

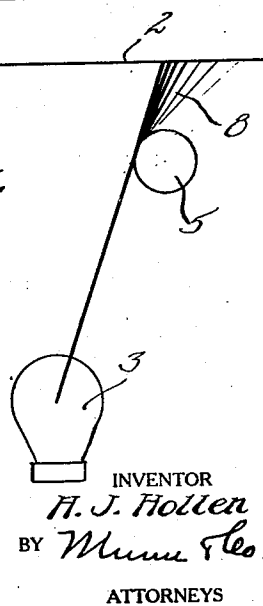
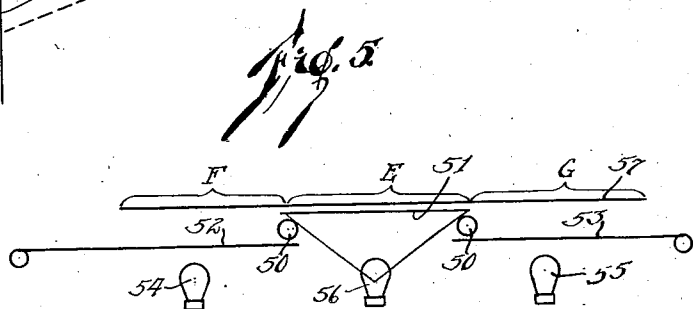
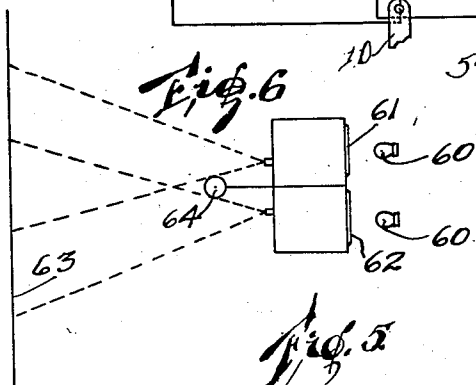
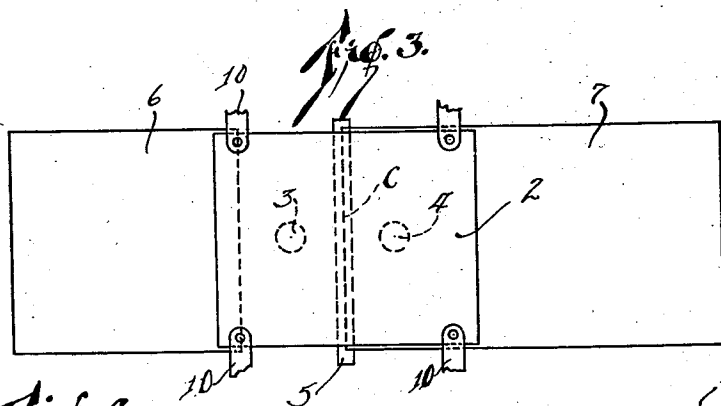
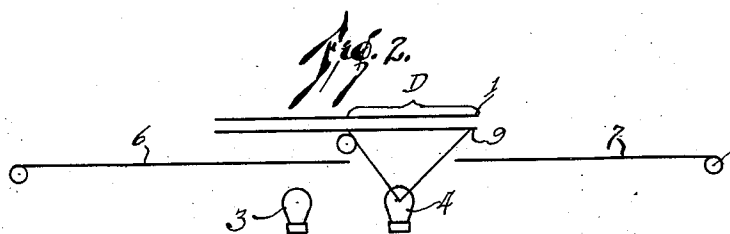
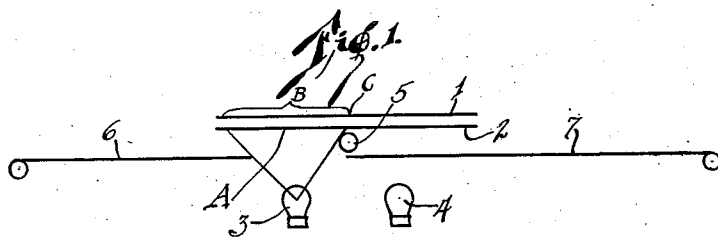
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H. J. HOLLEN

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PHOTOGRAPHIC PROCESS

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PHOTOGRAPHIC PROCESS

Application filed November 9, 1925. Serial No. 67,965.

