



COURTESY GEORGE EASTMAN MUSEUM

Model A

UNITED STATES PATENT OFFICE.

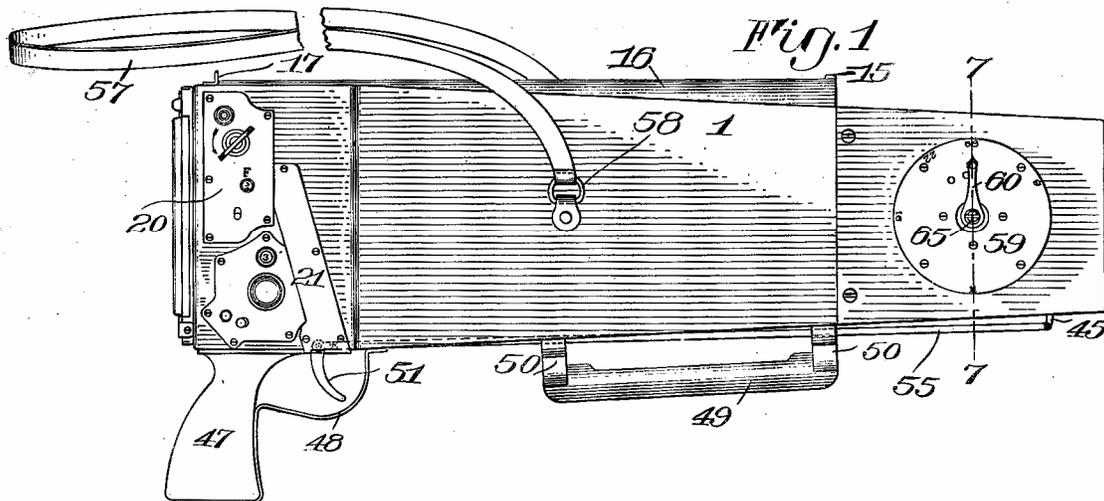
WILLIAM F. FOLMER, OF ROCHESTER, NEW YORK, ASSIGNOR TO EASTMAN KODAK COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

AVIATOR'S CAMERA.

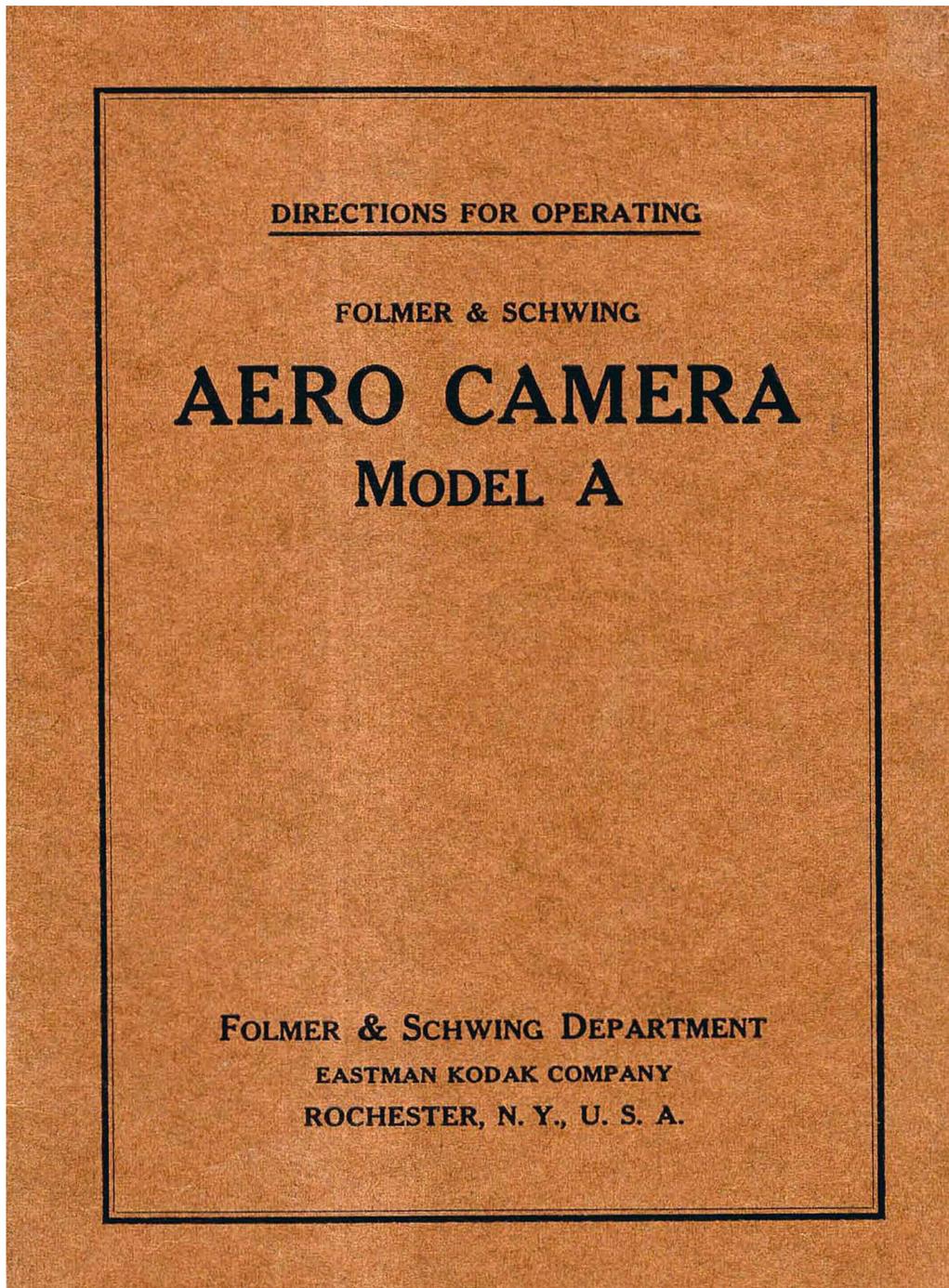
1,236,419.

