahan's Industrial Drawing, comprising the Description and Uses of Drawing Instruments, etc. 1 vol. 8vo, cloth,		3.00
Minifie's Mechanical Drawing. A Text-Book of Geometrical Drawing, for the use of Mechanics and Schools, in which the Definitions and Rules of Geometry are familiarly explained; the Practical Problems are arranged from the most simple to the more complex, and in their description technicalities are avoided as much as possible. With Illustrations for Drawing Plans, Sections and Elevations of Buildings and Machinery; an Introduction to Isometrical Drawing, and an Essay on Linear Perspective and Shadows. Illustrated by over 200 diagrams, engraved on steel. With an appendix on the Theory and Application of Colors. 1 vol. 8vo, cloth. 7th ed., 1867,		4.00
Mahan's Elementary Course of Civil Engineering. 8vo, cloth,		4.00
Rankine's Civil Engineering, comprising Engineering Surveys, Earthwork, Foundations, Masonry, Carpentry, Metal-works, Roads, Railways, Canals, Rivers, Water-works, Harbors, etc., with numerous Tables and Illustrations. 6th ed. 1 vol., crown 8vo. London. 1869.		8.00
Minifie's Text-Book of Mechanical Drawing. 8vo, cloth,		4.00
Haswell's Engineers' and Mechanics' Pocket-Book. 2d edition, revised and enlarged to 663 pages. Tuck,		3.00
Gillespie's Practical Treatise on Surveying. 1 vol. 8vo. Illustrated,		3.00
Ropes' Linear Perspective,		1.00
Prof. Warren's Linear Perspective. Elementary,		1.00
" " Projection Drawing,		1.00
" " Frechand, . . . . .		.75
" " Plane Problems,		1.25
" " Drafting Instruments,		1.25
" " Elements of Machine Construction and Drawing,		7.50
Boice's Ornaments,		3.50
Leitch's Water Color,		2.50
Cassell's Drawing for Mechanics,		1.00
" Color,		1.50
" Drawing for Machinists,		2.00
" Models,		1.50
" Gothic Stone Work,		1.50
" Drawing for Cabinet-Makers,		1.50
" Linear Drawing,		1.00
" Projection,		1.50
" Systematic Drawing and Shading,		1.00
" Building and Construction,		1.00
" Drawing for Carpenters and Joiners,		1 75
" Perspective,		1.50
" Frechand Drawing,		3.00
" Practical "		2.50

Catalogue of Mathematical Instruments.

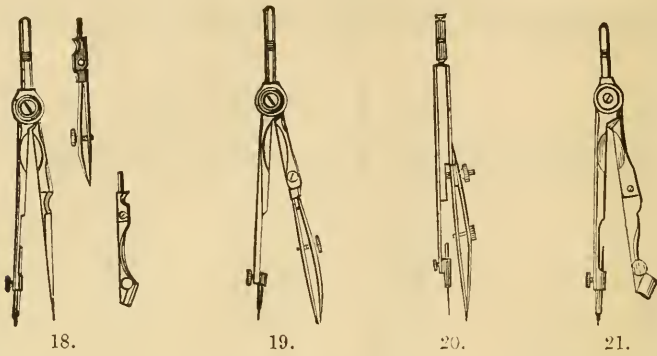
CHAPTER I.

Mathematical Instruments of Brass.

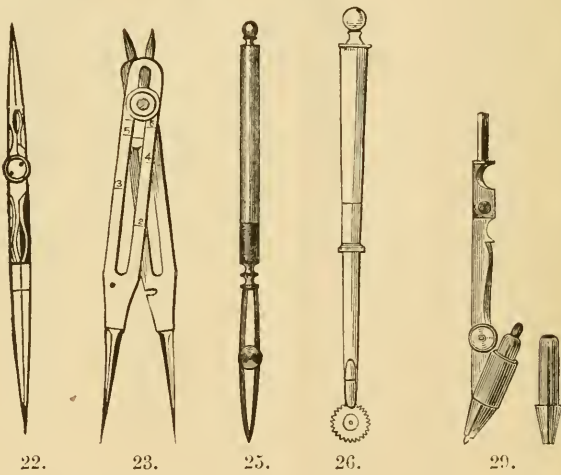
FOR SCHOOLS.



No.						PRICE.
00.	Wood Dividers, 13 in. long, with crayon holder, for black-board drawing,					\$1 00
0.	Do.	16	do.	do.	do.	1 25
1.	Do.	20	do.	do.	do.	1 50
2.	Do.	24	do.	do.	do.	1 75
3.	Do.	27	do.	do.	do.	2 00
4.	Do.	30	do.	do.	do.	2 25
4½.	Do.	36	do.	do.	do.	2 50
5.	Brass Dividers, 3½ inches long, Screw Joint,					25
6.	Do.	4½	do.	do.		30
7.	Do.	5½	do.	do.		38
8.	Do.	6½	do.	do.		45
9.	Do.	4½	do.	Rivet Joint,		20
10.	Do.	5½	do.	do.		30
11.	Do.	6½	do.	do.		35
12.	Do.	4½	do.	Screw Joint and Pencil Leg,		40
13.	Do.	5½	do.	do.		50
13½.	Do.	6½	do.	do.		60
14.	Brass Dividers, 4½ inches long, with Pen and Pencil Points and Lengthening Bar,					60
15.	Brass Dividers, 6 inches long, with Pen and Pencil Points and Lengthening Bar,					75
16.	Brass Dividers, Needle Point, 4½ inches long, with Pen and Pencil Points and Lengthening Bar,					75



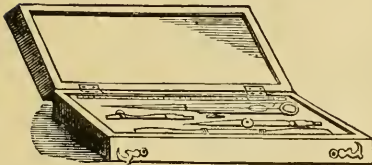
No.	PRICE.
17. Brass Dividers, Needle Point, 6 inches long, with Pen and Pencil Points and Lengthening Bar,	\$1 00
18. Brass Dividers, 3 inches long, with Pen and Pencil Points,	60
19. Brass Bow Pen, no Spring,	60
20. Brass Bow Pen, with adjusting Screw and Spring,	70
21. Brass Bow Pencil, no Spring,	60



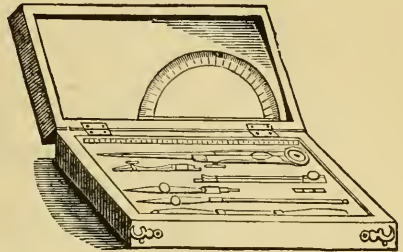
22. Brass Bisecting Dividers,	60
23. Brass Proportional Dividers, divided for lines, in case,	2 25
24. Drawing Pen, Black Handle,	20
25. Drawing Pen, Ivory Handle,	30
26. Roulette for Dotting Lines,	65
26 1/2. Do. do. with Three Wheels,	85
27. Furniture for Beam Compass, of Brass, with Adjusting Screw, in Morocco Case,	5 50
28. Double Drawing or Railroad Pen, for Parallel Lines, Brass Mounted,	2 25
29. Fox's Patent Lead Holder, for pencil leg of Dividers,	25

Cases of Brass Drawing Instruments.

FOR SCHOOLS.

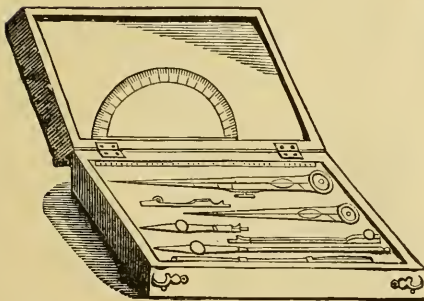


48.

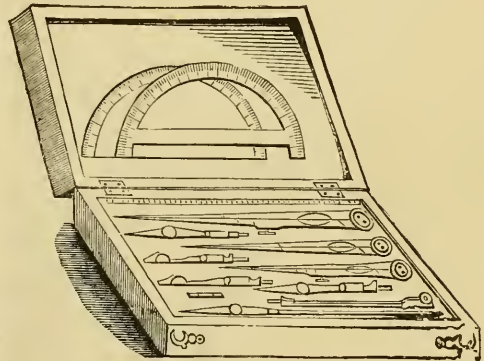


49.

No.		PRICE.
48.	Wood Box; containing pair $4\frac{1}{2}$ inch Dividers, with Pen and Pencil Points, and Crayon Holder,	\$0 60
49.	Wood Box; containing pair $4\frac{1}{2}$ inch Dividers, with Pen and Pencil Points and Lengthening Bar, No. 14. Ebony Handle Drawing Pen, No. 24. Crayon Holder, Horn Protractor and Divided Rule,	90



50 and 51.

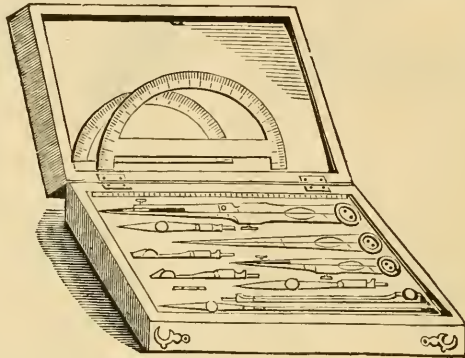


52.

50.	Wood Box; containing pair of $4\frac{1}{2}$ inch Dividers, with Pen and Pencil Points and Lengthening Bar, No. 14. Pair of $3\frac{1}{2}$ inch Plain Dividers, No. 5. Drawing Pen, No. 24. Horn Protractor, No. 301. Crayon Holder and Divided Rule,	1 15
51.	Rosewood Box; containing pair of $5\frac{1}{2}$ inch Dividers, with Pen and Pencil Points and Lengthening Bar, No. 15. Pair of $4\frac{1}{2}$ inch Plain Dividers, No. 6. Drawing Pen, No. 24. Crayon Holder, Horn Protractor and Divided Rule,	1 60
52.	Same as No. 51, with Parallel Ruler,	2 00

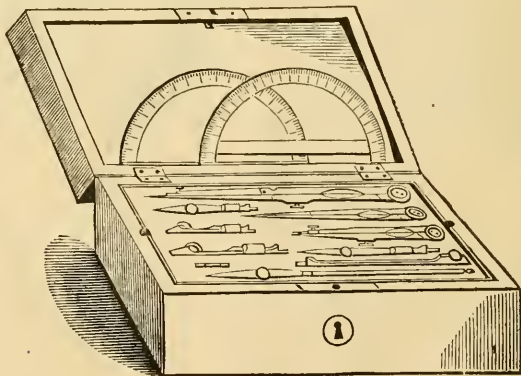
54 and 56 Cornhill, Boston.

No.	PRICE.
55. Rosewood Box; containing pair of 6 inch Dividers, with Pen and Pencil Points and Lengthening Bar, No. 15. Pair of 4½ inch Plain Dividers, No. 6. Pair of 3½ inch Dividers, with Pen and Pencil Points. Drawing Pen, No. 24. Brass Protractor, No. 306. Horn Protractor, No. 301. Divided Wood Rule,	\$2 65
56. Same as No. 55, but with the instruments set in a tray, so that colors, &c., may be put below,	3 25



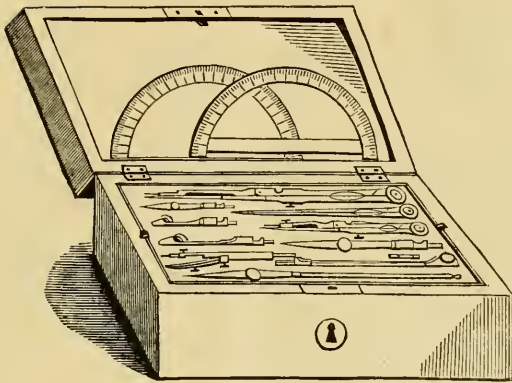
57.

57. Rosewood Box; containing pair of 6 inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar, No. 17. Pair of 4½ inch Plain Dividers, No. 6. Pair of 3½ inch Needle Point Dividers, with Pen and Pencil Points. Drawing Pen, No. 24. Brass Protractor, No. 306. Horn Protractor, No. 301. Divided Wood Rule,	3 25
---	------



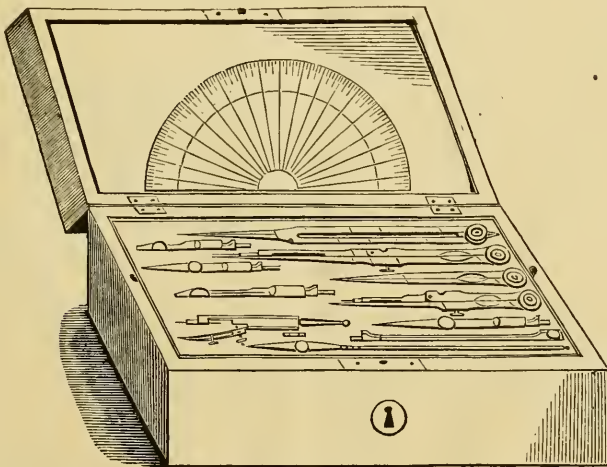
58.

58. Same as No. 57, but with Lock and Key, and the instruments set in a tray, so that colors may be put below,	3 75
--	------



62.

