

ROSS

OPTICIANS

By Royal Warrant to His Majesty the King.



(Negative by Adolphe Abrahams, F.R.P.S.)

Taken with Ross' "Telecentric" Lens. See pages 46 & 47.

Optical Works, Clapham Common,

Telegraphic Address—
"ROSSICASTE, London."

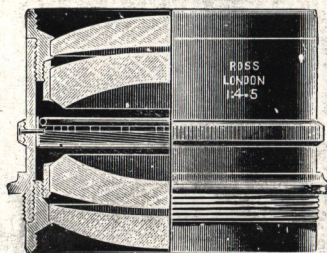
Telephone—
BATTERSEA No. 376.

LONDON, S.W.

ROSS' HOMOCENTRIC LENSES.

The "HOMOCENTRIC" gains in popularity year by year, and is undoubtedly the best all-round lens for those who wish to secure the most perfect negatives and do the finest work in all departments of photography.

Prior to 1912 the "Homocentric" was made in four series of various apertures, $f/5.6$, $f/6.3$, $f/6.8$, $f/8$. A new series, $f/4.5$ was then introduced for very rapid hand camera photography, for portraiture, and for other work requiring extremely large aperture.



The new lens possesses the "Homocentric" characteristic of freedom from Zonal aberration, and maintains the excellent qualities of those of less aperture. Like them it gives the finest definition, even illumination, and covering over the whole plate.

It differs from the other series in being of the unsymmetrical type. The back combination has a focal length about one and a-half times and the front about twice that of the complete lens. Three foci are therefore available, an advantage much appreciated especially by amateur photographers. For studio work the $f/4.5$ "Homocentric" is simply invaluable. (See page 37.)

OPTICAL WORKS:
3, NORTH SIDE, CLAPHAM COMMON,
LONDON, S.W.

ROSS'

"HOMOCENTRIC" LENSES.

f/4.5 Stops: *f/5.6, f/8, f/11.3, f/16, f/22.6.*

SPECIALY CONSTRUCTED FOR

Portraits and Groups in the Studio and all Work requiring Extremely Large Aperture.

No.	Equiv. Focus.	Plate Covered.	Price.	Code Word.	IN FOCUSING MOUNTS.	
					Price.	Code Word.
			£ s. d.		£ s. d.	
1	4½ ins.	3½ × 2½	5 0 0	Hazlem	5 15 0	Haztra
2	5½ " "	4½ × 3½	5 15 0	Hazesh	6 15 0	Hazred
3	6¼ " "	5 × 4	6 10 0	Hazen	7 10 0	Haztrop
4	6¾ " "	5½ × 3¾	7 5 0	Hazad	8 5 0	Haztemp
5	7½ " "	6½ × 4½	8 0 0	Hazdar	9 5 0	Haztrowp
6	8½ " "	7 × 5	10 0 0	Hazlend		
7	10 1/16 " "	8 × 5	15 0 0	Hazfen		
8	12 " "	8½ × 6½	22 0 0	Hazgue		
9	15 " "	10 × 8	30 0 0	Hazma		
10	18½ " "	12 × 10	40 0 0	Hazdal		

The Special Focussing Mounts provided with Iris Diaphragms are for Hand Cameras of Fixed Extension. Focussing Mounts do not admit of Between-Lens Shutters.

Cost of Pairing two Lenses for Stereoscopic Work, 8/-.

MOUNTED IN BETWEEN-LENS SHUTTERS.

No.	Equiv. Focus.	IN COMPOUND.		No.	Equiv. Focus.	IN MULTI-SPEED.	
		Price.	Code Word.			Price.	Code Word.
		£ s. d.			£ s. d.		
1	4½ ins.	7 0 0	Hazcone	1	4½ in.	10 5 0	Hazmult
2	5½ " "	8 3 0	Hazcar	2	5½ " "	11 10 0	Hazmack
3	6¼ " "	8 18 0	Hazcax	3	6¾ " "	12 5 0	Hazmeck
4	6¾ " "	9 19 0	Hazcal				
5	7½ " "	10 14 0	Hazced				
6	8½ " "	13 0 0	Hazcip				
7	10 1/16 " "	18 5 0	Hazcord				

No.	Equiv. Focus.	IN KOILOS.		No.	Equiv. Focus.	IN "N.S." ACCURATE, WITH KEW CERTIFICATE.	
		Price.	Code Word.			Price.	Code Word.
		£ s. d.			£ s. d.		
1	4½ ins.	7 0 0	Hazkost	1	4½ ins.	7 2 0	Hazac
2	5½ " "	8 3 0	Hazkat	2	5½ " "	8 5 0	Hazeno
3	6¼ " "	8 18 0	Hazkek	3	6¼ " "	9 0 0	Hazisi
4	6¾ " "	10 5 0	Hazkad	4	6¾ " "	9 15 0	Hazote
5	7½ " "	11 0 0	Hazkimp				

In sunk settings for Reflex Cameras at same prices.

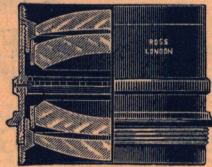
Each combination can be used singly, the back having a focal length about 1½ times and the front twice that of the Doublet.

ROSS' HOMOCENTRIC (Patent) LENSES.

f/5.6. Stops: *f/8, f/11.3, f/16, f/22.6.*

SPECIALY CONSTRUCTED FOR

**Portraits, Groups,
Instantaneous Pictures, and
Snap Shot Hand Camera Work.**



No.	Equiv. Focus.	PLATE COVERED.		PRICE. In Iris Setting.	Code Word.	IN FOCUSING MOUNTS.	
		Full Aperture.	Medium Stops.			Price.	Code Word.
*00	3 ins.	2 $\frac{1}{2}$ x 1 $\frac{1}{2}$	2 $\frac{1}{2}$ x 2	£ 4 15 0	Hahay	£ 5 15 0	Hama
1	5 "	4 $\frac{1}{2}$ x 3 $\frac{1}{2}$	4 $\frac{1}{2}$ x 3 $\frac{1}{2}$	5 0 0	Haarlem	6 5 0	Handa
2	5 $\frac{1}{2}$ "	4 $\frac{3}{8}$ x 3 $\frac{3}{8}$	5 x 4	5 10 0	Habesh	7 0 0	Haocz
3	6 "	5 x 4	6 $\frac{1}{2}$ x 4 $\frac{3}{8}$	6 0 0	Hachen	8 0 0	Hapura
4	7 "	6 $\frac{1}{2}$ x 4 $\frac{3}{8}$	7 $\frac{1}{2}$ x 5	7 0 0	Hadda		
5	8 $\frac{1}{2}$ "	7 $\frac{1}{2}$ x 5	8 $\frac{1}{2}$ x 6 $\frac{1}{2}$	8 10 0	Haalen		
6	10 "	8 $\frac{1}{2}$ x 6 $\frac{1}{2}$	10 x 8	12 0 0	Haffen		
7	12 "	10 x 8	12 x 10	17 0 0	Hague		
8	15 "	12 x 10	15 x 12	23 0 0	Hahma		
9	18 "	13 x 11	18 x 16	30 0 0	Haida		
10	21 "	15 x 12	22 x 18	38 0 0	Hakata		
11	24 "	18 x 16	25 x 22	47 10 0	Haleb		

The Special Focussing Mounts provided with Iris Diaphragms are for hand cameras of fixed extension. Focussing Mounts do not admit of Between-lens shutters.

* This lens works at *f/4.8.*

Cost of Pairing two Lenses for Stereoscopic Work. 8-MOUNTED IN BETWEEN-LENS SHUTTERS.

No.	Equiv. Focus.	IN COMPOUND.		No.	Equiv. Focus.	IN MULTI-SPEED.	
		Price.	Code Word.			Price.	Code Word.
1	5 ins.	£ 7 0 0	Haarcom	1	5 ins.	£ 10 5 0	Haarmult
2	5 $\frac{1}{2}$ "	7 10 0	Habcom	2	5 $\frac{1}{2}$ "	10 15 0	Habmult
3	6 "	8 8 0	Hackcom	3	6 "	11 5 0	Hackmult
4	7 "	9 14 0	Haddcom	4	7 "	12 15 0	Haddmult
5	8 $\frac{1}{2}$ "	11 10 0	Haalucom				
6	10 "	15 5 0	Haffcom				
				IN JUNIOR MULTI-SPEED.			
1	5 ins.	£ 8 12 6	Haarjun	1	5 ins.	8 12 6	Haarjun
2	5 $\frac{1}{2}$ "	9 2 6	Habjun	2	5 $\frac{1}{2}$ "	9 2 6	Habjun
3	6 "	9 12 6	Hackjun	3	6 "	9 12 6	Hackjun
				IN "N.S." ACCURATE WITH KEW CERTIFICATE.			
1	5 ins.	£ 7 2 0	Haar-ac	1	5 ins.	7 2 0	Haar-ac
2	5 $\frac{1}{2}$ "	7 12 0	Habenac	2	5 $\frac{1}{2}$ "	7 12 0	Habenac
3	6 "	8 10 0	Hackisi	3	6 "	8 10 0	Hackisi
4	7 "	9 10 0	Haddote	4	7 "	9 10 0	Haddote
				IN KOILOS.			
1	5 ins.	£ 7 0 0	Haarkos.				
2	5 $\frac{1}{2}$ "	7 10 0	Habkos.				
3	6 "	8 0 0	Hadakos.				
4	7 "	9 8 0	Haekos.				
5	8 $\frac{1}{2}$ "	11 10 0	Haffkos.				
				IN IRBO.			
1	5 ins.	£ 6 5 0	Haarbis				

The Lenses of this Series are specially recommended for all kinds of extremely rapid work for Portraits and Groups, also for Cinematograph work and Lantern projection.

ROSS' HOMOCENTRIC (Patent) LENSES.

f/6.3. Stops:—f/8 f/11.3 f/16 f/22.6.

SPECIALLY CONSTRUCTED FOR

Instantaneous Views and Groups and Snap Shot Hand Camera Work.

No.	Equiv. Focus.	PLATE COVERED.		Price. In Iris Setting.	Code Word.	IN FOCUSING MOUNTS.	
		Full Aperture.	Medium Stops.			Price.	Code Word.
000	2 $\frac{3}{4}$ ins.	1 $\frac{3}{4}$ × 1 $\frac{3}{4}$	3 × 2	£ s. d. 3 15 0	Heady	£ s. d. ..	..
00	3 $\frac{1}{2}$ "	2 × 2	3 $\frac{1}{2}$ × 2 $\frac{1}{2}$	3 15 0	Heard	..	..
0	4 "	3 $\frac{1}{2}$ × 2 $\frac{1}{2}$	3 $\frac{1}{2}$ × 3 $\frac{1}{2}$	3 15 0	Heal	..	..
1	5 "	4 $\frac{1}{2}$ × 3 $\frac{1}{2}$	5 × 4	4 0 0	Heath	4 15 0	Hefta
2	5 $\frac{1}{2}$ "	4 $\frac{1}{2}$ × 3 $\frac{1}{2}$	6 × 5	4 5 0	Hebra	5 0 0	Hegar
3	6 "	5 × 4	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$	4 10 0	Hector	5 5 0	Hehnan
4	7 "	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$	7 $\frac{1}{2}$ × 5	5 10 0	Hedon	6 5 0	Heida
5	8 $\frac{1}{2}$ "	7 $\frac{1}{2}$ × 5	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	7 0 0	Heeg	8 0 0	Hekar
6	10 "	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	10 × 8	9 10 0	Hefra	The Special Focussing Mounts provided with Iris Diaphragms are for Hand Cameras of Fixed Extension. Focussing Mounts do not admit of Between-lens Shutters.	
7	12 "	10 × 8	12 × 10	12 10 0	Hegron		
8	15 "	12 × 10	15 × 12	17 10 0	Hehlor		

Cost of Pairing Two Lenses for Stereoscopic Work, 8/-.

MOUNTED IN BETWEEN-LENS SHUTTERS.

No.	Equiv. Focus.	IN COMPOUND.		No.	Equiv. Focus.	IN MULTI-SPEED.	
		Price.	Code Word.			Price.	Code Word.
1	5 ins.	£ s. d. 5 15 0	Heathcom	1	5 ins.	£ s. d. 9 5 0	Heathmult
2	5 $\frac{1}{2}$ "	6 5 0	Hebracom	2	5 $\frac{1}{2}$ "	9 10 0	Hebramult
3	6 "	6 10 0	Hectorcom	3	6 "	9 15 0	Hectomult
4	7 "	7 12 0	Hedcom	4	7 "	11 5 0	Hedmult
5	8 $\frac{1}{2}$ "	9 14 0	Heegcom	5	8 $\frac{1}{2}$ "	12 15 0	Heegmult
6	10 "	12 10 0	Hefracom				
7	12 "	15 15 0	Hegracom				

IN KOILOS.

1	5 ins.	5 15 0	Heathkos
2	5 $\frac{1}{2}$ "	6 5 0	Hebrakos
3	6 "	6 10 0	Hectorkos
4	7 "	7 10 0	Hedonkos
5	8 $\frac{1}{2}$ "	9 8 0	Heegkos
6	10 "	12 10 0	Hefrakos
7	12 "	15 10 0	Hegrakos

IN IBSO.

1	5 ins.	5 5 0	Heahbis
2	5 $\frac{1}{2}$ "	5 10 0	Hebrabis
3	6 "	5 15 0	Hectorbis

IN JUNIOR MULTI-SPEED.

1	5 ins.	7 12 6	Heathjun
2	5 $\frac{1}{2}$ "	7 17 6	Hebrajun
3	6 "	8 2 6	Hectojun

IN "N.S." ACCURATE, WITH KEW CERTIFICATE.

1	5 ins.	6 2 0	Heathac
2	5 $\frac{1}{2}$ "	6 7 0	Hebrano
3	6 "	6 12 0	Hectosi
4	7 "	7 12 0	Hedlote
5	8 $\frac{1}{2}$ "	9 10 0	Heegula

The Lenses of this Series are admirably adapted for Hand Cameras. Their single combinations may be used for work requiring lenses of long focus, giving excellent results when used with medium stop on the same sizes of plates as the Doublets.

