June 7, 1927. W. F. FOLMER 1,631,479

CUT FILM HOLDER

Filed July 28, 1923

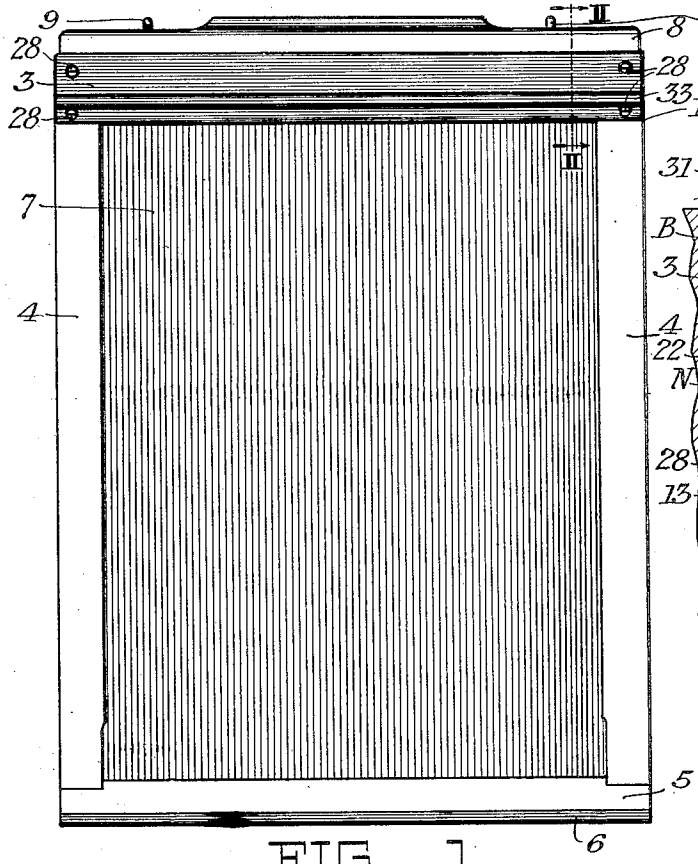


FIG. 1.

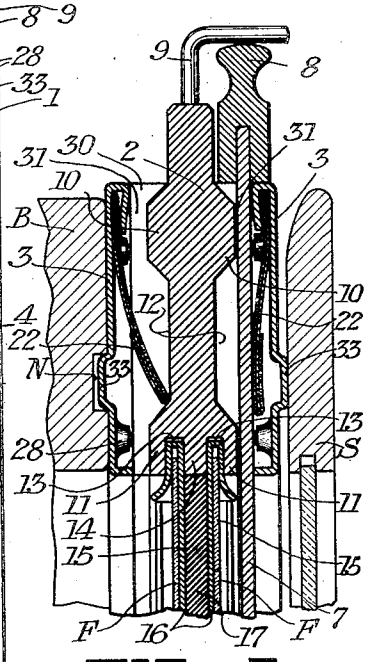


FIG. 2.

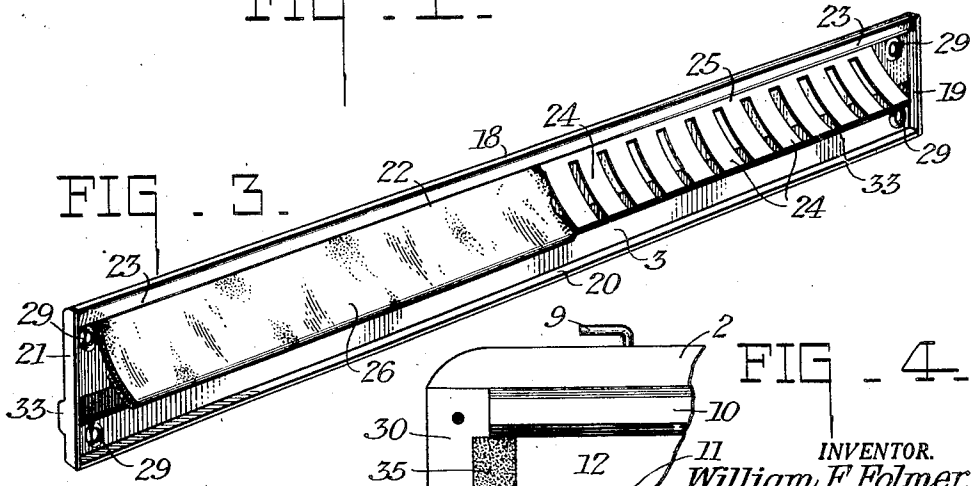


FIG. 3.

