Feb. 20, 1923. 1,446,123

C. F. LEDERER

PROCESS AND ARTICLE FOR PRODUCING MOVING PICTURES

Filed June 25, 1919 2 sheets-sheet 1

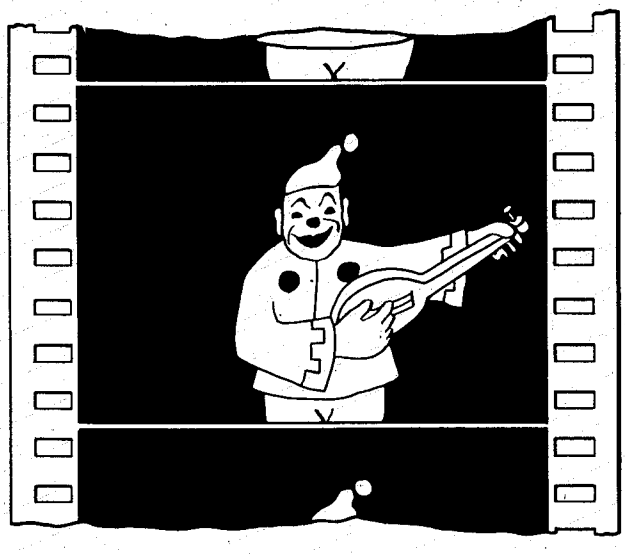

Fig. 1

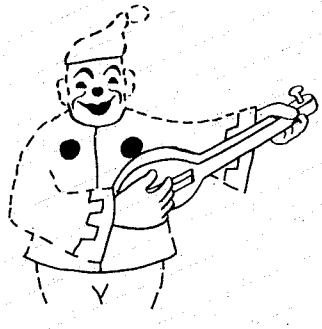

Fig. 2



Fig. 3

Inventor
Carl F. Lederer, deceased
Frances S. Lederer,
Administratrix of the estate
By Frederick S. Church
ATTORNEY

WITNESSES:
Milson H. Copp
Charles F. Knolle

Feb. 20, 1923. 1,446,123

C. F. LEDERER

PROCESS AND ARTICLE FOR PRODUCING MOVING PICTURES

Filed June 25, 1919 2 sheets-sheet 2



Fig. 4

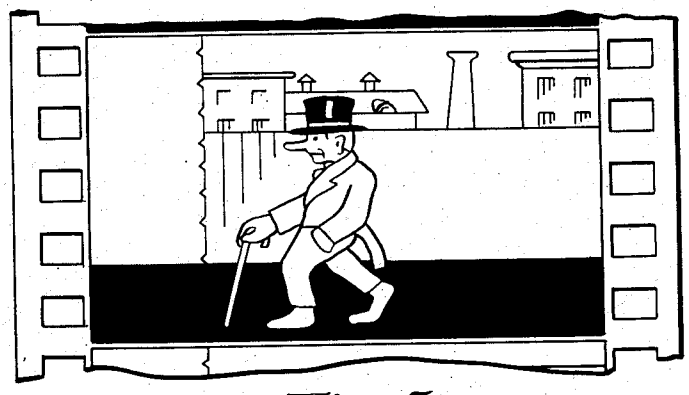

Fig. 5

Inventor
Carl F. Lederer, deceased
Frances S. Lederer,
Administratrix of the estate

By Frederick & Church
ATTORNEY

WITNESSES:
Nilson H. Copp
Charles F. Knolle

Patented Feb. 20, 1923. 1,446,123

UNITED STATES PATENT OFFICE.

CARL F. LEDERER, DECEASED, BY FRANCES S. LEDERER, ADMINISTRATRIX, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO FREDERICK F. CHURCH, OF ROCHESTER, NEW YORK.

PROCESS AND ARTICLE FOR PRODUCING MOVING PICTURES.

Application filed June 25, 1919. Serial No. 306,693.

To all whom it may concern:

Be it known that I, FRANCES S. LEDERER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, administratrix of the estate of Carl F. Lederer, deceased, hereby declare that the said Carl F. Lederer invented new and useful Improvements in Processes and Articles for Producing Moving Pictures, of which the following is a specification.

My invention relates to processes of and articles for producing moving pictures and has for its object the production of moving pictures of cartoons or caricatures formed in a novel way other than by producing drawings of the objects to be represented in the completed pictures. A further object of the invention is the production of animated cartoons or caricatures by the photographing of living actors and performers or other objects made up in such a manner that when photographed and projected upon a screen they will appear substantially as line-drawings or as cartoons or caricatures. A further object of the invention is the production of costumes and backgrounds designed in such a manner that photographs thereof when projected upon a screen will appear substantially as line-drawings. To these and other ends the invention consists in certain improvements in the art of making moving pictures, which will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Figure 1 is a view showing in outline upon a dark background the photograph of a figure made up in accordance with one form of my improved process;

Figure 2 represents the same figure photographed upon a light background;

Figure 3 is another view of the same figure having on a dark costume with certain portions thereof outlined in white;

Figure 4 is a view of a dark background representing a room, the walls and other portions of which are outlined in white with a cartoon figure appearing therein also outlined in white, and

Figure 5, represents a photograph of a white background with the objects forming the background and the animated figure of a man outlined in black.

