1899-1900?

TELEGRAPHIC & CABLE ADDRESS
"DALLMEYER LONDON"

Catalogue

OF

Photographic Lenses, Cameras,

&c.

J. H. Dallmeyer,

Limited.

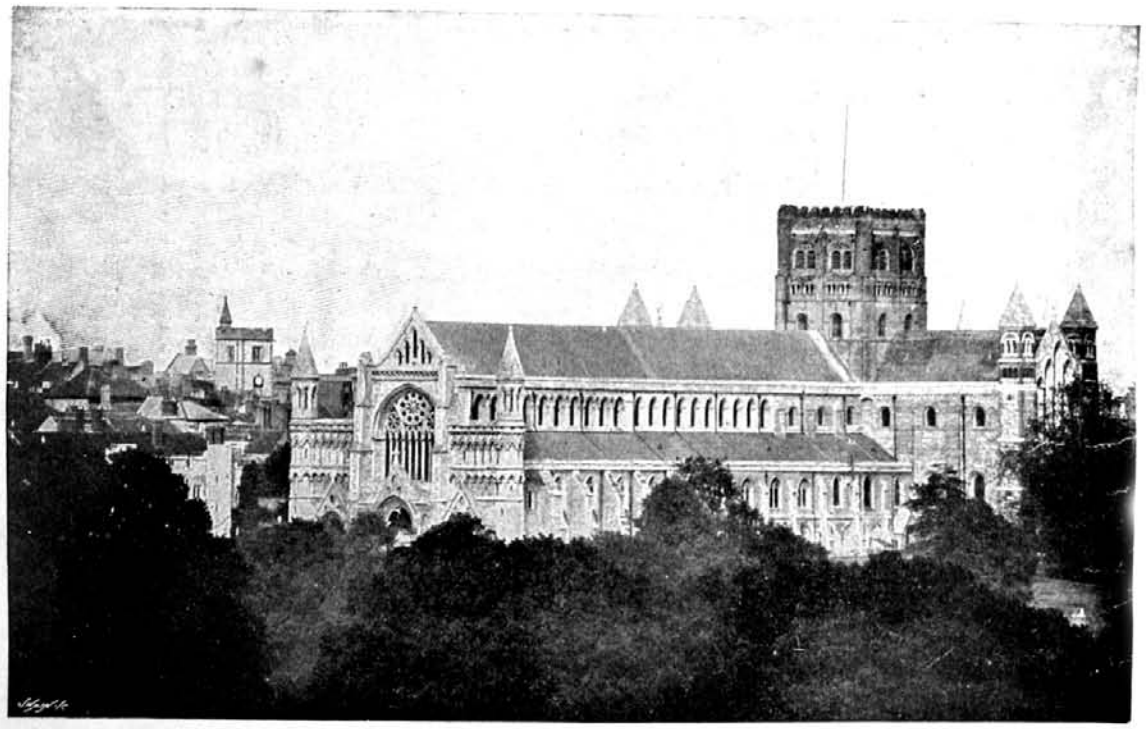
ESTABLISHED 1860

OPTICAL MANUFACTORY.

25 Newman Street. Oxford Street.

LONDON. W.

St. Alban's Abbey.—Taken at a distance of 1600 yards with an ordinary view lens.



Taken at the same distance as above, with a 2 B Patent Portrait Lens, and high power negative attachment.

ESTABLISHED 1860.

TELEGRAPHIC & CABLE ADDRESS:
"DALLMEYER, LONDON."

Catalogue

OF

Photographic Lenses, and Apparatus.

MADE AND SOLD BY

J. H. DALLMEYER, Ltd.,

Optical Manufactory,

25, NEWMAN STREET, OXFORD STREET,

LONDON, W.

Telescopes, Field and Opera Glasses,
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Instruments may also be obtained direct from the Manufactory, or through London and Provincial Exporters and Dealers.

PART I.

Photographic Lenses.

CAUTION.

Dallmeyer's Photographic Lenses

Are being extensively imitated, and sold either openly, as "Imitation Dallmeyers," or furtively as genuine Dallmeyer Lenses, both new and secondhand, and fraudulently engraved with the name and address. It is necessary, therefore, to caution the public against the purchase of *spurious* lenses, and to advise Foreign and Colonial Buyers to order direct from the Manufactory, from our accredited Agents, or through dealers of known respectability and standing only. The Company is at all times ready to examine and report on Lenses reputed to be of their manufacture free of charge, providing expenses of carriage be borne by the enquirer.

In sending Orders through Commission Agents, the *Description* of the Lenses required should be *distinctly* stated and insisted upon.

All Lenses are supplied with a set of Waterhouse or Iris Diaphragms, or a rotating Diaphragm Plate, forming part of the Lens Mount, and included in the price of the Lens. The Diaphragms themselves are stamped according to *Dallmeyer's or the Decimal Standard;* the numbers chosen are easily comparable throughout, and form an exact expression of their relative exposures, so that whenever Lenses, or Stops supplied with those Lenses throughout the whole series, are required to be compared, a glance at the numbers will be found sufficient.

Each Stop is marked with one of the following numbers, rendering their simplicity of comparison for exposure, beyond all doubt. The equivalent ratio of aperture to focus is appended in brackets :—

·5	(*f*2·24)	20	(*f*14·14)
·75	(*f*2·74)	25	(*f*15·84)
1·	(*f*3·16)	30	(*f*17·32)
1·5	(*f*3·87)	40	(*f*20)
2·	(*f*4·47)	50	(*f*22·36)
2·5	(*f*5)	75	(*f*27·89)
3·	(*f*5·47)	100	(*f*31·62)
4·	(*f*6·32)	150	(*f*38·73)
5·	(*f*7·07)	200	(*f*44·72)
7·5	(*f*8·66)	250	(*f*50)
10	(*f*10)	300	(*f*54·77)
15	(*f*12·25)	400	(*f*63·24)

Lenses can also be marked according to the Photographic Society's Standard, or with the intensity ratio of any apertures that may be chosen without extra charge. All Stigmatic Lenses are marked with the Photographic Society's Standard.

On the Care of a Lens.

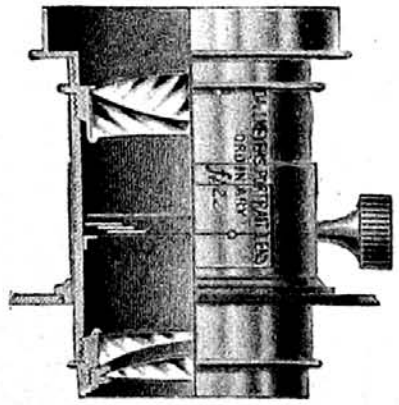
Lenses should not be exposed to a strong light when not in use, as discolouration of the glass may be caused thereby.

They should also be kept in a dry place and guarded against sudden changes of temperature, as the surface may be tarnished or corroded by the condensation of moisture, if this occurs the Lens should be at once wiped with a soft cambric handkerchief or clean Selvyt, otherwise the Lens should be rubbed as little as possible; it is usually sufficient if a camel hair brush be employed to remove dust. In case of the surface becoming tarnished the Lens should be returned to the makers for repolishing; irreparable damage may result from the use of any polishing powder or paste.

Note on the new Optical Glasses.

The production of Lenses having improved optical qualities, *i.e.* flatness of field and freedom from astigmatism, involves the use of glasses with particular optical characteristics not found in the older flints and crowns. It has been found impossible to obtain these glasses free from minute defects in the form of small bubbles or specks. Their presence is in no way detrimental to the performance of the Lens, the only effect being the loss of an infinitesimal amount of light. In the most extreme case this would be represented by a prolongation of the exposure, by about one-thousandth part. The definition is absolutely unaffected.

Dallmeyer's "Extra" Quick-Acting Portrait Lenses.



	Price. Waterhouse Diaphragm. £ s. d.	Iris Diaphragm. £ s. d.
No. 2 C PORTRAIT LENS, with rack and pinion movement; the lenses 2¾ in. diameter and 4½ in. back focus (6 in. equivalent), for pictures on plates 4¼ in. by 3¼ in. and under	15 0 0	16 5 0
No. 3 C PORTRAIT LENS, with rack and pinion movement, the lenses 3½ in. diameter, 6 in. back focus (8 in. equivalent), for pictures 5 in. by 4 in. and under	25 0 0	26 10 0

Dallmeyer's "Extra" Quick-Acting Portrait Lenses.

Continued.

	Price. Waterhouse Diaphragm. £ s. d.	Iris Diaphragm. £ s. d.
MINIATURE LENS, with rack and pinion movement, the lenses 1¼ in. and 1⅜ in. diameter respectively, and 2 in. back focus (3 in. equivalent), for pictures 2 in. by 2 in., and when used with stops for 3¼ in. by 2¾ in.	5 0 0	5 10 0
MEDALLION LENS. Diameter of combinations ⅞ in., 1 in. back focus (1⅛ in. equivalent), in a rigid mount, without stops	2 7 6	

DESCRIPTION.—No. 2 C and No. 3 C are probably the quickest acting Lenses extant, working full aperture at an intensity of *f* 2 nearly.

They possess double the rapidity 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, carte 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 **MINIATURE LENS,** suitable for locket portraits, vignette heads, etc., works in about the same time as the C Lenses. It is also well adapted for taking Cinematograph Negatives.

Dallmeyer's Quick-Acting Portrait Lenses

ESPECIALLY CONSTRUCTED FOR

Carte de Visite Portraits.

	Waterhouse Diaphragm. £ s. d.	Iris Diaphragm. £ s. d.
No. 1 B CARTE DE VISITE LENS, with rack and pinion movement, the lenses 2 in. diameter and 4¼ in. back focus (6 in. equivalent), for Portraits 4¼ in. by 3¼ in.	6 0 0	6 15 0
No. 1 B (LONG), with rack and pinion movement, the lenses 2⅛ in. diameter, and 4¾ in. back focus (6½ in. equivalent)*	6 10 0	7 5 0

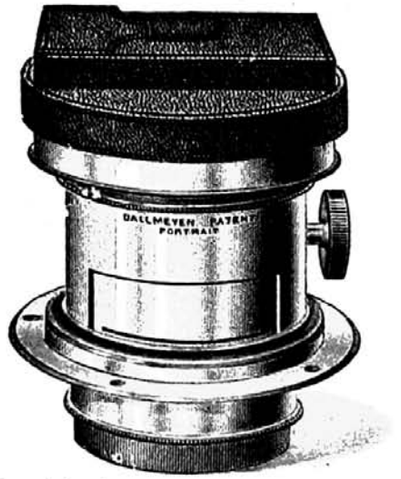
**This Lens is constructed to meet the requirements of Photographers who desire to use a longer focus Lens than No. 1 B, but who have not sufficient length of studio for No. 2 B.*

No. 2 B CARTE DE VISITE LENS, with rack and pinion movement, the lenses 2¾ in. diameter, and 6 in. back focus (8¼ in. equivalent), for Portraits 5 by 4 in.	12 5 0	13 10 0

DESCRIPTION.—These Lenses work, full aperture, at an intensity of *f* 3. The distance between subject and lens is for the **No. 1 B,** 12 to 13 ft.; for **No. 1 B (Long),** 14 to 15 ft.; for **No. 2 B,** 18 to 19 ft. With full aperture **Nos. 1 B** and **2 B** require the same exposure. Since, however, **No. 2 B** covers a larger plate, it can be used with a larger aperture for standing figures, carte size. Hence, for this purpose, it becomes practically the quicker acting Lens. The increased distance also between Subject and Lens tends to better perspective in the resulting picture. The **1 B (Long)** is a little slower in action than the **1 B,** but for standing figures it produces better results.

