

A CATALOGUE
OF
TELESCOPES, MICROSCOPES,
PHOTOGRAPHIC LENSES,
APPARATUS, &c.;

MADE AND SOLD BY

J. H. DALLMEYER,
19, BLOOMSBURY STREET, NEW OXFORD STREET,
LONDON, W.C.

INTERNATIONAL EXHIBITION 1862.

TWO MEDALS



AWARDED TO J. H. DALLMEYER.

Class 13. "For his excellent Object Glasses and Equatorial Mountings."

Class 14. "For excellence of Lenses, and Introduction of a New Triplet Lens, free from Distortion, with chemical and visual foci coincident."



"The Medal has been awarded for the introduction of *Novelties*, as well as for *Unsurpassed Excellence* of Manufacture."—*Vide JURORS' REPORT*, p. 8.

DUBLIN INTERNATIONAL EXHIBITION, 1865.—**PRIZE MEDAL.**

BERLIN INTERNATIONAL EXHIBITION, 1865.—**PRIZE MEDAL.**

PARIS UNIVERSAL EXHIBITION 1867.

THE GOLD AND SILVER MEDALS.

"For Astronomical Instruments, Microscopes, and Photographic Lenses."

PHILADELPHIA EXHIBITION 1876.

HIGHEST AWARD

"For Telescopes, Microscopes, Photographic Lenses, and Apparatus."

PARIS UNIVERSAL EXHIBITION 1878.

THE CROSS OF THE LEGION OF HONOUR AND

TWO GOLD MEDALS.

All former editions of this Catalogue are Cancelled.

CASH PRICES.

TERMS.—Cash on delivery of Goods at the Manufactory. All Country Orders are to be paid for on receipt of Invoice, either by Post Office Order payable to J. H. Dallmeyer, or by Cheque or other Order, payable in London. Foreign Orders must be accompanied by a remittance. Cheques to be crossed "London and Westminster Bank," and Post Office Orders made payable at the office, High Holborn.

ASTRONOMICAL TELESCOPES.

International Exhibition, 1862.—Class 13. A Medal to J. H. Dallmeyer, "For his excellent Object Glasses and Equatorial Mountings."

Paris Universal Exhibition, 1867.—Class 12. The Gold Medal, "For Astronomical Instruments and Microscopes."—*Vide Jurors' Report.*

The Object-Glasses of these Telescopes have their aberrations corrected for the greatest *visual* intensity, and magnifying powers of 100 diameters for every inch of aperture can be used. Their *separating* power is obtained by dividing 4.33 seconds by the diameter of the Object-Glass.

Telescopes 4 feet focal length and 3 $\frac{3}{8}$ inches aperture.

	£	s.	d.
Tube and object-glass complete, with rack, tube, and finder, and four eye-glasses, magnifying powers 65, 110, 155, 200 (300 extra)	40	0	0
An Equatorial Stand, with hour-circle reading to two seconds of time, and declination-circle half a minute of a degree, both of 9 inches diameter, with endless screw movements	55	0	0
Clockwork for ditto	14	0	0
A Universal Portable Equatorial Stand, with hour-circle reading to five seconds of time, and declination-circle to one minute of a degree, with endless screw movements. .	45	0	0
A new form of steady Table Stand of Brass, with horizontal and vertical fine screw movements, allowing the Telescope to be directed to the zenith	25	0	0

Telescopes 5 feet 6 inches focal length and 4 $\frac{1}{2}$ inches aperture.

Telescope tube and object-glass complete, with rack, tube, and finder, and four eye-glasses, magnifying powers 85, 130, 190, 260 (400 extra)	80	0	0
Equatorial Stand, with hour-circle reading to one second of time, and declination-circle fifteen seconds of a degree, both of 10 inches diameter.	80	0	0
Illuminating Apparatus	8	0	0
Position Micrometer	15	15	0
Clockwork	16	0	0
A steady Table Stand of Brass, with horizontal and vertical screw movements, allowing the Telescope to be directed to the zenith, in deal case	35	0	0

Telescopes 6 feet 4 inches focal length, and 5 inches aperture.

	£	s.	d.
Telescope tube and object-glass complete with rack, tube, and finder, and four eye-glasses, magnifying powers 100, 160, 230, 300 (450 extra)	140	0	0
Fixed Equatorial Stand, with hour-circle reading to one second of time, and declination-circle fifteen seconds of a degree, both of 12 inches diameter	140	0	0
Clockwork	20	0	0

Telescopes 8 feet focal length and 6 inches aperture.

Telescope tube, &c., &c., ditto, magnifying powers 130, 210, 290, 380 (600 extra)	220	0	0
Fixed Equatorial Stand, with hour-circle reading to one second of time, and declination-circle ten seconds of a degree, both of 16 inches diameter	} to order.		
Clockwork			

Telescopes and Equatorial Mountings of larger dimensions made to order.

A 3-foot Educational Telescope, mounted on an improved brass Tripod Table Stand, clear aperture 2½ inches, with <i>Panratic</i> Day Eye-piece, magnifying 30, 40, 50 times, and two Astronomical Eye-pieces, powers 40 and 70: the whole neatly packed in case	20	0	0
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TELESCOPE STANDS.

A NEW FORM OF UNIVERSAL EQUATORIAL MOUNTING, combining facilities of transport with perfect steadiness, suitable for any latitude North or South of the Equator, with clockwork, &c., complete; as used by the Transit of Venus Expeditions. Manufactured of three dimensions.

No. 1 for Telescopes of 4 to 5 ft. focus.

No. 2 do. do. 5 to 6 „ do.

No. 3 do. do. 6 to 8 „ do.

Prices and particulars on application.

PHOTOHELIOGRAPHS.

Supplied to the Home and Foreign Governments.

CENTENNIAL EXHIBITION, PHILADELPHIA, 1876.—“Some very beautiful sharply defined pictures of the Sun, with interesting groups of Sun spots, are shown, and furnish a very satisfactory proof of the excellent Photoheliographic Apparatus, by means of which they were obtained.”—*Vide Jurors' Report.*

Transit Instruments, Star-spectroscopes, &c. Prices on application.

ORTHOSCOPIC EYE-PIECES (KELNER'S), giving a large field of view, may be had in place of the ordinary Huyghenian to order	from £1	10	0	to	2	10	0
Ordinary Huyghenian Eye-pieces, each	1	1	0				
Do. do. extra high power	2	2	0				
Comet Eye-pieces	1	10	0				
Terrestrial ditto	£1	4s.	ditto	1	10	0	
Diagonal Eye-piece	4	10	0				
Illuminating Apparatus	from	5	0	0			
Position Micrometer	15	15	0				

TERRESTRIAL TELESCOPES.

PARIS UNIVERSAL EXHIBITION, 1867.—“J. H. Dallmeyer has been very successful in producing hand telescopes of a superior description: he exhibits some instruments, the focal lengths of which are only from nine to ten times the diameter of their clear aperture. The performance of these instruments is most excellent.”

CENTENNIAL EXHIBITION, PHILADELPHIA, 1876.—“A medal awarded for excellence of workmanship in the construction of Achromatic Telescopes.”—*Vide Jurors' Report.*

The Object-Glasses of these Telescopes have their contact surfaces united by a permanently transparent cement, which not only obviates the loss of light by reflection, but also prevents the tarnishing or decomposition of the glasses, so often experienced when used in damp climates or at sea.

Each object-glass is composed of three different kinds of glass, by the employment of which more perfect correction of the spherical and chromatic aberrations, as well as greater *illuminating power*, have been obtained.

The *eye-pieces* of these Telescopes have also been improved; and the arrangement known as the “Pancratic” form of eye-piece has been adopted.

To increase the magnifying power of a Telescope fitted with this eye-piece, draw out the first, or pancratic tube, by laying hold of the milled edge of the eye-cap. This tube fits rather tightly into the first or smallest draw-tube.

OBSEKVE.—The *fourth glass* of this eye-piece (counting from the eye) should always be kept clean, for any particles of dust adhering to it will be seen and magnified when the “pancratic” tube is drawn out.

PORTABLE TOURISTS' AND MILITARY TELESCOPES.

