

C. I. BERG.
 LANTERN SLIDE.
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1,291,375.

Patented Jan. 14, 1919.

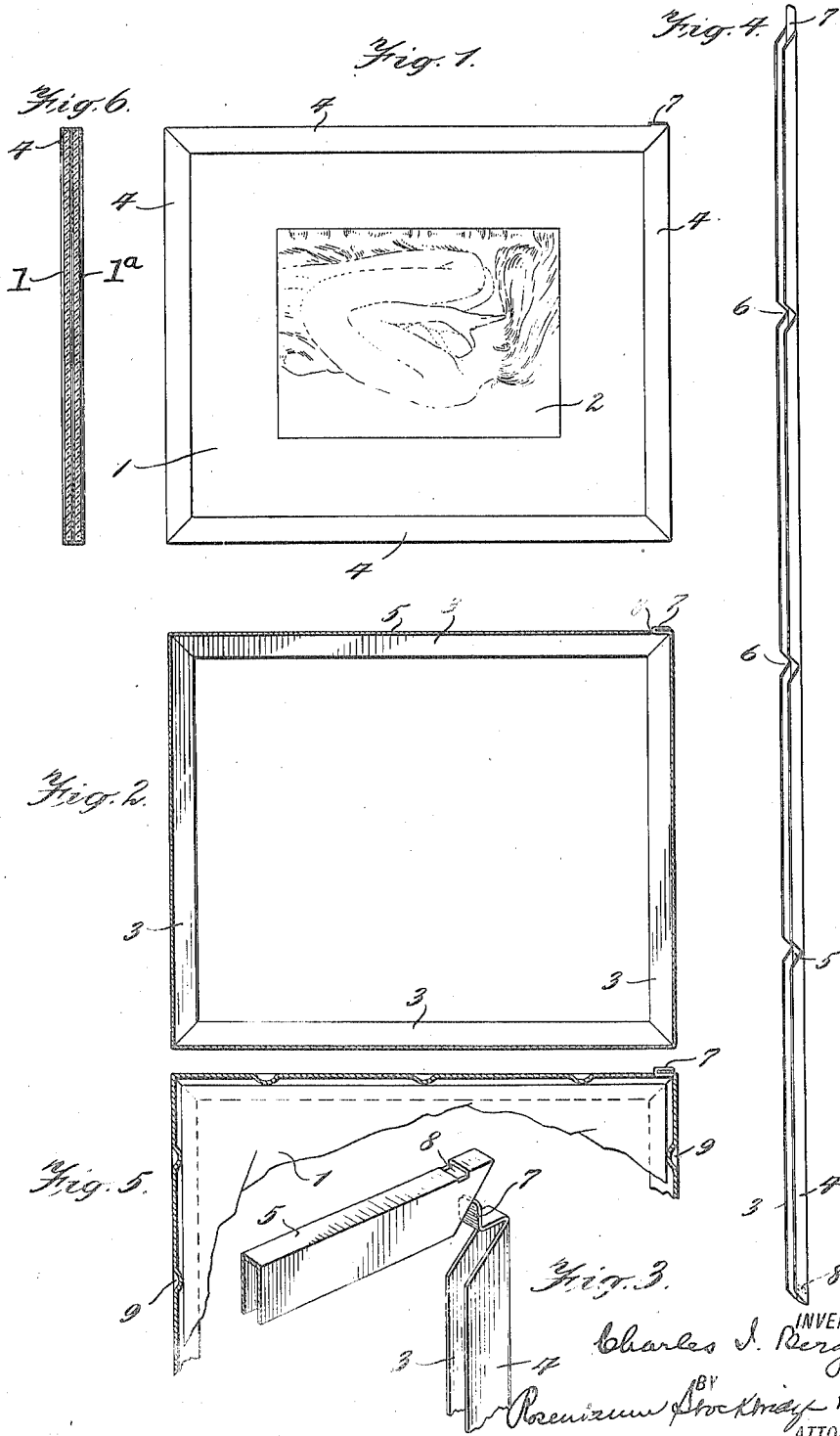


Fig. 3.

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LANTERN-SLIDE.

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To all whom it may concern:

Be it known that I, CHARLES I. BERG, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Lantern-Slides, of which the following is a full, clear, and exact description.

This invention relates to lantern slides, and has for its objects the provision of a frame or binding therefor which will suitably secure the plates of a lantern slide together, will permit the expansion of the glass plates when subjected to the heat of the illuminant of the projecting apparatus, and will also serve as an indicator for determining the correct position of the slide for projecting purposes.

The invention will be clear from the description hereinafter to follow when taken in connection with the accompanying drawings, and will be particularly pointed out in the appended claims.

In the drawings:

Figure 1 shows a front elevation of a lantern slide having a metallic frame formed in accordance with the principles of the invention;

Fig. 2 is a section through the frame;

Fig. 3 is a detail showing the manner in which the ends of the frame are joined together;

Fig. 4 shows in perspective the metallic strip which is adapted to be bent to form the frame;

Fig. 5 is a detail of a slightly modified construction; and

Fig. 6 is a transverse section through the slide shown in Fig. 1.