The above are the only Lenses now manufactured of the old, or Petzval construction; all other Portrait Lenses of larger dimensions and of the old form being superseded by DALLMEYER'S PATENT PORTRAIT Series, and the **1 B** and **2 B Patent** are recommended in preference to the **1 B** and **2 B Ordinary Lenses.**

Dallmeyer's Patent Portrait Lenses.



These are manufactured in three degrees of *intensity* or *rapidity* of action.

1st. QUICK-ACTING PORTRAIT LENSES, intensity *f*3; designated B.
2nd. PORTRAIT LENSES, intensity *f*4; designated A.
3rd. PORTRAIT GROUP and VIEW LENSES, intensity *f*6; designated D.

The denominators of the fractions expressing intensity of the Lenses above mentioned, viz. 3, 4, 6, when *squared*, at once express the relative time of exposure for each Lens. Thus the B series require about *one-half* the exposure of A and *one-fourth* of D.

DESCRIPTION.—These Lenses are constructed on a different principle to the old or Petzval type of Portrait Lenses, and excel them in sharpness of definition, in freedom from distortion and flare, and in 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*, 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, 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 balanced, producing the impression of a general distribution or depth of focus; and this in 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.

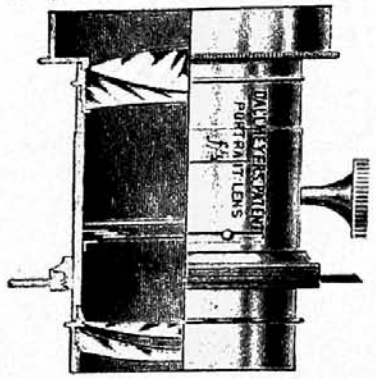
Thus a small portrait *intended for subsequent enlargement must be perfectly and uniformly sharp. In this case the Lens should be used intact*, when the definition surpasses that of the old form of Portrait Lens, and bears enlargement up to life size. If, however, it is required to produce a larger picture *direct* with the same lens, then the posterior lens may be unscrewed just so much as tends to a general harmony of definition. The back cell is notched in order to indicate the amount of unscrewing.

The advantages of Dallmeyer's Patent Lens for the *larger sizes of pictures* are at once apparent, enabling the Photographer to produce those evenly defined, soft, and delicate portraits so universally admired.

With respect to the most advantageous use of the Lens, it must be stated that for standing figures, carte 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 for every foot of approach of subject. In the case of the D Lenses more unscrewing is required to produce an appreciable effect.

IMPORTANT NOTE:—Unscrew *first* and focus *afterwards*.

Dallmeyer's Patent Portrait Lenses (B).



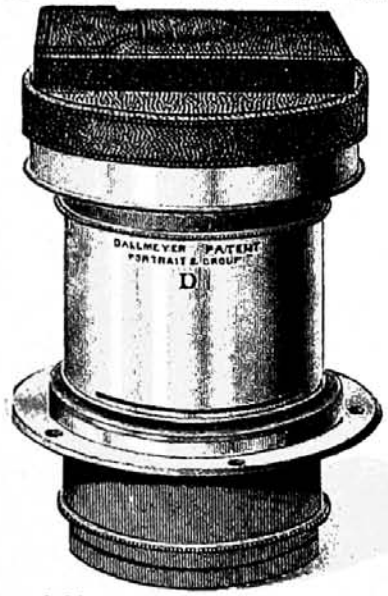
	Waterhouse Diaphragm. £ s. d.	Iris Diaphragm £ s. d.
No. 1 B PATENT LENS, with rack and pinion movement. Diameter of Lenses, 2 in., and equivalent focus, 6 in. For **CARTE DE VISITE PORTRAITS,** *distance between subject and lens for standing figure,* 12 *to* 13 *ft.*	7 0 0	7 15 0
No. 2 B ditto ditto, with rack and pinion movement. Diameter of Lenses, 2⅜ in., and equivalent focus 8½ in. Especially constructed for **CARTE DE VISITE PORTRAITS.** *Distance between subject and lens for a standing figure,* 18 *ft.*	12 15 0	14 0 0
No. 3 B ditto ditto. Diameter of Lenses, 3½ in., and equivalent focus, 11¼ in. Especially constructed for the **CABINET PORTRAITS.** *Distance between subject and lens, for a standing figure,* 18 *ft.; for Carte de Visite,* 25 *ft.*	19 0 0	20 10 0
No. 4 B ditto ditto. Diameter of Lenses, 4½ in., and equivalent focus, 17 in., for pictures 8½ by 6½, and under. *Distance for a Cabinet Portrait (standing figure)* 25 *ft.*	38 0 0	40 10 0

Dallmeyer's Patent Portrait Lenses (A).

No. 1 A* PATENT LENS, with rack and pinion movement. Diameter of front and back combinations, 2¾ and 2⅝ in. respectively, and 10 in. equivalent focus; for pictures 5 by 4 in.	12 10 0	13 15 0
No. 2 A* ditto ditto, with rack and pinion movement. Diameter of front and back combinations, 3½ and 3¼ in. respectively; 13½ in. equivalent focus; for pictures 6½ by 4¾ in.	17 0 0	18 10 0
No. 3 A* ditto ditto. Diameter of Lenses, 4 in., and 16 in. equivalent focus; for pictures 8½ by 6½ in., and Promenades and Cabinets	26 0 0	27 10 0
No. 4 A ditto ditto. Diameter of Lenses, 4½ in., and 18 in. equivalent focus; for pictures 10 by 8 in., and under	36 10 0	38 10 0
No. 5 A, in rigid mount. Diameter of Lenses, 5 in., and 22 in. equivalent focus; for pictures 15 by 12 in. and under	47 10 0	49 10 0
No. 6 A ditto ditto. Diameter of Lenses, 6in., and 30 in. equivalent focus; for pictures 20 by 16 in., and under	57 0 0	59 10 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 *feet, and* **No. 3 A,** 24 *feet, for a full-length figure.*

Dallmeyer's Patent Portrait and Group Lenses (D).



With the exception of **Nos. 2 D and 3 D,** these Lenses are mounted in Rigid setting, *i.e.*, without rack and pinion movement. *(See above).*

No.	Diam. of Lenses.	Equiv. Focus.	Size of Portrait or Group.	Size of View.	Waterhouse Diaphragm. £ s. d.	Iris Diaphragm. £ s. d.
No. 2 D*	1⅛ in.	9 in.	6½ × 4¾ in.	8 × 5	6 15 0	7 5 0
No. 3 D*	2⅛	12½	8½ × 6½	10 × 8	9 0 0	9 15 0
No. 4 D	2⅞	17	10 × 8	12 × 10	13 0 0	14 5 0
No. 5 D	3½	19	12 × 10	15 × 12	16 12 6	18 2 6
No. 6 D	4	21	15 × 12	18 × 16	25 5 0	26 15 0
No. 7 D	5	30½	18 × 16	22 × 20	45 15 0	47 15 0
No. 8 D	6	37	22 × 20	25 × 21	55 10 0	58 0 0

* Distance for a full length Cabinet with No. 2 D 14 feet (not recommended where a longer focus lens can be used), with No. 3 D 18 feet.

General Observations on the foregoing Lenses.

In the above-mentioned lenses, where distances are given between subject and lens, about one-half the distance would be required for head and bust pictures.

THE B 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 cartes 24 feet).

THE A LENSES require nearly double the exposure of the B Lenses; but they are to be preferred for portraits above the ½-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.

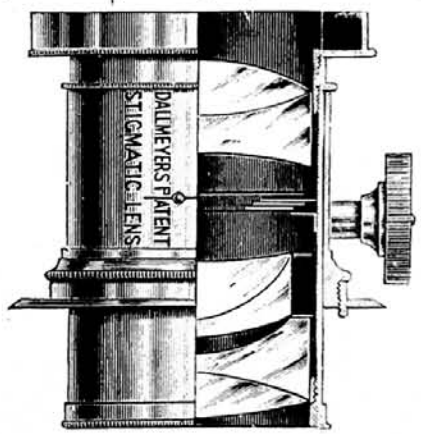
No. 3 A is, perhaps, the *best* Cabinet and whole-plate lens that can be possessed by a photographer, if space permit (distance for a cabinet, standing figure, 24 feet). First-class pictures up to 10 × 8 inches are taken with this lens. For larger portraits Nos. 4 A, 5 A, and 6 A should be used; or if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

General Observations on the foregoing Lenses—*continued.*

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 out-door 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 diaphragms; and they are entirely free from distortion.

The Dallmeyer Stigmatic Lens (Patent).

SERIES I., PORTRAIT LENS, *f*/4.



No.	Largest dimensions of Plate covered at full aperture.	Diameter of Lens.	Equiv. focus.	PRICE. With rack and pinion movement. Waterhouse Diaphragm.	Iris Diaphragm.
	In.	In.	In.	£ s. d.	£ s. d.
1	4¼ × 3¼	1·6	6	7 0 0	7 10 0
2	5 × 4	2·0	7½	12 0 0	12 15 0
3	6½ × 4¾	2·4	9	18 0 0	19 5 0
4	8½ × 6½	3·2	12	25 0 0	26 10 0

Nos. 1 and **2** are specially adapted for Carte de Visite Pictures, and **Nos. 3** and **4** for Cabinets. It is, however, recommended that the larger size be used in preference, on account of the greater length of focus producing better perspective in the resulting image.

Distance between subject and lens for a Carte de Visite standing figure:—**No. 1**, 12 ft.; **No. 2**, 15 ft.; **No. 3**, 18 ft. For a Cabinet standing figure:—**No. 3**, 12-13 ft.; **No. 4**, 17 ft. Head and bust Pictures, about half these distances.

