

Woolman (G.S.)

PRICED

AND

Illustrated Catalogue

OF

MICROSCOPES

AND

OPTICAL INSTRUMENTS.



FOR SALE BY

G. S. WOOLMAN,

116 FULTON STREET, NEW YORK.

NOTICE.

Having disposed of our New York business to Mr. GEORGE S. WOOLMAN, our former Manager, and for many years connected with our house in this city, we take this opportunity of returning thanks to our friends for their liberal patronage, and to ask for our successor a continuance of the same.

Respectfully,

JAMES W. QUEEN & CO.

PHILADELPHIA, Feb. 1st, 1876.

Having the best Selected Stock of Microscopes and Optical Instruments in the city, I respectfully ask its inspection by purchasers before going elsewhere.

TERMS CASH.

All instruments guaranteed as represented.

Where customers are unknown, satisfactory reference (New York preferred) should be given, unless order is accompanied with the money.

Remittances should be made by Bank Drafts or P. O. Money Order.

When money does not accompany order, goods will be sent per Express, C. O. D.; when this is desired a small remittance must be sent to insure the goods being taken up at destination.

Goods can only be sent by mail at letter postage at 6 cents per oz. The amount of postage must be included in the remittance.

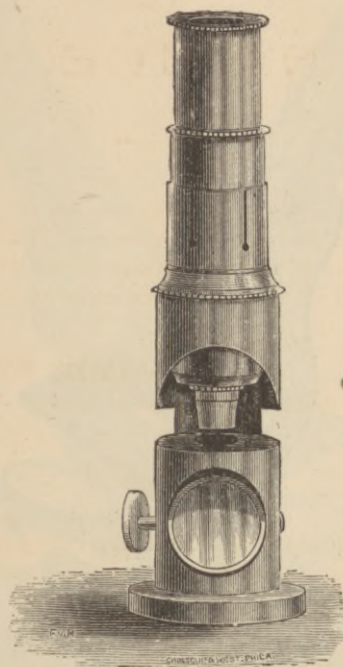
All packing boxes will be charged at cost, and goods will be packed with the utmost care, but no responsibility will be resumed by me for breakage or other damage after a package leaves my premises, unless by special contract.

If not interested in this catalogue please hand it to any of your friends who are.

G. S. WOOLMAN.

NEW YORK, MAY, 1879.

BOYS' COMPOUND MICROSCOPE.



2050.



No.	Price.
2050. Boys' Compound Microscope	\$2 50

This instrument is a well-made and substantial one, and well adapted to the study of objects requiring rather more power than can be conveniently obtained with a simple microscope. It will show satisfactorily the larger animalculæ in pond-water, the scales from a butterfly's wing, and similar minute objects. The stand is of polished brass, handsomely lacquered, with one Eyepiece and one Object-glass, magnifying when combined about 40 diameters, or 1600 times. One prepared object, two glass slips, and a pair of brass forceps are furnished with it, and the whole is packed in a neat, polished walnut wood case.

The magnifying power, as understood by microscopists, is in diameters. A popular way is to give the area or superficies; and, as the object is magnified equally in all directions, this power is obtained by squaring the diameter.

The Rev. Mr. Wood's little work, entitled *Common Objects of the Microscope*, (No. — of this Catalogue), is highly recommended for the use of beginners in the study. It contains full directions in the use of the instrument, and for the collection and preservation of specimens; is illustrated with 400 engravings, printed in colors, and costs the trifling sum of 50 cents.

We have a great variety of popular objects, well prepared, and mounted on papered glass slides (No. — of this Catalogue), which are specially suited to the capacity of this and other cheap Microscopes. They cost \$1.50 per dozen, or 20 cents each. Also, some cheaper ones of French make, at \$1.25 per dozen.

QUEEN'S UNIVERSAL HOUSEHOLD MICROSCOPE.



2051-52.

No.		Price.
2050	Queen's Universal Household Microscope.....	\$5 00

This admirable instrument is the most complete, convenient and powerful Microscope ever produced for so low a cost. It has all the important parts of a first-class instrument, is readily adjusted for the examination of all classes of objects, and is well calculated not only to amuse but instruct young persons, and thereby foster a taste for the study of Natural History.

The Stand is ten inches in height, with hinged joint, allowing it to be inclined to any angle for convenience of observation. The base is of cast-iron, handsomely bronzed, the compound body of finely lacquered brass, with draw-tube for increasing the power of the object-glasses. These are two in number, and give, in connection with the draw-tube, a range of powers from 20 to 100 diameters, or from 400 to 10,000 times. The stage is of ample size, and is provided with spring clips for holding the object whilst under observation; beneath is a concave mirror, conveniently jointed, for the illumination of all transparent objects. All the ordinary animalcules found in pond-water can be satisfactorily shown with this Microscope. One prepared object, two glass slips, and a pair of brass forceps, are furnished with it, and the whole is packed in a neat and strong walnut-wood case.