No.		PRICE.
62.	Rosewood Box, with Lock and Key, the instruments set in a tray, so that colors, &c., may be put below; containing: Pair of 6 inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar, No. 17. Pair of $4\frac{1}{2}$ inch Plain Dividers, No. 6. Pair of $3\frac{1}{2}$ inch Needle Point Dividers, with Pen and Pencil Points. Spring Bow Pen, with Needle Point, No. 20. Drawing Pen, No. 24. Brass Protractor, No. 306. Horn Protractor, No. 301. Divided Wood Rule,	4 50



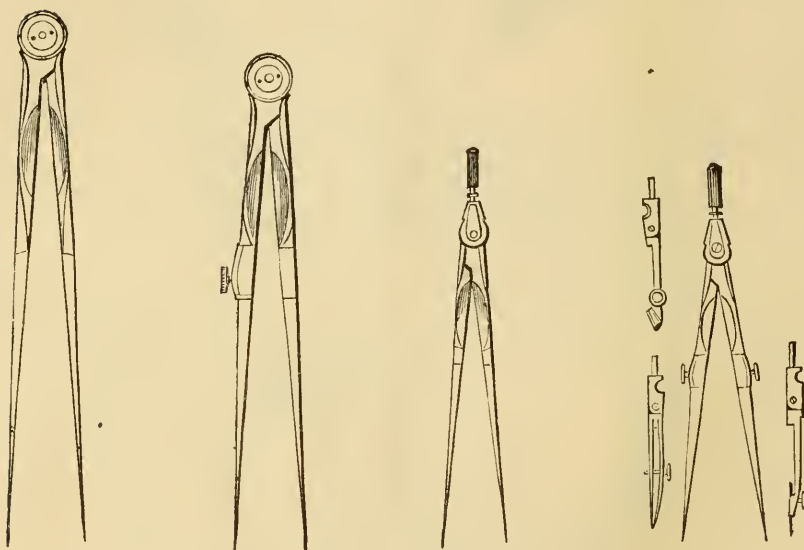
64.

64.	Same as No. 62, with the addition of a pair of Proportional Dividers; has no Brass Protractor, but has Wood Triangle and Irregular Curves,	7 50
-----	--	------

CHAPTER II.

Mathematical Instruments of German Silver.

FOR ACCURATE DRAFTING.



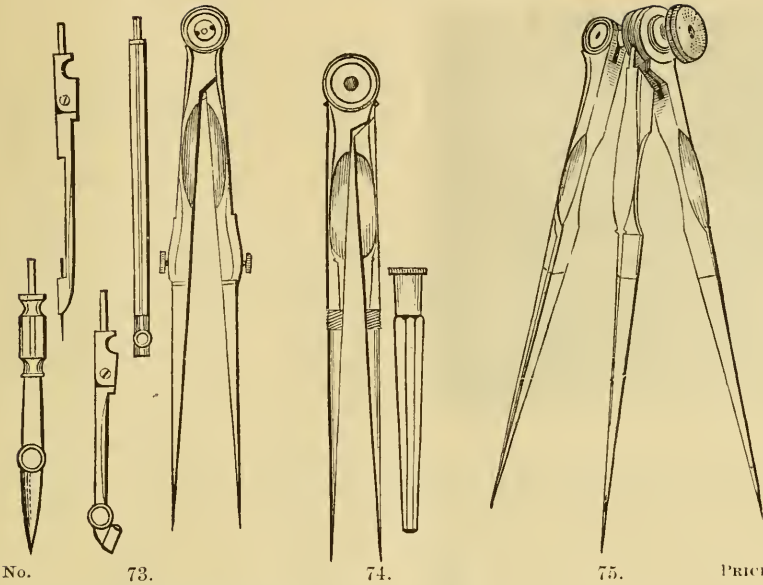
65.

69.

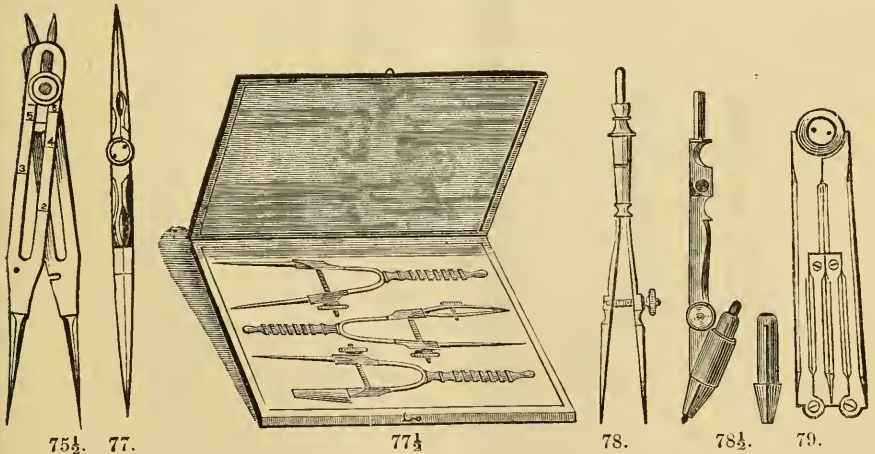
71½

72.

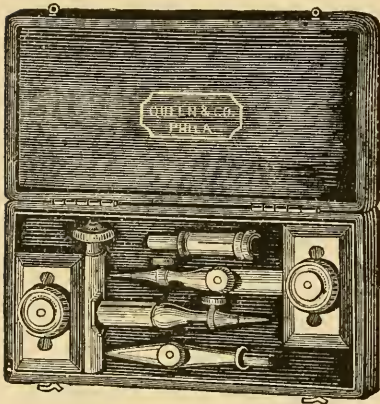
No.							PRICE.
65.	Dividers, German Silver,	4	inches	long.	Steel	Joints,	\$0 70
66.	Do.	do.	5	do.	do.	.	80
67.	Do.	do.	6	do.	do.	.	1 00
68.	Do.	do.	7	do.	do.	.	1 25
69.	Do.	do.	4	do.	do.	with Hair Spring	1 25
70.	Do.	do.	5	do.	do.	do.	1 80
71.	Do.	do.	6	do.	do.	do.	2 50
71½.	German Silver Plain Dividers,	3	inches	long,	with	handle,	75
72.	Dividers, German Silver,	3	inches	long,	with	Pen, Pencil, and Needle Points,	2 50



No.	73.	74.	75.	PRICE.
73.	Dividers, German Silver, 6 inches long, Steel Joints, with Pen, Pencil, and Needle Points and Lengthening Bar,			\$5 25
74.	Dividers, German Silver, 5 inches long, Steel Joints, with Shield for Pocket,			1 50
75.	Dividers, German Silver, 5 inches long, Steel Joints, with Three Legs,			3 56



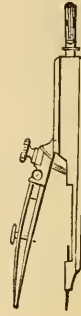
75½.	Proportional Dividers, German Silver, 6¼ inches long, divided for lines,	2 75
77.	Bisecting Dividers, German Silver,	1 12
77½.	Set of Three Steel Bows, Pen, Pencil and Dividers, in Box,	per set, 4 75
77½.	Same as 77½, but finer finish and Needle Points,	do. 6 75
78.	Spacing Dividers, all Steel, with Spring and Adjusting Screw,	1 25
78½.	Fox's Patent Lead Holder, for Pencil Leg of Dividers,	25
79.	Pocket Dividers, German Silver, with Folding Pen and Pencil Points,	5 50



80.



81.



82.



83.

No.	Description	PRICE.
80.	Furniture for Beam Compasses, German Silver, with Adjusting Screw in Morocco Case	\$6 50
81.	Bow Pen, all Steel, with Spring and Adjusting Screw,	1 50
82.	Bow Pen, German Silver, with Spring and Adjusting Screw,	1 62
83.	Bow Pen, German Silver, with Spring and Adjusting Screw, and with Pencil Point,	2 50



84.



85.



86.



87.



88.



89.



92.

84.	Bow Pencil, all Steel, with Spring and Adjusting Screw,	1 50
85.	Drawing Pen for Curves,	1 50
86.	Do. for Heavy Border Lines,	3 00
87.	Do. 4 to 6 inches long, medium finish, Hinge to Pen,	40
88.	Do. 4 to 6 inches long, fine finish, Hinge to Pen,	50
89.	Do. 4 to 6 inches long, German Silver; fine finish, Hinge to Pen, and Protracting Pin,	75

No.	PRICE.
91. Drawing Pen, German Silver; fine finish, Hinge to Pen, German Silver Points, for Red Ink,	\$0 75
92. Double Drawing Pen (see No. 28, page 2),	2 25
93. Double Drawing Pen or Road Pen, for Parallel Lines, German Silver	2 75
94. Roulette for Dotting Lines,	75
95. Map Perambulator, for measuring the length of Curved Lines, Rivers, Railroads, &c., on Maps, each,	1 50

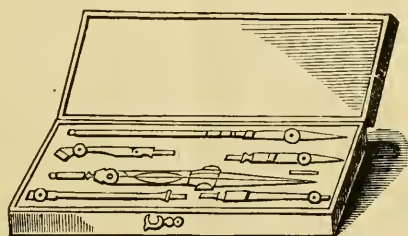
For Boxwood and Ivory Scales, Protractors, &c., &c., see pages 23 to 29.

Parties wanting cases made up of these Instruments, can select the pieces by the above list, that are best adapted to their purpose, and we will have boxes made to suit, at an additional cost of from \$5 to \$12, according to the sizes of the boxes, which are made of rosewood, mahogany or walnut, highly finished.

Cases of Fine German Silver Instruments.

FOR ENGINEERS, ARCHITECTS AND MACHINISTS.

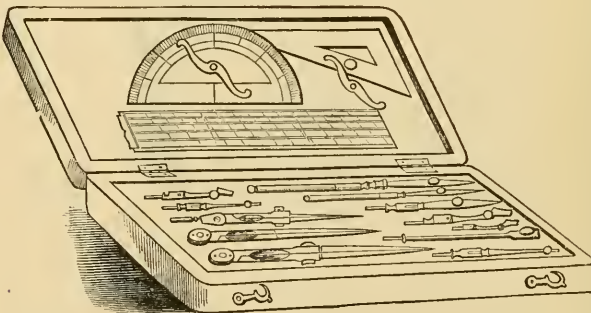
100. Morocco Box; containing pair of 5½ inch Dividers, with Pen, and Pencil Points. Drawing Pen No. 88,	3 00
--	------



101.

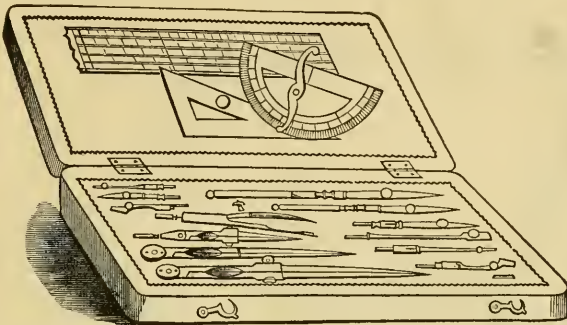
101. Morocco Box; containing pair of 3 inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar, No. 72. Drawing Pen, No. 89,	4 50
102. Morocco Box; containing pair of 5½ inch Dividers, with Pen and Pencil Points. Pair of 5 inch Plain Dividers, No. 66. Drawing Pen, No. 88,	3 50
103. Morocco Box; containing pair of Dividers 6 inches long, with Pen, Pencil and Needle Point and Lengthening Bar, No. 73. Pair Plain Dividers, 5 inches long, No. 66. Drawing Pen, No. 89,	5 00
103½. Same as No. 103, but with Polished Walnut Box, with Lock and Key and Tray,	7 50

No.	PRICE.
104. Morocco Box, rounded corners, for carrying in the pocket; containing pair of $4\frac{3}{4}$ inch Dividers, with Hinge in one Leg, Needle Points, with Pen and Pencil Points and Lengthening Bar. Pair 4 inch Plain Dividers, Rounded Points. Spring Bow Pen, Needle Point. Drawing Pen, Ivory Handle. 5 inch Ivory Rule, divided to eighths,	\$7 50
105. Morocco Box; containing pair $5\frac{1}{2}$ inch Dividers, with Pen and Pencil Points and Lengthening Bar. Pair of 5 inch Plain Dividers, No. 66. Pair 3 inch Dividers, with Pen and Pencil Points. Drawing Pen, No. 89. German Silver Protractor, No. 310. German Silver Square,	8 50
105 $\frac{1}{2}$. Same as No. 105, but with Polished Walnut Box, with Lock and Key and Tray,	10 50
106. Morocco Box; containing pair of $5\frac{1}{2}$ inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar, No. 73. Pair 5 inch Plain Dividers, No. 66. Spring Bow Pen, No. 82. Drawing Pen, No. 89,	6 50
106 $\frac{1}{2}$. Same as No. 106, in Polished Walnut Box, with Lock and Key and Tray,	9 00
106 $\frac{3}{4}$. Morocco Box; containing pair 6 inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar, No. 73. Pair 5 inch Plain Dividers, No. 66. Pair Spacing Dividers, No. 78. Bow Pen, No. 81. Bow Pencil, No. 84. Drawing Pen No. 88,	10 00



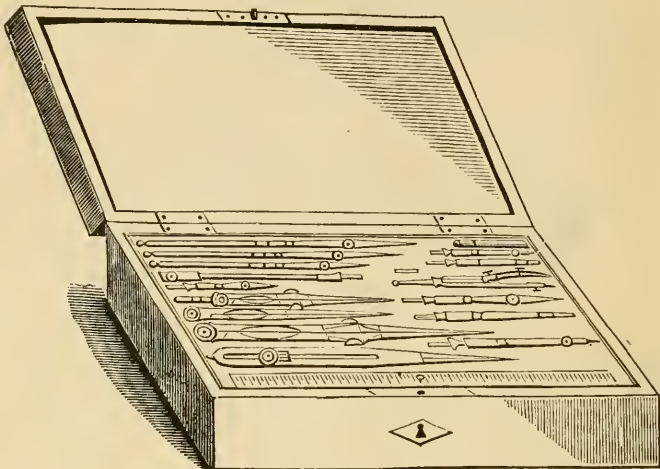
107.

