CONCERNING

COOKE LENSES

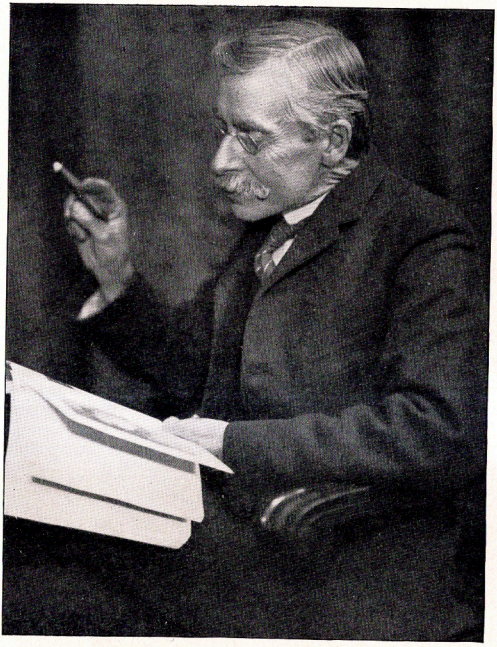
CONCERNING

COOKE LENSES

by

J. RONALD TAYLOR

Half-tones by Photochrome Engraving Co. with a Cooke Lens



FLASHLIGHT-PORTRAIT

by

E. J. Davison

From a 6½ x 8½ negative made with a

Cooke Lens wide open

HADDON HALL (Eng.)

by

C. B. Keene

From a 6½ x 8½ untouched negative made with a small Cooke Lens wide open

"WET DAYS IN NEW YORK"

by

John Beeby

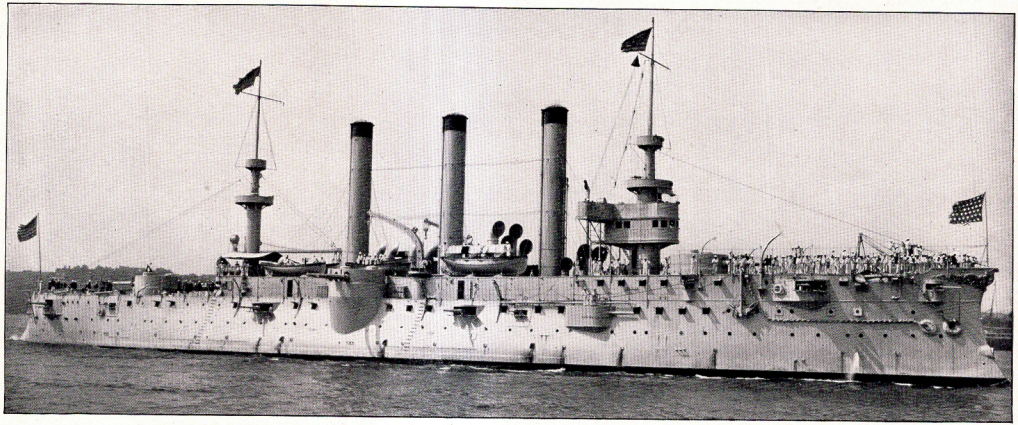
From untouched negatives made with a Cooke Lens

"THE DIVER"

by

Louis Meldon

From a 6½ x 8½ untouched negative made with a Cooke Lens wide open



U. S. ARMORED CRUISER "BROOKLYN"

by

Wm. H. Rau, Philadelphia. Copyright 1898

From a 10 x 12 untouched negative made with a Cooke Lens

"SNOW SCENE"

by

James H. McCorkle

From a 5 x 7 untouched negative made with a Cooke Lens

COOKE LENSES

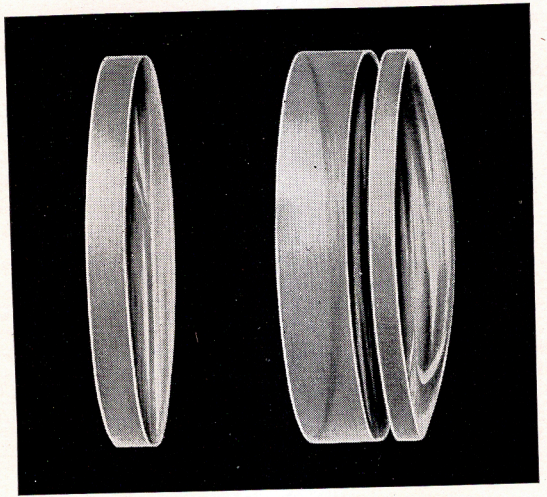
The right choice of a modern anastigmat has become exceedingly difficult. There are many types, and the claims for each are so conflicting as to mislead rather than guide. The purpose of this booklet is to state how Cooke Lenses differ from others, and, in doing so, to avoid the extravagance so common among manufacturers.

