Nov. 5, 1935. F. H. KRUG 2,019,498

METHOD AND ATTACHMENT TO PHOTOGRAPHIC ENLARGING MACHINES FOR MAKING PICTURES

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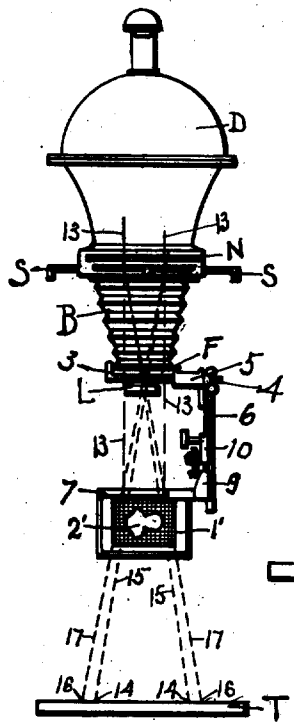


Fig. 1.

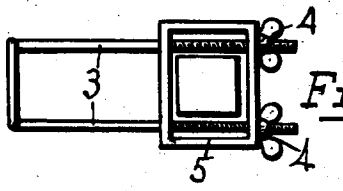


Fig. 5.

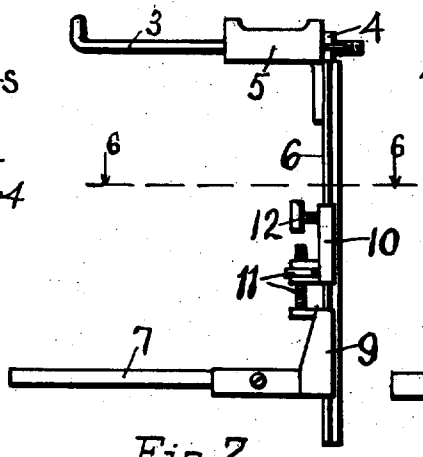


Fig. 2.

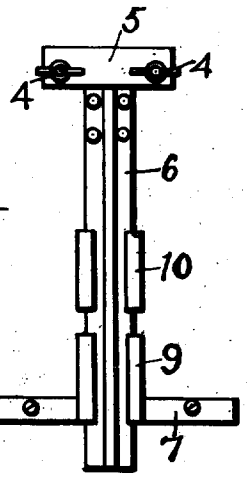


Fig. 3.

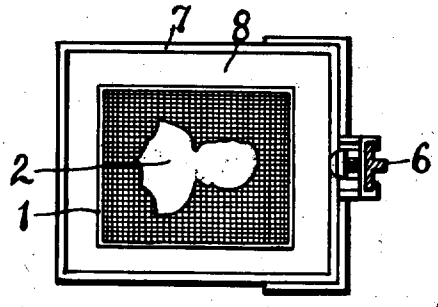


Fig. 6.

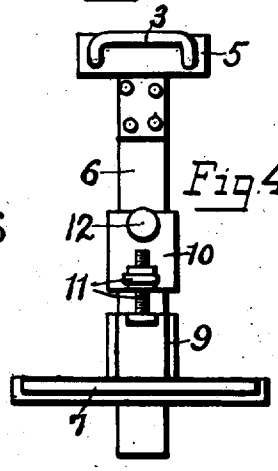


Fig. 4.

Frederick H. Krug, Inventor,

By Geo. W. Ballard, Attorney

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METHOD AND ATTACHMENT TO PHOTOGRAPHIC ENLARGING MACHINES FOR MAKING PICTURES

Frederick H. Krug, Tacoma, Wash.

Application October 5, 1933, Serial No. 692,290

10 Claims. (Cl. 88—24)

This discovery and invention pertains to a method in the photographic art whereby pictures of persons, figures and other objects can be produced with a pure paper white background. It more particularly pertains to blending out the background of the picture in such a way as to make it possible to make pictures of persons, figures and other objects from negatives made with a regular studio background into a picture with a pure paper white background, or with the background blended out of the picture. This invention further pertains to a device that can be attached to any kind of auto-focus enlarger, which when thus equipped, will produce this natural and artistic picture with one simple operation.

The main object, therefore, of this discovery and invention is to produce a method and a process for producing photographs of persons, figures and objects of any kind with a pure paper white background with a margin softly blended into the paper white background and thus secure a natural and pleasing picture.

In order to utilize this newly discovered method, a further object of the invention is to produce an adjustable device that can be attached to any auto-focus enlarger whereby the same can be used to print pictures of any form and size with a pure paper white background with a softly blended margin as described, and do the same with one simple operation and with the same precision as pictures have heretofore been made.

I attain these and other objects by means of the method hereinafter described, and by the apparatus illustrated in the accompanying drawing, in which:—

Figure 1 is a front view of the operative parts of an auto-focus enlarger equipped with the adjustable device, and through which the operation of my newly discovered method and process is accomplished the mask and its supporting frame being shown turned through a right-angle from its true position into a vertical position, instead of a horizontal position.

Fig. 2 is an enlarged view of the adjustable device.

Fig. 3 is a side view of Fig. 2 looking to the left.