DESCRIPTION.—This Lens has been designed to give uniform definition through a larger angle than existing forms of rapid Portrait Lenses. At the full aperture of *f*4, it is practically free from spherical aberration, *i.e.*, gives a perfectly defined image. It is non-distorting, and gives a flat field with equal definition from edge to centre, and with but very slight remaining traces of astigmatism. It covers altogether an angle of about 60°—hence is particularly adapted for short operating rooms, and has greater equality of illumination than existing Portrait Lenses.

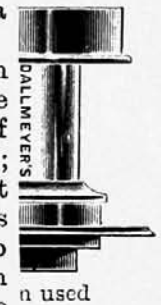
Note.—This Lens possesses the same advantage as our "Patent Portrait Lens" system, in that by unscrewing the back cell a turn or part of a turn, a certain amount of spherical aberration is introduced, resulting in more equal distribution of definition over the planes focussed.

Advantage has been taken of the remarkable properties of the new Jena glass, giving correction of astigmatism, and to this, as the inventors admit, the success of the Dallmeyer Lens is to a large extent due; but it is in the method of correcting spherical aberration that the novel features of the invention consist. The method of doing this is thus described in a recent number of *Photography*: "The front is made up of a double convex joined to a double concave, the back being like it. But here comes in the wonderful factor that has achieved the sought-for result — a little air-space separates the cemented combination from a very thin flat meniscus. It is a very thin glass, not excelling in thickness a very moderate spectacle lens. Contrary to what may be considered orthodox belief, the reflecting surfaces extra have been proven to have no deleterious or appreciably evil effect. The correction for astigmatism is perfect and charming, and with it all is gained an intensity of f/6." The onus of this, to quote the editor of the *Photographer's Record*, rests on the little convex meniscus air-space in the back combination. It is a remarkable discovery, and carries with it something like a suggestion of magic.

Another advantage is this, that whereas usually in employing doublets the use of one combination alone as a single lens has necessitated such an extension of the camera as produces instability and other evils; the Dallmeyer Lens is free from this objection. Front and back combinations may, we are told, be used as usual, but the front combination may be screwed into the back cell, which will leave the diaphragm in front, the focus being only half as long again as the ordinary combination, and working at about f/20. This gives a good narrow angle landscape lens. The back combination itself may be used as a very long focus landscape lens, giving excellent definition with a large aperture.

The points of the Dallmeyer Stigmatic Lens have been thus summed up by one of the authorities already quoted: At its full aperture of f/6, it will cover with the most perfect definition a plate the next size larger than that for which it is scheduled. For instance, the half-plate lens will, at f/6, absolutely cover a whole plate. At f/6 the same lens will give perfect definition over a 12in. by 10in. plate with, however, a slight falling-off in illumination at the corners. At f/22 the illumination is perfect on the 12in. by 10in., and the definition, as before, absolute.

The lens has been tested in every possible way by photographic experts, who are unanimous in their praises, characterising it as *the* lens of the day, and affirming that it has beaten all its competitors, whether "made in Germany" or elsewhere. It is further declared to be essentially a "universal" lens, that is, alike suitable for the most rapid work, for copying, for landscape, architectural, and general purposes. It is undoubtedly one of the greatest boons ever conferred upon photographers, and is certain to be appreciated by them as it becomes known. Messrs. Dallmeyer are to be heartily congratulated on their success.



Fro n used s.

Giving *f*/6. olute flatness

No.	Suitable Telephoto Attachment in Brass. £ s. d.
1AA	3 15 0
1A	3 15 0
1	3 15 0
2	4 10 0
3	4 10 0
4	5 5 0
5	6 0 0
6	7 0 0
7	8 10 0
8	
9	

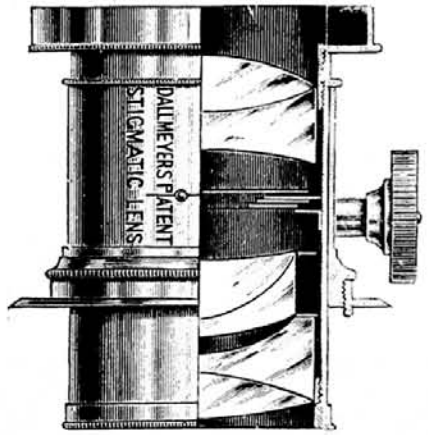
Th ...uiture to wide-angle w...ommended for general ...s of too short focus t...ctly free from spheric...cussing, there being ...e size of stop as is t...perture these Lenses ...full circle of illumin...e particularly recom...

General Observations on the foregoing Lenses—*continued.*

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 out-door 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 diaphragms; and they are entirely free from distortion.

The Dallmeyer Stigmatic Lens (Patent).

SERIES I., PORTRAIT LENS, *f*/4.



No.	Largest dimensions of Plate covered at full aperture.	Diameter of Lens.	Equiv. focus.	PRICE. With rack and pinion movement.	
				Waterhouse Diaphragm.	Iris Diaphragm.
	In.	In.	In.	£ s. d.	£ s. d.
1	4¼ × 3¼	1·6	6	7 0 0	7 10 0
2	5 × 4	2·0	7½	12 0 0	12 15 0
3	6½ × 4¾	2·4	9	18 0 0	19 5 0
4	8½ × 6½	3·2	12	25 0 0	26 10 0

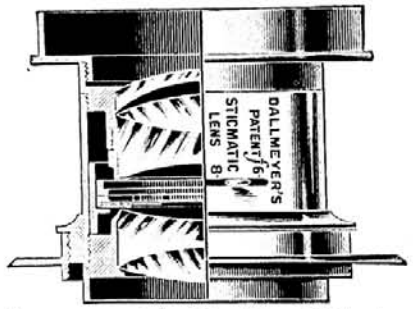
Nos. 1 and **2** are specially adapted for Carte de Visite Pictures, and **Nos. 3** and **4** for Cabinets. It is, however, recommended that the larger size be used in preference, on account of the greater length of focus producing better perspective in the resulting image.

Distance between subject and lens for a Carte de Visite standing figure:—**No. 1**, 12 ft.; **No. 2**, 15 ft.; **No. 3**, 18 ft. For a Cabinet standing figure:—**No. 3**, 12-13 ft.; **No. 4**, 17 ft. Head and bust Pictures, about half these distances.

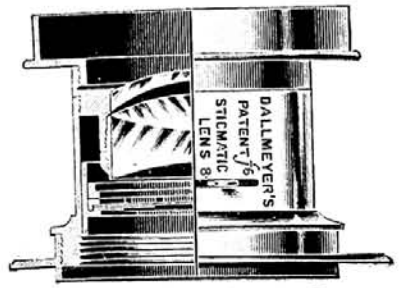
DESCRIPTION.—This Lens has been designed to give uniform definition through a larger angle than existing forms of rapid Portrait Lenses. At the full aperture of *f*4, it is practically free from spherical aberration, *i.e.*, gives a perfectly defined image. It is non-distorting, and gives a flat field with equal definition from edge to centre, and with but very slight remaining traces of astigmatism. It covers altogether an angle of about 60°—hence is particularly adapted for short operating rooms, and has greater equality of illumination than existing Portrait Lenses.

Note.—This Lens possesses the same advantage as our "Patent Portrait Lens" system, in that by unscrewing the back cell a turn or part of a turn, a certain amount of spherical aberration is introduced, resulting in more equal distribution of definition over the planes focussed.

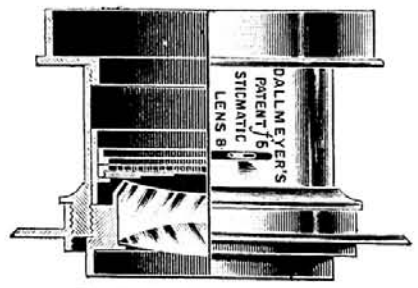
The Dallmeyer Stigmatic Lens. (Patent).



Entire Lens as used for Rapid or Wide-Angle work.



Front Combination used as Single Lens.



Back Combination used as Single Lens.

SERIES II., A NEW UNIVERSAL LENS, *f*/6.

Giving exquisite definition over a large field, at full aperture with absolute flatness of field and freedom from astigmatism.

No.	Plate covered at full aperture.	Largest Plate covered at	Diameter of Lens.	Eq. Focus.	PRICE With Iris Diaphragms.	Suitable Telephoto Attachment in Brass.
	f/6	*f*/16.	In.	In.	£ s. d.	£ s. d.
1AA	2½ × 2	4¼ × 3¼	·55	3·25	4 0 0	
1A	3¼ × 2½	5 × 4	·65	4·0	4 5 0	
1	3¼ × 3¼	6½ × 4¾	·8	4·5	4 15 0	3 15 0
2	4¼ × 3¼	8 × 5	·9	5·3	5 15 0	3 15 0
3	5 × 4	8½ × 6½	1·1	6·4	6 15 0	3 15 0
4	6½ × 4¾	10 × 8	1·3	7·6	8 2 6	4 10 0
5	8 × 5	12 × 10	1·6	9	10 10 0	4 10 0
6	8½ × 6½	15 × 12	1·9	10·7	13 10 0	5 5 0
7	10 × 8	15 × 15	2·2	12·7	18 10 0	6 0 0
8	12 × 10	18 × 16	2·6	15·1	24 10 0	7 0 0
9	15 × 12	22 × 20	3·1	18	31 10 0	8 10 0

This Lens is suitable for every class of photography from portraiture to wide-angle work. The plates listed as covered at full aperture are those recommended for general use with Lenses of the respective foci, since the use of a Lens of too short focus tends to the production of exaggerated perspective. Being perfectly free from spherical aberration the full aperture of the Lens may be used in focussing, there being no fear of any alteration of focus taking place when changing the size of stop as is the case with many Lenses of the wide angle type. At full aperture these Lenses will cover slightly larger plates than those given and the full circle of illumination includes an angle of about 85°. The smaller sizes are particularly recommended for hand camera work.

The Dallmeyer Stigmatic Lens (Patent)—*continued.*

By using either the back or front combination singly the choice of two extra focal lengths is obtained. The equivalent focus of the back Lens is about 1½ times and the front 2 times that of the whole combination, and they require respectively twice and 4 times the exposure of the combined Lens at the same aperture. The Lens is so made that when it is desired to use the combinations separately, there is no necessity to alter their positions. That is to say, the lens not required is simply removed, and the remaining one used *in situ*.

The *front* lens has the greater equivalent focal length, but it will be found that the necessary camera extension is nearly the same for either combination. For such subjects as large heads the single Lenses may be used with full aperture, but for general use the Iris diaphragm should be set to an aperture not larger than F 8 or F 11 of the Iris diaphragm, for front or back respectively.

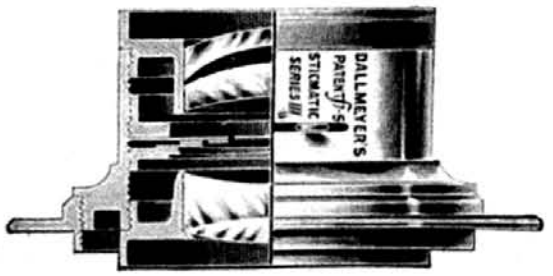
N.B.—Taking the equivalent focal length of the complete lens as 1, the back and front lenses have equivalent foci of 1½ and 2 respectively.

