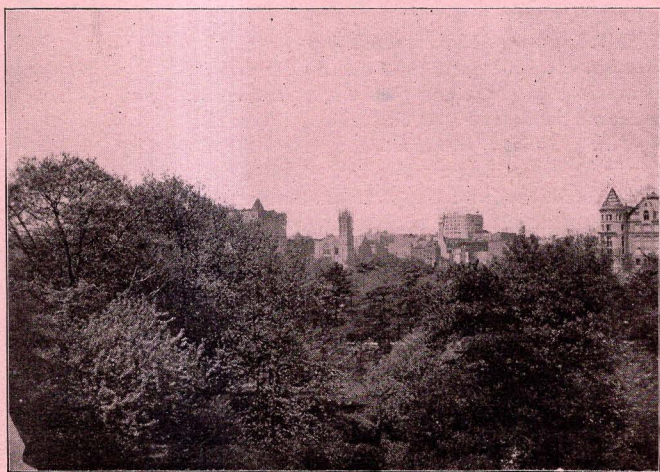


COLLINEAR

QUEEN & CO.,
PHOTOGRAPHIC SUPPLIES,
1010 CHESTNUT ST., PHILA., PA.

PHOTOGRAPHY.



PUBLISHED BY

THE VOIGTLAENDER & SON OPT. CO.,

467 WEST 14TH STREET,

NEW YORK.

THE VOIGTLAENDER & SON OPT. CO.,
New York.

Gentlemen :

It has always been my ambition to possess a complete set of the best obtainable photographic lenses, and I am now convinced that I possess this set.

I have Nos. 3, 4, 5, 6 and 7 and a combination set of your Collinear lenses, all of the second series, and I am charmed with them all.

My No. 4, Series 2, covers an 8x10 plate with full opening. I have used it this spring in photographing a whole mile of Fifth Avenue residences under the most difficult conditions, with the greatest success, and I have obtained a set of negatives which none of my other anastigmats would produce.

The No. 7 is in my opinion the finest portrait lens that I have ever seen. I am delighted with its speed and its beautiful effects.

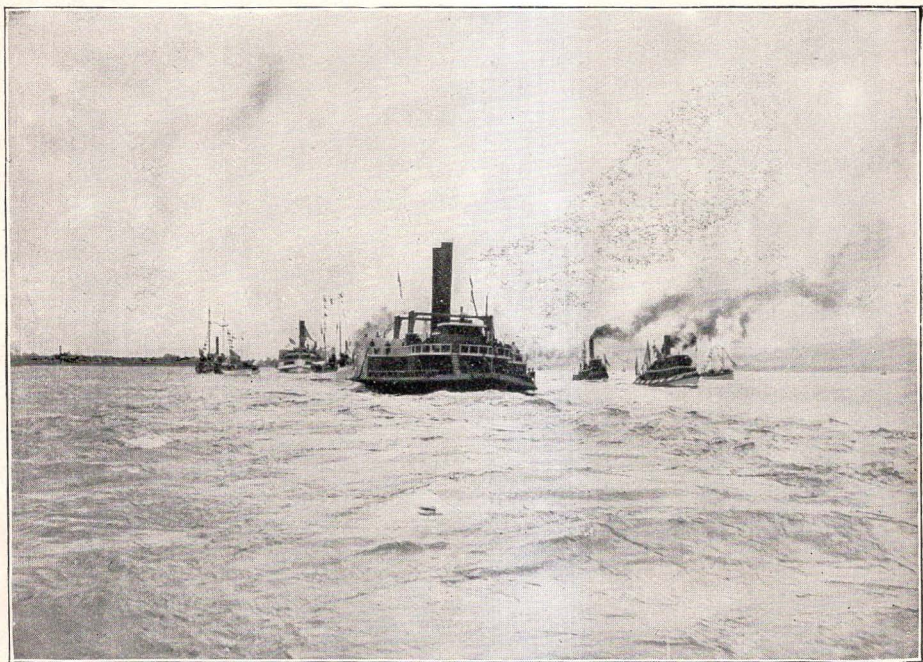
You are at all times at liberty to refer to me as giving Collinear lenses my heartiest endorsement in preference to all others. I am using only Collinear lenses at present and am entirely neglecting other anastigmats, of which I have quite a number.