Fig. 4 is a side view of Fig. 2 looking to the right.

Fig. 5 is a top view of the upper part of Fig. 2; and

Fig. 6 is a top view of the lower part of Fig. 2 from the line 6—6.

Similar parts are indicated by similar characters in each of the several views.

Ever since development paper came into general use, photographers have been trying to find a simple method whereby they could make what was then called vignettes. They were made under a slow printing process on what was called printing out paper at that time, but up to the present time nothing has been discovered that is considered practical. It was while experimenting with a view of making a vignette with a paper white background, that I, accidentally, as it were, discovered a method that would solve the problem. By continued experiment, the method has been perfected and the adjustable device that can be attached to any kind of auto-focus enlarger has been invented. Equipped with this device, any photograph enlarger can be operated as hereinafter described and be made to produce pictures with a softly blended margin with a pure paper white background.

This newly discovered method and process will be described and illustrated by referring to the drawing, in which Fig. 1 represents the operative parts of an auto-focus enlarger now universally used in all photographic studios. It is a machine of commercial manufacture and consists of a light dome D in which is contained an electric light surrounded by an internal light reflector; a negative holder N, a lens L, a bellows B, and a print paper table T'. Preparatory to printing pictures with this machine, a negative is inserted in the holder N, and the auto-focus enlarger is raised or lowered as required to project the size of photograph desired, and the printing of portraits or other pictures begins.

My newly discovered method of making photographs with a pure paper white background is accomplished by taking the negative from which a picture is to be printed as above described, and printing a contact proof or print therefrom, and then cutting out the image or object as desired for the said picture, as shown at 1 in Fig. 6. It will be seen and is to be observed that the mask thus produced is an individual or personal mask through which one or more pictures can be printed consecutively, and can only be used for making pictures from the negative from which the contact proof or print mask was made. By supporting this mask in a suitable position and in central alinement between the lens L and the center of the table T, a picture will be printed with a paper white background of the size desired, but with a soft blended margin be-

tween the picture and the paper white background.

Preparatory to explaining my new method of printing pictures I will describe the apparatus. The adjustable device is attached to the square frame F about the lens L by means of a U-shaped clamp rod 3 whose base is upturned at right angles and whose legs are screw-threaded and provided with thumb nuts 4—4 for clamping the same. These screw-threaded ends pass through a rectangular clamping and extension frame 5, against which the said nuts 4 press to clamp the frame F between the frame 5 and the said upturned base of the U-shaped rod 3, as will be seen in Fig. 1.

A vertical suspension bar 6 extends downward from the outer side of the said frame 5 and is adapted to adjustably support a horizontal frame 7 fitted with a clear glass 8. A sliding member 9 on one end of frame 7 engages the bar 6 and is adjustably attached to a similar sliding member 10 by means of a thumb screw shaft 11. The sliding member 10 is designed to be set in any desired position on the bar 6 by a set thumb screw 12.

It is obvious that this attachable and adjustable device is designed to support mask 1 in the position desired between the lens L and the print table T. The device being attached, the negative is placed within the holder N and the auto-focus enlarger is raised or lowered to project the size of picture desired.

The mask 1 is placed on a piece of glass (not shown) smaller than the glass 8 and fixed thereto with strips of scotch tape or other suitable means. This smaller glass, with the mask attached to its lower side, is placed on top of the glass 8 within the frame 7, thereby holding the mask between the two plates of glass, and is adjusted by sliding it horizontally on the said glass plate 8 till the mask is in alinement with the negative image. The slides S—S, common to auto-focus enlargers, are adjusted to cut out the light to the desired size of picture.

All is now in readiness to proceed with the making of photo prints with a softly blended margin with a paper white background. The lights in the dark room are to be turned out and the red light on the enlarger turned out, also, to give the operator better vision. The diaphragm, common to enlarger lenses, is then closed. The light on the enlarger is then turned on and the mask 1 inspected to see that it is in perfect alinement with the image. The adjustable supporting frame 7 is then raised or lowered until the cut-out part of the mask fits accurately just within the lighted area falling thereon from the negative, leaving a very slight trace of light just touching the inner margin of the mask 1.

If the diaphragm of the lens L is now opened to the position used in making an actual print, it will be seen that a distinct halo becomes visible to the eye, which on the inner margin of the mask will be about one-sixteenth to one-eighth of an inch wide, and on the outer margin of the image on the print holder T, will be about one-half to three-fourths of an inch wide. The print paper is then placed on the print table and exposure is made, the time required being dependent on the speed of the projection paper used. The work of printing pictures can now proceed in the same manner as in printing ordinary photographs.

It is by the newly discovered method and process which I have herein described and shown, that I am able to produce photographs with a softly blended margin with a paper white background. To the photograph made by this useful, easy and practical method, I have given the new and fitting name, haloette.

