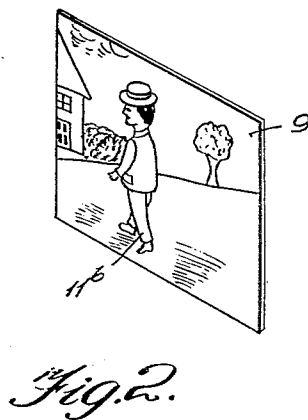
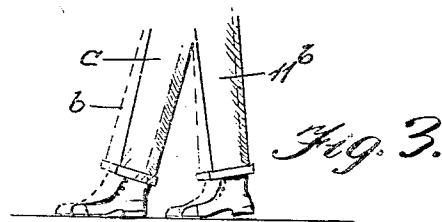


1,235,871.



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METHOD OF MAKING CINEMATOGRAPHIC CARTOON PICTURES.

1,235,871.

Specification of Letters Patent.

Patented Aug. 7, 1917.

Application filed October 28, 1915. Serial No. 58,513.

To all whom it may concern:

Be it known that I, CARROLL M. AUMENT, a citizen of the United States, and resident of New Brunswick, county of Middlesex, State of New Jersey, have invented a new and useful Method of Making Cinematographic Cartoon Pictures, of which the following is a specification.

My invention consists in a simple, practical and inexpensive method to produce cartoon motion pictures. This invention partially pertains to the same method of procedure in producing the cartoon or animated motion pictures as described in the patent to Bray 1,107,193, Aug. 11, 1914, or patent of Hurd 1,143,542, June 15, 1915, but the present invention is simpler, gives clearer and more distinct pictures, and the labor and time involved in carrying out my method is much less than in the method adopted by either of the above mentioned patentees.

A succession of pictures of drawings is taken, but the scene photographed is stationary. Each drawing photographed is slightly changed in some respect and when the photographs of these drawings are projected upon a screen in the usual manner, the persons or objects appear to move as in ordinary motion pictures. These animated cartoons differ from the ordinary moving pictures, in that as the drawings may be from the imagination of the cartoonist rather than from life, the persons, animals or other objects drawn, may be represented as performing acts and assuming positions and expressions which may be made very amusing and entertaining.

It is necessary that the differences in the drawings which are successively photographed be comparatively slight; otherwise when the picture is made into the commercial moving picture film, the pictures produced thereby will be irregular, and annoying, and difficult to follow.

Certain disadvantages of former methods of making these pictures are overcome by me. For instance, instead of using a plurality of backgrounds printed and written upon, on very thin paper, I use one permanent background, which is a large sheet of glass, which will be described in detail later. Another advantage is that no alinement of a plurality of sheets or drawings is necessary. Another advantage is the superior tone and

light effects to which my method is particularly adapted. The apparatus used in my invention is an ordinary motion picture camera, proper illuminating screens, and a sheet of glass. This glass is adapted to have drawings made upon either side by crayon, soapstone, slate pencil, or any other suitable substance, or a painting which may be made by water colors, inks or ordinary paint. Either or both sides of this glass may be frosted, to properly and more clearly take the paint or the drawing placed upon it, or if desired a varnish, shellac or soapy substance, may be originally placed upon the proper side of the glass in order better to receive the drawing or painting placed upon it.

A better understanding of my invention may be had from the accompanying drawing, in which similar parts are referred to by the same reference number throughout the different views.

Figure 1 shows the apparatus including camera, glass and illuminating screens in operative positions.

Fig. 2 is a view of the reverse side of the glass.

Fig. 3 is an enlarged view of the reverse side of the glass with a new position shown in dotted lines.

An ordinary motion picture camera 10 is placed before a piece of glass 9, said glass being suitably prepared by frosting or coating as recited above. Upon the obverse side of this glass is drawn or painted a suitable scene. The glass is translucent so that of course the scene painted upon it will be visible from the reverse side. The glass 9 may be positioned or arranged by suspending by cords 9^a so that either side may be quickly turned toward the camera.

When the picture shown in Fig. 1 on glass 9 is completed, it is photographed by camera 10 and it is then in order to produce another picture. Accordingly the operator who has worked upon the obverse side of the glass goes behind the glass and views the rear side of the picture. Then he begins to make a new picture by first making in dotted lines on the reverse side, the change that he desires to make. In the illustration 11^a shows the picture of the legs of the man as on the film; 11^b shows the legs as viewed from the reverse side and *b* (in Fig. 3) shows the new position which the legs will take.

The operator by viewing the old position on the obverse side is easily and definitely able to tell just what the next or advanced picture should show. After he has outlined his prospective advanced picture on the reverse side, he again goes around to the obverse side and here he can clearly see the dotted lines on the reverse side. He then removes the legs of the original picture by erasing, or by a wet cloth, spirits or by a paint or varnish remover, the original outline of the legs. Then he draws in the new position of the legs in proper alinement with the dotted line which he can easily see through the translucent glass.