2051	Queen's Universal Household Microscope, the same as 2050, with the addition of an <i>Achromatic</i> object-glass of three powers (from 40 to 200 diameters), will exhibit satisfactorily blood and pus corpuscles.....	\$10 00
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For list of common objects for these microscopes, see page — of this Catalogue.

QUEEN'S UNIVERSAL HOUSEHOLD MICROSCOPE.

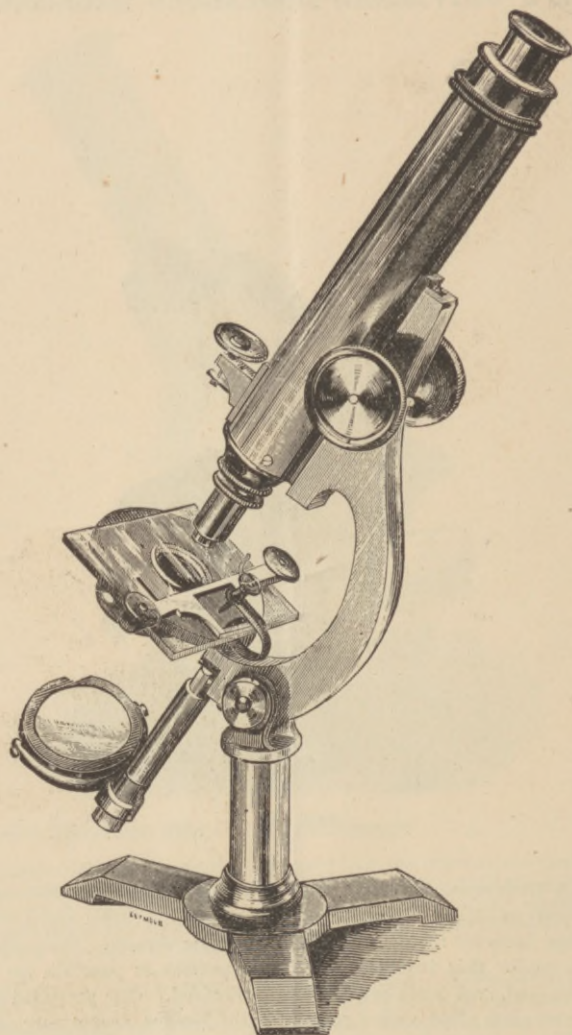


2051-54.

No.	Price.
2053 Queen's Universal Household Microscope , similar to 2051, with additions of Rack and Pinion for adjustment of focus, and a condensing Lens for the illumination of opaque objects. These additions render this instrument as near perfect as possible, for so small a cost, and leave but little to be desired. One prepared object, two glass slips, and a pair of brass forceps, accompany each one, and the whole is contained in a neat, polished mahogany case,	\$8 00
2054 Queen's Universal Household Microscope , same as 2053, with addition of an <i>Achromatic triplet</i> object-glass, giving powers from 40 to 250 diameters	12 00

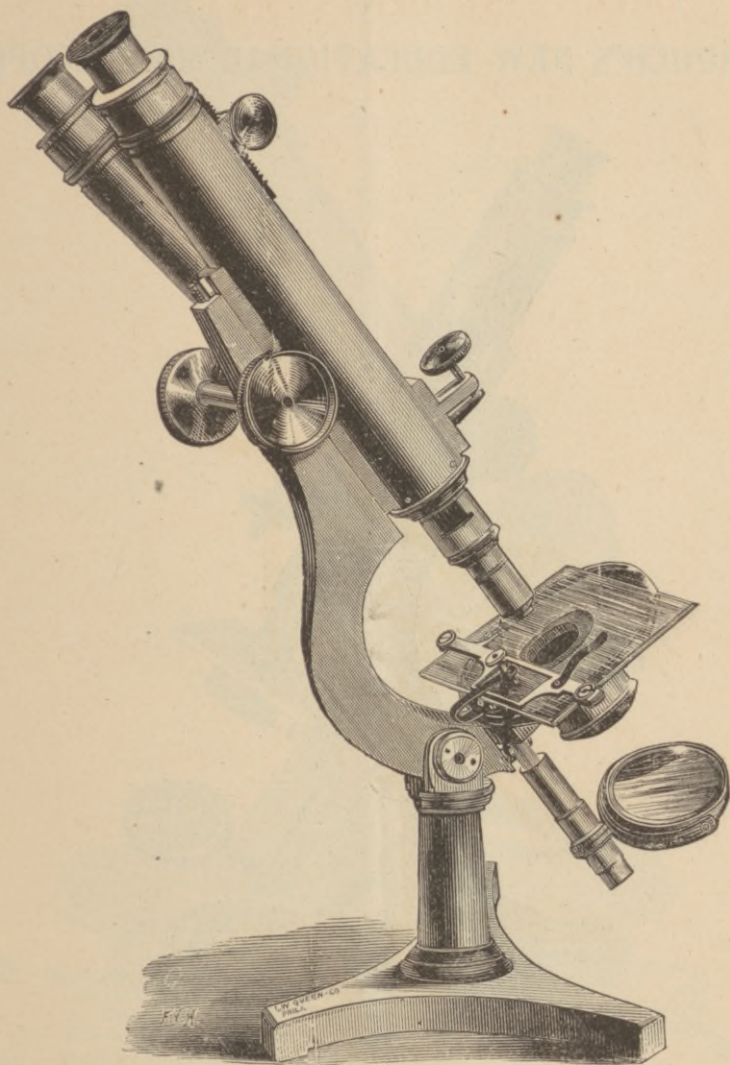
We believe these Microscopes (from 2051 to 2054) cover the entire field possible for such cheap instruments, and that in all essentials they are far in advance of anything heretofore offered the public. In the ten years that have elapsed since we first introduced No. 2051, we have sold several thousands of the same, and always with satisfaction to the purchasers.

