H. L. G. MOORE.

PHOTOGRAPHIC PRINTING ATTACHMENT FOR GAS AND OTHER BURNERS.

APPLICATION FILED AUG. 20, 1910.

1,004,294. Patented Sept. 26, 1911.

Fig. 1.

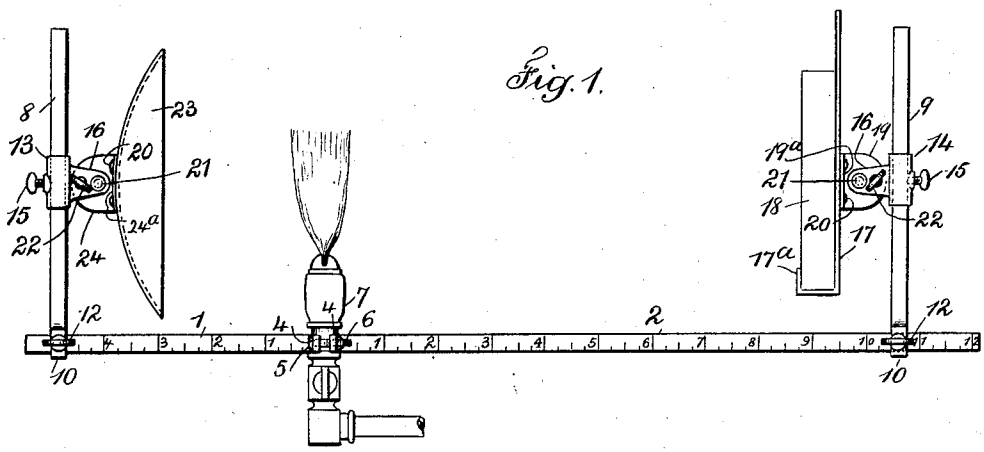


Fig. 2.

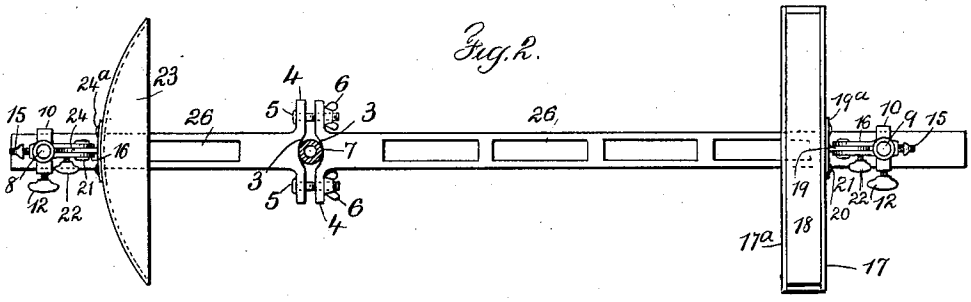


Fig. 4

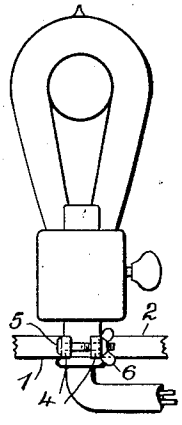
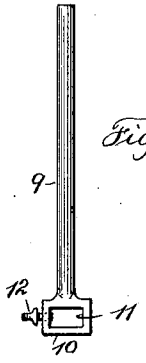


Fig. 3.



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UNITED STATES PATENT OFFICE.

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PHOTOGRAPHIC-PRINTING ATTACHMENT FOR GAS AND OTHER BURNERS.

1,004,294. Specification of Letters Patent. **Patented Sept. 26, 1911.**

Application filed August 20, 1910. Serial No. 578,199.

To all whom it may concern:

Be it known that I, HERBERT L. G. MOORE, a citizen of the United States, residing at Richmond Hill, borough of Queens, city and State of New York, have invented an Improvement in Photographic-Printing Attachments for Gas and other Burners, of which the following is a specification.

My invention relates to a device for attachment to burners of varying sizes and character, whereby photographic prints may be obtained from negatives by artificial light.