History

Cooke Lenses were introduced some eight years ago by Cooke & Sons, the well-known English designers of astronomical telescopes, a manufacturing license being acquired by Taylor, Taylor & Hobson. Sub-licenses quickly followed in other countries, and a New York office was recently opened.

Construction

The lenses consist of three glasses, and with this simple construction is combined a unique screw-adjustment for use by the makers. Errors which remain in more complex systems, are thus easily removed and a uniform excellence is attained, whereas the older anastigmats frequently show a



THREE

SIMPLE

GLASSES

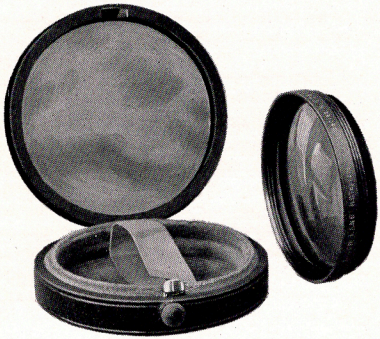
marked difference one from another. Obviously, more light reaches the sensitive plate through three glasses than through six or eight; there is no cement, and, the air-spaces, being adjustable, assist still further in correcting the entire system. The familiar night-pictures by John Beeby and W. A. Fraser of New York, show how singularly free are the lenses from what is known as "flare" and "ghost." This again is due to the simple construction and to the design of the curves whereby surface-reflections can not fall on the plate. Since the first appearance of the lenses, European opticians have recognized that, while mathematically perfect, these are mechanically the simplest invented since the introduction of Jena glass. They are light, compact, and rigid and durable to a remarkable degree.

Their Use

These statements suggest why Cooke Lenses are employed in astronomical observatories, and why they are used at Harvard. For difficult copying and enlarging they are invaluable, and are used by the Coast and Geodetic Survey at Washington for reproducing maps. In process-engraving works throughout Europe and America they are used under process-gratings of 250 lines or more to the inch. And for tricolor-photography they are unique because the screw-adjustment gives an exact coincidence in the sizes of the color-images.

While thus selected for the best scientific work, the lenses are used by amateurs every-

where—by engineers, in the portrait-studio, by army and navy photographers, and by newspapermen who seek, above all else, rapidity and fine definition. One of the first American purchasers was Mr. Alfred Stieglitz. Many of his well-known pictures are the work of a Cooke Lens, which is still in constant use by him. Wherever possible, the makers facilitate the trial of Cooke Lenses for comparison with others.



Extension-lenses

By removing the back-glass and substituting another, the entire focal length is increased. Thus, from the same point of view, the photographer obtains larger images of distant objects. These extension-lenses increase the size of image about one-third; for example: an object taken with the normal lens, and two inches long in the photograph, is, from the same position, made three inches long with the extension-lens. Better results are thus obtained than with

portions of other types used alone. The normal Cooke Lenses may be used for wide-angle work upon plates many sizes larger than those covered by them with full apertures, but the extension-lenses are not intended for this. The latter are supplied in leather pocket-cases.

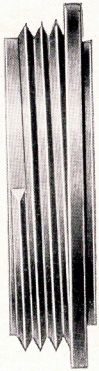
Focussing-lenses

Focussing Cooke Lenses focus objects at various distances from the camera, simply by a half-turn of the front ring. This has a scale of distances in feet engraved upon it. The turning of the ring changes the focal length so that focussing can be done in rigid cameras without bellows or other means of extension. Focussing Cooke Lenses are not intended to replace ordinary Cooke Lenses for copying or for large work, but are specially useful for hand-cameras. When their focussing-scales are set to infinity they are optically the same as ordinary Cooke Lenses and may be used with like perfect results in extending-cameras, or for any purpose whatever. Shutters can be fitted.