ROSS' HOMOCENTRIC (Patent) LENSES.

f/8. Stops: f/11.3 f/16 f/22.6
FOR VIEWS, GROUPS, INTERIORS, COPYING.

No.	Equiv. Focus.	PLATE COVERED.		PRICE In Iris Setting.	Code Word.	IN FOCUSING SETTINGS.	
		From	To			Price.	Code Word.
1	5 inch	4 1/2 x 3 1/2	6 1/2 x 4 3/4	£ 10 0	Hiata	£ 5 0	Hinka
2	5 1/2 "	4 3/4 x 3 3/4	7 x 5	£ 15 0	Hibba	£ 10 0	Hioto
3	6 "	5 x 4	7 1/2 x 5	£ 0 0	Hicory	£ 15 0	Hippos
4	7 "	6 1/2 x 4 1/2	8 1/2 x 6 1/2	£ 0 0	Hida	£ 15 0	Hirado
5	8 1/2 "	7 1/2 x 5	10 x 8	£ 0 0	Hiendel	The Special Focussing Mounts Provided with Iris Diaphragms are for Hand Cameras of Fixed Extension. Focussing Mounts do not admit of Between-Lens Shutters.	
6	10 "	8 1/2 x 6 1/2	12 x 10	£ 0 0	Hiffar		
7	12 "	10 x 8	15 x 12	£ 10 0	Higor		
8	15 "	12 x 10	18 x 16	£ 10 0	Hihone		
9	18 "	13 x 11	22 x 18	£ 10 0	Hikur		
10	21 "	15 x 12	25 x 22	£ 10 0	Hileh		
11	24 "	18 x 16	30 x 24	£ 10 0	Himal		

Cost of Pairing two Lenses for Stereoscopic Work, 8/-.

MOUNTED IN BETWEEN-LENS SHUTTERS.

No.	Equiv. Focus.	IN COMPOUND.		Price.	Code Word.	IN MULTI-SPEED.		
		Price.	Code Word.					
1	5 ins.	£ 5 0	Hiacom	1	5 ins.	£ 15 0	Hiacmult	
2	5 1/2 "	£ 10 0	Hibbecom	2	5 1/2 "	£ 0 0	Hiabmult	
3	6 "	£ 15 0	Hiccom	3	6 "	£ 5 0	Hicmult	
4	7 "	£ 0 0	Hidacom	4	7 "	£ 5 0	Hidamult	
5	8 1/2 "	£ 8 0	Hiencom	5	8 1/2 "	£ 15 0	Hindmult	
6	10 "	£ 14 0	Hiffcom	6	10 "	£ 15 0	Hiffmult	
7	12 "	£ 10 0	Higocom					

		IN KOLOS.		IN "NS" ACCURATE, WITH KEW CERTIFICATE.			
1	5 ins.	£ 5 0	Hiakos	1	5 ins.	£ 12 0	Hiatac
2	5 1/2 "	£ 10 0	Hibbakos	2	5 1/2 "	£ 17 0	Hibbeno
3	6 "	£ 15 0	Hickos	3	6 "	£ 2 0	Hicici
4	7 "	£ 0 0	Hidakos	4	7 "	£ 2 0	Hidanote
5	8 1/2 "	£ 0 0	Hienkos	5	8 1/2 "	£ 10 0	Hienula
6	10 "	£ 8 0	Hiffskos	6	0 "	£ 10 0	Hiffardo
7	12 "	£ 10 0	Higskos				

		IN IBSO.	
1	5 ins.	£ 15 0	Hiatis
2	5 1/2 "	£ 0 0	Hibbabis
3	6 "	£ 5 0	Hicobis
4	7 "	£ 5 0	Hidabis

The Single Combinations of the Homocentric Lenses may be used for work requiring lenses of long focus. They give excellent results when used with medium stop on the same size of plate as the complete combination for distant Landscapes.

ROSS, Ltd., 111, New Bond Street, London, W.
 Wholesale Department and Optical Works—CLAPHAM COMMON, S.W.

ROSS' HOMOCENTRIC (Patent) LENSES.

SERIES VI. $f/8$ Stops: $f/11.3$ $f/16$ $f/22.6$ $f/32$ $f/45$ $f/64$

The Lenses of this series are mounted when required in special settings with Iris Diaphragm as well as slot for Waterhouse stops. Diaphragms with square or special form openings can be supplied as an extra.

For Process, Line, Half-Tone, and Three-Colour Work.

No.	Equiv. Focus.	Large Aperture.	Smaller Stops up to	In setting with Iris or Waterhouse stops.			Code Word.
				£	s.	d.	
7	12 inch	10 × 8	15 × 12	10	10	0	Hoang
8	15 "	12 × 10	18 × 16	13	10	0	Hobart
9	18 "	13 × 11	22 × 18	18	10	0	Hoher
10	21 "	15 × 12	25 × 22	24	10	0	Hodder
11	24 "	18 × 16	30 × 24	31	10	0	Hoei

THE HOMOCENTRIC LENS, from its complete zoneless spherical correction, freedom from astigmatism and curvature, is specially adapted for all Process work, including that in Three Colours. The most delicate work is copied, reduced or enlarged by it with absolute accuracy and sharpness.

Three-Colour Light Filters.

We are now able to secure suitable Glass for Red, Green and Blue Light Filters.

The Red passes all rays of a wave length of 644 to 590 $\mu.\mu.$, the Green 600 to 480 $\mu.\mu.$, and the Blue 490 to 360 $\mu.\mu.$, covering the whole Spectrum from red to violet.

Sets of Three-Colour Filters—Red, Green and Blue.

							£	s.	d.
Size	2½	inches square	..	..	..	..	4	13	6
"	3	"	..	..	..	..	6	16	6
"	3¼	"	..	..	..	..	7	18	6
"	3½	"	..	..	..	..	9	6	0
"	4	"	..	..	..	..	12	0	0
"	4½	"	..	..	..	..	15	0	0
"	5	"	..	..	..	..	18	10	0

ROSS' WIDE-ANGLE LENSES.

For Landscapes, Architecture, Copying, and use in confined Situations.

WIDE-ANGLE ANASTIGMAT.

f/16.

No.	Equiv. Focus.	Size of plate covered with stop.		Price with Iris or Wheel Diaphragms.			Code Word.
		<i>f/16.</i> Inches.	<i>f/13.</i> Inches.	£	s.	d.	
1	3½	4½ × 3½	5 × 4	3	4	0	Labor
2	4½	5 × 4	6½ × 4¾	3	4	0	I acta
3	5½	6½ × 4¾	8½ × 6½	4	0	0	Ladit
4	7½	8½ × 6½	10 × 8	5	0	0	Lafus
5	8½	10 × 8	12 × 10	6	5	0	Lagon
6	10½	12 × 10	13 × 11	7	15	0	Laher
7	12½	13 × 11	15 × 12	9	5	0	Lapte

This Doublet consists of four single lenses cemented to form two combinations. The field measures in the smaller numbers over 100° in the larger ones about 90°. The seven sizes are specially useful for interiors or work in confined situations. We make to order larger sizes specially intended for the reproduction of maps, plans, and drawings; they yield a perfectly flat and anastigmatic image, and are entirely free from distortion.

WIDE-ANGLE SYMMETRICAL.

f/16.

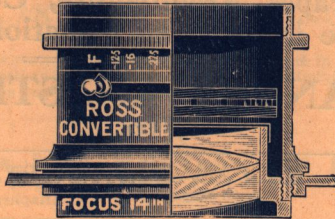
No.	Size of Plate with medium Stop.	Size of Plate with full Aperture.	Equiv. Focus.	PRICE.			Code Word.
				Wheel or Iris.	Brass Settings.		
	Inches.	Inches.	Inches.	£	s.	d.	
1	5 × 4	4½ × 3½	3	3	0	0	Ladas
2	7½ × 4½	5 × 4	4	3	5	0	Lebanon
3	8½ × 6½	6½ × 4¾	5	3	15	0	Levant
4	10 × 8	8½ × 6½	6	4	10	0	Lexicon

These Lenses are remarkable for the sharp definition given over the whole of the plate covered with equal illumination, and their freedom from distortion.

They are constructed for 90° and upwards.

They are confidently recommended for architectural subjects and for use in confined situations.

ROSS' CONVERTIBLE SINGLE LENSES.



f/12.5.

Admirably adapted for Portraits, Groups, Landscapes, and every class of Photography, in the Studio or out of doors, when used either Singly or Combined. They are unapproached by any single lens in existence.

The "relative rapidity" of this Anastigmatic Lens is $f/12.5$, and the field embraced is about 85° . The anastigmatic flatness of the image is unapproachable in any Single Landscape Lens hitherto produced, while the marginal distortion, when used on a moderate angle, is practically inappreciable. The Lens is therefore suitable for instantaneous outdoor pictures such as landscapes and seascapes, and also for large portraits and groups in a good light.

Ratio of Stops .. $f/12.5$, $f/16$, $f/22.6$, $f/32$, $f/45$, $f/64$.

No.	Equivalent Focus.		Plate covered. $f/12.5$.		Flange No.	Price with Iris Diaphragm.			Code Word.	Price in Cell only.		
	m/m.	Inch.	c/m.	Inch		£	s.	d.		£	s.	d.
1	183	$7\frac{1}{2}$	12×15	$6\frac{1}{2} \times 4\frac{3}{4}$	1	3	10	0	Sabam	3	0	0
2	224	9	13×18	$7\frac{1}{2} \times 5$	1	4	0	0	Sacco	3	10	0
2a	248	$9\frac{3}{4}$	13×20	8×5	1	4	10	0	Sadir	4	0	0
3	285	$11\frac{1}{2}$	16×21	$8\frac{1}{2} \times 6\frac{1}{2}$	1	4	15	0	Safos	4	5	0
4	350	14	21×27	10×8	2	5	15	0	Sagut	5	2	6
5	412	$16\frac{1}{2}$	24×30	12×10	4	7	10	0	Saheb	6	15	0
6	480	$19\frac{1}{2}$	29×34	13×11	6	10	10	0	Saked	9	10	0
7	590	$23\frac{1}{2}$	30×40	15×12	7	13	10	0	Salif	12	0	0
8	690	$27\frac{1}{2}$	34×39	15×12	9	17	10	0	Samon	15	10	0
9	782	$30\frac{1}{2}$	39×47	18×16	11	24	10	0	Sanul	22	0	0
10	862	34	40×50	20×16		32	0	0	Sapan	29	0	0
11	1000	39	47×57	22×18		42	0	0	Saret	38	10	0

THE ABOVE PRICES ARE FOR NET PROMPT CASH.

Sold by Leading Dealers Everywhere.

For Rapid and Extra Rapid Doublets and Sets formed from the above Series of Single Lenses see following page.

ROSS' CONVERTIBLE LENSES (Doublets).

F/6.3 to F/8.

Universal Series of Lenses specially suitable for Portraits and Groups in the Studio, and for all Classes of outdoor Photography, also for Interiors, Copying, &c.

These Lenses are formed by combining suitable single Lenses (f/12.5), as described on the preceding page.

No.	Combination of Two Lenses. (f/12.5)			Largest Aperture.	Size of Plates. At Full Aperture. Inches.	Prices in London. In Brass Settings, with Iris. £ s. d.	Cable Code Word
	Resulting Combined Focus.						
	Front	Back	Ins.				
1	7 $\frac{1}{2}$	7 $\frac{1}{2}$	4 $\frac{3}{4}$	6.3	3 $\frac{1}{2}$ × 3 $\frac{1}{2}$	6 10 0	Cabanos
2	9	7 $\frac{1}{2}$	4 $\frac{3}{4}$	7	4 $\frac{1}{2}$ × 3 $\frac{1}{2}$	7 0 0	Cacham
3	11 $\frac{1}{2}$	7 $\frac{1}{2}$	5	8	5 × 4	7 15 0	Caloar
4	9	9	5	6.3	5 × 4	7 10 0	Cachino
4a	9 $\frac{3}{4}$	9 $\frac{3}{4}$	5 $\frac{3}{4}$	6.3	5 × 4	8 10 0	Caducus
5	11 $\frac{1}{2}$	9	5 $\frac{3}{4}$	7	6 × 5	8 5 0	Cafozia
6	14	9	6 $\frac{1}{2}$	8	6 × 5	9 5 0	Cagnor
7	11 $\frac{1}{2}$	11 $\frac{1}{2}$	6 $\frac{1}{2}$	6.3	6 $\frac{1}{2}$ × 4 $\frac{3}{4}$	9 0 0	Cafera
8	14	11 $\frac{1}{2}$	7	7	7 $\frac{1}{2}$ × 5	10 0 0	Cagutu
9	16 $\frac{1}{2}$	11 $\frac{1}{2}$	7 $\frac{1}{2}$	8	8 × 5	11 15 0	Cañabe
10	14	14	8	6.3	8 × 5	10 17 6	Cagulla
11	16 $\frac{1}{2}$	14	8 $\frac{1}{2}$	7	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	12 12 6	Cahavo
12	19 $\frac{1}{2}$	14	9	8	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	15 12 6	Cackter
13	16 $\frac{1}{2}$	16 $\frac{1}{2}$	9 $\frac{1}{2}$	6.3	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	14 5 0	Cañact
14	19 $\frac{1}{2}$	16 $\frac{1}{2}$	10	7	9 × 7	17 5 0	Caketo
15	23 $\frac{1}{2}$	16 $\frac{1}{2}$	11	8	9 × 7	20 5 0	Califat
16	19 $\frac{1}{2}$	19 $\frac{1}{2}$	11	6.3	9 × 7	20 0 0	Cackler
17	23 $\frac{1}{2}$	19 $\frac{1}{2}$	12	7	10 × 8	23 0 0	Caliped
18	27 $\frac{1}{2}$	19 $\frac{1}{2}$	12 $\frac{1}{2}$	8	10 × 8	27 0 0	Camogo
19	25 $\frac{1}{2}$	23 $\frac{1}{2}$	13 $\frac{1}{2}$	6.3	10 × 8	25 10 0	Calidus
20	27 $\frac{1}{2}$	23 $\frac{1}{2}$	14 $\frac{1}{2}$	7	12 × 10	29 10 0	Camolen
22	27 $\frac{1}{2}$	27 $\frac{1}{2}$	15 $\frac{1}{2}$	6.3	12 × 10	33 0 0	Camona
25	30 $\frac{1}{2}$	30 $\frac{1}{2}$	18 $\frac{1}{2}$	6.3	13 × 11	46 10 0	Canusin
28	34	34	20 $\frac{1}{2}$	6.3	13 × 11	61 0 0	Capando
30	39	39	23 $\frac{1}{2}$	6.3	15 × 12	80 10 0	Caretum

More than two single lenses may be used in the same setting, the size of which is determined by the longest focus single lens. The movable Ring, so constructed that the engraving indicates 3 or more Scales of apertures as the case requires, is included in the price of each lens. For engraving additional scales on customer's own lens Rings 2s. 6d. will be charged for each scale.

