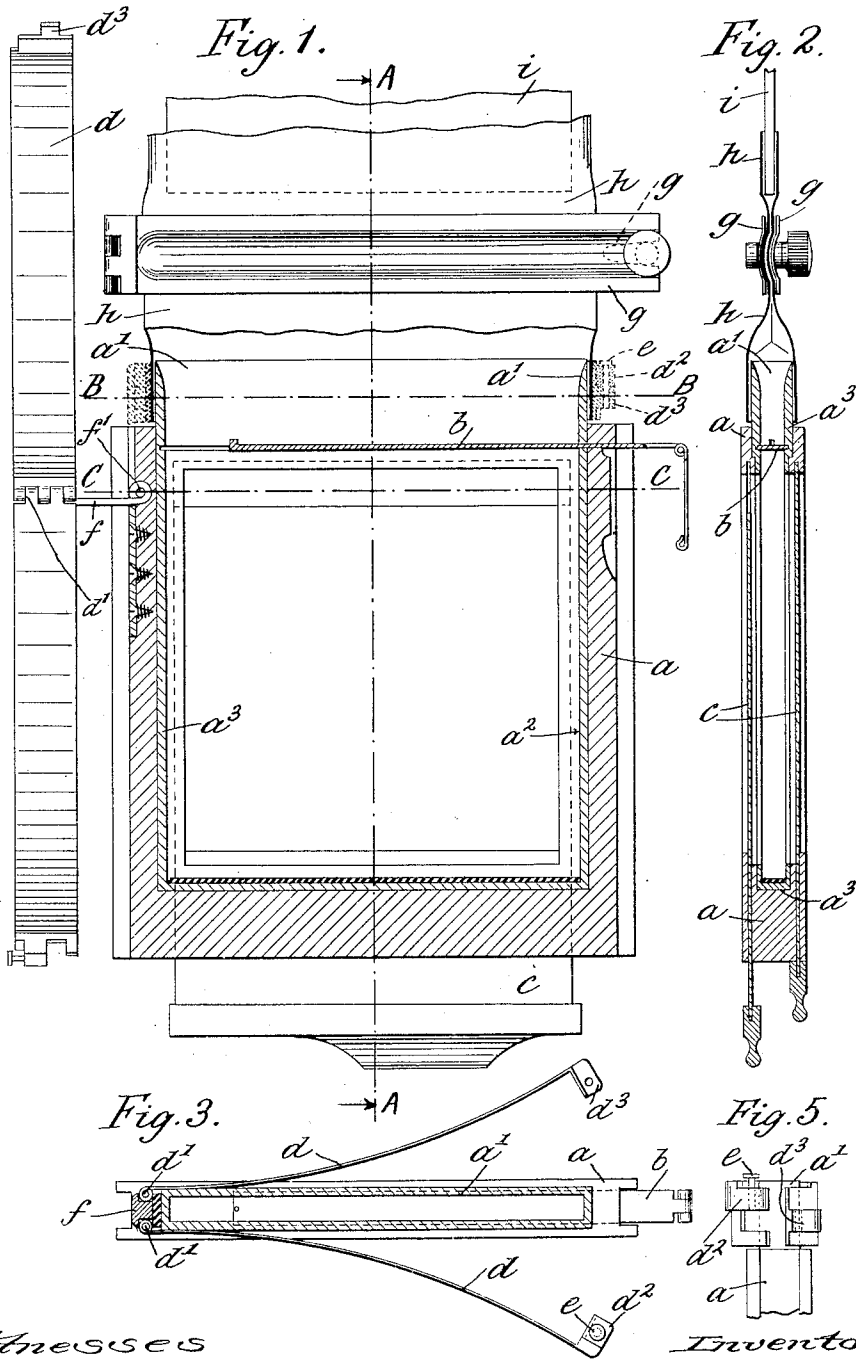


H. C. ANDREWS.
DARK SLIDE FOR PHOTOGRAPHIC CAMERAS.
APPLICATION FILED FEB. 19, 1914.

1,141,750.