	£	s.	d.		£	s.	d.
A Portable Telescope, with five drawers, drawn out 18 in., shut up 5 in., clear aperture 1½ in., magnifying power 17 times:*				A Portable Telescope, with pancratic Eye-piece, three drawers, drawn out 2 ft. 4 in., shut up 9½ in., clear aperture 1¼ in., magnifying powers 20, 25, 30:			
<i>In Brass Mounting</i> - - - -	3	0	0	<i>In Brass (bright or bronzed)</i> -	5	10	0
„ <i>German Silver Mounting</i> -	3	10	0	„ <i>German Silver</i> - - - -	6	6	0
<i>Bronzed Mounting, with shade†</i>	3	10	0	<i>Leather sling case</i> - - - -	0	14	6
<i>Leather sling case for ditto</i> -	0	10	6				
<i>Caps and sling strap for ditto</i> -	0	8	6				
A Portable Telescope (Military Reconnoitering), with pancratic Eye-piece, three drawers, drawn out 21½ in., shut up 8½ in., clear aperture 1½ in., magnifying powers 20, 25, 30:				A Portable Telescope, extra large aperture, with pancratic Eye-piece, three drawers, drawn out 2 ft. 4 in., shut up 10 in., clear aperture 2 in., magnifying powers 20, 25, 30 times:			
<i>In Brass (bronzed)</i> - - - -	4	4	0	<i>In Brass (bright or bronzed)</i> -	7	10	0
„ <i>Ditto, with caps and sling straps</i> - - - -	4	14	6	„ <i>German Silver</i> - - - -	8	10	0
„ <i>German Silver</i> - - - -	4	14	6	<i>Leather sling case</i> - - - -	0	16	6
<i>Leather sling case</i> - - - -	0	12	6				
A Portable Telescope (Military Reconnoitering), extra large aperture, with pancratic Eye-piece, two drawers, drawn out 23 in., shut up 10½ in.; clear aperture 1¼ in., magnifying powers 15, 17, 20:				A Portable Telescope, pancratic Eye-piece, four drawers, drawn out 3 ft. 6 in., shut up 12½ in., clear aperture 2½ in., magnifying powers 30, 40, 50 times:			
<i>In German Silver</i> - - - -	6	0	0	<i>In Brass (bright or bronzed)</i> -	8	8	0
<i>Leather sling case</i> - - - -	0	14	6	„ <i>German Silver</i> - - - -	10	10	0
				<i>Leather sling case</i> - - - -	0	18	6

Dallmeyer's Patent Binocular Field and Race Glass.

The most powerful yet constructed with one drawer, length when drawn out 8½ in., when shut up 5½ in., clear aperture 2¼ in., in sling case - - - - £10 10 0

Opera Glasses, from £3; Telescope Holders to be applied to the window frame, from £1 10s.; Tripod Pillar Stands, from £2; Ash Tripod Garden Stands, from £1 5s.

* Always focus with the *second* drawer of this telescope, as the eye-piece is contained partly in the first and partly in the second drawer, so as to obtain greater portability.

† The Hon. Col. Fraser's “Little Wonder.”

NAVAL TELESCOPES.

	£ s. d.		£ s. d.
A One-Foot German Silver Naval Telescope, with one drawer, drawn out 22 in., shut up 17 in., clear aperture 1½ in., magnifying power 14 times - - - - -	2 12 6	A 2 ft. German Silver Naval Telescope, extra large aperture, with <i>pancratic</i> Eye-piece, drawn out 2 ft. 7 in. shut up 2 ft. 1 in., clear aperture 2 in., magnifying power 20, 25, 30 times - - -	3 8 0
<i>Sling and strap</i> - - - - -	0 5 0		
<i>Caps and sling strap</i> - - - - -	0 10 6	A 3 ft. ditto, ditto, Signal Telescope, with <i>pancratic</i> Eye-piece, drawn out 3 ft. 7 in., shut up 3 ft. 1 in., clear aperture 2½ in., magnifying powers 30, 40, 50 times - - -	9 9 0
An 18 in. ditto, ditto, with <i>pancratic</i> Eye-piece, drawn out 24 in., shut up 18½ in., clear aperture 1½ in., magnifying powers 15, 20, 25 times - - - - -	4 4 0	A 4 ft. ditto, ditto, for Look-out Stations, clear aperture 3 in., magnifying powers 50, 60, 70 times - - - - -	15 15 0
<i>Sling and strap</i> - - - - -	0 5 0	<i>Signal Cards</i> - - - - -	0 10 0
<i>Caps and sling strap</i> - - - - -	0 12 6	Dallmeyer's Patent Binocular Day and Night Glass - - - - -	10 0 0
An 18 in. Extra Large Aperture Day or Night Telescope, with <i>pancratic</i> Eye-piece, drawn out 29 in., shut up 16½ in., clear aperture 1¾ in., magnifying powers 10, 12, and 15 times, in brass mounting* - - - - -	6 0 0	<i>Leather sling case</i> - - - - -	0 10 0

DEER-STALKING TELESCOPES.

A new Deer-stalking Telescope, with <i>pancratic</i> Eye-piece, three drawers, length when drawn out 21 in., when shut up 8 in., clear aperture 1½ in., magnifying powers 20, 25, 30 times - - - - -	4 4 0	shut up 10 in., clear aperture 1½ in., magnifying powers 20, 25, 30 times - - - - -	5 10 0
<i>Leather sling case</i> - - - - -	0 10 6	<i>Leather sling case</i> - - - - -	0 14 6
A ditto, ditto, with caps and sling strap attached - - - - -	4 14 6	A 2 ft. Deer-stalking Telescope, extra large aperture, with <i>pancratic</i> Eye-piece, three drawers, drawn out 30 in., shut up 10 in., clear aperture 2 in., magnifying powers 20, 25, 30 times - - -	7 10 0
A 2 ft. ditto, ditto, with <i>pancratic</i> Eye-piece, three drawers, drawn out 30 in.,		<i>Leather sling case</i> - - - - -	0 16 6
		Field, Race, and Opera Glasses, <i>from</i>	3 3 0

TARGET TELESCOPES.

FOR RIFLE OR GUNNERY PRACTICE.

No. 1. Target Telescope, of 2 ft. focal length and 2 in. clear aperture, with <i>pancratic</i> Eye-piece, magnifying powers 20, 25, and 30 times, and rack motion for focussing; on mahogany tripod, with camp stool; the whole packed in varnished deal case, with lock and key	14 0 0
No. 2. Ditto ditto, of 3 ft. focal length and 3 in. clear aperture; magnifying powers 30, 37, and 45 times; with rack motion, &c., &c., as above - - - - -	26 5 0

* Naval and Military Telescopes of the several descriptions, as above, have been supplied to the Government of India, the Royal Navy, Royal Engineers, Sir William Armstrong, and others. Deer-stalking Telescopes, to Lord Lovat, The Hon. Colonel Fraser, Captain Horatio Ross, and other eminent sportsmen, who testify to their superiority in magnifying power, combined with clearness of definition, illumination, and extent of field.

COMPOUND MICROSCOPES.

Paris Universal Exhibition, 1867.—“The Microscopes exhibited by J. H. Dallmeyer, in their mechanical arrangement, means of illumination, and powerful and clear definition, leave scarcely anything to be desired.”—*Sec Report of Council on Education.*

Centennial Exhibition, Philadelphia, 1876.—“Of the workmanship and finish too much cannot be said in praise.”—*Vide Jurors' Report.*

No. 1 A. A large compound Microscope Stand, with a concentric rotating stage, having one inch of motion in rectangular directions,—rack and fine screw movements to the optical part,—clamping arc for fixing the instrument at any inclination,—secondary stage for holding and adjusting, by universal motions, all the illuminating and polarising apparatus placed beneath the object, flat and concave mirrors, diaphragm plate, and two glass plates with ledges		£30 0 0
No. 1 B. A ditto, with ordinary rotating object-plate to the stage, and apparatus complete, as above		24 0 0
No. 2. A smaller Microscope Stand, having three-quarters of an inch of motion, ordinary rotating object-plate to the stage, similar in all its parts to the above		20 5 0
No. 2. A ditto, without secondary stage		15 15 0
No. 2. A ditto, without secondary stage, fine screw adjustment, or stage movements. This is the basis of a complete instrument		8 10 0
No. 2. Mechanical Stage for ditto		4 10 0
No. 2. Fine Adjustment for ditto		2 15 0
No. 2. Secondary Stage and vertical rack motion for ditto		4 10 0
No. 3. A complete smaller Microscope Stand, with mechanical stage and fine screw adjustment to the optical part		12 0 0
No. 3. A ditto, without stage movements and screw adjustments, with two eye-pieces, and one inch-and-a-half (23 degrees), and two-thirds-inch (35 degrees), object-glasses		14 5 0
No. 3. Mechanical Stage for ditto		4 0 0
No. 3. Fine Adjustment for ditto		2 0 0
No. 3. A Microscope Stand, without stage movements or screw adjustments. This is the basis of a complete instrument		6 0 0
No. 4. A complete, portable, compound and single Microscope Stand, for travelling, as No. 3		12 12 0
No. 1. Spanish Mahogany Case, with drawers for the apparatus and objects		5 5 0
No. 1. Portable Mahogany Case		3 0 0
No. 2. Spanish Mahogany Case, with packings for complete apparatus		2 10 0
No. 3. Flat Portable Cases from £1 10s. and		1 16 0
No. 4. Cupboard Case		1 8 0

No articles are included in the above items except those which are mentioned.

Microscopes may be had more or less complete, according to choice of Stand, Apparatus, and Powers, from £10 to £100,

ACHROMATIC OBJECT GLASSES FOR MICROSCOPES.