FIG. 4.

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Patented June 7, 1927. 1,631,479

UNITED STATES PATENT OFFICE.

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CUT-FILM HOLDER.

Application filed July 28, 1923. Serial No. 654,489.

This invention relates to photography, and more particularly to holders in which sheets of photographically sensitive material upon suitable supports may be exposed in a camera. One object of my invention is to provide a holder having a light guard constructed as a rigid member which cannot warp, being particularly useful on large sized holders. Another object is to provide a holder having separate light guards for each dark slide, constructed so as to be easily removable for repairs. Another object is to provide a light guard unit which may be used to replace worn light guards. Another object is to provide a film holder having an accurately plane surface against which a film may be held flat. Another object is to provide a holder construction in which the several parts will retain their shape, and other objects will appear from the following specification, the novel features being pointed out in the claims at the end thereof.

In the drawings, wherein like reference characters denote like parts throughout:

Fig. 1 is a plan view of a holder constructed in accordance with and illustrating one form of my invention;

Fig. 2 is an enlarged detail section on line II—II of Fig. 1;

Fig. 3 is an enlarged perspective view of a light guard removed from my holder; and

Fig. 4 is a plan showing a corner of a holder frame.

I have selected for illustrating my invention a double holder since this type is the most used in this country, although obviously certain features, to be hereinafter described, are equally applicable to a single holder.

In holders, particularly of the larger sizes, such as 8″ x 10″, 10″ x 12, 7″ x 17″, 12″ x 20″, etc., it has always been difficult to construct a holder which would be perfectly light tight and remain so. Because of their size, metal construction throughout is impractical. With wood it is difficult to prevent warping, and it is, therefore, difficult to prevent light leaks and to make the film lie flat. I have overcome the usual difficulties by making a substantial wooden frame reinforced with metal at the most delicate parts—the light guard and the film holders—and by making a specially constructed light guard which can be easily removed and replaced when worn.

Coming now to the drawing, in Fig. 1 I have selected as illustrating my invention a holder 1 consisting of a frame having a substantial crossbar 2 at the top, light guard plates 3, sides 4 and a bottom 5′ to which doors 5 are hinged by a fabric hinge 6. This door construction is well known, being shown in Patent No. 603,972, Schaub, May 10, 1898. Dark slides 7 carry the usual handles 8 which may be engaged by latches 9 of the top bar 2.

From Fig. 2 it will be noted that bar 2 is much heavier in cross section than is usual in plateholders, this being possible because of the thin metal guard plate 3. There are pairs of ridges 10 and 11 on each side forming a pocket 12 between them for the light-excluding member. The bottom of the strip carries grooves 13 spaced by a tongue 14, the grooves holding the film sheaths 15 accurately in position, spaced by the tongue 14. I also prefer to space the bottoms 16 of the sheaths throughout that part of their area which is unsupported by the frame, with a heavy press board 17, as this forms a stiffening support for the sheaths. These sheaths are built into the frame to provide a smooth flanged plate upon which a film may be slid through the door 5.

The light guard consists of a formed metallic plate 3, constructed as follows: Flanges 18, 19, 20 and 21 form a box-like structure in which the light-excluding member 22 is held by the edge 23 of flange 18. This flange is clamped over upon the light-excluding member. The light-excluding member consists of a series of metallic spring fingers 24 struck from plate 25, this finger structure being similar to that shown in my earlier Patent, No. 773,382, granted Oct. 25, 1904. Plate 25 may have glued thereto a soft felt or fabric strip 26, these two layers being interlocked to plate 3 by the flange 23. The fingers 24 are covered with the other end of the material which is folded around the ends of and suitably glued to the underside of the fingers.