Patented June 1, 1915.

2 SHEETS—SHEET 1.



Witnesses

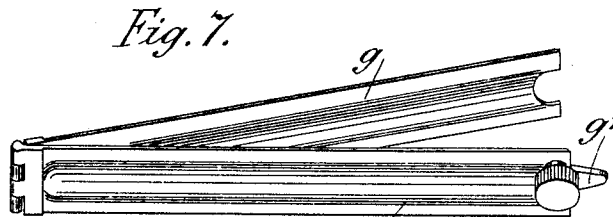
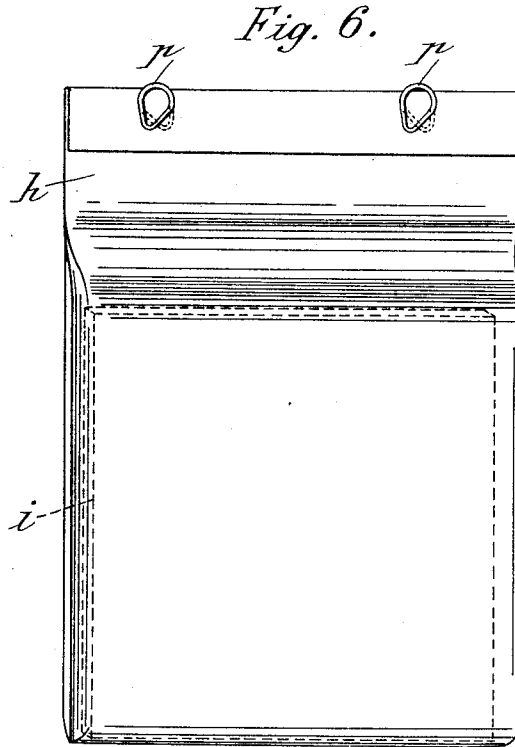
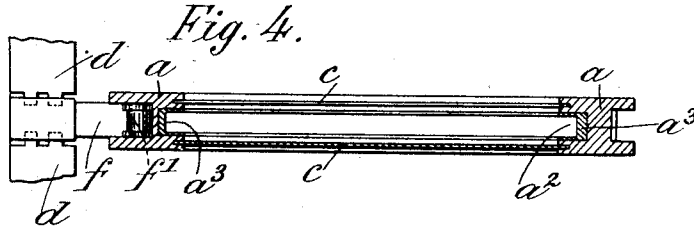
Edw. H. ...
J. H. ...

Inventor
Harold C. Andrews
by *James L. Norris*
Attorney

H. C. ANDREWS.
DARK SLIDE FOR PHOTOGRAPHIC CAMERAS.
APPLICATION FILED FEB. 19, 1914.

1,141,750.

Patented June 1, 1915.
2 SHEETS—SHEET 2.



Witnesses:
Edwards
D. J. Smith

Inventor
Harold C. Andrews
by *James L. Norris*
Attorney

UNITED STATES PATENT OFFICE.

HAROLD CECIL ANDREWS, OF LONDON, ENGLAND.

DARK SLIDE FOR PHOTOGRAPHIC CAMERAS.

1,141,750.

Specification of Letters Patent.

Patented June 1, 1915.

Application filed February 19, 1914. Serial No. 819,786.

To all whom it may concern:

Be it known that I, HAROLD CECIL ANDREWS, a subject of the King of the British Dominions, residing at London, England, have invented certain new and useful Improvements Relating to Dark Slides for Photographic Cameras, of which the following is a specification.

This invention relates to appliances for exposing photographic dry plates in such a manner, that all manipulations may be conveniently carried out in daylight.

It has been proposed to insert photographic dry plates through one of the narrow ends or through the top of the slide from a flexible bag containing a sensitized plate and provided with a clip, the said bag being mounted on the mouth of the slide and the plates allowed to drop into the slide, after the clip has been removed. As a rule such slides had no transverse shutter, and the bag had therefore to be left on the slide during exposure.

