

Voigtländer

& Sohn, A.G.

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MANUFACTURERS OF
— HIGH GRADE —

Photographic Lenses Cameras and Accessories.

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NEW YORK, Brunswick Building, 225 West 5th Avenue.

MANUFACTORY: OPTICAL WORKS, BRUNSWICK, GERMANY.

F. G. PHILLIPS,
Sole Agent Great Britain and Colonies.

PREFACE.



IN presenting our Catalogue, which has been carefully revised and includes the latest models of our Photographic Cameras and Lenses, it has been our pleasant task to offer to those serious workers in Photography certain information which we trust may prove acceptable and helpful.

Our Camera Models have been perfected and brought to a very high state of perfection which will satisfy every requirement.

The development of Photographic Science has brought largely into use the Telephoto Lens. The advantage of a Telephoto Attachment is now very generally recognised, as it enables the user to obtain enlarged distant objects without coming near to those objects, and without using heavy long focus lenses and large cameras.

Amongst the many uses to which a Telephoto Attachment may be found serviceable, we might mention that of architecture, where it is desirable to have a certain portion of a house, such as a gable or column, in such a size that the details may be seen quite distinctly, which may be enlarged from 2 to 10 times over that of the same picture taken with an ordinary lens. It will also be found useful for taking landscapes, mountains and portraits. A Telephoto Attachment may also be used with our Hand Cameras when a magnification of $2\frac{1}{2}$ times is obtained.

Further helps in Photography are our Contrast and Compensation Filters, particulars of which will be found on pages 37 to 40.

We have introduced, for use with Autochrome Plates, a special Filter "The Dukar," which is referred to on page 69. When using this Filter it is not necessary to reverse the ground glass screen as is general with other filters used for Autochrome work.

We trust that the information contained in this Catalogue will enable the intending purchaser to select the apparatus which is most suitable for his requirements.

Voigtländer & SOHN, A.G.

Description of the various *Voigtländer* Lenses.

I. Anastigmats.

Of the four series of Voigtländer Collinear lenses, the two of greatest intensity of light are most adapted for amateur photography.

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The Collinear sets of Series III. consist of 3 or 4 Collinear halves.

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1. The Collinear consists of two equal halves placed symmetrically against a central diaphragm, each of which is composed of three lenses cemented together. It is made in four series.

(a) The Collinear, Series II., is made from 6 cm. up to 20 cm. focal length, with a full aperture of F 5,4, and for longer focal distances, F 6,3. The angle with the greatest aperture is 60 degrees.

(b) The Collinear, Series III., is made from 7 cm. up to 18 cm. focal length, with a full aperture of F 6,8, and upwards, F 7,7. The angle corresponding to these is 60 degrees.

The single halves, the focal lengths of which are in proportion to that of the double lens as 5 is to 3, work with the largest aperture F 15, with an angle of 50 degrees. They are useful for the combination of sets; in this manner it is possible to obtain, by the use of three halves of various focal lengths, six combinations all different from one another. Three of these combinations are double lenses, with the largest aperture F 7,7, and an angle of 66 degrees. We do not recommend putting together the halves of numbers which are too wide apart from each other; as a rule, three or four single halves of numbers close to one another are best adapted for the formation of a set.

For simplification in use, the scale on the iris diaphragm indicates its opening in millimetres; with every set is a table, giving the aperture of the diaphragm corresponding to the focal distance of each combination for the graduation. The set contains as its body that of the double lens, the half of which forms the largest number of the set.

These two Collinear Series are in every respect Universal lenses, and are appreciated by amateur photographers, on account of their symmetrical structure and their intensity of light.

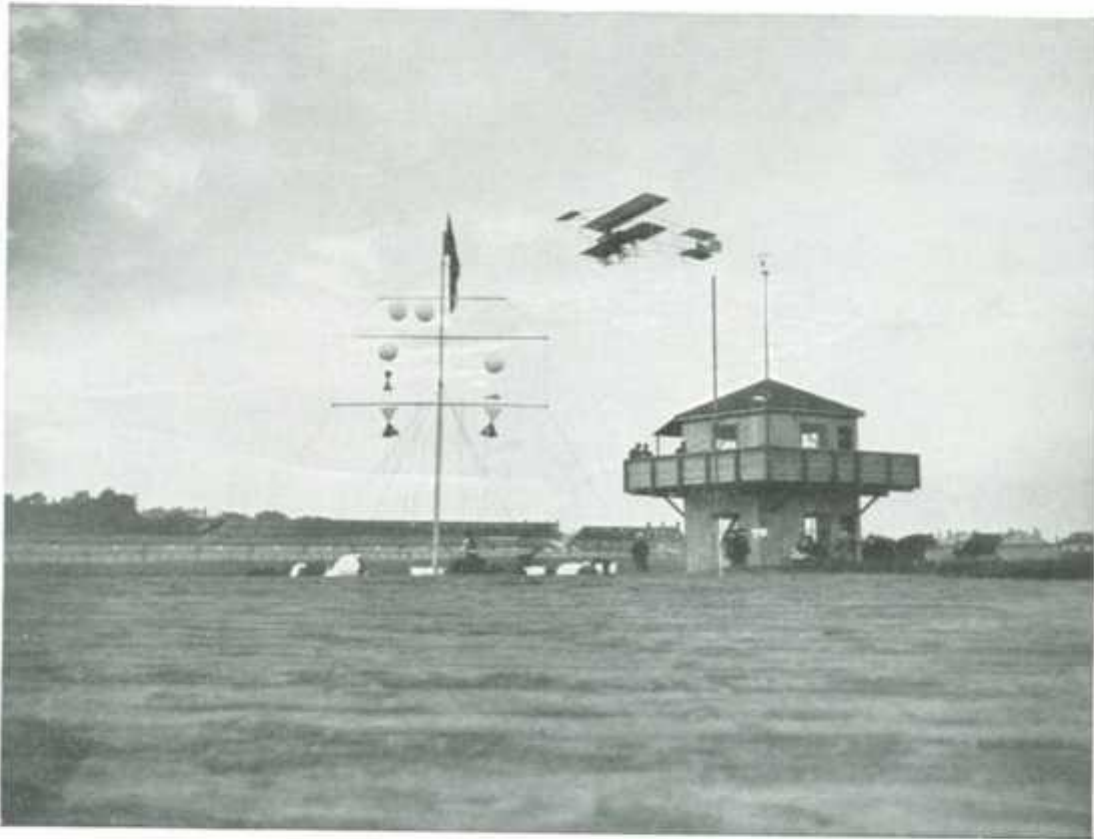
Page 53.

(c) The Collinear, Series IV., has an aperture of F 12,5, and at full aperture an angle of 75 degrees. It is not used for general purposes, nor for hand cameras. Its usefulness, however, lies in making wide angle exposures, such as architectural work, etc., and for process work, by reason of its symmetrical arrangement.

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(d) The construction of the Apochromatic Collinear Series is based on the calculations of Dr. H. Harting, F.R.P.S.* The aperture is F 9, from a focal length of 30 cm. upwards; in the smaller sizes it is F 8.

* Dr. H. Harting, F.R.P.S.: "On the suppression of the secondary spectrum in optical systems," and "On the theory of the Apochromatic Collinear." *Photogr. Korrespondenz*, 1901.



Taken with Heliar Lens. 18 cm.

The angle varies according to the purpose for which the lens is intended between 60 and 75 degrees. This series is for reproduction photography. Through the total suppression of the secondary spectrum a complete congruity of the different coloured images has been attained, both in size and position. Therefore the Apochromatic Collinear Lens has become indispensable for colour photography, and likewise for the process of three-colour printing.

2. The Heliar, constructed also upon the calculations of Dr. H. Harting, F.R.P.S.,* is an unsymmetrical lens, the various parts of which cannot be used separately, or in conjunction with the corresponding parts of other focal lengths.

Between two pairs of lenses, consisting each of two lenses cemented together is placed a single lens, and behind this lens is the diaphragm. Owing to the excellent union of the light rays and the total absence of coma, the proportion of aperture up to a focal length of 60 cm. is $F\ 4.5$, while the field for a plate sharply focussed at full aperture is 48 degrees.

The Heliar is specially adapted for forcing the photo-mechanic process to the utmost. According to results from our own tests, as

* Dr. H. Harting, F.R.P.S.: The Heliar. *Photogr. Korrespondenz*, 1902.

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The Heliar Lens is largely used by professional photographers who recognise that it is possible to produce the highest class of work by its use.

well as from those of Professor A. Miethe's, in Charlottenburg, it is in the highest degree adapted for all exposures in half tone, because owing to the suppression of every difference in the diaphragm, and also by reason of the great capacity for work at the full aperture of F 4.5, and the absence of coma, it is possible to use a very large diaphragm, and consequently to do the work in a short time (three to five minutes with an illumination from two lamps of 25 Amperes).

The Voigt-
linder Dynar
is a lens for
universal use,
but owing to
its lack of
symmetry it
can be used
only as a
whole.
Page 57.

3. The Dynar Lens, also constructed by Dr. H. Harting, F.R.P.S., is similar to the Heliar in structure with regard to the position of the diaphragm, and except that the collecting lenses of the cemented pairs are placed outside, whilst in the Heliar they stand



Photo by H. P. Hopkins, Esq.

Taken with Dynar Lens. $13\frac{1}{2}$ cm. See enlargement, page 56.

against the central lens. It is made only in four focal lengths, viz., 12, $13\frac{1}{2}$, 15, and 18 cm., with an aperture of F 6, and a field of 60 degrees. Not being, however, a symmetrical lens, only the complete objective can be used.

The two series, the Heliar and Dynar, have their greatest working capacity approximately at their widest aperture, whereas the fields of the Collinears widen considerably with increased stopping down.

Cemented and
uncemented
lenses of equal
proportions of
aperture
require the
same time of
exposure.

It is necessary to state explicitly that the differences in the intensity of light of two lenses of equal focal length and of equal effective aperture, of which one contains cemented and the other uncemented lenses, are so trifling, that for practical purposes they are of no importance.



This enlargement is from a negative taken with Heliar Lens and Stereophotocscope Camera.