Respectfully yours,

No. 2018 North Broad St.,
Philadelphia, Pa.

J. WESLEY ALLISON.

PHOTOGRAPHING
WITH THE
COLLINEAR LENSES.

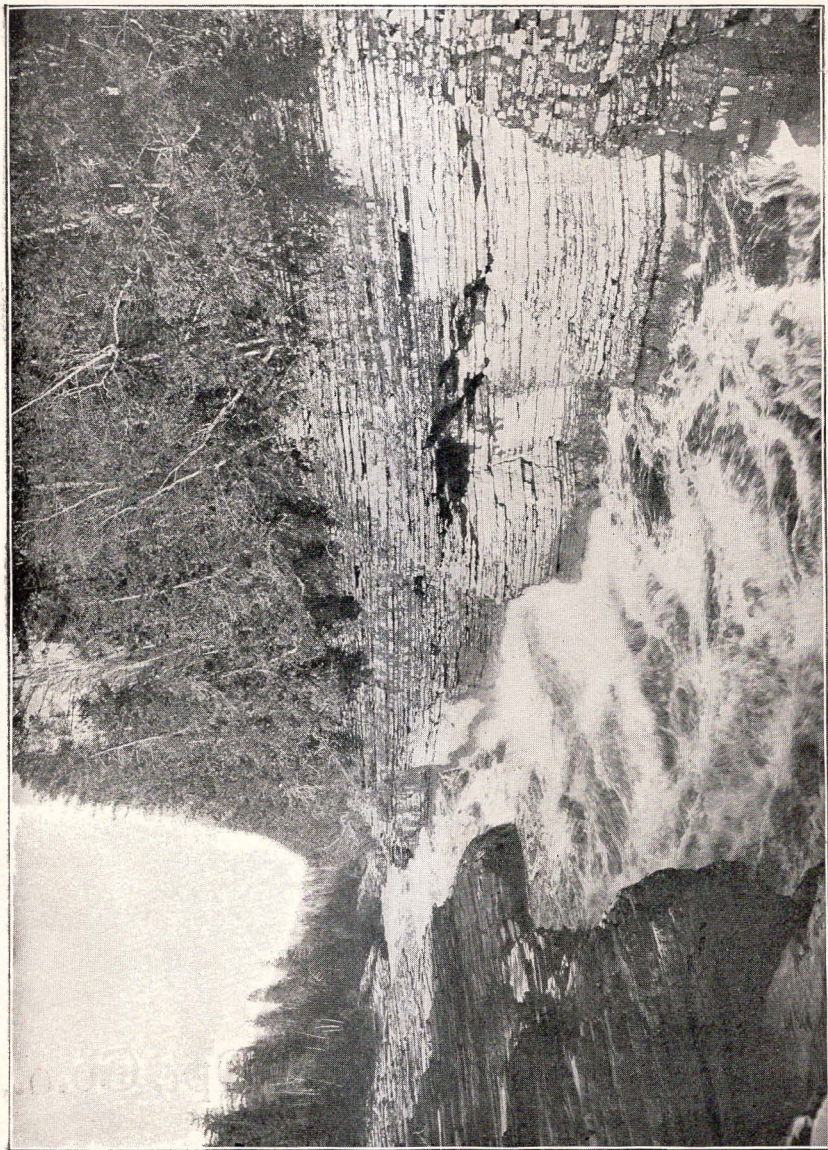


MANUFACTURED BY

The Voigtlaender & Son Opt. Co.,

467 WEST 14th STREET,

NEW YORK.



"THE RAPIDS."

Reduced from 11 x 14 with III, No 7, Collinear.

Preface

IT is our object to explain to those who are deriving pleasure from their cameras, the many advantages which will accrue to their photographic work from the use of the most modern and advanced of all photographic lenses,

The "COLLINEARS."