In one of these devices the dark slide has a mouth with upwardly convergent sides situated at the top of the slide, and a transverse shutter movable at right angles to the face of the plate. The sensitized plate, after having dropped into the dark slide, is pressed against the face of the latter by a spring rocking plate controlled by the transverse shutter or sliding plate. In the open condition of the dark slide the said spring rocking plate is placed obliquely, and the withdrawal of the exposed plate from the dark slide is therefore more difficult, than the withdrawal of a plate guided parallel to the face of the slide. Moreover, as the said rocking plate extends to the back of the dark slide and its spring rests on the back of the slide, such a construction would not be suitable for a double or reversible dark slide.

In the devices hitherto known the flexible bag was secured to the mouth piece by mounting on the bag a metal collar, which was not connected with the dark slide, or by providing the mouth-piece with corrugations.

The present invention relates to a dark slide, in which the extended mouth and the transverse shutter are situated at the base of the slide, from which the exposed plate

can be conveniently dropped into a daylight developing tank.

It also comprises the following features of novelty: The projecting mouthpiece forms part of an internally grooved lining or guide frame, which is inserted into the dark-slide and serves to guide the sensitized plates. The said lining also serves to guide a transverse shutter movable parallel to the face of the dark-slide. The clip for securing a flexible bag to the mouth of the dark slide is secured to the dark slide, instead of forming a loose piece. The side walls of the mouth piece are gradually reduced in thickness toward the open end to facilitate the introduction of the sensitized plate without scratching the same. The transverse shutter is movable parallel to the flat face of the box, and the dry-plates are guided in the grooves of an open frame or lining inserted into the box.

In the following description reference will be made to the accompanying drawings, which show an example of a dark slide embodying my invention used in conjunction with a known dry-plate holder.

Figure 1 is a sectional elevation of a dark slide and the open end of the plate holder, Fig. 2 is a vertical section along line A—A of Fig. 1, Fig. 3 is a horizontal section along line B—B of Fig. 1, Fig. 4 is a horizontal section along line C—C of Fig. 1, Figs. 5 to 7 show details of construction, Fig. 5 showing the end (d^2 , d^3) of the flaps (d) hereafter described, Fig. 6 being a perspective view of a bag (h) containing a plate (i) and Fig. 7 a perspective view of the clip (g , g) hereafter described.

In Fig. 1 the plate holder or bag is shown mounted on the mouth or funnel of the dark-slide, the flaps (d) are turned back and their closing position is indicated by dotted lines. The transverse shutter (b) and one of the ordinary shutters (c) are partly withdrawn for the sake of clearness.

The shallow approximately rectangular box a constituting the dark slide is closed on all sides, and has at its base a narrow shutter, preferably a sliding shutter b , which may be withdrawn transversely for introducing the sensitized plates endwise, and each of the two flat sides (the front and the

back) is provided with an ordinary sliding shutter *c* guided in suitable grooves of the box. The projecting mouth-piece *a*¹ forms part of a rectangular lining or open guide frame *a*³ which is provided with grooves *a*² for guiding the sensitized plates and also serves to guide the transverse shutter *b* movable parallel to the face of the box *a*. The said grooves are formed in an open frame or lining *a*³ inserted into the box.

The projecting open end of the mouth-piece *a*¹ of the lining *a*³ forms a shallow approximately rectangular funnel or mouth *a*¹ adapted to receive a plate or a pair of plates placed back to back, and is provided with a pair of flaps *d* adapted to inclose the mouth-piece, one end of the said flap being provided with a hinge-joint *d*¹ and the opposite end with a fastener, for instance a pin *e* fitting into a pair of eyes *d*², *d*³ formed on the said flaps. The hinge *d*¹ is secured to a link *f* fixed to one of the narrow sides of the box by a hinge pin *f*¹ at some distance from the projecting mouth-piece and arranged so that the flaps may be turned away from the mouth into a position approximately parallel with the narrow side for the purpose of applying the plate-holder. The said flaps are lined on the inside with felt or other suitable material.

