

## UNITED STATES PATENT OFFICE.

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ETABLISSEMENTS PATHE FRERES, OF PARIS, FRANCE.

## PICTURE-STRIP TOY.

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To all whom it may concern:

Be it known that I, JACQUES MARETTE, citizen of the French Republic, residing at Vincennes, Seine, in the Republic of France, have invented new and useful Improvements in Picture-Strip Toys, of which the following is a specification.

This invention relates to a toy device for the direct viewing or the screen projection of photographic views carried by a flexible band similar to a cinematographic film.

One characteristic feature of this toy device resides in that it comprises a receptacle having three chambers, the central chamber containing an actuating roller or toothed wheel provided with an operating knob, a lens and a lighting aperture which is preferably closed by a ground glass, the picture strip being drawn along by the said roller or wheel and wound up in one of the end chambers while it is unwound in the other end chamber.

This arrangement permits to obtain an apparatus of a very cheap construction which is very convenient in use and in which the picture strip is not liable to be damaged or torn off.

Other characteristic features will be set forth in the following description.

In the accompanying drawing which shows by way of example an embodiment of this invention.

Fig. 1 is an outer perspective view of the device.

Fig. 2 is a cross-section, and

Fig. 3 a longitudinal section of the same.

Fig. 4 shows one end of the picture strip.

According to the form of construction herein represented, the device comprises an approximately rectangular box 1 divided by partitions 1<sup>a</sup>, 1<sup>b</sup> into three chambers. The two end chambers 2 and 4 are used to store up the film or picture strip 5 which is unwound from one of said chambers and wound up again in the other after passing through the middle chamber 3. The latter forms a dark chamber of oblong shape having on one side thereof the aperture 6 for lighting the film by transparence, and on the other the viewing lens 7.

The picture strip is made of a resilient material preferably transparent or translucent. It is provided with a series of photo-

graphic images arranged one below the other like the images of a moving picture film. Said images may have a correlation with each other or not and form for instance a collection of views of the monuments of a town, etc. Said picture strip may be obtained from a blank cinematographic strip provided with the usual perforations which will permit the same to be fed through the usual machines for printing, fixing, washing, drying cinematographic films and like operations.

The thickness of a box of this kind will correspond to the width of the film which is used, or about 30 millimeters, in the example indicated in which one edge of the film is cut off by the width of a row of perforations in order to reduce the size of the device as far as possible. The other edge is used for drawing along the film. The band 5, which is supposed to have one meter length in the example herein shown, may be readily placed when formed in a roll, in one of the chambers 2 or 4.

In the middle chamber 3, is disposed a suitable actuating roller 8 whereby only a slight effort is required to cause the film to be unwound from one chamber and wound up automatically upon itself in the other chamber, and vice versa, thus causing the successive images of the film to come before the lens 7. The roller 8 may be made of rubber or provided with a rubber rim and it will exert a slight pressure on the picture strip. It is actuated by means of an outer knob 9. Inasmuch as the film travels in either direction according as the knob 9 is turned in one or the other sense, it is preferable to dispose the wheel 8 in the axis of the aperture 6, that is, at the middle of the loose portion of the film, as this will afford the most satisfactory working, and a symmetrical device may be thus constructed. The actuating roller is caused to bear only upon the perforated edge of the band, that is, outside the images, and in this manner no scratching of the latter will ensue.

With a rubber roller such as 8, the perforations are not required for effecting the movement of the film, but nevertheless they will facilitate this movement.

The film may also be caused to travel, by the use of teeth engaging the said perforations, for instance by employing a toothed

disk. Should a piece of ground glass 10 be provided in the aperture 6, this will have the twofold advantage of preventing dust from entering the box since the latter will now be entirely closed, and also of constituting an excellent bearing surface for the film, inasmuch as the smooth side of the glass will facilitate the sliding of the film.

The two ends of the film 5 may be rolled upon themselves or provided with a small cylinder of cardboard or like material, in such manner as to prevent the film from leaving the chambers 2 and 4 at the end of the operation.