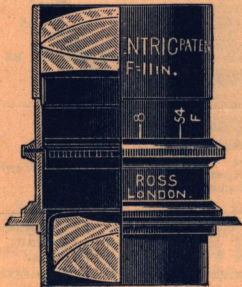
For SETS OF CONVERTIBLES see Ross' Complete Catalogue.

ROSS, Limited, 111, New Bond Street, London, W.
Wholesale Department and Optical Works—CLAPHAM COMMON, S.W.

ROSS' TELECENTRIC (Patent) LENSES.

Two Series, $f/5.4$ and $f/6.8$.

For Rapid Exposures on Distant Objects.



*Enlarged Image with Short
Camera Extension.*

Tele-photography with Focal Plane
Shutter Exposures.

:: AN IDEAL LENS ::
FOR SPORTING EVENTS.
VERY SUITABLE FOR
:: PORTRAITURE. ::

The new "Telecentric" Lens gives a universally **flat image** with **exquisite definition** to the corners of the plate. Coma and spherical aberration away from the axis have been so fully corrected that the **brilliance of image** equals that of the finest Anastigmat. Like the Ross "Homocentric," the "Telecentric" is **absolutely free** from spherical zones, and negatives taken with it are **perfect in detail**. The **chromatic correction** is also perfect. It fills the want so forcibly felt of a lens possessing the **sharp definition** and other good qualities of the Anastigmat, and at the same time **enlarging the image of distant objects**.

The "Telecentric" gives an image about twice as large as that given by an ordinary lens requiring the same bellows extension. **Therefore—pictures of objects that from circumstance or of their nature cannot be sufficiently approached to allow of the desired size of image may be satisfactorily obtained by using the Ross "Telecentric."** These pictures will have critical definition secured with the **shortened exposure** afforded by the large full aperture of the "Telecentric."

In the "Telecentric" Lens, $f/6.8$, which is slightly faster than other lenses of this type, the definition and brilliance at full aperture are quite equal to those of the most perfectly corrected modern Anastigmats.

In the extra rapid "Telecentric" Lens, the extreme aperture of $f/5.4$ has been attained, and this without any sacrifice of critical defining power.

Ross' "Telecentric" Lenses may be fitted to customers' own cameras without interfering with other lenses already attached. For adapting to suitable shutters a small extra charge will be made.

ROSS' TELECENTRIC (Patent) LENSES.

Critical Definition at Full Aperture.

"TELECENTRIC" F/5.4.

Equiv. Focus.	Size Plate.	Flange. Inside dia.	Length Overall.	Infinity. Back cell to Screen.	Back cell to Flange.	Price. In Iris Setting.	Code Word.
9 in.	3½ × 2½	1½ in.	2½ in.	4½ in.	1 in.	£6 15 0	Artel
11 "	4½ × 3½	2¼ "	3¼ "	5½ "	1 "	8 5 0	Estel
12 "	5 × 4	2½ "	3½ "	6¼ "	1½ "	9 0 0	Itt 1
13 "	5½ × 3½	2¾ "	4½ "	6½ "	1¾ "	9 15 0	Wotel
17 "	6½ × 4½	3¼ "	5½ "	9½ "	1¾ "	12 15 0	Zutel

Mounted in Between-Lens Shutters or in Focussing Jackets.

Equiv. Focus.	IN FOCUSING SETTINGS.	IN KOILOS.			IN COMPOUND.			
	Price.	No.	Price.	Code Word.	No.	Price.	Code Word.	
9 in.	£8 5 0	5	£9 5 0	Katel	2	£9 5 0	Cartel	
11 "	10 5 0	4	11 5 0	Kestel	3	11 5 0	Cestel.	
12 "	11 0 0	4	12 0 0	Kittel	3	12 0 0	Cittel.	
13 "	—	—	—	—	4	13 0 0	Cwotel.	
9 "	—	—	In "Multisided" Shutter				12 10 0	MarTel.

The 17 in. "Telecentric" f/5.4 is an inexpensive Portrait lens of large aperture giving very pleasing results.

"TELECENTRIC" F/6.8.

Equiv. Focus.	Size Plate.	Flange. Inside dia.	Length Overall.	Infinity. Back cell to Screen.	Back cell to Flange.	Price. In Iris Setting.	Code Word.
9 in.	3½ × 2½	1½ in.	2½ in.	4½ in.	¾ in.	£5 0 0	Telac
11 "	4½ × 3½	1¾ "	3½ "	5½ "	1 in.	6 0 0	Teles
12 "	5 × 4	2 "	3¾ "	6¼ "	1 ½ "	6 10 0	Telit
13 "	5½ × 3½	2 ¼ "	4½ "	6½ "	1¾ "	7 0 0	Telow
17 "	6½ × 4½	2¾ "	5½ "	9½ "	1¾ "	9 0 0	Teluz

Mounted in Between-Lens Shutters or in Focussing Jackets.

Equiv. Focus.	IN FOCUSING SETTINGS.	IN KOILOS.			IN COMPOUND.		
	Price.	No.	Price.	Code Word.	No.	Price.	Code Word.
9 in.	£6 10 0	2	£7 0 0	Ktelac	1A	£7 2 0	Ctelac
11 "	7 10 0	3	8 8 0	Kteles	2A	8 14 0	Cteles
12 "	8 5 0	3	8 18 0	Ktelit	2A	9 4 0	Ctelit
13 "	9 0 0	4	10 0 0	Ktelow	3	10 0 0	Ctelow
17 "	11 10 0	—	—	—	4	12 5 0	Cteluz

The f/6.8 "Telecentrics" of 9 and 11 inches focus are also supplied in "Multi-sided" Shutters; price respectively £10 15s. and £11 15s.

The Helical Focussing Setting necessitates the next size larger Flanges.

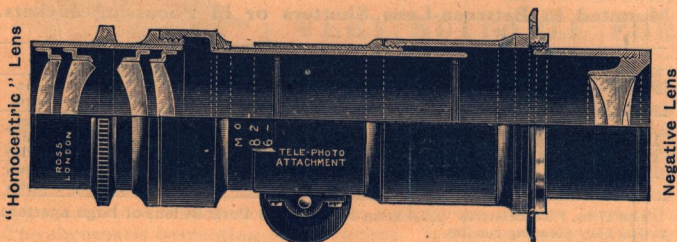
Tele-Photographic Lenses.

A TELE-PHOTOGRAPHIC Combination consists essentially of a Positive lens and a Negative lens, the focus and consequent magnification of the image being regulated by their relative positions.

Were the Separation equal to the difference of their focal lengths a telescopic combination would be formed, or if the separation were equal to the focus of the Positive lens no magnification would take place, but all approximation from this point lengthens the focus, enlarging the image. To obtain the necessary adjustments a setting with rack and pinion is provided in eight sizes to suit various Positive and Negative lenses.

Any good photographic objective may be used in conjunction with Tele-negative lenses, but the "Homocentric" is specially recommended, and it is to utilise to the full the excellent qualities of this lens that the Ross' Tele-negatives have been specially constructed.

The tables given show the various magnifications, the extension of camera bellows, and the prices of the settings and negative lenses.



Setting No.	Positive Lenses, flange not exceeding	Price.
No. 1	1½ in. diameter	£2 10 0
No. 2	1¾ in. "	2 17 6
No. 3	2 in. "	3 2 6
No. 3a	2¼ in. "	3 7 6
No. 4	2½ in. "	3 12 6
No. 4a	2¾ in. "	4 0 0
No. 5	3 in. "	4 10 0
No. 6	3¼ in. "	5 5 0
Tele-negative Lens,	1½ in. focus, suitable for Setting No. 1 and larger	1 10 0
"	1¾ in. " " " " No. 1	1 15 0
"	2¼ in. " " " " No. 1	2 5 0
"	3 in. " " " " No. 3	3 5 0
"	4 in. " " " " No. 4	5 5 0
"	5 in. " " " " No. 5	7 15 0

APPROXIMATE EXTENSIONS FROM NEGATIVE LENS TO FOCUSING SCREEN.

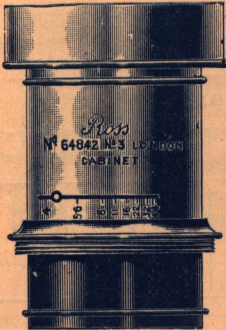
Magnifications.	5	6	7	8	Suitable for
Negative 1½ in. focus..	7	8¾	10½	12¼	3½ × 2½ to 5 × 4.
" 2¼ in. " ..	9	11¼	13½	15¾	½-plate to ½-plate.
" 3 in. " ..	12	15	18	21	5 × 4 to whole plate.
" 4 in. " ..	16	20	24	28	½-plate to 10 × 8.
" 5 in. " ..	20	25	30	35	whole-plate to 12 × 10.

Extension for lower or higher magnifications are proportionate to the above.

LARGER SIZE SETTINGS AND NEGATIVE LENSES OF LONGER FOCI SPECIALLY CONSTRUCTED TO ORDER.

ROSS' "Cabinet" and Portrait Lenses.

For the Studio.



NO. 3 CABINET LENS.

The back combinations of our Cabinet Lenses are mounted in such a way that by a few turns of the outer cell any desired degree of diffused focus is obtainable for the production of softened pictures.

This device need not be used, and when the back cell is screwed home the lens is in perfect adjustment and gives the extreme sharpness of definition characteristic of our lenses and for which they are celebrated.

CODE WORDS.

Iris Diaphs. & Rigid Setting.

Quagris
£12 0 0

Queris
£16 10 0

Quivris
£18 10 0

Quiltris
£26 0 0

- No. 1 Cabinet Lens, $2\frac{3}{4}$ inches clear aperture, $8\frac{1}{2}$ inches equivalent focus; for Cabinet Pictures in short studios; should be placed 12 feet from the sitter, 17 feet for full length Carte-de-Visite Portraits ..
- No. 2 Ditto ditto, $3\frac{1}{4}$ inches clear aperture, 10 inches equivalent focus; recommended where there is not sufficient space for the use of a lens of longer focus; should be placed at 15 feet from the sitter
- No. 3 Ditto ditto, $3\frac{1}{2}$ inches clear aperture, 12 inches equivalent focus; for use when the studio exceeds 20 feet; should be placed at 18 feet from the sitter for Cabinet Portraits

Many of the finest Cabinet portraits from leading Studios in Paris, London and New York are taken with this No. 3 Lens.

- No. 3A Portrait Lens, 4 inches diameter of lenses, 16 inches equivalent focus, for pictures on $8\frac{1}{2} \times 6\frac{1}{2}$ plates and under, for Promenade Portraits and Cabinets in long Studios

LARGER SIZES TO ORDER.

When selecting a Cabinet or Portrait lens it should be borne in mind that the longer the focus permissible by the length of studio the more pleasing the picture.

ROSS, Ltd., 111, New Bond Street, London, W.
Wholesale Department and Optical Works—CLAPHAM COMMON, S.W.

ROSS-ZEISS "TESSAR."

SERIES 1c. f/3.5.

Patent.

No. 1 and No. 1a are specially for Cinematograph work.

The longer foci are for Portraiture, possessing about the same rapidity as Lenses of the Petzval Type and a flat field of 35°.

No.	Equivalent Focus.		Plate Covered.	PRICE.			
				With Iris Diaphragm.	CODE WORD.	With Focussing Adjustment.	CODE WORD.
	m/m	inches		£ s. d.		£ s. d.	
1	50	2	1 by 1 ³ / ₂	4 0 0	Adecenar	4 15 0	Adecto
1a	75	3	1 ¹ / ₂ " 1 ³ / ₂	5 0 0	Adecuno	5 15 0	Adnoto
6	210	8 ¹ / ₂	3 ³ / ₄ " 2 ³ / ₄	15 0 0	Adebant	....	....
7	250	10	4 ¹ / ₂ " 3 ³ / ₄	20 0 0	Adendrus	....	....
8	300	12	6 ³ / ₄ " 4 ³ / ₄	25 0 0	Aderant	....	....

ROSS-ZEISS "TESSAR,"

SERIES 1c. f/4.5.

Patent.

The f/4.5 "Tessars" are preferable for Group and General Portrait work, the smaller sizes affording increased possibilities to users of hand cameras with focal plane shutters.

