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APPARATUS FOR MAKING MEDLEY PICTURES

Filed April 25, 1930

2 Sheets-Sheet 1

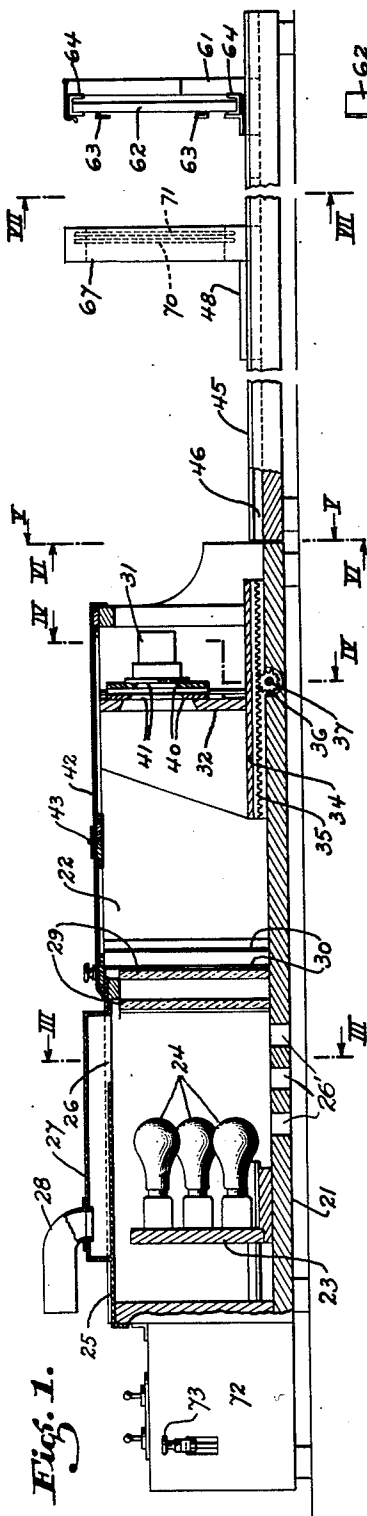


Fig. 1.

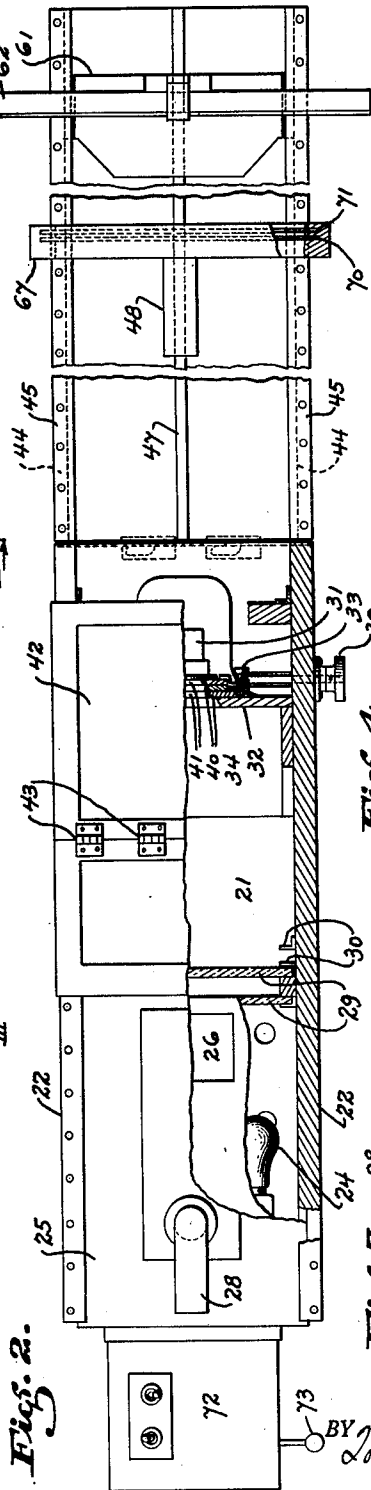


Fig. 2.

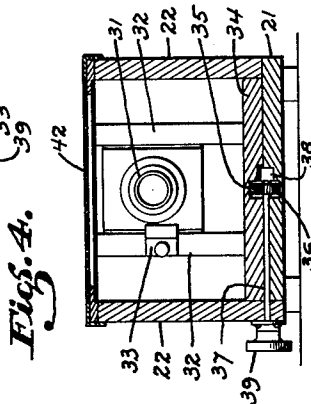


Fig. 3.