For the same purpose, the strip may be provided at each end with a small rounded metal clip 11 (Fig. 4) of reduced width whereby friction will be reduced.

Experience has shown that the shape given to the end chambers 2 and 4 is not indifferent for obtaining a perfectly smooth and satisfactory winding up of the picture-strip, which is essential for a good working and durable use of the apparatus. It has been ascertained that it is desirable to give to said end chambers a form similar to that shown in the drawings, especially in Fig. 3.

As a matter of fact, it is necessary that the inner wall of each end chamber 2 and 4 should have at *a* a curve which will progressively merge into the straight portion of the middle chamber containing the aperture 6, said curve being such that when the strip begins to protrude into the end chamber, the end of said strip in creeping along said wall *a* under the action of the roller 8 forms immediately a first coil. The succeeding coils will then be formed in the required sense as shown in Fig. 3 and in no case in the opposite direction which would give rise to jars in the operation of the actuating knob and cause the strip to be jammed or wound irregularly upon itself whereby risks of breakage would appear. Moreover, the inner angles should be rounded as shown at *b* and *c* in order to permit a smooth and regular guiding of the band. The walls of the casing of the apparatus having a reduced thickness so as to obtain a construction as cheap as possible, the outer shape of the casing will preferably correspond approximately to the shape of its inner wall.

To enable the apparatus to be easily inspected and the picture strip readily replaced by another, the casing is preferably closed at one side by a lid provided with one or more hinges 15, as shown in Fig. 1 and a lug which forms a slight projection as shown at 16 and enables the lid to be easily opened.

The invention is not restricted to the constructional features either shown or described, which have been selected by way of example only. The picture-strip instead

of being transparent or translucent might be made of an opaque material, the images being then observed by reflexion.

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

1. A picture strip toy comprising a casing, two rigid cross partitions fixed on the casing and dividing said casing into a middle and two end chambers, a flexible picture strip within said casing, an aperture on one wall of the middle chamber for lighting the picture by transparence, a viewing lens closing another aperture on the opposite wall of the middle chamber and intended for direct viewing of the strip pictures, feeding means for drawing the picture strip between the two apertures of the middle chamber in either direction at will from one end chamber to the other end chamber, said end chambers having curved walls merging progressively into the straight portions of the apertured walls for obliging the strip to wind up over itself when entering said end chambers and said cross partitions leaving small gaps adjacent to said wall having an aperture for lighting the picture for obliging the strip which enters said chambers through said gaps to slide upon the curved walls of the latter.

2. A picture strip toy comprising a casing, two rigid cross partitions fixed on the casing and dividing said casing into a middle and two end chambers, a flexible picture strip within said casing, an aperture on one wall of the middle chamber for lighting the picture by transparence, a viewing lens closing another aperture on the opposite wall of the middle chamber and intended for direct viewing of the strip pictures, a roller located in the middle chamber and acting upon one edge of said strip for drawing the latter between said two apertures in either direction at will from one end chamber to the other end chamber, a shaft carrying said roller, said shaft being pivoted upon one side wall of the casing and provided with an outer actuating knob, said end chambers having curved walls merging progressively into the straight portions of the apertured walls for obliging the strip to wind up over itself when entering said end chambers and said cross partitions leaving small gaps adjacent to said wall having an aperture for lighting the picture for obliging the strip which enters said chambers through said gaps to slide upon the curved walls of the latter.

3. A picture strip toy comprising a casing, two rigid cross partitions fixed on the casing and dividing said casing into a middle and two end chambers, a flexible picture strip within said casing, an aperture on one wall of the middle chamber for lighting the picture by transparence, a viewing lens closing

another aperture on the opposite wall of the middle chamber and intended for direct viewing of the strip pictures, feeding means for drawing the picture strip between two apertures of the middle chamber in either direction at will from one end chamber to the other end chamber, said end chambers having curved walls merging progressively into the straight portions of the apertured walls for obliging the strip to wind up over itself when entering said end chambers, said cross partitions leaving small gaps adjacent to said wall having an aperture for lighting the picture for obliging the strip which enters said chambers through said gaps to slide upon the curved walls of the latter, and abutment means provided at the ends of said picture strip and having a thickness greater than the width of the gaps.

