Jan. 9, 1940. A. W. ENGEL 2,186,827

LANTERN SLIDE CONSTRUCTION KIT

Filed Oct. 21, 1937

Fig 1.

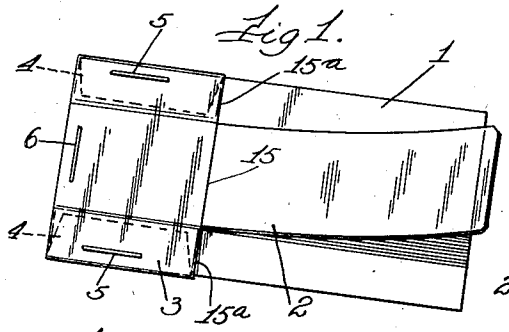


Fig 2.

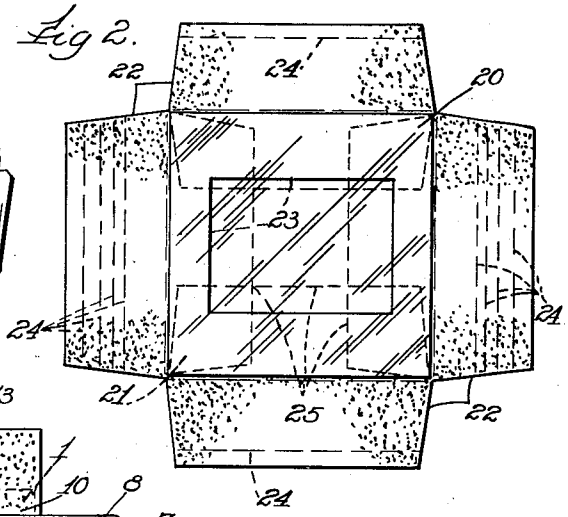
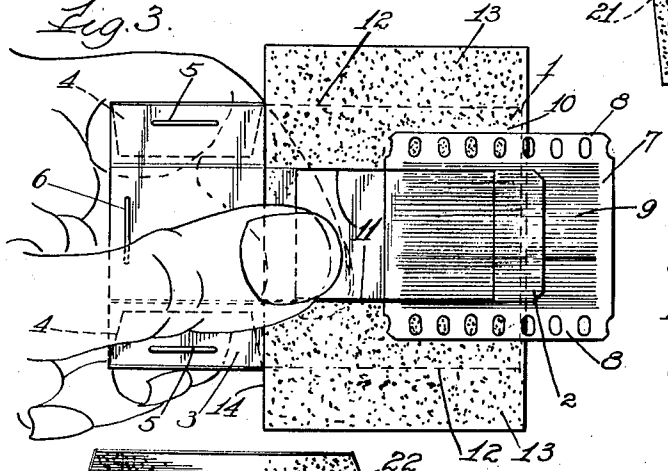


Fig. 3.



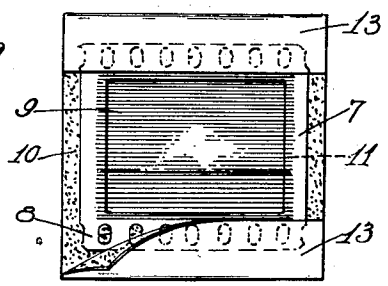


Fig 4.

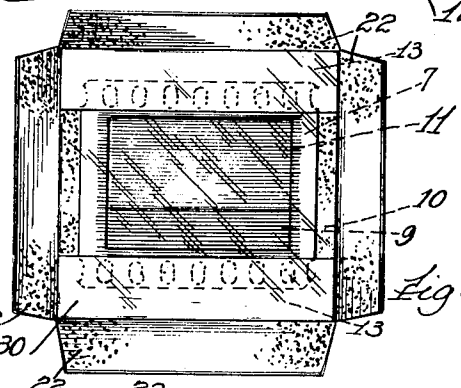


Fig 5.