The smaller sizes can be had in pairs of identical foci at an additional cost of 8/- per pair.

The Dallmeyer Stigmatic Lens (Patent).

Series III. New Rapid Lens.

This Series of Lenses has been introduced to meet the requirements of those who consider a lens working at *f*/6 as a luxury, and who are satisfied with one working at a speed not less than that



of a good Rapid Rectilinear, with the added qualities of flatness of field and freedom from astigmatism.

The Series III. Stigmatics have a full aperture of *f*/7·5, and at this intensity cover the plate for which they are scheduled to the corners, while with an aperture of *f*/16 absolute definition is obtained over a plate two sizes larger. They are, for any given size of plate, much lighter and more portable than those of Series II., there being only four elements in each instead of five, as in the preceding series. The Lenses of Series III. are not convertible, and should always be used intact.

The smaller sizes are very suitable for Hand Camera and Stereoscopic work, while the larger ones are destined to supersede the Rapid Rectilinear, their cost being only slightly in excess of the latter.

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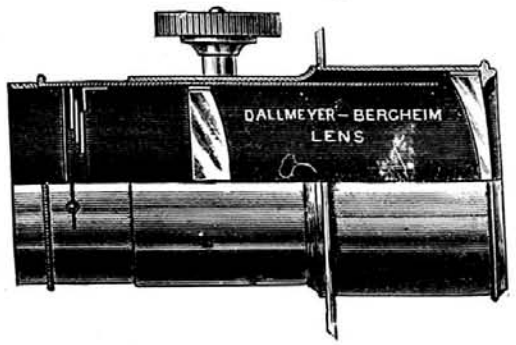
THE DALLMEYER-BERGHEIM LENS

(SOFT FOCUS).



No.	Diameter of Front Lens.	Diameter of Back Lens.	Focal Ratio.	Range of Equivalent Foci.	Guide to Camera extension, corresponding *back* foci.	PRICE. With Waterhouse Diaphragms.	PRICE. With Iris Diaphragms.
	In.	In.		In.	In.	£ s. d.	£ s. d.
1	2¼	2¼	*f*/9	20 fixed	10 fixed	5 0 0	6 5 0
2	3¼	3½	*f*/8 to *f*/12	25 to 4 0	15 to 22½	8 10 0	10 0 0
3	3¾	4½	*f*/9 to *f*/15	35 to 5 5	12 to 30	10 10 0	12 0 0

Range of separation between front and back lenses:—No 1 (rigid setting), fixed; No. 2 (rack and pinion movement), 8 in. to 12 in.; No. 3 (rack and pinion movement), 10½ in. to 16 in.

No. 1.—Recommended for use on Plates up to Cabinet size.
No. 2.— ,, ,, ,, 8½ × 6½ in., and upwards.
No. 3.— ,, ,, ,, 10 × 8 in., and upwards.

DESCRIPTION.—This Lens has been constructed to supply a want frequently expressed by photographers who confine themselves to the production of the highest artistic rendering in portraiture, and is based upon some original experiments undertaken by the well-known artist, Mr. Bergheim.

The Dallmeyer-Bergheim Lens—*continued.*

It is composed of a single front lens of *positive* focus in combination with a single back lens of *negative* focus, the distances between which (with the exception of the **No. 1** size) are variable, thus arriving at a considerable latitude of focal length. The amount of spherical and chromatic aberration purposely given by the single uncorrected lenses, results in a certain amount of diffusion of focus, which produces a softness and delicacy aimed at by Mr. Bergheim and other artistic workers. The type of definition given at full aperture is the outcome of a series of experiments, and is such that there is *no destruction of structure* in the resulting image, all detail being given, but softened to an extent that produces a harmonious whole without insisting on critical sharpness. For large heads and life-size studies the lens is invaluable, the great amount of depth of focus conducing to a *uniformity* of definition throughout the planes in which the subject lies, and obviating an inherent defect in large portrait lenses constructed to give critical definition, in that these have an insufficiency of depth of focus, one plane in the image being very much better defined than the others.*

The Lenses differ from any hitherto introduced for Portraiture, in that they are throughout longer in focus, hence producing more satisfactory perspective. As stated, they are of variable focal length, and that within considerable limits, as may be seen from the data given, and being constructed on the Telephotographic principle, have also *varying covering power*. There is no limit to the size of the image that can be produced, this being merely a question of camera extension, *the same instrument giving images from Cabinet to life-size*. Examples of the wide limits in the power of the lens may be seen at 25, Newman Street.

This lens is perfectly free from distortion, and covers the plate with uniform definition from centre to edge. The fact of the positive and negative elements being composed of *single* lenses also conduces to relatively greater rapidity and brilliancy of image as compared with multiple instruments.

STOPPED DOWN, DEFINING POWER AND SHARPNESS INCREASE, THIS BEING ABSOLUTE WITH ABOUT ONE-THIRD THE FULL APERTURE.

EXPOSURE varies with different extensions of camera. The following is recommended as the readiest method at arriving at the *f* ratio for the time being. Note the camera extension when lens is focussed on a *distant* object. If now focussed on the object in the studio, it will be found that the camera back has to be racked out; add the amount thus racked out to the equivalent focus for the time being—*this equivalent focus is engraved on the mounting of the lens for various separations between positive and negative elements*—and the temporary focus thus found, divided by the aperture of the stop used, gives the focal ratio or guide to exposure.

* These remarks apply particularly to the Petzval type of Portrait Lens, but are to be considerably modified in our Patent form, in which the amount of spherical aberration is under control.—*Vide page 8.*

Dallmeyer's Rapid Rectilinear Lens.

RAPID RECTILINEAR LENS works at an [illegible] nearly double

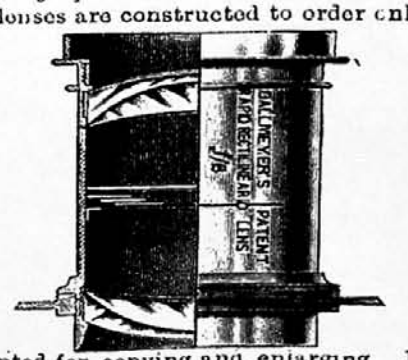
Dallmeyer's Rapid Rectilinear Lens—*continued.*

No.	Size of View or Landscape.	Size of Group or Portrait.	Diam. of Lens.	Eqiv. Focus.	PRICE. Rigid Setting. Iris or Waterhouse Diaphragms.	Aluminium Settings. Rigid. Iris or Waterhouse Diaphragms.	Suitable Telephoto Attachment Brass.
			In.	In.	£ s. d.	£ s. d.	£ s. d.
1	4¼ × 3¼	3¼ × 3¼		4	3 10 0	3 17 6	3 15 0
2	5 × 4	4¼ × 3¼		6	4 5 0	4 15 0	3 15 0
3	6½ × 4¾	5 × 4	1	8¼	5 5 0	5 15 0	4 10 0
4	8 × 5	6 × 5	1	10	6 0 0	7 0 0	5 5 0
5	8½ × 6½	7 × 5	1	11	6 12 6	7 12 6	6 0 0
6	10 × 8	8½ × 6½	1	13	8 10 0	9 15 0	7 0 0
7	12 × 10	10 × 8	2	16	10 10 0	11 15 0	8 10 0
8	13 × 11	11 × 9	2¼	17	11 10 0	12 15 0	8 10 0
9	15 × 12	12 × 10	2¾	19½	14 5 0	15 12 6	11 0 0
10	18 × 16	15 × 12	3	24	19 0 0	20 10 0	14 0 0
11	22 × 20	18 × 16	3¾	30	25 15 0	27 5 0	..
12	25 × 21	22 × 20	4	33	31 10 0	33 0 0	..

EACH LENS, WITH SMALLER STOPS, CAN BE USED FOR THE NEXT SIZE LARGER OF PLATE.

To obtain the best results with the sizes above 10 × 8, ALWAYS FOCUS *with the* third stop, *whether the photograph is to be taken with a smaller or larger one.*

Larger sizes of these lenses are constructed to order only.



This lens is well adapted for copying and enlarging. It has been supplied to the Home and Foreign Government Topographical Departments, Ordnance Surveys, &c., and is extensively employed in the chief photo-lithographical establishments throughout the world. It will be found unsurpassed for producing the finest results for every variety of Photo-Mechanical Work.

With smaller stops each lens covers the next larger, or even two sizes larger plates than those recorded, thus embracing angles of pictures of over sixty degrees; and this without any trace of flare or central spot.

Although the Rapid Rectilinear is not quick enough for ordinary Studio portraiture, many fine Portrait Studies have been taken with this lens.

Either combination of the Rapid Rectilinear [illegible] landscape lens; focus about [illegible] that of the

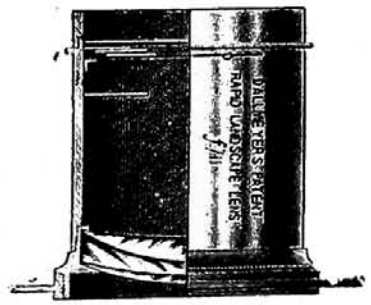
Dallmeyer's Triple Achromatic Lens.

No.	Size of View or Landscape.	Size of Group or Portrait.	Diameter of back combination.	Back Focus	PRICE. Rigid Setting.	With Rack and Pinion.	Iris Diaphragm extra.
	Inches.	Inches.	In.	In.	£ s. d.	£ s. d.	£ s. d.
1	6½ × 4¾	5 × 4	1½	7	4 0 0	5 0 0	0 10 0
2	8½ × 6½	6½ × 4¾	2	10	5 15 0	6 15 0	0 15 0
3	10 × 8	8½ × 6½	2¼	12	6 15 0	7 15 0	0 15 0
4	12 × 10	10 × 8	2¾	15	9 0 0	10 0 0	1 5 0
5	15 × 12	12 × 10	3¼	18	11 10 0	12 10 0	1 10 0
6	18 × 16	15 × 12	4	23	14 15 0	16 0 0	1 10 0
7	22 × 20	18 × 16	5	29	21 0 0	22 10 0	2 0 0
8	25 × 21	22 × 20	5¼	31	23 15 0	25 5 0	2 0 0

DESCRIPTION.—THE TRIPLE ACHROMATIC LENS was reported upon most 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 introduction of the Rapid Rectilinear Lens it was probably the best lens extant for copying purposes, architectural views, etc. It works at an intensity of *f*10.

It works at an intensity of *f*10, but being a triple combination has six reflecting surfaces, hence it is recommended that the Rapid Rectilinear be used in preference; many photographers however still employ it.