4. A picture strip toy comprising a casing, two rigid cross partitions fixed on the casing and dividing said casing into a middle and two end chambers, a flexible picture strip within said casing, an aperture on one wall

ture by transparence, a viewing lens closing another aperture on the opposite wall of the middle chamber and intended for direct viewing of the strip pictures, feeding means for drawing the picture strip between two apertures of the middle chamber in either direction at will from one end chamber to the other end chamber, said end chambers having curved walls merging progressively into the straight portions of the apertured walls for obliging the strip to wind up over itself when entering said end chambers, said cross partitions leaving small gaps adjacent to said wall having an aperture for lighting the picture for obliging the strip which enters said chambers through said gaps to slide upon the curved walls of the latter, and rounded metal clips secured respectively on both ends of the picture strip, said metal clips having a thickness greater than the width of the gaps.

In testimony whereof I have signed my name to this specification.

JACQUES MARETTE.

J. MARETTE

PICTURE STRIP TOY

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Fig.1

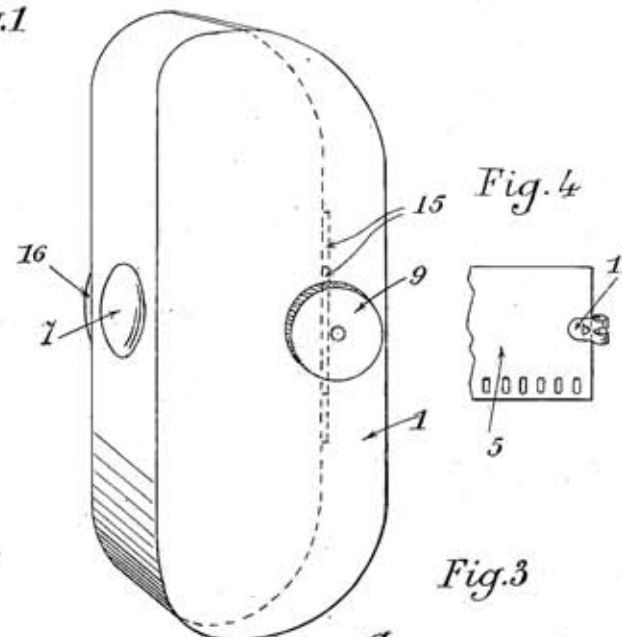


Fig.2

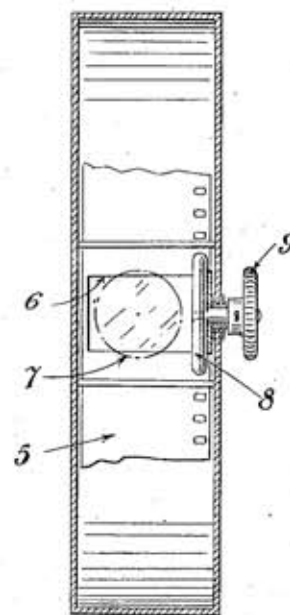
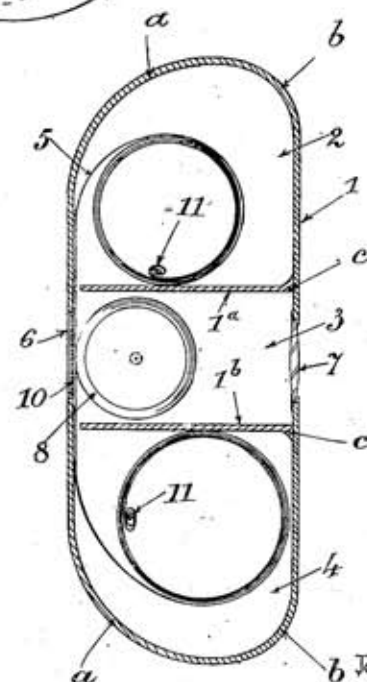


Fig.3



INVENTOR:  
 Jacques Marette.  
 By *Otto Munk*  
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