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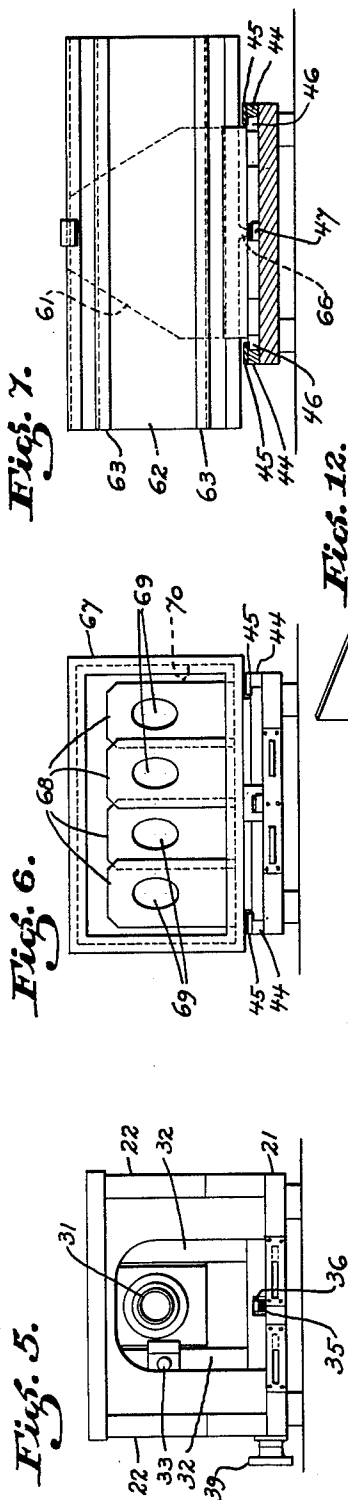
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APPARATUS FOR MAKING MEDLEY PICTURES

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2 Sheets-Sheet 2



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APPARATUS FOR MAKING MEDLEY
PICTURES

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Application April 25, 1930. Serial No. 447,206

5 Claims. (Cl. 88—24)

This invention relates to the making of medley pictures or photographs, that is, a group of separate and distinct pictures of different poses of the same or different persons on the same sheet of photographic paper.

The usual method of procedure in making pictures of this type is to obtain a series of negatives of different poses of the subject, or, if desired, of different subjects, each on a separate photographic plate or film, each plate or film being exposed as is usual in the present day photographic studios by removal of the lens cap manually, or by manual manipulation of a shutter actuating means, for a length of time to be determined according to the skill and practice of the photographer, whereupon the negatives so exposed are developed in the customary manner, such negatives then being printed as positives one at a time upon a sheet of photographic paper, on which each of the pictures occupies the space assigned to it, the printing time for each picture also being determined by the skill and practice of the photographer. The negatives made as described above vary considerably as to their intensity and therefore each requires a different duration of exposure in making the positives therefrom on the medley picture and, as a result, it is quite a problem for the photographer to produce a medley picture wherein the different views are all of the same intensity. It is now common practice to predetermine the duration of exposure both in the making of the negatives and in the making of the medley positive in a more or less arbitrary manner and to repeat the medley process until a final product is obtained more or less by chance wherein the different views are of about the same intensity. Many unsatisfactory medley views are thus produced for each one that is satisfactory, with the result that a great deal of time, labor and material is wasted.

My invention eliminates such waste by the proper standardization of the various photographic conditions such as intensity of light, duration of exposure, and the like, by automatic controls, whereby errors due to the human element entering into the process are minimized or eliminated.

The first step in my process is somewhat similar to the taking of moving pictures in that the subject need not be rigidly posed but may move naturally, and at the proper moment the operator, who need not be an expert photographer, sets the mechanism into operation by the mere closing of the switch, whereby a series of poses

of the subject is photographed, each so remote from the other as to time that the poses will be distinctly different, each exposure being of exactly the same duration as the others so that the negatives when developed together in the same bath and under exactly the same developing and fixing conditions will be exactly of the same intensity. The mechanical means for making the exposures as aforesaid are described and claimed in my applications Serial Number 447,207 filed April 25, 1930, and Serial Number 545,048 filed June 17, 1931, and need not be described further herein other than to say that according to one of said inventions a photographic plate or film corresponding thereto is moved closely adjacent an aperture considerably smaller than the plate, whereupon the part of the plate behind such aperture is exposed; the plate or film is then removed to bring another part thereof behind said aperture, whereby the second portion of the plate is exposed; and this process is repeated until sufficient exposures have been made on the plate or film or until the same has been practically completely exposed, the movement of the plate and exposure being accomplished automatically and for the same duration of time; while in the other of said inventions a roll of film is passed by an aperture and closely adjacent thereto, the exposures being made at the proper time and all of the same duration. It is apparent that the negative images made by my process will all be of exactly the same intensity.