QUEEN'S STUDENTS' MICROSCOPE.



3096.

- | No. | | Price. |
|------|--|---------|
| 2070 | Queen's Students' Microscope, Monocular, 14 inches high, of highly finished brass; Stage of glass, with perfectly smooth motions in all directions plane and concave Mirrors; revolving Diaphragm, which may be entirely removed when extremely oblique illumination is required; Draw-Tube; Rack and Pinion and Fine Screw Adjustments for focus; with Two Eyepieces, Nos. 1 and 2; Two-third inch Objective, 30 degrees angle of aperture; one-fifth inch Objective, 100 degrees angle of aperture, adjustable; Condensing Lens; Upright Walnut Case, with brass handle and lock and key | \$85 00 |
| 2071 | Queen's Students' Microscope Monocular, same as above, but with Glass Rotating Stage..... | 90 00 |



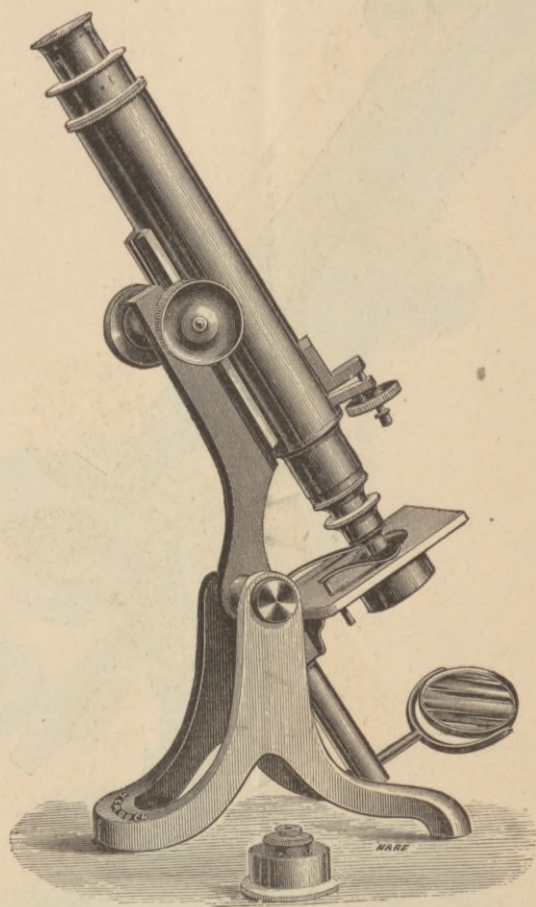
2072.

No.

Price.

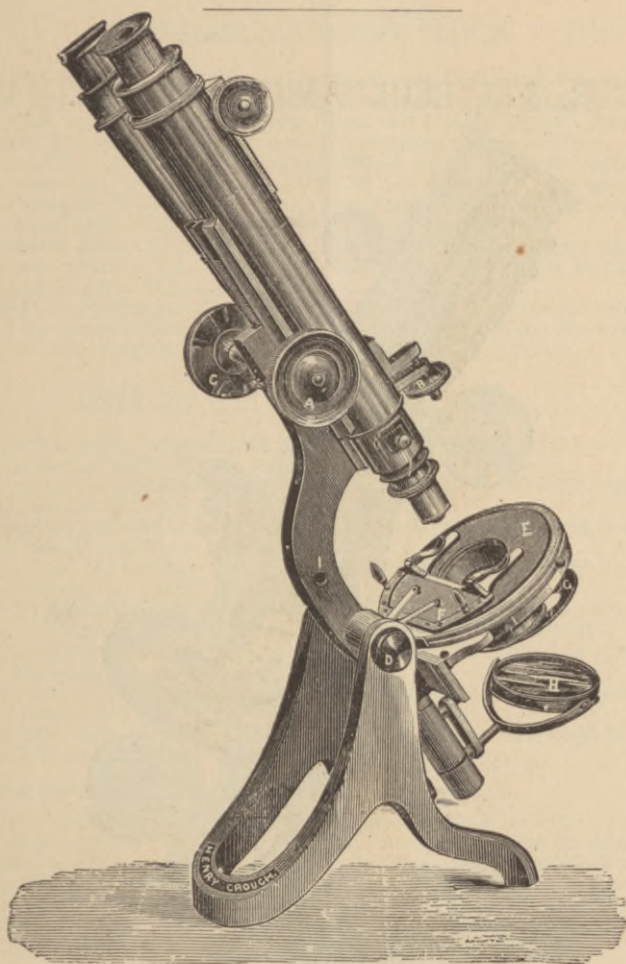
2072. Queen's Students' Microscope Binoocular, 14 inches high, of brass throughout, handsomely finished; Glass Stage; Plane and Concave Mirrors; Removable Diaphragm, of three apertures; Rack and Pinion Adjustment to Draw-Tubes for distance between eyes; Rack and Pinion and Fine Lever Adjustments for focus; with two pair of Eyepieces, Nos. 1 and 2; two-third inch Objective, 30 degrees angle of aperture, adjustable one-fifth inch Objective, 100 degrees angle of aperture; Condensing Lens; Upright Walnut Case, with brass handle and lock and key\$110 00