By means of my invention I am able to produce more rapidly and on a more practical scale, a certain class of moving pictures heretofore known and designated as "animated cartoons." The only methods known for producing the aforementioned class of pictures, prior to my process and invention and discovery thereof, involved a great amount of labor, patience and time. The first production of animated cartoons of commercial value were produced by a process which necessitated an artist making an immense number of separate drawings showing the cartoon characters in their respective, different, proper and consecutive stages of motion. These drawings were then reproduced upon moving picture films. Later improvements in this process were invented and patented which greatly facilitated the making of animated cartoons and made it possible to bring this class of pictures before the patrons of the lower priced moving picture theatres.

While these later improvements were a decided step in the commercial advancement of animated cartoons, my processes and articles for producing the aforementioned class of moving pictures make it possible by photographing living performers similar to the usual method of making moving pictures to obtain results quite similar to the moving cartoon pictures or animated cartoons heretofore produced by cartoonists.

My invention forms a basis for practically a new branch of the moving picture industry, as it now becomes possible to produce by the aid of my processes and articles, a new and distinctive type of animated cartoon pictures as rapidly and at practically the same cost as the regular photo-play productions. While the pictures made by my processes are quite similar in many ways to the animated cartoons heretofore made with hundreds or thousands of separate drawings, there is a marked difference in one respect inasmuch as pictures produced by my processes show the outline and perspective of the characters or objects photographed. The film when thrown upon the screen has the appearance of being photographs of toy

models designed to represent the different cartoon characters.

My processes consist in photographing living performers in costumes and facial makeups to represent the caricature it is desired to portray. The main portion of my invention lies in steps I have taken to facilitate the obtaining of a caricature or cartoon effect in the finished picture. I obtained these results by the special arrangement of costumes, make-ups of performers and backgrounds shown in the accompanying drawings and fully described hereinafter.

Before referring to the drawings it will be well to bear in mind that, as heretofore mentioned, pictures made by or with the aid of my process when projected upon the screen, show the relief and perspective of the characters, as it is impossible to photograph living performers and obtain the total effect of line-drawings.

Figure 1 is a single picture from a cinematographic film produced by my processes. The steps involved in the making of this picture are as follows: The actor or performers taking the part of the clown proceeds to "make-up" for the scene by applying a suitable white substance to all parts of the face, ears, etc. The white wig is now slipped into place. He then proceeds to blacken the eyebrows, eyelids, nose and mouth. Black make-up substance is then applied under the chin; the edges of the ears are also blackened so that when his face is turned from the camera the outline of the ear is clearly defined.

The designing and making of the costume is a very important feature and must be studied closely to obtain the desired results. Care should be taken in the selection of the material. A perfectly white cloth should be used, or, if desired, a cloth with a yellow tint will serve the purpose, for it is sometimes necessary where certain lighting systems are employed to substitute yellow where white is desired in a moving picture. There are numbers of different kinds of cloth that will serve the purpose, but the cloth selected should be of such a nature as not to show a shiny surface in the finished picture. Black tape or other dark material is sewed into place in the form of strips wherever black lines are desired. For instance, (refer to clown in Figure 1) the black shown just above the eyebrow and representing the bottom line of the cap, is obtained by sewing or otherwise securing a strip of black tape around the bottom edge of the cap. The line starting under the chin and running down the center of the coat, is obtained by sewing a strip of black tape on to the white material of the coat. The same principle applies to all other lines shown in the drawing of the clown.

If the performer or actor so made up were to stand in front of a background made of the same shade of material as that in the costume and the lighting so arranged as to eliminate all possible shadows, the result would be exactly the same as shown in Figure 2. The outline of the clown would be scarcely discernible while the black tape which has been sewed on to the costume and the black substance applied to the features of the performer would stand out quite clearly when photographed.

The picture illustrated in Figure 1 is obtained by the actor or performer made-up in the manner heretofore explained, being photographed against a dark background of preferably black velvet. It is evident that whether the clown is facing the camera or standing with his profile towards the lens, the outline of his figure and the black lines made by the tape and substance used in the make-up of facial expression will appear clear and sharp when photographed.

This principle of making up the actors and designing the costumes also applies to any other or all objects it may be desired to photograph. For instance, in the case of the musical instrument which the clown is holding, this instrument is painted a pure white, or if the costume is of a yellow tint, the instrument is painted to match the same. Black lines are then painted wherever they may prove to advantage in bringing out the line-drawing effect in the completed picture.

A silhouette effect similar to the one illustrated in Figure 3 can be obtained by making the costume of black material. The cloth in the costume should be of the same material as used for the background, black velvet being the most suitable material for obtaining a perfect black in producing moving pictures. The face, hands and the musical instrument are made-up in exactly the same manner as heretofore explained in connection with the picture of the clown in Figure 1. White buttons upon the coat and white tape to carry out the effect of the cuffs add to making the silhouette more effective.