Dallmeyer's Rapid (Long Focus) Landscape Lens.



Specially constructed for views and distant objects, mountain scenery, balloon photography, &c., &c. Each lens is supplied with Iris or Waterhouse Diaphragms; the apertures of which are too large to admit of their arrangement in the form of a *Rotating* Diaphragm, as supplied with the "Wide Angle" Landscape Series.

No.	Largest Dimensions of Plate.	Diameter of Lenses.	Equivalent Focus.	PRICE. Waterhouse Diaphragms.	Iris Diaphragms.
	Inches.	Inches.	Inches.	£ s. d.	£ s. d.
1AA	4¼ × 3¼	1	5	3 0 0	3 10 0
1A	5 × 4	1¼	7	3 15 0	4 5 0
1	6½ × 4¾	1½	9	4 5 0	5 0 0
2	8½ × 6½	2	12	5 10 0	6 5 0
3	10 × 8	2¼	15	7 5 0	8 0 0
4	12 × 10	2¾	18	9 0 0	10 0 0
5	15 × 12	3	22	11 0 0	12 0 0
6	18 × 16	3½	25	13 5 0	14 15 0
7	22 × 20	4¼	30	16 15 0	18 5 0

Dallmeyer's Rapid (Long Focus) Landscape Lens

(Continued).

DESCRIPTION.—These lenses work at an intensity of somewhat more than *f*12 (or about twice as quick as the Wide Angle Landscape Lens), and in this condition are entirely free from outstanding spherical aberration, *i.e.*, give a perfectly defined image.

Note.—These lenses may be used in some cases advantageously at a still greater intensity of *f*10 (being the full aperture) for large portrait heads, for example; but as a View Lens, where perfect definition is essential, they should not be used without a stop limiting the intensity to *f*12. This form of lens was originally constructed for General Court Nostitz, who asked for a rapid objective for views which should "give what the eye sees in perfect rendering, and eliminate the large visual angles which amplify the nearer planes to the detriment of perspective." Like the Wide Angle Landscape series, they are *particularly* adapted for landscape work, and give very brilliant negatives.

Dallmeyer's Rectilinear Landscape Lens.

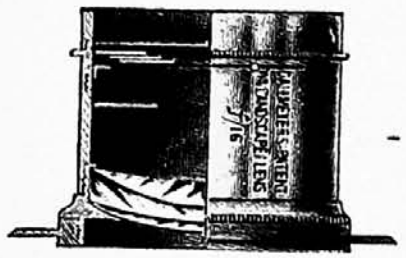
No.	Largest Dimensions of Plate.	Diameter of Lenses.	Equivalent Focus.	PRICE. Waterhouse Diaphragms.	PRICE. Iris Diaphragms.
	Inches.	Inches.	Inches.	£ s. d.	£ s. d.
1	6½ × 4¾	1½	8½	4 10 0	5 5 0
2	8½ × 6½	1¾	11½	5 15 0	6 10 0
3	10 × 8	2	13½	7 15 0	8 5 0
4	12 × 10	2¼	16½	9 15 0	10 10 0
5	15 × 12	2¾	20	12 0 0	13 0 0
6	18 × 16	3	25	15 5 0	16 10 0
7	22 × 20	3½	32	20 0 0	21 5 0

DESCRIPTION.—This lens works with an intensity of *f*14, and is therefore somewhat slower in action than the preceding series, requiring an exposure of about ½ longer, and similarly to those lenses, may be used with a larger aperture than the first stop. It is particularly constructed for views, *architectural subjects, copying*, etc., where it is essential that straight lines should be accurately portrayed, and has been constructed specially to meet this long felt want in the form of a single combination.

Dallmeyer's Wide-Angle Landscape Lens.

DESCRIPTION.—**THE WIDE-ANGLE SINGLE COMBINATION LANDSCAPE LENS** works at an intensity of *f* 15, and is the best lens for landscape, pure and simple, embracing large angles. For work of this kind the above lens is superior to the wide-angle doublets; because being a *single* combination, like the Rapid Landscape, it has but *two* reflecting surfaces, and therefore produces more brilliant pictures. It works with a proportionately 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 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.*

Dallmeyer's Wide-Angle Landscape Lens—*continued.*



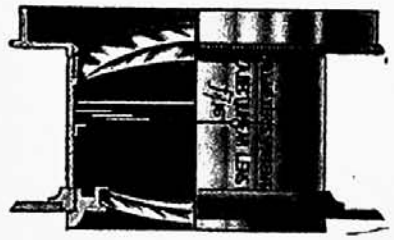
The lenses are mounted in rigid tubes or settings, with rotating stops or Iris Diaphragm.

No.	Size of Plate.	Diameter of Lenses.	Equivalent Focus.	PRICE. Rotating Stop.	PRICE. Iris Diaphragm.
	Inches.	Inches.	Inches.	£ s. d.	£ s. d.
1A	5 × 4	1⅜	5¼	3 0 0	3 10 0
1	7 × 5	1⅝	7	3 10 0	4 0 0
2	8½ × 6½	1⅞	8½	4 5 0	4 15 0
3	10 × 8	2⅛	10	5 5 0	5 15 0
4	12 × 10	2½	12	6 15 0	7 10 0
5	15 × 12	2⅞	15	8 0 0	9 0 0
5A	15 × 12	2⅞	18	9 0 0	10 0 0
6	18 × 16	3	18	10 0 0	11 0 0
7	22 × 20	3⅝	22	13 5 0	14 15 0
8	25 × 21	4¼	25	18 0 0	19 10 0

Larger sizes than the above can be constructed to order. Photographs, 30 × 24in., taken direct with a lens of this series can be seen at the Company's offices.

Being composed of *three* lenses cemented together, it 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.

Dallmeyer's Wide-Angle Rectilinear Lens.



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

Dallmeyer's Wide-Angle Rectilinear Lens—*continued.*

No.	Largest Dimension of Plate.	Diameter of front Combination.	Back Focus.	Equivalent Focus.	PRICE. Rotating Stop.	PRICE. Iris Diaphragm.
	Inches.	Inches.	Inches.	Inches.	£ s. d.	£ s. d.
*1AA	7 × 5	$\frac{7}{8}$	$3\frac{1}{2}$	4	4 5 0	4 12 6
1A	$8\frac{1}{2}$ × $6\frac{1}{2}$	$1\frac{1}{4}$	$4\frac{5}{8}$	$5\frac{1}{4}$	5 5 0	5 12 6
1B	10 × 8	$1\frac{5}{8}$	$5\frac{1}{2}$	$6\frac{1}{4}$	6 5 0	6 15 0
1	12 × 10	$1\frac{1}{2}$	$6\frac{1}{2}$	7	7 5 0	7 15 0
2	15 × 12	2	$7\frac{3}{4}$	$8\frac{1}{2}$	10 0 0	10 10 0
3	18 × 16	$2\frac{1}{2}$	11	13	13 5 0	14 0 0
4	22 × 20	3	14	$15\frac{1}{2}$	19 0 0	20 0 0
5	24 × 21	$3\frac{1}{4}$	17	19	28 10 0	29 15 0

* *This Lens is also well adapted for Stereoscopic Views.*

DESCRIPTION.—**THE WIDE-ANGLE RECTILINEAR LENS** is the next in the order of rapidity, working at an intensity of *f*16. 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 most of the existing wide-angle double combination Lenses.

The wide-angle Rectilinear Lens is intended for interiors and architectural views, landscapes, etc., in *confined* situations, where longer focus lenses cannot be used, and for these purposes its advantages have been universally recognized.

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, *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, also 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 standpoint should be chosen to take the picture. 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).

Stereoscopic Lenses.

Dallmeyer's Patent Stereographic Lens.

(PORTRAIT COMBINATION.)

	Waterhouse Diaphragm. £ s. d.	Iris Diaphragm. £ s. d.
In rigid setting	3 10 0	4 0 0
In sliding mount adjustment	4 0 0	4 10 0
With rack and pinion movement	4 10 0	5 0 0

Dallmeyer's Patent Stereographic Lens—*continued.*

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

This Lens has the advantage of covering a stereo-plate more perfectly than the older forms of Stereoscopic Multiple Lenses, and is entirely free from distortion and flare, even when used with the smallest diaphragm. It works at an intensity of *f*4, and the construction is the same as that of the Patent Portrait Lens *viz.*, the posterior lens is moveable for depth of definition, though seldom required for this purpose, for small pictures, which should be as *sharp* as possible. This lens will be found very useful for Instantaneous Pictures, as transparencies for the Optical Lantern.

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 × 5in. plate.

In very short Operating Rooms this Lens can also be used for **CARTE PORTRAITS.**

Dallmeyer's Quick-Acting Stereo Landscape Lens.

	£ s. d.
No. 1.—$1\frac{1}{4}$in. diam., $4\frac{1}{2}$in. focus, in rigid mount, with rotating stops ..	2 0 0
No. 2.—$1\frac{1}{2}$in. diam., 6in. focus, in rigid mount, with rotating stops ..	2 5 0
No. 3.—$1\frac{5}{8}$in. diam., 8in. focus, in rigid mount, with Iris diaphragm ..	2 15 0

DESCRIPTION.—These lenses are used by all the most successful workers; 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 by many of our best workers. 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, $4\frac{1}{2}$ inch, includes a larger angle than the 6 inch, and if only one pair be required, is to be preferred

The lenses have been shown to work at an intensity of *f*8, but are sent out in their most perfect form, working at an intensity of *f*10.

Dallmeyer's Wide-Angle Rectilinear Stereo Lens.

	£ s. d.
DIAMETER OF FRONT COMBINATION, $\frac{3}{8}$in. (equivalent focus, 3in.); mounted in rigid setting, with *rotating* diaphragm plate; the largest aperture of which has an intensity of $\frac{1}{10}$, size of plate, $3\frac{1}{4}$ × $3\frac{1}{4}$ins.	3 15 0
A RECTILINEAR LENS (of equivalent focus, $2\frac{1}{2}$in.), constructed for Tourists' *Pocket* Cameras; size of plate, $3\frac{1}{4}$ × $2\frac{3}{4}$ins.	3 15 0
Ditto, ditto, equivalent focus, 2in., size of plate, 3 × $2\frac{1}{2}$ ins.	3 15 0

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 focus lenses cannot be used. It covers the stereo plate with the full opening and with smaller stops, plates up to 5 × 4 inches.

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

Dallmeyer's Stereo Lenses—*continued.*

Besides the foregoing Lenses the following, of which full particulars will be found under their respective headings, are equally suitable.