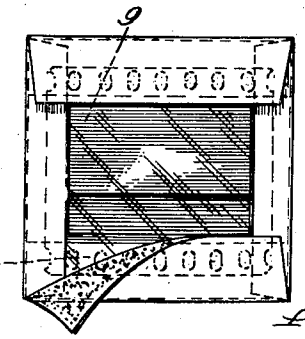


Fig. 6.

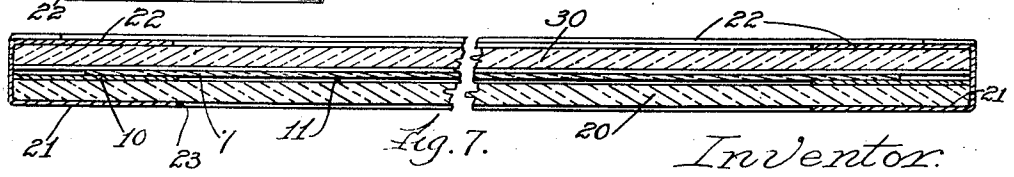


Fig. 7.

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Witness.
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LANTERN SLIDE CONSTRUCTION KIT

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Application October 21, 1937, Serial No. 170,214

5 Claims. (Cl. 88—26)

This invention relates to transparencies, and particularly those of the type employed in projecting machines as "lantern slides", and its object is to provide a convenient method for making up photographic films into slides of this character, together with suitable tools and materials for employing the method. The invention consists in certain features and elements of construction and in means for assembling them, together with the several steps constituting the method of assembly, as herein shown and described and as indicated by the claims.

In the drawing:

Figure 1 is a perspective view of a tool or jig used to facilitate assembly of a photographic film and a mask therefor.

Figure 2 is an inside face view of one cover glass with a gummed cover sheet secured thereto.

Figure 3 is a plan view of the jig in use in the process of assembling the film and its mask.

Figure 4 is a face view of the film and its mask in assembled relation.

Figure 5 shows the film with its mask assembled with both cover glasses ready for final sealing.

Figure 6 shows the entire assembly in the final stage of completion.

Figure 7 is a transverse section taken substantially as indicated at line 7—7 on Figure 6, and on a larger scale.

When photographic films, particularly those of small size or "miniature" dimensions, are prepared for use in a projector, so that they may be thrown onto a screen in enlarged form for viewing, the film is preferably mounted between two cover glasses to protect it from dust and finger prints and also from the heat of the projector lamp. This invention is concerned with a convenient and accurate method for mounting such films and completing the assembly constituting the lantern slide, ready for use in the projector. Figure 1 shows a tool or jig which is of special convenience for this work. It is made preferably of transparent material, such as Celluloid, and consists of a rectangular back 1 and a narrower clamping strip 2, together with a head member 3, which may be of thinner stock than the parts 1 and 2, and which may have its end portions folded around the lateral edges of the member 1 in the form of flaps, indicated in dotted outline at 4 in Figure 1. Any suitable means may be employed for fastening the three parts together; as shown, they are permanently assembled by means of wire staples 5, 5 passing through the head member 3 and its flaps 4, with the margins of the back 1 gripped between them, and a third staple 6, which is driven through the head 3, the clamping strip 2, and the back member 1, adjacent one end of the tool.

Figure 3 shows the tool or jig in use. For purposes of illustration the photographic film 7 is assumed to be a piece of standard motion picture film such as is commonly employed in miniature cameras, and which has perforated margins 8, 8 at each side of the picture area 9. A mask 10, of paper or other suitable material, is formed with a sight opening 11 of the standard size for exposing the picture area 9, and has one surface coated with adhesive, as indicated in Figure 3. The mask is also scored along the lines 12, 12 which are spaced apart by the width of the back member 1 of the jig, so that when the mask is laid upon said back member, and slipped under the clamping strip 2 it may be positioned by bending back the flaps 13, which are the marginal areas of the mask beyond the scored lines 12, 12. At the same time, the edge 14 of the mask may be brought into abutting relation with the portions 15a of the edge 15 of the head member 4, it being understood that the edge 15 extends at right angles to the length of the back member 1 so that the parts 15a serve as stops to square up the mask 10 as it is slipped into position under the clamp member 2. Then the film 7 may be slipped in place between the mask 10 and the clamping strip 2; Figure 3 shows it partially thus inserted.