CROUCH'S NEW EDUCATIONAL MICROSCOPE.



2080.

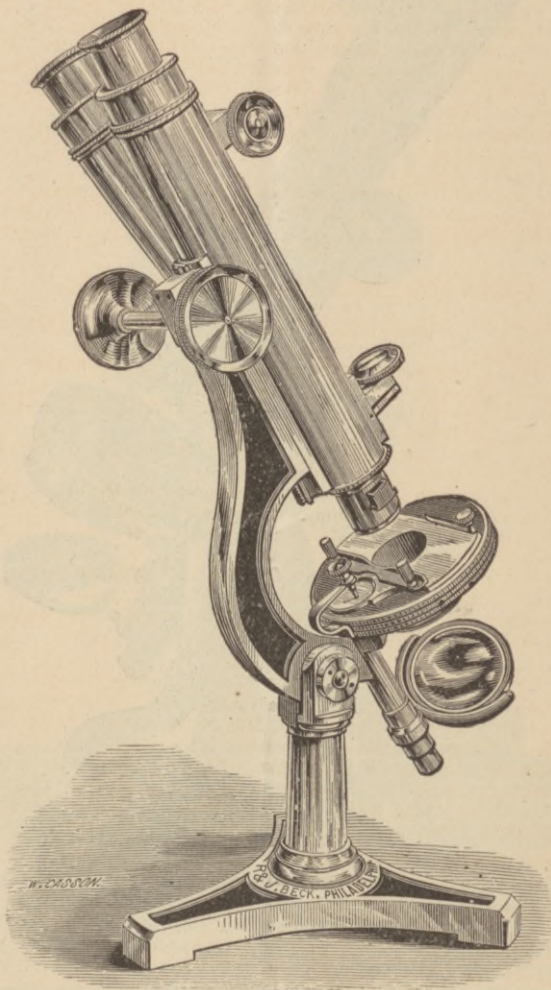
No.		Price.
2080	Crouch's New Educational Microscope , with No. 1 Eyepiece and excellent one-inch and quarter-inch Objectives, giving from 50 to 300 diameters, and Condensing Lens on separate stand, in Upright Mahogany Case, with brass handle, lock and key	\$50 00
2081	Crouch's New Educational Microscope , with the following accessories: Eyepiece, Nos. 1 and 2; Objectives, one-inch and quarter-inch, giving powers from 50 to 500 diameters; Condenser on Stand; Polariscope, with Selenite; Beale's Camera Lucida; Stage Micrometer; Spot Lens for dark-ground illumination; Small Zoophyte Trough; Live Box; Stage Forceps, in Upright Mahogany Case, with brass handle, lock and key	75 00



No.		Price.
2082	Crouch's Students' Microscope, Binocular, with Object Glasses, one inch and quarter inch Focus, two pairs Eyepieces (Nos. 1 and 2), Bull's Eye Condensing Lens, on separate stand, in Upright Polished Mahogany Case, with lock, key and brass handle; powers from 50 to 350 diameters	\$100 00
2083	Crouch's Students' Microscope, Monocular, with two Eyepieces, Object Glasses, one inch and quarter inch Focus, Bull's Eye Condensing Lens, on separate stand, Draw-tube, in Upright Mahogany Case, with lock, key and handle; powers from 50 to 500 diameters	80 00
2083	Crouch's Intermediate Microscope, Binocular, with two pairs Eyepieces, Nos. 1 and 2, in portable Mahogany case, with lock, key and handle	135 00
2084	Crouch's Intermediate Microscope, Binocular, same as 2083, with accessories Eyepieces two pairs (Nos. 1 and 2), one and a half inch, two-third inch, one-fifth inch Object Glasses, Animalculæ Cage, Condensing Lens on separate stand, Stage Forceps and Brass Pliers, packed in Upright Mahogany Case with lock, key and handle	200 00

Any other desired grouping of stand and accessories will be made to meet the wants of purchasers, and estimates of combined price will be furnished for such lists.

R. & J. BECK'S MICROSCOPES.



2175.

2175 Binocular National Microscope.....Price. \$100 00

Stand fourteen inches in height, all brass, inclines to any angle, rack and pinion, coarse adjustment, Micrometer movement on nose-piece fine adjustment, Glass Concentric Stage, with tube attached for carrying substage illumination, concave and plain mirror on swinging bar, Object Glasses 1 inch and $\frac{1}{4}$ inch, magnifying from about 55 to 450 diameters, two pairs Eyepieces, stage forceps, glass plate, and pair forceps, in Mahogany Case.