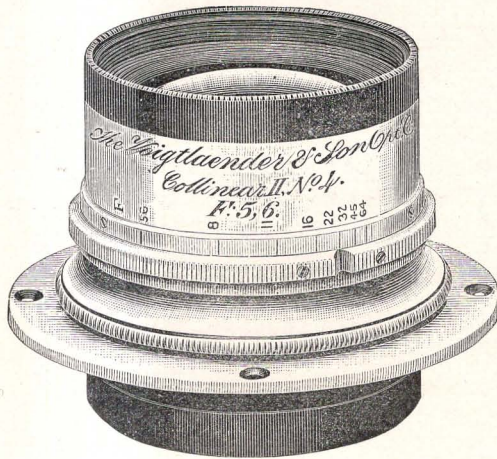
While we may reach many who are not yet possessors of cameras, and shall endeavor to induce them to purchase at the very outset a lens, than which there can be found none better, it will be our main duty to illustrate the Collinear lenses and their superior qualities to the large number of those amateurs who already own cameras. Many of our readers, not understanding the vast importance of the photographic lens or not aware of the great differences existing between the different kinds, have purchased some well-known brand of camera fitted with a lens of no special merit; but having devoted to photography some time and attention, they are now striving for finer and more artistic results than their present outfit will yield them.

The snap shot lens of their camera no longer answers; its mediocre sharpness no longer satisfies; its illuminating power has long been found wanting. The brilliantly illuminated landscape their camera is sure to secure them, but the difficult views,—scenes full of life and motion, often lacking in light or taken toward evening,—so seldom turn out a success.

All those whose artistic sense inspires them to strive for more perfect and more beautiful results, and who are ambitious to possess a camera of wider utility and less dependent on conditions of light and of subject, are invited to examine the illustrations and study the suggestions of this pamphlet. For in conclusion we shall endeavor to tell why we can vastly increase the efficiency of their camera by the addition to it of one of our celebrated "Collinear lenses."



Collinear Lenses



Their Nature—

How Made.

As almost everybody knows, a picture could be made in a camera entirely without the use of a lens, through a very fine and minute pin-hole. But a pin-hole, owing to its extremely small size, would admit practically no light, and it would require hours to produce an image on the sensitive plate. More light is required—a large opening must be used to admit plentiful light into the camera. But more than that: this opening must be supplied with or consist of a lens, so that the rays of light may be transmitted in an orderly and proper manner and unite in the back of the camera to form a brilliant and sharp picture.

The larger the opening of the lens, the brighter is the picture and the quicker it can be taken. But on the other hand, the larger the opening of the lens, the more difficult it becomes to transmit the light without errors, so that the picture may be perfectly sharp and clear. And so it comes that most lenses either have only a small opening and are consequently slow, or if they are more rapid they are full of errors which are in turn responsible for all sorts of bad success in picture making.

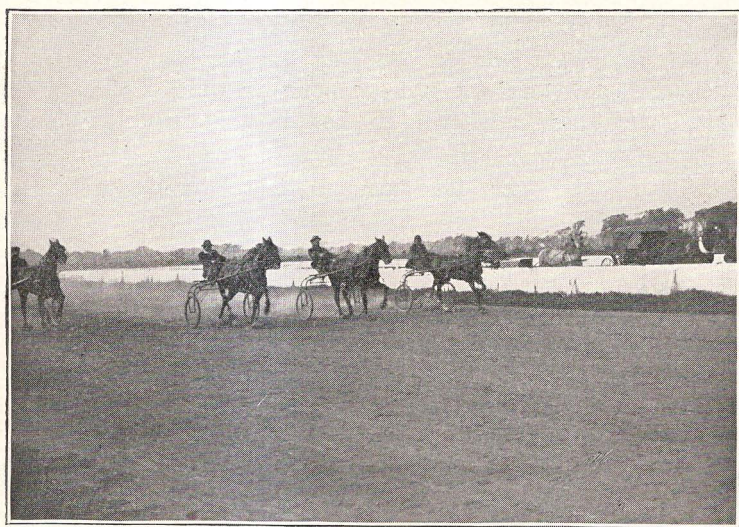
Such errors are: Color error, the curving of straight lines, the lack of sharpness towards the corners and edges of the picture, uneven distribution of light, astigmatism and a number of others. It is a most complex problem to construct a lens so as to overcome the numerous errors which abound in common photographic lenses.