- | | |
|---|-------|
| 107. Morocco Box; containing pair of $5\frac{1}{2}$ inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar, No. 73.
Pair of 5 inch Plain Dividers, No. 66.
Pair of 3 inch Dividers, with Pen, Pencil and Needle Point, No. 72.
2 Drawing Pens, No. 89.
German Silver Protractor, No. 310.
German Silver Square, | 9 75 |
| 108. Same instruments as No. 107, in Polished Walnut Box, with Lock and Key and Tray, | 11 75 |



109.

No.	PRICE.
109. Polished Walnut Box; containing pair 5½ inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar, No. 73. Pair 5 inch Plain Dividers, No. 66. Pair of 3 inch Dividers, with Pen, Pencil and Needle Points No. 72. Spring Bow Pen, with Needle Point, No. 82. 2 Drawing Pens, No. 89. German Silver Square. German Silver Protractor, No. 310,	\$12 50
109½. Same as No. 109, in Polished Walnut Box, with Lock and Key and Tray,	13 50
110. Polished Walnut Box; containing pair 5½ inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar, No. 73. Pair of 5 inch Plain Dividers, No. 66. Pair of 5 inch Hair Spring Dividers, No. 70. Pair of 3 in. Dividers, with Pen, Pencil and Needle Points, No. 72. Spring Bow Pen, with Needle Point, No. 82. 2 Drawing Pens No. 89. German Silver Square. German Silver Protractor, No. 310,	15 00
111. Same instruments as No. 110, set in a Tray, and Box with Lock and Key, thus affording space for extra instruments or colors, .	15 50
112. Polished Walnut Box, with Lock and Key and Tray; containing pair 6 inch Dividers, with Pen, Pencil and Pen Point and Lengthening Bar, No. 73. Pair 5 inch Plain Dividers, No. 66. Pair 5 inch Hair Spring Dividers, No. 70. Pair 3 inch Dividers, with Pen, Pencil and Needle Point, No. 72. Bow Pen, No. 82. 2 Drawing Pens, No. 89. 1 Red Ink Pen, No. 91. 1 Road Pen No. 93. Pair Proportional Dividers, No 75½. Protractor, No. 311. Triangle, No. 565. Triangular Scale, No. 463 or 466,	26 00
113. Same as No. 112, with addition of Beam Compass, No. 80,	31 00

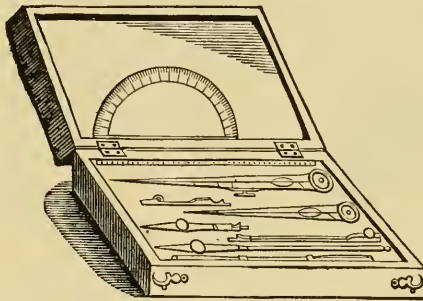


114.

No.	PRICE.
114. Polished Rosewood Box, Inlaid, Lock and Key, with Tray, leaving space below for paints, rules, &c.; containing pair 6½ inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar. Pair 4½ inch Plain Dividers. Pair of 4 inch Needle Point Dividers, with Pen and Pencil Points. Pair of 7 inch Proportional Dividers. 3 Drawing Pens. Horn Protractor. 1 Wood Curve and 2 Wood Squares. Spring Bow Pen. Ivory Rule, 8 inches long,	\$27 00
116. Polished Rosewood Box, Inlaid, with Brass Edges, Lock and Key, with Tray, leaving space below for paints, rules, &c.; containing pair of 6 inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar. Pair 4½ inch Plain Dividers, Rounded Points. Pair of 4 inch Dividers, Needle Points, with Pen and Pencil Points. Pair of 7½ inch Proportional Dividers. Spring Bow Pen, Needle Point. 3 Drawing Pens. Furniture for Beam Compass, with Micrometer Screw. 9 inch Horn Protractor. Ivory Scale, 8 inches long, one edge divided to inches and eighths, the other to centimeters and millimeters, . . .	34 00

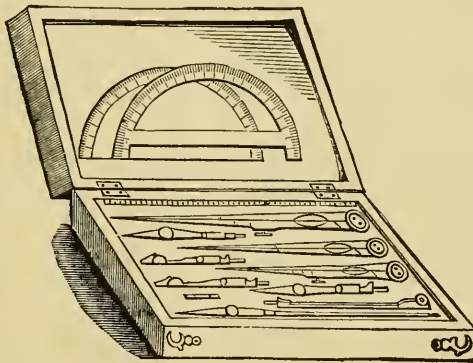
Cases of French German Silver Instruments.

IN ROSEWOOD BOXES.



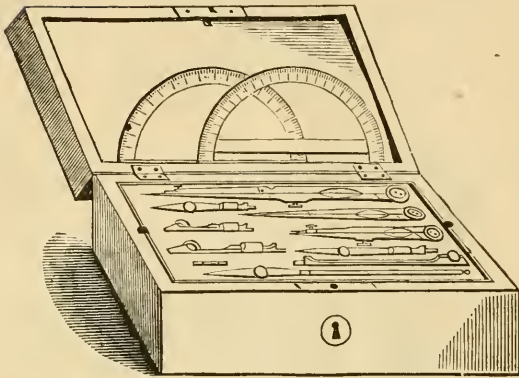
129.

- | No. | PRICE. |
|--|--------|
| 129. Rosewood Box; containing pair of 5½ inch Dividers, with Pen and Pencil Points and Lengthening Bar.
Pair of 4½ inch Plain Dividers.
Drawing Pen.
Horn Protractor, | \$3 50 |



130.

- | | |
|---|------|
| 130. Rosewood Box; containing pair of 6 inch Dividers, with Pen and Pencil Points and Lengthening Bar.
Pair of 4½ inch Plain Dividers.
Pair of 3½ inch Dividers, with Pen and Pencil Points.
Drawing Pen.
Brass Protractor.
Horn Protractor, | 5 00 |
| 131. Same as No. 130, but with the instruments set in a Tray, so that colors, &c., may be put below, | 6 00 |



132.

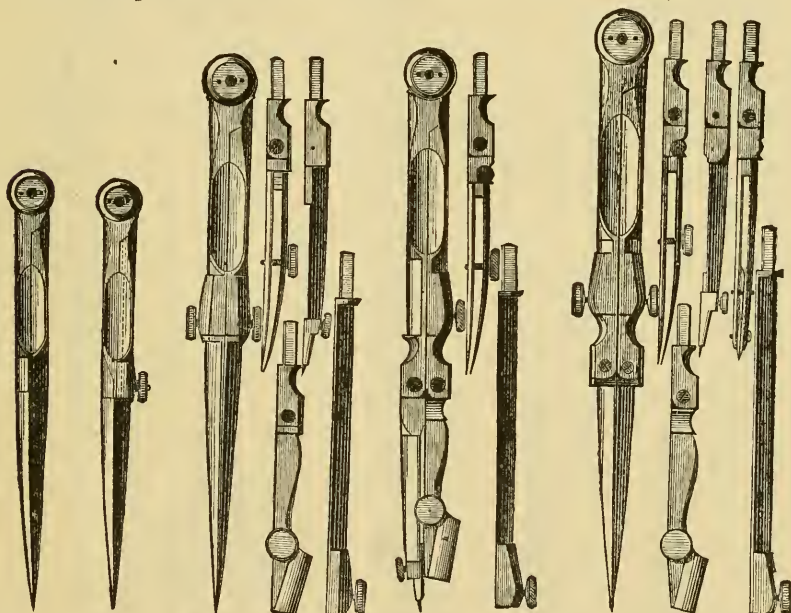
- | No. | PRICE. |
|---|---------------|
| <p>132. Rosewood Box, with Lock and Key, and the instruments set in a Tray, so that colors, &c., may be put below; containing pair of 6 inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar.
 Pair of 4½ inch Plain Dividers.
 Pair of 3½ inch Needle Point Dividers, with Pen and Pencil Points.
 Drawing Pen.
 Brass Protractor.
 Horn Protractor,</p> | <p>\$6 75</p> |
| <p>133. Rosewood Box, with Lock and Key, the instruments set in a Tray, so that colors, &c., may be put below; containing pair of 6 inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar.
 Pair of 4½ inch Plain Dividers.
 Pair of 3½ inch Needle Point Dividers, with Pen and Pencil Points.
 Spring Bow Pen, with Needle Point.
 Drawing Pen.
 Brass Protractor.
 Horn Protractor,</p> | <p>7 50</p> |
| <p>134. Rosewood Box, with Lock and Key, the instruments set in a Tray, so that colors, &c., may be put below; containing pair of 6 inch Needle Point Dividers, with Pen and Pencil Points and Lengthening Bar.
 Pair of 4½ inch Plain Dividers.
 Pair of 3½ inch Needle Point Dividers, with Pen and Pencil Points.
 Spring Bow Pen, with Needle Point.
 Drawing Pen.
 German Silver Protractor.
 Horn Protractor
 Irregular Curve of Wood.
 2 Triangles of Wood.
 Pair Proportional Dividers, 7½ inches long,</p> | <p>10 75</p> |

CHAPTER III. Celebrated Swiss Drawing Instruments.

GERMAN SILVER.

Although there are several makers of drawing instruments in Switzerland, yet there is but one manufacturer whose instruments uniformly come up to a standard of absolute perfection in quality of material and excellence of finish. The divider joints work regularly and smoothly, the points are carefully tempered and rounded, the pens dressed to draw a smooth line of any thickness in whatever position held.

Other Swiss manufacturers imitate the form of these instruments, but cannot imitate their perfection in finish.



No.		PRICE.
145.	Plain Dividers, 4½ inches long, each,	\$1 50
146.	Plain Dividers, 5 inches long, each,	1 75
147.	Plain Dividers, 6 inches long, each,	2 50
148.	Hair Spring Dividers, 4½ inches long, each,	2 25
149.	Hair Spring Dividers, 5 to 6 inches long, each,	2 50
150.	Dividers, 6½ inches long, with Pen, Pencil, Needle Points and Lengthening Bar,	6 50
151.	Dividers, 6½ inches long, with fixed Needle Point and Loose Pen, and Pen Points and Lengthening Bar,	6 00
152.	Dividers, 6½ inches long, joints in each leg, with Pen, Pencil, Needle Points, Dotting Pen and Lengthening Bar,	9 00



153.



154.



154½.

No.		PRICE.
153.	Dividers, 4 inches long, with Pen, Pencil and Needle Points, . . .	\$5 00
154.	Dividers, 4 inches long, with fixed Needle Point, and Pen and Pencil Points, changeable, . . .	4 50
154½.	Fox's Patent Lead Holder for Pencil Leg of Dividers, . . .	25



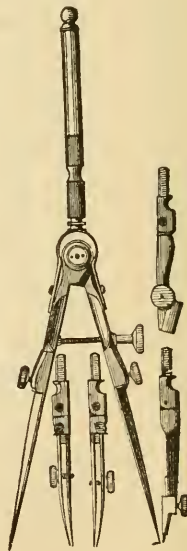
155.



156.

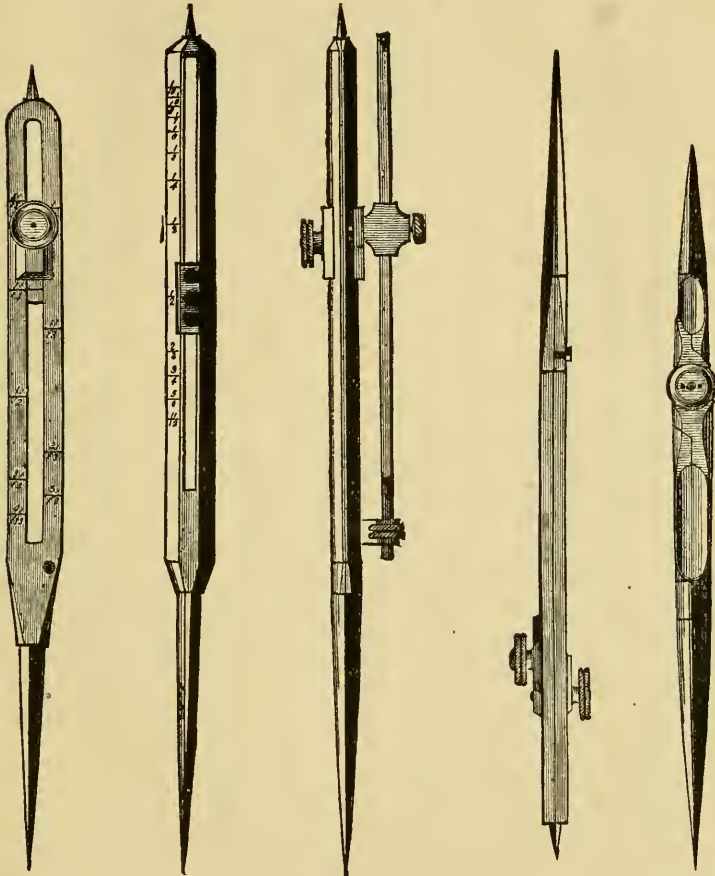


157.



158.

155.	Dividers, 4 inches long, with two fixed Needle Points, . . .	3 00
156.	Dividers, 4 inches long, with fixed Needle Point and Pen Point, . . .	3 00
157.	Dividers, 4 inches long, with fixed Needle Point and Pencil Point, . . .	3 00
158.	Dividers, 4 inches long, with Spring and Set Screw, Needle Point, Pencil Point and two Pen Points, . . .	7 00

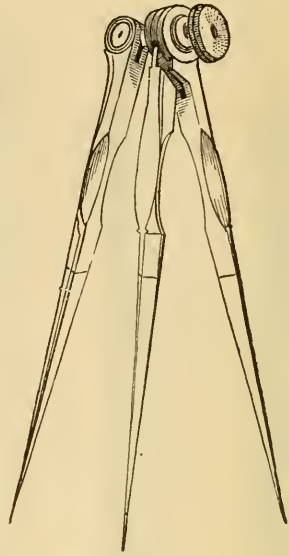


159. 161. 162. 163. 164.