Specification of Letters Patent. Patented Aug. 14, 1917.

Application filed April 5, 1917. Serial No. 159,851.



As a supplement to the second 2018 issue of the Graflex Journal, here are Directions for Operating the Folmer & Schwing Aero Camera Model A, recently discovered by subscriber and Graflex collector, Maurice Greeson.



DIRECTIONS FOR OPERATING

FOLMER & SCHWING

AERO CAMERA
MODEL A

FOLMER & SCHWING DEPARTMENT

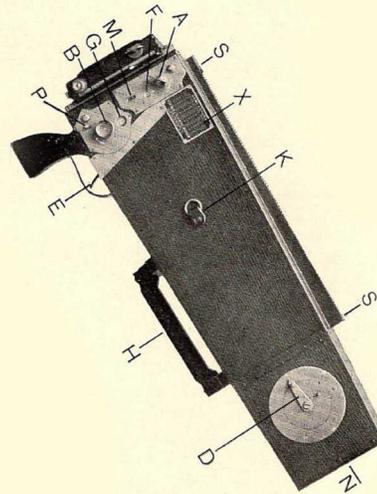
EASTMAN KODAK COMPANY

ROCHESTER, N. Y., U. S. A.

DIRECTIONS FOR OPERATING

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THE F. & S. Aero Camera is handled in practically the same manner as a gun. Grasping the under support *H* of the camera, with one hand, and the pistol grip with the other hand, the instrument is aimed at the object by means of the front and rear gun sights *SS*. The exposure is made by pulling the trigger *E* with the index finger.

The Graflex Focal Plane Shutter, built into the camera, consists of a long curtain with a number of fixed apertures of varying size. This curtain operates as closely as possible to the surface of the plate or film when in position for exposure. The duration of exposure is regulated by the size of the curtain aperture employed, and the rapidity of its movement across the exposure plane. The shutter is capable of a range in speed from "Time" to $\frac{1}{1000}$ part of a second.

The shutter should be set to operate at a speed that will obviate blurring of the subject in the negative, due to the vibration and rapid movement of the Aeroplane, and render photographic records of the terrain with clearness and detail when maneuvering at high altitude.

Shutter speeds used under varying conditions of altitude, movement, or atmosphere, may be the result of actual experience in service. A shutter

speed of $\frac{1}{255}$ part of a second has been proven by actual test, to be sufficiently high to arrest motion when the Aeroplane is traveling at 80 or 90 miles per hour, at an elevation of 3500 feet.

The lens fitted to the camera is unalterably set at a point that includes all objects located beyond 750 feet within the area of definition. The diaphragm system of the lens is conveniently controlled from outside the instrument by means of the dial and pointer *D*.