The single achromatic landscape lens is found in over one-half of all the hand cameras in use, and almost invariably in cameras costing \$15.00 or less. This lens is a very poor makeshift, possessing almost all the errors enumerated above, and almost always many others. The single achromatic lens has the additional drawback of being very slow. Only in very small cameras does it give any satisfaction at all, and then only in a bright, strong light. It has only two glasses and it cannot even reproduce straight lines straight, but curves them.

Next in quality is the so-called Rapid Rectilinear. As the name says, it renders straight lines straight and is rapid—that is to say, more rapid than the single lens, but still much slower than the Collinear. It has two sets of glasses—two in each set. It is corrected for color error but it fails entirely to give a picture which would be sharp at or near the edges. Only the very center is sharp and accurate, the edges are blurred or indistinct. This is so because the picture is not flat like the dry plate or film, but curved, and therefore can come out sharp only in the very center, where the position of sharpness coincides nearest with the dry plate or film.

And what claim can either of these two styles make to careful and scientific construction? Can we conceive of lenses that are turned out by machinery at low price, possessing qualities which can at best be obtained only through careful individual adjustment and separate testing?

The Collinear Lenses represent an entirely new departure in photographic optics. Invented but recently by the firm of Voigtländer & Sohn, who since 1756 have been famous for their astronomical and photographic lenses, they embody the very latest principles of photographic optics in the mathematically accurate calculation of their formulæ. They are constructed from entirely new and expensive kinds of glass, discovered after laborious experiments at Jena, and especially made for this style of lenses. They are manufactured with the utmost care and each lens is ground with absolute accuracy within $\frac{1}{10000}$ of an inch to its mathematical formula. Every surface, every curve, each glass, each measurement is subject to the most careful examination



and scrutiny, with the result that each lens is perfect, exactly as prescribed by its formula.

Collinear Lenses have two sets of three glasses each, or six glasses in all. These six glasses are all necessary for the purpose of overcoming the errors that we have referred to. The glasses have different thicknesses, different curves, they are of different qualities and kinds.

Permanency. Some kinds are much softer than others, and are attacked by atmospheric moisture. In order that Collinear Lenses may be absolutely permanent, these soft glasses are never on the outside, but are placed between hard resistant glasses—a precaution not observed in many other expensive lenses, notably the “double anastigmats.”

This is an important point and one well worth remembering: permanency is a quality which so expensive an instrument should possess. Collinears are absolutely permanent.

Long Distance Feature. Each set of three glasses is so carefully made that it is, by itself, free from errors, and will when used alone yield a fine picture, independent of its second set. This property is of great value for long distance photography. By using the rear set of glasses alone, pictures can be taken at a great distance and the objects will appear twice as large as with both sets together.

Collinear lenses are therefore long distance lenses.

We shall now touch upon a few points in which Collinears are superior to other lenses, in order to show in what respect Collinears improve cameras.

Aperture, Brilliancy of Illumination. The amount of light that can enter through a lens depends upon the opening or aperture. This is regulated by the diaphragm situated between the glasses. When the aperture is large, the plate or film is exposed to stronger light than when the aperture is small, and better exposures, quicker exposures can be made.

A lens with twice as large an aperture as another will admit four times as much light. Three times as large an aperture furnishes nine times as much light, and so on.

Speed. Collinear Lenses, and notably Series II., have very large apertures; they are twice as rapid as other grades of anastigmat lenses, four times as speedy as the Rapid Rectilinear lenses of hand cameras, ten times as quick as the single

achromatic lenses used in so large a percentage of hand cameras at present.

For Athletic Work.

For rapid work this advantage is incalculable. If, for example, we wish to photograph a train making its 60 miles per hour, and passing us with the enormous speed of 90 feet a second, or even of an athlete running at the rate of 30 feet per second, we need a lens that will give results in $\frac{1}{250}$ to $\frac{1}{1000}$ of a second. A common lens would be entirely insufficient. The Collinear II., however, will furnish the requisite brilliancy of illumination, produce the full impression of the light, and save us from utter failure.