The various images on the plate or film, and in this process I preferably use, for obvious reasons, roll films and films of plate size rather than glass plates covered with the usual photographic emulsion, are then separated from each other as by cutting the film with a scissors, so that the images desired for the medley may be separated from the other images. The chosen negatives are then assembled in a frame provided with a number of apertures corresponding to the number of images desired in the medley, such apertures being also positioned relatively to each other as desired in the finished medley, and they are then printed as positives upon the photographic paper, which is to comprise the completed medley of pictures, this printing being done simultaneously and under the same conditions of operation for each, whereby the intensity and degree of enlargement (if the pictures are enlarged) is exactly the same for all images.

On the accompanying drawings forming a part hereof, I show the means I may use for the

printing or enlarging of the separated chosen negative images into the positive medley.

Fig. 1 is a longitudinal vertical section of such apparatus,

5 Fig. 2 is a top plan view thereof, partly in section,

Fig. 3 is a vertical cross section taken on the line III—III of Fig. 1 in the direction of the arrows,

10 Figs. 4, 5, 6 and 7 are similar views taken on the lines IV—IV, V—V, VI—VI and VII—VII, respectively, of Fig. 1 in the direction of the arrows,

Fig. 8 is a perspective view of the frame for supporting the negative-holding card,

15 Fig. 9 is a sectional view on the line IX—IX of Fig. 8 in the direction of the arrow,

Fig. 10 is a perspective view of the glass plate which may be used in connection with the means for holding the negatives,

20 Fig. 11 is a perspective view from the front of a card for holding the negatives,

Fig. 12 is a perspective view from the rear thereof,

25 Fig. 13 is a cross section of a negative-holding card,

Fig. 14 is a view of a modification thereof,

Fig. 15 is a face view of a negative-holding card having a different arrangement of apertures.

30 My invention comprises a casing having a bottom member 21 and side members 22. Suitably supported within this casing, as by means of the back board 23, is a source of actinic rays, such, for example, as a bank of eight 100 watt lamps 24 having a tungsten or other filament operating at suitable temperature. The top of this light compartment is closed by a cover 25 having an aperture 26 therein, over which is the cover member 27 having an opening or flue 28 therein not adjacent the aperture 26, so that the air heated by the lamps 24 may pass out of the casing as it flows upwardly through openings 26' and across the light path. The various parts heretofore described will, of course, be of light-proof material and it will be obvious to those skilled in the art that many of the parts to be described hereinafter should also be of light-proof material.

45 Suitably supported within the casing are one or more plates 29 for diffusing the light emanating from the lamps, these plates being well known in the photographic art. I provide bracket members 30 for suitably supporting the negative holder which is slid down between them while ahead of the negative holder I provide the usual lens 31 which is adjustable vertically in a framework 32 to which it may be held in fixed position by a clamp 33. The framework 32 is supported on a carriage 34 carrying a rack 35 meshing with a pinion 36 on a shaft 37 having bearings 38 in the frame and operable manually by means of a nut 39 so that the lens may be moved forwardly or rearwardly. I prefer to have the lens 31 mounted on a frame consisting of spaced plates 40 having apertures 41 therein opposite the lens, the spaced plates providing an air space between them open at the top and bottom for the purpose of ventilation to prevent sweating of the lens due to changes in temperature. The lens compartment may be closed at the top by means of a cover 42 made of two sections connected by a hinge 43. I prefer to have the top section or at least a part thereof made of material which will permit red rays to pass therethrough, but which will not permit actinic rays to pass therethrough, so that there may be sufficient illumination adjacent the

device for the photographer to be able to see without affecting the light-sensitive paper in the paper holder or, in fact, anywhere in the room.