FIRST-CLASS MICROSCOPE STANDS.

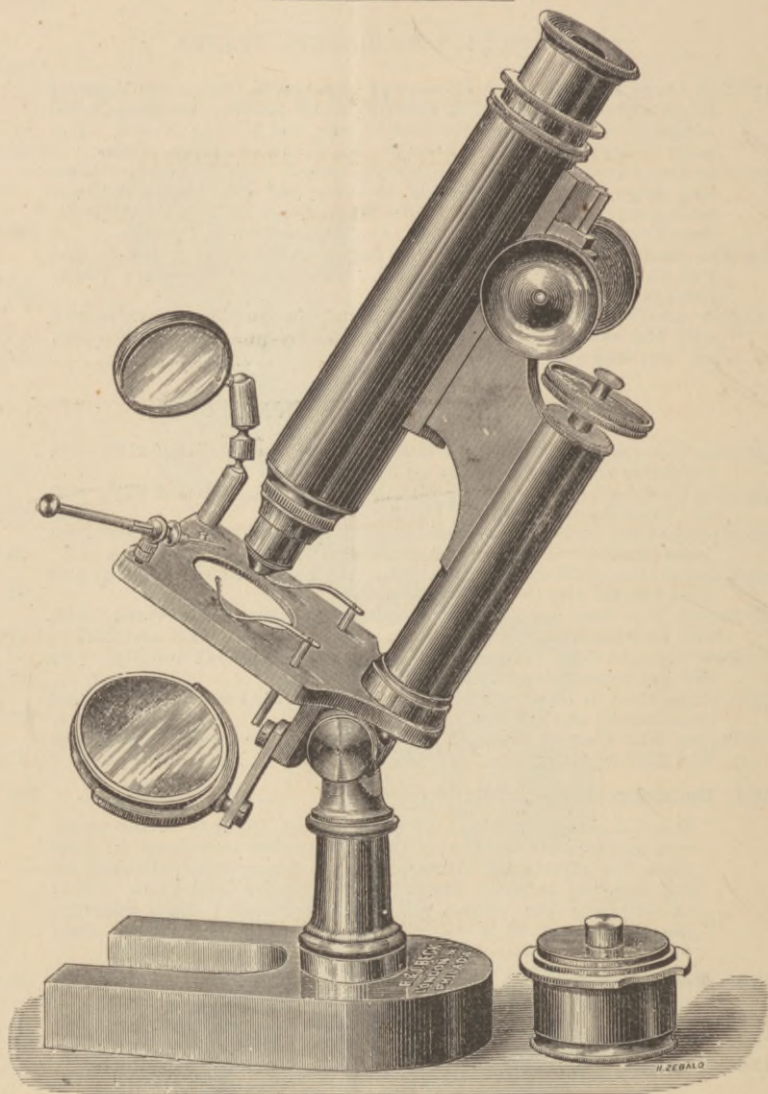
No.	PRICE.
2136 New Large Best Binocular Microscope Stand, with Concentric Rotating Stage and Iris Diaphragm, Rotating and Centering Sub-Stage, most complete movements to the Body, Stage, and Double Mirror. Two pairs of Eyepieces, Pliers, Forceps, &c., mounted on two pillars . . .	\$250 00
2137 New Large Best Monocular Microscope Stand, with Concentric Rotating Stage and Iris Diaphragm, Rotating and Centering Sub-Stage, most complete movements to the Body, Stage, and Double Mirror. Two Eyepieces, Pillars, Forceps, &c., mounted on two pillars . . .	200 00
2144 New smaller Binocular Microscope Stand, on the same principle, and with the same actions as No. 2136. Two pairs of Eyepieces, Pliers, Forceps, &c., but with single pillar . . .	165 00
2145 New smaller Monocular Microscope Stand, on the same principle, and with the same action, as No. 2137. Two Eyepieces, Pliers, Forceps, &c., but with single pillar . . .	125 00

CASES FOR FIRST-CLASS MICROSCOPES.