FOCUSSING COOKE LENS
Series III. f/6.5

Improved Screw

The improved screw, supplied with all Cooke Lenses and flanges, abolishes the trouble usual in screwing a lens to its flange. As shown in the illustration, the screw on the lens (like that on the flange) is formed with the thread commencing abruptly at a point plainly marked upon each by an arrow. To screw the two together, the arrow-marks are placed in line, and the "engagement" is effected with perfect smoothness and without a hitch. Three turns will bring the lens home, while, in removing it, there is no fear of dropping the lens through uncertainty in this respect. A further improvement lies in the fact that any number of Cooke Lenses, fitting the same flange, screw home with their diaphragm-indexes in one position convenient for use.



Protection from Injury

Compact carrying-cases of solid leather are included with the larger lenses, and metal dust-caps are made for further protection if necessary.

Reasons for Success

The reasons for the success of Cooke Lenses may be summarized thus:

Their extreme rapidity.

Three simple glasses instead of six or more.

The correction of errors which can not be removed from the older systems, and a remarkably flat field.

A uniform standard of excellence.

The Cooke Extension-lens forming at once a complete anastigmat of increased focal length.

A unique focussing-device.

Patent interchangeable flange-screws.

Compactness and lightness, with great rigidity and durability.

Fine mechanical construction and beauty of finish.

Depth of Focus

It is a common mistake to suppose that one lens can perform better than another in respect of its defining in one plane objects at various distances from the camera. The truth is that this quality, which is called "depth of focus," depends upon the focus of the lens and the relative size of its aperture, and upon nothing else. A lens of short focus is better able than is one of long focus to define in one plane objects both far and near. This is why, for *ordinary work*, large apertures are not recommended for Cooke Lenses of long focus. The question is fully discussed in an article on "The Principles of a Lens's Action," mailed free on request.

CONDENSED PRICE-LIST

SERIES III. F/6.5

No.	Equivalent focus	With full apertures to cover plates	At F/16 to cover plates	Diameter of flange-screw	With iris diaphragm and standard flange
	DIMENSIONS IN INCHES				PRICES
1	3	2¼ x 2¼	3¼ x 4¼	1¼	$27.50
2	4¼	3¼ x 3¼	4 x 5	1¼	32.00
3	5	3¼ x 4¼	4¾ x 6½	1¼	35.00
4	6	4 x 5	6½ x 8½	1½	39.50
5	7½	4¾ x 6½	8 x 10	1½	48.50
6	8¼	5 x 7	8 x 10	1¾	53.00
7	11	6½ x 8½			91.00

SERIES V. F/8

10	4¼	3¼ x 3¼	4 x 5	1¼	$26.00
11	5	3¼ x 4¼	4¾ x 6½	1¼	28.00
12	6	4 x 5	5 x 8	1¼	32.00
13	7½	4¾ x 6½	6½ x 8½	1½	39.50
14	9	5 x 8	10 x 12	1½	48.00
15	11	6½ x 8½	12 x 15	1¾	67.50
16	13	8 x 10	14 x 17	2	87.00
17	16	10 x 12	18 x 20	2½	130.00
18	18	12 x 15	31 in. circle	3	160.50
19	24	16 x 18	44 " "	4	260.00

COOKE PORTRAIT-LENSES F/4.5

22	8	3¼ x 4¼	4¾ x 6½ 6½ x 8½	3 in.	$121.50
23	13	4¾ x 6½	or 8 x 10	4 in.	242.50

Other sizes on application.

For a

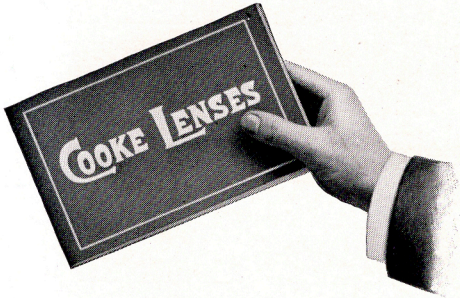
COMPLETE CATALOGUE

ask your dealer or

write to

TAYLOR, TAYLOR & HOBSON, LTD

ST JAMES BUILDING,
BROADWAY AND 26TH STREET,
NEW YORK.



PRESS OF FLEMING & CARRICK, NEW YORK
7485

TAYLOR, TAYLOR & HOBSON, LTD

LEICESTER (Eng.) LONDON NEW YORK