For Indoor Work. Or again, we may wish to make a portrait indoors or a flashlight. The common lens does not grasp enough light—the result, “failure.” The light-gathering power of the Collinear, however, brings out the picture which we desired. And not only do we receive from the Collinear this great illuminating power, but, despite the large aperture of the lens, the picture is sharper, clearer, crisper than with other lenses.

Astigmatism is an error found in ninety-nine one-hundredths of all hand camera lenses, and a very serious error at that.

Astigmatism is that error in a lens in consequence of which vertical and horizontal lines in the same part of the picture are not sharp and clear at the same time. Take a window frame, for example, and make a picture of it, a little toward the side of the camera. You will find that when the vertical lines are sharp, the horizontal lines are blurred, and vice-versa. That trouble is due to astigmatism.

Now, we can easily see how detrimental this error is whenever straight lines enter into the picture. It will be impossible to make perfect interiors or exteriors of buildings, copies of plans, drawings or similar work.

But the error can be traced through all kinds of work, even where there are no straight lines, inasmuch as it is absolutely impossible to get a perfectly sharp picture with a lens that has the error of astigmatism.

Collinear Lenses are entirely free from astigmatic error. They produce equal sharpness in horizontal and vertical lines. They are preferable to all other lenses for accurate work on architectural subjects, they are the best lenses to use if nice, clear, distinct pictures are desired.

Flatness of Field,

Depth of Focus,

Evenness of Illumination.

These three qualities Collinear Lenses possess in advance of the finest lenses and in very much higher degree than common hand camera lenses.

We have seen that single achromatic and Rapid Rectilinear lenses, and in fact all old style lenses, have a curved field or what is equivalent thereto, they cannot produce a sharp picture on the flat surface of the plate or film, but only in the center, where the flat plate and curved field about coincide.

The edges are more or less blurred and indistinct.

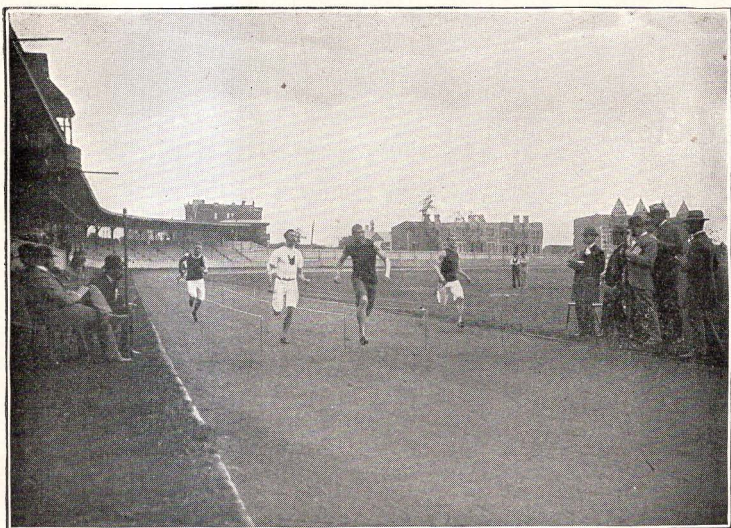
In Collinear Lenses the picture is flat, lies right on the flat plate, is sharp over the entire plate, on the edges as well as in the center. Nothing is more conducive to satisfaction in a picture than minute sharpness, careful reproduction of every detail. And that satisfaction Collinear lenses furnish in the highest degree.

Depth of Focus is another important quality of Collinears. Usually lenses are defective in rendering foreground and background sharp at the same time. When one is sharp the other is blurred, and vice-versa. In this respect Collinear lenses do surprising work. They give most excellent results, rendering both foreground and background with highly satisfactory and very nearly equal sharpness at the same time, and sacrificing neither one nor the other.

In conclusion, we should refer to the evenness of the illumination distributed by Collinear lenses. Most lenses spread the light unevenly — they give more to the center than to the edges; they produce strong contrasts in the center, weak results near the edges. This Collinears overcome. The edges do not fade away in the least, on the contrary the picture is uniformly even in strength of light, in crispness and brilliancy.

