

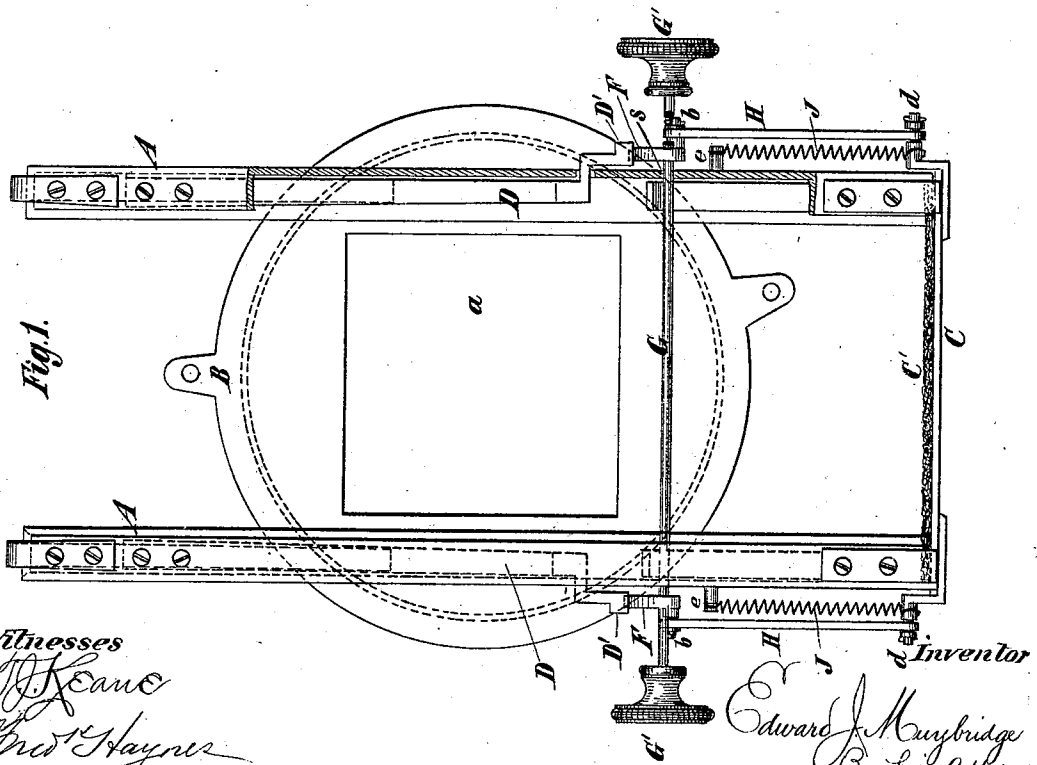
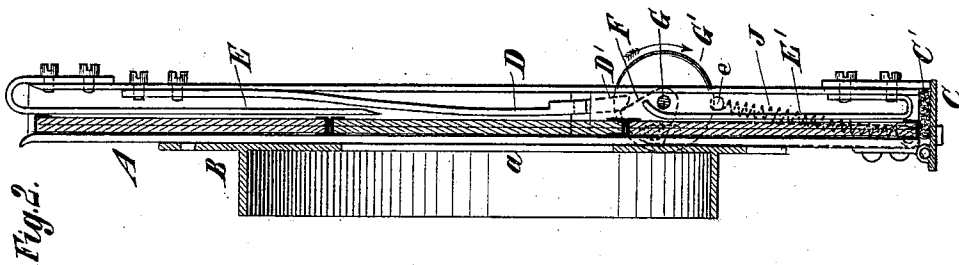
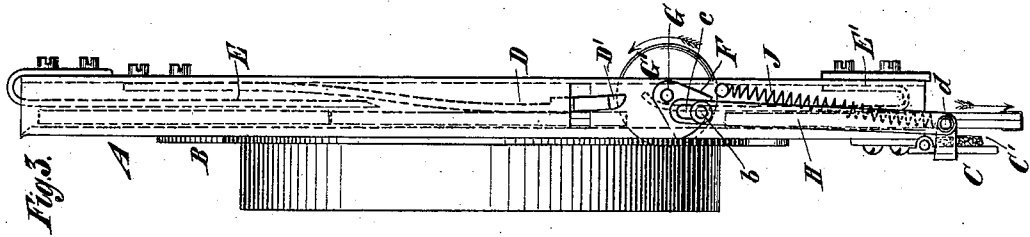
(No Model.)