J. H. D.'s extensive experience (derived from the construction of Astronomical Telescopes of large dimensions, involving great refracting and dispersing angles), has been advantageously applied to the manufacture of Microscope Object-Glasses; especially as regards the selection of such kinds of glass now obtainable, by the employment of which the secondary spectrum has been reduced to a minimum.

In proof of this it will be noticed, by comparison, that objects viewed with high power eye-pieces, are almost entirely free from chromatic

fringes, both in the centre and margins of the field, and consequently their defining and separating power is proportionally augmented. The spherical aberration of the oblique—as well as the central—pencils has been carefully corrected, and the field of view is practically flat. The distance between Object and Objective is greater than in other Glasses of the same angular aperture, but of different construction. All the powers work through a cover of $\frac{1}{100}$ -inch thick, and the aberrations can be balanced for *uncovered* objects. From the $\frac{1}{2}$ -inch upwards each objective has but *six* open—or reflecting—surfaces instead of *eight*, consequently there is a proportionate increase of light and brilliancy of definition. Since no Object Glass of whatever form will work *equally* well when used for dry or wet objects, all the higher powers from the $\frac{1}{2}$ -inch upwards can be had with extra fronts corrected for *water*, at the small additional expense of from 30s. to 40s. for each objective; thus providing the observer with an object-glass having the same angular aperture and magnifying power both for dry and wet objects.

Object Glasses. Equivalent foci of a single lens.	Angular Aperture.	Magnifying Powers with the various Eye-Pieces.				Price.	Lieberkuhn's.
		A	B	C	D		
Inches.	Degrees.					£ s. d.	£ s. d.
2	15	20	30	55	90	3 0 0	1 0 0
1½	23	25	40	70	110	3 0 0	0 17 6
1	15	40	60	105	170	3 0 0	0 15 0
1	25	40	60	105	170	3 10 0	0 15 0
Water corrected	35	60	100	145	270	3 10 0	0 10 6
	95	95	150	265	420	5 5 0	0 10 6
	100	195	310	500	620	5 5 0	.....
	120	210	340	540	640	6 6 0	.....
	150	420	670	900	1200	8 8 0	.....
	170	600	870	1200	2000	12 12 0	.....
1½							

APPARATUS FOR COMPOUND MICROSCOPES.

	£	s.	d.
Binocular Arrangement, with sliding adjustment to draw-tubes	5	5	0
Ditto, with combined rack and pinion adjustment to draw-tubes	6	0	0
Side Reflectors, for illuminating opaque objects	..	..	1 5 0
Lieberkuhn's for ditto, ditto	..	..	from 10s. 6d. to 1 0 0
Brooke's double Nose-piece, for rapidly changing the object-glasses	..	..	..
Micrometer Eye-piece	..	..	..
Screw Micrometer	..	..	..
Camera Lucida (Wollaston's)	..	..	..
Plate for fixing Fish, Frogs, &c., for exhibiting circulation of blood	..	..	..
Animalculæ Cages	..	..	..
Set of Animalculæ Tubes, in case	..	..	..
Erecting Eye-piece, for dissecting with compound Microscope	..	..	..
Stage Micrometers, on slips of glass	..	..	..
Slips of Glass for mounting objects	..	..	..
Thin Glass, cut to sizes	..	..	..
Glass Cells	..	..	..
Condensing Lens, on stand	..	..	..
Polarising Apparatus, Selenite Stage, and one Selenite	..	..	..
Ditto, with Darker's Revolving Selenite Stage, and set of three Selenites, in box	..	..	..

	£	s.	d.
Darker's Revolving Selenite Stage, and set of three Selenites, in box	2	4	0
Stage Forceps	0	10	6
Extra Eye-pieces A, B, and C, 17s. 6d., D, E, and F,	1	0	0
Glass Troughs, for holding Polyps, &c. from	0	5	0
Gillett's Achromatic Condenser, on a new combination of principles, for the illumination of transparent objects, £7 and	7	10	0
Rev. Mr. Kingsley's Illuminator, in setting, with diaphragms	3	0	0
Paraboloid, in setting, for dark ground illumination	1	15	0
Bergin's Prism, applicable to the Paraboloid, for condensing an oblique pencil of light on transparent objects	2	2	0
Amici's Prism, mounted on jointed arms, for condensing an oblique pencil of light on transparent objects	2	2	0
Rainey's Light Modifier	0	7	6
Rectangular Prisms, mounted from	1	10	0
Side Condensing Lens, mounted	0	15	0
Lister's Dark Wells	0	15	0
Compressorium	1	17	6
Animalculæ Cage, for high powers	1	0	0
Centering Glass, for centering the optical part of Microscopes	0	15	0
A black ground Condenser for the 2-in. and 1-in. object-glasses	0	15	0

All the above apparatus may be adapted to the Nos. 1 and 2 Microscopes; but the No. 3 does not admit of the adaptation of Gillett's achromatic condenser, and one of a different construction is therefore supplied with this size stand.

Goniometer, with Micrometer Eye-piece	4	0	0
Cabinet to hold objects from	2	10	0
Argand Lamp and Shade	1	7	6
Machine for cutting discs of thin glass	3	0	0
Ditto, and Knife for cutting sections of Wood, &c.	4	0	0
Pocket Magnifiers, mounted in horn from	0	2	0
Ditto, mounted in tortoiseshell from 10s. 6d. to	1	4	0
Coddington Lenses	0	18	6
Curved Phial Forceps 4s. 6d. and	0	6	6
Page's Wooden Forceps	0	4	6
Double Image Prism, mounted	1	1	0
Instrument for measuring thin glass	1	15	0
Writing Diamonds from	0	8	6
Cutting ditto from 18s. to	2	0	0

SIMPLE MICROSCOPES.

- A simple Microscope**, with single lenses of 1, $\frac{1}{2}$, and $\frac{1}{4}$ -inch focal length, packed in mahogany case 4 4 0
- A ditto, ditto**, with single lens of 1, $\frac{3}{4}$, $\frac{1}{2}$, and $\frac{1}{10}$ -inch focal length, and $\frac{1}{10}$ Wollaston's Doublet, Lieberkuhn's for $\frac{1}{2}$ and $\frac{1}{4}$ -inch lenses, and stage forceps, packed in mahogany case 6 16 6
- A Magnifier Stand**, with universal motions, for dissecting with two lenses, in morocco case 2 2 0

SINGLE LENSES AND DOUBLETS TO ORDER.

An Assortment of all kinds of Microscopic Objects—Animal, Vegetable, Recent and Fossil, Infusorial, &c., &c.

ALL THE BEST BOOKS ON THE MICROSCOPE.

PHOTOGRAPHIC LENSES.

INTERNATIONAL EXHIBITION, 1862.—"The Medal has been awarded for the introduction of *Novelties*, as well as for *Unsurpassed Excellence of Manufacture*."

PARIS UNIVERSAL EXHIBITION, 1867.—"The Gold and Silver Medals have been *unanimously* awarded to J. H. Dallmeyer."

CENTENNIAL EXHIBITION, PHILADELPHIA, 1876.—"Their merits are attested by the extent to which they have been introduced into use in nearly all countries."—*Vide Jurors' Report*.

In this Catalogue, the several lenses are described in the order of their respective rapidity, beginning with those of the *quickest* action. A few remarks upon the capabilities of the various lenses, as a guide to purchasers, follow in the same order.

Extra Quick-Acting Lenses.—No. 2 C and No. 3 C are perhaps the quickest acting Lenses extant. They possess nearly double the intensity of Nos. 1 B and 2 B Lenses respectively, and are especially suitable for quick portraits of children, or for portraits in the dull light of winter.

When required for *standing* figures, card size, a stop must be used to obtain sufficient flatness of field. In this condition their performance, as regards time of exposure, definition, and distance from subject, is about equal to that of Nos. 1 B and 2 B Lenses.

The smaller **Miniature Lens**, suitable for quick locket portraits, vignette heads, &c., works in about the same time as No. 2 C Lens.

Quick-Acting Portrait Lenses.—Nos. 1 B and 2 B are especially constructed for card portraits. They were introduced November, 1860, and are now so extensively known and used by photographers in all parts of the world that further comment is superfluous. Suffice it to state that of the above two Lenses the larger, or 2 B, is always to be preferred for card portraits, where space admits of its use. No. 1 B requires a distance of from 12 to 13 feet, and No. 2 B from 18 to 19 feet, for a standing figure. With open aperture these two Lenses require the same exposure. Since, however, No. 2 B covers a larger plate, it can be used with a larger aperture for standing figures, card size. Hence, for this purpose, it becomes practically the quicker acting Lens of the two. The increased distance also between Object and Lens tends to better perspective in the resulting picture.