There are still many points of merit in Collinears to dwell upon, but these might lead beyond the scope of this booklet. Nor is this necessary, for we are convinced that a trial with a Collinear lens will at once bring the very best obtainable proof of its superior qualities.

We invite all those who are desirous of examining or testing a Collinear lens to correspond with us, and arrange with us for examination or test.



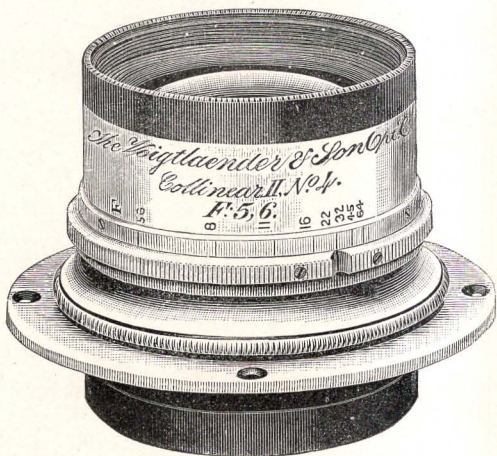
Collinear Lenses for Hand Cameras.

As we have seen, Collinear Lenses are of the greatest value to all, amateurs and professionals alike.

We mention below the sizes and numbers which are principally used by amateurs in hand cameras, and refer to our complete catalogue for the larger sizes used for professional or photo-mechanical purposes.

We manufacture three series or kinds of Collinears.

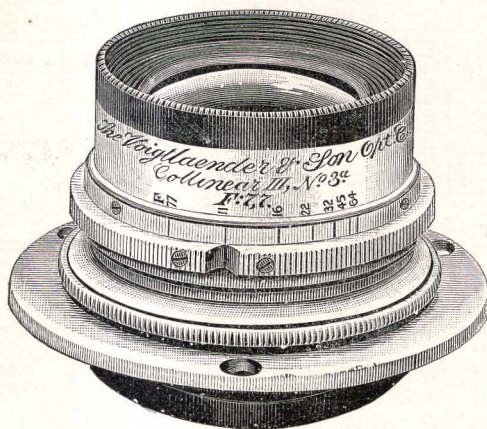
EXTRA RAPID SERIES II., *f* 5.6.



This series is unique. There is no other lens like it; no other construction has attained so large an opening and so much speed. For very rapid work, work in weak light and portraiture, it is the best lens, and is likewise excellent for all kinds of views, flashlights, groups, in fact for general hand camera work.

No.	Size of Picture.	Draw of Bellows	Height of	Size of Camera	Price. Lens only.	Price. Lens and Shutter. No intermediate barrel.
		Required.	Lens.	Front Board Required.		
		inches.	inches.	inches.		
2	3¼ x 4¼	5	1¼	2¼	\$40.00	\$50.00
3	4 x 5	6	1¾	2¾	45.00	55.00
4	5 x 7	8	1¾	3¾	60.00	70.00
5	6½ x 8½	10	1¾	3½	77.50	85.00
6	8 x 10	12	2½	4	105.00	112.50

RAPID SERIES III., f 7.7.



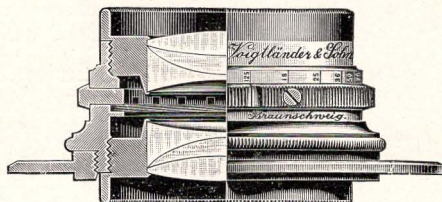
This series is excellent for general view work, instantaneous and time, interiors, flash lights, groups. It is more compact and lighter than Series II., and is therefore better for compact cameras of the "bicycle patterns."

No.	Size of Picture.	Draw of Bellows Required. inches.	Height of Lens. inches.	Size of Camera Front Board Required. inches.	Price. Lens only.	Price. Lens and Shutter. No intermediate barrel.
2	$3\frac{1}{4} \times 4\frac{1}{4}$	5	$\frac{7}{8}$	$1\frac{7}{8}$	\$32.50	\$42.50
3	4×5	6	1	$2\frac{1}{4}$	40.00	50.00
3a	5×7	8	$1\frac{1}{8}$	$2\frac{3}{8}$	50.00	60.00
5	$6\frac{1}{2} \times 8\frac{1}{2}$	10	$1\frac{1}{2}$	3	72.50	80.00
6	8×10	12	$2\frac{1}{4}$	$3\frac{1}{4}$	100.00	107.50

WIDE ANGLE SERIES IV., f 12.5.

