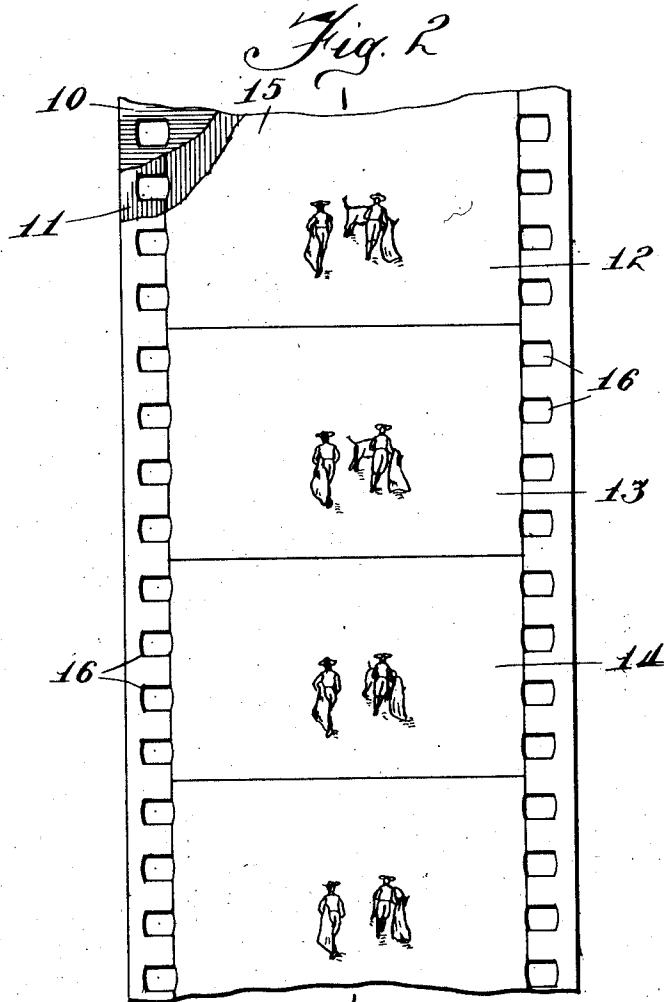
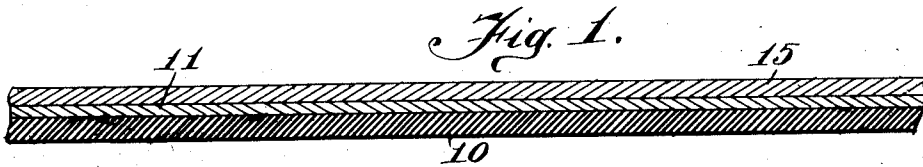


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 PICTURE FILM.
 APPLICATION FILED NOV. 1, 1909.

987,092.

Patented Mar. 14, 1911.



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PICTURE-FILM.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FREDRICK B. THOMPSON, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Picture-Films, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to transparent picture-carrying webs, such as are employed for projecting upon a screen in rapid succession a large number of pictures representing moving objects.

The object of the invention is to provide a picture-carrying film of the type described which shall be more durable than those heretofore employed, and which may be cleaned, as by washing with water, from time to time without injury.

The picture-carrying webs heretofore employed in so-called moving picture machines have been formed of celluloid, or of a generally similar but less inflammable material, termed acetate of cellulose, having applied to one face a photographic film of gelatin. This photographic film of gelatin is readily scratched and otherwise marred by use in the machines employed for projecting the pictures upon a screen, and as it readily absorbs water it cannot be cleaned without injury. In the use of these picture-carrying webs they are rapidly moved through machines which produce a considerable tensile strain upon the web. These machines also require that the web shall traverse a tortuous path, and therefore necessitate their being exceedingly flexible.

The invention contemplates a webbing for use in moving picture machines, which comprises a photographic gelatin film interposed between a carrying web and a coating of substantially the same character, whereby the gelatin film is protected upon both sides, while the webbing is quite as flexible as those heretofore employed.

In the accompanying drawings:—Figure 1 is a longitudinal sectional view showing a webbing constructed according to the invention, highly magnified; and Fig. 2 is a detail face view of the same, partly broken away.