E. J. MUYBRIDGE.

PICTURE FEEDING DEVICE FOR MAGIC LANTERNS.

No. 251,127.

Patented Dec. 20, 1881.



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PICTURE-FEEDING DEVICE FOR MAGIC LANTERNS.

SPECIFICATION forming part of Letters Patent No. 251,127, dated December 20, 1881.

Application filed July 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. MUYBRIDGE, of San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Apparatus for Feeding Pictures to Magic Lanterns and analogous articles, of which the following is a specification.

The improvements consist in a picture-holder for a magic lantern or analogous article, comprising open-ended slideways adapted to receive a picture in proper position to be exhibited and another picture in line with and resting upon the same, and means whereby the picture which is in position to be exhibited may be held in that position as long as desirable and then may be released, so that it will be delivered from the slideways and the other picture will drop into the proper position to be exhibited. The said slideways are preferably adapted to receive a picture below the picture which is in position to be exhibited in addition to the one above, and the means for holding the pictures is such that the picture which is in position to be exhibited and the one below it are held independently of each other.

The means for holding the pictures may be operated by hand, and in using this picture-holder a picture is inserted in the slideways and secured in position to be exhibited, and another picture is inserted in the slideways above it. Then the picture first inserted is released and allowed to descend by gravity out of position, and the second picture is simultaneously allowed to descend onto the top of it, and consequently into a position to be exhibited. Then the second picture is secured in position. A third picture is inserted in the slideways above it and rests on the top of the second picture, and the first picture is released and delivered from the slideways. The second picture is next released, and it and the third are allowed to descend until the third is in position to be exhibited. Then a fourth picture is introduced and the second is delivered, and so on. I thus provide for arranging pictures in place so that they may be adjusted into position instantaneously. The pictures

may be inserted in the slideways by hand or otherwise, and may be delivered into the hand or into any suitable receptacle.

In the accompanying drawings, Figure 1 is a back view of a picture-holder embodying my improvements. Fig. 2 is a central vertical section of the same, and Fig. 3 is a side view thereof.

Similar letters of reference designate corresponding parts in all the figures.

A designates parallel open-ended slideways, which are to be arranged in an upright or approximately upright position in a magic lantern or analogous article. They are arranged far enough apart to receive and support between them the pictures used in the magic lantern or analogous article, and they are shown as attached to a circular plate, B, provided with an opening, *a*, which is designed to be located opposite the lens-tube of the magic lantern or other article.

C designates a shelf extending across the lower ends of the slideways A, and hinged to the forward side thereof, so that it may be turned or swung downward, as shown in Fig. 3, to permit pictures in the slideways to be delivered therefrom. It is preferably provided on its upper side with a facing of felt or other soft material, C'.

D designates clamping-pieces arranged one in each of the slideways, and serving to clamp and hold a picture in the slideways opposite the opening *a* in the plate B, so that it may be exhibited. These clamping-pieces consist of spring-arms secured at one end, as here shown, the upper end to the back or rear side of the slideways, and adapted to impinge at the other end against a picture arranged opposite the opening *a* in the plate B. The pictures, when inserted in the slideways, pass between the forward side thereof and guide-pieces E E'. These clamping-pieces and the shelf C may be operated in various ways to effect the feed of the pictures.

I will now proceed to describe the particular mechanism shown for operating them.

F designates arms mounted one near the outer side of each of the slideways A, on a shaft, G, which extends through the slideways

in rear of the guide-pieces E', and is supported thereby. These arms are shown as of segmental form, and they are provided with outwardly-extending pins *b*, which pass through slots *c* in rods H. The rods H are connected to pins *d* extending outwardly from the shelf C, rearward of the hinge of the latter. Owing to the slots *c* the pins *b* do not act upon the rods H so as to affect the shelf C when the shaft G is turned to throw or swing the said arms upward, but when the shaft G is turned in the reverse direction the said pins press the rods H downward and cause them to turn down the shelf C. Any picture which may have been resting on the shelf will drop out of the slideways when the shelf is thus turned down.

