

ROSS

OPTICIANS

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[Negative by Hugh S. Moore.]

Taken with Ross' "Telecentric" Lens F/5.4, Full Aperture, $\frac{1}{800}$ th second ;
and Focal-Plane Reflex Camera. See pages 46 & 57.

Optical Works, Clapham Common,

Telegraphic Address—
"ROSSICASTE, London."

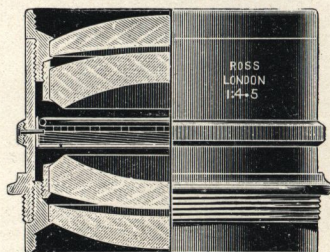
National Telephone—
No. 376 Battersea.

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 last year 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 one and a-half times and the front 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.

SPECIALLY CONSTRUCTED FOR

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

IN FOCUSING MOUNTS.

No.	Equiv. Focus.	Plate Covered.	Price		Code Word.	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	Haztred
3	6½ "	5 × 4	6	10 0	Hazen	7	10 0	Haztrop
4	6½ "	5½ × 3½	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	The Special Focussing Mounts provided with Iris Diaphragm are for Hand Cameras of Fixed Extension. Focussing Mounts do not admit of Between-Lens Shutters.		
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			

Cost of Pairing two Lenses for Stereoscopic Work, 8s.

MOUNTED IN BETWEEN-LENS SHUTTERS.

IN B. & L. AUTOMAT.

IN COMPOUND.

No.	Equiv. Focus.	Price.		Code Word.	Price.		Code Word.
		£	s. d.		£	s. d.	
1	4½ inch	6	5 0	Hazucas	7	0 0	Hazcone
2	5½ "	8	0 0	Hazaur	8	3 0	Hazcar
3	6½ "	8	15 0	Hazaux	8	18 0	Hazcax
4	6½ "	9	10 0	Hazdort	9	19 0	Hazcal
5	7½ "	10	17 6	Hazdet	11	0 0	Hazced
6	8½ "	12	17 6	Hazdip	13	0 0	Hazcip
7	10 1/16 "	—	—	—	18	5 0	Hazcord

IN MULTISPEED.

IN KOILOS.

No.	Equiv. Focus.	Price		Code Word.	No.	Equiv. Focus.	Price.		Code Word.
		£	s. d.				£	s. d.	
1	4½ inch	10	5 0	Hazmult	4	6½ inch	10	5 0	Hazkadt
2	5½ "	11	10 0	Hazmact	5	7½ "	11	0 0	Hazkimp
3	6½ "	12	5 0	Hazmeck					

IN JUNIOR MULTISPEED.

1	4½ "	8	12 6	Hazjun
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IN "N.S." ACCURATE WITH KEW CERTIFICATE.

No.	Equiv. Focus.	Price		Code Word.	No.	Equiv. Focus.	Price.		Code Word.
		£	s. d.				£	s. d.	
1	4½ inch	7	2 0	Hazac	3	6½ inch	9	0 0	Hazisi
2	5½ "	8	5 0	Hazeno	4	6½ "	9	15 0	Hazote

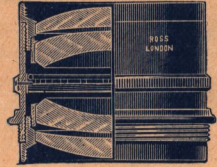
In sunk settings for Reflex Cameras at same prices.

Each combination can be used singly, the back having a focal length 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.

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



No.	Equiv. Focus.	PLATE COVERED.		PRICE. In Iris Setting. £ s. d.	Code Word.	IN FOCUSING MOUNTS.	
		Full Aperture.	Medium Stops.			PRICE. £ s. d.	Code Word.
*00	3 inch	2 1/4 x 1 5/8	2 1/4 x 2	4 15 0	Hahay		
1	5 "	4 1/4 x 3 1/4	4 3/4 x 3 3/4	5 0 0	Haarlem	5 15 0	Hama
2	5 1/2 "	4 3/4 x 3 3/4	5 x 4	5 10 0	Habesh	6 5 0	Handa
3	6 "	5 x 4	6 1/2 x 4 3/4	6 0 0	Hachen	7 0 0	Haoz
4	7 "	6 1/2 x 4 3/4	7 1/2 x 5	7 0 0	Hadda	8 0 0	Hapura
5	8 1/2 "	7 x 5	8 3/4 x 6 3/4	8 10 0	Haelen		
6	10 "	8 3/4 x 6 3/4	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 Focusing Mounts provided with Iris Diaphragm are for hand cameras of fixed extension. Focusing Mounts do not admit of Between-lens Shutters.