4. The Oxyn Lens (*Oxys*, Greek, sharp), constructed by Dr. H. Harting, F.R.P.S., is composed of five lenses, two pairs of which are cemented, divided by a single lens in the centre. It is claimed for the Oxyn lens that the power of both the cemented surfaces is equal to that of a collecting (positive) lens.

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II. Astigmats.

1. The Portrait Lens, Series Ia, with an aperture of $F_{2,3}$, was invented by Professor H. Zincken, and adopted by Dr. H. Harting, F.R.P.S., in up-to-date manufacture.* It consists of four lenses, of which two are cemented together. The angle of the picture proper is 22 degrees; the structure is very elongated, so that vignetting soon takes place. In spite of the small field excellent results can be obtained in small sizes. Accordingly this lens is specially adapted for cinematograph exposures, and for studio work in very weak light, but

The astigmats are only intended for professional photographers, especially the Portrait lenses, Series I, and the Portrait Euryscope Series III. They cannot be used with a hand camera.

* Dr. H. Harting, F.R.P.S.: "On a portrait objective with strong luminosity." *Photogr. Korrespondenz*, 1900.



"Attention."

Taken with Voigtlander Collinear Lens, Series II.



Taken with Heliar Lens, 30 cm.



not for landscape photography or general pictures. Owing to its size it cannot be used in a hand camera.

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The depth of focus is very small; but in spite of this, with clever handling on the part of the operator, very good results may be obtained.

2. The Portrait Lens, Series I., is manufactured with the Voigtländer alterations resulting from the calculations of Petzval. The aperture is F3,2, and the angle of the satisfactory part of the picture 28 degrees. In shape it is somewhat shorter than that

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of Series Ia. It is principally used for taking single portraits and for projection, and is found in all photographic studios.

Although the construction of these two series dates back nearly half a century, their correctness for astigmats is remarkable. In consequence of the suppression of the coma, a splendour and delicacy is obtained which is looked for in vain in many anastigmats made by other manufacturers. It is a universally recognized fact that, whilst many makers forget to suppress the principal enemy of brilliancy of the image, viz., the coma, in the endeavour to give their lenses a wide anastigmatically levelled field, this has always been an important feature in the Voigtländer Lenses.

3. The Portrait-Euryscope, Series III., belongs to the class of aplanat consisting of two achromatic halves. The full aperture is F4,5. The angle of the picture proper measures 32 degrees. This lens is used principally by professional photographers. Owing to its somewhat inferior intensity of light in comparison with the preceding Series I., the larger sizes are used for taking smaller groups.

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4. The Euryscope, Series IVa., is of the same class as the last mentioned series; with an aperture of F 7 the angle of the picture proper is 40 degrees. In consequence of its shorter structure vignetting shows itself only at a greater angle. This lens is used only in the studio, for taking portraits and large groups when stopping down is no consideration.

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As this shows, the Voigtländer lenses are of such variety as to meet every requirement. So far as we are aware, Series Ia, with an aperture of F 2,3, represents the photographic lens having the greatest intensity of light which is regularly manufactured by optical firms. A further increase of the intensity of light would serve no purpose

There is a convenient Voigtländer lens for every purpose.

owing to the rapidly decreasing depth and the diminution of the field of usefulness. In this respect a limit is set to the introduction of greater focal lengths by the considerable measurement of the body.

At the opposite extremity stands the Collinear Series IV., the field with comparatively great intensity of light is sufficient for all requirements. Here, of course, the construction of very long focal distances is possible. Among the anastigmats the Heliar has the greatest intensity of light with $F\ 4,5$; for the reasons above expressed it is useless to construct anastigmats with a larger proportion of aperture.



Taken with Collinear Lens, Series IV.

Valuable Accessories to Photographic Lenses.

I. The Tele-Photo Lens.

When it is desirable to obtain enlarged on the plate some details of a distant object which an exposure with a lens of average focal length will not afford, and the use of lenses of long focus is often impossible, because of their weight and their adjustment, then the Tele-photo lens becomes necessary.

The great focal lengths of ordinary lenses require a long extension bellows camera. But cameras fitted with long extension bellows are not generally suited to take such small sizes as $\frac{1}{4}$ plate.

It is however possible to obtain the required focal length for producing an enlarged image by inserting the negative lens between the ground glass and the outside lens, the distance of which from the lens is subject to certain conditions. The focal length of the whole tele-photographic lens, consisting of the outside lens and the negative lens, is variable, but always remains greater than that of the outside lens alone. It becomes infinite if the back foci of this lens and of the negative lens (the so-called tele-negatives) cover each other. If the two parts which are placed in the tele-extension are screwed farther asunder, the focus grows less and becomes infinite.

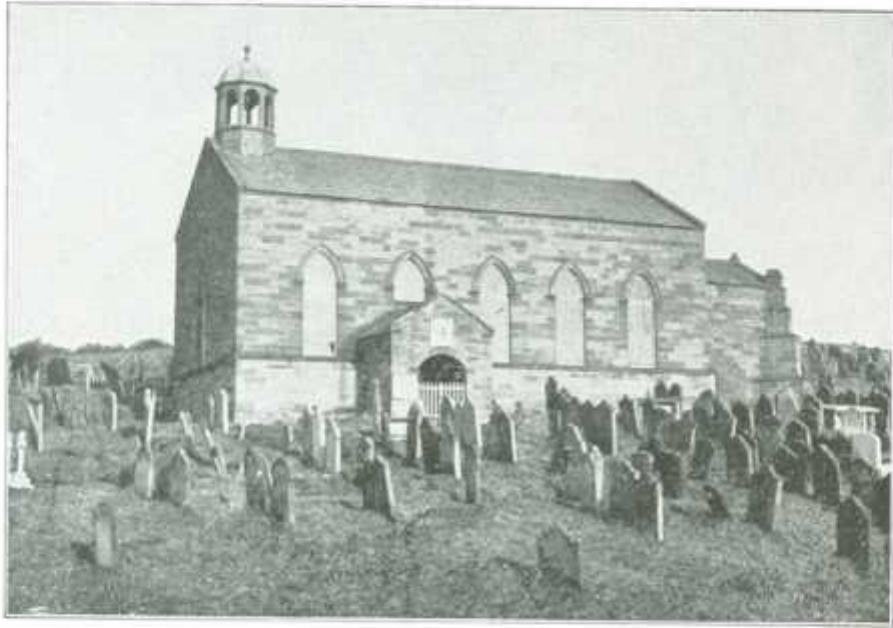
The Tele-photo lens replaces an infinite number of single lenses of different focal lengths. The advantages would be inestimable if the disadvantages which have to be taken into account did not considerably diminish the value of this contrivance. But as the effective aperture, independently from the displacements of the tele-negatives, remains always the same, the proportion of aperture diminishes the more, the greater the focal distance; and consequently diminishes in proportion as the enlargement increases.

If, for instance, we put together a Collinear Series II., with a focal length of 20 cm., with a tele-negative so placed that the image on the ground glass shows a five-fold enlargement on the image projected by the Collinear alone, the focal length of the whole Tele-photo is 100 cm. The intensity of light of the F 5.4 of the Collinear Series II. falls in the Tele-photo lens to F 27. The time of exposure is therefore increased 25 times.

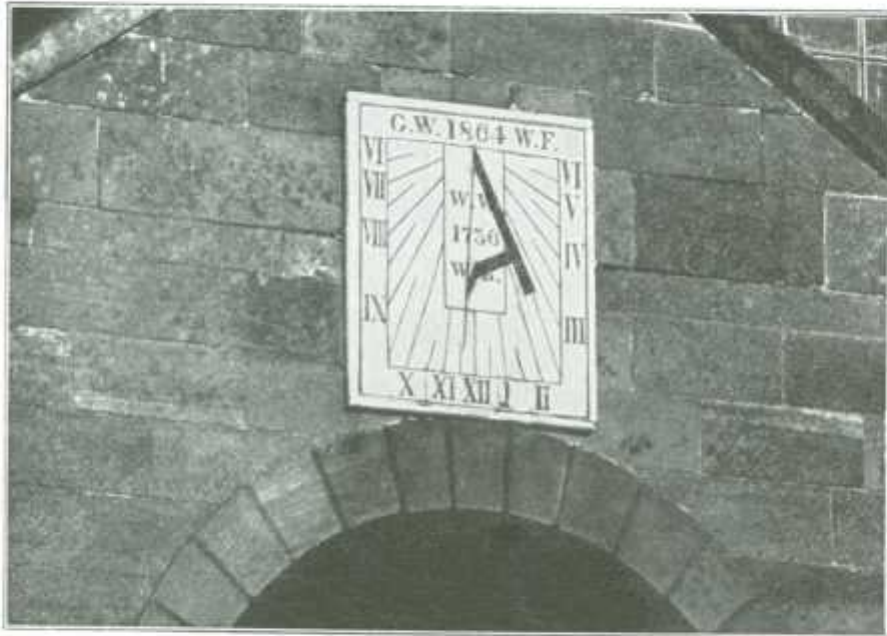
The main advantage of the combination is, however, the comparative short extension of bellows, because the back cardinal point of the whole system moves far away from the lens in the direction of the object. In this way it is possible with the ordinary stand cameras ($\frac{1}{4}$ and $\frac{1}{2}$ plate) to make greatly enlarged tele-photographs.

The tele-photo lenses serve for the production of enlarged pictures with a comparatively short extension of the camera.

When working with tele-lens it is advisable to choose calm weather with little or no wind, on account of the increased exposure.



Taken with Heliar Lens, 15 c/m.