My invention relates to improvements in photographic processes, and it consists in the steps hereinafter described and claimed.

5 An object of my invention is to provide a process by means of which the light passing through two or more negatives of an object photographed from different positions, may form on a sensitized plate a single blended composite picture.

10 A further object of my invention is to provide a process for the purpose described, in which the blending is accomplished by the gradual fading out of the light passing through the negatives in the region where the blending occurs, whereby a composite picture is made, without showing dark or light lines in the blended area.

15 A further object of my invention is to provide a process for producing a composite picture, in which a greater portion of the object appears in the composite picture than appears in any single negative.

20 Other objects and advantages will appear in the following specification, and the novel features of the invention will be particularly pointed out in the appended claims.

25 My invention is illustrated in the accompanying drawings, forming part of this application, in which

30 Figure 1 is a diagrammatic view showing one step in the process,

Figure 2 is a similar diagrammatic view showing another step,

35 Figure 3 is a diagrammatic plan view of the apparatus shown in Figure 1,

Figure 4 is a diagrammatic view illustrating the manner in which the rays of light fade out on certain portions of the sensitized plate,

40 Figure 5 is a diagrammatic view showing how three or more negatives may be printed on one sensitized surface to produce a single composite picture, and

45 Figure 6 is diagrammatic view showing a modified form of apparatus for carrying out the process.

Referring now to Figure 1, the sensitized plate is shown at 1. Below the negative 2, in the example shown in Figure 1, I arrange two sources of light 3 and 4. Between the

negative 2 and these sources of light 3 and 4 I place what I call an eliminator 5, which eliminates or cuts off some of the rays of light, as described hereinafter. This eliminator is preferably an opaque cylindrical rod 55 which extends across the negative, as shown in Figure 3. I have found that a cylindrical rod is best for the purpose, although an object of a different form, such as a rod of square cross section, or even a flat strip, may be used. The best results, however, as stated, are obtained with the cylindrical rod. At 6 and 7, I have shown screens. These screens may be of any suitable form, but are preferably curtains which may be rolled up on 65 rolls 11.

To produce a composite picture, I proceed as follows: Assume that it is desired to produce a picture of an object, say a phonograph cabinet, in which it is desired to show a direct front view, in order to represent the ornamental features in symmetrical proportions, and at the same time to have the picture show a portion of the side. Two negatives are made, one from directly in front, and the other from a different angle, so as to include a portion of the side. The first negative is designated by the numeral 2 in Figure 1, the second negative by the numeral 9 in Figure 2.

In Figure 1, the sensitized sheet 1 and the negative are placed together, being centered by any suitable means. In the drawings the sensitized sheet and the negative are shown spaced apart, but this is for purposes of explanation only.

85 The first step is to print part of the sensitized sheet by light through part of one of the negatives. In order to accomplish this, I screen a part of the sensitized sheet 1, say the right hand part, by the screen 7. The screen 6 is moved to permit light from the source 3 to pass through the left hand part of the negative in Figure 1, so as to print the left hand half of the sensitized sheet, i. e., that portion marked B. When the eliminator 5 is in position, the light from 4 is turned off, while that from 3 is turned on, and the negative is printed a definite length of time. Now I have found that with a cylindrical opaque eliminator placed as shown in the drawings 100

and spaced from the negatives to a certain distance, depending upon the size of the eliminator and the position of the source of light 3, there will not be a sharp line toward the center of the negative, but that the light will gradually fade out, as shown in Figure 4, in which the rays are indicated at 8. In other words, the rays appear to bend around the eliminator and to decrease in intensity toward that side of the screened portion of the negative and the sensitized surface. After sufficient exposure, the light is cut off.