As a protection against exposure of the lens to fog or mist, often resulting in impairment of the photographic record, a safety shutter is located in the front aperture *N* of the camera, directly in front of the lens. This safety shutter is automatically opened and closed with the same action of the trigger that releases the shutter.

Midway between the front and back ends of the camera body, strap rings *K* are located to accommodate shoulder straps, for supporting the camera, allowing the operator free use of his hands in an emergency.

Shutter Speed Plate *A*, which gives the approximate shutter speeds, in fractional parts of seconds, obtainable with the various cur-

tain apertures, $1\frac{1}{2}$, $\frac{3}{4}$, $\frac{3}{8}$ and $\frac{1}{8}$, and the tension numbers 1 to 6.

THE CURTAIN APERTURE The curtain contains five apertures ranging from "full opening" *O* to $\frac{1}{8}$ of an inch. When the letter *O* appears at *F* the shutter is wide open.

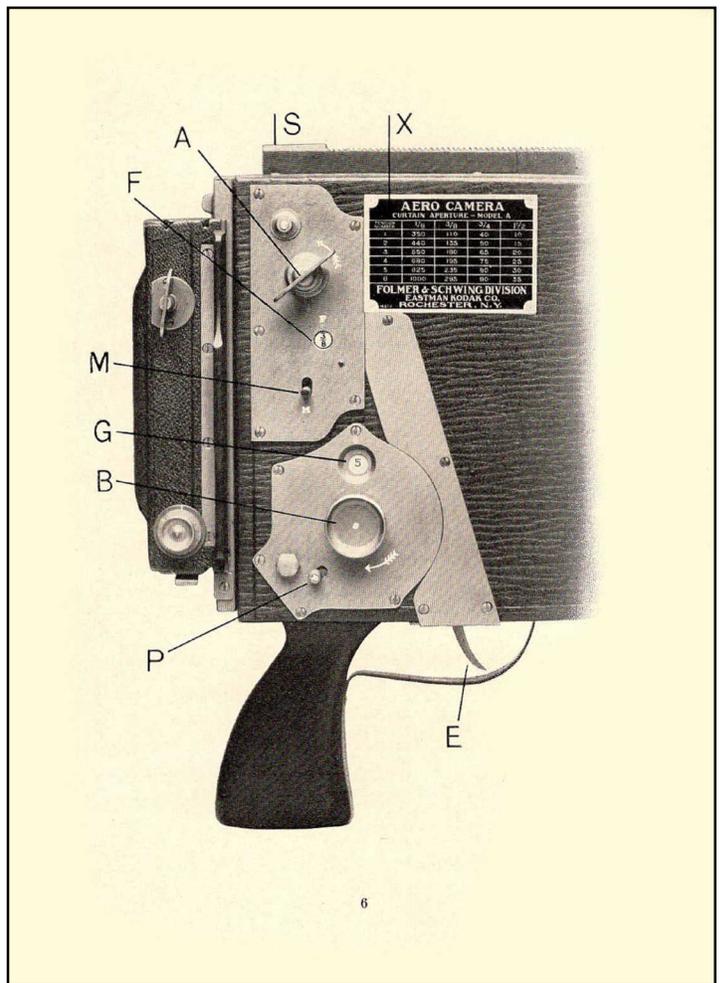
AERO CAMERA CURTAIN APERTURE - MODEL A				
TENSION NUMBER	$\frac{1}{8}$	$\frac{3}{8}$	$\frac{3}{4}$	$1\frac{1}{2}$
1	350	110	40	10
2	440	135	50	15
3	550	160	65	20
4	680	195	75	25
5	825	235	80	30
6	1000	295	90	35

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The other apertures $1\frac{1}{2}$, $\frac{3}{4}$, $\frac{3}{8}$, $\frac{1}{8}$ follow in rotation at *F* as the key *A* is turned to the left.

SETTING THE SHUTTER The shutter is set by turning key *A* to the left until the required aperture is indicated at *F*. If the curtain is already set so that any one of the aperture numbers $1\frac{1}{2}$, $\frac{3}{4}$, $\frac{3}{8}$ or $\frac{1}{8}$ appears at

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F, release the curtain by pressing upward on the escapement *M* until the curtain aperture indicated on the Speed Plate for a certain exposure, is registered at *F*.

REGULATING THE SHUTTER SPEED Tension on the curtain is regulated by turning the milled head *B* to the right until the required tension number appears at *G*. The numbers run from 1 to 6—the highest number indicating the greatest speed.