* This lens works at f/4.8.

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

No.	Equiv. Focus.	MOUNTED IN BETWEEN-LENS SHUTTERS. IN B. & L. AUTOMAT.		IN COMPOUND.	
		Price. £ s. d.	Code Word.	Price. £ s. d.	Code Word.
1	5 inch	6 5 0	Haarucas	7 0 0	Haarcom.
2	5 1/2 "	7 15 0	Habaur	7 10 0	Habcom.
3	6 "	8 5 0	Hackaur	8 8 0	Hackcom.
4	7 "	9 5 0	Haddaux	9 14 0	Haddcom.
5	8 1/2 "	11 7 6	Hoelaux	11 10 0	Hoelucm.

IN MULTISPEED.			IN KOILOS.		
No.	Equiv. Focus.	Price. Code Word.	No.	Equiv. Focus.	Price. Code Word.
1	5 inch	10 5 0 .. Haarmult ..	..	..	7 0 0 .. Haarkos.
2	5 1/2 "	10 15 0 .. Habmult ..	..	..	7 10 0 .. Habkos.
3	6 "	11 5 0 .. Hackmult ..	..	..	8 0 0 .. Hadakos.
4	7 "	12 15 0 .. Haddmult ..	..	..	9 8 0 .. Hoelkos.
			5	8 1/2 inch	11 10 0 .. Haffkos.

IN JUNIOR MULTISPEED.			IN N.S. ACCURATE WITH KEW CERTIFICATE.		
No.	Equiv. Focus.	Price. Code Word.	No.	Equiv. Focus.	Price. Code Word.
1	5 inch	8 12 6 .. Haarjun ..	..	..	7 2 0 .. Haarsac.
2	5 1/2 "	9 2 6 .. Habjun ..	..	..	7 12 0 .. Habeno
3	6 "	9 12 6 .. Hackjun ..	..	..	8 10 0 .. Hackisi
			4	7 inch	9 10 0 .. Haddote

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. £ s. d.	Code Word.	IN FOCUSING MOUNTS.	
		Full Aperture.	Medium Stops.			PRICE. £ s. d.	Code Word.
00	2 $\frac{3}{4}$ inch	1 $\frac{3}{4}$ × 1 $\frac{3}{4}$	3 × 2	3 15 0	Heady		
0	3 $\frac{1}{2}$ "	2 × 2	3 $\frac{1}{2}$ × 2 $\frac{1}{2}$	3 15 0	Heard		
1	4 "	3 $\frac{1}{2}$ × 2 $\frac{1}{2}$	3 $\frac{1}{2}$ × 3 $\frac{1}{2}$	3 15 0	Heal		
2	5 $\frac{1}{2}$ "	4 × 3 $\frac{1}{2}$	5 × 4	4 0 0	Heath	4 15 0	Hefta
3	6 "	4 × 3	6 × 5	4 5 0	Hebra	5 0 0	Hegar
4	7 "	5 × 4	6 $\frac{1}{2}$ × 4 $\frac{3}{4}$	4 10 0	Hector	5 5 0	Hehnan
5	8 $\frac{1}{2}$ "	6 $\frac{1}{2}$ × 4 $\frac{3}{4}$	7 $\frac{1}{2}$ × 5	5 10 0	Hedon	6 5 0	Heida
6	10 "	7 $\frac{3}{8}$ × 5	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	7 0 0	Heeg	8 0 0	Hekar
7	12 "	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	10 × 8	9 10 0	Hefra		
8	15 "	10 × 8	12 × 10	12 10 0	Hegron		
		12 × 10	15 × 12	17 10 0	Hehlor		

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

Cost of Pairing Two Lenses for Stereoscopic Work, 8s.

MOUNTED IN BETWEEN-LENS

In B. & L. AUTOMAT.

No.	Equiv. Focus.	PRICE. £ s. d.	Code Word.
1	5 inch	5 5 0	Heathucar
2	5 $\frac{1}{2}$ "	5 10 0	Hebrucar
3	6 "	5 15 0	Hectraur
4	7 "	7 15 0	Hednaux
5	8 $\frac{1}{2}$ "	9 17 6	Heegaux
6	10 "	12 7 6	Hefraux

SHUTTERS.

In COMPOUND.