In carrying out the invention a webbing

10, of flexible transparent material, such as celluloid, is provided. This webbing has a glass-like surface such as is commonly characteristic of transparent celluloid material. Upon one face of this webbing a photographic gelatin film 11, is applied in the usual manner. The web is preferably also provided with a row of sprocket-engaging apertures 16, which, as shown in Fig. 2, extend along each margin, these apertures being conveniently formed by punching the gelatin-coated web. Transparent pictures, as 12, 13, 14, are then formed in the gelatin film 11 by exposure and development, according to the usual practice for producing pictures for projection upon a screen to represent motion. A protective coating 15, preferably of substantially the same character as the webbing 10, is then applied to the upper surface of the gelatin film 11. This protective coating is most conveniently applied to the film in liquid form, as by the application with a brush or roller (not shown) of a varnish, which, when hardened, as by exposure to the air, leaves a deposit on the film resembling the material of the web 10 in character and having a similar glass-like surface. Most desirably the coating of varnish is applied to the entire surface of the gelatin film but without closing the apertures 16, whereby the protective coating is provided with marginal rows of sprocket-engaging apertures registering with the apertures 16 formed by punching the gelatin-coated web 10.

A varnish which I term a celluloid varnish, and composed of a solution of gun-cotton in amylacetate with a small amount of castor oil added thereto for the purpose of softening the coating, leaves, when hardened by exposure to the air, a deposit resembling celluloid in character, and may be advantageously employed for the production of the protective coating 15. In preparing such a varnish I dissolve the gun cotton in the amylacetate in the proportion of 240 grains of gun cotton to 8 ounces of amylacetate, and add to this solution about 10 minims of castor oil. This solution, when applied in the manner heretofore described, produces a protective coating for the gelatin film of somewhat less thickness than the supporting web 10. The thickness of the

coat may, however, be increased by the addition of a greater proportion of gun cotton, or by a second application of the varnish to the face of the film after that first applied has been exposed to the air a sufficient time to permit at least a part of the amylacetate to evaporate.

Picture films constructed according to the invention may be cleaned by washing with soap and water, and if the surface becomes scratched through use, the scratches may be obliterated by a further application of the varnish.

While I have described the webbing being of celluloid, it may be of the less inflammable acetate of cellulose previously mentioned, and still be of substantially the same character with respect to its transparency, flexibility, and the manner in which it adheres to the gelatin picture film as the protective coating deposited from a varnish consisting of a solution of gun cotton. Furthermore, I have found that picture films comprising a supporting web of acetate of cellulose and a protective coating of a varnish consisting of a solution of gun cotton, are not noticeably more inflammable than picture films having a supporting web of acetate of cellulose and being without a protective coating. If desired, however, the protective coating may be of a varnish consisting of a solution of the acetate of cellulose.

I claim as my invention:—

1. A transparency for the projection of moving pictures comprising a continuous photographic picture film interposed between a flexible transparent carrying web and a coating of substantially the same character as the web, the web and coating being permanently adhered to opposite faces of the picture film.

2. A transparency for the projection of moving pictures comprising a continuous photographic picture film carried by a flexible transparent web, the picture film being

covered by a resistant film of celluloid varnish and of such a nature that scratches may be obliterated by a subsequent deposit of similar material.

3. A transparency for the projection of moving pictures, comprising a continuous photographic picture film carried by a flexible transparent web having a marginal row of sprocket-engaging apertures, the picture film being covered by a resistant film of a celluloid varnish without closing the sprocket-engaging apertures of the carrying web and being of such a nature that scratches may be obliterated by a subsequent deposit of similar material.

4. A transparency for the projection of moving pictures, comprising a continuous photographic picture film carried by a flexible transparent web having a marginal row of sprocket-engaging apertures and a glass-like under-surface, the picture film being covered by a resistant film deposited of a celluloid varnish without closing the sprocket apertures of the carrying web, such resistant film also having a glass-like surface.

5. A transparency for the projection of moving pictures, comprising a continuous photographic picture film interposed between a flexible transparent carrying web and a coating of substantially the same character as the web.

6. A transparency for the projection of moving pictures, comprising a continuous photographic picture film carried by a flexible transparent web having a marginal row of sprocket-engaging apertures and a glass-like under surface, the picture film being covered by a resistant film which does not close the sprocket apertures of the carrying web, such resistant film also having a glass-like surface.

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