Lantern slides are commonly produced by securing a transparent image upon a glass plate, which image or diapositive is protected by a second glass plate commonly known as the cover plate. The two plates with the image interposed between have heretofore been secured together by binding the edges of the two glass plates with a strip of cloth or paper similar to a passe-partout frame. This cloth or paper binder is frequently cut or worn through by the sharp edges of the glass plates and is also affected by the moisture in the atmosphere which is absorbed by the gum or paste which is used to fasten the strip of cloth or paper to the edges of the plates. Furthermore, a slide to

be projected, in correct position upon the screen must be placed in a projecting apparatus so that the image is upside down, with one face of the slide that is, the cover plate, toward the illuminant of the projecting apparatus. It has heretofore been the custom to paste upon the cover plate of the slide a paper disk or other suitable indicator to enable the operator of the projecting machine to determine the correct position of the slide before inserting it into the projecting machine. It has also been discovered that when a cloth or paper binder of this character is utilized, the binding, if strong, will not expand with the plates when the latter are subjected to the heat of the illuminant of the projecting machine for which reason the plates frequently crack or break requiring them to be renewed.

The present invention contemplates a metallic frame which will overcome the above mentioned objections to a gummed paper frame or binding, and contemplates a frame constructed from a single strip of sheet metal which has the joint, which holds the frame around the glass plates of the slide, so arranged that it serves as the marker or indicator for determining the proper position of the slide for projecting purposes.

Referring to the drawings, the lantern slide is shown as consisting of two plates 1 and 1^a, the glass plate 1 carrying the image, and the glass plate 1^a being the cover plate, the image upon the plate 1 being indicated as at 2. These two glass plates with the intervening transparent image are bound together by a metallic frame which is preferably constructed from a strip of sheet metal. This strip is stamped into a channel shape providing two flanges 3 and 4 which are connected by a web 5. The flanges of the strip are notched or recessed as at 6 at spaced intervals to form miter-joints at the corners when the strip is bent into rectangular form. The web 5 at one end of the strip is extended as at 7 to provide a tongue and the web at the other end of the strip is slotted as at 8. When the strip is bent around plates of the lantern slide, the flanges 3 and 4 of the strip fit down over faces of the same and rigidly hold them together, the strip assuming a rectangular shape with miter-joints at the corners. It is to be understood that the notches 6 are cut in the strip at such distances apart that the por-

tions of the strip between the notches correspond in length to the length and width of the plates, which the strip is to bind. After the strip is bound around the plate as described, the tongue 7, which is bent so that its end portion is at right angles to the portion joined to the web, is passed through the slot 8. The bent portion 7 is then pressed down against the outer face of the web of the strip, which construction will securely anchor the frame in place around the glass plates. This joint between the two ends of the strip is so positioned that it occurs at the upper right-hand corner of the glass plate or lantern slide (as shown in Fig. 1), and for this reason the bent-over projecting portion 7 will serve as a marker or indicator to the person operating the projecting apparatus to enable him to determine the position in which the slide should be inserted into the projecting apparatus; *i. e.* by feeling the edge of the frame the operator is able to locate the projection 7, and he then turns the slide so that this projection is at the upper right hand corner when it is in the correct position to insert in the projecting machine.

The metallic strip is made of relatively soft metal so that it may be readily bent around the glass plates, the assembling of the slide requiring only a few seconds. However, due to the frame being constructed of metallic material, the flanges 3 and 4 of the same will be of sufficient strength to retain the two glass plates rigidly secured together. It has also been discovered that by the use of a metallic frame of this character, since this frame will expand more rapidly than the glass plates, the danger of the plates being broken when exposed to the heat of the illuminant is greatly decreased. If, however, this cover plate or the other plate of the slide should be broken, the metallic frame may then be readily removed and the broken plate replaced by a fresh one. Furthermore, if a slide is discarded, the cover plate and frame may both be removed and be utilized in constructing a new slide.

In Fig. 5 inwardly directed protuberances 9 are formed upon the web of the strip at spaced intervals. These protuberances serve to make a strip of a certain size adjustable within small limits for different sizes of lantern slides, for, as will be clear from Fig. 5, if a lantern slide of slightly less size than the metallic frame

is utilized, these protuberances will serve as a support for the slide to hold it firmly in position within the frame. If, however, the slide or plate is of substantially the same size as the frame, these protuberances will be pressed outwardly by the plate, because the metal from which the frame is constructed is relatively soft. These protuberances are also of utility when the cover plate and carrier plate for the image are of slightly different size, since the plate which is the smaller, will then be held in position by the protuberances, while the larger plate will press the protuberances outwardly. In this manner, both plates will be rigidly held in the frame.

It will, therefore, be seen that the construction described provides a simple frame for a lantern slide which will rigidly hold the two plates of the slide together, will permit the expansion of the plates exposed to the illuminant of the projecting machine, will serve as an indicator for projecting purposes, and will suitably protect the edges of the glass plates of the slide.

I claim:

1. In combination, a lantern slide, a metallic frame surrounding said slide, said frame comprising a channel-shaped strip of sheet metal having notches formed in the flanges thereof to provide miter-joints at the corners when said strip is bent into rectangular form, inwardly projecting protuberances formed on the web of said strip, a tongue carried at one end of said strip, the other end of said strip having a slot formed therein, said ear passing through said slot when said strip is bent into rectangular shape and surrounds the edge of the lantern slide, said tongue projecting beyond the surface of the frame and being located at a position to serve as an indicator for determining the correct position of the slide for projecting purposes.

2. In combination, a lantern slide comprising a plurality of glass plates, a metallic frame therefor comprising a channel-shaped frame having its flanges fitting over the outer faces of said plates and inwardly directed protuberances formed in the web of said frame engaging the edges of said glass plates.

In witness whereof I subscribe my signature.

CHARLES I. BERG.