		£ s. d.
*STIGMATIC Series 2, *f*/6—No. 1AA, equivalent focus, 3·25ins., price		4 0 0
,, ,, No. 1A ,, ,, 4·00ins. ,,		4 5 0
,, ,, No. 1 ,, ,, 4·5ins. ,,		4 15 0
,, ,, No. 2 ,, ,, 5·3ins. ,,		5 13 0

The single lenses of above are accurately paired so that each pair of stigmatic lenses gives the choice of three different foci.

RAPID RECTILINEAR.—No. 1, equivalent focus, 4ins., price ..	3 10 0
,, ,, No. 2 ,, ,, 6ins., ,, ..	4 5 0
WIDE-ANGLE RECTILINEAR.—No. 1AA, equivalent focus (used with small stops this lens will cover a half-plate), price	4 5 0
PATENT PORTRAIT LENS.—1B, equivalent focus, 6in. (for portraiture in the Studio), price	7 0 0

Cinematograph Lenses.

For taking the Negatives.

	£ s. d.
SPECIAL B LENS, *f*/4, 2in., eq. focus covers, 1 × ¾in. (with focussing flange)	2 0 0
Ditto, ditto, with Iris	2 7 6
PATENT STEREO LENS, *f*/4, 5in., eq. focus covers, 3¼ × 3¼ in. (with rack and pinion)	4 10 0
Ditto, ditto, with Iris	5 0 0
MEDALLION LENS, *f*/2·2, 1½in. eq. focus covers, ¾ × ¾in.	2 7 6
MINIATURE LENS, *f*/2·2, 3in. ,, ,, 2 × 2in. (with rack and pinion)	5 10 0
SPECIAL STIGMATIC, *f*/5, 3in. eq. focus, with focussing flange and Iris	3 15 0

For Projection.

SPECIAL LANTERN LENS, *f*/2·2, 2in. eq. focus covers, 1 × ¾in. (with rack and pinion)	3 15 0

The Miniature and Medallion Lenses are also well adapted for Projection work.
Special Mountings adapted to any machine to order.

Hand Camera Lenses.

	£ s. d.
No. 1A. RAPID RECTILINEAR, *f*/8, 5¼in. eq. focus, in bronzed mount, with Iris	3 15 0
Ditto, ditto, in Aluminium, with Iris	4 5 0
No. 1. RAPID RECTILINEAR, *f*/8, 4 in. eq. focus, with Iris ..	3 10 0
,, 2. ,, ,, ,, 6in. ,, ,, ..	4 5 0
,, 1. STIGMATIC Series II, *f*/6, 4½in. ,, ,, ..	4 15 0
,, 2. ,, ,, ,, 5¼in. ,, ,, ..	5 15 0
,, 3. ,, ,, ,, 6½in. ,, ,, ..	6 15 0
Special Stigmatic Hand Camera Lens, *f*/7·5, 5in. eq. focus ..	3 17 6

*There is an additional charge of 8s. for pairing stigmatic lenses. All other lenses are supplied in pairs without additional cost.

Dallmeyer's

Patent Telephotographic or "Large Image" Lenses and Attachments.

THE TELEPHOTOGRAPHIC LENS is now recognised as forming an essential part of the photographer's outfit. By its use, the necessity of carrying a battery of lenses of various foci for landscape work is in a great measure avoided, and the advantages it gives in photographing at distances which were impossible before need scarcely be enlarged upon. As an instance of what *can* be done with the lens, it is only necessary to refer to the celebrated Photograph of "Mont Blanc," by Boissonnas. The mountain was photographed at a distance of *nearly* 50 *miles*, an amplification of 36 diameters being obtained. For obtaining details in architectural subjects, the lens has proved itself of very great value, as also in obtaining much happier perspective by photographing from a more distant standpoint than would ordinarily give a sufficient size of image, the operator having—within certain limits—a very considerable range of foci at his disposal to make the subject as large as he chooses.

The immense advantage obtained by direct telephotographic work over enlargement has been proved by several independent authorities. The utility of the lens to the mountaineer, the naturalist, and others, will suggest itself, and has been amply proved. More recently the delineations of bird life in a wild state, by Mr. R. B. Lodge, as also by Mr. Kearton (Cassell & Co.), attest to its value for *instantaneous* work. In short, its application may be extended within very wide limits, varied uses such as †Military Balloon photography, and the portrayal of surgical cases in hospital being quite feasible.

* This combination works at a maximum intensity of *f*/10 and may be used on a Hand Camera.

† MESSRS. DALLMEYER'S Telephoto Lens was used first in war during the Japan and China conflict. The lens gave most remarkable results on this occasion. In the case of war it is not seldom necessary to take distant objects. Among many of the pictures taken with this lens, our attention was specially attracted to one of a Chinese vessel, struck by a torpedo, and lying half sunk far beyond the reach of any ordinary lens. The picture gave every detail of the result of cannon shots and of torpedoes."—*Extract from* "THE SHASHIN-SOWA" (*Japanese Photographic Monthly Journal*).

In itself, the Telephotographic Lens is essentially merely a Long Focus (though variable) Lens, and its behaviour, as regards depth of focus, perspective, etc., *differs in no way from that of ordinary Long Focus Lenses*. There are, however, two important points of difference between a Telephoto Lens and a merely Long Focus Lens.

I. The *back focus* of a Telephotographic Lens is much shorter than that of an ordinary lens of the same equivalent focus.

II. The *equivalent focus* of a Telephoto Lens can be made to vary within wide limits by a comparatively slight adjustment of its component parts.

There is no necessary connection between back (or actual distance between lens and focussing screen) and equivalent focus, but whilst the latter is—for distant objects—practically equal to the equivalent focus in an ordinary lens system, in a Telephotographic Lens the *equivalent* is a certain multiple of the *back* focus, this multiple being practically constant for any one type of Telephoto Lens and not appreciably altering with the circumstances under which it is used.

The Telephoto Lens consists essentially of a fixed *positive* focus lens system in front, with a fixed *negative* focus system behind, the distance between the two being adjustable, and the alteration of this distance giving a large range of equivalent or corresponding foci, thus enabling the operator to obtain different sized images of one and the same object at a given distance, and greatly magnified as compared with the size of image given by the positive lens employed alone. The *degree* of magnification depends on the type of Telephoto Lens used, varying with the ratio between the focus of the positive lens and the focus of the negative lens used in conjunction with it.

The lenses are supplied of three different types, the negative elements consisting (except in one instance, where unsymmetrical lenses are employed) of *two symmetrical double cemented combinations*, mounted in close proximity to one another. By the employment of the greater number of elements (the original form of negative introduced being a *single* combination) greater excellence in the results is attained, and distortion is reduced to a minimum, or practically eliminated. The lenses are necessarily more bulky than an ordinary objective, but mounted in aluminium are quite light, the approximate weights of the No. 1, No. 2, and No. 3 Portrait Lens combinations being 11, 17, and 29 ounces, a considerable saving as compared with brass mounts.

I. High Power. Consisting of a Portrait Lens and a high power negative of about one-fourth the focus of Portrait Lens.

	Mounted in Brass £ s. d.	Mounted in Aluminium. £ s. d.
No. 1. PATENT STEREO LENS, with Iris Diaphragms, and No. 1 Negative (1·6in focus)	7 15 0	9 5 0
No. 2. 1 B PATENT PORTRAIT LENS, with Iris Diaphragms, and No. 2 Negative (1·8in. focus)	11 10 0	13 7 6
No. 3. 2 B PATENT PORTRAIT LENS, with Iris Diaphragms, and No. 3 Negative (2·4in. focus)	18 17 6	21 2 6

The negative elements alone can be adapted to any existing Patent stereo, 1 B, or 2 B Patent Portrait Lenses at the following prices :—

		£ s. d.		£ s. d.
No. 1.	**NEGATIVE** .. .. In Brass	2 15 0	In Aluminium	3 5 0
No. 2.	**Do.** .. .. do.	3 15 0	do.	4 7 6
No. 3.	**Do.** .. .. do.	4 17 6	do.	5 12 6

II. Moderate Power. Consisting of a Portrait Lens and a moderate power negative of about half the focus of Portrait Lens.

	Mounted in Brass. £ s. d.	Mounted in Aluminium. £ s. d.
No. 1.* PATENT STEREO LENS, with Iris Diaphragms, 2½in. focus negative	8 10 0	10 0 0
No. 2. 1 B PATENT PORTRAIT LENS, with Iris Diaphragms, and 3in. focus negative..	11 5 0	13 2 6
No. 3. 2 B PATENT PORTRAIT LENS, with Iris Diaphragms, and 4in. focus negative..	18 5 0	20 10 0

The negative elements alone can be adapted to any existing Patent Stereo, 1 B, or 2 B Patent, or similar Portrait Lenses at the following prices :—

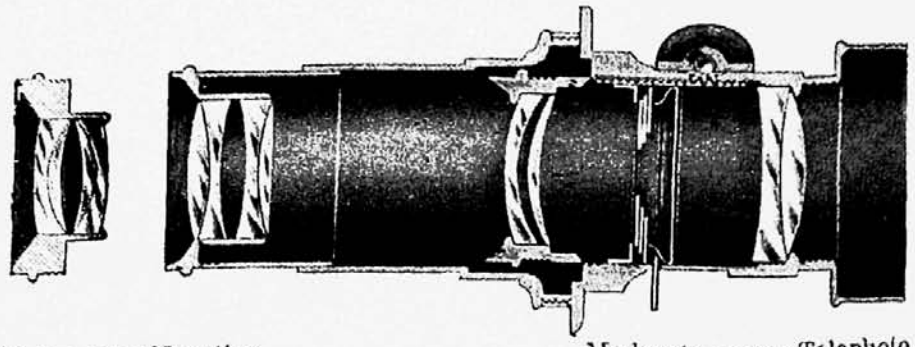
		£ s. d.		£ s. d.
2½in.	**NEGATIVE** .. .. .. In Brass	3 10 0	In Aluminium	4 0 0
3in.	**Do.** .. .. .. do.	3 10 0	do.	4 2 6
4in.	**Do.** .. .. .. do.	4 5 0	do.	5 0 0

Prices of larger sizes on application.

Combination of I. and II. Only one negative mount is required, this being constructed telescopically so as to carry either a

* "Telephotographic Detective Lens."

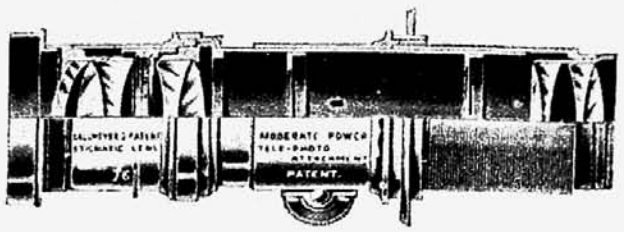
high or a moderate power element (each in its respective cell), the latter necessitating a slight shortening of tube.



High-power Negative. Moderate power Telephoto Lens.