In printing photographs by artificial light on "Velox" or similar paper, it is customary for the operator to hold the printing frame containing the negative and sensitized paper in his hand at a certain distance from the light and for the desired period of time. This is not only tiresome to the operator, but the distance of the frame from the light cannot be judged with accuracy.

I am aware that photographic printing frame holders have heretofore been made for attachment to a gas burner, but so far as I know, such attachments have only been adapted for use upon gas burners of the old-fashioned or common size and kind and are not capable of use upon burners of different sizes or character, and one of the objects of my present invention is to overcome this difficulty and a further object is to provide in connection with the printing frame holder, a co-acting means for reflecting and intensifying the light upon the negative, and adjusting the same relatively to the dense or thin portions of the negative, so as to secure evenly exposed prints.

In the accompanying drawing, Figure 1 is a vertical elevation of my improved attachment applied to a gas burner of the "Jumbo" type, and supporting a printing frame and reflector; Fig. 2 is a plan view of the same; Fig. 3 is a front view of one of the vertical rods, both of which are alike and Fig. 4 illustrates the manner of attaching my improvement to an electric light lamp socket.

Similar numerals refer to similar parts throughout the several views.

1 and 2 are arms of like construction, each having a curved recess 3 in one end, with lugs 4 extending laterally therefrom. These lugs are provided with holes for the reception of bolts 5, headed on one end and screw-threaded on the other and provided with thumb nuts 6, by which means the two arms 1 and 2 are connected together around a burner 7, and extend therefrom on opposite sides in the same horizontal plane.

8 and 9 are two rods, each having an enlarged base 10, with an opening 11 therein, of a size and shape to fit over the arms 1 and 2 and slide thereon. The base 10 of each rod 8, 9, is provided on one side with a screw threaded hole into which screws a thumb screw 12, and by means of which the rods 8, 9, can be clamped securely to the arms 1, 2, at any desired distance from the burner 7. The bases of the rods 8—9 are slipped over the free ends of the arms 1 and 2, and when thus applied, the rods occupy a vertical position at right angles to the arms 1 and 2. These rods are preferably round and of the same diameter from the base to the top.

I provide two sleeves 13, 14, one for each of the vertical rods 8, 9. These sleeves fit over the rods with sufficient looseness to allow for them being turned around or raised or lowered thereon, and each sleeve is provided with a screw-threaded hole into which is screwed a thumb screw 15, by which means the sleeves can be clamped to the rods at any desired position. Upon each sleeve there is a bifurcated lug 16, preferably formed integral with the sleeve.

17 is a holder for the printing frame 18. The holder is preferably L-shape in cross-section, the printing frame being held therein by the upturned edge 17ª, but I do not wish to limit myself to the shape of the holder or the manner of retaining the printing frame therein, as any suitable shape and means may be employed for such purpose. Upon the back of the holder 17, at or about the center thereof, I secure a flat semi-circularly shaped lug 19. This I have shown as provided with a flange 19ª on its straight edge through which are passed rivets 20, by which the lug is secured to the holder, although it may be secured by solder or in any other suitable manner. After being secured to the holder, this flat lug 19, is inserted between the branches of one of the bifurcated lugs 16, and pivotally retained therein by a pivot pin 21, which passes through holes made for that purpose in the lug 19, and the branches of the lug 16. A screw-threaded hole is provided in one of the branches of the bifurcated lug into

which is screwed a thumb screw 22, which takes against the surface of the flat lug 19 and by which means the holder 17 can be clamped at any position into which it may be tilted, either forward or backward.

23 is a reflector, upon the back of which at or near the center thereof, I secure a flat semi-circularly shaped lug 24, similar to the lug upon the back of the holder 17, except that instead of having a straight edge where it comes in contact with the reflector, such edge is preferably inwardly curved to conform to the shape of the outer surface of the reflector. This lug 24 may be secured to the reflector by any suitable means. I have shown it as attached in the same manner as the similar lug is attached to the holder, that is, by rivets 20 passed through a flange 24^a and through the reflector. This lug is then pivoted to one of the bifurcated lugs 16 between the branches of such bifurcated lug, and I provide a thumb screw 22 for clamping the reflector in any position desired to which it may be titled either forward or backward, as in the case of the holder.