To avoid fingerprints, which would be difficult to eradicate from the face of the film, and which would show in its projection on the screen, the film is preferably handled by its extreme marginal portions, but after it has been inserted under the clamping strip 2 the marginal portions 8, 8 will be exposed beyond the edges of the clamping strip, and may still be engaged for shifting the film about until it is properly registered with the sight opening 11. The friction of the clamping strip 2 will tend to hold the film at any position, and additional pressure may be applied by gripping the jig between the thumb and finger, as indicated in Figure 3. The fact that the parts 1 and 2 are transparent enables the operator to see the film clearly and to shift it accurately in relation to the sight opening 11, and although the thumb and finger may apply any desired pressure to the film for holding it positioned, it is protected from finger marks by the interposed transparent members 1 and 2.

When the film is satisfactorily placed in relation to the mask, the flaps 13 are moistened and

folded over against the marginal portions 8 of the film 7, thus permanently securing the mask in place, as shown in Figure 4. Preferably, the resulting shape and dimensions of the mask are substantially the same as those of the cover glasses employed in assembling the film into a lantern slide. One such cover glass is shown at 20 in Figure 2, with a cover sheet 21 of paper or like material secured to one face, and with flaps 22 of said material extending from all four sides. A sight opening 23 is formed within the main area of the sheet 20, so that when the assembly of the film 7 and its mask 10 is placed upon the cover glass 20 the marginal outlines of the mask and those of the glass will be registered with each other, and the sight opening 23 will register with the sight opening 11 in the mask 10. A second cover glass 30 is then laid upon the film and mask, and the flaps 22 are moistened and folded over the glass 30 thus completing the assembly, as indicated in Figure 6. As will be clear from Figure 7, which shows the parts in section, this assembly supports the film 7 between the cover glasses 20 and 30, but with a thickness of paper interposed on each side of the film, this paper being the mask 10 and its flaps 13, which embrace the film before the cover glasses are applied. The presence of the paper mask and its flaps 13 provides an air space between the film and the cover glasses, serving to retard the transfer of heat from either cover glass to the film itself while it stands in the projector.

It may be understood that the sight opening 11 in the mask 10 and the corresponding opening 23, in the cover sheet 20, represent the maximum areas to be exposed in any film of the size with which these parts are intended to be used. However, it may frequently happen that a more artistic picture would be secured by masking out a portion of the sky, or a portion of the foreground, or by covering a part of the area at one or both ends of the oblong outline of the exposure. The flaps 22 are so dimensioned that this may be readily accomplished; each of said flaps is made long enough to lap beyond the corresponding margin of the sight opening 23 when the flap is folded over the cover glass 30. Before thus completing the assembly and adhesively securing the flap in place, it may be trimmed to any desired length, as for example, at any one of the dotted lines 24, so that when the flaps are folded over in final position, they will produce a sight opening such as that indicated in dotted outline at 25 on Figure 2, differing in dimensions from the maximum opening 23.

With the construction of the parts as described, their assembly is rendered most convenient. The scoring of the mask 10 at the lines 12 makes it possible to position the mask on the rectangular back member 1 of the jig by pressing back on the flaps 13 so that the folds along the lines 12, 12 engage and align themselves with the two parallel edges of the back member 1; then, by sliding the mask along the member 1 to bring its edge 14 against the edges 15a of the head member of the jig, it is finally positioned and adjusted. Then, after the mask and the film have been assembled into the form shown in Figure 4, the flaps 22 associated with the cover glass 20 may be partly folded up around the edges of the glass so as to form a nest into which the assembled mask and film may be dropped, as seen in Figure 5. The fact that the outline area of the mask and film will then coincide with the outline of the cover glass, makes the positioning of the film automatic, and permits of rapid assembly.