In some cases it may not be necessary to work upon the reverse side of the glass, and he may directly make the new or advanced outline on the obverse side. He can either work by going to either side of the picture or else by turning the glass through 180 degrees. By the latter means he can sit in the same position and as the camera is also stationary, there is no loss of time by moving their respective operating positions. Furthermore, one man can make the drawings, and at the proper time go to the camera and operate it. Furthermore by turning the glass through different horizontal planes, he can place the glass in any convenient working position. The illuminating means is used in order that a clearer and more distinct tone be produced. While mercury vapor lamps are usual in moving picture studios, I have provided illuminated screens, which receive their illumination from carbon filament lamps 8. If desirable the bulbs of these lamps may be different colors, as red, yellow, green, etc., to produce different colored effects and tones.

In order that operator may clearly see the dotted lines on the reverse side, I provide rear screen 7, properly illuminated by lights 8', controlled through switch 12. In order that he may see the original picture when working from the reverse side I provide illuminating screen 16 showing lamps 8 controlled by switch 14.

My illuminating means clearly and distinctly shows the picture on the glass from a considerable distance and produces a very clear tone to the film.

Obviously other illuminating means could be used to accomplish the same result, but my structure operates well in practice.

From the foregoing detailed description, the operation of my method seems clear, and a fuller description is omitted.

By this method better tone films can be produced far more quickly and with less expense than the present day methods.

Obviously various changes may be made in details of my invention. I claim it broadly new to produce cinematographic cartoon moving pictures by means of work-

ing on both sides of a glass placed before any photographic means in combination with proper illuminating means.

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

1. In the method of making motion picture films from cartoon drawings and the like from pictures on a pane of translucent material, the steps of drawing on the rear side of the pane the outline of a moving part of a picture on the front side of the pane and then changing the picture on the front of the pane to represent a succeeding position of the moving part, the representations of the moving part on the front and rear serving one as a guide in drawing the other.

2. The method of producing cinematographic cartoon pictures which consists in making a picture on a transparent substance and slightly changing the outline of the picture on the reverse side of the transparent substance, then drawing in this outline on the obverse side of the transparent substance removing an appropriate portion of the old outline and photographing it.

3. The method of producing moving pictures which consists in making a picture on the front of a sheet of glass, then photographing it, then changing the outline of the picture by drawing in a new outline on the back of the sheet of glass, then using this outline on the back of the sheet of glass as a guide line for producing a new picture on the front sheet of the glass, then photographing it to produce a cinematographic film.

4. In the method of making motion picture films from drawings from pictures on a pane of translucent material, the steps of drawing on the rear side of the pane the outline of a moving part of a picture on the front side of the pane and then changing the picture on the front of the pane to represent a succeeding position of the moving part, the representations of the moving part of the front and rear serving one as a guide in drawing the other.

5. The method of making motion picture films from cartoon drawings and the like, from pictures on a pane of translucent material, said pane having one side comparatively smooth and the reverse side ground or frosted, comprising drawing or painting a picture on the smooth side of said pane, drawing an outline of the movable parts of said picture on the reverse side thereof, said outline registering with the outlines of the movable parts of said picture on the smooth side of said pane and serving as a guide for the succeeding picture to be drawn or painted on the smooth side of said pane, illuminating said pane from the reverse side, taking a photographic film of said picture, erasing the movable parts of said pic-

ture and drawing or painting said movable parts differing in position from the parts erased by a suitable degree, changing the outlines of said movable parts on the reverse face of said pane, illuminating said pane from the reverse side, taking a photographic film of said changed picture, and repeating the steps of the method to produce a length of motion picture films.

6. The method of making motion picture films from cartoon drawings and the like, from pictures on a pane of translucent material, said pane having one side comparatively smooth and the reverse side ground or frosted, comprising drawing or painting a picture on the smooth side of said pane, drawing an outline of the movable parts of said picture on the reverse side thereof, said outline registering with the outlines of the movable parts of said picture on the smooth side of said pane and serving as a guide for the succeeding picture to be drawn or painted on the smooth side of said pane, taking a photographic film of said picture, erasing the movable parts of said picture and drawing or painting said movable parts differing in position from the parts erased by a suitable degree, changing the outlines of said movable parts on the reverse face of said pane to register with the changed posi-

tion of the movable parts on the smooth side of said pane, taking a photographic film of said changed picture, and repeating the steps of the method to produce a length of motion picture films.

7. The method of making motion picture films from cartoon drawings and the like from pictures on a pane of diaphanous material comprising drawing or painting a picture on the front side of said pane, drawing an outline of the movable parts of said picture on the reverse side thereof, said outline registering with the outline of the movable parts of said picture on the front side of said pane and serving as a guide for the succeeding pictures to be drawn or painted on the front side of said pane, taking a photographic film of said picture, erasing the movable parts of said picture and drawing or painting said movable parts differing in position from the parts erased by a suitable degree, changing the outlines of said movable parts on the reverse side of said pane to register with the changed position of the movable parts on the front side of said pane, taking a photographic film of said changed picture and repeating the steps of the method to produce a length of motion picture films.

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