For those photographers who wish to use a longer focus lens than No. 1 B, but who have not sufficient length of gallery for No. 2 B, No. 1 B (long) has been constructed, requiring a distance of from 14 to 15 feet. This Lens is a little slower in action than No. 1 B, both with open aperture; but for standing figures it produces better results.

The above Lenses and the New Stereoscopic Lens, introduced at the same time, are the only ones now manufactured of the old, or Petzval construction; all other Portrait Lenses of larger dimensions and of the old form being superseded by J. H. Dallmeyer's

New Patent Portrait Lenses.—These Lenses are superior to the old or Petzval form in sharpness of definition, freedom from distortion and flare, and equality of illumination; whilst, in addition to this, they afford the means, by the simple turn of a screw, of obtaining greater equality or depth of definition.

The construction of the Lens is such that, with the posterior cell of the back combination screwed *home*, the index pointing zero, it produces the sharpest possible picture of objects situated in *one plane*. Then, by unscrewing the posterior cell a turn, or parts of a turn, of screw, the previous intensely sharp definition becomes modified, *i.e.*, the contrast of excessive sharpness in one plane, compared with great want of sharpness in other planes, is modified, producing the impression of a general distribution or depth of focus; and this in exact proportion to the amount of unscrewing. Nothing has been sacrificed in securing this *new power*, and it can be used or not, at *the will* of the operator.

Thus a small portrait, intended for subsequent enlargement, must be perfectly sharp. In this case the Lens should be used *intact* without unscrewing, when the definition surpasses that of the old form of Portrait Lens, and bears enlargement up to life-size. If, however, it is required to produce a larger picture *direct* with the same Lens, then the posterior lens may be unscrewed just so much as tends to a general harmony of definition. The amount of unscrewing once recorded serves for all future occasions.

The advantages of the Patent Lens, for the *larger sizes* of pictures, as for the Cabinet Portraits and upwards, are at once apparent, enabling the photographer to produce those evenly-defined, soft, and delicate portraits so universally admired. In confirmation of this, the pictures by Messrs. Bassano, Blanchard, Bourne and Sheppard, Bergomasco, Crawshay, Cooper, Faulkner, Hawke, Heath, Hughes, Hanfstangl, Lewis, Lock and Whitfield, Rejlander, Robinson, Salomon, Slingsby, Thiele, Williams and Mayland, Wane, Window, &c., &c., need only be mentioned.

With respect to the most advantageous use of the Lens, it may be stated that for standing figures card or cabinet size—subject at a distance of twenty feet—the Lens should be used *intact*; and then, as the picture is taken on a larger scale, or as the subject approaches the lens, the posterior cell should be unscrewed in the proportion of about a quarter of a revolution of screw for every foot of approach of subject.

Note:—Unscrew first, and focus afterwards.

The Patent Portrait Lens is made of three descriptions, as regards rapidity of action.

The **B or Quick-Acting Lenses** are designed for the smaller-sized plates. Of these No. 3 B is well adapted for the Cabinet-size Portrait (distance for a standing figure—for cabinets about 18 feet, for cards 24 feet).

The **A Lenses** require nearly double the exposure of the B Lenses; but they are to be preferred for portraits above the $\frac{1}{2}$ -plate size; for being of longer focus they admit of greater distance between the lens and the sitter, giving greater "depth" and better "perspective" in the resulting picture.

No. 3 A is, perhaps, the *best* Cabinet and whole-plate lens that can be possessed by a photographer, if space permits (distance for a cabinet, standing figure, 24 feet). First-class pictures up to 10 by 8 inches are taken by Mr. Blanchard with this lens. For larger portraits, Nos. 4 A, 5 A, and 6 A should be used; or, if price be a consideration and the studio is *well lighted*, then

The **D Lenses** may be chosen. These require about twice the exposure of the A, and nearly four times that of the B, Lenses. They are more especially designed for groups in the open air, or for "studies" in the studio. For general in-door *every-day* work, they are scarcely sufficiently rapid in action; although Messrs. Blanchard, Crawshay, Hennah, Robinson, Slingsby, Wane, and others, have produced their much-admired large-sized pictures with them. For outdoor subjects these lenses are *generally* useful, whether for groups, instantaneous effects, architecture, or landscapes; for in common with all the Patent Portrait Lenses, they are free from a central "flare spot," even when used with the smallest diaphragm; and they are entirely free from distortion. Next in the order of rapidity is the Patent

Rapid Rectilinear Lens, emphatically "The" Lens for all kinds of out-door photography.

This Lens, although not so rapid as the D Lens, requiring nearly double the exposure, is *superior* to it for views, because of its having only *four*, instead of *six*, reflecting surfaces. It is composed of two, exactly symmetrical, cemented combinations; and, unlike all the existing double combination cemented lenses (such as the "Globe," &c.), all requiring small stops to cure the inherent excessive spherical aberration, the Rapid Rectilinear is *aplanatic*, *i.e.*, it works with the *full opening*. With open aperture this Lens possesses *four times* greater rapidity than the "Globe," and about *twice* that of the Triple Achromatic, or the Petzval Orthoscopic Lenses. Hence its superiority for all kinds of *quick* out-door pictures, whether for groups, instantaneous effects, landscapes, architectural subjects, or dimly-lighted interiors. That this Lens is perfectly aplanatic is proved by the excellently defined and valuable records of the last two *Solar Eclipses*; *four* 25 by 21 R. R. lenses having been supplied to the expeditions, and pictures obtained with the full aperture.

For copying and enlarging, this lens is unrivalled. It has been supplied to all the Home and Foreign Government topographical establishments. With smaller stops each lens covers the next larger, or even two sizes larger, plates than those recorded, thus embracing angles of pictures of from sixty to eighty degrees; and this without any trace of flare or central spot.

As to its capabilities for views, reference need only be made to the pictures exhibited by Messrs. Abney, Bedford, Cooper, England, Earl, Frith, Giberne, Gordon, Good, Hudson, Payne-Jennings, Perkins, Robinson, Sanderson, Valentine, Whiting, York, &c.

Although the Rapid Rectilinear is not quick enough for *ordinary* Studio portraiture, many fine large Portrait-Studies have been taken with this lens. Yet for all kinds of *out-door* work, it may be safely asserted that it possesses qualities not to be met with in any of the existing forms of lenses. The back combination can be used singly as an ordinary landscape lens; focus about double that of the compound lens. The next Lens in the order of rapidity is

The Triple Achromatic Lens, which was reported upon so favourably by the Jurors of the International Exhibition of 1862. It has been in extensive use ever since, and its particular qualities are known to almost every photographer. It was the first aplanatic non-distorting view lens placed within the reach of the profession; and, until the more recent introduction of the Rapid Rectilinear Lens in 1866, it was probably the best lens extant for copying purposes, architectural views, &c.—See *Jurors' Report, International Exhibition, 1862*.

The Wide-Angle Single Combination Landscape Lens.—The best Lens for landscapes, pure and simple. All the first landscape photographers are agreed that, for landscapes only, the *single* combination lens stands unrivalled.

The wide-angle single combination was constructed to meet a demand for pictures embracing large angles; and it is now generally admitted that landscapes are the only legitimate subjects for wide-angle lenses. For work of this kind the above lens is superior to the several wide-angle multiple, or non-distorting lenses; because, being a *single* combination, it has but *two* reflecting surfaces, and therefore produces more brilliant pictures. It works with a proportionally larger stop, *i.e.*, it is quicker in action, and the illumination is more equally distributed from the centre to the margin of the plate. Its only drawback is a seemingly slight distortion of straight marginal lines; but by a judicious selection of subjects comprised in a picture, as by making architectural objects occupy the centre, this defect need not obtrude itself in a landscape, and is fully compensated for by greater equality of illumination over all parts of the plate.

This lens, being composed of *three* lenses cemented together, is superior to the old Meniscus, composed of *two*, inasmuch as it produces less distortion, gives better marginal definition, and is of much smaller size.

The Wide-Angle Rectilinear Lens (Patent) is the next in the order of rapidity. This Lens embraces angles of pictures of nearly 100° when used with the smallest stop. It is entirely free from distortion and flare; and, although not aplanatic like the *Rapid Rectilinear*, it works with, perhaps, a larger opening than any of the existing wide-angle double combination Lenses.

The wide-angle Rectilinear Lens is intended for architectural views, landscapes, &c., in *confined* situations, where longer focus lenses cannot be used; and for these purposes its advantages have been recognised by all such eminent professional photographers as Messrs. Bedford, Blanchard, England, Fiith, Good, Valentine, Wilson, and others.

For general purposes, however—more especially for architecture—the use of wide-angle lenses is not to be commended; inasmuch as pictures produced by them, when viewed at the ordinary distance of vision, *i.e.*, from 12 to 14 inches, appear distorted—that is, foreground objects are exaggerated, and the distance is dwarfed. This is really no fault of the lens, as will be evident on looking at the picture from a point, the distance of which is exactly equal to the focal length of lens with which it was taken; but the general public cannot be expected to view the picture from this point—and hence great discrimination in the use of these lenses is imperative.