The second negative 9 is now placed in position with the sensitized sheet above it, the screen 6 is moved to screen the light from the left hand side of the negative, and the source of light 3 is cut off, while the source of light 4 is turned on to print the right hand side of the sensitized sheet, designated at D in Figure 2. The rays of light from the source 4 pass around the eliminator 5 and fade off in precisely the same manner as that already described. After exposure has been made, the light is then cut off.

The result is a composite picture in which, in the instance given, the central portions have two exposures, while the side portions have one exposure. The position of the negative with respect to the sensitized plate is of course accurately fixed by any suitable apparatus. In order to do this, it is generally preferable to take some predominant object near the center of the picture, and bring the negatives into registration prior to placing them in printing position, so that when they are afterwards individually placed, these central predominant portions will register when the negatives are printed individually, as described. This will cause a very accurate blending, so that no effects of double exposure are observed in the composite picture.

The advantages of a composite picture may be at once understood. Consider the case of a small room or store, where it is desired to show as much of one end as is possible. If the camera is set in one corner, the diagonally opposite corner and the opposite wall may be shown up, but the wall forming the corner in which the camera is set may be out of sight or only a portion of it showing. If the camera is moved over and the second exposure taken from the opposite corner, and the composite picture printed, both side walls may be shown from a distance no greater than that in which each separate picture was taken. Similarly, the front and the two sides of a building may be taken and successfully shown in one composite picture.

I do not limit the process to merely taking views from different angles and combining them. The process is applicable to views taken from different positions. Assume that it is desired to take a group picture, say, of school children arranged along the side of a building. Three or more different negatives

may be taken from different positions, and these may be printed into a composite picture which is blended so that it appears as if it were one picture.

In Figure 5, I have shown how the process might be carried out with pictures taken from three positions. The negatives are printed as already described. In the present instance, however, I use two eliminators 50. The view illustrates the printing of the second negative 51. The screens 52 and 53 have been moved to cover the outer portions F and G of the sensitized plate or surface. The sources of light 54 and 55 have been cut off, while the light from 56 is printing the central portion E and, at the edges, is being faded out by the eliminators 50.

Since the main feature of the invention is the printing from different negatives to form a composite picture, it may be done by any apparatus in which light is passed around an eliminator. The sensitized sheet may be a sensitized plate in a camera. In my copending application, Serial No. 565,510, filed June 3, 1922, I show a camera which makes use of my improved process. The process is applicable to any apparatus which will carry out the steps above described.

The process may be effectively used in motion picture work. In this case, of course, projection is made through positives instead of negatives, and the projection is on a screen instead of a sensitized surface. Thus in Figure 6 the sources of light are indicated at 60; the two film strips at 61 and 62, respectively. These are taken from different angles and the projectors cast the image upon the screen 63. The eliminator or blender is shown at 64 and it will be observed that there is a section upon the screen upon which the images overlap and which are caused to blend by the gradual decrease of light from the outer edges to the center of the overlapped area. Since the projection through the positive is carried out by precisely the same steps as the projection through the negative, the positive may be substituted for the negative, without departing from the spirit of the invention in the least. Therefore, in the foregoing specification, where I have used the term "negative", it will be understood that this term is intended to include the term "positive" in lieu of the generic term to cover both.

I claim:

1. The herein described process of producing blended images from photographic pictures taken from different positions, which consists in projecting light through two or more negatives simultaneously upon an image-receiving surface, certain portions of the light projected through one negative overlapping that projected through another adjacent negative and simultaneously causing a decrease of the intensity of light from the

outer edges of the overlapped area to the center thereof.

2. The herein described process of projecting blended images from photographic pictures taken from different positions, which consists in projecting light simultaneously through two or more positives or negatives upon an image-receiving surface, certain portions of the light projected through one negative or positive overlapping that projected through another adjacent negative and positive and simultaneously causing a decrease of the intensity of light from the outer edges of the overlapped area to the center thereof.

HENRY JOHN HOLLEN.