Ahead of the lens I provide means for supporting a holder for the photographic paper and also for supporting the vignetter, which is frequently used, between the paper and the lens. On the base of the machine I provide strips 44 over which are wider strips 45 forming an undercut 46, in which the bases of the paper holder and of the vignetter are slidable forwardly or rearwardly, and I may also provide a central track 47 which is accommodated in a longitudinal central groove in the paper holder support and in the extended base portion 48 of the vignetter. It will thus be apparent that the lens, the vignetter, and the paper holder are adjustable with respect to each other and to the negatives to be printed or enlarged.

95 The plate holder comprises a frame 49 in the back of which is an aperture 50, against which a glass plate 51 is positioned, this glass plate being a little larger than the aperture in order to prevent it falling therethrough.

A negative holder 52 is located next to this plate with the negatives preferably in contact therewith, whereby the negatives, if they are flexible, as in the case of films (and films are preferably used) are held flat. The upper part of the frame is provided with a downwardly projecting ledge 53 which may also serve as a handle member for taking hold of the frame. The glass plate and the negative holder are inserted in the frame with their top edges behind the ledge, whereupon the bottoms thereof are placed in the frame where they are held in place by an arm 54 pivoted to the frame as at 55 and having an upward projection 56 thereon to abut against the lower part of the negative holder.

115 The negative holder 52 is made of a sheet of material having a series of perforations 57 therein and the negatives are suitably held against this material, one at each perforation. The sheet of material of which the negative holder is made may be of metal having clips 58 soldered, or riveted, or otherwise suitably attached thereto, preferably along the upper and lower sides of each opening, so that the particular negative chosen may be slid into place between such clips and the plate, thus leaving the greater part of the film exposed through the opening. For some purposes it is frequently desirable to file away the negatives used for making the medley picture and for this purpose I use a negative holder 59 made of cardboard and provided with the apertures previously described, and I may use small pieces 60 of gummed or adhesive tape for attaching the negatives in place on this cardboard holder. I furthermore provide on this cardboard holder suitable indicia, whereby the negative holder with the negatives thereon may be suitably filed away and, if desired, as a card in a card filing system. I prefer to have the series of negative holders 52 with the perforations 57 therein arranged in different styles corresponding to the styles of arrangement of the pictures in the medley, one such arrangement being illustrated in Fig. 11 and another in Fig. 15.

145 Adjacent the fore end of my device is a frame 61 for carrying the paper holder, this frame being slidable in the undercuts or grooves 46. The paper holder comprises a board or sheet of material 62 provided on one side with overhanging clips 63 and on the other side with similar clips 64, the clips 63 being adapted to hold a nar-

lower sheet of photographic paper which may be slid between them and the board 62; while the clips 64 are adapted to accommodate in like manner a wider strip of photographic paper.

5 The paper holder is suitably positioned against the frame 61 and held in place by a hinged spring clip. Either side of the paper holder may be turned toward the lens, depending upon the width of the photographic paper to be exposed.

10 In order to position the paper holder centrally of the frame 61, I provide a lug at the lower edge of the paper holder and centrally thereof, which is accommodated in a corresponding groove in the bottom of the frame.

15 Similarly mounted to slide in the undercut 46 is a vignetter holder 67 for holding a series of vignettters 68, each of which is provided with an opening 69 having irregular or serrated edges, as is well understood in the photographic art. The vignetter frame 67 is provided around its edges with parallel grooves 70, 71 so that the vignettters 68 can be easily positioned to stand in these grooves and overlap each other as shown on Fig. 6.

20 The vignettters may be of any suitable size, as may the openings therein, and such openings may be positioned as may be desired in the vignetter and, in fact, I prefer to have a series of vignettters with the openings in different positions thereon so that the vignettters may be made up into sets as desired.

Inasmuch as the plates or films carrying the negative images were automatically exposed, each for the same predetermined duration of time, and the developing conditions were the same for each, whereby the negatives are each of the same intensity, and inasmuch as I have provided the means for exposing the photographic paper in such manner that all the positive images thereon will be of the same intensity, I provide a means for insuring that the intensity of such positive images will be of the proper degree. For this purpose I provide a timing device comprising a movable member, the movement of which causes current to be supplied to the lamps 24, this kind of device being of such a nature that the current to the lamps will be discontinued automatically by this timing device a predetermined time after the current is first supplied to the lamps. After having once determined the proper length of exposure of the photographic paper under the standard printing or enlarging conditions, and having set the timer for such duration of exposure, all that it is necessary for the operator to do to obtain the proper exposure of the photographic paper is to move the movable member and the timer will then cause the lights to burn for the predetermined period of time. I therefore use in combination with the rest of my device, a timer 72 having a manually movable operating member 73. My timer is described in detail and claimed in my co-pending application Serial Number 447,207, filed April 25, 1930, and need therefore not be further described herein.