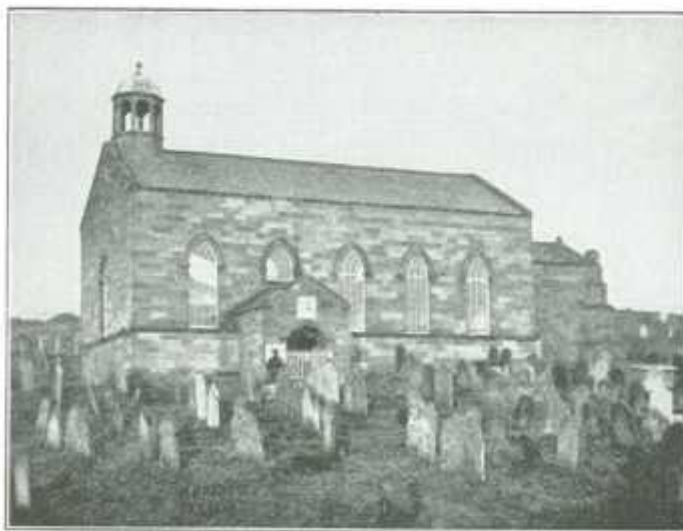
Taken with Heliar Lens 15 cm. and Telephoto No. 3.

Both photographs taken from the same position.

Photos by H. P. Hopkins, Eng.

The fundamental conditions for the success of tele-photography are: The rigidity of the whole apparatus, and above all calm atmosphere, in which there are neither undulations nor currents. These conditions are not always possible, therefore good tele-photographs are somewhat difficult to obtain.

Owing to the fact that diffraction becomes visible if very small diaphragms are used, the lens itself must only be stopped down so that the aperture of the tele-photo system is not smaller than F 100. If, for instance, the enlargement is fivefold, the lens must not be stopped down below F 20. On the other hand, it is necessary to stop down as much as possible in order to obtain the necessary sharpness which is lacking if the lens is fully opened, owing to the insertion of the tele-negative into the pencils of light between the outside light and the image.



Taken with Collinear Series III. and Alpine Camera.

The Voigtländer Tele-Negatives



Taken with Collinear Lens, Series III., Alpine Camera and Telephoto Lens, $2\frac{1}{2}$ magnification. From same position as above.

Photos by H. F. Hopkins, Eng.

are constructed upon the calculations of Dr. A. Miethe. They consist of three lenses cemented together, the diameter of which increases with the focal length. They are manufactured so that the qualities of the lens suffer no deterioration; but you cannot get with a tele-lens the sharpness of an anastigmat of the same focal length and aperture.

The smaller the focal

The tele-lenses give a less distinct picture than ordinary anastigmats of equal aperture and focal length. Page 63.

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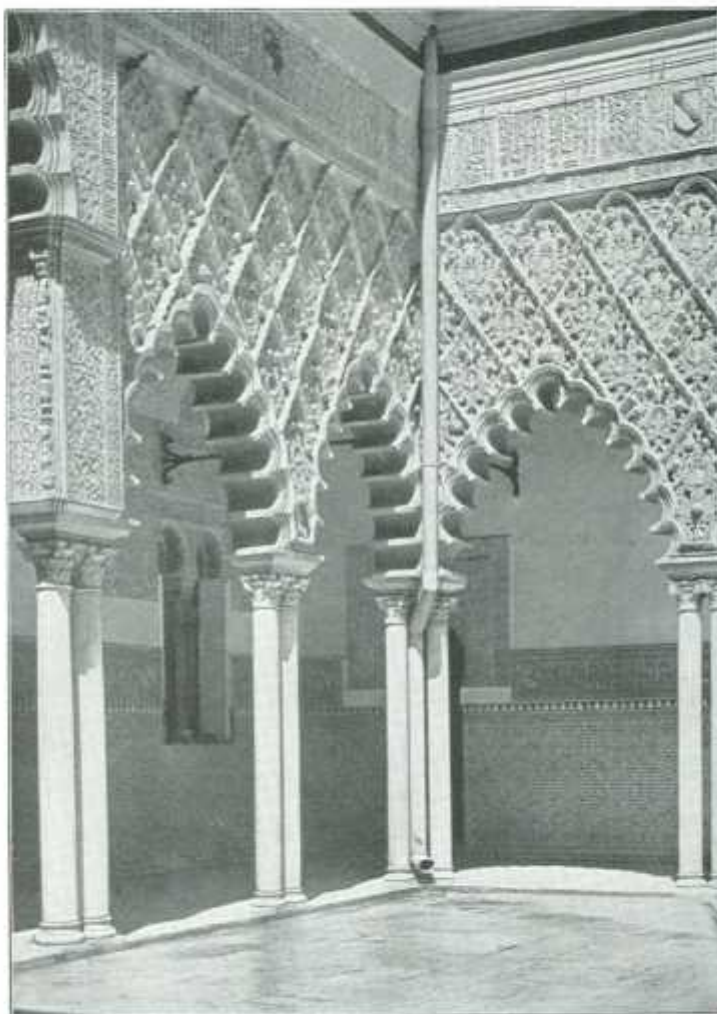
length of the tele-negative is in comparison with the lens, the smaller becomes both the extension of the camera and the extension of the picture with otherwise equal proportions. In the Voigtländer tele-negatives the focal distance is about the *third part* of the focal length of the positive lens.

The tele-negative is screwed into the back of the tele-extension, which consists of a tube provided with a rack and pinion movement. This tube has at the fore end the thread for receiving the positive lens. Through a small opening in the tube a millimetre scale is visible; if the indicator is placed at zero, the focal length of the whole tele-photo lens is infinite. In any given position of the tele-negative the optical intermediate space is read of the foci of lens and tele-negative. The division of the focal length of the tele-negative by the intermediate space indicated on the scale gives the enlargement upon the ground glass as compared with the exposure through the lens alone.

The accuracy of this calculation can be tested by measuring on the ground glass, with a scale, the original and enlarged picture.

Only anastigmats can be used in a tele-system. The introduction of an astigmat is to be particularly discouraged, on account of the limited extension of the field and strong distortion.

For easy handling the Collinear Series, Dynar and Heliar, are specially recommended, as these lenses are already sufficiently luminous to render a good lighting of the ground glass possible.



Taken with Collinear Lens, Series III.

The enlargement is ascertained by measuring the original and the enlarged picture by means of a scale.

Only Anastigmats to be used in conjunction with a Tele-negative Lens.



Taken with Heliar Lens.

Tele-photo Objectives for Hand Cameras.

Owing to the interest taken in tele-photo work, we have constructed tele-extensions without rack and pinion movement. The enlargement obtained by this accessory is about $2\frac{1}{2}$ times. Should one of these Tele-negative lenses be used in connection with our Heliar, Dynar or Collinear lenses, instantaneous pictures can be obtained.

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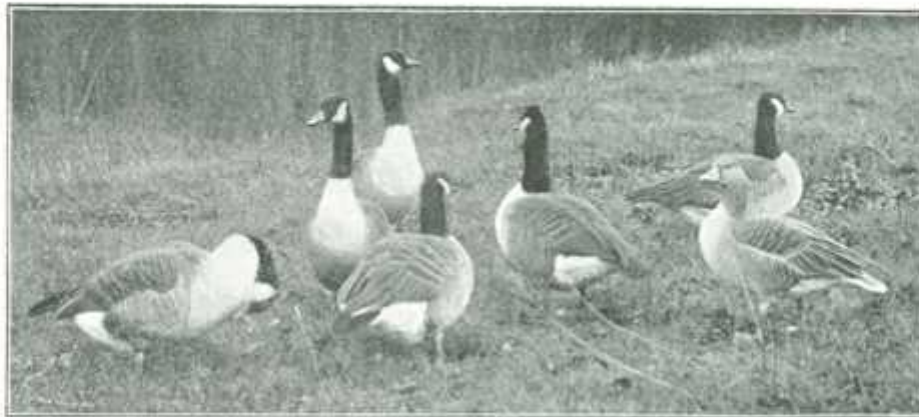
II. Colour Filters.

If in all instruments of which we have so far spoken, we examined the alterations in shape affecting the pencils of light in their passage through the lens, we have now to discuss some arrangements which do not influence the work of the lens, but by which the quality of the silver salt sensitive to light is influenced in various degrees by coloured light. These are called Colour Filters, and it is their function, according to the purposes in view, to extinguish certain colours in the spectrum of an object radiating light, the image of which is produced on the plate by the lens. The actinic light is therefore passed through a sieve, so to speak, and the undesirable part of the spectrum is retained in the filter.

The Colour Filters serve to retain certain spectral colours of the object to be photographed.

The ordinary photographic plate, in which the bromide of silver is embedded in the gelatine in the shape of fine dust, is most sensitive to dark blue light, whilst it is not at all influenced by red or yellow rays: and by green ones only after a very long exposure. The result

Colour Filters and plates sensitive to colour.



"Canadian Geese."

Taken with Collinear Lens, Series II.

Mounting of Lenses.

In conformity with construction of photographic apparatus we make the mounts of our lenses in four different ways.

1. Lenses in ordinary mounts have the flange at the base of the tube, *i.e.*, that turned towards the ground glass focussing screen.

2. Lenses with countersunk mounts have the flange in the upper part of the tube (that turned towards the object to be photographed). This mounting is chosen for cameras such as the Heliar, where there is not sufficient space in front to allow for the projection of the ordinary mount, and the lens must therefore reach further into the interior of the camera. These lenses are provided with an iris diaphragm adjustable from the front.

3. Lenses in focussing mounts carry the flange in the upper part of the body, and possess a focussing arrangement which gives scope for the movement of the lenses outside the body, as required for focussing purposes. Upon the outer ring there is a scale, and on this the estimated or measured distance is given in feet, in order to be able to get a sharp image with hand cameras of unchangeable extension. If the focussing is done upon a very distant (infinite) object, the lens is placed back in the mount as far as it will go. The infinity mark is indicated by a ∞ , which is engraved on the mount. These lenses also are only supplied with iris diaphragm.

For stereoscopic cameras with two identical lenses in focussing mounts, it is advantageous to apply a double lever, which renders a simultaneous focussing and adjustment of the iris diaphragm. The price of this double lever is 30 shillings; and the telegraphic word is "*Norma.*"

4. Lenses in Shutters are supplied to special order, when required to fit customers' own cameras. For further particulars as to the various shutters and prices see pages 70 and 71.