On the lower ends of the clamping-pieces D are lateral extensions, D', which pass through transverse slots *s*, in the outer sides of the slideways A, into the same planes as the arms F. When the shaft G is turned so that the arms F are swung upward the arms will move the clamping-pieces D backward, so that they will release any picture which may have been previously held by them.

J designates springs connected with the pins *d* of the shelf C, and with pins *e* extending from the outer sides of the slideways A. These springs hold up the shelf C when it is not otherwise actuated, and by acting on the arms F through the connecting-rods H they shift the said arms into such position that they will not interfere with the operation of the clamping-pieces D. Knobs or hand-pieces G' upon the ends of the shaft G form a means whereby the shaft may be conveniently manipulated.

It will be understood that when the shelf C is turned down the clamping-pieces operate to clamp and hold a picture, and that when the clamping-pieces D are caused to release a picture the shelf C is turned up to catch the picture. The slideways A are long enough to hold three pictures, one above another, and in such position that one will be opposite the opening *a* in the plate B, another below, and a third above that picture.

In using this picture-holder a picture is first inserted in the upper ends of the slideways, and the clamping-pieces D are moved backward by turning the shaft G, to allow the picture to descend to a position opposite the opening *a* in the plate B. Then the shaft G is released and the clamping-pieces impinge against the edge portions of the picture and hold it in position. A second picture is now inserted in the slideways and permitted to descend onto the top of the first. This may be done while the first picture is being exhibited. When the exhibition of the first picture is completed the shaft G is turned so as to cause the clamping-pieces to be swung back, and the two pictures drop downward until the first rests on the shelf C and the second one is in position to be exhibited. The change from the one picture to the other is thus effected instantaneously, and without leaving the light from the lantern upon the

screen without a picture, so as to dazzle the eyes. As soon as the change is effected the shaft G is released and the clamping-pieces impinge upon and hold the second picture. A third picture is introduced into the upper ends of the slideways and descends upon the second while the latter is being exhibited. The shaft G is now turned in the reverse direction, so as to cause the shelf C to be turned down to permit the first picture to be delivered from the slideways. This also is done during the exhibition of the second picture. The shaft G is now turned, as in the first instance, to cause the clamping-pieces to be swung back to release the second picture, and thereupon the second and third pictures descend until the third picture is in position to be exhibited. In this way the successive pictures are fed into and out of position to be exhibited, and the changes from one to another are effected simultaneously.

The pictures may be introduced into the slideways by hand or by means of a hopper, and may be delivered into any suitable receptacle.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a picture-holder for a magic lantern or analogous article, the combination of slideways adapted to receive a picture in proper position to be exhibited and another picture in line with and resting upon the same, and means whereby the picture which is in position to be exhibited may be held in that position as long as desirable and then may be released, so that it will be delivered from the slideways and the other picture will drop into the proper position to be exhibited, substantially as specified.

2. In a picture-holder for a magic lantern or analogous article, the combination of open-ended slideways adapted to receive three pictures in line with each other, one in proper position to be exhibited, and one below and another above the same, and means for holding the picture which is in position to be exhibited and the one which is below it independently of each other, so that the lower may be released and delivered from the slideways while the one which is in position to be exhibited is retained there, and so that the latter may afterward be released to descend with the one above it till the latter is in position to be exhibited, substantially as specified.

3. In a picture-holder for a magic lantern or analogous article, the combination of the slideways A, the arms F, and the clamping-pieces D, with their extensions D', substantially as specified.

4. In a picture-holder for a magic lantern or analogous article, the combination of the slideways A, the shelf C, and arms F, and the connecting-rods H, substantially as specified.

5. In a picture-holder for a magic lantern or analogous article, the combination of the slideways A, the shelf C, the connecting-rods H,

provided with the slots *c*, and the arms *F*, provided with the pins *b*, substantially as specified.

5 6. In a picture-holder for a magic lantern or analogous article, the combination of the slide-ways *A*, the shaft *G*, the arms *F*, connecting-rods *H*, and the springs *J*, substantially as specified.

7. In a picture-holder for a magic lantern or

analogous article, the combination of the slide-ways *A*, the shelf *C*, the clamping pieces *D*, with their extensions *D'*, the arms *F*, and the connecting-rods *H*, substantially as specified. 10

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