No.		PRICE.
159.	Proportional Dividers, $6\frac{1}{2}$ inches long, finely graduated for lines,	\$ 8 00
160.	Proportional Dividers, $6\frac{1}{2}$ inches long, finely graduated for lines and polygons,	9 00
161.	Proportional Dividers, 9 inches long, finely graduated for lines and polygons,	10 00
162.	Proportional Dividers, 9 inches long, with Micrometer Adjustment, finely graduated for lines and polygons,	12 00
163.	Proportional Dividers, 8 inches long, with rack adjustment, graduated for lines,	10 50
164.	Bisecting Dividers, $7\frac{1}{2}$ inches long, each,	4 25

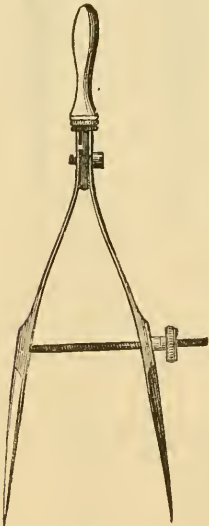


165.



166.

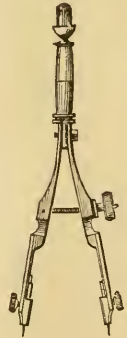
No.		PRICE.
165.	Pocket Dividers, 5 to 6 inches long, with Sheath, each,	\$2 40
166.	Three-Legged Dividers, 5 to 6 inches long, each,	4 25



167.

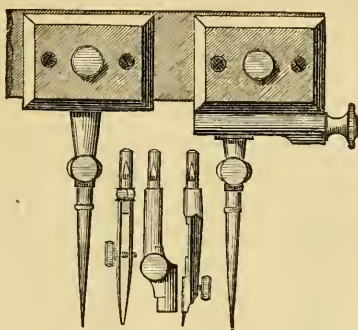


168.



169.

167.	Steel Spacing Dividers, 5 inches long, with Ivory Handle,	\$2 50
168.	Do. do. 3½ do. with Ivory or Metal Handle,	1 50
169.	Very Delicate Steel Spacing Dividers, 2½ inches long,	1 70
169.	Steel Spacing Dividers, 3½ inches long, with Ivory Handle and Needle Points,	2 50



174.

No.		PRICE.
170.	Beam Compass, 20 inches long, in 2 bars, with Pen, Pencil, and two Straight Points,	\$11 50
171.	Beam Compass, 21 inches long, in 3 bars,	13 00
172.	Do. 36 do. 4 do.	19 00
173.	Do. 54 do. 4 do.	22 50
174.	Furniture for Wood Bar Beam Compasses, in Morocco Box,	7 00
175.	Furniture for Wood Bar Beam Compasses, not in Morocco Box,	6 75
179.	Pillar Compasses, or Pocket Set of Instruments, with Points to change,	7 50
180.	Pillar Compasses, or Pocket Set of Instruments, with Points to change, and Handles to Bow Pen and Pencil,	8 00
181.	Pillar Compasses, or Pocket Set of Instruments, with Points to turn	7 50



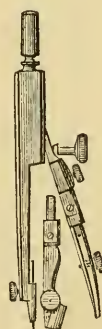
182.



183.

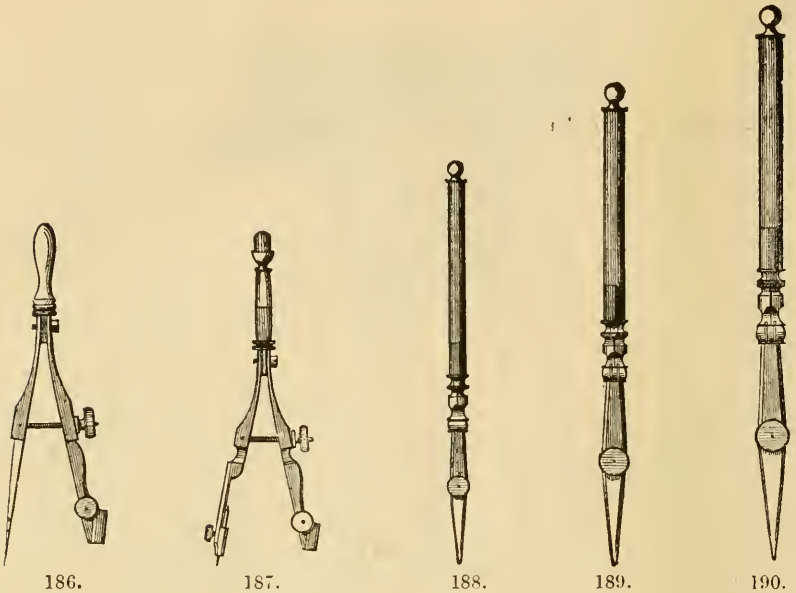


184.



185.

182.	Spring Bow Pen, all Steel, Ivory Handle,	\$2 00
182½.	Very Delicate Steel Bow Pen, 2½ inches long,	2 00
183.	Spring Bow Pen, with Needle Point, all Steel, Ivory Handle,	2 40
184.	Do. do. German Silver,	2 00
185.	Do. do. do. with Pencil Point,	3 00



No.		PRICE.
186.	All Steel Spring Bow Pencil, Ivory Handle,	\$2 00
186½.	Very Delicate Steel Bow Pencil, 2½ inches long,	2 25
187.	All Steel Spring Bow Pencil, Ivory Handle, Needle Point,	2 40
188.	Drawing Pen, 4½ inches long, with Joints,	1 25
189.	Do. 5½ do. do.	1 40
190.	Do. 6½ do. do.	1 60



191.



192.



193.

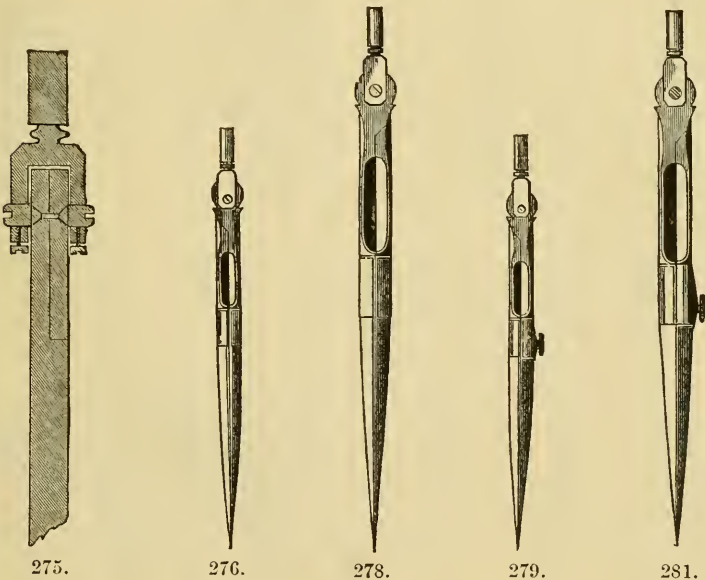
191.	Road, or Double Drawing Pen,	3 75
192.	Do. do. do. with Joint in each side,	3 00
193.	Dotting Pen, with one Wheel,	2 00

CHAPTER IV.

Altener's Patent Joint Drawing Instruments.

The excellency of these instruments consists in the joints of the dividers being so constructed as to prevent any irregular motion when the legs are opened or closed, also for the general care with which the instruments are finished.

All the pens are thoroughly well made and pointed. No. 275 represents a sectional view of Altener's Patent Joint Divider Head.



No.		PRICE.
276.	Plain Dividers of German Silver, $3\frac{1}{2}$ inches long, with Altener's Patent Joint, each	\$2 00
277.	Do. do. 5 do. do. do. do.	2 75
278.	Do. do. 6 do. do. do. do.	3 25
279.	Hair Spring Dividers do. $3\frac{1}{2}$ do. do. do. do.	3 00
280.	Do. do. 5 do. do. do. do.	3 50
281.	Do. do. 6 do. do. do. do.	4 00
282.	Needle Point do. $3\frac{1}{2}$ do. of German Silver, with Pencil Point and Altener's Patent Joint, each	4 25
283.	Needle Point Dividers, $3\frac{1}{2}$ inches long, of German Silver, with Pen Point and Altener's Patent Joint, each	4 75
284.	Needle Point Dividers, 6 inches long, of German Silver, with Pen and Pencil Point and Lengthening Bar, and Altener's Patent Joint, .	7 50
284 A.	Dividers, $6\frac{1}{2}$ inches long, with Pen, Pencil, Needle Points and Lengthening Bar, .	8 50
284 B.	Same as 284 A, but with Joint in each leg of Divider, as in No. 152, .	11 00
284 C.	Dividers, $3\frac{1}{2}$ inches long, with Pen, Pencil and Needle Point, .	7 00
284 $\frac{1}{2}$.	Needle Point Dividers, $3\frac{1}{2}$ inches long, of German Silver, with Pen and Pencil Point, and Altener's Patent Joint, .	6 25



282.



283.

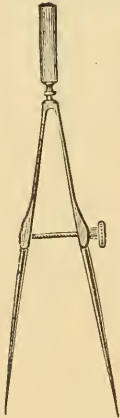


284.



284 1/2

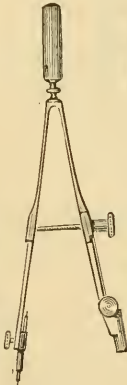
No.		PRICE.
285.	Steel Spacing Dividers, 3 inches long,	\$2 00
286.	Steel Bow Pen, 3 inches long, Round Points,	2 25
287.	Do. do. 3 do. with Needle Point,	2 70
288.	Steel Bow Pencil 3 inches long, with Round Point,	2 25
289.	Do. do. 3 do. Needle Point,	2 70



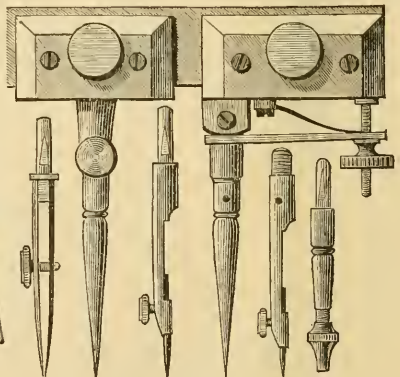
285.



287.



289.



293.

290.	Drawing Pens, 4 1/2 inches long,	\$1 50
291.	Do. 5 1/2 do.	1 70
292.	Do. 6 1/2 do.	1 85
293.	Furniture for Straight-Edge Beam Compasses, with Spring Adjustment, in Morocco Box, 8 75	8 75
294.	Mahogany Bar, 30 inches long, for do.	75
295.	Boxwood Bar, 24 inches long, graduated,	1 50

Extra Finished German Silver Drawing Instruments.

We have lately added to our complete assortment of Mathematical Instruments a new make which we particularly recommend for their superior finish and the extra quality of material used in their manufacture. We would call the attention of Students and Draughtsmen to the sets Nos. 106 $\frac{3}{4}$ and 107, as they contain only such Instruments as are necessary for practical use.

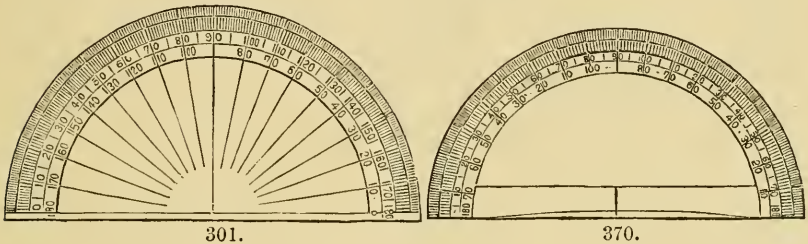
No.	Price.
100. Morocco Box; containing pair of 5 $\frac{1}{2}$ inch Dividers, with Pen, and Pencil Points, and Drawing Pen,	\$3.00
101. Morocco Box; containing pair of 3 inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar and Drawing Pen,	4.50
102. Morocco Box; containing pair of 5 $\frac{1}{2}$ inch Dividers, with Pen and Pencil Points; pair of 5 inch Plain Dividers, and Drawing Pen,	4.00
103. Morocco Box; containing pair of Dividers 6 inches long, with Pen, Pencil and Needle Point and Lengthening Bar; pair Plain Dividers, 5 inches long, and Drawing Pen,	6.00
105. Morocco Box; containing pair 5 $\frac{1}{2}$ inch Dividers, with Pen and Pencil Points and Lengthening Bar; pair of 5 inch Plain Dividers; pair 3 inch Dividers, with Pen and Pencil Points, and Drawing Pen,	8.50
106. Morocco Box; containing pair of 5 $\frac{1}{2}$ inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar; pair 5 inch Plain Dividers, Spring Bow Pen, Drawing Pen,	7.00
106 $\frac{3}{4}$. Morocco Box; containing pair 6 inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar; pair 5 inch Plain Dividers, pair Spacing Dividers, Bow Pen, Bow Pencil, Drawing Pen,	10.00
107. Morocco Box; containing pair of 5 $\frac{1}{2}$ inch Dividers, with Pen, Pencil and Needle Points and Lengthening Bar; pair of 5 inch Plain Dividers, pair of 3 inch Dividers, with Pen, Pencil and Needle Point, 2 Drawing Pens,	10.00

Separate Instruments.