No.	Equivalent Focus.		Plate Covered.	PRICE.			
				With Iris Diaphragm.	CODE WORD.	With Focussing Adjustment.	CODE WORD.
	m/m	inches.		£ s. d.		£ s. d.	
11b	75	3	2 ³ / ₄ by 2 ³ / ₄	4 10 0	Azolitit	5 0 0	Abater
13	112	4 ¹ / ₂	3 ³ / ₄ " 2 ³ / ₄	5 0 0	Adisti	5 10 0	Asaron
14	135	5 ¹ / ₂	4 ¹ / ₂ " 3 ³ / ₄	5 13 0	Adando	6 5 0	Asopto
15	150	6	5 " 4	6 10 0	Afaglid	7 2 0	Adheso
15b	165	6 ³ / ₄	6 " 4	7 5 0	Bacchiolo	7 17 0	Aelas
15a	180	7 ¹ / ₁₀	6 ³ / ₄ " 4 ³ / ₄	8 0 0	Afagia	9 0 0	Alaar
16	210	8 ¹ / ₂	7 " 5	10 0 0	Afesios	11 0 0	Alanto
17	250	10	8 " 5	16 0 0	Agerant	....	....
18	300	12	8 ¹ / ₂ " 6 ³ / ₄	22 10 0	Agistis	....	....
18a	370	14 ³ / ₄	9 " 7	29 0 0	Asdut	....	....
19	400	16	10 " 8	35 0 0	Asadas	....	....
20	500	20	12 " 10	50 0 0	Asais	....	....

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

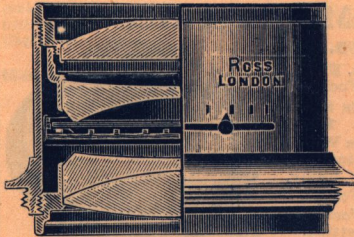
THE ABOVE PRICES ARE NET.

ROSS, Limited, 111, New Bond Street, London, W.
Wholesale Department and Optical Works—CLAPHAM COMMON, S.W.

ROSS - ZEISS "TESSAR."

Patent.

Series 11b., $f/6.3$.



A HIGH-CLASS ANASTIGMAT FOR ALL PURPOSES.

These Lenses are perfectly corrected for Astigmatism and embrace a large angle. The Smaller Sizes are specially suitable for Hand Cameras.

Exquisite Definition and large flat Field are the specially marked characteristics of the three Series of "Tessars."

No.	Equivalent Focus.		Plate Covered.		PRICE.			Code Word.
	m/m	Inches.	From	To	With Iris Diaphragm.			
					£	s.	d.	
1a	75	3	1 $\frac{3}{4}$ x 1 $\frac{3}{4}$	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4	0	0	Adescando.
2	84	3 $\frac{5}{8}$	2 x 2	3 $\frac{1}{2}$ x 2 $\frac{1}{2}$	4	0	0	Adescantis.
3	112	4 $\frac{1}{8}$	3 $\frac{1}{4}$ x 2 $\frac{1}{2}$	4 x 3 $\frac{1}{8}$	4	10	0	Adescarent.
4	136	5 $\frac{1}{4}$	4 $\frac{1}{4}$ x 3 $\frac{1}{2}$	5 x 4	4	15	0	Adescassi.
5	150	6	5 x 4	6 x 4 $\frac{1}{2}$	5	0	0	Adescavamo.
5a	180	7 $\frac{1}{10}$	6 $\frac{1}{2}$ x 4 $\frac{3}{4}$	7 x 5	7	0	0	Adeschero.
6	210	8 $\frac{1}{4}$	7 x 5	8 $\frac{1}{4}$ x 5	8	10	0	Adesco.
7	255	10	8 $\frac{1}{2}$ x 5	8 $\frac{1}{2}$ x 6 $\frac{1}{2}$	11	10	0	Adesivo.
8	305	12	8 $\frac{3}{4}$ x 6 $\frac{1}{2}$	9 $\frac{1}{2}$ x 7 $\frac{1}{4}$	17	0	0	Adesmie.

Larger Sizes to Order.

Series 11b., $f/6.3$.

In Focussing Mounts for Hand Cameras with Fixed Extension.

In Between-lens Shutters.

No.	Equivalent Focus.	PRICE.								
		In Focussing Mount.	In Between-lens Shutters.							
Inches.			In Compound.	In Multis peed.	In Koilos.					
		£	s.	d.	£	s.	d.	£	s.	d.
4	5 $\frac{1}{4}$	5	5	0	6	10	0	10	0	0
5	6	5	10	0	7	0	0	10	5	0
5a	7 $\frac{1}{10}$	7	12	0	9	8	0	12	15	0
6	8 $\frac{1}{4}$	—	—	—	11	4	0	14	15	0
7	10	—	—	—	14	10	0	—	—	—

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

Focussing Mounts do not admit of Between-Lens Shutters.

THE ABOVE PRICES ARE NET.

"CINEMATOGRAPH" SPECIAL CAMERA LENSES.

"ROSS' HOMOCENTRIC."



f/3.1.

2 in. Equiv.
Focus.

In Iris Setting.

£4 10 0

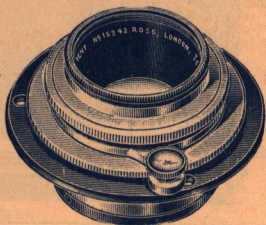
Code Word—
Cinelet.

2 in. Equiv.
Focus.

In Focussing
Setting.

£5 5 0

Code Word—Cinemos



3 in. Equiv. Focus, f/3.1, in Iris Setting. Code Word—Cinetot .. **£5 10 0**
 3 " " in Focussing Setting. Code Word—Cineops **6 5 0**
 3 " " f/4.8, in Special Iris Rigid Mount .. **4 15 0**
 Code Word—Cineco.

ROSS-ZEISS "TESSAR."

SERIES 1c., f/3.5.

No.	Equiv. Focus.	Plate Covered.	With Iris Diaphragm.	Code Word.	With Focussing Adjustment.	Code Word.
	mm. in.		£ s. d.		£ s. d.	
1	...50 ... 2 ... 1	× $\frac{3}{4}$	4 0 0	Adecenar	4 15 0	Adecto
1a	...75 ... 3 ... 1½	× $1\frac{1}{8}$	5 0 0	Adecuno	5 15 0	Adnoto

SPECIAL PROJECTOR LENSES.

ROSS' NEW CINE-HOMO has been constructed after the formulæ of the Patent "Homocentric," the best corrected photographic lens made. The aberrations so noticeable in Projection lenses, which are almost without exception of the old Petzval Portrait type, have been entirely eliminated, with the result that Ross' Cine-Homo, while being of sufficiently large aperture to pass all the light available from the illuminant employed, insuring the utmost brilliancy, yields an image on the screen showing exquisite definition from corner to corner, and not merely a circle in the centre. The colour correction is also perfect, making the Cine-Homo *the* lens for projecting coloured films. It is formed of four single thin uncemented lenses of great transparency, two in each combination. In purchasing a Cine-Homo, Maximum Brilliancy, Critical Detail, Perfect Colour Rendering, and Marked Relief are secured, the principal objects standing out clearly from the background, and Pictures of unequalled quality.

	Price.	Code Word.
	£ s. d.	
3 in. Cine-Homo	4 0 0	Cinetra
4 " "	4 10 0	Cinequod
5 " "	4 10 0	Cinepent

Mounted in plain tubes to slide into standard size jacket.

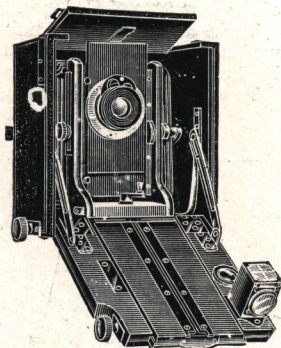
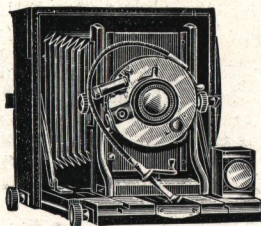
"Keros" Camera

A new Camera of the Universal Hand and Stand type, strongly made in mahogany, covered Morocco leather. The inside is black polished and the metal fittings are finished in permanent dull black, so much admired in our Reflex Cameras.

Measurement $6\frac{3}{8} \times 6\frac{3}{8} \times 3\frac{3}{4}$

Weight, without lens or shutter,
2 lbs. 14 ozs.

With $f/6.3$ "Homocentric" and
Multispeed Shutter, 3 lbs. 4 ozs.



It will be observed that, while not exceeding the dimensions of similar Cameras, the great advantages of the Revolving Back and Wide-Angle movement are included.

This new Camera has all the usual movements, including Double Extension, Double Rising Front, the rise being $2\frac{1}{2}$ inches, Swing Front, &c. Instead of the usual reversing back a very smooth working Revolving Back is provided.

The hinged Base-board, may be lowered and the top board of camera can be raised to permit of all the advantages of the novel Wide-Angle Movement being utilised. Separate Rack and Pinion focussing adjustment is provided to this.

Minimum extension of camera, $1\frac{1}{8}$ for lenses of very short focal length; maximum extension, 12 inches.

$4\frac{1}{4} \times 3\frac{3}{4}$ Camera with 3 Solid Slides and View-finder, without lens or shutter—Code word, Keros				£9 0 0
Do.	With "Homocentric" lens	$5'' f/6.3$	$5'' f/6.8$	$5\frac{1}{2}'' f/4.5$
	In Ibsso Shutter	£13 10 0	£13 10 0	—
	Code word	Keraf.	Keratos.	
Do.	In Compound Shutter	14 0 0	14 0 0	16 8 0
	Code word	Kelifi.	Kelmos.	Kelaton.
Do.	In Koilos Shutter	14 0 0	14 0 0	16 8 0
	Code word	Ketac.	Ketaros.	Ketand.
Do.	In Multispeed Shutter—			
	Junior Form	15 17 6	15 17 6	—
	Code word	Kemgo.	Kempos.	
	Standard Form	17 10 0	17 10 0	19 15 0
	Code word	Kesmit.	Kestos.	Kesillo.

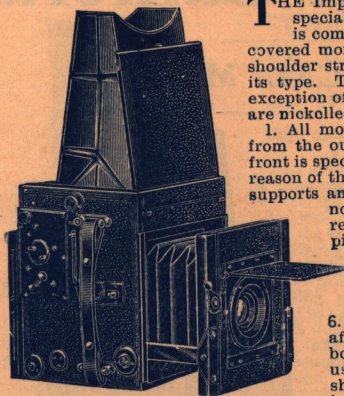
Leather Sling Case to carry Camera and three dark slides **£1 0 0**

9×12 c/m Cameras carry $5\frac{1}{2}''$ lenses, and the difference in cost is that in the corresponding lenses and shutters.

Addition of Multispeed Shutter entails no increase in size, which will be greatly appreciated by photographers accustomed to the size and bulk of Focal-Plane Shutter Cameras.

Special Booklet descriptive of this Camera forwarded on application.

FOCAL PLANE Reflex Camera



THE Improved Model is provided with sky shade, special rack rising front and hinged hood. It is compactly and strongly made in mahogany, covered morocco, with leather carrying handle and shoulder strap, and is the most portable camera of its type. The fittings are finished black, with the exception of those parts likely to be handled, which are nickelled.

1. All movements and adjustments are effected from the outside with ease and certainty. 2. The front is specially rigid and steady in all positions by reason of the particular construction of its carrying supports and attached rackwork. 3. The back has not to be removed to reverse; it is made to revolve and lock into position for taking pictures either way of the plate. 4. The front, which has rise and fall, is racked out and in by conveniently placed milled head. 5. The bellows has extension for lenses of long focus. 6. The mirror, which is surface silvered to afford best definition, allows of the lens-board being racked back further than usual, for short focussed lenses. 7. The shutter cannot be released until the mirror is out of the way. 8. The same trigger by

one action releases both mirror and shutter. 9. The duration of exposure is directly indicated, thus obviating all calculation. 10. The scale ranges from $\frac{1}{2}$ to $\frac{1}{250}$ second, and time exposures of any duration may be made. 11. A special feature is the simplified and improved focal-plane shutter, in which the alteration of speed depends entirely upon the slit, the variable tension spring having been dispensed with. 12. A swing front of special construction can be supplied with this Camera. For full WORKING DIRECTIONS and further particulars apply for SPECIAL BOOKLET, which will be forwarded free by Post on receipt of application.

	$\frac{1}{4}$ -plate 5 $\frac{1}{2}$ in. Lens.	Postcard Size, non- reversing, 6 in. Lens.	5 $\frac{1}{4}$ x 3 $\frac{1}{4}$ with Stereo attachment and 2 Lenses.	5 x 4 6 in. Lens.	$\frac{3}{4}$ -plate 8 $\frac{1}{2}$ in. Lens.
Price, with 3 Double Slides and Ross "Homocentric" Lens, f/6.3 ..	£ s. d. 16 5 0	£ s. d. 17 0 0	£ s. d. 22 18 0	£ s. d. 22 10 0	£ s. d. 31 10 0
Code Words ..	Reflap	Reflate	Refster	Reffloor	Reffloat
Do., with "Compound Homocentric" Lens, f/6.8 ..	16 5 0	17 0 0	22 18 0	22 10 0	31 10 0
Code Words ..	Refaah	Refbag	Refcot	Refdun	Refemu
Ditto, with "Homocentric" Lens, f/5.6 ..	17 10 0	18 10 0	24 18 0	24 0 0	33 0 0
Code Words ..	Reflin	Refliss 6 $\frac{1}{2}$ in. Lens.	Refters	Reflitor 6 $\frac{1}{2}$ in. Lens.	Reflorite
Do., with "Homocentric" Lens, f/4.5 ..	17 15 0	19 15 0	26 8 0	25 5 0	34 10 0
Code Words ..	Reflake	Reflitsi 7 $\frac{1}{10}$ in. Lens.	Reflized 5 $\frac{1}{2}$ in. Lenses.	Reflicon 7 $\frac{1}{10}$ in. Lens.	Reflotz
Do. with Ross - Zeiss "Tessar" f/4.5 ..	6 in. Lens. 18 10 0	20 10 0	26 4 0	26 5 0	34 10 0
Code Words ..	Riflamen	Reflaw	Reflisco	Reflints	Reflobt
Solid Double Backs, each	0 7 6	0 10 0	0 10 0	0 10 0	0 15 0
Book Form Backs, each	0 12 6	0 15 0	0 15 0	0 15 0	1 0 0
Extra for Swing Front, as above described	1 10 0	2 0 0	2 0 0	2 5 0	3 0 0
Changing Box with 12 Sheaths ..	1 15 0	2 0 0	2 0 0	2 0 0	2 10 0
Film Pack Holder ..	0 15 0	0 18 0	0 18 0	0 18 0	1 5 0
Antinous Release, speci- ally fitted ..	0 7 6	0 7 6	0 7 6	0 7 6	0 7 6

Extra for Reversing Hood ($\frac{1}{4}$ -plate size only) 20/-.
Stereo Focusser for attachment to Hood, 10/-.