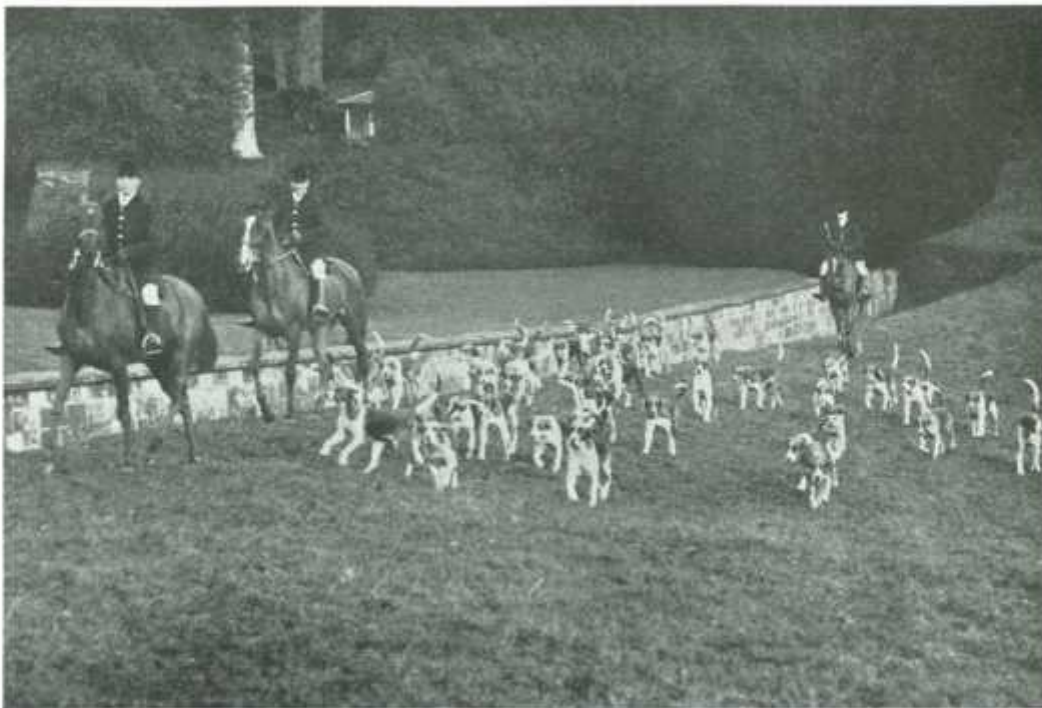
All Voigtländer lenses are engraved with the name Voigtländer, the series number, and the number of the lens itself.

Caution.—Purchasers should satisfy themselves that the lenses are genuine, as *fraudulent imitations are not unknown.*

The Quality of our Glass.

We here give some particulars as to the quality of the glass which we use. The durability of all our lenses is well known.

The great improvement which has taken place in photographic lenses, since and in consequence of the introduction of the new Jena glass, was brought about through the large selection placed at the disposal of opticians to test the power of refraction, as well as the diffusion of colours in this glass. However, it has been practically impossible to produce this Jena glass entirely free from air bubbles enclosed in



"Hunting—Warwickshire Foxhounds."

Taken with Voigtlander Collinear Lens, Series II.

them; which, curiously enough, exercise absolutely no influence on the correctness of the image.

We believe that, on this subject, nothing more satisfactory can be afforded than a communication from the glass works of Schott and Co., of Jena, which gives a practical explanation in a few words.

The efforts of opticians to improve the systems of lenses of the finest character have been the means, during the last ten years, of using more and more of certain kinds of glass, especially for photographic purposes. These kinds of glass, on account of their optical qualities and chemical composition, differ considerably from the crown



Taken with Heliar Lens, 18 cm.

and flint glass formerly in use, and their production presents to the manufacturer, in a way, much greater technical difficulties than the melting of the optical glass formerly in fashion. Most of the various kinds of glass which have of late come to the front for the manufacture of improved photographic lenses, are uncommonly difficult to obtain with complete homogeneity—that is to say, exemption from

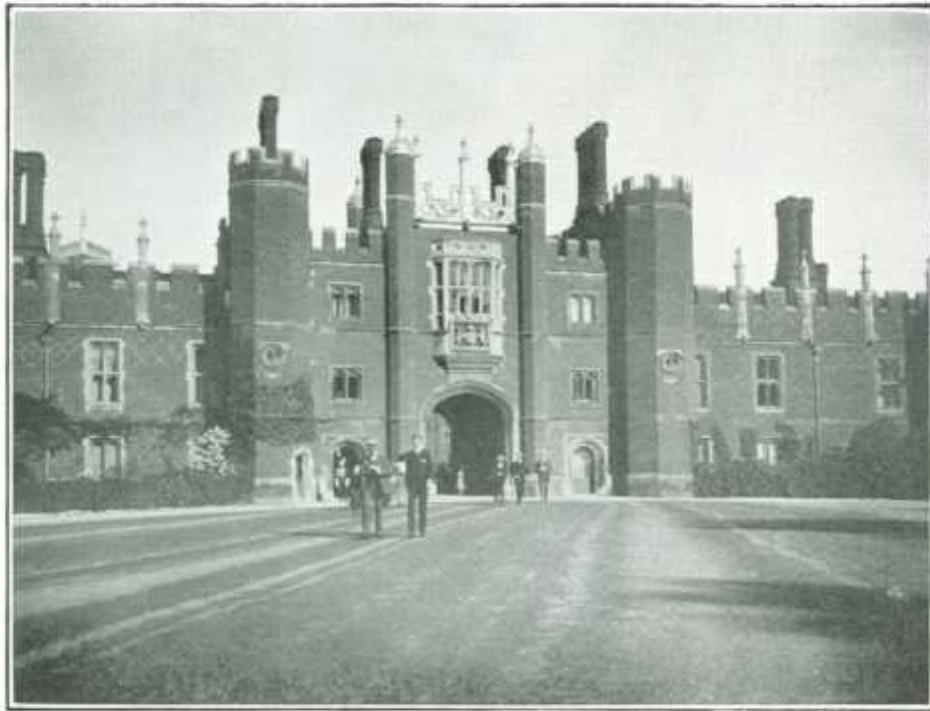
tiny air bubbles. The reason for this is that all the special uses to which they are now put, differing entirely from the old ones between the power of refraction and the diffusion of colours, subject the chemical composition of the glass to such strict limitations that the technics of melting have now comparatively small field. The consequence of this is, that in the same kind of glass it has become practically impossible to produce regular pieces entirely free from bubbles.

We must point out that the existence of small air bubbles, even in the most unfavourable case, causes a loss of light of scarcely one-fiftieth per cent., and consequently remains absolutely without effect upon the optical working of a system of lenses.

Now it is evidently *unfair* to ask the producer of glass for optical purposes to fulfil the increased and very varying demands of opticians with regard to all the *really* essential qualities of the glass for lenses, and require him, moreover, to throw away nine-tenths of the glass produced, simply because it shows a defect which makes absolutely no difference to the work done.

If the purchasers of photographic lenses condemn those with a few tiny air bubbles, according to the old habit, as being “defective,” the optician will have to make them understand that, unfortunately, lenses of refined quality cannot be made from any crown or flint glass whatever, but only from kinds of glass, the selection of which much more weighty reasons must decide than the presence of a few bubbles.

Now that practical experience has proved the non-influence of air-bubble defects, and as we proceed in the selection of our glass material with the greatest care, we beg to ask our customers not to attribute any importance to the presence of such bubbles; we cannot admit them as a justified reason for any claim.



Hampton Court.

Photo by C. Hoffman, Eng.

Taken with Voigtländer $\frac{1}{3}$ -plate Film and Plate Camera and Voigtländer Collinear Lens, Series III.



Taken with Heliar Lens, 30 cm.

Voigtländer

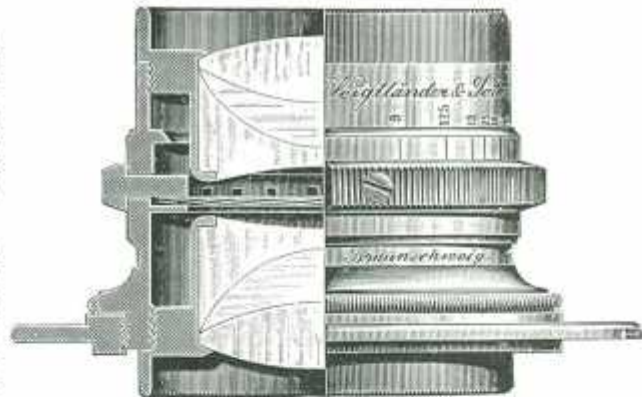
Collinear - Lens. -

“THE PERFECT LENS.”

The “COLLINEAR” LENS may well be styled “The Perfect Lens,” although one of our earliest and best known types of Anastigmat lenses, it is more popular in the photographic world of to-day than ever. It is peculiarly suited for both amateur and professional photographers, and there is no work for which the “Collinear” is unsuitable. Page 26.

“Collinear” Lenses are symmetrical, the front and back combination being of the same focus, either can be used separately, and each in itself is a corrected achromatic anastigmat, giving searching definition. The detail in photographs taken with either or both combination of this lens is remarkable.

Series II, F 5.4, is used for extra rapid work with a Focal Plane shutter, also most suitable for all work performed in a weak light. This lens is generally used by Press Photographers for photographing horse races, athletes, animals in nature, &c.