Another point requiring the strictest attention is, that the camera be placed exactly *square* and *level*. If *tilting* is necessary, then a swing-back must be used, allowing the camera-screen or slide to be brought *parallel* to the plane of the object, otherwise all straight and parallel lines will be represented converging, *i.e.*, the tops of buildings will appear as if falling together. The use of the swing-back, however, always necessitates a smaller stop—hence, if possible, the camera should be kept level, the front raised as much as possible; and if this be found insufficient, then a higher elevation wherefrom to take the picture should be chosen. These observations equally apply to the use of all other non-distorting Lenses.

The front combination of the wide-angle Rectilinear can be used intact, dispensing with the back, as a single lens (focal length about double that

of the compound lens). Photographers not in possession of single combination lenses will find this an acquisition, its performance being quite equal, if not superior, to the old single comb. lens.

Stereoscopic Lenses for Portraits and Views.

In addition to the Lenses referred to below, a pair of No. 1 B Portrait Lenses (equivalent focus 6 inches) is well suited for quick stereo portraiture, &c.; with these Mr. England produced the whole of his stereoscopic views of the International Exhibition, 1862.

The New Stereoscopic Lens, of $4\frac{1}{2}$ inches equivalent, or $3\frac{1}{2}$ back-focus, was constructed in 1860, to meet the demand for a quick-acting lens, suitable for instantaneous views, small portraits, &c. It works in the same time as the No. 1 B, but includes a larger angle, viz., about one-fourth more of subject on the stereo plate.

The well-known instantaneous views by Mr. Breese, M. Ferrier, and others, were taken with this lens.

The front combination can be used alone, and in the same mounting, as a single combination view-lens for landscapes, focal length about 6 inches.

The New Patent Stereographic Lens, of 5 inches equivalent, or 4 inches back focus, has the advantage over the above that it covers the stereo plate more perfectly, and is entirely free from distortion and flare, even when used with the smallest diaphragm. The construction is the same as that of the Patent Portrait Lens, viz., the posterior lens is moveable for depth of definition, and, though not required for this purpose—for small pictures should always be as sharp as possible—it provides the means of correcting any slight difference in rapidity sometimes existing in a pair of lenses, otherwise matched; for if one or other of the posterior cells is slightly unscrewed, the focus of the lens is thereby shortened, or it becomes quicker-acting. Mr. Breese writes: "I like the new lenses very much." Next in order of rapidity is

The Rapid Rectilinear Lens (Patent). A pair of 5 by 4 R.R. constitute a most useful set of lenses for quick out-door stereo views, &c., and are preferred by many photographers for this class of pictures on the larger-sized stereo plates. These lenses are entirely free from distortion and flare, and, with the smallest stop, either one of the pair may be made to cover a 6 inch by 5 inch plate. Next in order is

The Quick-Acting Stereoscopic Landscape Lens, of either 4 or 6-inch focus. These lenses are used by all the first photographers; and for general landscapes, quick marine views, &c., they are to be preferred above all others. Even for architectural stereo views they are employed by some photographers, because the distortion produced by them is neutralised, when the picture is viewed in the stereoscope, by the opposite distortion always produced by that instrument. That the lenses are quick in action is sufficiently demonstrated by the well-known *instantaneous* marine views of Messrs. Blanchard, England, Good, Wilson, and others, taken with these lenses. And, although not so rapid as the double combination lenses, referred to above, when these are used with the full opening, yet the single combination produces a more evenly-defined and brilliant picture. The shorter focus, 4-inch, includes a larger angle than the 6-inch, and if one pair only be required, is to be preferred.

The Rectilinear Stereo Lens (Patent) of 3-inch equivalent, or $2\frac{1}{2}$ -inch back-focus, is especially constructed for architectural views, interiors, and landscapes in confined situations, where longer focal lenses cannot be used. It covers the stereo plate with the full opening and with smaller stops, plates up to 5-inch by 4-inch. That this lens is of great use for special purposes, is recognised by all the first photographers, who are already using it.

Either the front or back combination can be used *singly*, as a 6-inch view lens.

If a slightly longer focal length than the above Rectilinear-Stereo be preferred, then a pair of No. 1aa. Rectilinear Lenses of 4-inch focus are recommended. One of these lenses, when used with small stops, covers the 7 by $4\frac{1}{2}$ -inch plate.

* * See "Dallmeyer on the Choice and Use of Photographic Lenses."
New and Revised Edition. Price 6d.

DALLMEYER'S "EXTRA" QUICK-ACTING PORTRAIT LENSES.

Especially constructed for Portraits of Children, but generally useful also for Vignettes, Cartes de Visite, Locket Portraits, &c.

No. 2 C.* Portrait Lens, with rack and pinion movement; the lenses $2\frac{3}{4}$ in. diameter and $4\frac{1}{2}$ in. focal length from the back glass; for pictures on plates $4\frac{1}{2}$ by $3\frac{1}{2}$ and under. With a Set of Waterhouse Diaphragms, in case	£15 15 0
No. 3 C. Portrait Lens, $3\frac{1}{2}$ in. diameter, 6 in. back focus, with rack and pinion, &c., as above, for pictures, 5 by 4, and under ...	26 5 0

These Lenses produce pictures in about one-half the time of No. 1 B and No. 2 B respectively, but the field of view is not so flat; hence, for STANDING figures, a stop must be used.

Miniature Lens, do., do.: the lenses $1\frac{1}{2}$ in. and $1\frac{3}{8}$ in. diameter respectively, and 2 in. focus from the back glass; for pictures on plates 2 in. by 2 in., and when used with stops for $3\frac{1}{2}$ in. by $2\frac{3}{4}$ in. With a set of Waterhouse Diaphragms, in case	5 15 0
Medallion Lens. Diameter of combinations $\frac{3}{4}$ in., back focus 1 in., in a rigid mount, without stops	2 10 0

* Mr. Faulkner's much-admired *Instantaneous Portraits of Children* are taken with No. 2 C; those by Mr. Hawko with the No. 3 C—Specimens, by Messrs. Williams, Lake, Price, Notmann, Hughes, Heath, McNab, Stuart, Sampson, Treble, Faulkner, Hawke, &c., taken with the No. 2 C and 3 C, may be seen at 19, Bloomsbury Street.

DALLMEYER'S QUICK-ACTING PORTRAIT LENSES. (Introduced November, 1860), especially constructed for CARTE DE VISITE PORTRAITS.

* The item, "*A set of Waterhouse Diaphragms in case,*" quoted separately in former editions of catalogue, has been added to the prices of the several lenses in this list, the total cost in each case remaining the same.

The percentage of lenses ordered without diaphragms in the first instance being very small, and these usually returned to have them fitted, involving extra cost and risk, has suggested the desirability of the above alteration.

The working qualities of these Lenses will be best explained by the following brief quotation: want of space precluding lengthy extracts,

"Wondrous delicacy, perfect roundness and modelling, fleshy texture and transparency, great vigour and brilliancy, rich tone, exquisite definition." &c., &c.—See *Photo. News*, July 4, 1862, on pictures taken by Mr. T. R. Williams, with No. 2 B Lens.

The only Prize Carte de Visite Pictures at the International Exhibition (1862) were taken by Mr. H. P. Robinson with No. 2 B Lens; and by Mr. Mullins with No. 1 B.

Specimens from the Studios of all the leading Artists can be seen at 19, Bloomsbury Street. Observe that all the specimens with No. 2 B Lens were either taken with full opening, or never less than with No. 2 stop, $1\frac{1}{2}$ inch diameter.

No. 1 B Carte de Visite Lens, with rack and pinion movement, the lenses 2 in. diameter and $4\frac{1}{2}$ in. back focus, for Portraits $4\frac{1}{2}$ by $3\frac{1}{2}$ with a Set of Waterhouse Diaphragms, in case	£6 5 0
No. 1 B [Long], with rack and pinion movement, the lenses $2\frac{1}{2}$ in. diameter, and $4\frac{3}{4}$ in. back focus, with a Set of Waterhouse Diaphragms, in case	6 15 0

This Lens is constructed to meet the requirements of Photographers who desire to use a longer focus Lens than No. 1 B, but who have not sufficient length of gallery for No. 2 B.

No. 2 B Carte de Visite Lens, with rack and pinion movement, the lenses $2\frac{3}{4}$ in. diameter, and 6 in. back focus, for Portraits 5 by 4 in., with a Set of Waterhouse Diaphragms, in case	12 16 0
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Distance between Subject and Lens, the standard being 5 feet 8 in. for a Picture $2\frac{1}{2}$ in., for No. 1 B, 12 to 13 feet; for No. 1 B [long] 14 to 15 feet; for No. 2 B, 18 to 19 feet.