Focal Plane Reflex Camera

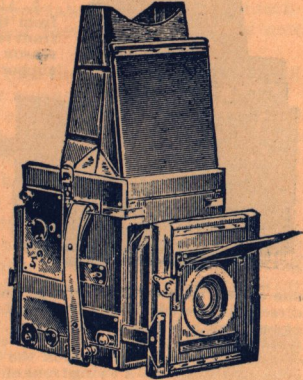
NEW TROPICAL MODEL.

Made of Polished Teak specially selected, with fittings of lacquered brass, and the body is strengthened by brass binding. The bellows are of Russia leather to withstand the attack of insects. Supplied with Sky-shade, Shoulder Strap and special rising front and hinged hood.

In general construction the Tropical Model is similar to Regular Model, of which it has all the movements and advantages.

The dark slides, changing boxes and film pack adapters for use with the Tropical Model are all specially made of Teakwood like the Camera.

The prices given below are for Tropical Models for the same size plates as the Regular Model, each being furnished with three double dark slides and Ross' lens.

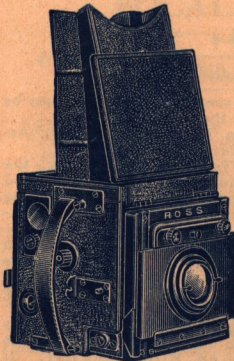


	$\frac{3}{4}$ -plate 5 $\frac{1}{2}$ in. Lens	Postcard Size, non- reversing 6 in. Lens	5 x 4 6 in. Lens	$\frac{1}{2}$ -plate 8 $\frac{1}{2}$ in. Lens
Price with 3 Double Slides and Ross "Homocentric" Lens, f/6.3	£ 22 2 0	£ 23 0 0	£ 31 0 0	£ 43 0 0
Code Words	Troflap	Troflap	Troflap	Troflap
Ditto, with "Homocentric" Lens, f/5.6	£ 23 7 0	£ 24 10 0	£ 32 10 0	£ 44 10 0
Code Words	Troflin	Troflin	Troflin	Troflin
Ditto, with "Homocentric" Lens, f/4.5	£ 23 12 0	£ 25 15 0	£ 34 0 0	£ 46 0 0
Code Words	Troflin	Troflin	Troflin	Troflin
Ditto, with Ross-Zeiss "Tessar," f/4.5	£ 24 7 0	£ 26 10 0	£ 34 10 0	£ 46 0 0
Code Words	Troflin	Troflin	Troflin	Troflin
Solid Double Backs, each Code Word— Troboc. ..	£ 0 10 0	£ 0 14 0	£ 0 14 0	£ 1 1 0
Book Form Backs, each Code Word— Troboom. ..	£ 0 18 0	£ 1 2 0	£ 1 2 0	£ 1 10 0
Film Pack Adapters ..	£ 1 1 0	£ 1 5 0	£ 1 5 0	£ 2 0 0
Changing Boxes ..	£ 2 12 6	£ 3 0 0	£ 3 0 0	£ 3 15 0

Stereo Focuser, for Attachment to Hood, 10/.

**FOCAL
PLANE**

Reflex Camera



**THE NEW 3½ × 2½ SIZE.
FOR DARK SLIDES, CHANGING
BOX, OR FILM PACK ADAPTER.**

**Size 5½ × 5 × 5 in. Weight 2½ lbs. Without
Reversing Back.**

**Size 6⅞ × 5 × 5½ in. Weight 3½ lbs. With
Reversing Back.**

This extremely small size Reflex Camera is made of Mahogany, ebonised, covered with morocco leather, the fittings being in black enamel.

All movements and adjustments are effected from the outside, as in the larger models, all the advantages of which it possesses.

The bellows are of leather, extending eight inches; nine inches in the Reversing Model. The focussing hood on top is of an improved form, hinged to permit of cleaning the focussing screen.

Back focussing screen is hooded in Ordinary Model, and not hooded in the Reversing Model. The camera can be used without mirror movement if desired. This small Camera is readily turned for

oblong or upright pictures. Provided with Ross' "Homocentric" or Ross-Zeiss' "Tessar" Lens, the pictures obtained are of such excellent quality that they are suitable for considerable enlargement. The mechanism works equally well, and bushes for attachment are provided in either position. It has rising and cross-front movements.

For every circumstance where portability is desirable this Camera is therefore the most useful form. A carrying handle is attached.

With reversing back the model is slightly larger.

Best materials and workmanship ensure the Camera withstanding any climate.

TO SET UP FOR WORK.

To erect the Hood press small nickelled catch at back and open lid.

The Trigger releases both shutter and mirror simultaneously. The front milled head sets the mirror, and the back one the shutter.

To increase or decrease the shutter slit, after bringing the pointer vertical, draw out the knob slightly, and turn either way as required. Turn the milled head until the desired indication of speed is opposite the pointer, then let it go back home.

The disc marked 20, 35, 50, gives value in fractions of a second.

Instructions for using Reversing back Model, see Special Booklet.

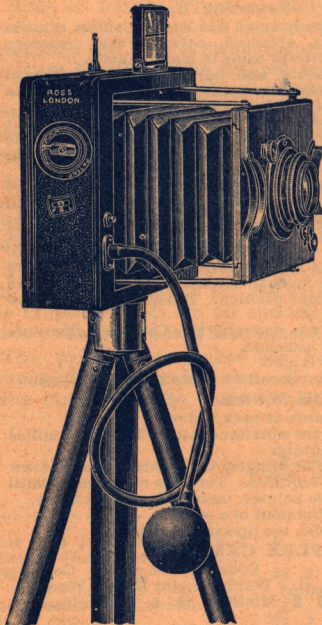
PRICES OF 3½ × 2½ REFLEX CAMERA.

Camera as described with three solid form double backs and Ross 5 in. "Homocentric" Lens, f/6.3	£	s.	d.	Code	With re-	Code		
				Words.	versing Back.	Words.		
Ditto, with 5 in. Compound "Homocentric" Lens, f/6.8	14	0	0	Miniflap	16	0	0	Miniflapco
Ditto, Ross 5 in. "Homocentric" Lens, f/5.6	14	0	0	Miniflock	16	0	0	Miniflockco
Ditto, Ross 4½ in. "Homocentric" Lens, f/4.5	15	0	0	Minifin	17	0	0	Minifinco
Ditto, Ross-Zeiss 4½ ins. "Tessar" Lens, f/6.3	15	0	0	Minilem	17	0	0	Minilemco
Ditto, Ross-Zeiss 4½ in. "Tessar" Lens, f/4.5	14	10	0	Minifaz	16	10	0	Minifazco
Solid form Double Backs, each	15	0	0	Minicoz	17	0	0	Minicozco
Book form	0	7	0	—	0	7	0	—
Changing Box for 12 plates or 24 cut films	0	12	6	—	0	12	6	—
Film Pack Adapter	1	15	0	—	1	15	0	—
Solid Leather Sling Case for Camera and 3 backs or changing box	0	12	6	—	0	12	6	—
Light Wood Tripod Stand	1	0	0	—	1	2	0	—
Aluminium Folding Stand, extra light	0	18	6	—	0	18	6	—
Antinous Release, fitted	1	5	0	—	1	5	0	—
	0	7	6	—	0	7	6	—

ROSS' "PANROS" CAMERA.

Made throughout at Ross' Optical Works, Clapham Common.

The **Lens Board** has extensive rise and fall, so that the foreground may be limited, and high buildings or monuments included in the picture.



A **Cross Movement** is also provided for horizontal pictures.

One Winding Head sets the shutter, and regulates for time and instantaneous exposures of varying duration, so that the camera is **without any other external projection**. It is unlike other cameras in this respect, as also in the advantage of readjustment of the blinds for speed **either before or after** setting the shutter.

One of the most important features of the "Panros" Camera is the **Patent Focal-Plane Blind Shutter**. It has the highest efficiency, and is more easily adjusted than any other hitherto introduced. There are two short blinds, winding from one roller on to another, without any strain beyond the tension of the Springs.

In many shutters the blinds are connected by silk tapes, and the variation of aperture is accomplished by winding one blind away from the other, producing considerable friction and strain, which wear the tapes. Moreover, this arrangement only permits of the aperture being adjusted when shutter is not set.

In the "Panros" the mechanism connected with the two blinds becomes locked in such a manner that the distance between the edges of the blinds remains constant during the whole time the blinds are in motion, and there is no possibility of any alteration in the width of aperture during exposure. The increase or decrease of exposure value is shown by the indi-

cator and is controlled by the one and only milled head, the actual speed of blind travel being automatically increased as the aperture is decreased.

The **Instantaneous exposures** range from $\frac{1}{17}$ to $\frac{1}{1000}$ of a second.

Automatic exposures of $\frac{1}{2}$, $\frac{1}{3}$, 1, 2 or 3 seconds or **prolonged Time** may be given by Pneumatic Ball release, and, a certain speed having been used, there is no need to readjust before making a second exposure at the same speed.

The **Shutter Blinds** are self-closing, that is one blind overlaps the other and remains in this position during the next setting of the shutter, so that should the slide of plate-holder be withdrawn, no light will reach the sensitised plate or film. In other focal-plane shutters of fixed aperture the slide must, to avoid fogging, be re-inserted in the carrier, should it have been withdrawn before the shutter is set, or else recourse must be had to a lens-cap, which is liable to be forgotten.

There is no rebound of the blinds after exposure, and they work without vibration.

WITH PATENT SELF - CAPPING FOCAL-PLANE SHUTTER.

Prices of ROSS' "PANROS" Cameras.	$\frac{1}{2}$ -plate with 5 in. lens.	5 x 4 6 in. lens.	Postcard $6\frac{1}{2}$ in. lens.
	£ s. d.	£ s. d.	£ s. d.
	Code Word	Code Word	Code Word
"PANROS" Focal-plane Camera with Ross' Patent "Homocentric" Lens, f/6.3, in focussing Mount, adjustable Focal-plane Shutter for time or Instan- taneous Exposures, three solid Double Dark Slides and Black Leather carrying case	Pandus 12 17 6	Pandora 14 0 0	Pancreas 14 10 0
Ditto, with "Homocentric" lens, f/6.8 instead of f/6.3	Pango 12 17 6	Pangoat 14 0 0	Pangolo 14 10 0
Ditto, with "Homocentric" lens, f/5.6 instead of either of the above	Panmaur 13 17 6	Pancrate 15 15 0	Pancrule 17 5 0*
Ditto, with "Homocentric" Lens, f/4.5 instead of above	Panesh 14 17 6	Panen 16 5 0	Panad 17 10 0
Additional Double Dark Slides .. each	0 12 6	0 13 0	0 14 0
Changing Box with 12 Sheaths	1 15 0	2 0 0	2 10 0
Holder to take Premo Film Pack	0 15 0	0 18 0	0 18 0
Mackenzie-Wishart Daylight Slides, Model B	0 13 0	0 16 0	Model A 1 3 0
Envelopes for ditto	0 1 6	0 2 0	0 2 0
Antinose Release, specially fitted	0 4 6	0 4 6	0 4 6
Best quality Leather Sling Case, hand-sewn, with Spring Lock and Sling Shoulder Strap in place of ordinary case, to hold Camera and three Double Dark Slides, extra	0 10 6	0 12 6	0 12 6
Ditto to hold Camera and six Double Dark Slides or Camera and Changing Box, extra	0 15 0	0 17 6	0 17 6
Light Wooden Tripod Stand	0 18 6	0 18 6	0 18 6
Aluminium Folding Stand	1 5 0	1 5 0	1 5 0
"PANROS" CAMERA in polished Teak, with Russia Leather Bellows and Brass- bound for Tropical Climates , as above .. .. .	..	4 10 0	..
Additional Double Dark Slides in Teak, each .. .. .	..	0 19 0	..
Telephoto Attachments, see Special Booklet			

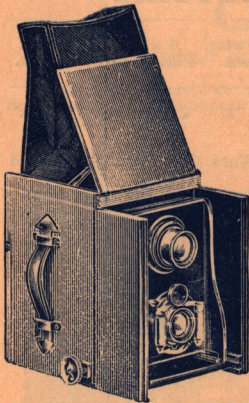
* The f/5.6 "Homocentric" lens on P.C. Camera has a focus of 7 inches.
Cameras without Lenses are charged 25/- extra.

The Dark Slides supplied with the "Panros" Camera are of ebonized wood, solid form. The shutter of hard vulcanite can be wholly withdrawn. Either dry plates or cut films may be used. A special feature in the construction of this dark slide is the means adopted to avoid the possibility of light leakage even should the shutter be carelessly withdrawn or replaced.

The light traps in slides are almost invariably defective, and the special arrangement in the Ross' "Panros" slide is therefore greatly appreciated, as it entirely does away with this source of annoyance.

The Changing Box made for the "Panros" Camera is of similar high finish to the Camera, and is morocco-covered. It is for 12 plates or 24 films, carried in sheaths. It is extremely simple and efficient, and slides into the back grooves of camera without the least difficulty. The exposure is made by the withdrawal of the roller shutter, and the return of the shutter pushes the exposed plate or film in sheath into the leather bag, whence it is transferred to the back of the pack. The non-actinic window in the box lid permits of the bold legible numbers on the back of the sheaths being read with ease.

ROSS' TWIN-LENS REFLEX CAMERA.



This Camera is designed on the principle of using a second lens for focussing and watching the object photographed, of the same construction and focus as the working lens.

The great advantage of the twin-lens over other Reflex Cameras is that in this system the second lens not only serves for focussing and directing the Camera towards any object or particular part of the object, but there is no obliteration of the image after focussing.