SERIES II,

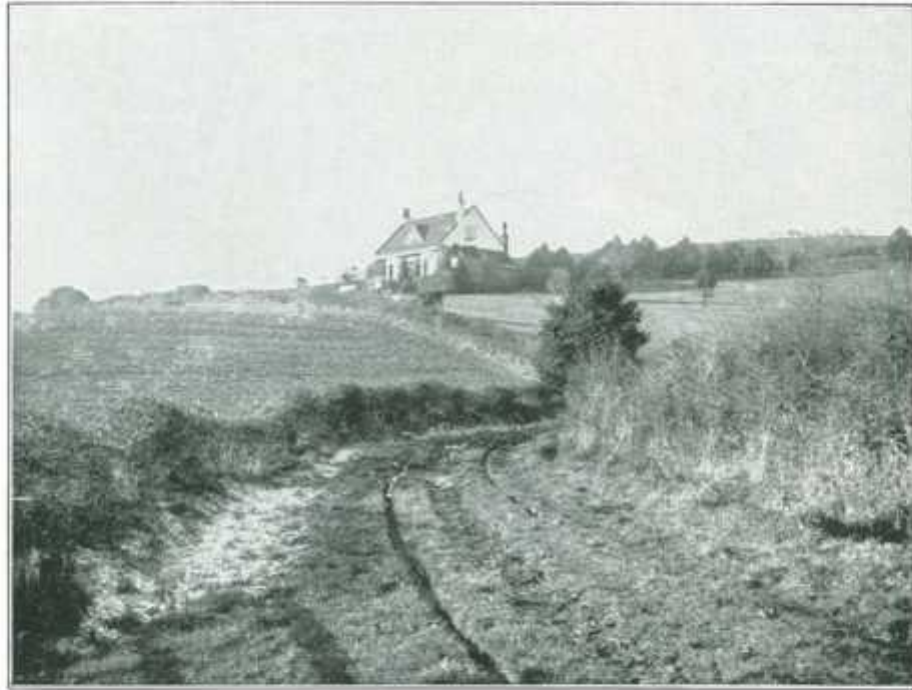
Full Aperture, up to 20 cm. focus, F 5.4; 25 cm. to 60 cm., F 6.3.
Angle of View 60°.

Equivalent Focus.		Diameter of Lens.			Size of Plate sharply covered.		Ordinary Mount.	Code Word.	Countersunk Mount.		Focussing Mount.	
cm.	ins.	mm.	ins.	ins.	£ s. d.	Price.			Code Word.	Price.	Code Word.	
6	2 $\frac{3}{8}$	11	2 × 2	3 $\frac{1}{4}$ × 3 $\frac{1}{4}$	4 10 0	Galén	...	...	...	...
7	2 $\frac{7}{8}$	13	3 $\frac{1}{4}$ × 2 $\frac{3}{4}$	4 × 3 $\frac{1}{4}$	4 10 0	Galeotto	...	...	...	...
9	3 $\frac{1}{8}$	17	4 × 2 $\frac{3}{4}$	4 $\frac{1}{2}$ × 3 $\frac{1}{2}$	5 0 0	Gandara	5 5 0	Gabes	5 15 0	Nager		
12	4 $\frac{1}{2}$	23	4 $\frac{3}{4}$ × 3 $\frac{1}{2}$	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$	5 15 0	Gaston	6 0 0	Gaflun	6 10 0	Narcose		
13 $\frac{1}{2}$	5 $\frac{1}{8}$	26	5 × 4	6 $\frac{1}{2}$ × 5 $\frac{1}{4}$	6 5 0	Gatter	6 10 0	Galmei	7 0 0	Narcin		
15	6	29	6 $\frac{1}{4}$ × 4 $\frac{3}{4}$	8 $\frac{1}{4}$ × 6 $\frac{1}{4}$	6 15 0	Gawein	7 0 0	Gambia	7 10 0	Nauders		
20	8	38	7 $\frac{1}{2}$ × 5	9 $\frac{1}{2}$ × 7	9 0 0	Gemma	9 8 0	Gaza	10 0 0	Negus		
25	9 $\frac{7}{8}$	40	8 $\frac{1}{4}$ × 5	10 × 8	11 0 0	Georgia	...	...	...	...
31	12 $\frac{1}{4}$	48	8 $\frac{1}{4}$ × 6 $\frac{1}{4}$	12 × 10	15 0 0	Ginster	...	...	...	...
37	14 $\frac{1}{2}$	58	9 × 7	14 × 10 $\frac{1}{4}$	20 0 0	Gorgone	...	...	...	...
44	17 $\frac{1}{2}$	70	11 × 8	15 $\frac{3}{4}$ × 11 $\frac{3}{4}$	27 0 0	Gudrun	...	...	...	...
52	20 $\frac{1}{2}$	82	12 × 10	17 $\frac{1}{2}$ × 13 $\frac{1}{2}$	34 0 0	Guntram	...	...	...	...
60	23 $\frac{3}{8}$	91	13 $\frac{3}{8}$ × 10 $\frac{3}{8}$	19 $\frac{3}{4}$ × 15	45 0 0	Gunter	...	...	...	...

All these Lenses are fitted with Iris Diaphragm. The cost of pairing two Collinears for Stereoscopic work is 8/-.

Code Word for pair of Collinears II, paired for Stereoscopic work in focussing mounts—9 cm, Newa; 12 cm, Nicol; 13 $\frac{1}{2}$ cm, Nicodem; 15 cm, Nirwana; 20 cm, Noah.

7 cm. and 9 cm. are the Lenses specially made for Cinematograph work.



Taken with Collinear Lens Series III., 12 cm, and Alpine Camera.



Taken with Back Combination of Collinear Series III., 12 cm, and Alpine Camera. Both photos taken from same position.

Photos by H. P. Hopkins, Esq.

Voigtländer

Collinear - Lens. -



T 4.

Series III.—This Lens is fully as quick as the majority of Anastigmats, does all kinds of ordinary instantaneous work, and is preferable to Series II. for view work, flash light, outdoor groups, copying, and for small Hand Cameras, because of its greater compactness and slightly increased covering power.

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We supply "Collinears" to fit Kodak Hand Cameras so mounted that they can be fitted by the purchaser into the shutter of his camera. No alteration in the camera or shutter is necessary. A correctly marked diaphragm scale is supplied with each set (see page 58).

For No. 3 F.P. Kodak "Collinear" III., F 6.8 special focus 125 mm., $4\frac{15}{16}$ ins., £5 5 0
 .. No. 3a III., F 6.8 166 mm., $6\frac{9}{16}$ ins., £6 5 0
 .. No. 4a III., F 6.8 210 mm., $8\frac{1}{4}$ ins., £8 15 0

When ordering specify which type of shutter your camera has.

SERIES III.

Full Aperture, up to 18 cm. F 6.8; 20 cm. to 58 cm., F 7.7.
 Angle of View, 60°.

Equivalent Focus.		Diameter of Lens.	Size of Plate sharply covered.		Ordinary Mount.	Code Word.	Countersunk Mount.		Focussing Mount.	
			At Full Aperture.	Stopped Down.			Price.	Code Word.	Price.	Code Word.
7	$2\frac{3}{8}$	11	$2\frac{1}{2} \times 1\frac{1}{2}$	$4 \times 3\frac{1}{2}$	£ 0 0	Hadramaut	...	...	£ ...	...
9	$3\frac{1}{2}$	14	$3\frac{1}{2} \times 2\frac{1}{2}$	$4\frac{1}{2} \times 3\frac{1}{2}$	4 5 0	Hagar	4 10 0	Hebe	5 0 0	Narbo
12	$4\frac{1}{2}$	18	$4\frac{1}{2} \times 3\frac{1}{2}$	$6\frac{1}{2} \times 5$	5 0 0	Hakon	5 5 0	Hedwig	5 15 0	Nathan
$13\frac{1}{2}$	$5\frac{1}{2}$	20	$4\frac{1}{2} \times 3\frac{1}{2}$	$7 \times 5\frac{1}{2}$	5 10 0	Halde	5 15 0	Hegar	6 5 0	Natter
15	6	23	$6\frac{1}{2} \times 4\frac{1}{2}$	8×6	6 0 0	Halma	6 5 0	Holga	6 15 0	Neekar
18	$7\frac{1}{2}$	28	$7\frac{1}{2} \times 5$	9×7	7 5 0	Hassan	7 10 0	Helm	8 0 0	Nelda
20	8	27	$8\frac{1}{2} \times 6\frac{1}{2}$	10×8	8 0 0	Hatto	8 5 0	Heliodor	8 15 0	Nemmer
25	10	34	9×7	12×10	10 0 0	Hella	...	...	...	...
31	12	40	12×10	14×12	14 0 0	Hestia	...	...	...	...
37	$14\frac{1}{2}$	47	14×10	16×13	18 0 0	Honduras	...	...	...	...
44	$17\frac{1}{2}$	57	15×12	20×15	23 0 0	Horus	...	...	...	...
52	$20\frac{1}{2}$	67	18×12	20×18	30 0 0	Hulda	...	...	...	...
58	23	76	20×14	24×20	42 0 0	Hutten	...	...	...	...

All these Lenses are fitted with Iris Diaphragm.

The cost of pairing two Collinears for Stereoscopic work is 8/.

Code Word for pair of Collinears III. paired for Stereoscopic work in focussing mounts:—

9 cm, Niger 13½ cm, Nil 18 cm, Noema
 12 cm, Nipon 15 cm, Nizam 20 cm, None



Taken with Heliar Lens, 18 c/m, and Reflex Camera.



"Imps of Mischief."

Taken with Collinear Series III., 15 cm.

Photo by H. F. Hopkins, Esq.

Sets of Voigtländer Collinear Lenses.

THESE sets offer a great advantage, the operator being able to use various foci from the same point, and it is also possible to make different sized images. Page 26.



Each set is composed of the following :—

- 1.—A special setting fitted with Iris Diaphragm, so arranged that either of the combinations may be screwed into the back or front, as desired.
- 2.—Three or four single Anastigmats, each cell being engraved with the focal length.
- 3.—A Screen Ring, to intercept any reflected light, when a single Lens only is in use.
- 4.—A Case to contain Lenses and setting.
- 5.—A table of the various apertures of the different combinations that can be obtained with the set.

Sets of Voigtländer Lenses.

The following combinations are the most useful:—

A.—SET OF COLLINEARS, SERIES III.,
 9 × 12 cm. or $\frac{1}{4}$ -plate. Price £7 10 0
 Code Word: Labienus.