A Focussing Glass, for ascertaining that the image produced by the Camera Lens is formed accurately on the greyed surface of the focussing screen, and, consequently, on the sensitive surface of the plate or paper	0 16 0
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* Every instrument supplied from this establishment is constructed and manufactured under the personal supervision of J. H. D., by whom it is finally tested and sent out in a perfect state, guaranteed to fulfil all the conditions specified.

It is owing to this circumstance that J. H. D.'s powers of production are necessarily limited, the rule being to execute orders in rotation, i.e., according to priority.

DALLMEYER'S NEW PATENT PORTRAIT LENSES, (INTRODUCED IN 1866.)

Are manufactured of three descriptions, as regards *intensity* or *rapidity* of action.

- 1st. Quick Acting Portrait Lenses (similar to the existing quick-acting portrait lenses, Nos. 1 B and 2 B), ratio of aperture to focal length 1:3; designated B.
- 2nd. Portrait Lenses of the ordinary intensity. Ratio of aperture to focus 1:4; designated A.
- 3rd. Portrait, Group, and View Lenses. Ratio of aperture to focus 1:6; designated D.

The above numbers squared at once express the relative "time of exposure for each Lens." Thus, B lens requires only *one-half* the exposure of A and *one-fourth* of D.

DALLMEYER'S PATENT PORTRAIT LENSES (B).

	£	s.	d.
No. 2 B Patent Lens, with rack and pinion movement. Diameter of Lenses, $2\frac{1}{2}$ in., and back focus 6 in. Especially constructed for Carte de Visite Portraits. <i>Distance between subject and lens for a standing figure, 18 ft.</i> With a Set of Waterhouse Diaphragms, in case	13	5	0
No. 3 B ditto, ditto. Diameter of Lenses $3\frac{1}{2}$ in., and back focus 8 in. Especially constructed for the Cabinet Portraits. <i>Distance between subject and lens for a standing figure, 18 ft. (For Carte de Visite, distance 25 ft.)</i> With a Set of Waterhouse Diaphragms, in case	20	0	0
No. 4 B ditto, ditto. Diameter of Lenses, $4\frac{1}{2}$ in., and back focus 12 in.; for pictures $8\frac{1}{2} \times 6\frac{1}{2}$ in. <i>Distance for a Cabinet Portrait 25 ft.</i> With a Set of Waterhouse Diaphragms, in case	40	0	0

DALLMEYER'S PATENT PORTRAIT LENSES (A).

No. 1 A*—Patent Lens, with rack and pinion movement. Diameter of front and back combinations, $2\frac{3}{4}$ and $2\frac{5}{8}$ in. respectively, and $6\frac{1}{2}$ in. back focus; for pictures 5×4 in. With a Set of Waterhouse Diaphragms, in case	13	0	0
No. 2 A* ditto, ditto. Diameter of front and back combinations, $3\frac{1}{2}$ and $3\frac{3}{4}$ in. respectively: 10 in. back focus; for pictures $6\frac{1}{2} \times 4\frac{1}{2}$ in. With a Set of Waterhouse Diaphragms in case	18	0	0
No. 3 A* ditto, ditto. Diameter of Lenses 4 in., and 12 in. back focus; for pictures $8\frac{1}{2} \times 6\frac{1}{2}$ in. With a set of Waterhouse Diaphragms, in case	27	5	0
No. 4 A ditto, ditto. Diameter of Lenses $4\frac{1}{2}$ in. and 14 in. back focus; for pictures 10×8 in. With a Set of Waterhouse Diaphragms, in case	38	10	0
No. 5 A in rigid mount. Diameter of lenses 5 in., and 18 in. back focus; for pictures 15×15 in. and under. With a Set of Waterhouse Diaphragms, in case	50	0	0
No. 6 A ditto, ditto. Diameter of Lenses 6 in., and 22 in. back focus, for pictures 20×16 in. and under. With a Set of Waterhouse Diaphragms	60	0	0

* These lenses are well adapted for the Cabinet Portraits, according to length of gallery.—Thus, No. 1 A requires a distance of 14 feet between subject and lens (not recommended if a longer focus lens can be used). No. 2 A, 20 ft., and No. 3 A, 24 ft.

DALLMEYER'S PATENT PORTRAIT AND GROUP LENSES (D).

The prices marked below include a set of Waterhouse Central Diaphragms; and with the exception of No. 3 D, the Lenses are mounted in Rigid settings, i.e., without rack and pinion movement.

	DIAM. OF LENSES.	BACK FOCUS.	SIZE OF GROUP.	SIZE OF VIEW.	£	s.	d.
No. 3 D*	Patent $2\frac{1}{2}$ in.	$10\frac{1}{2}$ in.	$8\frac{1}{2} \times 6\frac{1}{2}$ in.	10×8 in.	9	10	0
No. 4 D	" $2\frac{3}{8}$	13	10×8	12×10	13	10	0
No. 5 D	" $3\frac{1}{4}$	16	12×10	15×12	17	10	0
No. 6 D	" 4	$19\frac{1}{2}$	15×12	18×16	26	10	0
No. 7 D	" 5	24	18×16	22×20	48	0	0
No. 8 D	" 6	30	22×20	25×21	58	0	0

* Distance for a Cabinet Portrait with No. 3 D 18 ft.

DALLMEYER'S RAPID RECTILINEAR LENS (Patent).

(INTRODUCED 1866.)

Each Lens is supplied with a set of Waterhouse diaphragms. (*Observe!* The apertures of stops are too large to admit of being made in the form of a rotating diaphragm, as supplied with the "wide-angle" Rectilinear.) Each Lens marked below, with smaller stops, can be used for the next size larger view.

Size of View or Landscape.	Size of Group or Portrait.	Diam. of Lenses.	Back focus.	Equiv. focus.	Price, Rigid Setting.	Price, Sliding Tube	Price, rack and pinion.
Inches.	Inches.	Inches.	Inches.	Inches.	£ s. d.	£ s. d.	£ s. d.
*5 × 4	4½ × 3½	5½	5½	6	4 10 0	4 15 0	5 5 0
6 × 5 for 8 × 5	5 × 4	1½	7½	8½	5 10 0	6 0 0	6 10 0
8½ × 6½	6 × 5	1½	10½	11	7 0 0	7 10 0	8 0 0
10 × 8	8½ × 6½	1½	12½	13	9 0 0	9 10 0	10 5 0
12 × 10	10 × 8	2	15	16	11 0 0	11 10 0	12 5 0
13 × 11	French size	2½	16	17½	12 0 0	12 15 0	...
15 × 12	12 × 10	2½	18	19½	15 0 0	15 15 0	...
18 × 16	15 × 12	3	22½	24	20 0 0	21 0 0	...
22 × 20	18 × 16	3½	28	30	27 0 0	28 0 0	...
25 × 21	22 × 20	4	31	33	32 0 0	33 10 0	...

* These Lenses are also well-adapted for Stereoscopic Views, and can be had in pairs.

DALLMEYER'S TRIPLE ACHROMATIC LENS.

Dimensions and Prices, including a Set of Waterhouse Diaphragms.

No.	Size of View or Landscape.	Size of Group or Portrait.	Diameter of back combination.	Back Focus.	PRICE.		
					Rigid Setting.	Sliding tube adjustment.	With rack and pinion.
	Inches.	Inches.	In.	In.	£ s. d.	£ s. d.	£ s. d.
1	6 × 5	5 × 4	1½	7	4 4 0	4 10 0	5 0 0
2	8½ × 6½	7 × 6	2	10	6 0 0	6 10 0	7 0 0
3	10 × 8	8½ × 6½	2½	12	7 0 0	7 15 0	8 10 0
4	12 × 10	10 × 8	2½	15	9 10 0	10 5 0	11 5 0
5	15 × 12	12 × 10	3½	18	12 0 0	13 0 0	14 0 0
6	18 × 16	15 × 12	4	23	15 10 0		
7	22 × 20	18 × 16	5	29	22 0 0		
8	25 × 21	22 × 20	5½	31	25 0 0		

Hook's Universal Joint Handle for 12 by 10 and 15 by 12 Triple Lenses, price £1.

DALLMEYER'S WIDE-ANGLE LANDSCAPE LENS (Patent).

The Lenses are mounted in Rigid tubes or settings, with Rotating stops.

No.	Size of Plate.	Diameter of Lenses.	Equivalent Focus.	Price.	REMARKS.
	Inches.	Inches.	Inches.	£ s. d.	
1A	5 × 4	1½	5½	3 5 0	No. 1A and No. 1 are made to screw into the same flange as No. 1 Triple Achromatic Lens.
1	7½ × 4½	1½	7	3 15 0	
2	8½ × 6½	1½	8½	4 10 0	
3	10 × 8	2	10	5 10 0	Nos. 2 and 3 screw into No. 2 Triple Achromatic flange.
4	12 × 10	2½	12	7 0 0	
5	15 × 12	2½	15	8 10 0	
5A	15 × 12	2½	18	9 10 0	
6	18 × 16	3	18	10 10 0	
7	22 × 20	3½	22	14 0 0	
8	25 × 21	4½	25	19 0 0	

N.B.—The Apertures of all the stops supplied with J. H. D.'s Lenses (Portraits, Views, and Landscapes) are so arranged that, counting from the LARGEST to the next size SMALLER, the time of exposure is DOUBLED. Stops marked X are exceptions to this rule, and require an exposure only HALF AS LONG again as the PRECEDING LARGER stop.