To decrease speed of shutter, release tension of spring by pushing escapement *P* back and forth until the required lower tension number is registered at *G*.

EXAMPLE For exposure $\frac{1}{235}$ second, use curtain aperture $\frac{3}{8}$ and tension No. 5. To set shutter for $\frac{1}{295}$ second, wind the tension to No. 6.

INSTANTANEOUS EXPOSURE When the shutter has been set in accordance with the above directions, the exposure is made by pulling trigger *E*, which automatically opens the safety shutter located in front

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of the lens, just before the shutter curtain is released.

TIME EXPOSURES Wind or release the curtain until *O* appears at *F*, and lower the tension to No. 1. Rest the camera on a rigid support, pull the trigger *E*—full back, retaining in this position during the period of exposure. When pressure on trigger *E* is released, the front shutter will close, terminating the exposure. Immediately after the exposure is made, a new plate or film should be placed in position for the next exposure.

The regular Graflex attachments may be used with the F. & S. Aero Camera, such as the Graflex Plate Holder, Graflex Roll Holder, Graflex Plate Magazine Holder or Graflex Film Pack Adapter.

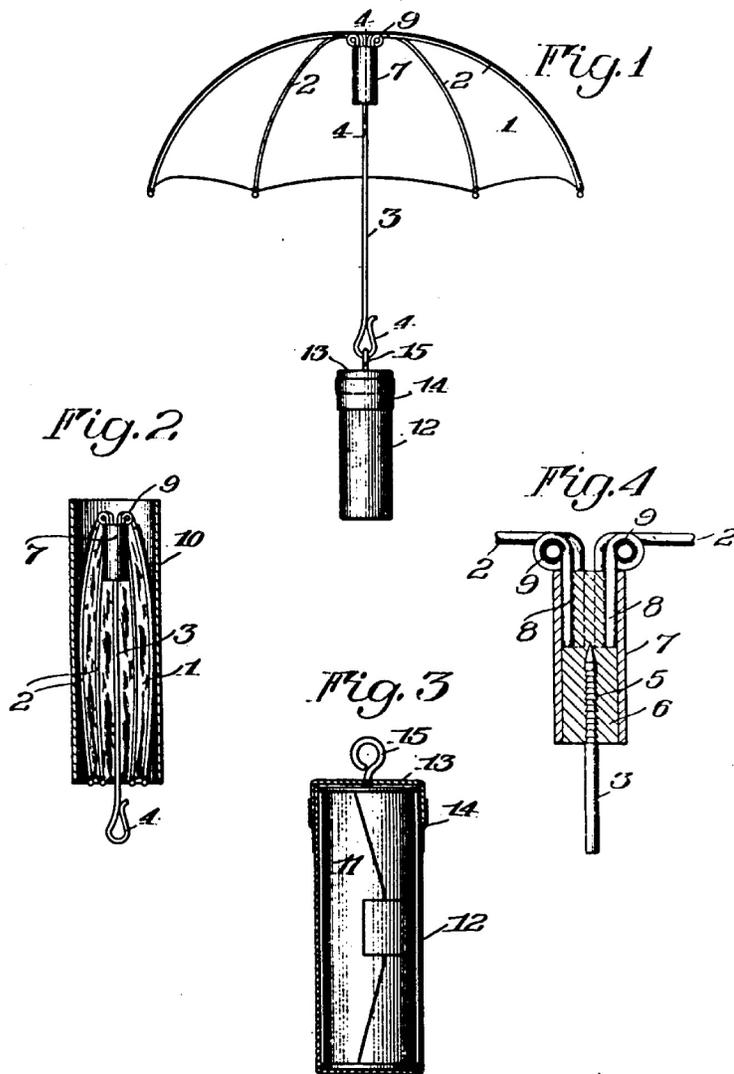
The F. & S. Aero Parachute, to which one or more exposed rolls of film, or other messages may be attached by means of a sealed metal tube, and dropped from the Aeroplane, obviates the necessity of making a landing in order to accomplish delivery of such information. The exposed roll of film is replaced, locked and sealed in its original metal container, which is then attached to a Parachute and thrown out from the Aeroplane.

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W. F. FOLMER.
AERIAL CARRIER FOR PHOTOGRAPHIC FILMS.
APPLICATION FILED APR. 5, 1917.

1,238,904.

Patented Sept. 4, 1917.



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