For wide angle work, mainly interiors and buildings, pictures in confined positions and at very short range.

No.	Size of Picture.	Price.	Price with Shutter.
1	$3\frac{1}{4} \times 4\frac{1}{4}$	\$30.00	\$40.00
2	4×5	35.00	45.00
3	5×7	40.00	50.00
4	$\left\{ \begin{array}{l} 6\frac{1}{2} \times 8\frac{1}{2} \\ 8 \times 10 \end{array} \right\}$	48.00	58.00



This series is so compact that it will fit any camera intended for a double lens.

All three series are permanent and possess the long distance feature.

We invite correspondence on any further particulars which have not been sufficiently elucidated by the foregoing.

Collinear Lenses that Improve Kodaks

The smaller Kodaks, owing to their construction, are not adapted for Collinear Lenses, but the Folding Cartridge Kodaks of 4 x 5 and 5 x 7 sizes will take Collinear Lenses with perfect ease and are almost daily being fitted with Collinears to replace the Kodak lenses and shutters with which they are furnished.

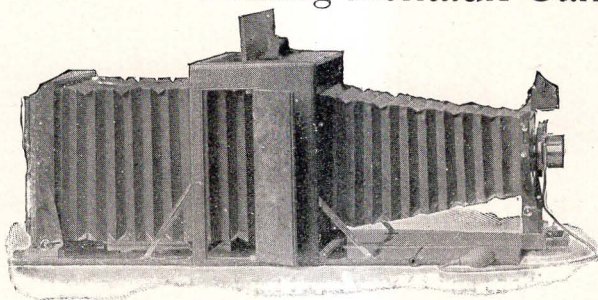
For 4 x 5 Folding Cartridge Kodak we supply:

Extra Rapid Collinear II., No. 3, Iris Diaphragm Shutter	-	price, \$55.00
Camera, Lens and Shutter	- - - - -	" 75.00
OR		
Rapid Collinear III., No. 3, Iris Diaphragm Shutter	- -	price, \$50.00
Camera, Lens and Shutter	- - - - -	" 70.00

For 5 x 7 Folding Cartridge Kodak:

Rapid Collinear III., No. 3a, Iris Diaphragm Shutter	- -	price, \$60.00
Camera, Lens and Shutter	- - - - -	" 90.00

Collinear Lenses that improve Folding Montauk Cameras



LONG FOCUS REVERSIBLE BACK MONTAUK.

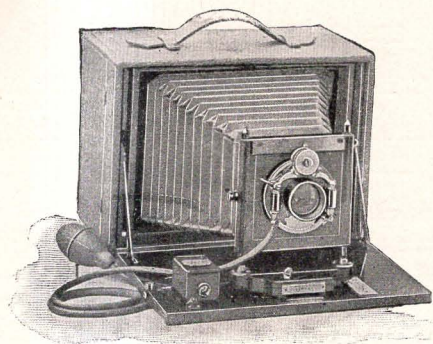
Montauk Cameras are well adapted for Collinear Lenses, having plenty of space to take both Series II. and III. Montauk Cameras are renowned for quality, but when fitted with either series of Collinears they are wonderfully improved in optical qualities, and known as hand cameras of the very finest type.

LONG FOCUS REVERSIBLE BACK MONTAUK.

Gray Day Series, with Collinear II., Diaphragm or Triplex Shutter.

	4 x 5	5 x 7	6½ x 8½	8 x 10
Lens number	3	4	5	6
Lens and Shutter	\$55.00	\$70.00	\$85.00	\$112.50
Camera, Lens and Shutter, complete	80.00	95.00	125.00	157.50

Intermediate Tubes extra.



STYLE I MONTAUK.