The provision of the cover sheet 21 which, with its flaps 22, overlies practically all of the area of the cover glasses, except that through which the picture on the film 7 is visible, affords a considerable space adapted to receive titles, file numbers or other identifying data, and, since the cover sheet 21 will usually be made of paper, this material itself is suitable for the entry of such data, or for the attachment of a gummed label, if preferred.

While there is shown and described herein certain specific structure embodying the invention, it will be manifest to those skilled in the art that various modifications and re-arrangements of the parts may be made without departing from the spirit and scope of the invention, and that the same is not limited to the particular form herein shown and described, except in so far as indicated by the appended claims. For example, in some cases it may be found sufficient and satisfactory to provide only one of the flaps 13 for adhesive engagement with one margin of the film 7. This would serve to hold the film temporarily in its adjusted relation to the sight opening 11 of the mask ; then upon assembly of the film and mask with a pair of cover glasses, as indicated in Fig. 7, the parts would be permanently held in position.

I claim:

1. In a lantern slide, the combination of a film comprising a picture area and perforated marginal portions at two opposite edges beyond the picture area, and a flat mask of fibrous sheet material entirely coated on one face with normally dry gum adapted to be rendered adhesive when moistened, said mask having a principal area greater than that of the film and its perforated margins with a sight opening in said area whereby the film may be shifted in its own plane to adjust its picture area in the desired relation to the sight opening, the film being applied against said principal area of the mask with its perforated marginal portions overlying the gummed surface of the mask adjacent the sight opening, and the mask having flaps dimensioned to be folded over the perforated margins so that said flaps, upon being moistened and then folded over said perforated margins of the film, become adhesively secured to the opposed portions of the mask exposed through the perforations, thus locking the film in position between the mask and its flaps.

2. In a lantern slide, the combination of a film comprising a picture area and perforated marginal portions at two opposite edges beyond the picture area, and a flat mask of fibrous material having a principal area larger than the total area of the film with a sight opening at which the picture area of the film may be adjusted by shifting of the film in its plane upon the mask, said mask having gummed flaps dimensioned to be folded over the principal area of the mask with the perforated margins of the film interposed so that said flaps, upon being moistened and thus folded over, become adhesively secured to the opposed portions of the mask exposed through the perforations, thus locking the film in position between the mask and its flaps.

3. In a lantern slide, the combination of a film comprising a picture area and marginal portions at two opposite edges beyond the picture area, and a mask of fibrous sheet material having a flat principal area somewhat larger than the total area of the film, and a sight opening in said

area whereby the film may be applied flatly against said principal area and shifted in its own plane to adjust the picture area with relation to the sight opening, said mask having gummed flaps extending from opposite edges of its principal area to be folded over the marginal portions of the film for adhesively securing the film in adjusted position.

4. In a lantern slide, the combination of a picture film, a pair of cover glasses therefor of larger area than the film, and a mask of flexible fibrous sheet material having a flat principal area larger than that of the film with a sight opening of smaller area than the film whereby said film may be applied against said flat principal area of the mask and shifted in its own plane for adjustment with respect to the sight opening, said mask including marginal flaps dimensioned to be folded over portions of the film overlying the principal area of the mask adjacent the sight opening, and means for adhesively securing said flaps in folded position for holding the film in proper relation to the sight opening, said mask, when thus folded, being of the same length and width as the cover glasses whereby it may be assembled readily with the film between said glasses with binding means engaging the marginal portions of the glasses for holding the parts in assembled relation.

5. A lantern slide comprising, in combination, a film having a picture area and a marginal portion beyond the picture area, a mask of fibrous sheet material having its flat principal area somewhat larger than the total area of the film with a sight opening in said area whereby the film may be applied flatly against said principal area and shifted in its own plane to adjust the picture area with relation to the sight opening, said mask having a gummed flap extending from an edge of its principal area and folded over a marginal portion of the film in adhesive engagement therewith for securing the film in adjusted position, a pair of cover glasses assembled with said mask and film interposed between them, and binding means engaging marginal portions of the cover glasses to secure them in assembled relation.

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