Figure 4 illustrates a very novel effect which may be obtained by arranging the background or stage setting as follows: A space is marked off upon the stage corresponding in size to the room it is desired to use as a setting. Three walls representing the side walls of the room are now set into place. These walls may simply consist of a wooden framework covered with black velvet or other suitable material. Black velvet is now laid upon the floor. If a door or window is desired in the picture, it is cut out and properly held in place by suitable framework. Supposing it is desired to show a background through the doorway or window, it is an easy matter to arrange a curtain or frame covered with velvet a few feet

back of the door or window. The design of the background can be cut out of cardboard, cloth or other suitable material and fastened onto the velvet. If the action of the performer does not call for the use of a door or window, that is, if the performer does not enter the scene through the door, or has no special action calling for the door or window being cut out of the wall of the room, it simply remains to design the door or window and background seen therethrough directly upon the velvet used for the wall of the setting. The white line representing the outlines of the walls may be obtained by fastening white tape to the black velvet. Pictures, furniture or other stationary objects in the scene, are painted and designed to carry out the impression of a line-drawing.

The figure of the actor or performer illustrated in Figure 4 is made-up in quite the same manner as the clown illustrated in Figure 3, only in Figure 4 the face of the actor is first blackened and white make-up substance applied to the eyes, nose, mouth, etc.

While I have adhered to the white lines upon black in describing the arrangements employed in making the picture illustrated in Figure 4, it is possible to obtain a novel drawing effect by using the reverse in color arrangement, that is, black lines upon a white background.

In the description herein made of the arrangement in connection with Figure 4 of the accompanying drawings, I have described a method by which a stage setting of the interior of a room may be made in order to obtain line-drawing effect in a moving picture. I do not desire to hold this arrangement exclusively to the producing of interior scenes, as it is evident that any number and styles of scenes may be arranged in like manner.

Figure 5 shows how an outdoor scene may be made from a white background with black lines. The lower dark background in this figure shows that a figure of the type here illustrated, is adaptable for use with either a light or dark background.

It should be understood that either background shown in Figures 4 or 5 is adapted for either indoor or outdoor views, and that the different kinds of outline for the figures shown are all regarded as within the scope of this invention. This invention is also capable of being applied to inanimate objects as well as living actors, which when photographed and reproduced on the moving picture screen may be made to simulate line drawings. It should be understood that the objects illustrated in all the figures are capable of use with a background such as shown in Figure 4.

It will be understood that the terms animated cartoon, caricatures and line drawings, as used in this application, refer to such as are most frequently seen in the moving picture art today, and do not include those drawings known as silhouettes wherein the outline and entire surface of the object is of uniform and dark color.

I claim:

1. The process of producing moving pictures which comprises photographing objects in front of a dark background, portions of said objects being white or light colored with only the outline of distinctive features thereof blackened or darkened whereby upon projecting the photographed objects upon a screen they will appear substantially as line-drawings representing caricatures or cartoons.

2. An article of manufacture for use in the production of moving pictures comprising a background formed of dark material having lines thereon in white or light colored material delineating the essential characteristics of the outline of a scene or structure, whereby to form the background of the completed picture so as to give the picture the appearance of a line-drawing.

3. An article of manufacture for use in the production of moving pictures before dark backgrounds comprising an object, a portion of which is formed of white or light colored material with the shapes of various surfaces of the object which determine its characteristics outlined with dark material, photographs of which when projected upon a screen will appear as line drawings or caricatures.

4. An article of manufacture for use in the production of moving pictures comprising backgrounds of a given color, a costume, a portion of which is formed of material substantially the same color as the background with the shapes of various surfaces of the costume which determines its character outlined with colored material contrasting in color to that of the background, photographs of which when projected upon a screen will appear as line drawings or caricatures.

5. The process of producing animated cartoons, which comprises covering a three dimensional object in a uniform shade or color, outlining the distinctive features and boundaries of said object with colored lines in contrast to the covering of the object and photographing said object before a background having substantially the same actinic value as the covering of the object for reproduction in moving pictures.

6. The process of making living actors appear as line drawings or caricatures which comprises covering the actor in a substantially uniform shade and outlining only the distinctive features with lines in contrast to the uniform shade of the covering to indicate the shape thereof and photographing

said actor before a background having substantially the same actinic value as his covering.

7. The process of producing animated caricatures or line drawings which comprises covering a living actor in white delineating the shape of the principal features in contrast to the white and photographing the actor in front of a background in strong contrast to the white.

8. The process of producing moving pictures simulating animated cartoons consisting in producing by photography upon a moving film and before a background having a determined actinic value, a series of pictures of a living actor whose clothing possesses substantially the same actinic value as that of the background, the characteristics of the costume and features of the actor to be delineated being indicated by lines having an essentially different actinic value from that of the background.

9. The process of making animated cartoons or line drawings which comprises covering a living actor in white, delineating the principal features and boundaries of his face and costume with black lines to resemble a line drawing and photographing the actor before a white background.

Rochester, N. Y., June 23, 1919.

FRANCES S. LEDERER,
Administratrix of the estate of Carl F. Lederer, deceased.