No.	Focus of the				Focus of the Combination.		Largest Aperture	Size of Plate with	
	Front Lens.		Back Lens.		ins.	mm.		F 7·7.	F 25.
	ins.	mm.	ins.	mm.			ins.	mm.	F.	ins.	ins.
1	...	...	10 $\frac{1}{2}$	262	10 $\frac{1}{2}$	262	16	...	7 × 9 $\frac{1}{2}$
2	...	...	8 $\frac{1}{2}$	209	8 $\frac{1}{2}$	209	16	...	5 × 7
3	...	...	5 $\frac{1}{2}$	143	5 $\frac{1}{2}$	143	16	...	3 $\frac{1}{2}$ × 5 $\frac{1}{2}$
4	10 $\frac{1}{2}$	262	8 $\frac{1}{2}$	209	5 $\frac{1}{2}$	133	7·7	4 × 5	4 $\frac{1}{2}$ × 6
5	10 $\frac{1}{2}$	262	5 $\frac{1}{2}$	143	4 $\frac{1}{2}$	106	7·7	3 $\frac{1}{2}$ × 4 $\frac{1}{2}$	3 $\frac{1}{2}$ × 5 $\frac{1}{2}$
6	8 $\frac{1}{2}$	209	5 $\frac{1}{2}$	143	3 $\frac{1}{2}$	97	7·7	2 $\frac{1}{2}$ × 3 $\frac{1}{2}$	3 $\frac{1}{2}$ × 5

B.—SET OF COLLINEARS, SERIES III.,
 13 × 18 cm. or $\frac{1}{2}$ -plate. Price £10 0 0
 Code Word: Labrador.

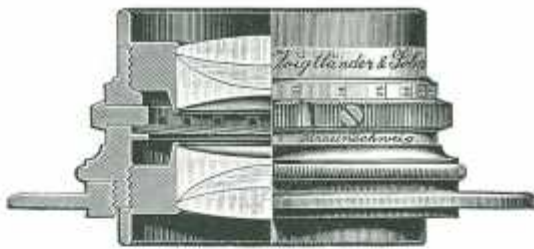
No.	Focus of the				Focus of the Combination.		Largest Aperture.	Size of Plate with	
	Front Lens.		Back Lens.		ins.	mm.		F 7·7.	F 25.
	ins.	mm.	ins.	mm.			ins.	mm.	F.	ins.	ins.
1	...	...	14 $\frac{1}{2}$	358	14 $\frac{1}{2}$	358	16	...	8 × 10
2	...	...	10 $\frac{1}{2}$	262	10 $\frac{1}{2}$	262	16	...	7 × 9 $\frac{1}{2}$
3	...	...	8 $\frac{1}{2}$	209	8 $\frac{1}{2}$	209	16	...	6 $\frac{1}{2}$ × 8 $\frac{1}{2}$
4	14 $\frac{1}{2}$	358	10 $\frac{1}{2}$	262	6 $\frac{1}{2}$	172	7·7	4 $\frac{1}{2}$ × 6 $\frac{1}{2}$	6 × 8
5	14 $\frac{1}{2}$	358	8 $\frac{1}{2}$	209	6	150	7·7	4 $\frac{1}{2}$ × 6 $\frac{1}{2}$	5 × 7
6	10 $\frac{1}{2}$	262	8 $\frac{1}{2}$	209	5 $\frac{1}{2}$	133	7·7	3 $\frac{1}{2}$ × 4 $\frac{1}{2}$	4 $\frac{1}{2}$ × 6 $\frac{1}{2}$

C.—SET OF COLLINEARS, SERIES III.,
 For plate 18 × 24 cm. or 8 $\frac{1}{2}$ × 6 $\frac{1}{2}$ ins. Price £19 0 0
 Code Word: Latona.

No.	Focus of the				Focus of the Combination.		Largest Aperture.	Size of Plate with	
	Front Lens.		Back Lens.		ins.	mm.		F 7·7.	F 25.
	ins.	mm.	ins.	mm.			ins.	mm.	F.	ins.	ins.
1	...	...	21 $\frac{1}{2}$	538	21 $\frac{1}{2}$	538	16	...	10 × 12
2	...	...	18	447	18	447	16	...	8 × 10
3	...	...	14 $\frac{1}{2}$	358	14 $\frac{1}{2}$	358	16	...	8 × 10
4	...	...	10 $\frac{1}{2}$	262	10 $\frac{1}{2}$	262	16	...	7 × 9
5	21 $\frac{1}{2}$	538	18	447	11 $\frac{1}{2}$	277	7·7	7 × 9 $\frac{1}{2}$	10 × 12
6	21 $\frac{1}{2}$	538	14 $\frac{1}{2}$	358	9 $\frac{1}{2}$	244	7·7	6 $\frac{1}{2}$ × 8 $\frac{1}{2}$	8 $\frac{1}{2}$ × 12
7	18	447	14 $\frac{1}{2}$	358	9	226	7·7	5 × 8 $\frac{1}{2}$	7 × 9 $\frac{1}{2}$
8	18	447	10 $\frac{1}{2}$	262	7 $\frac{1}{2}$	188	7·7	5 × 7	6 $\frac{1}{2}$ × 8 $\frac{1}{2}$
9	14 $\frac{1}{2}$	358	10 $\frac{1}{2}$	262	6 $\frac{1}{2}$	172	7·7	4 $\frac{1}{2}$ × 6 $\frac{1}{2}$	6 × 8

Voigtländer Collinear - Lens. -

SERIES IV.



Full Aperture, F 12.5.

Page 26.

Wide-Angle Anastigmat,
for Architectural, Process
Work, and Landscapes.

The Wide-angle Collinears give, with full aperture, an angle of view of 75°. When stopped down, 95°.

Equivalent Focus.		Diameter of Lens.	Size of Plate sharply covered.		Price.	Code Word.
cm.	ins.		F 12.5,	Stopped Down,		
		mm.	ins.	ins.	£ s. d.	
10.5	4	8.8	4 $\frac{3}{4}$ × 3 $\frac{1}{2}$	6 $\frac{1}{4}$ × 4 $\frac{3}{4}$	3 10 0	Kabale
12	4 $\frac{3}{4}$	10	6 $\frac{1}{4}$ × 4 $\frac{3}{4}$	8 × 6	4 5 0	Kabul
15	6	12	7 × 5	10 $\frac{1}{4}$ × 8 $\frac{1}{4}$	5 0 0	Kallias
18	7 $\frac{1}{8}$	15	9 $\frac{1}{4}$ × 7 $\frac{1}{4}$	12 × 9 $\frac{1}{4}$	5 10 0	Komtur
20	8	16	10 $\frac{1}{4}$ × 8 $\frac{1}{4}$	12 × 10	6 0 0	Kandahar
25	9 $\frac{3}{4}$	21	11 $\frac{3}{4}$ × 9 $\frac{1}{4}$	15 $\frac{3}{4}$ × 11 $\frac{3}{4}$	8 0 0	Kaste
32	12 $\frac{3}{4}$	26	15 $\frac{3}{4}$ × 11 $\frac{3}{4}$	21 $\frac{3}{4}$ × 17 $\frac{3}{4}$	9 10 0	Kondor
44	17 $\frac{1}{4}$	35	21 $\frac{1}{4}$ × 17 $\frac{3}{4}$	27 $\frac{1}{2}$ × 23 $\frac{1}{2}$	13 0 0	Konon
58	22 $\frac{3}{4}$	46	27 $\frac{1}{2}$ × 23 $\frac{1}{2}$	31 $\frac{1}{2}$ × 27 $\frac{1}{2}$	20 0 0	Korfu
80	31 $\frac{1}{2}$	65	31 $\frac{1}{2}$ × 27 $\frac{1}{2}$	39 $\frac{1}{4}$ × 31 $\frac{1}{2}$	32 10 0	Kuno
100	39 $\frac{1}{2}$	80	39 $\frac{1}{4}$ × 31 $\frac{1}{2}$	47 $\frac{1}{4}$ × 35 $\frac{1}{2}$	45 0 0	Kupol

The "Collinear" Series IV. is only made in ordinary Mounts, up to the Focus of 58 cm. with Iris Diaphragm, the 80 and 100 cm. is supplied with a set of Waterhouse Diaphragms, 7 circular and 5 square openings; price of extra sets Waterhouse Diaphragms, 16/- and 20/- respectively.



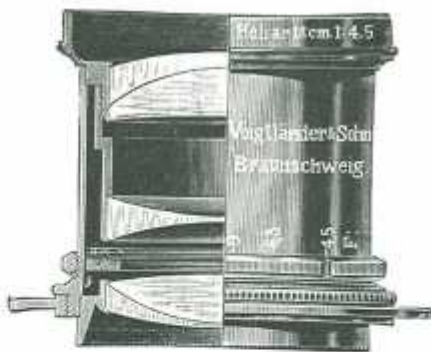
Taken with Heliar Lens, 42 cm.

Voigtländer Heliar Lens.

For Portraits, Groups, Landscapes, and also for the most rapid Instantaneous Work.

The "Heliar" Lens is acknowledged by Professional Photographers in all parts of the world to be the finest Anastigmat Lens yet produced. Working at the full aperture of F 4.5, pictures can always be made even in the dulllest light, while for portraits and groups it is unrivalled for its beautiful definition. Quarter-plate pictures can be enlarged to 34 x 47 inches without material loss of detail and definition.

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A large variety of work done by this Lens can be seen at the London Branch, 12, Charterhouse Street, Holborn Circus, E.C.

Heliar Lenses, 5½ cm. and 8½ cm., are used by all the Continental and English Makers of Cinematograph Films.

The "Heliar" Lens is The Lens for Reflex Cameras. There is no finer work done than with the "Heliar."

The "Heliar" Lens is a favourite with Press Photographers.