2146 Best Upright Case, in Spanish Mahogany, for Nos. 2136 and 2137, with best brass handle, two boxes for Apparatus . . .	35 00
2147 Best Upright Case, in Spanish Mahogany, for Nos. 2136 and 2137, with best brass handle, only one box for Apparatus . . .	30 00
2148 Upright Case, in Honduras Mahogany, for Nos. 2136 and 2137, with best brass handle, two boxes for Apparatus . . .	25 00
2149 Upright Case, in Honduras Mahogany, for Nos. 2136 and 2137, with best brass handle, one box for Apparatus . . .	20 00
2150 Strong Flat Case, in Spanish Mahogany, with covered Dovetails (19 in. long by 9 inches wide, and 4 inches deep), for Nos. 2136 and 2137 . . .	27 50
2154 Best Upright Case, in Spanish Mahogany, for Nos. 2144 and 2145, with best brass handle and box for Apparatus . . .	27 50
2155 Upright Case, in Honduras Mahogany, for Nos. 2144 and 2145, with best brass handle and box for Apparatus . . .	20 00
2156 Strong Flat Case, in Spanish Mahogany, with covered Dovetails, for Nos. 2144 and 2145, with best brass handle . . .	15 00
2175 Binocular National Microscope . . .	100 00
Stand fourteen inches in height, all brass, inclines to any angle, rack and pinion coarse adjustment, Micrometer movement on nose-piece fine adjustment, Glass Concentric Stage, with tube attached for carrying substage illumination, concave and plain mirror on swinging bar, Object Glasses 1 inch and $\frac{1}{2}$ inch, magnifying from about 55 to 450 diameters, two pairs Eyepieces, stage forceps, glass plate, and pair forceps in Mahogany Case.	
2176 Monocular National Microscope . . .	80 00
Two Eyepieces and same Object Glasses and fittings as 2175.	
2177 National Binocular Stand only . . .	65 00
2178 National Monocular Stand only . . .	40 00

ACCESSORY APPARATUS,

2179. Lieberkuhn to one inch Object Glass . . .	\$3 00
2180. Dark Well . . .	1 75
2181. Achromatic Condenser and fitting . . .	8 00
2182. Wenham's Parabolic Reflector for dark field illumination . . .	8 00
2183. Polarizing Apparatus, complete with prisms. Plate of Selenite and Adapter . . .	15 00
2184. Wollaston's Camera Lucida for Drawing an object . . .	6 00
2185. Glass Micrometer, ruled into 1-100 and 1-000 of an inch . . .	2 00
2186. Small Live Box . . .	2 50
2187. Glass Trough, complete with wedge and spring . . .	2 50
2188. All the above Apparatus from Nos. 2179 to 2187, if ordered at once . . .	40 00



No. 2190.

- | | Price. |
|--|---------|
| 2189 The Economic Microscope | \$35 00 |
| Stand all brass, sliding tube for coarse adjustment, micrometer movement for fine adjustment, draw-tube, substage, for accessory apparatus, one eyepiece, one-inch and quarter-inch objectives. | |
| 2190 The Economic Microscope | 50 00 |
| Stand same as 2189, with addition of rack adjustment, has concave and plain mirror, two eyepieces, one inch and quarter inch Objectives, substage for holding accessory apparatus, also removeable so as to allow greatest obliquity of light. Condensing Lens, stage forceps, &c., all packed in neat Mahogany box. Giving powers of 45, 60, 75, 110, 155, 210, 240, 350 diameters. | |

OBJECT GLASSES.

CHAS. A. SPENCER & SONS' OBJECTIVES.

STUDENTS' SERIES.

					Price.
3 inch.	8 degrees angle of aperture.....				\$6 00
2 do.	10 do. do. do.				6 00
1 do.	22 do. do. do.				10 00
2-3 do.	32 do. do. do.				12 00
1-2 do.	50 do. do. do.				15 00
1-4 do.	100 do. do. do.				16 00
1-8 do.	120 do. do. do.				24 00

PROFESSIONAL SERIES.

These from the 1-4 up are furnished with collar adjustment for correction for thin covers, and are excellent in workmanship and performance.

3 inch.	13 degrees angle of aperture.....				\$18 00
2 do.	16 do. do. do.				18 00
1 do.	33 do. do. do.				18 00
2-3 do.	36 do. do. do.				20 00
1-2 do.	65 do. do. do.				25 00
1-4 do.	115 do. do. adjustable				24 00
1-6 do.	175 do. do. dry and immersion				36 00
1-8 do.	175 do. do. do do.				40 00

FIRST QUALITY SERIES.

These lenses are of the widest angle of aperture, from the $\frac{1}{2}$ inch up are provided with screw collar adjustment for thin cover. They were awarded the gold medal at the late Paris Exhibition, being superior to all competitors.

3 inch focus	13 degrees angle of aperture.....				\$18 00
2 do.	20 do. do. do.				25 00
1 do.	50 do. do. do.				45 00
2-3 do.	47 do. do. do.				32 00
1-2 do.	100 do. do. do. adjustable				50 00
1-4 do. 4 system	180 do. do. do. dry and immersion.....				65 00
1-6 inch focus	180 do. do. do. do.				70 00
1-8 do.	180 do. do. do. do.				70 00
1-10 do.	180 do. do. do. do.				80 00
1-16 do.	180 do. do. do. do.				115 00
1-25 do.	180 do. do. do. do.				150 00
1-50 do.	175 do. do. do. immersion.....				200 00
1-75 do.	175 do. do. do.				250 00

CROUCH'S OBJECT GLASSES.