It remains visible on the Screen during the Exposure.

For Full Description and Working Instructions see Complete Catalogue.

DIMENSIONS of $\frac{1}{4}$ -plate Camera $7\frac{3}{8}$ inches high, $5\frac{3}{8}$ inches wide by 5 inches back to front, closed.

If with rotating back $9\frac{1}{2}$ inches high, $5\frac{3}{8}$ inches wide, by $5\frac{3}{8}$ inches back to front.

WEIGHT, fitted with pair 5-inch "Homocentric" Lenses $f/6.3$ and "Koilos" Shutter, $3\frac{3}{4}$ lbs. approximately, Rotating $5\frac{1}{4}$ lbs.

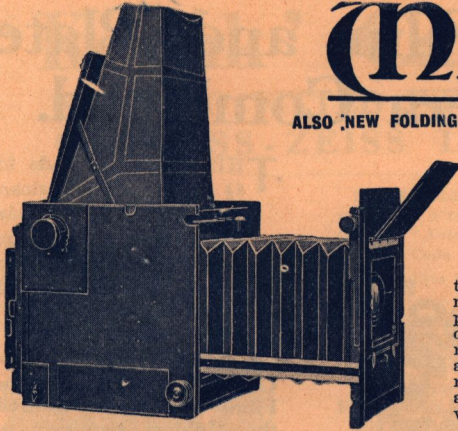
Prices—Including 3 Double Dark Slides with "Homocentric" Lens $f/6.3$ and "Koilos" Shutter	$\frac{1}{4}$ -plate 5in. lenses	5 x 4 6in. lenses	$\frac{3}{4}$ -plate 7in. lenses
Code Words	£15 17 6	£18 12 6	£22 10 0
Ditto ditto with New Multispeed Shutter Code Words	19 7 6	21 17 6	26 5 0
With Homocentric Lens $f/5.6$ & "Koilos" Shutter Code Words	18 2 6	21 12 6	26 0 0
Ditto ditto with New Multispeed Shutter Code Words	21 7 6	25 7 6	29 5 0
Ditto ditto with E.R. "Homocentric" Lens $f/4.5$ and "Koilos" Shutter Code Words	20 0 0	23 0 0	22 10 0
Ditto ditto with E.R. "Homocentric" Lens $f/4$ and "Multispeed" Shutter Code Words	23 7 6	26 7 6	
Either of the above with Square Finder and Revolving Back—add "ir" to Code Word & Time & Instantaneous Focal Plane Shutter & Constructing Camera to take same—add "os" to Code Word and	1 10 0	1 15 0	2 0 0
Focal Plane Shutter and Revolving Back combined—add "ut" to Code Word and	4 5 0	5 5 0	6 0 0
NOTE.—If Diaphragmatic Front Shutter is not required add "zo" to altered Code Word, and List Price of the Shutter will be deducted.	5 15 0	7 0 0	8 0 0

Twin-lens Cameras sold without lenses will be charged £2 extra.

EXTRA DOUBLE DARK SLIDES.— $4\frac{1}{2} \times 3\frac{1}{2}$, 15/-; 5×4 , 18/-; $6\frac{1}{2} \times 4\frac{3}{8}$, £1 2/-
BAG CHANGING BOXES with ROLLER SHUTTER (12 plate Sheaths).— $4\frac{1}{2} \times 3\frac{1}{2}$, £2 5 x 4, £2 5/-; $6\frac{1}{2} \times 4\frac{3}{8}$, £2 15/-.

EXTRAS.

Extra for Camera in Polished Mahogany with 3 Dark Slides, fully brass bound, $4\frac{1}{2} \times 3\frac{1}{2}$, 50/-; 5×4 , 55/-; $6\frac{1}{2}$ by $4\frac{3}{8}$, 60/-.
 Double Swing Back Attachment, polished black, $4\frac{1}{2} \times 3\frac{1}{2}$, 25/-; 5×4 , 30/-; $6\frac{1}{2} \times 4\frac{3}{8}$, 35/-.
 Steel Plate or Film Sheaths, for Changing Box, per doz., $4\frac{1}{2} \times 3\frac{1}{2}$, 5/-; 5×4 , 6/-; $6\frac{1}{2} \times 4\frac{3}{8}$, 7/6.



THE ADAMS PATENT
MINEX

ALSO NEW FOLDING AND STUDIO MODELS.

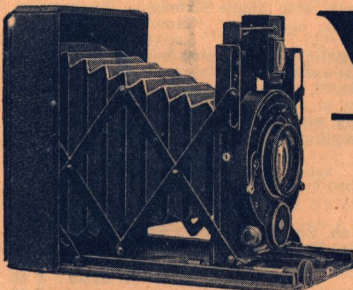
*The British Journal
of Photography says:*

"We are not exceeding the facts when we say that no other Reflex Camera provides (1) an equal range of movement, (2) an equal rapidity of manipulation, and (3) an equal degree of reduction to the fewest adjustments—all within the very smallest space."

THE FINEST REFLEX CAMERAS IN THE WORLD.

In their completeness, the accuracy of their adjustments, and the beauty and elegance of the form in which they are presented, the Adams "MINEX" REFLEX CAMERAS are inimitable.

**All the High-class Cameras manufactured by
Messrs. Adams and Co. are obtainable with
LENSES BY ROSS, Ltd.**



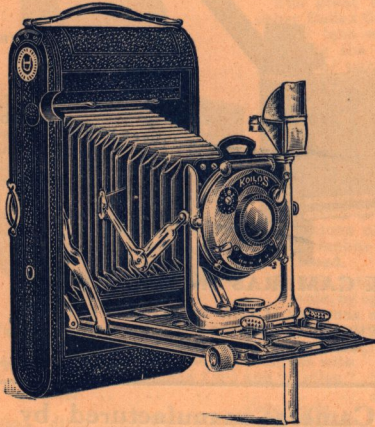
THE ADAMS PATENT
VESTA

VARIOUS MODELS AND SIZES
FOR PLATES, PREMO FILM PACKS
AND ROLL FILMS.

**NEW STEREO AND
ROLL-FILM MODELS.**

**ROSS, Limited, Optical Works, Clapham Common,
London, S.W.**

Roll Film and Plate Camera Combined.



THIS Camera is made for $4\frac{1}{2}$ by $3\frac{1}{4}$ or for Postcard size, $5\frac{1}{2}$ by $3\frac{1}{2}$, and by special arrangement of Sliding Door at back admits of Plates being used as well as Roll Films.

It takes the ordinary Commercial Spools of Films or Plates as desired, the Holders requiring no special adaptation.

It is of Metal, leather covered, of the finest workmanship and finish, and has every desirable movement.

Efficiency, Convenience, Lightness, Portability.

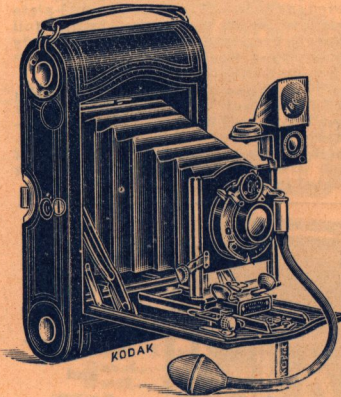
Prices—

	£	s.	d.
For pictures $4\frac{1}{2} \times 3\frac{1}{4}$ on Roll Films only, with Single Extension, Rack Adjustment, &c., "Ibso" Shutter, and Ross' "Homocentric" Lens, <i>f/6.3</i>	8	0	0
Equipment for pictures on Plates, consisting of Focussing Screen with hood and 6 Metal Plate Holders in wallet extra	0	17	0
With "Koilos" Shutter instead of "Ibso" "	0	10	0
With Multi-speed Shutter ditto "	4	0	0
For pictures $4\frac{1}{2} \times 3\frac{1}{4}$ on Roll Films only, with Rack and Pinion, Double Extension, Rising Front, Cross-motion, "Ibso" Shutter, and Ross' "Homocentric" Lens, <i>f/6.3</i>	8	14	0
Equipment for Plates as above extra	0	17	0
With "Koilos" Shutter instead of "Ibso" "	0	10	0
With Multi-speed Shutter ditto "	4	0	0
Extra Metal Plate Holders (single) each	0	1	9
For pictures $5\frac{1}{2} \times 3\frac{1}{2}$ (Postcard size) on Roll Films only, with Double Extension, Rising and Falling Front, Cross-motion, "Ibso" Shutter, and Ross' "Homocentric" Lens, <i>f/6.3</i>	10	6	6
Equipment for Plates as above extra	0	18	6
With "Koilos" Shutter instead of "Ibso" "	0	15	0
With Multi-speed Shutter ditto "	4	0	0
Extra Metal Plate Holders (single) each	0	2	0

Each Camera is provided with Circular Level, Brilliant Pattern Finder, "Ibso" Diaphragmatic Shutter, and the Ross' "Homocentric" *f/6.3*.

'Kodak' Cameras

SUPPLIED FITTED WITH ROSS OR ROSS-ZEISS LENSES.



No. 3 Folding Pocket "Kodak,"
with Ross 5-inch "Homocentric" Lens,
f/6.3 and "Automat" Shutter for pictures
4½ × 3½. Code Word, Kapaut. **£8 5 0**

Ditto, ditto with Ross-Zeiss "Tessar"
5½-inch Lens, f/6.3, instead of "Homo-
centric." Code Word, Kapaz. **£9 0 0**

Twelve-Exposure Spool of "Kodak"
N.C. Film. Code Word, Filca **3 0**

Six-Exposure Spool of "Kodak" N.C.
Film. Code Word, Filcars **1 6**

No. 3a Folding Pocket "Kodak,"
with Ross 6½-inch "Homocentric" Lens,
f/6.3 and "Automat" Shutter, for pictures
5½ × 3½. Code Word, Kerant .. **£9 12 6**

Ditto, ditto, with Multi-speed Shutter.
Code Word, Kertemu **£14 12 6**

Ditto, ditto, with Ross-Zeiss "Tessar"
6-inch Lens, f/6.3, instead of "Homo-
centric." Code Word, Kerez. **£10 2 6**

Ditto, ditto, with Multi-speed Shutter. Code Word, Kertor .. **£15 2 6**

Ten-Exposure Spool of "Kodak" N.C. Film. Code Word, Filbe **3 0**

Six-Exposure Spool of "Kodak" N.C. Film. Code Word, Filbers **1 9**

No. 4 Folding Pocket "Kodak" for 5 × 4 pictures. Fitted with Ross
"Homocentric" or Ross-Zeiss "Tessar" Lens. Same price as for No. 3a Folding
Pocket "Kodak."

No. 4a Folding "Kodak" embodies all the features of the popular No. 3a
Folding Pocket Kodak; gives large direct Picture 6½ × 4½ on "Kodak" N.C. Film;
with Ross "Homocentric" Lens, f/8. Code Word, Kilaut **£13 7 0**

The "Panoram Kodak," fitted with "Homocentric" Lens, f/6.8, in
special setting and four diaphragms, in pull-off case.

No. 4.—For Pictures 12 × 3½ inch, capacity four exposures without reloading.
Size of Camera, 10½ × 4½ × 5½, weight 2lbs. 14 ozs. Code Word, Pako. Price with Lens, **£9 5 0**

Leather Case, Code Word, Pakocas **10 6**

Four-Exposure Spool of Kodak N.C. Film. Code Word, Fildo .. **3 2**

Two-Exposure Spool of Kodak N.C. Film. Code Word, Fildoes .. **1 11**

**THE "HOMOCENTRIC" LENSES CAN BE ADAPTED
TO CUSTOMERS' OWN "KODAKS," Etc.**

THE ABOVE PRICES ARE NET.

ROSS, Limited,
Optical Works—CLAPHAM COMMON, LONDON, S.W.

THE NEW "N. & G." FOLDING POCKET "SIBYL" CAMERAS.

Fitted with Ross "Homocentric" $f/6.8$, Ross "Telecentric" $f/6.8$, and Ross Zeiss - Tessar $f/4.5$ and $f/6.3$ Lenses.

"Sibyl,"

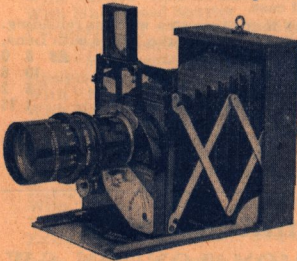


showing Horizontal Rising
Front.

The "N. & G." "Sibyl de Luxe" $\frac{1}{2}$ -plate Folding Double Extension Model may be obtained fitted with Ross "Convertible" Doublet Lens, of 5 in. focus, $f/6.3$, and Single Combination 9 in. focus, $f/12.5$.

The "New Special" and "New Ideal" "Sibyl" are further obtainable fitted with Ross New "Telecentric" Lens (a special Model having been designed for same) of 9 in. and 11 in. focus respectively. These "Sibyls" thus fitted will be found invaluable for Snapshot Portrait Studios, etc.

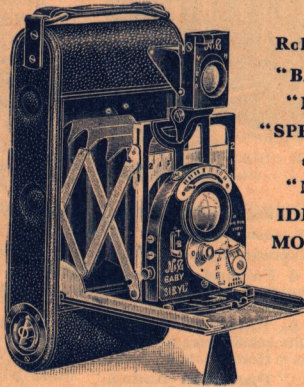
"New Special" or
"New Ideal" "Sibyl,"



fitted with
Ross "Telecentric" Lens.

The exquisite "Sibyl" Camera, representing the Highest Class British Workmanship, has this year been greatly improved in the $3\frac{1}{2} \times 2\frac{1}{2}$, $6\frac{1}{2} \times 9$ c/m, and $\frac{1}{4}$ -plate models, which are now equipped with a full range of movements, as given on the already popular Vest Pocket "Baby" "Sibyl" with a few additional features.