	Mounted in Brass.	Mounted in Aluminium.
No. 1. PATENT STEREO LENS, with Iris Diaphragms, and a high and moderate power Negative Element	£ s. d. 10 15 0	£ s. d. 12 5 0
No. 2. 1 B PATENT PORTRAIT LENS, with Iris Diaphragms, and a high and moderate power Negative Element	14 10 0	16 7 6
No. 3. 2 B PATENT PORTRAIT LENS, with Iris Diaphragms, and a high and moderate power Negative Element	22 12 6	24 17 6

III.—Moderate Power. Consisting of an R.R. Lens and a moderate power Negative of about half its focus.



The prices of the Negative Elements alone are here given. As the Positive Element, either the "Rapid Rectilinear" or the "Stigmatic" may be employed (for prices see pages 11 and 14).

Focus of Negative Element	2½in.	3in.	4in.	5in.	6in.	7in.	8in.	10in.	12in.
Diameter	1in.	1¼in.	1½in.	1¾in.	2in.	2¼in.	2⅝in.	2⅝in.	3in.
	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Price, with Rack and Pinion Movement in Brass ..	3 15	3 15	4 10	5 5	6 0	7 0	8 10	11 0	14 0
Do., do., in Aluminium ..	4 10	4 10	5 5	6 10	7 5	8 10	10 0	12 10	15 10

Notes on the Foregoing.

I. High-power. These Lenses are most suitable where great magnification is required. They will be found to give the most remarkable results, but for general utility are perhaps not so well adapted to the *average* worker as the Moderate-power Lenses. They give equivalent foci of about five times the back focus, or in other words an amplification of 5 diameters as compared with the size of image given by the positive Lens alone with the same amount of back extension, *the amplification, as in every Telephotographic Lens, increasing with longer extensions of camera.*

II. Moderate-Power. Give equivalent foci = about twice the actual camera extension employed, or three times the distance between negative and focussing screen. They are sufficiently rapid for all ordinary instantaneous work, and have the advantage of including a greater angle than system I., viz.:—about 17—21°.

I. & II. Combined. The combinations of High and Moderate-power form, perhaps, the most valuable instruments for Telephotography, enabling the operator to obtain either very high amplification for mountain scenery and similar subjects, or to work instantaneously with the weaker negative element.

III. Moderate-power. These (R. R.) combinations give similar results to system II., but the angle included is a rather smaller one, about 12—15°, and they are not so rapid. The Portrait Lens combinations are—given an equal aperture of the front lens—also more compact and portable, and cover a given size of plate with a smaller back focus. The only drawback of system II. is that it shows a slight marginal distortion when used over the full limits of field that it will cover. The question of portability is more particularly noticeable in the larger sized negative elements, the 10in. and 12in. attachments especially not being recommended where system II. can be employed, unless bulk and compactness are quite a matter of indifference.

Telephotographic Attachments to other than "Dallmeyer" Lenses.

The great advantage of System III. is that the negative attachments *can be adapted to any existing Lenses by first-class makers* (Rapid and Universal Symmetricals, Double Anastigmats, &c.), provided the rapidity of the positive Lens be not slower than *f*8. The attachments can be easily removed and *in common with all our negative attachments*, will not in any way interfere with the ordinary working of the positive Lenses when used alone. It is only necessary that one size larger flange be employed on the Camera front.

By their aid a short-focus Lens can be made to any focal length desired, limited only by the length of the Camera, and as most modern Cameras are capable of considerable extension, large magnifications and a considerable range of equivalent foci may be obtained.

PRICES.—No extra charge is made on the prices quoted on page 26 (under System III.) for adapting these negative elements to various lenses, except where special circumstances necessitate an unusually large mount. In such an instance a small additional charge is made to cover extra cost.

CHOICE OF NEGATIVE.—It may be taken for granted than the negative element for any positive element of a given focus will require to be about half, or rather more than half the focus of the latter. For instance, a Rapid Rectilinear Lens of 10in. focus may be converted into a Telephoto Lens by employing a 5in. negative element. Advice as to the best method of conversion will be willingly given on application.

In Lenses having an initial intensity of *f*5·6 or *f*6, a rather shorter negative may be used.

Dallmeyer's Patent Telephotographic Lenses.

WORKING DATA. (1)

I. High-Power (Portrait Lens Combination).

(11) Plate covered at full aperture.	No. 1. (2) (8) Back focus.	(2) Corresponding focus.	(9) Intensity.	(10) Angle of View.	No. 2. (3) (8) Back focus.	(3) Corresponding focus.	(9) Intensity.	(10) Angle of View.	No. 3. (4) (8) Back focus.	(4) Corresponding focus.	(9) Intensity.	(10) Angle of View.
	In.	In.			In.	In.			In.	In.		
4¼ × 3¼	6½	26	f/17	Practically constant; at full aperture = 13°	6	26	f/13	Practically constant; at full aperture = 13°	6	29	f/11	Practically constant; at full aperture = 12°
5 × 4	7½	29	f/19		7	29	f/15		7	32	f/12	
6½ × 4¾	10½	36	f/24		9	36	f/18		9½	41	f/15	
8½ × 6½	13	45	f/30		11½	44	f/22		12	50	f/19	
10 × 8	15½	54	f/36		14	53	f/27		14½	58	f/22	
12 × 10	18½	63	f/42		17	63	f/32		17½	69	f/26	
15 × 12	22	73	f/49		20	73	f/37		21	81	f/30	
18 × 16					24	86	f/43		26	99	f/37	

II. Moderate-Power (Portrait Lens Combination).

(11) Plate covered at full aperture.	No. 1. (5) (12) Back focus.	(5) Corresponding focus.	(9) Intensity.	(10) Angle of View.	No. 2. (6) (12) Back focus.	(6) Corresponding focus.	(9) Intensity.	(10) Angle of View.	No. 3. (7) (12) Back focus.	(7) Corresponding focus.	(9) Intensity.	(10) Angle of View.
	In.	In.			In.	In.			In.	In.		
4¼ × 3¼	8	15	f/10	At full aperture = 18° to 20°	5½	17½	f/ 9	At full aperture = 16° to 19°	5½	22	f/ 8	At full aperture = 13° to 16°
5 × 4	6	17	f/11		6½	19½	f/10		6½	24	f/ 9	
6½ × 4¾	7½	20	f/13		8¼	23	f/12		8½	28	f/10	
8½ × 6½	10	25	f/17		10¼	29	f/15		11¼	34	f/12	
10 × 8	12	29	f/19		13	33	f/17		14	40	f/15	
12 × 10	14½	34	f/23		15½	38	f/19		17	47	f/17	
15 × 12	18	41	f/27		18½	44	f/22		20	54	f/20	
18 × 16	22½	50	f/33		24	55	f/28		25½	66	f/24	

N.B.—In order to simplify calculations the intensity of the portrait lens has been taken at f/3. In reality it is somewhat less.

III. Moderate-Power (R.R. Lens Combination). (13)

(11) Plate covered at full aperture.	(14) Back Focus.	(10) Angle of View.	5 × 4 R.R. and 3in. Negative. Corresponding focus.	5 × 4 R.R. and 3in. Negative. (9) Intensity.	6½ × 4¾ R.R. and 4in. Negative. Corresponding focus.	6½ × 4¾ R.R. and 4in. Negative. (9) Intensity.	8 × 5 R.R. and 5in. Negative. Corresponding focus.	8 × 5 R.R. and 5in. Negative. (9) Intensity.	8½ × 6½ R.R. and 6in. Negative. Corresponding focus.	8½ × 6½ R.R. and 6in. Negative. (9) Intensity.	10 × 8 R.R. and 7in. Negative. Corresponding focus.	10 × 8 R.R. and 7in. Negative. (9) Intensity.
	In.		In.		In.		In.		In.		In.	
4¼ × 3¼	6½	At full aperture = 13° to 15°	19	f/25	21	f/21						
5 × 4	7½		21	f/28	23	f/23	25	f/20	27	f/18		
6½ × 4¾	9½		25	f/33	27	f/27	29	f/23	31	f/21	33	f/19
8½ × 6½	13		32	f/43	34	f/34	36	f/29	38	f/25	40	f/23
10 × 8	15½		37	f/49	39	f/39	41	f/33	43	f/29	45	f/26
12 × 10	19¼				47	f/47	49	f/39	51	f/34	53	f/30
15 × 12	23½						57	f/46	59	f/39	61	f/35
18 × 16	29								70	f/47	72	f/41

IV. Moderate-Power (Stigmatic Lens Combination). *Positive Lens working at f/6.*

(11) Plate covered at full aperture.	(14) Back Focus.	(10) Angle of View.	No. 2 and 2½in. Negative. Corresponding focus.	No. 2 and 2½in. Negative. (9) Intensity.	No. 3 and 3in Negative. Corresponding focus.	No. 3 and 3in Negative. (9) Intensity.	No. 4 and 4in. Negative. Corresponding focus.	No. 4 and 4in. Negative. (9) Intensity.	No. 5 and 4in. Negative. Corresponding focus	No. 5 and 4in. Negative. (9) Intensity.	No. 6 and 5in. Negative. Corresponding focus.	No. 6 and 5in. Negative. (9) Intensity.
	In.		In.		In.		In.		In.		In.	
4¼ × 3¼	6½	At full aperture about 16°	19	f/21	20	f/19						
5 × 4	7½		21	f/23	22	f/21	22	f/17	26	f/17		
6½ × 4¾	9½		25	f/28	26	f/25	26	f/20	30	f/20	31	f/17
8½ × 6½	13		33	f/37	34	f/32	33	f/25	39	f/25	39	f/21
10 × 8	15½		38	f/42	39	f/37	38	f/29	44	f/29	44	f/24
12 × 10	19½				47	f/45	45	f/35	53	f/35	53	f/29
15 × 12	23½								61	f/41	62	f/34
18 × 16	29										73	f/41

(1) These data are given for plates up to 18 + 16in. There is however no limit to the Camera extension that may be employed, as a focus may be obtained at any extension. Longer extensions of Camera give greater covering power, with an *increase* of corresponding focus and a *decrease* of intensity.

(2) Patent Stereo and No. 1 Negative.

(3) 1 B Patent and No. 2 Negative.

(4) 2 B Patent and No. 3 Negative.

(5) Patent Stereo and 2½in. Negative (Telephoto Detective Lens).

(6) 1 B Patent and 3in. Negative.

(7) 2 B Patent and 4in. Negative.

(8) To obtain the distances from the *flange* to the focussing screen, add 3¼, 4, and 6 inches for Nos. 1, 2, and 3 respectively.

(9) The actual intensity at full aperture, as expressing the ratio between aperture of front lens and (corresponding) focus is here given. As a matter of fact, however, it will be usually found that much less exposure than would be at first deemed necessary will suffice. (*See* par. 6 "Practical Hints.")