Full Aperture, F 4.5, in all sizes. Angle of View 48°

Equivalent Focus.		Diameter of Lens.		Size of Plate sharply covered F 4.5.		Price.		Code Word.	Counter-sunk Mount.	Code Word.	Focussing Mount.	Code Word.
cm.	ins.	mm.	ins.	£	s. d.	£	s. d.		£	s. d.	£	s. d.
5	2	11	1 1/16 x 2	4	0 0	Fiasco	...	...	4	15 0	Fischer	
8 1/2	3 3/4	19	2 1/8 x 2	4	15 0	Fiber	5 0 0	Filz	5	10 0	Fisch	
13	4 1/4	27	3 1/2 x 2 3/4	5	10 0	Fibrin	5 15 0	Fixage	6	5 0	Fiscos	
13 1/2	5 1/4	31	4 1/4 x 3 1/4	6	0 0	Fibro	6 5 0	Fibrind	6	15 0	Fibrano	
15	6	33	4 3/4 x 3 1/4	6	5 0	Fibrinosus	6 10 0	Fibroso	7	0 0	Filorum	
18	7 1/4	40	5 1/2 x 4	8	0 0	Figella	8 5 0	Filigran	8	15 0	Figurina	
21	8 1/4	47	6 x 4	11	0 0	Fichte	11 10 0	Filter	12	0 0	Fittich	
24	9 1/2	54	7 x 5	13	0 0	Finota	13 10 0	Finte	14	0 0	Finale	
30	11 3/4	67	8 1/4 x 6 1/4	18	0 0	Firna	...	...	...	...	...	...
36	14 1/4	80	9 1/2 x 7	24	0 0	Fisano	...	...	...	...	...	...
42	16 3/4	93	10 1/2 x 8 1/4	31	0 0	Fiscal	...	...	...	...	...	...
48	19	107	12 x 10	37	10 0	Fistel	...	...	...	...	...	...
60	24	132	16 x 12	75	0 0	Finger	...	...	...	...	...	...

The cost of pairing two "Heliars" for Stereoscopic Work is 8/-.

Code word for pair of Heliars paired for stereoscopic work in focussing mounts. Code word: 12 cm, Fisole; 13½ cm, Finaur; 15 cm, Filado; 18 cm, Fistula.

Heliar 18 cm, in rack and pinion mount for enlarging and projection. £8 10s. 0d. Code word: Finality.



Enlargement from Negative taken with Dynar Lens, $13\frac{1}{2}$ cm., and Alpine Camera.
Photo by H. P. Hopkins, Esq.

Voigtländer Collinear and Dynar Lenses

IN SPECIAL MOUNTINGS FOR
KODAKS AND HAND CAMERAS.



The difficulties experienced in fitting anastigmat Lenses to Kodaks and similar cameras and the annoyance of having to send the cameras to the factory to have the fitting done has been entirely overcome by our new mountings.

We supply Collinears and Dynars in sets of cells to fit Kodaks and other Hand Cameras, mounting them in such a form that they can be fitted by the purchaser into the shutter of his camera. No alteration in the camera or camera shutter is necessary, and no new shutter is required. The Voigtländer Lenses can be fitted to the shutter in a few moments. A correctly marked diaphragm scale is supplied with each set.

Should the purchaser desire to exchange his Kodak Shutter for a Koilos, Compound, or other make of shutter, it will be necessary to send camera to us for correct fitting.

PRICES:

For No. 3 Folding Pocket Kodak.

Collinear III. F 6.8 Special Focus 125 mm, $4\frac{15}{16}$ in. ...	£5 5 0
Dynar F 6 125 mm, $4\frac{15}{16}$ in. ...	£4 0 0

For No. 3A Folding Pocket Kodak.

Collinear III. F 6.8 Special Focus 166 mm, $6\frac{3}{16}$ in. ...	£6 5 0
Dynar F 6 163 mm, $6\frac{3}{8}$ in. ...	£4 15 0

For No. 4A Folding Pocket Kodak.

Collinear III. F 6.8 Special Focus 210 mm, $8\frac{1}{4}$ in. ...	£8 15 0
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The above cells fit directly into the shutter furnished with the Kodak, and no new shutter is required.

In ordering specify which type of shutter your camera has, whether a black Kodak, Auto or a bright B. & L. Auto, or the bright T. B. I. shutter.

KOILLOS AND COMPOUND SHUTTERS

can be supplied for the No. 3, 3A and 4A Folding Pocket Kodaks at the following prices:

	To fit Collinear or Dynar. For No. 3 F.P.K.	To fit Collinear. For No. 3A F.P.K.	To fit Dynar. For No. 3A F.P.K.	To fit Collinear. For No. 4A F.P.K.
Koilos Shutter, speeds up to $\frac{1}{100}$ th second ...	35/-	40/-	40/-	48/-
Compound Shutter, speeds up to $\frac{1}{250}$ th second	35/-	40/-	40/-	45/-

No charge is made for fitting the Lens to the shutter if they are both ordered at the same time.



Taken with Voigtlander Collinear Lens, Series II.
Southern Handicap Steeplechase, Lingfield. "Amethyst" (left) which fell and had to be destroyed. "Brigand" fallen.

Portrait Lenses.

SERIES Ia.

Full Aperture F. 2.3.

Extra Rapid Objectives for Portraits and Cinematograph Work.

Equivalent Focus.		Diameter of Lens.		Diameter of Useful Field.	Size of Picture.	Price.	Code Word.
cm.	ins.	mm.	ins.			£ s. d.	
8	3 $\frac{1}{8}$	36	1 $\frac{3}{8}$		Cinematograph	6 0 0	Adler
10	4 $\frac{1}{8}$	46	1 $\frac{7}{8}$		"	6 0 0	Agathe
15	6	64	2 $\frac{1}{2}$		C.D.V. Bust	8 0 0	Aller
20	8	84	2 $\frac{3}{4}$		C.D.V. f. length	12 0 0	Andorra
30	11 $\frac{3}{4}$	128	4		Cabinet Bust	30 0 0	Argus



These objectives, from 8 cm. to 20 cm. are fitted with Iris Diaphragms, the 30 cm. has Waterhouse Diaphragms; price of extra set Waterhouse Diaphragms, 25/-.

Portrait Lenses.

SERIES I.

Full Aperture F 3.16.

Modified Petzval Lens. For Portraits and Projection.

Equivalent Focus.		Diameter of Lens.		Suitable for	Price.	Code Word.	Price of extra sets Waterhouse Diaphragms
cm.	ins.	mm.			£ s. d.		£ s. d.
17	6 $\frac{3}{4}$	53	}	C.D.V. Bust and Children	6 0 0	Barbara	15 0
21	8 $\frac{3}{4}$	66			9 0 0	Belisar	17 0
25	10	79	}	C.D.V. bust & full length Cabinet	13 0 0	Bergamo	19 0
31	12	92			18 0 0	Beowulf	1 2 0
40	15	105		Boudoir	24 0 0	Bramarbus	1 5 0



All Portrait Lenses, Series I., are supplied with Waterhouse Diaphragms; the 17, 21, and 25 cm. are fitted with rack and pinion.



Taken with Collinear Lens II., 25 cm.

Portrait Euryscope.

SERIES III.

Luminous Lenses for Portraits and Small Groups.

Full Aperture F 4.5.



Portrait Euryscope. Series III.		Diameter of Lens.	Size.	Price.	Code Word.	Price of a Set of Waterhouse Diaphragms.
Focus.						
cm.	ins.	mm.		£ s. d.		£ s. d.
17	6 $\frac{3}{4}$	40	C.D.V.	4 10 0	Cadmus	13 0
20	8	46	"	5 10 0	Catalonien	14 0
22	8 $\frac{1}{2}$	53	"	7 0 0	Catania	15 0
28	11	66	Cabinet	10 0 0	Ceder	17 0
35	13 $\frac{1}{4}$	79	"	14 0 0	Centaur	10 0
40	16	92	(Cabinet and	20 0 0	Certosa	1 2 0
51	20	105	Boudoir	26 0 0	Cimon	1 7 0
66	26	135	Boudoir, Imperial, &c.)	47 10 0	Cybele	1 14 0

Euryscope 20 cm. in Rack and Pinion mount for Enlarging and Projection, £7. Code Word:—Cadix.

All these Lenses are supplied with a set of Waterhouse Diaphragms.

Universal Euryscope.

SERIES IVa.

Lens for Groups.

Full Aperture F 7.0.



Euryscope. Series IVa.		Diameter of Lens.	Size of Plate Covered.		Price.	Code Word.
Focus.			Stopped down.			
cm.	ins.	mm.	ins.		£ s. d.	
15	6	22	3 $\frac{1}{2}$ × 4 $\frac{3}{4}$		3 10 0	Dingo
18	7 $\frac{1}{8}$	27	3 $\frac{3}{4}$ × 6 $\frac{1}{2}$		4 4 0	Divan
20	8	30	7 $\frac{1}{2}$ × 5		4 16 0	Dolman
25	10	38	6 $\frac{1}{2}$ × 8 $\frac{1}{2}$		5 12 0	Dolus
30	11 $\frac{3}{4}$	46	9 × 7		6 18 0	Domina
36	14 $\frac{1}{4}$	55	10 × 8		8 12 0	Dorn
43	17	67	12 × 10		11 12 0	Dora
50	19 $\frac{1}{2}$	77	14 × 11		16 10 0	Despina
66	26	104	15 × 12		26 0 0	Dessin
87	34 $\frac{1}{2}$	137	20 × 16		50 0 0	Dina

This Series, up to 50 cm., are fitted with Iris Diaphragms; 66 and 87 cm. with Waterhouse Diaphragms.

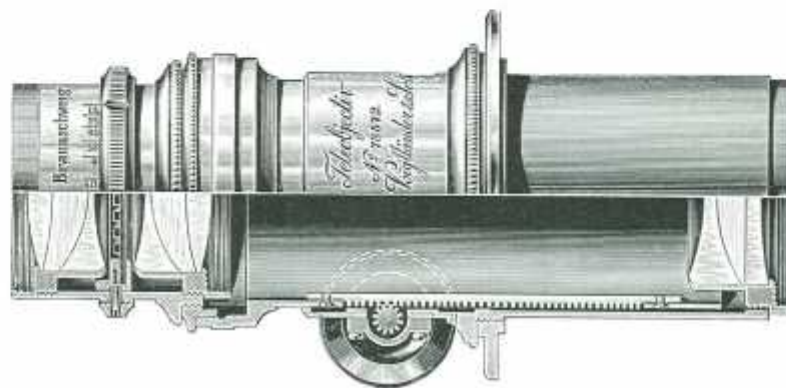
Prices of extra set of Waterhouse stops for 66 cm., £1 15s. 0d.