DALLMEYER'S WIDE-ANGLE RECTILINEAR LENS (Patent.)

The Lenses are mounted in *rigid* settings or tubes, and each is furnished with a *rotating* diaphragm plate. In the column below, the largest size of plate covered by each Lens is recorded; and if *microscopic* definition up to the corners be required, the smallest, or smallest but one, stop, should be used.

No.	Largest Dimension of Plate.	Diameter of front combination.	Back focus.	Equivalent focus.	Price.	Remarks.
	Inches.	Inches.	Inches.	Inches.		
* 1AA	$7\frac{1}{2} \times 4\frac{1}{2}$	$\frac{3}{8}$	$3\frac{1}{2}$	4	£ 4 10 0	No. 1A and No. 1 are made to screw into the same flange as No. 1 Triple Achromatic Lens.
1A	$8\frac{1}{2} \times 6\frac{1}{2}$	$1\frac{1}{4}$	$4\frac{1}{8}$	$5\frac{1}{4}$	5 10 0	
1	12×10	$1\frac{1}{2}$	$6\frac{1}{2}$	7	7 10 0	
2	15×12	2	$7\frac{1}{2}$	$8\frac{1}{2}$	10 10 0	
3	18×16	$2\frac{1}{2}$	11	13	14 0 0	
4	22×20	3	14	$15\frac{1}{2}$	20 0 0	
5	25×21	$3\frac{3}{8}$	17	19	30 0 0	

* This Lens is also well adapted for Stereoscopic Views.

Sky-shades, or shutters, as recommended by Mr. England, from £0 8 6

DALLMEYER'S NEW STEREOSCOPIC LENS.

(INTRODUCED MAY, 1860.)

Consists of two achromatic combinations of $1\frac{1}{4}$ and $1\frac{1}{2}$ in. diameter respectively, and $3\frac{1}{2}$ in. back focus, includes a large angle, with a flat field and perfect definition.

The above, in Sliding Mount, with Waterhouse Diaphragms, each £3 10 0
 Ditto, ditto, with rack and pinion movement 4 0 0

These Lenses can be had in pairs, or four, of exactly equal foci.

N.B.—The front combination can be used *alone* as an ordinary 6-in. Stereoscopic View Lens, in the same mounting, simply by *unscrewing* and dispensing with the back, and then replacing it by the front combination.

The Hood should be taken off and screwed into the tube, in the place previously occupied by the front combination.—Front Stops for Hoods, 2s. 6d. each.

DALLMEYER'S PATENT STEREOGRAPHIC LENS.

This Lens is entirely free from distortion and flare, and is specially recommended for "Instantaneous Views," Small Portraits, Groups, &c.

Diameter of front and back combinations $1\frac{1}{2}$ in. and $1\frac{1}{4}$ in. respectively, and $3\frac{3}{8}$ in. focus from the back glass (equivalent focus 5 inches).

In sliding mount, with Waterhouse central diaphragms, each ... £4 5 0
 Ditto, ditto, with rack and pinion movement, each 4 15 0

N.B.—The front combination can be used *alone* and *intact*, (focal length, 8 inches), simply by *unscrewing* and dispensing with the back combination, when, with a small-sized stop, it will be found to cover the $7\frac{1}{2}$ by $4\frac{1}{2}$ -in. plate.

In very short Operating Rooms, this Lens can also be used for Card Portraits.

DALLMEYER'S QUICK-ACTING STEREO' LANDSCAPE LENS.

Especially constructed for Messrs. Wilson, England, Blanchard, &c.

No. 1.— $1\frac{1}{2}$ in. diam., $4\frac{1}{2}$ in. back focus, in "rigid" mount, with "rotating" stops £2 0 0

No. 2.— $1\frac{1}{2}$ in. diam., 6 in. back focus, in "rigid" mount, with "rotating" stops 2 5 0

Dallmeyer's Instantaneous Flap Shutter, from 15s. 6d. to 0 18 6

DALLMEYER'S PATENT RECTILINEAR STEREO' LENS.

Especially constructed for architectural and landscape views in *confined* situations.

Diameter of front combination, $\frac{5}{8}$ in.; back focus, $2\frac{1}{2}$ in. (equivalent focus, 3 in.); mounted in rigid setting, with *rotating* diaphragm plate; the largest aperture of which — $\frac{F}{10}$; price, each £4 0 0

A Rectilinear Lens of 2 in. back focus (equivalent $2\frac{1}{4}$ in.), constructed for Tourists' Pocket Cameras; size of plate, $3\frac{1}{4}$ by $2\frac{1}{4}$ 4 0 0

DALLMEYER'S ACHROMATIC STEREOSCOPE, from £3 3s.

APPARATUS.

INTERNATIONAL EXHIBITION, 1862.—"Some excellent samples of apparatus, consisting of *Cameras, Instantaneous Shutters, &c.*, are also exhibited. A Camera for carrying two Stereoscopic Lenses, possesses a moveable front and diaphragm, which permits it also to be used with one Lens (No. 1, Triple) for producing Landscapes $7\frac{1}{2}$ by $4\frac{1}{2}$. The use of the double rack and pinion for adjusting the focus, by sliding the front body of the Camera, is worthy of notice."—*Vide Jurors' Report, page 8.*

PARIS UNIVERSAL EXHIBITION, 1867.—"From the excellence of the workmanship of the Cameras to which Mr. Dallmeyer's Lenses were applied, his medal was awarded for Apparatus as well as Lenses."—*Vide Report by order of the Council on Education, Illustrated London News, Sept. 14th, 1867.*

DALLMEYER'S NEW BINOCULAR CAMERA.

Binocular Camera made with a bellows body, expanding from $3\frac{1}{2}$ to 10 in., for Stereoscopic Views and single Pictures up to $7\frac{1}{2}$ in. by $4\frac{1}{2}$ in., with rack and pinion movement	£4 12 0
Ditto, Ditto for plates 8 by 5	5 5 0
Ditto, ditto, expanding from $3\frac{1}{2}$ in. to 12 in. or more, for Stereoscopic Views and single Pictures up to $8\frac{1}{2}$ by $6\frac{1}{2}$, with rack and pinion movement	5 15 0
Pine Cases, with packings for complete sets of apparatus ... from	1 5 0

CARTE DE VISITE CAMERAS.

For One Lens, with repeating back for two Pictures, on plates $7\frac{1}{2}$ by $4\frac{1}{2}$ or $6\frac{1}{2}$ by $4\frac{1}{2}$; rack and pinion movement	4 4 0
Ditto, ditto, with single collodion slide, and focussing screen, for plates 5 by 4; rack and pinion movement	5 4 0
Ditto, ditto, with repeating back and single collodion slide, and focussing screen, for plates $6\frac{1}{2}$ by $4\frac{1}{2}$; rack and pinion movement	6 10 0
Carte de Visite Camera, for two Lenses, with repeating back for four pictures, on plates $8\frac{1}{2}$ by $6\frac{1}{2}$, with rack and pinion movement (suggested by Mr. Mayall)	7 0 0
Universal Studio Camera, $6\frac{1}{2}$ in. square, with bellows body, rack adjustment, and swing back, for half-plate Portraits and single or double Cartes-de-Visite	5 15 0
Ditto, ditto, with double swing back	6 15 0

CABINET PORTRAIT CAMERAS.

For one Lens, with repeating back for two Pictures, on plates 9 by 7; rack and pinion movement	5 5 0
Ditto, ditto, with single collodion slide, and focussing screen, for plates $6\frac{1}{2}$ by $4\frac{1}{2}$, and repeating back for 9 by 7 plates; rack and pinion movement... ..	6 12 6
Universal Studio Camera. 9 in. square, with bellows body, rack adjustment, and swing back, for 9 by 7 Portraits, and single or double Cabinet Pictures	7 10 0
Ditto, ditto, $8\frac{1}{2}$ in. square, with bellows body, rack adjustment, and swing back, for $8\frac{1}{2}$ by $6\frac{1}{2}$ Portraits, and single or double Cabinets	7 0 0
Double swing back to either of the above Universal Cameras (extra)	1 0 0

Box Hood Shutters, for opening and closing the Lens (these Shutters also act as shades to the Lenses) for do., do. ... from	£1 1s. to 1 5 0
Swinging Backs applied to the above Cameras... .. from	0 18 0
Brass Binding, either of the above Cameras	1 0 0

SLIDING-BODY MAHOGANY CAMERAS.