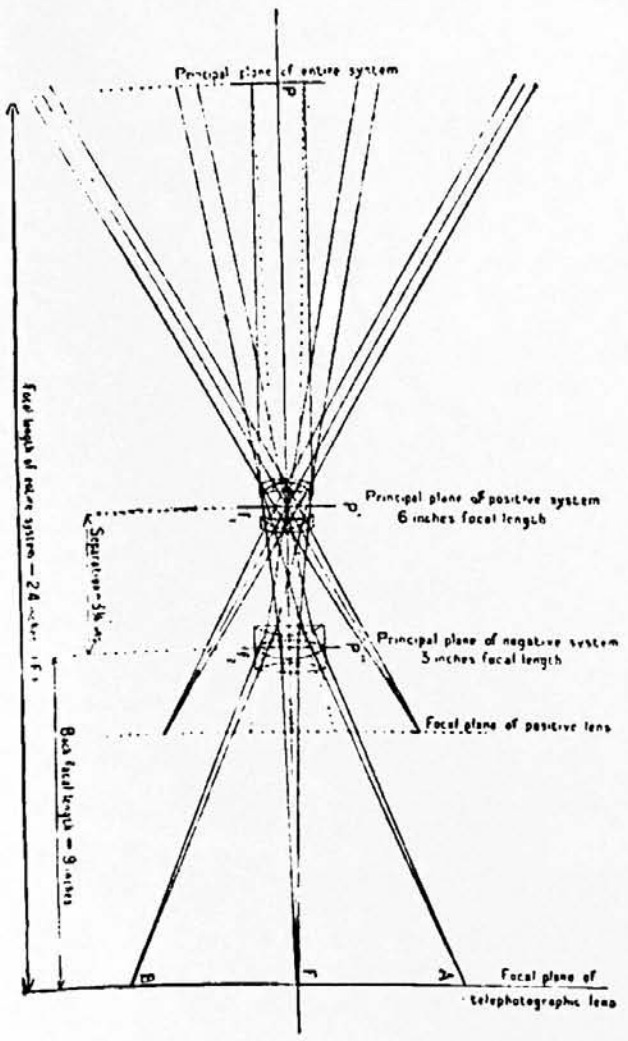
(10) The angle of view included *diminishes* as smaller diaphragms are employed.

(11) If a smaller stop than full aperture is used, a somewhat greater extension is necessary, the circle of illumination decreasing with the effective aperture, so that it is best to set the focussing screen at a rather longer extension than is necessary for covering the plate at full aperture.

(12) To obtain the distance from the *flange* to the focussing screen, add 2¼, 3, and 4 inches for Nos. 1, 2, and 3 respectively.

(13) In this table the positive lens is in each case taken as working at *f*/8, and the intensities are given for this lens working at full aperture. By applying the rules on page 29 the working data for any other combinations may be readily determined.

(14) The projection of the Negative Lens into the inside of the Camera varies with different Positive Lenses employed. As a general guide, two inches less than the focus of the Negative Lens may be taken as being approximately correct.



From "Telephotography," by Thos. R. Dallmeyer.

This diagram explains the action of the Telephotographic Lens:—

P' is any ordinary photographic lens (in this instance of 6 inches focal length), preferably of an intensity of *f*8 or higher.

P'' is the negative attachment (in this instance of 3 inches focal length) to the ordinary lens P'. P'' is preferably chosen about half the focal length of P' for all ordinary purposes.

The *focussing* screen A F B may be placed at any position behind P''. The greater the camera extension, the greater will be the magnification, but the less the rapidity.

In the case illustrated, where the camera extension from P'' is 9 inches, and the distance between P' and P'' has been adjusted to give a sharp focus, the Principal (or Nodal) plane of emission of the combination is thrown forward to a distance of 24 inches from the plate, or the equivalent focus is 24 inches, with a back focal length of only 9 inches.

Compare rules given:—

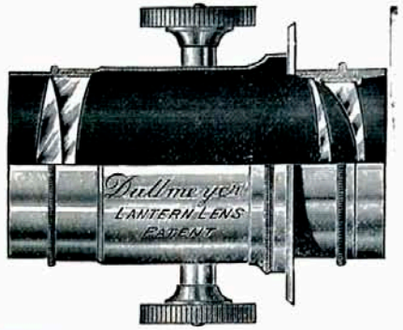
$\frac{\text{Back focal length}}{\text{Focal length of P''}} + 1 = \text{Magnification} = 4.$

As focal length of P' is six inches, the equivalent focal length = P' × 4 = 6 × 4 = 24.

If P' has an intensity of *f*, then the intensity of the combination is *f* × ¼ = *f*.

DALLMEYER'S LANTERN LENSES (Patent) and CONDENSERS.

These Lenses are specially constructed for use with the Optical Lantern and are *not* intended for Photographic purposes. They will be found to give a perfectly achromatic image, combined with an absolutely flat field, and great brilliancy of definition. The enlargements upon the Screen are perfectly true to the original, free from all distortion, and well defined throughout, whilst the equality of illumination obtained is a remarkable feature.



Each Lens supplied with a rack and pinion movement.	Diameter of front combination.	Diameter of back combination.	Back Focus.	Equiv. focus.	Price.
	Inches.	Inches.	Inches.	Inches	£ s. d.
No. 1. LANTERN LENS	1¼	1¾	3½	5	4 0 0
No. 2. Do.	1⅜	2	4	6	5 0 0
No. 3. Do.	2⅛	2¾	5½	8	7 5 0
No. 4. Do.	2⅝	3	7½	10	9 10 0
No. 5. Do.	3	3¼	9½	12	12 0 0

CONDENSERS.

	Diameter 3½in.	4in.	4½in.	5in.
Double	£3 10 0	£4 0 0	£5 0 0	£6 10 0
Triple	£4 12 6	£5 5 0	£6 7 6	£8 5 0

For use with first-class Objectives. Made to formulae calculated for the concentration of the greatest possible amount of light, and achromatically corrected. The glass obtained is the finest obtainable, and free from any striæ or similar defects.* It is specially annealed and—with ordinary care—*will not crack.*

DALLMEYER'S IMPROVED LANTERN BODIES.

Constructed of the best seasoned and polished mahogany, lined with iron. Mounted with brass polished sliding fronts, double doors, &c., &c., arranged for use with oil, mixed gases or electric light.

Monocular	£6 6 0
Binocular (for dissolving purposes)	£12 12 0

Gas Jets, Dissolving Taps, Limes, Bags, Pressure Boards, Gasometers, &c., to order.

* An air-bubble or scratch, which would have no effect on the performance of the Objective or any ordinary Lens, is of far more importance in the Condenser, a mark hardly visible on its surface being magnified, and fatally apparent on the screen.

5 per cent. discount for Cash with Order

LENS FITTING SAME FLANGES.

There are now so many thousands lenses of our manufacture upon the market of the world that we retain our own standard gauges for well-known types. Any lens, however, can be ordered to fit the Royal Photographic Society's standard, or adapters can be made to the nearest size larger. All new series of lenses issued will be made to the Royal Photographic Society standard flanges.

Prices.	No. of Flange.	Diam. of Screw.	Threads to an inch.	*Description of Lenses.*
1/9	0	1·2	30	4¼ × 3¼ Rapid Rectilinear.
2/–	1	1·5	30	Special Hand Camera. 5 × 4 and 6½ × 4¾ Rapid Rectilinear. 2 Rectilinear. 1 *aa* Wide Angle Rectilinear. Rectilinear Stereo. Nos. 1 *aa* and 1 *a* Rapid Landscape (long focus).
2/6	2	2·0	30	8 × 5 and 8½ × 6½ Rectilinear. 2 *D*. Nos. 1, 2 and 3 quick-acting Stereo. Patent Stereo. Miniature. No. 1 Triple Achromatic. Nos. 1 and 1 *a* Wide Angle Landscape. Nos. 1 and 1 *a* Wide Angle Rectilinear. No. 1 Rapid Landscape (long focus). No. 1 Rectilinear Landscape.
3/–	3	2·275	21	No. 1 Lantern. No. 1 Telephoto.
3/6	4	2·5	21	1 *B*. No. 1 Rectilinear Portrait, 10 × 8 and 12 × 10 Rapid Rectilinear. No. 2 Lantern. No. 2 Wide Angle Rectilinear. Nos. 2 and 3 Wide Angle Landscape. No. 2 Triple Achromatic. No. 2 Rapid Landscape (long focus). Nos. 2 and 3 Rectilinear Landscape.
4/–	5	2·75	21	13 × 11 Rapid Rectilinear. 3 *D*. No. 3 Triple Achromatic. No. 3 Rapid Landscape (long focus). No. 4 Rectilinear Landscape.
4/6	6	3·2	21	15 × 12 Rapid Rectilinear. 2 *B*, 2 *B* patent. 1 *A* patent. No. 2 Rectilinear Portrait. 2 *C*. Nos. 4, 5, and 5 *a* Wide Angle Landscape. No. 3 Wide Angle Rectilinear. No. 4 Rapid Landscape. No. 5 Rectilinear Landscape. No. 3 Lantern.
5/–	7	3·4	20	4 *D*. No. 4 Triple Achromatic. No. 3 Telephoto.
5/6	8	3·9	20	18 × 16 Rapid Rectilinear. 5 *D*. No. 4 Wide Angle Rectilinear. No. 5 Triple Achromatic. No. 6 Wide Angle Landscape. No. 5 Rapid Landscape (long focus). No. 6 Rectilinear Landscape.
6/–	9	4·25	14	3 *B*. 3 *C*. 3 *A*. No. 5 Wide Angle Rectilinear. No. 6 Rapid Landscape (long focus). No. 7 Rectilinear Landscape.
7/–	10	4·6	14	22 × 20 and 25 × 21 Rapid Rectilinear. 6 *D*. 3 *A*. No. 6 Triple Achromatic. Nos. 7 and 8 Wide Angle Landscape. No. 7 Rapid Landscape (long focus).
7/6	11	5·1	14	4 *A* and 4 *B*.
8/6	12	5·55	14	Nos. 7 and 8 Triple Achromatic.
10/–	18	6·1	11	40 × 34 Rapid Rectilinear. 5 *A*. 7 *D*.
12/6	14	7·15	10	34 × 34 Rapid Rectilinear. 36 × 36 Triple Achromatic. 6 *A*. 8 *D*.
				Telephotographic Attachments (System III.) made to Photographic Society's standard.

BRASS INTERMEDIATE ADAPTERS can be made from any one size to any other; the flanges and adapters being accurately made to gauge, can be supplied without the necessity of sending the lens to the works. Prices on application.

EXTRA FLANGES, CAPS, DIAPHRAGMS, &c., are generally kept in stock.

on all Lenses and Apparatus.