The "New Special" ($3\frac{1}{2} \times 2\frac{1}{2}$ or $6\frac{1}{2} \times 9$ c/m), the "New Ideal" ($\frac{1}{4}$ -plate), and the "Post Card" ($5\frac{1}{2} \times 3\frac{1}{2}$) "Sibyl" Cameras are obtainable fitted with Ross $f/6.8$ "Homocentric" Lenses, the perfect qualities of which are used to best advantage, as mounted in these excellent Cameras.



Roll Film.

"BABY,"

"NEW

"SPECIAL"

and

"NEW
IDEAL"

MODELS.

All "N. & G." Reflex and Trellis Cameras can be fitted with Ross "Homocentric," "Convertible," and "Telecentric" Lenses.

The "Baby," "New Special," and "New Ideal" Models can be obtained for use with Plates, Film Packs, or Autochromes, and a model for Roll Films is also made in these sizes.

All "N. & G." Shutter Speeds Guaranteed Accurate and Constant.

Fuller Description of these Cameras will
be sent on Application to—

ROSS, Limited,
Manufacturing Opticians, London.

ROSS' "CENTURY" CAMERA.

An instrument of the highest quality and finish, in which the advantages of the "Square" and "Tourist" Pattern Cameras are combined.

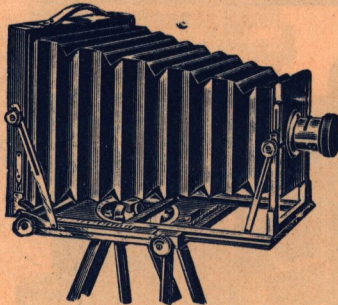


Fig. 1.

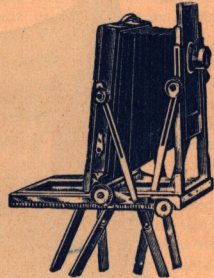


Fig. 2.

This Camera has been specially designed to meet the requirements of the modern Anastigmatic Lenses.

The chief advantages of the "Century" Camera are:—

- 1st.—Its Lightness and Portability.
- 2nd.—Its Extensive Rising Front.
- 3rd.—Its Double Rack Focussing.

PRICES, WITH DOUBLE EXTENSION.

The following prices include camera, three double dark slides, best quality three-fold tripod and revolving turntable, complete.

Size in inches.	Prices.	Code Word.	Extra Double Dark Slides.	Brass Binding extra.	Size of Camera closed.
6½ × 4½	£11 10 0	Centasa	£1 2 0	£1 10 0	8½ × 8½ × 2
7½ × 5	12 10 0	Centem	1 2 0	1 10 0	9½ × 9½ × 2
8½ × 6½	14 0 0	Centipo	1 5 0	1 15 0	11 × 10½ × 2½
10 × 8	16 0 0	Centor	1 12 0	2 0 0	12½ × 12½ × 3
12 × 10	19 0 0	Centus	2 0 0	2 10 0	14½ × 14½ × 3
15 × 12	24 0 0	Centale	2 15 0	3 0 0	17½ × 17½ × 3½
18 × 16	35 0 0	Centup	3 10 0	4 0 0	21 × 21 × 3½

For 12 × 10 and larger sizes we recommend a light supplementary leg for the front of camera. The price of this, including camera fittings, is 10/6.

PRICES, WITH TRIPLE EXTENSION.

The following prices include camera, three double dark slides, best quality three-fold tripod and revolving turntable, complete.

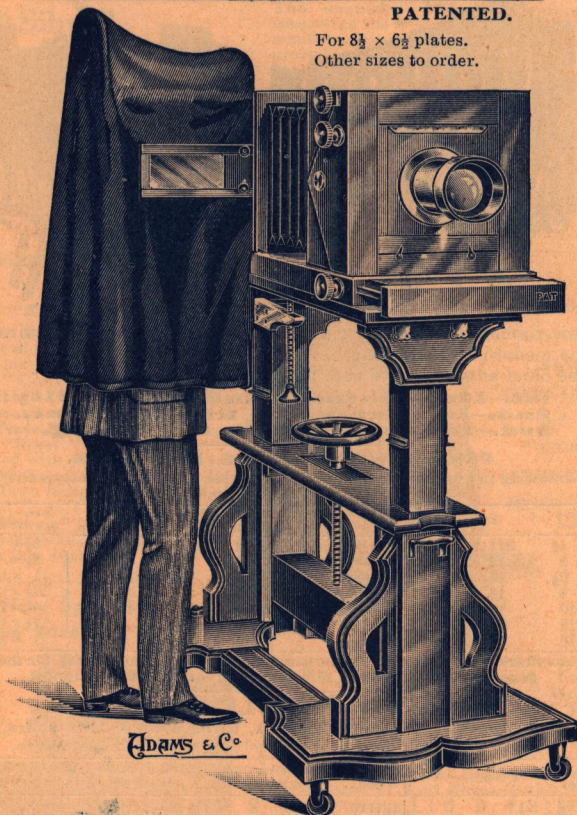
Sizes in inches.	Prices.	Code Word.	Extra Double Dark Slides.	Brass Binding extra.	Size of Camera Closed about
6½ × 4½	£14 0 0	Dastric	£1 2 0	£1 10 0	9½ × 9½ × 2½
8½ × 6½	17 10 0	Deutric	1 5 0	1 15 0	11½ × 11½ × 2¾
10 × 8	22 0 0	Diotric	1 12 0	2 0 0	13 × 13 × 3½
12 × 10	26 0 0	Duptric	2 0 0	2 10 0	15½ × 15½ × 3¾

The Triple extension of bellows enables Lenses of long focus to be used, such as the single combinations of the Ross Convertible and other Lenses. The Half-plate Camera has an extension of fully 22 inches.

THE ADAMS **STUDIO** **MINEX**

PATENTED.

For $8\frac{1}{2} \times 6\frac{1}{2}$ plates.
Other sizes to order.



AN ENTIRELY NEW REFLEX PORTRAIT CAMERA.

A Luxurious Piece of Studio Apparatus.

$8\frac{1}{2} \times 6\frac{1}{2}$ Camera and 1 double dark slide, with patent velvet canopy and secret observation window. Has 32 in. extension, and ample rising and falling front, and two-way swing front. Repeating backs if desired, **£35.**

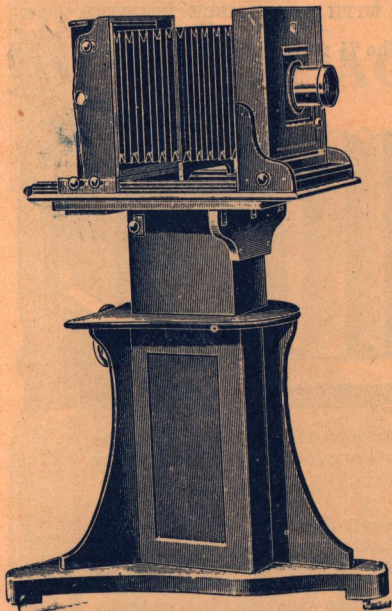
Specially adapted for the use of **Ross Portrait Lens**—16 in. focus $f/4$, **£26.**

Minex Studio Stand, very massive and of great stability, arranged for adjustable movements at side, **£12 10s.**

Full Particulars upon application.

ROSS' Improved CAMERA and STAND for the STUDIO.

For 12 × 10 in. & larger Plates.



ROSS' greatly improved form of **Studio Camera** for 12 × 10 Plates and upwards embraces all recent useful additions, affording the operator facilities that have been hitherto unattainable.

Ross' Improved Studio Camera provides a very long extension and has newly designed Rack and Pinion work. The application of front and rear pinions is on a novel system, producing a particularly even and sweet motion. There is Rack and Pinion to the swing, and the Roller Slide takes the plate either way. A Repeating Back for two pictures on one plate is supplied.

The Special Stand is quite novel in design, and, being very elegant and substantial, forms, in combination with the Camera, a most attractive studio apparatus.

The top of the Stand, on unusually substantial column, is raised or lowered by the action of the handwheel at the back, and the tilting of the table is effected by Rack and Pinion.

Price of Improved Studio Camera with Stand as described.

Size		Code Words.	
12 × 12	for plates 12 × 10 and under	.. Studall ..	£29 5 0
15 × 15	.. 15 × 12 ..	.. Student ..	32 10 0
20 × 20	.. 20 × 18 ..	.. Studio ..	43 0 0

CAMERAS AND OUTFITS,

for Line Reproduction, Photo Copying, Enlarging; for Collotype, Photogravure, and Photo-Lithography; for Half-tone, Photo Engraving in Monochrome or Three Colours, and for all Process Work.

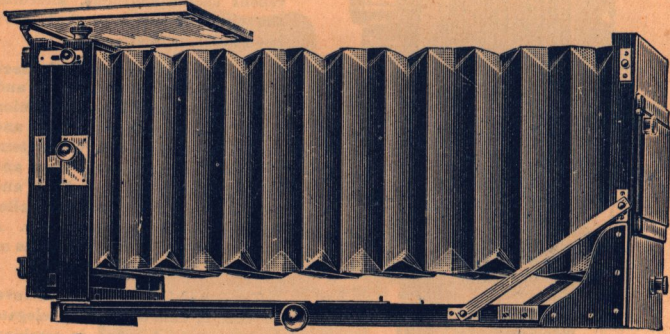
SPECIAL RULED SCREENS, PRISMS, MIRRORS, FILTER CELLS, &c.

ROSS, Ltd., 111, New Bond St., London, W.
Wholesale Department and Optical Works—CLAPHAM COMMON, S.W.

ROSS' Improved Portable Square Bellows Cameras.

DOUBLE EXTENSION WITH REVERSIBLE HOLDERS.

For Lenses of Long Focus. The $7\frac{1}{2} \times 5$ size extends from 3 to $17\frac{1}{2}$ ins.



THIS pattern is a favourite with Professional Photographers and Process Workers, and also for Railway, Shipyards and Engineering Photographic Work.

The Front is rigid, and therefore well adapted for carrying long focus heavy lenses, and, as the bellows racks backwards, wide-angle lenses may be employed without having the foreground of the picture cut off by the baseboard, as frequently happens with Cameras of other patterns. The baseboard folds over the ground-glass screen when closed, thus protecting it from danger of breakage.

Code word for sets consisting of Camera with rack and pinion adjustment to swing back and with three double dark slides.

Size.	Price of Camera only.	Brass binding extra.	Double Dark Slides. Each.	Brass Binding Dark Slides. Each.	Rack and Pinion to double Swing Back	
5 × 4	.. £6 0 0	.. £0 15 0	.. £0 18 0	.. £0 5 0	.. £0 10 0	Squall
$6\frac{1}{2} \times 4\frac{3}{4}$	.. 7 5 0	.. 0 15 0	.. 1 2 0	.. 0 5 0	.. 0 10 0	Squamose
$7\frac{1}{2} \times 5$	.. 7 10 0	.. 0 15 0	.. 1 2 0	.. 0 5 0	.. 0 10 0	Squander
$8\frac{1}{2} \times 6\frac{1}{2}$	.. 9 10 0	.. 0 15 0	.. 1 5 0	.. 0 5 0	.. 0 10 0	Squash
10 × 8	.. 10 0 0	.. 1 0 0	.. 1 12 0	.. 0 6 0	.. 0 15 0	Squat
12 × 10	.. 11 10 0	.. 1 10 0	.. 2 0 0	.. 0 6 0	.. 0 15 0	Squib
15 × 12	.. 13 10 0	.. 1 15 0	.. 2 15 0	.. 0 7 6	.. 1 0 0	Squint
18 × 25	.. 22 0 0	.. 2 10 0	.. 3 10 0	.. 0 10 0	.. 1 0 0	Squire

The prices of Cameras include two fronts or lens boards.

ROSS, Ltd., Manufacturing Opticians, LONDON.

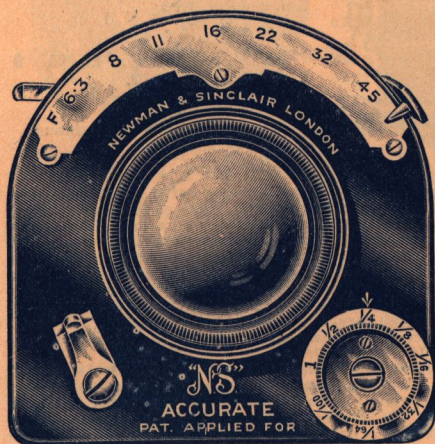
USE ROSS LENSES



Fitted with the
“ACCURATE”
SHUTTER.

(PATENT)

Each Shutter has the speeds engraved by the National Physical Laboratory and is supplied with their Certificate.



The speeds range from $\frac{1}{2}$ to $\frac{1}{1000}$ th second.

The only Shutter of which the exact Speeds are accurately known.

No Vibration.

Has great Efficiency.

Simple in Construction.

Smooth in Action.

No light passes through the Shutter during the process of setting.

THE IDEAL SHUTTER FOR EXACT WORK.

READY—	Iris Aperture.	Tube Diameter for Lenses.	Price, including Kew Certificate.
No. 1 Size ...	... 1 inch	... $1\frac{3}{8}$ inch	... £2 5 0

READY early in 1914—

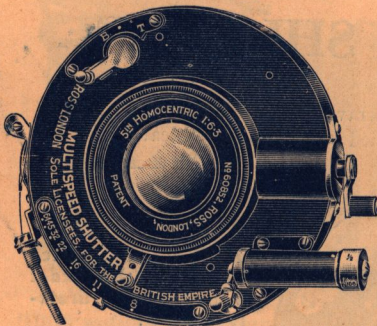
No. 0 Size ...	... $\frac{7}{8}$ inch	... $1\frac{1}{16}$ inch	... £2 5 0
No. 2 Size ...	... $1\frac{3}{8}$,,	... $1\frac{3}{4}$,,	... £2 12 6

WHEN LENSES ARE ORDERED FROM US FITTED TO THIS SHUTTER THERE IS NO CHARGE FOR FITTING.

Recent improvements in the "Regular" Model have so simplified the working that the manipulation is as easy as in any other between-lens Shutter.

The working of the "Junior" Model can be mastered in five minutes.