French polished, with ground glass focussing screen, one plate-holder, and two inner frames for plates, as under:—

OF GOOD HONDURAS MAHOGANY. OF THE BEST SPANISH MAHOGANY.

Plates and	Horizontal & Vertical.		Square.		Swinging Back.		Screw Movement.		Framed & Panelled.		Brass Binding.			
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.		
5 × 4 under	1	6	0..1	12	0..2	0	0..5	14	0	0	0	1	0	0
6½ × 4½	1	15	0..2	5	0..3	15	0..6	12	0	0	17	6	0	0
8½ × 6½	3	0	0..3	15	0..6	0	0	10	0	0	1	0	0	0
10 × 8	4	5	0..5	5	0..7	7	0	12	0	0	1	4	0	0
12 × 10	6	0	0..6	15	0..9	10	0	14	10	0	1	7	6	0
15 × 12	8	10	0..9	10	0	13	0	0	18	10	0	1	2	0
18 × 16	11	10	0	15	0	18	0	0	22	10	0	1	18	0
24 × 20	16	0	0	18	15	0	25	0	0	30	0	0	2	10

IMPROVED PORTABLE BELLOW CAMERAS.

Capable of adjustment for both portrait and landscape lenses.

The focussing is obtained by an endless screw or by a rack and pinion movement. The Cameras are made either with a conical bellows body (*i.e.*, the Kinnear form), or with parallel bellows and a folding bottom.

Prices with one single back, two inner frames, and focussing screen.

CONICAL BFWLLOWS, *i.e.*, KINNEAR'S FORM. PARALLEL BFWLLOWS AND FOLDING BOTTOM.

Plates	Horizontal & Vertical.		Square.		Horizontal & Vertical.		Square.		Swinging Back.		Brass Binding.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
4½ × 3½ and under	2	17	6	3	7	6	0	18	0	1	0	0
5 × 4	3	7	6	3	17	6	0	1	0	0	1	0
7½ × 4½	4	12	0	5	5	0	0	18	0	1	0	0
8 × 5	5	5	0	5	15	0	1	0	0	1	0	0
8½ × 6½	5	10	0	6	0	0	5	15	0	1	0	0
10 × 8	6	10	0	7	0	0	6	16	0	7	10	0
12 × 10	7	15	0	8	10	0	8	0	0	8	15	0
15 × 12	9	15	0	10	10	0	10	0	1	11	10	0
18 × 16	16	0	0	17	10	0	17	0	0	20	0	0

** The folding bottom, parallel-bellows cameras may be had with an expanding front and double swing-back, so as to be equally useful for short or long focus lenses, from 20s. extra. All square cameras are intended to take the given size plate, either horizontally or vertically, without turning the camera on its side.

COLLODION SLIDES.

Superior Single and Double Backs, of the best seasoned Spanish Mahogany.

Single backs include two inner frames. Double backs are fitted with a metal partition.

For plates	5	by	4	...	Single.			Double.			Brass Binding.				
					£	s.	d.	£	s.	d.	£	s.	d.		
	7½	"	4½	...	0	16	0	0	18	6	0	0	4	0	
"	8½	"	6½	...	1	0	0	0	1	2	6	0	0	4	0
"	10	"	8	...	1	4	0	0	1	7	6	0	0	4	6
"	12	"	10	...	1	8	0	0	1	14	0	0	0	5	0
"	15	"	12	...	1	14	0	0	2	2	0	0	0	5	6
"	18	"	16	...	2	7	6	0	3	0	0	0	0	6	0
"	18	"	16	...	3	10	0	0	4	10	0	0	0	6	6

Mahogany Frames, with silver corners, for holding glass plates in single backs, from 1s. 3d. upwards, according to size.

GLASS BATHS.

Mounted in mahogany cases, French polished, water-tight.

		With Indiarubber Top.		Glass Top.	
		£	s. d.	£	s. d.
For plates	7½ by 4½ and under	...	1 5 0	...	1 12 0
"	8½ " 6½ "	...	1 10 0	...	1 17 6
"	10 " 8 "	...	1 14 0	...	2 2 0
"	12 " 10 "	...	2 14 0	...	3 3 0
"	15 " 12 "	...	3 5 0	...	

Fluted glass dippers, from 1s. Pure silver wire dippers, prices according to weight.

OAK PRINTING FRAMES.

With jointed back and springs to equalize the pressure.

Size of glass.	£	s.	d.	Size of glass.	£	s.	d.
7 by 6	0 10 6	16 by 13	...	...	1 5 0
9 " 7	0 11 6	19 " 17	...	...	1 10 0
10 " 8	0 13 0	23 " 21	...	...	1 18 0
11 " 9	0 15 0	25 " 23	...	...	2 5 0
13 " 11	0 18 0				

Felt pads for ditto, to obtain an even pressure, from 2s. each.

CAMERA STANDS FOR THE FIELD AND STUDIO	...	...	from	£1	1	0
PORTABLE DARK TENTS	...	...	"	7	7	0

CHANCE'S BEST GLASS PLATES.

(Prices variable.)

Patent Plate.

Polished Crown.

Size of Plate				PER GROSS.		PER GROSS.	
				£	s. d.	£	s. d.
2½ by 2	...	...	5	0	3	9
3½ " 2½	...	...	10	6	6	0
4½ " 3½	...	...	24	0	11	6
5 " 4	...	...	35	0	17	6
6½ " 3½	...	...	38	0	20	0
6½ " 4½	54	0	28	0	
7½ " 4½	60	0	35	0	
8½ " 6½	101	0	52	0	
10 " 8	209	0	81	0	
12 " 10	360	0	180	0	
15 " 12	620	0	240	0	

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Estimates given for complete Sets of Apparatus, Chemicals, &c.

DR. VAN MONCKHOVEN'S ENLARGING APPARATUS.

In use for upwards of 15 years, and acknowledged to be the best. Consisting of Condenser with negative lens for correction of spherical aberration, enlarging lens, iron frames and support, with—

Mirror Moved by Hand.

Mirror Moved by Clockwork, i.e., Heliostat.

No. 1.	8½-inch Condenser	30	0	0	No. 4.	8½-inch Condenser	42	0	0
No. 2.	15 " "	50	0	0	No. 5.	15 " "	102	0	0
No. 3.	20 " "	83	0	0	No. 6.	20 " "	124	0	0

Descriptive Price List on application.

Spectacles in Gold, Silver, Steel, and Tortoiseshell, Reading Glasses, &c

Paris International Exhibition, 1867.

THE GOLD AND SILVER MEDALS

Awarded to J. H. DALLMEYER, Optician.

FOR ASTRONOMICAL TELESCOPES, MICROSCOPES, AND NEW PHOTOGRAPHIC LENSES.

Report by Order of the Council on Education.

TELESCOPES.

"It is satisfactory to be able to record that the result of a trial by the jurors of the refracting astronomical telescopes, is to place Mr Dallmeyer at the head of the list. The performance, power, and definition of his Equatorial, surpasses that of the other astronomical telescopes."

"J. H. Dallmeyer has been very successful in producing hand telescopes of a superior description, he exhibits some instruments, the focal lengths of which are only from nine to ten times the diameter of their clear aperture. The performance of these instruments is most excellent."—*Illustrated London News* Oct. 5th, 1867 (PAGE 378).

MICROSCOPES.

"The microscopes exhibited by J. H. Dallmeyer, in their mechanical arrangement, means of illumination, and powerful and clear definition, leave scarcely anything to be desired."—*Illustrated London News*, Oct. 5th, 1867 (PAGE 378).

PHOTOGRAPHIC LENSES, &c.

"Since the Exhibition of 1862, great novelties and improvements have taken place in photographic lenses. In that Exhibition the chief improvement exhibited was a triple combination, for which a medal was awarded to J. H. Dallmeyer, this being the first practically useful lens with which to photograph buildings, copy maps, prints, &c., free from distortion, embracing angles of from 60 to 70 degrees. Since that time other lenses have been introduced, giving angles of upwards of 90 degrees, and amongst these may be mentioned . . . a wide angle single combination meniscus, composed of three cemented lenses by Dallmeyer, and the "Rectilinear" wide-angle view lens by Dallmeyer. As regards the improvements introduced in lenses for portraiture, advances have been made in enabling the photographer to produce more artistic results.

"A lens has been introduced, a new form of combination, by Dallmeyer, which, whilst it possesses the advantages in respect to rapidity and definition of the old form of portrait lenses, can, at the will of the operator, by the simple turn of a screw, be made to avoid extreme definition or hardness over one plane, and to distribute it over several planes.

"The specimens exhibited, produced by this lens, seem to demonstrate that a new power is placed in the hands of the artist.

"From the excellence of the workmanship of the cameras to which Mr. Dallmeyer's lenses were applied, his medal was awarded for apparatus as well as lenses."—*Illustrated London News*, Sept. 14th, 1867 (PAGE 295).

J. H. DALLMEYER,
Optician,

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