Screws 28 pass through holes 29 of plates 3 securing them to the frame. The light trap functions by pressing the light guard 22 into the pocket 12 between the ridges 10 and 11, from which position the dark slide 7 lifts the guard when moved into position, as shown on right side of detail Fig. 2. Each plate 3 supported on blocks 30 on the ends

of bar 2 leave a slot 31 through which the dark slides may pass.

A ridge 33 formed up on plate 3 not only forms a light lock between the holder and a camera back B, by dropping into a notch N in the back when pressed into position by the spring back S of the camera, but in addition reinforces the plate, making it more rigid. This rib, together with flanges 18, 20 and 23 form a plurality of reinforcing ribs to strengthen the top and to hold it against bending.

In Fig. 4 there is shown a small square of plush 35 near block 30. This is an additional safeguard against light entering from beneath the ends flanges 19 and 21.

I contemplate providing the light guard units, that is the structure shown in Fig. 3, separately so that when the fabric 26 becomes worn or the light trap is damaged, the owner may, by simply removing the four screws 28 remove the old light guard, and replace it with a new one.

I contemplate as within the scope of this invention all such changes in construction as may come within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a holder for photographic film, the combination with a frame including a top bar, of a plate spaced from the top bar throughout a portion of its length leaving a slot therebetween, a dark slide adapted to pass into the slot, a spring light-excluding member adapted to normally lie across the slot when the dark slide is removed from the camera, said spring light-excluding member being carried by the plate.

2. In a holder for photographic film, the combination with a frame including a top bar, of a plate spaced from the top bar throughout a portion of its length leaving a slot therebetween, the plate being removably attached to the frame, a dark slide adapted to pass into the slot, a light-excluding member adapted to lie across the slot when the dark slide is withdrawn from the holder, said light-excluding member being removable from the frame with the plate.

3. In a holder for photographic film, the combination with a frame having top, side and bottom members, the top member being of less thickness than the side members, a plate parallel with the top member and spaced therefrom to form a slot, a light-excluding member located between the top member and the plate, and a flange bent from the plate upon the light-excluding member to hold these members together.

4. In a holder for photographic film, the combination with a frame having top, side and bottom members, the top member being of less thickness than the side members, a formed metal plate spaced from and parallel to the top member to form a slot for a dark slide, the formed metal plate being substantially box-shaped to house a light-trapping member.

5. In a holder for photographic film, the combination with a frame for holding the sensitive film, of top, side and bottom walls for the frame, a metal plate extending across the top of the frame, said plate having a formed rib to serve as a light guard and as a strengthener for the frame.

6. In a holder for photographically sensitive material, the combination with a frame having top, bottom and side walls adapted to receive the sensitive material, the top wall including a reinforcing metal strip having a plurality of strengthening ribs.

7. In a holder for photographically sensitive material, the combination with a frame for receiving the sensitive material including top, bottom and side walls, the top wall including a top bar having parallel thereto two formed metal plates, each plate having side and end flanges to form a box-like structure, light-excluding members, each metal plate having an interlocking engagement with a light-excluding member including one side flange bent into contact with the light-excluding member, the plates and the top rail being spaced to permit the light-excluding member to move into an operative and an inoperative position.

8. In a holder for photographically sensitive material, the combination with a frame for receiving the material, including a top wall, the top wall having a top bar and a plate spaced therefrom to form a slot, the plate having flanges forming a shallow box-like structure, a light-excluding structure mounted between the top bar and the plate being adapted to move to and from an operative position in which it excludes light from passing through the slot between the top bar and the plate, and, when moved to its inoperative position, it will lie within the flanges of the shallow box-like structure out of the slot between the top bar and plate.

Signed at Rochester, New York, this 25 day of July, 1923.

WILLIAM F. FOLMER.