No.	Equiv. Focus.	PRICE. £ s. d.	Code Word.
1	5 inch	5 15 0	Heathcom
2	5 $\frac{1}{2}$ "	6 5 0	Hebracom
3	6 "	6 10 0	Hectocom
4	7 "	7 12 0	Hedcom
5	8 $\frac{1}{2}$ "	9 14 0	Heegcom
6	10 "	12 10 0	Hefracom

In MULTISPEED.

In KOILOS.

No.	Equiv. Focus.	PRICE. £ s. d.	Code Word.	No.	Equiv. Focus.	PRICE. £ s. d.	Code Word.
1	5 inch	9 5 0	Heathmult	6	10 inch	12 10 0	Hefrakos
2	5 $\frac{1}{2}$ "	9 10 0	Hebramult	7	12 "	15 10 0	Hegrakos
3	6 "	9 15 0	Hectomult				
4	7 "	11 5 0	Hedmult				
5	8 $\frac{1}{2}$ "	12 15 0	Heegmult				

IN JUNIOR MULTISPEED.

1	5 inch	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.

No.	Equiv. Focus.	PRICE. £ s. d.	Code Word.	No.	Equiv. Focus.	PRICE. £ s. d.	Code Word.
1	5 inch	6 2 0	Heathac	4	7 inch	7 12 0	Hedlote
2	5 $\frac{1}{2}$ "	6 7 0	Hebrano	5	8 $\frac{1}{2}$ inch	9 10 0	Heegula
3	6 "	6 12 0	Hectosi				

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' COMPOUND HOMOCENTRIC LENSES.

f/6.8. STOPS f/8 f/11.3 f/16 f/22.6 f/32 f/64

FOR

**Out-door Work generally ;
for Views, Groups, and
Architecture.**

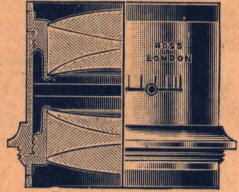


PLATE COVERED.

PRICE.

No.	Equiv. Focus.	From	To	In Iris Setting.	Code Word.	In Focussing Setting.	Code Word
000	2 $\frac{1}{2}$ in.	1 $\frac{3}{4}$ × 1 $\frac{3}{4}$	3 × 2	£3 15 0	Hylas	..	..
00	3 $\frac{1}{2}$ "	2 × 2	3 $\frac{1}{2}$ × 2 $\frac{1}{2}$	3 15 0	Hylbo	..	..
0	4 $\frac{1}{4}$ "	3 $\frac{1}{4}$ × 2 $\frac{3}{4}$	3 $\frac{1}{2}$ × 3 $\frac{1}{2}$	3 15 0	Hylcar	..	..
1	5 "	4 $\frac{1}{4}$ × 3 $\frac{1}{4}$	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$	4 0 0	Hylem	£4 15 0	Hylot
2	5 $\frac{1}{2}$ "	4 $\frac{1}{2}$ × 3 $\frac{3}{4}$	7 × 5	4 5 0	Hymn	5 0 0	Hymot
3	6 "	5 × 4	7 $\frac{1}{2}$ × 5	4 10 0	Hypho	5 5 0	Hypot
4	7 "	6 $\frac{1}{4}$ × 4 $\frac{3}{4}$	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	5 10 0	Hypet	6 5 0	Hyrot
5	8 $\frac{1}{2}$ "	7 $\frac{1}{4}$ × 5	10 × 8	7 0 0	Hykon	8 0 0	Hykot
6	10 "	8 $\frac{1}{2}$ × 6	12 × 10	9 10 0	Hybed	..	..
7	12 "	10 × 8 $\frac{1}{2}$	15 × 12	12 10 0	Hysus	..	..
8	14 "	17.7 12 × 10	18 × 16	16 0 0	Hytipe	..	..

LARGER SIZES TO ORDER.

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

IN B. & L. AUTOMAT.

IN COMPOUND.

No.	Equiv. Focus.	Price.	Code Word.	Price.	Code Word.
1	5 in.	£5 5 0	Hylemaum	£5 15 0	Hylemcom
2	5 $\frac{1}{2}$ "	5 10 0	Hymnear	6 5 0	Hymncom
3	6 "	5 15 0	Hyphcar	6 10 0	Hyphcom
4	7 "	7 15 0	Hypetaur	7 12 0	Hypetcom
5	8 $\frac{1}{2}$ "	9 17 6	Hykaur	9 14 0	Hykcom
6	10 "	12 7 6	Hybaum	12 10 0	Hybucom

IN MULTISPEED.