" " " " 87 cm., £2 5s. 0d.

Voigtländer Telephotographic Lenses.

We manufacture the Telephoto Negative Lenses in six sizes, suitable for Lenses up to 44 cm. Focus.

Every degree of magnification may be obtained, according to the distance the Lens is placed from the plate. The image is from three to four times as large as that obtained by an ordinary Lens of the same focus as the Camera extension. An image ten to twelve times larger than that of the Positive Lens alone, can be obtained sharply defined.



VOIGTLÄNDER TELE-NEGATIVE WITH COLLINEAR.

The Telephotographic Lens is recognized as forming an essential part of the Photographer's outfit, as it gives him—within certain limits—a considerable range of foci to make the subject as large as he chooses.

These Telephotographic Lenses give perfectly flat field with accurate reproduction of straight lines. They are suited for use with all high-grade positive lenses.

Telephoto Lens. No.	Focus of the Tele-negative. mm.	Objective Focus. cm.	Extension of Camera. ins.	Size of Plate. ins.	Price of Telephoto Negative Lens. £ s. d.	Code Word.	Price of Tele-negative and Objective complete.			
							£	s.	d.	
1	—33	Collin. II, 9	2½ up to 10	4 × 3¼	4 5 0	Mabel	9	5	0	Magog
		Collin. III, 9					8	10	0	Mahdi
2	—33	Collin. II, 12	3½ .. 18	4¾ × 3½	4 5 0	Macbeth	10	0	0	Malton
		Collin. III, 12					9	5	0	Manna
		Dynar 12					8	0	0	Mandrill
3	—51	Collin. II, 15	4¾ .. 20½	6¼ × 4¾	4 15 0	Macduff	11	10	0	Masure
		Collin. III, 15					10	15	0	Mekka
		Dynar 15					9	10	0	Merino
		Heliar 15					11	0	0	Merlin
4	—67	Collin. II, 20	6 .. 24	8½ × 5½	5 5 0	Maffa	14	5	0	Mestize
		Collin. III, 20					13	5	0	Mignon
		Collin. III, 18					12	10	0	Mentol
		Dynar 18					11	5	0	Memento
		Heliar 18					13	5	0	Membran
5	—97	Collin. II, 25	8 .. 32	4¾ × 3½	6 0 0	Magnolie	17	0	0	Minaret
		Collin. III, 25		9½ × 7½			16	0	0	Minze
		Heliar 24		7½ × 5			19	0	0	Minka
		Collin. II, 31		7½ × 5			21	0	0	Misurina
		Collin. III, 31		12 × 10			20	0	0	Mizar
		Heliar 30		8½ × 6¼			24	0	0	Mixtura
6	—136	Collin. II, 37	11 .. 50	10 × 14	7 10 0	Mal	27	10	0	Maas
		Collin. III, 37		7 × 9½			25	10	0	Macen
		Heliar 36		7 × 9½			31	10	0	Mache
		Collin. II, 44		12 × 15			34	10	0	Machtig
		Collin. III, 44		8½ × 10¼			30	10	0	Made
Heliar 42		38	10	0	Madera					

For our Tele-stand Camera, for use with Kiesling's Tele-partition, we supply a set of 4 Tele-negative lenses. Focus—33—51—67 and 97 m/m in cells. Price £8.
Code Word :—Telelinsensatz.

Special Telephoto Attachments.

For Hand Cameras, giving a fixed magnification of $2\frac{1}{2}$ times.

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Owing to the large demand for Telephoto apparatus we have introduced a Tele-negative lens for hand cameras, giving a magnification of $2\frac{1}{2}$ times. It is quite possible and practical with this instrument to make instantaneous pictures, always remembering to give a 6 times longer exposure. Focussing is done either with the Camera adjustment or the focussing attachment of the lens, in the latter case only when using a folding Camera and at ∞ .

For use with the Alpine Camera, Radiar Camera and the Heliar Camera fitted with Collinear II., 15 cm., the Telephoto Attachment is constructed to fit inside the Camera, an inner flange with thread being fitted to back of Lens enabling the Attachment to be easily put in position when required.

The Lens of the Camera is not interfered with in any way, and owing to the fitting of the Attachment inside, the rigidity of the Apparatus is not affected.

For use with Reflex Cameras, Metal Folding Cameras and Heliar Cameras with Heliar Lens, 18 cm., the Attachment fits on to the front of the Camera, the positive lens is removed, the Tele-Attachment is screwed into its place and the positive lens is then screwed on to the front of the Tele-Attachment.

When the Tele-Attachment is ordered at the same time as the Camera there is no extra charge for fitting.

If a Camera is forwarded to have one of our attachments fitted, the cost is from 5/- to 7/-.



PRICES.

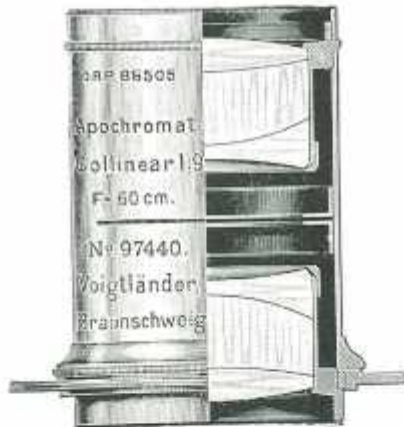
Special Telephoto Attachments suitable for the following Cameras.

Camera.	Price.	Code Word.
Reflex Camera, $2\frac{1}{2} \times 3\frac{1}{2}$ ins., or 6×9 cm.	£ s. d. 3 0 0	Kleintele
.. .. $4\frac{1}{4} \times 3\frac{1}{4}$ ins., or 9×12 cm.	4 5 0	Vidatele
.. .. $6\frac{1}{2} \times 4\frac{1}{2}$ ins., or 12×16 cm.	6 0 0	Grostele
Folding Camera, $4\frac{1}{4} \times 3\frac{1}{4}$ ins., or 9×12 cm.		
.. .. With Objective 13 $\frac{1}{2}$ cm.	3 0 0	Satele
.. .. " " " " 15 cm.	3 10 0	Saltatele
.. .. $6\frac{1}{4} \times 4\frac{1}{4}$ ins., or 13×18 cm.	3 15 0	Salgrotele
Heliar Camera with Heliar, 18 cm.	4 5 0	Telebe
.. .. " " " " Collinear II., 15 cm.	3 15 0	Telehel
Alpine Camera, $4\frac{1}{4} \times 3\frac{1}{4}$ ins., or 9×12 cm.		
.. .. With Objective 13 $\frac{1}{2}$ cm.	3 0 0	Telealpin
.. .. " " " " 15 cm.	3 5 0	Tapir
.. .. $5\frac{1}{2} \times 3\frac{1}{2}$ ins., or 10×15 cm.	3 10 0	Panaltele

Voigtländer

Apochromatic Collinear Lenses.

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Full Aperture 20 cm., F 8.
30 cm. to 100 cm., F 9.

Anastigmatic Objectives for
Process Work, Three Colour
Work, and Scientific Purposes.

Focus.		Diameter of Lens.	Size of Plate sharply covered at F 18.		Price.	Code Word.	Price of a set of Water-house Stops, consisting of 7 circular and 5 square openings.	Code Word.
cm.	ins.		Same Size.	Reduction.				
		mm.	ins.	ins.	£ s. d.		£ s. d.	
20	8	28	7 × 9½	6 × 8½	9 0 0	Humus	16 0	Quandt
30	12	36	10½ × 12½	8 × 10	15 10 0	Huzule	17 0	Quarz
42	16½	50	14½ × 18	10 × 12	25 0 0	Hybla	19 0	Quast
50	20	59	16 × 20	12 × 16	34 0 0	Hyperion	1 0 0	Quatuor
60	23½	68	20 × 24	16 × 20	45 0 0	Hydrant	1 3 0	Quadriga
70	28	80	22 × 26	18 × 22	60 0 0	Hyrcanien	1 6 0	Quasi
80	31½	90	24 × 28	20 × 24	75 0 0	Hymnus	1 10 0	Quantum
100	40	118	28 × 32	24 × 28	110 0 0	Hystese	2 0 0	Qualm
125 F 11	50	120	32 × 40	28 × 32	135 0 0	Hyperbel	2 10 0	Quappe

All the Apochromatic Collinear Lenses are supplied with a set of Water-house Diaphragms, comprising seven round and five square openings.

We would recommend to our customers who intend using an Apochromatic Collinear in conjunction with a prism not to have same of too short a focus, as the employment of the prism diminishes the angle of view.

Voigtländer Oxyg Lens.

For Finest Process Work.



D. R.-P. 154 910.

This lens is specially constructed for finest line details and half-tone work, to be made with relatively large aperture.

Equivalent Focus.		Full Aperture.	Size of Plate sharply covered.	Price.	Code Word.	Price of a set of Waterhouse Stops, consisting of 6 circular and 5 square openings.	Code Word.
cm.	ins.							ins.	£ s. d.	£ s. d.
36	14 $\frac{1}{4}$	F 9	14 × 14	13 0 0	Odo	0 18 0	Quecke
42	16 $\frac{1}{2}$	F 9	16 × 16	18 0 0	Odoaker	0 19 0	Querum
50	20	F 10	18 $\frac{1}{2}$ × 18 $\frac{1}{2}$	24 0 0	Odaliske	1 0 0	Quentchen
60	23 $\frac{1}{2}$	F 10	22 × 22	30 0 0	Otfried	1 2 0	Quelle
80	31 $\frac{1}{2}$	F 11	27 $\frac{1}{2}$ × 27 $\frac{1}{2}$	45 0 0	Ossa	1 10 0	Quinte
100	40	F 12	33 $\frac{1}{2}$ × 33 $\frac{1}{2}$	62 10 0	Okarina	2 0 0	Quirl
130	51 $\frac{1}{2}$	F 13	40 × 40	80 0 0	Oker	2 10 0	Quitte
170	67	F 15	48 × 48	155 0 0	Olbers	3 5 0	Quote

All "Oxyg" Lenses are supplied with a set of Waterhouse Diaphragms comprising six circular and five square openings.