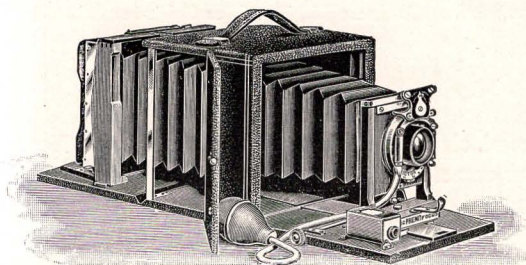
Gray Day Series, with
Collinear III., Iris Dia-
phragm or Triplex Shutter.

	4 x 5	5 x 7	6½ x 8½	8 x 10
Lens number	3	3 ^a	5	6
Lens and Shutter	\$50.00	\$60.00	\$80.00	\$107.50
Camera, Lens and Shutter, complete	70.00	85.00	120.00	145.00

No charge whatever for fitting lenses. Intermediate Barrels extra.

Collinear Lenses are permanent and have the long focus feature.

Collinear Lenses ^{that improve} Premo Cameras



These cameras enjoy a high reputation. But if their regular symmetrical lenses are discarded and Collinear Lenses put in their places, the quality of the work which they are able to perform will be vastly improved in every way by the exchange. Both the Extra Rapid and Rapid Series are suitable for these cameras.

COLLINEAR SERIES II. AND IRIS DIAPHRAGM SHUTTER.

	4 x 5	5 x 7	6½ x 8½	8 x 10
For Camera	4 x 5	5 x 7	6½ x 8½	8 x 10
Lens number	3	4	5	6
Lens and Shutter	\$55.00	\$70.00	\$85.00	\$112 50
Fitted to Long Focus Premos, complete,	85.00	109 00	134.00	168.00
Fitted to Reversible Back Premos	90.00	114.00	141.00	175.00

Intermediate Tubes extra.

Collinear Lenses are permanent and have the long focus feature.

Collinear Lenses Improve

GRAPHIC CAMERAS, POCO CAMERAS, POCO CYCLE CAMERAS,
TOURIST HAWKEYE CAMERAS, RAY CAMERAS, ETC., ETC.

All of the above cameras, and all other folding cameras not specially mentioned, are suitable for certain ones of the Collinear Lenses, and

All are vastly improved by the addition of the Collinear.

According to the size of the camera and the space which the same allows for the lens, we recommend either Series II. or Series III. (for description, see pages 12 and 13).

For 4 x 5 sizes, choose Collinear II., No. 3 (see page 12); or Collinear III., No. 3 (see page 13).

For 5 x 7 size, choose Collinear II., No. 4, or Collinear III., No. 3a, or Collinear III., No. 4.

For 6½ x 8½ size, choose Collinear II., No. 5, or Collinear III., No. 5.

For 8 x 10 size, choose Collinear II., No. 6, or Collinear III., No. 6.

CONCLUSION.

The broad claim that we make that Collinear Lenses will vastly improve your camera, we are ready to have you substantiate by actual trial and test.

Try a **Collinear** for

HIGH SPEED

SUPERIOR DEFINITION

COVERING POWER

FLATNESS OF FIELD

DEPTH OF FOCUS

EVEN ILLUMINATION

and remember that, besides all other advantages,

Collinears have the long distance feature, and

Collinears are absolutely permanent.

THE VOIGTLAENDER & SON OPTICAL CO.,

467 West 14th Street, New York.

VOIGTLAENDER & SON OPTICAL CO.,
New York.

Gentlemen:

Your favor of the 25th inst. enquiring as to the working of the Series 2, No. 3 Collinear lens I purchased from you in December last, is received.

It gives me great pleasure to be able to report that the lens has more than fulfilled all my expectations. Its definition and speed, working with full opening, is all I can ask, and in one respect it stands alone in a class by itself. In my special line of work, "night pictures," the contrast of bright light and dark shadows is very extreme. With all the lenses I have heretofore used (and I have tried all the modern anastigmats), I have been more or less troubled with reflections—with some lenses, constantly; with others, such as the Zeiss Satz, occasionally. With the Collinear I have yet to find any trace of reflection on a negative, and I have tested it severely.

Yours very truly,

WM. A. FRASER.