IN KOILOS.

No.	Equiv. Focus.	Price.	Code Word.	Price.	Code Word.
1	5 in.	£9 5 0	Hylemult	£5 15 0	Hylemkos
2	5 $\frac{1}{2}$ "	9 10 0	Hymnmult	6 5 0	Hymnkos
3	6 "	9 15 0	Hyphomult	6 10 0	Hyphkos
4	7 "	11 5 0	Hypetmult	7 10 0	Hypetkos
5	8 $\frac{1}{2}$ "	12 15 0	Hykmult	9 8 0	Hykkos
6	10 "	..	..	12 10 0	Hybukos

IN JUNIOR MULTISPEED.

1	5 in.	£7 12 6	Hylejun
2	5 $\frac{1}{2}$ "	7 17 6	Hymnjun
3	6 "	8 2 6	Hyphojun

IN "NS." ACCURATE, WITH KEW CERTIFICATE.

Equiv. Focus.	Price.	Code Word.	Equiv. Focus.	Price.	Code Word.
1 5 inch	£ 2 0 0	Hylmac	4 7 inch	7 12 0	Hyphote
2 5 $\frac{1}{2}$ "	6 7 0	Hymmeno	5 8 $\frac{1}{2}$ "	9 10 0	Hypitula
3 6 "	6 12 0	Hyphisi			

These excellent Rapid and Wide angle lenses are made to the same formulæ and replace our Series III. Double Anastigmats. They are specially recommended for wide Angle Work and for Copying, as they give uniform sharpness of the image from centre to margin of the plate, even with the largest stop.

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.		IN FOCUSING SETTINGS.	
		From	To	Setting. £ s. d.	Code Word.	Price £ s. d.	Code Word.
1	5 inch	4 $\frac{1}{2}$ × 3 $\frac{1}{2}$	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$	3 10 0	Hiata	4 5 0	Hinka
2	5 $\frac{1}{2}$ "	4 $\frac{3}{4}$ × 3 $\frac{3}{4}$	7 × 5	3 15 0	Hibba	4 10 0	Hioto
3	6 "	5 × 4	7 $\frac{1}{2}$ × 5	4 0 0	Hicory	4 15 0	Hippos
4	7 "	6 $\frac{1}{2}$ × 4 $\frac{1}{2}$	8 $\frac{1}{2}$ × 6 $\frac{1}{2}$	5 0 0	Hida	5 15 0	Hirado
5	8 $\frac{1}{2}$ "	7 $\frac{1}{2}$ × 5	10 × 8	6 0 0	Hiendel		
6	10 "	8 $\frac{3}{4}$ × 6 $\frac{3}{4}$	12 × 10	8 0 0	Hiffar		
7	12 "	10 × 8	15 × 12	10 10 0	Higor		
8	15 "	12 × 10	18 × 16	13 10 0	Hihone		
9	18 "	13 × 11	22 × 18	18 10 0	Hikur		
10	21 "	15 × 12	25 × 22	24 10 0	Hihle		
11	24 "	18 × 16	30 × 24	31 10 0	Himal		

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

Cost of Pairing two Lenses for Stereoscopic Work, 8s.

MOUNTED IN BETWEEN-LENS SHUTTERS.

IN B. & L. AUTOMAT.

IN COMPOUND.

No.	Equiv. Focus.	Price.		Code Word.	Price.		Code Word.
		£ s. d.	£ s. d.		£ s. d.	£ s. d.	
1	5 inch	4 15 0		Hiatucar	5 5 0	Hiatcom	
2	5 $\frac{1}{2}$ "	5 0 0		Hibbaum	5 10 0	Hibbcom	
3	6 "	5 5 0		Hicaum	5 15 0	Hiccom	
4	7 "	6 5 0		Hidaum	7 0 0	Hidacom	
5	8 $\frac{1}{2}$ "	8 5 0		Hindlaur	8 8 0	Hiencom	
6	10 "	10 17 6		Hiffaux	10 14 0	Hiffscom	
7	12 "	13 7 6		Higraux	13 10 0	Higocom	

IN MULTISPEED.

IN KOILOS.