No.		Price.
8.	Dividers, German Silver, 6 inches long, Steel Joints, with Pen, Pencil and Needle Points and Lengthening Bar,	\$3.25
9.	Dividers, 6½ inches long, joints in each leg, with Pen, Pencil, Needle Points and Lengthening Bar,	4.00
10.	Lithograph Dividers, with Bow Circle, Pen and Pencil and Micrometer Adjustment,	12.00
14.	Dividers, German Silver, 3 inches long, with Pen, Pencil, and Needle Points,	2.50
27.	Spacing Dividers, all Steel, with Spring and Adjusting Screw, 3 inch,	1.50
28.	Steel Bow Pencil, 3 inches long, with Needle Point,	1.75
29.	Steel Bow Pen, 3 inches long, with Needle Point,	1.75
30.	Steel Spacing Dividers, 5 inches long, with Metal Handle,	2.25
35.	Proportional Dividers, 6½ inches long, finely graduated for lines,	4.25
36.	Proportional Dividers, 6½ inches long, finely graduated for lines and circles,	8.50
37.	Proportional Dividers, finely graduated for lines and circles, Rack Adjustment,	9.00
38.	Proportional Dividers, finely graduated for lines and circles, 9 inches long, with Micrometer Adjustment and rack,	11.00
40.	Beam Compass, Adjusting Screw, Pen and Pencil Points,	8.00
42.	Beam Compass, Adjusting Screw, Pen and Pencil Points, with bar,	9.00
52.	5½ inch Dividers, with graduated bow circle,	2.50
61.	Ruling Pen, 5½ inch, with hinge and pin, . . . . .	.75
62.	Ruling Pen, 5½ inch, with hinge, . . . . .	.65
63.	Ruling Pen, 5 inch, with hinge and pin,	1.00
64.	Ruling Pen, 4 inch, with hinge and pin, . . . . .	.85
65.	Ruling Pen, 4 inch, with hinge, . . . . .	.65
66.	Ruling Pen, 5 inch, . . . . .	.50
67.	Ruling Pen, 5½ inch, with pin, . . . . .	.65
70.	Ruling Pen, with 3 adjustable points,	1.25
71.	Ruling Pen, with 5 adjustable points,	2.00
44.	Bisecting Dividers, German Silver,	2.50
45.	Bisecting Dividers, German Silver,	2.25
57.	Dividers, German Silver, 4 inches long, steel joints, with hair spring,	1.50
58.	Dividers, German Silver, 5 inches long, steel joints, with hair spring,	1.75
59.	Dividers, German Silver, 6 inches long, steel joints, with hair spring,	2.00
50.	Plain Dividers, 5 inches long, each,	1.00
51.	Plain Dividers, 6 inches long, each,	1.25

CHAPTER V.

Protractors of Horn, Brass, and German Silver.

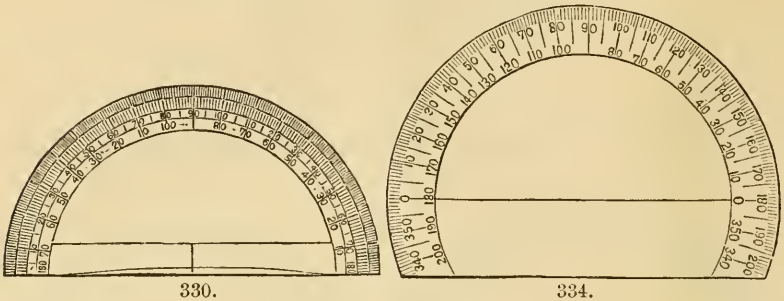


No.					PRICE.
297.	Railroad Curve Protractor, of Horn, 8 inches diameter, having laid off on it twenty-three curves from $\frac{1}{2}$ degree to 8 degrees, with a radius of 400 feet to the inch,				\$1 60
298.	Horn Protractors, 5 inches diameter, whole circle, half degrees,				1 00
299.	Do.	6	do.	do. do.	1 25
300.	Do.	7	do.	do. do.	1 50
301.	Horn Protractor, 4 inches diameter, half circle, whole degrees,				15
302.	Do.	5	do.	do. half degrees,	25
303.	Do.	6	do.	do. do.	30
304.	Do.	7	do.	do. do.	50
305.	Do.	8	do.	do. do.	80
306.	Brass Protractor, 4	do.	do.	do. whole degrees,	10
307.	Do.	4	do.	do. half degrees,	35
308.	Do.	5	do.	do. do.	55
309.	Do.	6	do.	do. do.	65
310.	German Silver Protractor, 4 in. diameter, half circle, whole degrees,				50
311.	Do.	do.	5 do.	do. half degrees,	85
312.	Do.	do.	6 do.	do. do.	1 00
313.	Do.	do.	7 do.	do. do.	1 15
314.	Do.	do.	5 do.	do. bev. edge, half deg.	1 25
315.	Do.	do.	6 do.	do. do.	2 00
316.	Do.	do.	7 do.	do. do. do.	2 65

Paper Protractors.

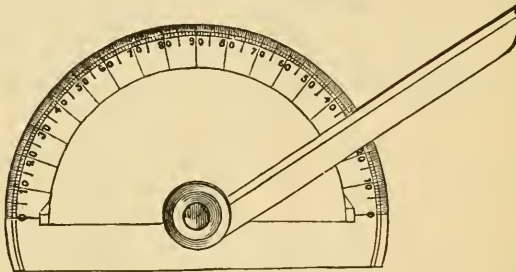
320.	Whole Circle Protractors, 8 or 13 inches diameter, half degrees, on Drawing Paper, printed in red or black, each,	30
321.	Same as No. 320, on Bristol Boards, each,	40
322.	Same as No. 320, on Vegetable Tracing Paper,	25
323.	Half Circle Protractor, 5 inches diameter, half degrees, on Bristol Boards, each,	25

Extra Fine Swiss Protractors.



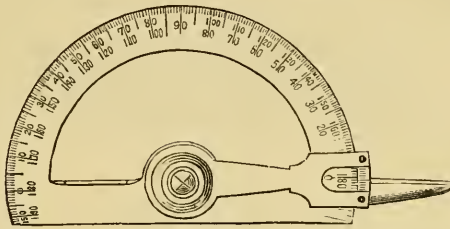
No.								PRICE.
330.	Protractor,	4 in.	diameter,	$\frac{1}{2}$ circle,	whole degs.,	centre on outer edge,	1 90	
331.	Do.	5 do.		$\frac{1}{2}$ do.	do.	do.	2 50	
332.	Do.	6 do.		$\frac{1}{2}$ do.	$\frac{1}{2}$ do.	do.	3 20	
333.	Do.	6 do.		$\frac{1}{2}$ do.	$\frac{1}{4}$ do.	do.	3 90	
334.	Do.	5 do.		$\frac{1}{2}$ do.	$\frac{1}{2}$ do.	inner edge,	3 00	
335.	Do.	6 do.		$\frac{1}{2}$ do.	$\frac{1}{2}$ do.	do.	3 50	
336.	Do.	6 do.		$\frac{1}{2}$ do.	$\frac{1}{4}$ do.	do.	4 60	

Extra Fine Swiss Protractors of German Silver, with Arms.



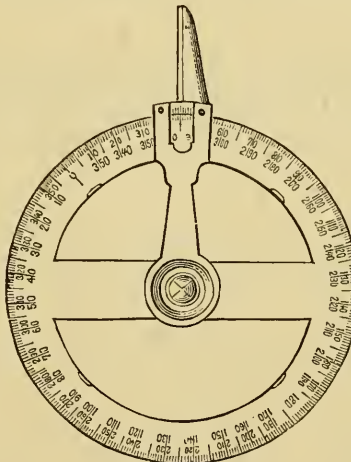
No.								PRICE.
350.	German Silver Protractor,	5 inches	diameter,	half circle,	with Arm	and divided in half degrees,	\$6 50	
351.	German Silver Protractor,	6 inches	diameter,	half circle,	with Arm	and divided in half degrees,	7 50	
352.	German Silver Protractor,	7 inches	diameter,	half circle,	with Arm	and divided in half degrees,	9 00	
354.	German Silver Protractor,	8 inches	diameter,	half circle,	with Arm	and divided in half degrees,	12 00	
360.	German Silver Protractor,	5 inches	diameter,	whole circle,	with Arm	and divided in half degrees,	10 00	
361.	German Silver Protractor,	6 inches	diameter,	whole circle,	with Arm	and divided in half degrees,	12 00	
362.	German Silver Protractor,	7 inches	diameter,	whole circle,	with Arm	and divided in half degrees,	14 00	
363.	German Silver Protractor,	8 inches	diameter,	whole circle,	with Arm	and divided in half degrees,	16 00	

**Extra Fine Swiss Protractors of German Silver,
With Arms and Verniers.**



370.

No.	PRICE.
370. Protractor, $5\frac{1}{2}$ inches diameter, half circle, half degrees, with vernier reading to three minutes,	\$11 00
371. Protractor, 8 inches diameter, half circle, quarter degrees, with vernier reading to one minute,	14 50
372. Protractor, 10 inches diameter, half circle, quarter degrees, with vernier reading to one minute,	18 00



373.

373. Protractor, $5\frac{1}{2}$ inches diameter, whole circle, half degrees, with vernier reading to three minutes,	14 50
374. Protractor, 8 inches diameter, whole circle, quarter degrees, with vernier reading to one minute,	16 25
375. Protractor, 10 inches diameter, whole circle, quarter degrees, with vernier reading to one minute,	20 00

CHAPTER VI.

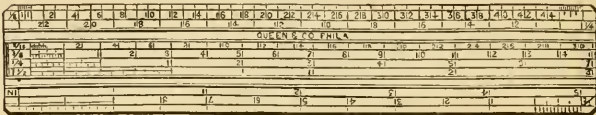
Sectors, Scales, and Protractors.



401.

No.	PRICE.
400. Ivory Sector, 6 inches long, opens to 12 inches long,	\$2 25
401. Ivory Scale, 6 inches long, for school drawing,	75
402. Ivory Chain Scales, 12 inches long, graduated on two edges with either 10 and 10 parts, or 10 and 20, or 20 and 40, or 30 and 50, or 40 and 60, or 50 and 60, each,	3 00
403. Do. do. do. with 40 and 80, or 50 and 100, each	5 25
404. Do. do. do. with 80 and 100, each,	5 75
405. Ivory Off Set Scales, 2 inches long, 10 by 10, 10 by 20, 20 by 40, 30 by 50, 40 by 60, each,	65

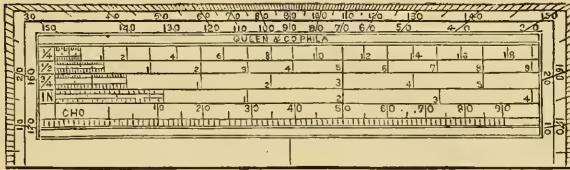
Architects' Ivory Scales.



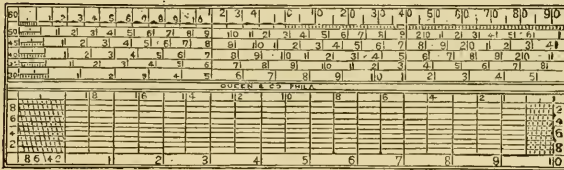
406

406. Ivory Scale, 12 inches long, with 16 scales as follows : $\frac{1}{8}$, 3-16, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$ and 3 inches to the foot, the first division of each scale subdivided in 12 parts, each,	3 00
407. Same as No. 406, but with the first division of each scale subdivided into 10 parts, each,	3 00
408. Ivory Scale, 12 inches long, with 12 scales, as follows : $\frac{1}{8}$, 3-16, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{5}{8}$, $\frac{7}{8}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2 and 3 inches to the foot, the first division of each scale subdivided into 12 parts, diagonal scale reading to 1-100 and 1-200 of an inch, each,	3 00
409. Same as No. 408, but has the first division of each scale subdivided into 10 parts, each,	3 00
410. Ivory Scale, 12 inches long, one side rounded the other flat, with the following scales, the graduations of which are all brought to the edge : 1-16, $\frac{1}{4}$, 3-16, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{8}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$ and 3 inches to the foot, the first division of each scale is subdivided into twelve parts, each,	3 00
411. Same as No. 410, but the first division of each scale subdivided into ten parts, each,	3 00
412. Flat Ivory Scale, 6 inch, div. $\frac{3}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 inch to the foot, each,	2 00
413. Do. do. 12 do. $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 do. do.	3 25
414. Do. do. 12 do. $\frac{3}{8}$, $\frac{1}{4}$, $1\frac{1}{2}$, 3 do. do.	3 25

Ivory Protractors.