The plate-holder is a rectangular bag *h* of dark colored opaque paper or other material impervious to actinic rays, said bag being long enough to project over the outer edge of the plates *i* by about $\frac{1}{2}$ of their length and the open end of the bag being folded and sealed up, for instance by means of ordinary paper fasteners *p*, and a suitable number of such bags, each holding a plate or pair of plates back to back, may be stored in a box or magazine.

If a pair of plates is used for exposure in a reversible dark slide, the said plates may be mounted on opposite sides of a sheet of opaque cardboard or paper and held together by strips of thin paper arranged along opposite edges of the plates and gummed down over the edges, or the plates may be held together directly by a soluble adhesive or by clips or other suitable means.

The plates or pair of plates may be secured in the bag by means of a metallic clip mounted across the same, the said clip consisting preferably of a pair of thin steel blades *g* of concave cross-section hinged together at one end and provided at the other end with a fastener *g*¹ adapted to hold the blades in the closing position.

For charging the dark slide, one of the bags *h* containing a plate *i* or pair of plates is taken out of the magazine or receptacle containing the same, a clip *g*, *g* is applied across the bag close to the edge of the plate; the projecting end of the bag is then torn

off, the dark slide *a* is placed upside down, so that the narrow lower edge (provided with the transverse shutter) is situated at the top, the open end of the bag is applied over the mouth *a*¹ of the guide-frame, the flaps *d* are applied to the mouth of the bag and closed, the transverse shutter is withdrawn, and the clip *g* removed from the bag, so as to allow the plate or pair of plates to drop from the bag into the mouth-piece *a*¹, after which the transverse shutter is closed and the bag withdrawn. When the plate or pair of plates has been exposed and it is desired to empty the slide, the reverse process takes place, that is to say, the open mouth of the empty bag is again mounted on the mouth-piece *a*¹ of the box *a*, the box is turned, so as to place the mouth at the bottom, the transverse shutter is withdrawn, so as to allow the plate or plates to drop into the bag, and the clip is mounted on the bag, so as to exclude daylight, after which the flap is opened and the bag removed.

What I claim is:—

1. In a photographic dark-slide open at one of the narrow sides and provided with a sliding cover and a projecting mouth-piece for fixing a plate holder, the combination of a shallow rectangular box and exposing slide, with a grooved lining inserted into the said box and projecting over the same so as to form a projecting mouth-piece, and a transverse shutter guided in the said lining, substantially as described.

2. A photographic dark-slide comprising a shallow rectangular box having an open face provided with a movable cover and on one of its narrow sides an opening for the insertion of dry plates, an open rectangular frame inserted into the said box and adapted to hold a dry-plate, and a transverse shutter guided in the said frame, the said frame projecting over the open end of the said box in the form of a mouth-piece with funnel-shaped opening for introducing the dry-plates, substantially as described.

3. In a photographic dark-slide open at one of the narrow sides and provided with a sliding cover, the combination of a shallow rectangular box open at one end, with a pair of sliding covers forming the flat sides of the dark-slide, a grooved lining inserted into the said box and projecting over the open end of the same, so as to form a projecting mouth-piece, and a transverse shutter guided in the said lining and movable parallel to the flat sides of the dark-slide, substantially as described.

4. In a photographic dark-slide open at one of the narrow sides and having a projecting mouth-piece for introducing a dry-plate from the open end, the combination of the dark-slide with a flexible bag adapted to fit over the projecting mouth-piece, and

a clamping piece secured to the plate holder by means of a link pivoted to one of the narrow sides of the same at a distance from the projecting mouth-piece and adapted to turn
5 the clamping device into a position approximately parallel with the narrow side, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HAROLD CECIL ANDREWS.

Witnesses:

J. WETTER,

H. D. JAMISON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."