35 Many modifications may be made in the form of my invention shown on the drawings and described herein without departing from the spirit thereof, since I have described the preferred embodiments with the intention that such description and illustration shall not be considered as a limitation of the invention.

40 Having described my invention, what I claim and desire to secure by Letters Patent of the United States is—

75 1. In a device of the type described, a timer, a source of light, a holder for a series of negatives

comprising a sheet of imperforations therein, one for each negative, means to hold each negative at an opening, a lens, a vignetter comprising an opaque sheet having a series of openings therein, one for each negative, said openings in said vignetter corresponding in position to said openings in said negative holder, and means to hold a photographically receptive medium.

2. A device of the type described comprising a base member, a lamp house at one end thereof, a source of light therein, a plate holder at the opposite end thereof and adjustably mounted to move longitudinally of the base toward and away from the lamp house, a projecting lens mounted upon the base intermediate the lamp house and the plate holder, means for adjustably moving the lens longitudinally of the base and inversely toward and away from the lamp house and the plate holder, diffusing plates interposed between the source of light and the lens and a film holder adapted to support a series of negatives at a point between the diffusing plates and the lens and in the path of travel of the beam of light from the lamp house whereby a series of photographic images will be produced simultaneously upon a photographic plate supported by the plate holder, and a vignetting frame mounted for longitudinal movement upon the base and at a point intermediate the lens and the plate holder and through openings in which the separate beams of light which have passed through the separate negatives will pass.

3. A device of the type described comprising a base member, a lamp housing at one end thereof, a source of light therein, a plate holder at the opposite end thereof and adjustably mounted to move longitudinally of the base toward and away from the lamp house, a projecting lens mounted upon the base intermediate the lamp house and the plate holder and in focus with a photographic plate carried thereby, means for adjustably moving the lens longitudinally of the base and inversely toward and away from the lamp house and the plate holder, diffusing plates interposed between the source of light and the lens and a film holder including an opaque mat having openings therethrough and adapted to support a series of negatives disposed over the various openings, the holder being positioned at a point between the diffusing plates and the lens and in the path of travel of the beam of light from the lamp house whereby a corresponding series of separate photographic images will be produced simultaneously upon a photographic plate supported by the plate holder, and means creating a transverse current of cooling air across the beam of light and at a point between its source and negative holder.

4. A device of the type described comprising a base member, a lamp house at one end thereof, a source of light therein, a plate holder at the opposite end thereof and adjustably mounted to move longitudinally of the base toward and away from the lamp house, a projecting lens mounted upon the base intermediate the lamp house and the plate holder, means for adjustably moving the lens longitudinally of the base and inversely toward and away from the lamp house and the plate holder, diffusing plates interposed between the source of light and the lens and a film holder adapted to support a series of separate negatives at a point between the diffusing plates and the lens and in the path of travel of the beam of light from the lamp house whereby a set of photographic images will be produced simultane-

ously and separately upon a photographic plate supported by the plate holder, and mounting means for said lens permitting it to be shifted in any direction in a single vertical plane to focus the lens with relation to the series of negatives.

5. A photographic enlarging device comprising a base structure, a source of light at one end thereof, means for diffusing the light, an enlarging lens through which light from the diffusing means passes, a negative holder disposed between the diffusing means and the lens and including an opaque film having a plurality of openings therethrough disposed in prearranged relationship to separately receive photographic negatives and through which negatives light from

the diffusing means may pass to the lens, a plate holder carrying a photographic plate against which the beams of light from the lens may be projected, a vignetting screen disposed between the plate holder and the lens, said screen having openings corresponding in number and arrangement with the negatives carried by the negative holder, means for focusing the lens with relation to the negative holder, vignetting screen and plate holder, whereby the images of the negative will be simultaneously projected upon the plate in proper focus, and means for adjusting the vignetting screen so that the beams of light from the several negatives will be properly projected through the openings in said screen.

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