No.	Equiv. Focus.	Price.		Code Word.	Price.		Code Word.
		£ s. d.	£ s. d.		£ s. d.	£ s. d.	
1	5 inch	8 15 0		Hiatmult	5 5 0	Hiatkos	
2	5 $\frac{1}{2}$ "	9 0 0		Hiabmult	5 10 0	Hibbakos	
3	6 "	9 5 0		Hieumult	5 15 0	Hickos	
4	7 "	10 5 0		Hidamult	7 0 0	Hidakos	
5	8 $\frac{1}{2}$ "	11 15 0		Hindmult	8 0 0	Hienkos	
6	10 "	13 15 0		Hiffmult	10 8 0	Hiffskos	
7	12 "				13 10 0	Higskos	

IN "NS." ACCURATE, WITH KEW CERTIFICATE.

No.	Focus.	Price. £ s. d.	Code Word.	No.	Focus.	Price. £ s. d.	Code Word.
1	5 inch	5 12 0	Hiatac	4	7 inch	7 2 0	Hidanote
2	5 $\frac{1}{2}$ "	5 17 0	Hibbeno	5	8 $\frac{1}{2}$ "	8 10 0	Hienula
3	6 "	6 2 0	Hicisi	6	10 "	10 10 0	Hiffardo

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.,
and 31, Cockspur Street, Charing Cross, S.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 Water- house 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.

Size	inches square	£	s.	d.
2 $\frac{1}{2}$		4	13	6
3	"	"	6	16	6
3 $\frac{1}{4}$	"	"	7	18	6
3 $\frac{1}{2}$	"	"	9	6	0
4	"	"	12	0	0
4 $\frac{1}{2}$	"	"	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/32.</i> Inches.	£	s.	d.	
1	Inch. 3½	4¼ × 3¼	5 × 4	3	4	0	Labor
2	4½	5 × 4	6½ × 4¾	3	4	0	Lacta
3	5½	6½ × 4¾	8½ × 6¾	4	0	0	Ladit
4	7¼	8½ × 6¾	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	12¼	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.

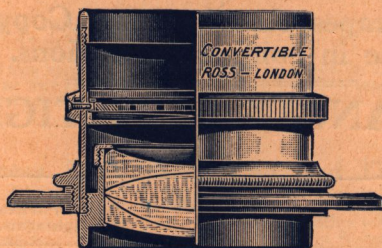
f/16.

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	4¼ × 3¼	3	3	0	0	Ladas
2	7¼ × 4½	5 × 4	4	3	5	0	Lebanon
3	8½ × 6½	6½ × 4¾	5	3	15	0	Levant
4	10 × 8	8½ × 6¾	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 two following pages,