In devices of this kind it is preferable that the weight be reduced as much as possible consistent with the necessary strength, and for this purpose, I may cut out the metal or material composing the arms 1 and 2 as shown at 26, Fig. 2, and it will be readily recognized that the strain upon the burner or fixture by the use of my improvement is much lessened in consequence of being upon both sides of the burner, instead of being all on one side as in the devices heretofore employed for supporting a printing frame only.

In order to accurately adjust the printing frame and the reflector at the desired distance from the burner I preferably provide scales upon one or both sides of the arms 1 and 2, as shown in Fig. 1.

In printing negatives of uniform density throughout, the holder 17 and the reflector 23 may be clamped perpendicularly by the thumb screws 22, but where it is desirable to subject certain portions of the negative to a greater exposure than other portions thereof, the adjustable connections of the frame holder and the reflector to the vertical rods 8 and 9, allows for the adjustment of these members to any position relative to each other and to the light that may be desired, thus regulating the exposure to different portions of the negative.

It will be seen that my invention is not only applicable to gas burners of various character and size without removing the burner in order to apply it, but that it is also adapted for attachment to electric light lamp sockets as shown in Fig. 4. Another advantage in my improvement is the vertical adjustment of the frame holder and reflector in order that these members may be placed in proper relation to burners of different height. The reflector intensifies the light upon the negative, thus lessening the time required for exposure.

I claim as my invention,

1. In a device for printing photographic negatives by artificial light and adapted to be attached to a burner, the combination therewith of supports at opposite sides of the burner, and means for holding the negative and the reflector in adjusted positions upon said supports relative to the height of the burner.

2. In a device for printing photographic negatives by artificial light and adapted to be attached to a burner, the combination therewith of longitudinally adjustable supports at opposite sides of the burner and means for holding the negative and the reflector in vertically adjusted positions upon said supports relative to the height of the burner.

3. In a device of the character described and adapted to be attached to a burner, the combination with two arms adapted to be connected together at one end around the burner and to extend therefrom on opposite sides, of a vertical rod upon one of said arms, a printing frame holder supported by said rod, another vertical rod upon the other of said arms and a reflector supported thereby.

4. In a device of the character described and adapted to be attached to a burner, the combination with two arms adapted to be connected together at one end around the burner and to extend therefrom on opposite sides, of a vertical rod upon one of said arms, a printing frame holder supported by said rod, another vertical rod upon the other of said arms and a reflector supported thereby, both of said rods being slidable upon the respective arms.

5. In a device of the character described and adapted to be attached to a burner, the combination with two arms adapted to be connected together at one end around the burner and to extend therefrom on opposite sides, of a vertical rod upon one of said arms, a printing frame holder supported by said rod, another vertical rod upon the other of said arms, a reflector supported thereby, and means for holding the printing frame holder and reflector in adjusted positions upon said rods.

6. In a device of the character described and adapted to be attached to a burner, the combination with two arms adapted to be connected together at one end around the burner and to extend therefrom on opposite sides, of a vertical rod upon one of said arms, a printing frame holder supported by said rod, another vertical rod upon the other of said arms, a reflector supported thereby,

means for holding the printing frame holder and reflector upon said rods in adjusted positions, pivotal connections between said means and the printing frame holder and reflector whereby the printing frame holder and reflector may be tilted forward and backward, and means for clamping the printing frame holder and reflector in the position to which they may be tilted.

7. In a device of the character described and adapted to be attached to a burner, the combination of two arms, means for connecting the two arms together at one end around the burner in such manner that said arms extend in the same horizontal plane on opposite sides of the burner, a vertical rod upon one of said arms, a printing frame holder supported by said rod, another vertical rod upon the other of said arms, a reflector supported thereby, both of said rods being slidable upon the respective arms, means for clamping the said rods to the said arms at the desired distance from the burners, and means for holding the printing frame holder and reflector in adjusted positions upon said rods.

Signed by me this 17th day of August, 1910.

HERBERT L. G. MOORE.

Witnesses:
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E. ZACHARIASEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."