3 inch focus	10 degrees angle of aperture				
2 do.	12 do.	do.	do.	do.	\$7 25
1 do.	16 do.	do.	do.	do.	7 25
1-4 do.	60 do.	do.	do.	do.	12 00
1-4 do.	95 do.	do.	do.	do.	17 25
1-5 do.	110 do.	do.	do.	do.	23 75
1-6 do.	100 do.	do.	do.	do.	23 75
1-10 do.	120 do.	do.	do.	do.	25 00
1-15 do.	120 do.	do.	do.	do.	32 00

R. & J. BECK'S OBJECT GLASSES.

4 inch	9 degrees angle of aperture				
3 do.	12 do.	do.	do.	do.	13 00
2 do.	18 do.	do.	do.	do.	27 50
1½ do.	23 do.	do.	do.	do.	27 50
2-3 do.	32 do.	do.	do.	do.	27 50
4-10 do.	55 do.	do.	do.	do.	25 00
1-4 do.	75 do.	do.	do.	do.	40 00
1-5 do.	85 do.	do.	do.	do.	40 00
1-5 do.	100 do.	do.	do.	do.	40 00
1-8 do.	120 do.	do.	do.	do.	50 00
1-10 do.	160 do.	do.	do.	do.	65 00
				immersion	50 00

BECK'S NATIONAL SERIES

Of smaller angle of aperture but excellent working Lenses.

3 inch					\$6 00
2 do.					6 00
1 do.					8 00
2-3 do.					10 00
1-2 do.					10 00
1-4 do.					12 00
1-8 do.					20 00

In addition to these Lenses I have Objectives of other makers, notably, Tolles, Zeiss, Gundlach, Wales, Hartnach, &c., &c. Microscopists are always welcome to examine Objectives at my office, and will be afforded every facility for so doing. Purchasers will find it to their advantage to examine my stock before going elsewhere.

MATERIALS FOR PREPARING AND MOUNTING OBJECTS.

No.		Price.
2300.	Glass Slips, 3x1 inch, flatted crown, unground edges, per dozen, 18 cents, per gross	\$1 75
2301.	Glass Slips, 3x1 inch, flatted crown, ground edges, per dozen, 30 cts; per gross	3 00
2302.	Glass Slips, 3x1, inch, best patent plate, ground edges, per dozen, 45 cents; per gross	4 50
2303.	Glass Slips, 3x1 inch, best patent plate, extra thin, ground and polished edges, per dozen, 45 cents; per gross	4 75
2304.	Glass Slips, 2½x¾ inch, best flatted crown, unground edges, per dozen, 15 cents; per gross	1 75
2305.	Glass Slips, 2½x¾ inch, best flatted crown, ground edges, per dozen, 30 cents; per gross	3 00
2306.	Glass Slips, 2½x¾ inch, with concave centres, for examination of liquids, per dozen	1 50
2307.	Glass Slips, 3x1 inch, with concave centres, for examination of liquids, per dozen	1 50
2308.	Glass Slips, 3x1 inch, with concave centres, oval or round, and revolving thin glass covers, each	75
2309.	Glass Slips, 3x1 inch, smooth edges, with cells of different sizes and depths, per dozen	2 25
2310.	Glass Rings, for making cells as above, per dozen	1 00
2311.	Block-Tin Rings, do. do. do.	50
2312.	Ebonite do. do. do.	15

	Price
2313. Thin Glass, in sheets; No. 1, per oz., \$1 50; No. 2, per oz., \$1 00; No. 3, per oz.	75
2314. Thin Glass Squares; No. 3, 1-50 to 1-70 of an inch thick, from $\frac{1}{2}$ to 1 inch square, per dozen, 18 cents; per oz.	1 25
2315. Thin Glass Squares; No. 2, 1-70 to 1-100 of an inch thick, from $\frac{1}{2}$ to 1 inch square, per dozen, 20 cents; per oz.	2 25
2316. Thin Glass Squares; No. 1, 1-100 to 1-150 of an inch thick, from $\frac{1}{2}$ to 1 inch square, per dozen, 25 cents; per oz.	2 75
2317. Thin Glass Circles; No. 3, 1-150 to 1-170 of an inch thick, and $\frac{1}{4}$ to 1 inch diameter, per dozen, 20 cents; per oz.	2 25
2318. Thin Glass Circles; No. 2, 1-170 to 1-1-100 of an inch thick, and $\frac{1}{4}$ to 1 inch diameter, per dozen, 25 cents, per oz.	2 75
2319. Thin Glass Circles; No. 1, 1-100 to 1-150 of an inch thick, and $\frac{1}{4}$ to 1 inch diameter, per dozen, 30 cents; per oz.	3 75
2320. Thin Glass Circles; 1-200, or thinner, per ounce.	5 00
2321. Finest Canada Balsam, pure, in flexible tubes, each.	25
2322. Do. do. prepared for use without heat, per bottle.	50
2323. Damar, the new mounting medium, per bottle.	50
2324. Pure Glycerin, per bottle.	25
2325. Do. Jelly, per bottle.	50
2326. Hæmatoxylin Staining Fluid, per bottle.	25
2327. Neutral Carmine Solution, per bottle.	50
2328. Brunswick Black, per bottle.	20
2329. Asphalte, do.	25
2330. Gold Size, do.	25
2331. Marine Glue, do.	35
2332. Oil of Cloves, do.	50
2333. Bell's Cement, the best for use with Glycerine.	50
2334. White Zinc Cement, the best for fluid mounting.	50
2335. Watch Glasses, all sizes, per dozen.	70
2336. Dipping Tubes, each.	10
2337. Dropping Tubes, with rubber bulb, each.	10

ACCESSORY APPARATUS.

