No. 775,555. PATENTED NOV. 22, 1904.

J. S. CUMMINGS.

PHOTOGRAPHIC PRINTING FRAME SUPPORT.

APPLICATION FILED JULY 1, 1904.

NO MODEL.

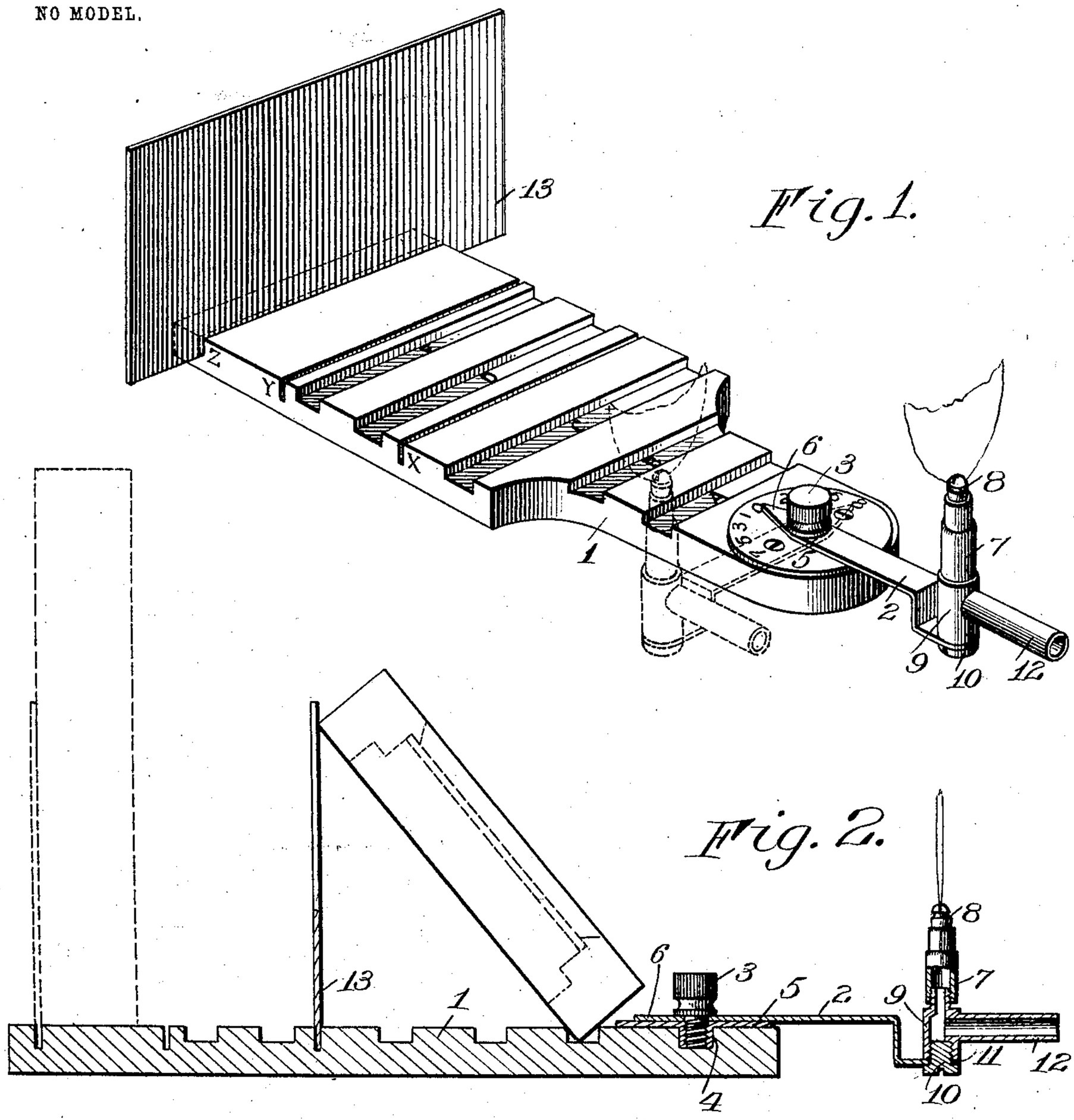

Fig. 1.

Fig. 2.

Witnesses.
Walter B. Payne.
Clarence A. Bateman

Inventor.
John S. Cummings
by Frederick S. Church
his Attorney.

PHOTO-LITHOGRAPHED BY SACHETT & WILHELMS LITHO. & PTG. CO. NEW YORK.

No. 775,555. Patented November 22, 1904.