The Multi-Speed Patent Suitable for HOMOCENTRIC and ALL LENSES admitting a Between-Lens Shutter.



PRICES.

SMALL SIZE for—

5 in., 6 in., 7 in., f/8 ..	} £5 5 0
5 in., 6 in., f/6.8 and f/6.3 ..	
5 in., 6 in., f/5.6 ..	

MEDIUM SIZE for—

5 in. and 6 in., f/4.5 ..	} £5 15 0
5 in. to 10 in., f/8 ..	
5 in. to 8½ in., f/6.8 ..	
5 in. to 8½ in., f/6.3 ..	
5 in. to 7 in., f/5.6 ..	

These prices include Antinous Release.

Adapting extra 7/6 to 10/-

THIS SHUTTER provides speeds varying by successive steps from one second to a minute fraction of time beyond the limits of the photographic plate, besides providing for bulb and time exposures of any duration. The speeds furnish equally efficient exposures, and so the single instrument fulfils every duty which can be required of any shutter, uniting the well-known advantages of the Diaphragm shutter with higher speeds than can be obtained by the focal plane shutter. For high speeds the tension of the unencumbered spring is used: for low speeds (1 sec. to $\frac{1}{100}$ sec.) a retarding piston is attached to the mechanism—thus the motive power is the same in each case, and reliability is ensured.

Extra Rapid Instantaneous Exposures— $\frac{1}{600}$ th, $\frac{1}{800}$ th, $\frac{1}{1000}$ th, etc., of second, being sufficiently rapid for fastest work.

Slower Exposures, bulb and time, from several seconds to $\frac{1}{100}$ th of a second.

Horizontal Distortion, frequently apparent when focal plane shutters are used, in consequence of the movement of object during the descent of the blind opening, is entirely absent with the Multi-speed, as the exposure being so truly instantaneous the image is formed as originating from a stationary object.

SPEEDS.

SPEED TABLE FOR FAST WORK.

$\frac{1}{200}$	is sufficiently high for all speed work as met in city streets—such as carriages, autos. Also athletic work, front views.
$\frac{1}{300}$	is sufficient for jumping and athletics, taken diagonally.
$\frac{1}{500}$	is sufficient for horse work, athletics, and for all speed work as done at present with focal-plane shutters, and will effectively stop all movement, no matter in what direction to the plate.

More rapid

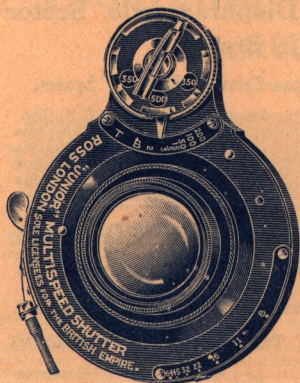
Exposures are reserved, and tend to make the image considerably sharper than the lower tensions, and can be used in fair light if it is intended to enlarge an object to large size.

Alphonse Audy writes:—"I have used many focal-plane shutters, but my experience of about five months' use of the 'Multi-speed' convinces me that it surpasses all other kinds in every way."

For numerous other testimonials and fuller description,

See Complete Catalogue.

NEW "JUNIOR" MULTI-SPEED SHUTTER



Designed for Roll Film Cameras, but just as efficient for Plate Cameras.

For $4\frac{1}{2} \times 3\frac{1}{4}$, 5×4 and $7\frac{1}{2} \times 5$ Cameras; No. 3, 3A and 4 Kodaks; and similar instruments.

Greatest Accuracy.

Widest Latitude.

Easiest in Operation.

Time, bulb and slow instantaneous exposures from $\frac{1}{2}$ second to $\frac{1}{250}$ th on lowest tension.

$\frac{1}{350}$ th and $\frac{1}{500}$ th on highest tensions.

Price £3 12 6

Adapting extra **7/6**

This new model of Multi-speed Shutter is particularly designed to enable the user of a Kodak or small hand Camera to obtain pictures on a par with those usually procured with a focal-plane or other similar much more cumbersome outfits.

It is based upon the carefully developed principle of the Regular "Multi-speed." It is not designed to work at the same extreme high speeds, and several expensive features have been omitted from its construction, permitting of its being sold at a more popular price. Its efficiency up to its limit of $\frac{1}{250}$ th second actual exposure is, however, of the same high standard as the Regular Shutter.

The new Shutter is easily operated by turning the key on the dial above the shutter from one side to the other. The indicator below is placed opposite the desired speed up to $\frac{1}{250}$ th second. Set on opposite side after each exposure.

Higher tension can only be had when the pointer is set to the $\frac{1}{250}$ th second mark, then the spring can be set to two successive higher tensions or speeds— $\frac{1}{350}$ th and $\frac{1}{500}$ th actual exposure.

After using the higher speeds, it is advisable to release the key and give a turn in the opposite direction, in order to get uniform exposures at the lower speeds.

In outline the new model is similar to the ordinary style of shutter, showing on the outside only the key for the spring, and it is therefore easily adapted for use in small cameras.

ROSS, Limited, 111, New Bond Street, London, W.,
Wholesale Department and Optical Works, Clapham Common, S.W.

Between-Lens Shutters

The "KOILOS" Improved Diaphragmatic Sector Shutter with Air Brake.

Suitable for "HOMOCENTRIC" and Ross-Zeiss "TESSAR" Lenses.

	Price	35/0	Code Word	Koilos.
5-in. and 6-in. $f/8$; 5-in. $f/6.3$	35/0		Koilos.
7-in. $f/8$; $5\frac{1}{2}$ -in. and 6-in. $f/6.3$, 5-in. $f/5.6$	40/0	"	Koilata
$8\frac{1}{2}$ -in. $f/8$; 7-in. $f/6.3$; 6-in. $f/5.6$; $4\frac{1}{2}$ -in. $f/4.5$	40/0	"	Koiluter
10-in. $f/8$; $8\frac{1}{2}$ -in. $f/6.8$; 7-in. $f/5.6$; up to $6\frac{1}{2}$ -in. $f/4.5$	48/0	"	Koilion
12-in. $f/8$; 10-in. $f/6.3$; $8\frac{1}{2}$ -in. $f/5.6$; up to $7\frac{1}{2}$ -in. $f/4.5$	60/0	"	Koilina

The "COMPOUND" Shutter with Iris Diaphragm and Distinct Automatic and Spring Actions.

Suitable for "HOMOCENTRIC" and Ross-Zeiss "TESSAR" Lenses.

No.	Price	35/0	Code Word	Companil
0—5 and 6-in. $f/8$; 5-in. $f/6.8$; 5-in. $f/6.3$	35/0		Companil
1—7-in. $f/8$; 6-in. $f/6.8$; and $f/6.3$; up to $5\frac{1}{2}$ -in. $f/5.6$; $4\frac{1}{2}$ -in. $f/4.5$	40/0	"	Compar
1A—7-in. $f/6.3$	42/0	"	Compexil
2— $8\frac{1}{2}$ -in. $f/8$; 6-in. $f/5.6$; up to $6\frac{1}{2}$ -in. $f/4.5$	48/0	"	Complot
2A—10-in. $f/8$; $8\frac{1}{2}$ -in. $f/6.8$ and $f/6.3$	54/0	"	Compos
3—12-in. $f/8$; 10-in. $f/6.8$; 10-in. $f/6.3$; $8\frac{1}{2}$ -in. $f/5.6$; $6\frac{1}{2}$ -in. $f/4.5$	60/0	"	Comptum
4—12-in. $f/6.8$ and $f/6.3$; 10-in. $f/5.6$; $10\frac{1}{2}$ -in. $f/4.5$	65/0	"	Comptura

Cost of fitting to Customers' own Lenses, 7/6 to 10/- each.

The "IBSO" Diaphragmatic Shutter.

Suitable for "HOMOCENTRIC" and Ross-Zeiss "TESSAR" Lenses.

5-in., $5\frac{1}{2}$ -in., 6-in., 7-in. $f/8$; 5-in., $5\frac{1}{2}$ -in., $5\frac{1}{2}$ -in., and 6-in. $f/6.3$;
5-in. $f/5.6$; $4\frac{1}{2}$ -in. $f/4.5$.

Price 25/-, including "Antinous" Release.

The New "N.S." "ACCURATE" Diaphragmatic Shutter with Kew Certificate.

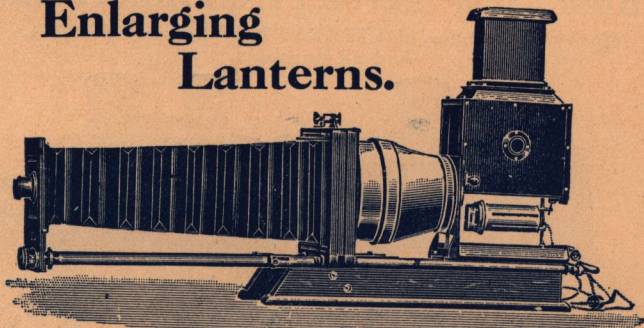
See Page 69.

"MULTI-SPEED" Patent Between-Lens Shutter.

"Arrests Motion." See pages 70 and 71.

ROSS, Ltd., Manufacturing Opticians, LONDON.

ROSS' Enlarging Lanterns.



THE general features and advantages of the form hitherto so much appreciated have been maintained; but by a modification of the body of the Lantern it is now suitable for illuminants of all descriptions without special adaptation for the "Nernst" Lamp, Lime Light, Oil Lamp, Spirit Incandescent, and the "Nelson" Arc Lamp as at foot. The expense of the supplementary aluminium and brass body need only be incurred when it is desired to use a larger form of arc lamp than that indicated.

No.	Diameter of Condenser.		Negative fully covered.		PRICES without Objective, but including good Oil Lamp.	Code Word.
	Inches.	m/m	Inches.	c/m		
0	5½	140	4¼ × 3¼	—	£10 0 0	Enactor.
1	6½	163	5 × 4	9 × 12	12 0 0	Enchanter.
2	7	177	5½ × 4½	—	13 10 0	Endower.
3	8	203	6½ × 4¾	12 × 16	15 0 0	Engrosser.
4	9	228	7 × 5	13 × 18	20 10 0	Enflade.
5	10	253	8 × 5	—	25 10 0	Enigma.
6	11	270	8½ × 6½	—	32 0 0	Enroller.

NOTE.—Arc Lamps or small illuminants require the size larger Condenser than those listed

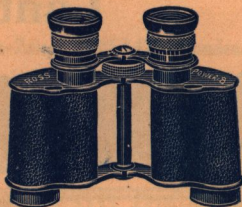
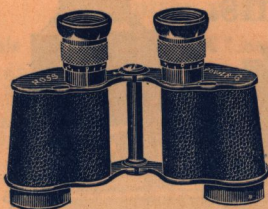
	Price.	Extra Burner.	Spare Resistance
	£ s. d.	s. d.	s. d.
Fine focussing and Locking Device	EXTRA. £1 10 0
Ditto with extra Bellows Extension	1 15 0
Incandescent Fittings instead of Oil Lamp	0 12 6
Brass and Aluminium Body in place of Russian Iron for Ross' Arc Lamp	3 15 0
Special Tray to fit this body to take any Jet	0 8 0
Ross' Jet with out-off for Limelight Body	2 12 6
Ordinary Jets, from	£1 5 0 to 2 15 0
"Radiant" Jet	4 4 0
The "Nelson" Arc Lamp, up to 100 volts	1 10 0
Ditto, up to 200 volts	2 2 0
"B" Arc Lamp, requiring special body	5 5 0
The "Alcool" Spirit Incandescent Lamp, burns ordinary methylated spirit	2 2 0
"NERNST" LAMPS.	Price.	Extra Burner.	Spare Resistance
No. 2, 300 to 500 c.p.	1 10 0	5 0	2 0
No. 3, 500 to 1,000 c.p.	2 5 0	10 0	2 6

ROSS, Ltd., Manufacturing Opticians, LONDON.

FOR EVERY PURPOSE for which a High-Power Field-Glass is indispensable.

Ross' New Stereo Prism Binoculars

Have no equal for **MILITARY, NAVAL, SPORTING,**
and all purposes.



Magnifications.	Focussing by adjustment of Eyepieces.		By Screw.
	Large Aperture.	Extra Large.	Large Aperture.
6	£6 5 0	£7 10 0	£7 5 0
8	6 10 0	—	7 10 0
10	7 10 0	—	8 10 0
12	—	9 0 0	×6ELA 8 10 0

Sole Sale Agents for Ross' Lenses & Cameras.

IN AUSTRALIA—

KODAK Ltd., Sydney, Melbourne, Adelaide, Brisbane, Townsville, Toowoomba, Broken Hill.

IN U.S. AMERICA—

GEORGE MURPHY, Inc., 57, East Ninth Street, New York.

IN CANADA—

UNITED PHOTOGRAPHIC STORES, Ltd., 100, St. Antoine Street, Montreal, & at Ottawa, Quebec, Toronto, and Vancouver.

IN NEW ZEALAND—

KODAK Ltd., 6, Mercer Street, Wellington; 3, Lorne St., Auckland.

MUIR & MOODIE, Princes Street, Dunedin.

IN SOUTH AFRICA—

BAKER & Co., 53, Moseley Buildings, Johannesburg.

IN FRANCE—

WELLINGTON & WARD, 21-23, Passage des Princes, Paris.

IN ITALY—

PIETRO SBISÀ, Piazza Signoria 4, Florence; and Corso Umberto 162 & 163, Rome.

IN GREECE—

CANDREVIOTIS & FITOPOULOS, Nikis Street, Athens.

IN CEYLON—

PLÂTÉ & Co., Bristol Studios, Colombo.

IN BURMAH—

D. A. AHUJA, 47, Sule Pagoda Road, Rangoon.

ROSS, Ltd., MANUFACTURING OPTICIANS,

Wholesale Department and Optical Works—Clapham Common, S.W.

Contractors to His Majesty's Governments, British and Colonial.

Also to the principal Foreign Governments.

By Royal Warrant OPTICIANS TO HIS MAJESTY THE KING.