425. FRONT SIDE.

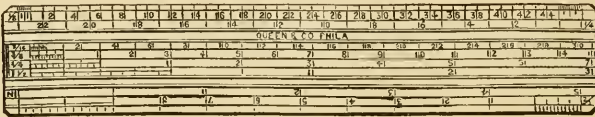


425. REVERSE SIDE.

No.	PRICE.
425. Ivory Rectangular Protractor, 6 inches long, 1½ inches wide, with scales as follows : front sides divided around edge from 0 to 180 degrees in single degrees, scales of 1, 2, 3 and 1 inch to the foot, and scale of chords. Reverse side scales of 30, 35, 40, 45, 50 and 60 parts to the inch, scale of chords and diagonal scale of inches and 1-100ths,	\$1 75
426. Ivory Rectangular Protractor, 6 inches long by 1½ inches wide, with scales as follows : front side, the edge divided in single degrees from 0 to 180 degrees, scales of 1, 2, 3, 4, 5, 6, 7, 8 and 1 inch to the foot, and scale of chords. On the reverse side, scales of 30, 35, 40, 45, 50 and 60 parts to the inch, scale of chords and diagonal scale of 1-100ths,	2 25
427. Ivory Rectangular Protractor, 6 inches long by 2 inches wide, with scales as follows : front side, the edge divided in single degrees from 0 to 180 degrees, scales of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60 parts to the inch, diagonal scale of 1-100ths,	3 25
428. Ivory Rectangular Protractor, same as No. 427, but has the Protractor divided in ½ degrees,	4 00
429. Ivory Rectangular Protractor, 6 inches long by 2½ inches wide, with scales as follows : front side, the edge divided in half degrees from 0 to 180 degrees, scales of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 parts on lower edge. Reverse side, scales of 10, 15, 20, 25, 30, 35, 40, 45, 50, 60 parts to the inch, and diagonal scale of 1-100ths,	4 50
430. Ivory Rectangular Protractor, 6 inches long by 2½ inches wide, with scales as follows : front side, the edge divided in ½ degrees from 0 to 180 degrees, scales of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 parts to the inch, 2 scales of chords, scales of latitudes, sines, tangents, hours, longitudes, secants, rhombs,	6 00
431. Ivory Rectangular Protractor, 8 inches long by 2 inches wide, with scales as follows : front side, the edge divided in ½ degrees from 0 to 180 degrees, scales of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 parts on lower edge. Reverse side, scales of 30, 35, 40, 45, 50, 60 parts to the inch, scale of chords and diagonal scale of 1-100ths,	5 00
432. Ivory Rectangular Protractor, 12 inches long by 2½ inches wide, with scales as follows : the edge divided in ½ degrees from 0 to 180 degrees, scales of 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40 parts to the inch, scale of chords and diagonal scale of 1-100,	11 50

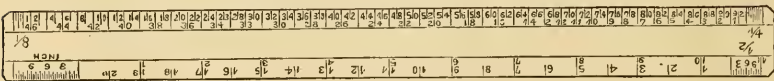
CHAPTER VII.

No.	PRICE.
450. Boxwood Protractor, 6 inches long, $1\frac{3}{4}$ inches wide, whole degrees, with 6 scales of equal parts, 4 scales of feet and inches, 2 scales of chords, and diagonal scale,	\$0 50
451. Boxwood Scale, 6 inches long, for School Cases of Instruments,	20
452. Boxwood Chain Scale, 12 inches long, graduated on two edges with either 10 and 10 parts, or with 10 and 20 parts, or with 20 and 40 parts, or with 30 and 50 parts, or with 40 and 60 parts, or with 50 and 60 parts,	1 25
453. Boxwood Off-set Scales, 2 inches long, graduated 10 by 10, 10 by 20, 20 by 40, 30 by 50, 40 by 60, each,	25

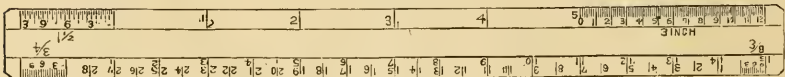


454

454. Boxwood scale, 12 inches long, with 16 scales, as follows: $\frac{1}{8}$, 3-16, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{4}$, $2\frac{1}{2}$ and 3 inches to the foot, the first division of each scale subdivided in 12 parts, each,	1 25
455. Same as No. 454, but with the first division of each scale subdivided into ten parts, each,	1 25
456. Boxwood Scale, 12 inches long, with 12 scales, as follows: $\frac{1}{8}$, 3-16, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2 and 3 inches to the foot, the first division of each scale subdivided into 12 parts, and diagonal scale reading to 1-100th and 1-200th of an inch, each,	1 25
457. Same as No. 456, but has the first division of each scale subdivided into 10 parts, each,	1 25
458. Boxwood Scale, 12 inches long, one side rounded, the other flat, with the following scales, the graduations of which are all brought to the edge: 1-16, $\frac{1}{2}$, 3-16, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{4}$, $1\frac{1}{2}$, $1\frac{3}{4}$, 2, $2\frac{1}{2}$ and 3 inches to the foot, the first division of each scale subdivided into 12 parts, each,	1 25
459. Same as No. 458, but has the first division of each scale subdivided into 10 parts, each,	1 25

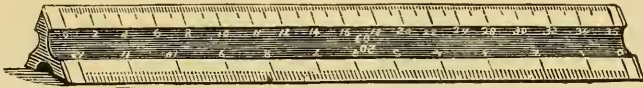


459 A.



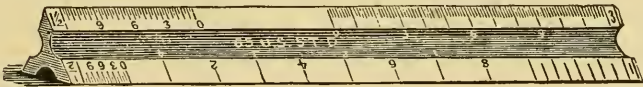
No.	PRICE.
459 A. Flat Boxwood Scale, 6 in., div. $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 or $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 in. to foot, each	\$ 80
459 B. Do. do. 12 do. $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 or $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 do. do.	1 25
459 C. Do. do. 24 do. $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 or $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 do. do.	2 00
459 D. Flat Scale, 12 inch, bevelled on both sides, graduated $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, 1 and $\frac{3}{8}$, $\frac{3}{4}$, $1\frac{1}{2}$, 3 inch to the foot, each	1 75

No.	PRICE.
460. Triangular Scale of German Silver, Silver-plated, 12 inches long, graduated, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ and 1 inch to the foot, each,	\$6 00
461. Triangular Scale of German Silver, Silver-plated, 12 inches long, graduated 10, 20, 30, 40, 50 and 60 to the inch, each,	6 00



462

462. Triangular Scale of Boxwood, 24 inches long, graduated 10, 20, 30, 40, 50 and 60 to the inch; or 20, 30, 40, 50, 60 and 80 to the inch,	5 00
463. Do. do. do. do. 12 inch,	2 00
463½. Do. do. 12 inches long, graduated 100, 200, 300, 400, 500, 600 to the foot, each,	2 00
464. Do. do. 6 inches, graduated same as No. 462,	1 50
464½. Triangular Scales of Boxwood for Off-sets, 2 inches long, 10, 20, 30, 40, 50 and 60 parts,	75



465

465. Triangular Scale of Boxwood, 24 inches long, graduated 3-32, 3-16, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1½, 3 inches and 16ths to the foot,	5 00
466. Do. do. do. do. 12 inches long,	2 00
467. Do. do. do. do. 6 do.	1 50

Boxwood Triangular Scales, 6 and 12 inches, put in strong paper boxes, and mailed to any address at an additional cost per scale of 25 cents.

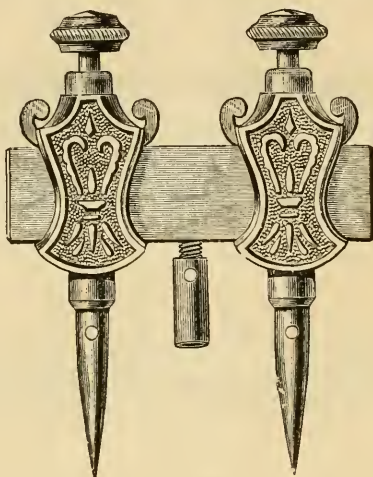
Paper Scales.

480. Paper Scale, printed on card-paper, 1¼ inch wide, 12 inches long, graduations on one edge inches and 10ths, and the other feet and 100ths,	\$ 10
481. Paper Scale, same as 480, one edge 20 parts to the inch, the other edge 40,	10
482. Paper Scale, same as 481, one edge inches and sixteenths, the other edge inches and forty-eighths,	10
483. Paper Scales, printed on card-paper, 19 inches long, for architects and engineers, in sets of 6 scales, per set,	1 00
Series A contains 6 scales, one each, divided to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$, 1, 1½, and 3 inches to the foot.	
Series B contains 6 scales, one each, divided to 3-32, $\frac{1}{8}$, 3-16, 5-16, $\frac{3}{8}$, and $\frac{1}{2}$ inch to the foot.	
Series C contains 6 scales, one each, divided to 10, 20, 30, 40, 50, and 60 parts to the inch.	
484. Single Scale of any of the above series, A, B, C—each scale,	20
485. Paper Scales, same as 483, divided either to $\frac{3}{8}$, 1½, 1¼, or 1½ inches to the foot, each,	20

The advantages of these scales are—they expand and contract nearly the same as drawing-paper, do not soil the work, and distances can be set off from them without the use of dividers.

We manufacture to order Scales to any divisions, in Ivory, Boxwood, White-wood, or Rubber.

Improved Trammel Points.

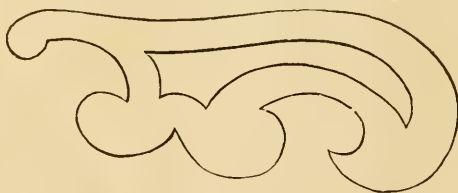


532.

These tools are used by all machinists and mechanics who have occasion to strike arcs or circles larger than can be done by compass Dividers. They may be used on a straight wooden bar of any length, and when secured in position by the thumb-screws, all circular work can be readily laid out. They are made of bronze, and have steel points, either of which can be renewed, and replaced by pencil socket, which accompanies each pair.

No.	PRICE.
531. Small (No. 1), per pair,	\$1 50
532. Medium (No. 2), per pair,	2 00
533. Large (No. 3), per pair,	2 75

Irregular Curves.

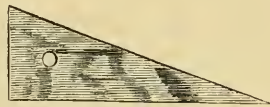


649

649. Whitewood Irregular Curves, 5 to 15 inches long, various patterns, 20 to 40 cents each.

CHAPTER IX.

Triangles, Curves, Drawing Boards, Fastening Tacks, Horn Centres, T Squares, Pentagraphs, and Parallel Rulers.



560.	Pearwood Triangles, 30° x 60° x 90°						
	5 or 6½						
	10 cents.						
561.	Pearwood Triangles, 45° x 45° x 90°		8 or 9½			11 or 12 inches long.	
	4, 5, or 6 inch,		15 cents.			20 cents.	
	15 cents.						
562.	Pearwood or Cherry Triangles, framed open centre, 30° x 60° x 90°						
	6	8	9½	11	13	15	20 inches long.
\$	.20	.25	.25	.30	.40	.75	1.00
563.	Pearwood or Cherry Triangles, framed open centre, 45° x 45° x 90°						
	5	6½	8	10	12		14 inches long.
\$	.20	.25	.30	.40	.60		.75
564.	Mahogany or Walnut Triangles, Ebony or Maple Lined, framed open centre, 30° x 60° x 90°						
	5	6	7	9	11	13	15
\$	.50	.60	.70	.80	1.00	1.25	1.75.
565.	Mahogany or Walnut Triangles, Ebony or Maple Lined, framed open centre, 45° x 45° x 90°						
	5	6	7½	9	11	13	15 inches long.
\$	.50	.60	.70	.80	1.00	1.25	1.75.

Hard Rubber Triangles and Curves.



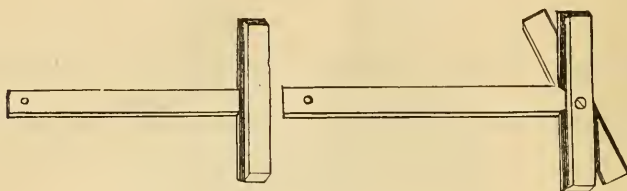
600.



603.

603.	Hard Rubber Triangles, angles 45, 45 and 90 degrees.														
	Isosceles Sides, 3	4	5	6	7	8	9	10	11	12	13	14 in.			
	\$	.30	.35	.40	.45	.55	.70	.80	1.00	1.25	1.35	1.50	1.65 each	
609.	Hard Rubber Lettering Triangles, 3 in set, 3¼ inch, per set,												\$1 25		
													Single Templates, 50		
600.	Hard Rubber Triangles, angles 30, 60, and 90 degrees.														
	Perpendiculars, 4	5	6	7	8	9	10	11	12	13	14	15	16	17 inches.	
	\$.25	.30	.35	.40	.50	.60	.65	.75	.90	1.00	1.25	1.50	1.75	1.90 each.

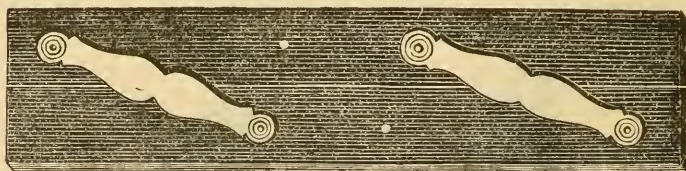
T Squares.



No.

702. Pearwood T Square, fixed head.	15	20	25	30	35	40	45	50	70 inches long.
	.35	.45	.50	.60	.75	.85	\$1.00	1.25	2.00
703. Pearwood T Square, shifting head.	20	25	30	35	40	50	70 inches long.		
	\$1.00	1.10	1.20	1.35	1.50	1.75	2.50		
704. Maple Blade, Black Walnut Head, fixed.	20	25	30	35	40	50	60 inches long.		
	.65	.75	.85	\$1.00	1.25	1.60			
705. Maple Blade, Black Walnut Head, shifting.	20	25	30	40	55 inches long.				
	\$1.10	1.25	1.40	1.60	2.00				
706. Black Walnut T Squares, White Hard Maple Lined Blades, fixed.	25	30	35	50	60 inches long.				
	\$1.00	1.15	1.25	1.75	2.50				
707. Black Walnut T Squares, White Hard Maple Lined Blades, shifting head.	25	30	35	40	48	54	60	72 inches long.	
	\$1.50	1.60	1.75	2.00	2.25	2.50	3.00	4.00	
711. Rubber Blades, Black Walnut Head, fixed and shifting.									