The physical principle of the printing operation by which the newly named haloette print is produced, will be described by again referring to Fig. 1, where the mask 1 is shown in miniature projected into the vertical plane at 1' with its open figure 2'. Vertical lines projected upward from the extreme ends of the opening 2' indicate the size of the negative image in the holder N, as indicated by the broken lines 13—13. Before the diaphragm in the lens L is opened, the rays of light projected through the extreme ends of the opening 2' in the mask 1' will be projected onto the photo print paper on the table T between the points 14—14, as indicated by the broken lines 15—15. On widening the diaphragm in the lens L, it will be perceived that a slightly wider margin of the negative image will be projected to the points 16—16, as indicated by the broken lines 17—17, and produces a distinct halo between the points 14 and 16.

I am unable to give a more lucid description and illustration of my newly discovered method and invention. It sets forth and describes the basic fact and principle which I have discovered and the method and means which I have invented for putting the same into practical use. The spaces between the points 14 and 16 are somewhat exaggerated to illustrate the principle by which the new haloette can be and is produced.

It is to be observed that the words and terms herein used to describe the invention are common to the photographic profession.

In preparing the mask 1, should any protrusion, such as an eyelash or a lock of hair be partially cut off outside the margin of the opening 2, it is obvious that the widening of the diaphragm in the lens L will allow these partially cut off parts to be projected from the negative in the holder N into the halo blend about the picture being printed on the table T and thus produce a complete and perfect picture with a paper white background. It is evident and easy to conceive that the method discovered and the means invented for thus producing the newly named haloette print is a discovery and invention that is new and useful, and is invaluable to the photographic profession, not only for the purpose of making new sittings for haloettes, but also for making copies from old pictures.

It is to be observed that the attachable device herein described is designed to be attached to any size and make of auto-focus enlargers, as shown by the long run of screw-threads on the clamping rods 3. It is to be further observed that I do not limit myself to the exact sizes and proportions shown, but reserve the right to change and vary the same as any form of enlarger or camera may require. The device is designed to be made of metal found to be most suitable, preferably of the lighter metals, such as aluminum alloy.

Having described my invention, I claim:—

1. In a photographic printing apparatus, the combination with printing apparatus including a source of artificial light, a negative, a lens, and a paper-print table; of a transparent holder; means including a suspension bar attached to the apparatus, and a clamping means between said suspension bar and said holder for supporting said holder between the lens and the table; and a cut-out mask supported by said transparent holder.

2. An apparatus as set forth in claim 1, wherein said means for adjustably supporting said holder between the lens and the table includes adjustable connecting means between said clamping means and said holder.

3. An apparatus as set forth in claim 1, wherein said transparent holder includes a supported glass shelf and a movable glass plate, said glass parts being adapted to receive and hold said mask between them.

4. An apparatus as set forth in claim 1, wherein said transparent holder includes a supported glass shelf and a movable glass plate, together with fastening means adapted to secure said mask to the under side of said plate, and whereby said mask may be adjusted on said glass shelf by moving said glass plate thereon.

5. An apparatus as set forth in claim 1, wherein said cut-out mask comprises a contact print of said negative from which the picture to be printed has been removed.

6. In combination with an auto-focus enlarger, of a mask, encircling an open figure form, said mask positioned between the lens and the paper print table of said enlarger, a device for supporting said mask in said position, said device attached to the said enlarger by an adjustable clamping member, a vertical suspension bar attached to said clamping member, a horizontal frame fitted with a transparent support for said mask, said frame slidably engaged on said suspension bar, and means for fixing and vertically adjusting said frame on said vertical suspension bar.

7. The method of making a block-out mask for non-contact photographic prints of a negative, comprising making a contact print of the negative and cutting out therefrom the picture to be printed, thereby forming a mask of the exact shape of the desired picture and adapted to block out the background of the negative from the print.

8. The method of photographically printing a picture on sensitized development paper from a negative removed from contact with the said paper, comprising making a contact print of said negative; removing from said contact print the picture to be printed, thereby forming a mask of the exact shape of the desired picture; shining light through the negative towards the sensitized paper; fixedly supporting the mask in the line of light between the negative and the paper, and out of contact with the paper; and exposing the sensitized paper to the transmitted light.

9. The method of photographically printing a picture, on a sensitized development paper from a negative removed from contact with said paper, comprising making a contact print of said negative; removing from said contact print the picture to be printed, thereby forming a mask of the exact shape of the desired picture; shining light through the negative towards the sensitized paper; supporting the mask in the line of light between the negative and the paper, and out of contact with the paper; adjusting the mask to permit the picture alone to be transmitted through the mask; and exposing the sensitized paper to the transmitted light.

10. The method of photographically printing a picture on a sensitized development paper from a negative removed from contact with said paper, comprising making a contact print of said negative; removing from the contact print the picture to be printed, thereby forming a mask of the exact shape of the desired picture; shining a light through the negative and through an adjustable iris diaphragm and a lens towards the sensitized paper; adjustably supporting the mask in the line of light between the lens and the paper, and out of contact with the paper; reducing the iris opening of the diaphragm; adjusting the vertical and horizontal position of the mask, while the iris opening is reduced, to permit the picture rays alone to be transmitted through the mask; increasing the iris opening of the diaphragm; and exposing the sensitized paper to the transmitted light.

FREDERICK H. KRUG.