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	7½	7½	4½	6.3	3½ × 3½	6 10 0	Cabanos
2	9	7½	4½	7	4½ × 3½	7 0 0	Cacham
3	11½	7½	5	8	5 × 4	7 15 0	Cachar
4	9	9	5	6.3	5 × 4	7 10 0	Cachino
4a	9½	9½	5½	6.3	5 × 4	8 10 0	Caducus
5	11½	9	5½	7	6 × 5	8 5 0	Cafosia
6	14	9	6½	8	6 × 5	9 5 0	Cagnor
7	11½	11½	6½	6.3	6½ × 4½	9 0 0	Cafella
8	14	11½	7	7	7½ × 5	10 0 0	Cagutu
9	16½	11½	7½	8	8 × 5	11 15 0	Cahabe
10	14	14	8	6.3	8 × 5	10 17 6	Cagulla
11	16½	14	8½	7	8½ × 6½	12 12 6	Cahavo
12	19½	14	9	8	8½ × 6½	15 12 6	Cackter
13	16½	16½	9½	6.3	8½ × 6½	14 5 0	Cahaet
14	19½	16½	10	7	9 × 7	17 5 0	Caketo
15	23½	16½	11	8	9 × 7	20 5 0	Califat
16	19½	19½	11	6.3	9 × 7	20 0 0	Cackler
17	23½	19½	12	7	10 × 8	23 0 0	Caliped
18	27½	19½	12½	8	10 × 8	27 0 0	Camogo
19	23½	23½	13½	6.3	10 × 8	25 10 0	Calidus
20	27½	23½	14½	7	12 × 10	29 10 0	Camolen
22	27½	27½	15½	6.3	12 × 10	33 0 0	Camona
25	30½	30½	18½	6.3	13 × 11	46 10 0	Canusin
28	34	34	20½	6.3	13 × 11	61 0 0	Capando
30	39	39	23½	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.,
and 31, Cockspur Street, Charing Cross, S.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 brilliancy 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.	$3\frac{1}{2} \times 2\frac{1}{2}$	$1\frac{1}{2}$ in.	$3\frac{1}{2}$ in.	$4\frac{1}{8}$ in.	1 in.	£6 15 0	Artel
11 "	$4\frac{1}{4} \times 3\frac{1}{4}$	$2\frac{1}{4}$ "	$3\frac{3}{8}$ "	$5\frac{1}{8}$ "	1 "	8 5 0	Estel
12 "	5×4	$2\frac{1}{2}$ "	$3\frac{1}{8}$ "	$6\frac{1}{8}$ "	$1\frac{1}{4}$ "	9 0 0	Ittel
13 "	$5\frac{1}{2} \times 3\frac{3}{4}$	$2\frac{3}{4}$ "	$4\frac{1}{8}$ "	$6\frac{1}{8}$ "	$1\frac{1}{2}$ "	9 15 0	Wotel
17 "	$6\frac{1}{2} \times 4\frac{3}{4}$	$3\frac{1}{4}$ "	$5\frac{1}{8}$ "	$9\frac{1}{8}$ "	$1\frac{1}{2}$ "	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	3	£9 3 0	Kartel	2	£9 3 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 "Multispeed" 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.	$3\frac{1}{2} \times 2\frac{1}{2}$	$1\frac{1}{2}$ in.	$2\frac{1}{8}$ in.	$4\frac{1}{8}$ in.	$\frac{3}{8}$ in.	£5 0 0	Telac
11 "	$4\frac{1}{4} \times 3\frac{1}{4}$	$1\frac{3}{4}$ "	$3\frac{3}{8}$ "	$5\frac{1}{8}$ "	$\frac{1}{2}$ "	6 0 0	Teles
12 "	5×4	2 "	$3\frac{1}{8}$ "	$6\frac{1}{8}$ "	1 "	6 10 0	Telit
13 "	$5\frac{1}{2} \times 3\frac{3}{4}$	2 "	$3\frac{3}{4}$ "	$6\frac{1}{8}$ "	$1\frac{1}{4}$ "	7 0 0	Telow
17 "	$6\frac{1}{2} \times 4\frac{3}{4}$	$2\frac{3}{4}$ "	$4\frac{1}{4}$ "	$9\frac{1}{8}$ "	$1\frac{1}{2}$ "	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 "	—	—	—	—	—	4	12 5 0	Cteluz

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

The Helical Focussing Setting necessitates the next size larger Flange.

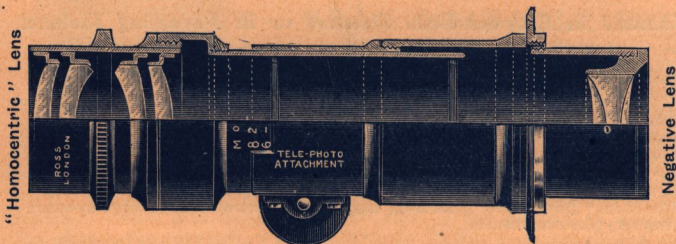
Tele-Photographic Lenses.

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.



				Price.
Setting No. 1 for Positive Lenses, flange not exceeding	11 in.	diameter	£2	10 0
" No. 2 " " " "	1 3/4 in.	"	2	17 6
" No. 3 " " " "	2 in.	"	3	2 6
" No. 3a " " " "	2 1/4 in.	"	3	7 6
" No. 4 " " " "	2 1/2 in.	"	3	12 6
" No. 4a " " " "	2 3/4 in.	"	4	0 0
" No. 5 " " " "	3 in.	"	4	10 0
" No. 6 " " " "	3 1/2 in.	"	5	5 0
Tele-negative Lens, 1 1/2 in. focus, suitable for Setting No. 1 and larger			1	10 0
" " 1 3/4 in. " " " "	No. 1	"	1	15 0
" " 2 1/4 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 1 1/2 in. focus..	7 ..	8 3/4 ..	10 1/2 ..	12 1/2 ..	3 1/2 x 2 1/2 to 5 x 4.
" 2 1/4 in. " ..	9 ..	11 1/4 ..	13 1/2 ..	15 1/2 ..	1/2-plate to 1/2-plate.
" 3 in. " ..	12 ..	15 ..	18 ..	21 ..	5 x 4 to whole plate.
" 4 in. " ..	16 ..	20 ..	24 ..	28 ..	1/2-plate to 10 x 8.
" 5 in. " ..	20 ..	25 ..	30 ..	35 ..	whole-plate to 12 x 10.