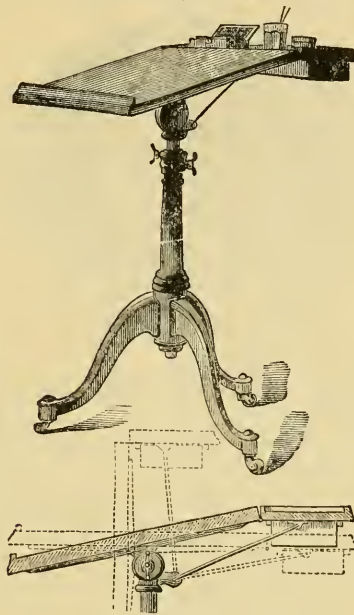
Parallel Rulers.



750.

No.							PRICE.
750.	Parallel Rulers, Ebony, Brass Mounted, 6 inches long, each,						\$0 25
751.	Do.	do.	do.	9	do.	do.	50
752.	Do.	do.	do.	12	do.	do.	75
753.	Do.	do.	do.	15	do.	do.	1 00
754.	Do.	do.	do.	18	do.	do.	1 25
755.	Do.	do.	do.	24	do.	do.	2 00
756.	Do.	German Silver Mounted, 12 inches long,					1 25

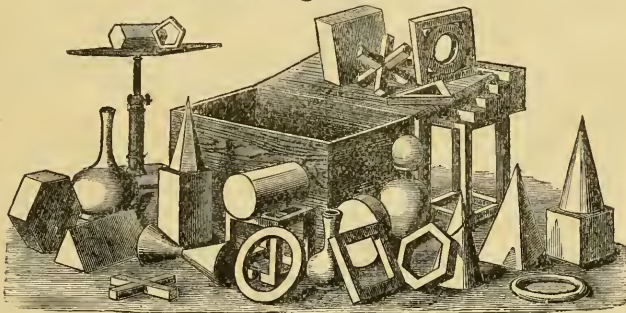
Drawing Tables.



- | | | |
|------|---|---------|
| No. | 681. | PRICE. |
| 681. | Drawing Table, Black Walnut Top, 22 by 26 inches, instrument shelf 7 by 26 inches, two instrument drawers, ornamented iron stand, mounted on castors, each, | \$12 00 |
| 682. | Similar to No. 678, top of selected, Polished Walnut, Iron Stand, Bronzed and tastefully Ornamented, | 15 00 |

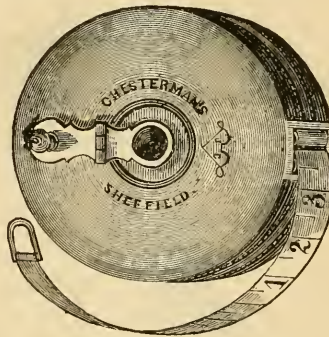
These tables, suitable for architects' offices, counting-rooms, &c., or for home use, can be readily fixed at any height from 30 to 44 inches, with the top horizontal, vertical, or inclined at any angle, while the instrument shelf and drawers always remain level. In any of these positions the top can be allowed to rotate, or the whole firmly clamped. Total weight, 55 pounds.

Drawing Models.



- | | | |
|------|---|---------|
| No. | 683. | PRICE. |
| 983. | New American Drawing Models, a set of 27 pieces, consisting of mathematical solids, vases, &c., with stand, complete in a substantial box, per set, | \$25 00 |

Chesterman's Steel and Metallic Tape Measures.



Chesterman's Metallic Tape Measures.

These tapes are made of linen thread interwoven with fine brass wire, not so liable to stretch as the usual linen tape, and better calculated to withstand the effect of moisture. They are in substantial leather cases.

No.		PRICE.
1067.	Metallic Tape Measure, 24 feet long, in 10ths or 12ths, each,	\$2 40
1068.	Do. do. 33 do. do. do. do.	2 75
1069.	Do. do. 40 do. do. do. do.	3 00
1070.	Do. do. 50 do. do. do. do.	3 25
1070½.	Same as 1070, but in Case with Flush Handle,	3 75
1071.	Metallic Tape Measure, 66 feet long, in 10ths or 12ths each,	3 75
1072.	Do. do. 70 do. do. do. do.	4 00
1073.	Do. do. 75 do. do. do. do.	4 25
1074.	Do. do. 80 do. do. do. do.	4 50
1075.	Do. do. 100 do. do. do. do.	5 25
1075½.	Same as 1075, but in Case with Flush Handle,	5 75

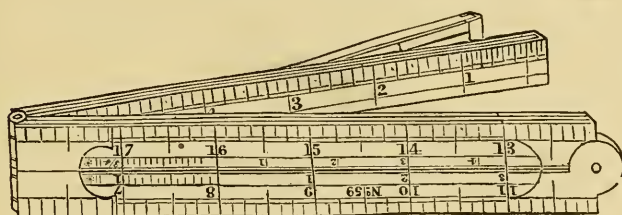
Chesterman's Metallic Tapes furnished without boxes at the following prices: 50 feet, each, \$2.00; 66 feet, \$2.50; 100 feet, \$3.50.

Chesterman's Steel Tape Measures.

Steel Tape Measures; all Steel, to wind up in a box, same as linen measures, the most accurate, durable, and portable measures.

No.		PRICE.
1076.	Steel Tape Measure, 10 feet long, in 10ths or 12ths, in German Silver Case, each,	\$4 00
1077.	Do. do. 10 do. tape divided on one side to 12ths, and on the other to centimeters and millimeters,	4 25
1078.	Steel Tape Measure, 25 feet long, in 10ths or 12ths, each	6 00
1079.	Do. do. 33 do. do. do. do.	7 50
1080.	Do. do. 40 do. do. do. do.	8 50
1081.	Do. do. 50 do. do. do. do.	10 00
1081½.	Same as 1081, but extra wide and heavy,	15 00
1082.	Steel Tape Measure, 66 feet long, in 10ths or 12ths each,	13 00
1083.	Do. do. 75 do. do. do. do.	15 00
1084.	Do. do. 100 do. do. do. do.	18 00
1085.	Do. do. 3 do. in German Silver Case, with Spring and Stop, Tape divided into 10ths or 12ths of a foot,	2 00
1086.	Steel Tape Measure, 4 feet long, in German Silver Case, with Spring and Stop, Tape divided into 10ths or 12ths of a foot,	2 25
1087.	Steel Tape Measure, 5 feet long, in German Silver Case, with Spring and Stop, Tape divided into 10ths or 12ths of a foot,	2 50
1088.	Steel Tape Measure, 6 feet long, in German Silver Case, with Spring and Stop, Tape divided into 10ths or 12ths of a foot,	2 75

Pocket Rules.



1100.

No.	Description	PRICE.
1100.	One Foot, Four Fold, Boxwood, each,	\$0 25
1101.	Do. do. do. Brass Edges, Bound,	75
1102.	Do. do. Ivory, Brass Mounted,	1 00
1103.	Do. do. do. German Silver Mounted,	1 25
1104.	Do. do. do. do. do. graduated in 8ths, 10ths, 12ths, 16ths, and 100ths of a foot on edges of unbound	2 25
1105.	One Foot, Four Fold, Ivory, graduated in 8ths, 10ths, 12ths, and 16ths, with German Silver Edges, Bound,	3 00
1106.	One Foot, Four Fold, Ivory, Caliper, graduated in 8ths, 10ths, 12ths, and 16ths,	3 00
1107.	One Foot, Four Fold, Ivory, Caliper, graduated in 8ths, 10ths, 12ths, and 16ths, with German Silver Edges, Bound,	4 00
1108.	Two Feet, Four Fold, Boxwood, inside edges bevelled with Draft- ing Scales,	1 00
1109.	Two Feet, Four Fold, Boxwood,	30
1110.	Do. do. do. Brass Bound with Drafting Scales	1 00
1111.	Do. do. Ivory, German Silver Mounted, with 8ths, 10ths and 16ths inches, and $\frac{1}{4}$, $\frac{1}{8}$, $\frac{3}{8}$, and 1 inch Drafting Scales,	6 00
1112.	Two Feet, Four Fold, Ivory, same as No. 1111, German Silver, Bound,	7 50
1113.	Two Feet, Four Fold, Ivory, same as No. 1111, but extra broad and Bound in German Silver,	9 00
1114.	Two Feet, Six Fold, Boxwood, graduated 8ths, 10ths, 100ths, and 16ths,	1 25
1115.	Two Feet, Six Fold, Ivory, graduated 8ths, 10ths and 16ths inches,	6 00
1116.	Combination Rule, One Foot, Two Fold, Boxwood. This is the most convenient and useful pocket-rule ever made; it combines in itself a Carpenter's Rule, Spirit Level, Square Plumb, Bevel, Indicator Brace, Scale, Draughting Scale of equal parts, T Square, Protractor, Right-Angle Triangle, and with a straight edge can be used as a Parallel Ruler, all the parts of which, in their separate applications, are perfectly reliable,	3 00

An explanation and directions for use accompanies each of the Combination Rules.

We desire to call attention to our **TERRA COTTA PLAQUES**, in the manufacture of which we have made a desirable improvement. The new departure, which has given our patrons so much satisfaction, is our putting on the ground color, which enables the artist to paint on them without any further preparation.

A Plaque made of pottery is the only one that has given general satisfaction. Unlike papier-mache and wood, both of which frequently crack and change their form on account of variations of temperature, the pottery Plaque is permanent in its make-up, and, not being affected by either damp or dryness, it is the only one that has not disappointed the many who have used them.

We are making them in five sizes, with prices as follows :

9-inch, 35 cents;	12-inch, 50 cents;
10-inch, 40 cents;	15-inch, 75 cents;
16-inch, \$1.00.	

Paper Plaques.

7 in.,35	12 in.,65	16 in., 1.00	13 in., Oval, .75
8½ "40	14 "80	11 " Oval, .55	15 " " .95
10 "50			

Porcelain Plaques.

Russell's Canvas Boards.

SOMETHING NEW AND VERY DESIRABLE FOR SKETCHING IN OIL.

4X 6,10	9X13,35	12X16,40	14X24,65
4X 8,12	9X15,35	12X18,45	14X26,70
6X 8,15	9X18,40	12X20,50	14X28,75
6X10,20	10X12,35	12X22,50	16X20,65
6X12,20	10X14,35	12X24,50	16X22,70
8X10,25	10X16,35	14X16,45	16X24,75
8X12,30	10X18,40	14X18,50	16X26,80
8X14,30	10X20,40	14X20,50	18X22,80
8X16,35	12X14,35	14X22,60	18X24, 1.00
9X11,30			

Convex Glasses, used in Photographic Painting.

Card Size, Oval, 2½X3½ inches,	per doz.,
Card Size, Square (Round Corners), 2½X3½ inches,	per doz.,
Cabinet, Oval, 4½X5½ inches,	per doz.,
Cabinet, Square, (Round Corners), 4½X5½ inches,	per doz.,
Imperial, Square, 4¼X6 "	per doz.,
Imperial, Oval, 4¼X6 "	per doz.,

Ivory Palette Knives.

No. 1. Small Size,22	No. 3. Large Size,60
2. Middle Size,45	4. Extra Large Size,90

Card Board Panels,

WITH BEVELLED EDGES GILT.

In Gray, Black, Azure, Pink and Pale Green, for Oil or Water Color Painting.

2 $\frac{3}{4}$ ×4 $\frac{1}{4}$ inches	each,	.08	5×10 inches	each,	.25
4 ×6 $\frac{1}{2}$ "	"	.13	6×12 "	"	.30
4 ×8 "	"	.17	7×14 "	"	.40
Black Card Board		22×28		"	.15

Black Wood Panels,

WITH POLISHED OR DULL SURFACES.

5×12 inches	each,	.80	8×16 inches	each,	1.25
6×12 "	"	.90	6×16 "	"	1.10
7×15 "	"	1.10	9×18 "	"	1.40

Wooden Plates,

3-PLY.

5 inch, White Holly,	.18	8 inch, Bird's-eye Maple,	.22
8 " " "	.22	9 " Mouse Color,	.25
9 " " "	.25		

Miscellaneous, Oil Colors.

	Per Tube.		Per Tube.
Rowney's Cadmium, No. 1	.40	Rowney's Cadmium, No. 4	.40
" " " 2	.40	Rowney's Chinese Orange	.28
" " " 3	.40	Rowney's Mauve	.10
Breibach's Carmine Paste, in tubes			.25

Reading Glasses.

2 $\frac{1}{2}$ inch diameter	\$1.25	3 $\frac{1}{4}$ inch diameter	\$2.25
2 $\frac{3}{4}$ "	1.60	3 $\frac{3}{4}$ "	2.60
3 "	2.00		
Attachment for holding Photographs, &c.			.75

Green's Prepared Tints for Pencilling.

These Tints are prepared on stout Drawing Paper for the modern style of Pencil Drawing in Black and White; the White being obtained by scraping the surface off the paper with a knife or eraser.

Imperial, 22×30	per sheet,	.35
-----------------	------------	-----

Impression Papers.

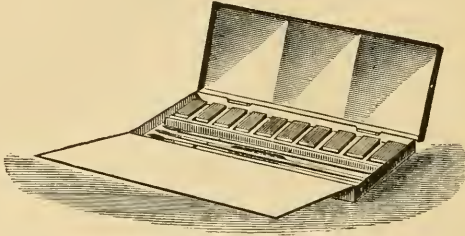
Black, 12×18 inches.	per sheet,	.08
Blue, 12×18 "	"	.08
Red, 12×18 "	"	.08
Green, 12×18 "	"	.08

Atomizers.

Essex Improved, No. 5. A	\$1.25
" " " C	1.25
Tin, (for throwing heavy spray),	.30

Geo. Rowney & Co.'s Box of Moist Water Colors.