Achromatic Condensers from	\$10 to 40 00
Polariscopes, from	10 to 40 00
Condensing Lens, on Stand	6 00
Condensing Lens, Bull's-Eye, on Stand	8 00
Eyepieces for Economics	4 00
Eyepieces for larger stands	6 00
Holman's Life and Current Slides, each,	1 50
Double Nose-piece	5 00
Double Nose-pieces, bent.	6 00
Turn Table, (Cox's Self-centering)	6 00
A full line of Micrometers, from	\$1 75 to 15 00

A large assortment of objects covering all branches of Natural History. The assortment is constantly changing, so that no list does them justice, an examination will repay any collector. Parties at a distance, upon proper New York or Philadelphia reference, can have a selection sent them, upon approval, to be returned in two weeks, they paying express charges.

Subsequent editions of my Microscopical Catalogue will have the numerous Accessory Apparatus and mounting materials, &c., &c., used by microscopists fully priced and illustrated. All novelties and improvements will be kept by me as fast as they are produced. Correspondence is solicited, and commissions will be promptly attended to.

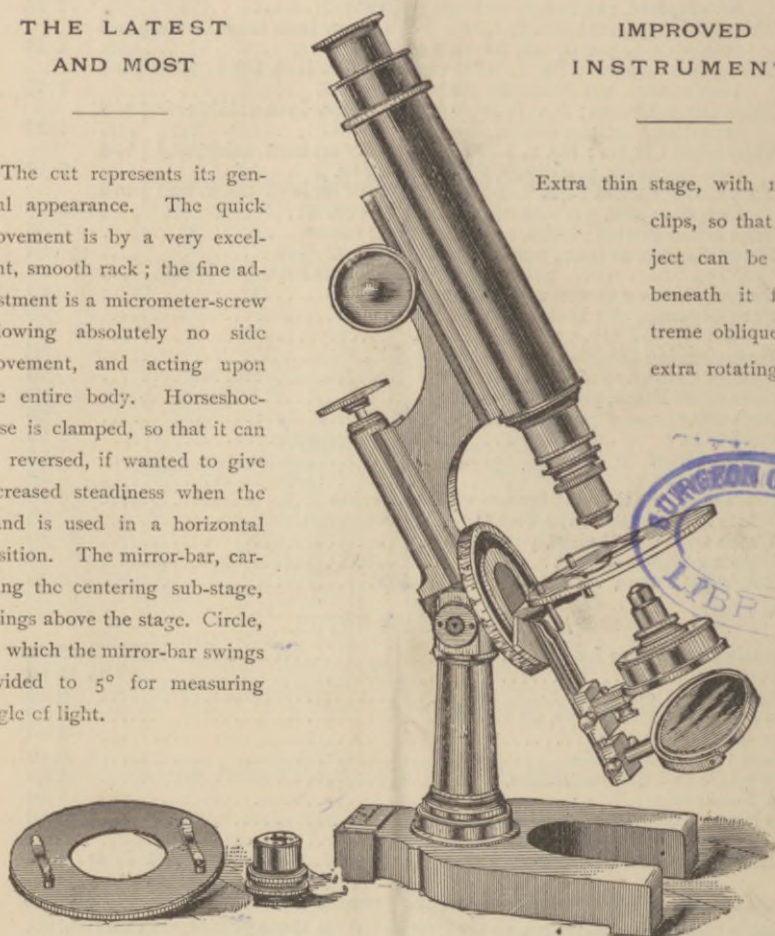
THE "Acme" Microscope.

THE LATEST
AND MOST

IMPROVED
INSTRUMENT.

The cut represents its general appearance. The quick movement is by a very excellent, smooth rack; the fine adjustment is a micrometer-screw allowing absolutely no side movement, and acting upon the entire body. Horseshoe-base is clamped, so that it can be reversed, if wanted to give increased steadiness when the stand is used in a horizontal position. The mirror-bar, carrying the centering sub-stage, swings above the stage. Circle, on which the mirror-bar swings divided to 5° for measuring angle of light.

Extra thin stage, with movable clips, so that an object can be placed beneath it for extreme oblique light; extra rotating stage.



Price for Microscope, with one Eye-piece, in box.....	\$40.00
Rotating stage.....	1.50
Iris diaphragm.....	4.50
If ordered complete.....	\$45.00
Solid Eye-pieces, $\frac{1}{2}$, $\frac{1}{4}$, or $\frac{1}{8}$ -inch.....	8.00

FOR SALE BY

G. S. WOOLMAN,
116 FULTON ST., NEW YORK,

General Dealer in all Apparatus pertaining to the Microscope—Glass Slips, Thin Glass, Mounting Materials, Objects of all kinds, Drawing Instruments and Materials, etc., etc.