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

LARGER SIZE SETTINGS AND NEGATIVE LENSES OF LONGER FOCUS 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.

- No. 1 Cabinet Lens, $2\frac{3}{4}$ inches clear aperture, $8\frac{1}{4}$ inches equivalent focus; for Cabinet Pictures in short studios; should be placed 14 feet from the sitter, 18 feet for full length Carte-de-Visite Portraits ..
- No. 2 Ditto ditto, $3\frac{1}{2}$ 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 18 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 20 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

CODE WORDS.	
Iris Diaphs. & Rigid Setting.	Quagris
	£12 0 0
	Queris
	£16 10 0
	Quivris
	£18 10 0
	Quiltris
	£26 0 0

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.,
 and 31, Cockspur Street, Charing Cross, S.W.
 Wholesale Department and Optical Works—CLAPHAM COMMON, S.W

“CINEMATOGRAPH” SPECIAL CAMERA LENSES.

“ROSS’ HOMOCENTRIC.”

f/4'8.



IN SPECIAL
IRIS RIGID
MOUNT.



3 in. Equiv. Focus. Plate Covered $2\frac{1}{8} \times 1\frac{5}{8}$. **£4 15 0.**
Code Word—Cineco.

ROSS-ZEISS “TESSAR.”

SERIES 1c., f/3'5.

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



Taken with

Negative by D. Leeson, Trimulgherry.

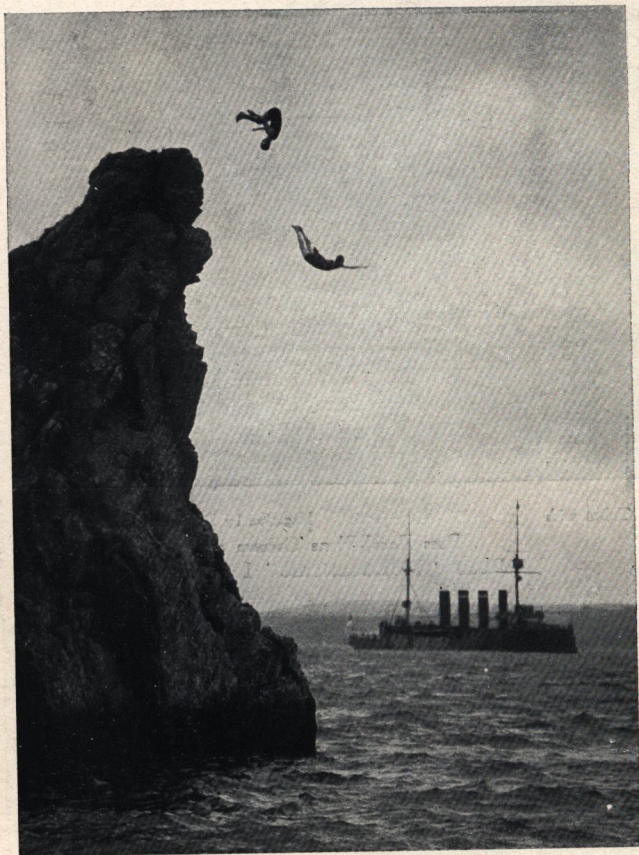
Ross Focal-Plane Camera and
ROSS' "HOMOCENTRIC" Lens, f5.6.



Taken with

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

ROSS' "HOMOCENTRIC" Lens, f4.5
and Multi-Speed Shutter.



Taken with

Negative by Walter B. Davenport.

ROSS' 12 in. "TELECENTRIC" Lens, f6.8.

Exposure 1/700 second.

A wonderful dive off the Saddle Rock, Torbay, 50 feet high, by Messrs. F. G. Collings and F. J. Hill, both members of the Torbay Leander Club. Mr. Collings, the second man to leave the rock, is seen in the act of taking a double somersault, a very daring feat at this height, and one which has never been attempted by anyone else. He is the well-known trick-diver who represented the United Kingdom at the Stadium a few years ago. Mr. Hill, another very fine diver, is taking the "Swallow Dive."