PRICE 45 CENTS.



Box of Moist Water Colors, japanned tin, with thumb-hole, hinged lid and palette flap,—fitted according to the formula recommended by the Department of Science and Art, consisting of the following colors:—

GAMBOGE.	LIGHT RED.	LAKE.
YELLOW OCHRE.	BURNT SIENNA.	VANDYKE BROWN.
VERMILION.	SEPIA.	PRUSSIAN BLUE.
	ULTRAMARINE.	

THREE CAMEL-HAIR PENCILS, — DUCK, GOOSE, AND EXTRA
SMALL SWAN, WITH STICKS.

Green's Indelible Drawing Chalk,

MANUFACTURED ONLY BY GEO. ROWNEY & CO.

This Chalk, the result of numerous experiments, has been prepared for the purpose of combining intense blackness in the deep shadows with the greatest delicacy in the half tints. It is similar in character to Lithographic Chalk, but is much finer, and more even in texture and color; it is invaluable as a material either for the most finished execution, or for sketching.

In Boxes of one dozen, price .45 per box.

German Water Colors.

IN POLISHED SLIDE-LID BOXES, FOR ARCHITECTS, MECHANICAL AND CIVIL
ENGINEERS AND MACHINISTS.

For Architects, containing 12 colors,	.	.	.	.	.	.	.	.	.	\$2 00
“ “ “ 18 “	.	.	.	.	.	.	.	.	.	3 00
“ “ “ 24 “	.	.	.	.	.	.	.	.	.	4 00
“ “ “ 30 “	.	.	.	.	.	.	.	.	.	4 50
“ Machinists, “ 15 “	.	.	.	.	.	.	.	.	.	3 00
“ Surveyors, “ 15 “	.	.	.	.	.	.	.	.	.	3 25

54 and 56 Cornhill, Boston.

Leaves from Rowbotham's Water Color Sketch Book.

Extract from Art Journal.—"Art students of all classes and ages owe a large debt to Messrs. Rowney & Co., the eminent printers of works in lithography and chromo-lithography. The publication before us will rank among the best of many.† We have here a most useful series of sketches in colors, principally of trees and foliage, with such accessories as cottages and carts. They are simple facts, not made into pictures, but so designed that the learner shall make pictures of them "out of his own head." More suggestive "Art bits" it would be difficult to find; there exist none so simple and comprehensive, so far as they go, none more certain to lead the pupil or student right. If we are, therefore, to thank the good publishers, we are surely bound to thank the excellent artist; few men have been more useful to their generation. Messrs. Rowney have also issued several admirable sea and river sketches in sepia from the pencil of Mr. Syer."

†Leaves from T. L. Rowbotham's Sketch Book Part II. Printed and published by George Rowney & Co.

A Series of Plates, fac-similes of the original Sketches in Water Colors, arranged in progressive order for the use of beginners.

No.	Width.	Height.		Price
1.	6¼	by 4	—WOODEN BRIDGE.....	\$.20
2.	8½	" 6	—TIMBER CART.....	.20
3.	8½	" 6¼	—SALMON TRAP.....	.20
4.	7¾	" 4¾	—RIVER SIDE.....	.20
5.	8½	" 4¾	—CORN RICKS.....	.20
6.	6¾	" 4¾	—THE MARSH.....	.20
7.	6¾	" 4¾	—STONE BRIDGE.....	.20
8.	8½	" 4¾	—TRUNK OF TREE.....	.20
9.	8½	" 5½	—HILL SIDE.....	.20
10.	10	" 7	—BOAT, VENTNOR.....	.30
11.	10	" 5¾	—ROUGH SHED, PORTSLADE.....	.30
12.	10	" 6¾	—FARM SHED, NEAR EPSOM.....	.30
13.	6¾	" 4¾	—COTTAGE, CRANLEIGH.....	.30
		" 4¾	—COTTAGE, DIDCOT.....	.30
14.	9¾	" 7½	—COTTAGE, HAGBOURNE.....	.30
15.	9¾	" 6½	—COTTAGE, BRAMBER.....	.30
16.	9¾	" 7½	—AT LANCING, SUSSEX.....	.30
17.	9	" 6½	—FIR TREES.....	.30
18.	9¾	" 7¾	—OLD WILLOW TREE.....	.30
19.	9¾	" 7	—HAZEL TREE.....	.30
20.	11¾	" 8½	—FIR TREES, GREENWICH PARK.....	.45
21.	13½	" 9½	—FIR TREES, GREENWICH PARK.....	.45
22.	12½	" 9½	—FIR TREES, GREENWICH PARK.....	.45
23.	13½	" 9	—FIR TREES, APPALDURCOMBE PARK.....	.45
24.	10½	" 6½	—FARM WAGON.....	.45
25.	9¾	" 6½	—SHED AND COTTAGE, NEAR BRAMBER.....	.30
26.	9¾	" 6½	—COTTAGE, BROMLEY.....	.30
27.	14¼	" 7½	—COTTAGES, FARNBOROUGH.....	.60
28.	14¼	" 7½	—COTTAGES, RINGWOOD.....	.60
29.	13¼	" 7½	—ROADSIDE COTTAGE.....	.60
30.	14½	" 7¾	—COTTAGE, SOPLEY.....	.75

Geo. Rowney & Co.'s Studies in Two Crayons,

AFTER VARIOUS ARTISTS.

Size 20 by 13½. Price 45c. each.

Geo. Rowney & Co.'s Studies in Two Crayons,

AFTER SIR EDWIN LANDSEER.

Size 22 by 15. Price 45c. each.

54 and 56 Cornhill, Boston.

I N D E X .

	PAGE		PAGE
Atomizers	77	Palettes for Oil Painting	10
Academy Boards	8	Palettes for Water Color Painting	12
Abraded Board	27	Panels, Wood and Card Board	77
Alteneder's Instruments	59-61	Paper Fasteners	29
Beam Compasses	40, 57, 60	Paper, Harding's, for Water Color	27
Badger Blenders	20	Parallel Rules	72
Blocks for Oil and Water Color	21	Pastels,	73
Books of Alphabets	37	Pastel Paper and Board	23
Bottles for Oil and Water	11	Pencils, Faber	25
Boxes, Japanned, for Oil Colors	10	Pencils, Tubular, Siberian	25
Boxes, Japanned, for Water Colors,	6	Pentagraph	36
Boxes, Mahogany, for Water Colors, empty, 29	29	Plaques, Terra Cotta	76
Brass Instruments, separate	39-41	Plaques, Porcelain and Paper	76
Brass Instruments in Boxes	41-44	Plates, Wood	77
Bristol Board	27	Pocket Rules	75
Bronze Powders	34	Porte Crayons	6
Brushes, Bristle, for Oil	19	Portfolios, Paper and Cloth	24
Brushes, Sable & C. H., for Water Colors, 13-15	13-15	Profile Paper	24
Brushes, Sable, for Oil Colors	16-20	Proportional Dividers, Swiss	40, 45, 55, 62
Canvas,	8	Protractors, Brass and German Silver	63
Canvas Boards	76	Protractors, Boxwood	68
Cartoon Paper	26	Protractors, Ivory	67
Chamois Skins	22	Protractors, Paper and Horn	63
Charcoal	22	Protractors, Swiss	64, 65
Charcoal Paper	27	Rubber	25
China Ware	12	Reading Glasses	77
Colored Pencils	25	Rowbotham's Sketches in Water Colors	79
Convex Glasses	76	Scales, Ivory	66
Crayon Paper	27	Scales, Paper	69
Crayons	23, 35	Scales, Wood	68
Cross Section Paper	27	School of Art Boxes	4
Curves of Rubber and Wood	71, 70	School Rules	75
Dividers, G. S. & Brass	39-44	Scrapers, Canvas	11
Drawing Boards	24	Shells, Gold and Silver	2
Drawing Books	27	Siccatif	11
Drawing Instruments, for Schools	39	Silver Ink	5
Drawing Paper in Rolls	26, 23	Sketch Books	22
Drawing Papers	26	Sketch Blocks, Charcoal	22
Drawing Pens	29	Sketching Boards	24
Drawing Tables and Models	73	Sketching Boxes	6, 10
Easels	9	Sketching Seats	24
Erasers	25	Sketching Tacks	29
Field and Level Books	27	Sketching Umbrellas	24
Fixatif	22	Studies in Two Crayons	79
German Silver Instruments, in cases,	47-51	Soft Pastels	23
German Silver Instruments, separate,	44-47	Steel Pens	25
Ger. Silver Instruments, in cases, French, 51-53	51-53	Stumps	6
Ger. Silver Instruments, extra finish'd in cases, 61	61	Swiss Instruments	53-59
Ger. Silver Instruments, " separate, 62	62	Text Books, &c.	38
Gelatine	28	Tape Measures, Metallic and Steel	74
Gilders' Knives	9	Tints, for Pencilling	77
Gold Paint and Ink	5	Trammel Points	70
Glass Mullers and Slabs	12	Thumb Tacks	29
Hand Books on Fine Arts	32, 33	Tinsel, or Foll	34
India Ink, in cakes and liquid	5	Tinted Paper	27
Ink Saucers	12	Tinting Saucers	12
Ink Slabs	12	Tracing Cloth	26
Japanese Ink	29	Tracing Papers	26, 28
Kern's Swiss Instruments	53	Transfer Paper	28, 77
Mahl Sticks	7	Triangles, Wood and Rubber	71
Manila Paper, in rolls	26	Triangular Scales, Boxwood,	69
Mathematical Instruments	39	T Squares	72
Mill Boards	8	Varnishes	11
Moist Color Boxes, empty	6	Water Bottles	11
Moist Color Box, fitted	78	Water Color Liquids and Mediums	5
Monochromatic Board	23	Water Colors, Cakes	2
Mounted Paper, on cloth	26	Water Colors, Moist	2
Mounting Board	28	Water Colors, in Boxes	3
Oil and Water Cups	11	Water Colors, German, in Boxes	78
Oil Colors, German and French	34	Water Glasses	12
Oil Colors, English	7	Wax Flower Cutters	31
Oils	11	Wax, in Sheets	30
Oil Sketching Paper	8	Wax, Leaf, Moulds for	31
Palette Cups	7	Wax Materials, Miscellaneous	30
Palette Knives, Steel	9	Whatman's Papers	26
Palette Knives, Ivory and Horn	76	Wire, for Wax Flowers	30

FIXATION DIRECT.

Instantaneous upon all Surfaces of Design, either of Water Color, Charcoal, Sepia, India Ink, Crayon, Chalk, etc., etc.

The Artist can, with charcoal, draw his design on canvas, fix it, and at once paint over it without the least difficulty. The Designer on wood and stone, or any fabric, can use it effectually.

The Fixatif can be renewed indefinitely on the same work with complete success, and permits retouching as often as required; and also permits (according to the experience of eminent Artists) the working over in body colors, producing an effect entirely new.

The Architect, Engineer and Draughtsman derive a benefit from the Fixatif; as a drawing in pencil can be more permanently fixed than if drawn in ink, and saves time and expense of inking over a drawing.

The Fixatif Rouget, with the necessary appendages, nicely put into a box, at \$2.25 each.

This preparation, the production of an eminent French chemist, and patented by the French Government, is heartily endorsed by the American Artists and Amateurs who have used it and represent it to be all that is claimed for it, viz., that it permanently fixes charcoal and other drawings, without discoloring or detriment. The process is simple, and the effect desirable and enduring.

Small bottle Fixatif, each	. . . . .	\$ .40
Large " " "	. . . . .	.70
Blowing Apparatus, separate,	. . . . .	1.60
Liquid, special,	. . . . .	.20
American Atomizer,	. . . . .	1.50

SPECIFICATION PAPER.

CROSS-SECTION PAPER.

CONTINUOUS OR ROLL PROFILE PAPER.

- Plate A. — Horizontal Divisions, 4 to the inch; Vertical Divisions, 20 to the inch, and having every tenth horizontal division line, and every fiftieth vertical division line, heavier than the others. Price per yard, \$.30
- Plate B. — Horizontal Divisions, 4 to the inch; Vertical Divisions, 30 to the inch, and having every fourth horizontal division line, and every twenty-fifth vertical division line, heavier than the others. Price per yard, 30

Plate B corresponds to that in sheets known as Brown's Profile Paper.

F. C. HASTINGS & CO.

54 & 56 CORNHILL (near Court Street), BOSTON,

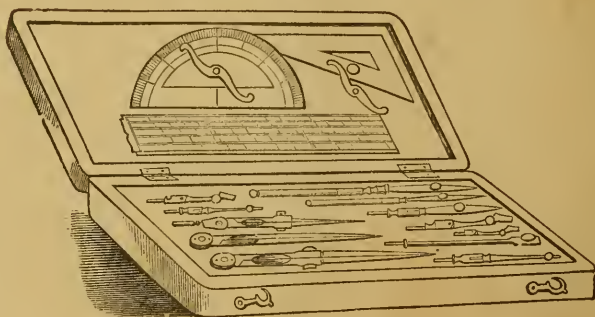
IMPORTERS AND DEALERS IN

ARTISTS' MATERIALS,

SWISS, GERMAN, FRENCH AND ALTENADER'S

MATHEMATICAL INSTRUMENTS,

SEPARATELY OR IN SETS,



AND

DRAWING AND PAINTING MATERIALS,

*For Architects, Designers, Engineers, Surveyors,
Lithographers, Machinists, Photographers.*

MATERIALS FOR MAKING

WAX FLOWERS, OIL PAINTING, WATER-COLOR PAINTING
PENCIL DRAWING, CRAYON DRAWING, ETC.

—•—
Liberal Discounts to Teachers, Schools, and Purchasers in Quantities.