UNITED STATES PATENT OFFICE.

JOHN S. CUMMINGS, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE EASTMAN KODAK COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

PHOTOGRAPHIC-PRINTING-FRAME SUPPORT.

SPECIFICATION forming part of Letters Patent No. 775,555, dated November 22, 1904.

Application filed July 1, 1904. Serial No. 214,857. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. CUMMINGS, of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Photographic-Printing-Frame Supports; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the reference characters marked thereon.

My present invention relates to improvements in photographic-printing apparatus; and it has for its object to provide an apparatus of this character that will enable prints to be obtained from the negatives in the simplest and best manner, rendering it possible to secure evenly-exposed prints from negatives of uneven density by properly proportioning the degree of light to which the relatively dense and thin portions of the negatives are subjected to, the arrangement being such as to permit a record to be secured for each individual negative which may be utilized in subsequent printing operations to enable the best results to be secured.

To these and other ends my invention consists in certain improvements and combinations of parts that will be hereinafter more fully explained, the novel features being pointed out particularly in the claims hereunto annexed.

In the drawings, Figure 1 is a perspective view of a photographic-printing apparatus embodying my invention; and Fig. 2 is an elevation, partly in section, showing the manner of using the device.

The present embodiment of my invention is an improvement upon a device of a similar character shown and described in Letters Patent of the United States No. 654,827, granted to me on the 31st day of July, 1900, and it is made up in the present instance of a base or support 1, which may be of any suitable dimensions to enable it to set firmly upon a table or other convenient support and is provided at one end with an illuminating fixture for supporting a gas-burner, electric lamp, or other illuminating device. This fixture in the present embodiment consists of a supporting-arm 2, which is perforated at one end to receive the pivot-screw 3, the threaded portion of which coöperates with the threaded portion 4 of the plate 5, which is suitably secured to the upper face of the support 1. In this manner a pivotal support is provided for the arm 2 to enable it to swing in an arc about the pivot-screw 3 as a center, the relative positions of the swinging arm 2 and the support 1 being preferably indicated by the pointer 6, which is formed upon the said arm and registers with the marks or characters which form a graduated scale upon the plate 5. The free end of this arm 2 is formed to receive a suitable illuminating fixture, an ordinary gas-burner being shown in the present instance as made up of the hollow stem 7, which carries the tip 8 and is threaded upon the elbow connection 9, the latter being threaded at its underside to receive the correspondingly-formed plug 10, which extends through an aperture 11 in the swinging arm 2, thereby confining the said arm between the plug and the burner proper to enable the burner to rotate freely upon the arm, a nipple 12 being provided upon the burner in the present instance to enable a tube or other connection communicating with a source of gas-supply to be attached.

The upper surface of the base is formed to receive the negative or printing frame, and in order to enable negatives of unequal exposure or density as well as those of varying exposures to be printed with the best results I provide a series of grooves or recesses extending transversely across the support, which are designated A, B, C, D, and E, respectively, which are arranged at suitably-graduated distances from the burner at the end of the support, and in conjunction with these recesses are provided a series of slots X, Y, and Z, respectively, which are formed to receive the rest 13 for the printing-frames, which extends, preferably, substantially perpendicularly to the support.

The manner of using the printing-frame support as above described may be briefly ex-

plained as follows: Negatives of uniform density or exposure throughout may be stood perpendicularly upon the support immediately in front of the perpendicular rest 13, the latter being placed in the slot marked X for negatives of comparatively small size, in the slot Z for those of large size, and in the intermediate slot Y for negatives of medium size in order that a substantially uniform exposure throughout its extent may be obtained from the source of light. In this case the swinging arm 2, carrying the illuminating device, should occupy a central position with its pointer upon the zero-mark of the scale in order that those portions of the negative near the ends thereof will receive substantially uniform exposure by reason of the fact that the illuminating device will be at a point equidistant therefrom. However, should it be desirable to subject certain portions of the negative to a greater exposure in comparison to that of the remainder thereof for the purpose of enabling the successful printing of cloud or other light effects or thin portions of the negative which would be overexposed if subjected to light of the same intensity to that directed upon the heavier portions of the negative the adjustable arm or bracket 2 is swung around upon the support until the illuminating device carried thereby will assume a certain position, and as the intensity of the light varies inversely according to the distance the relative distances between the source of light and the thin and heavy portions of the negative will be such as to produce an even uniform exposure. In substantially the same manner a properly-proportioned exposure of the thin and heavy portions of a negative may be secured by tilting the frame in such a manner that the upper portion of the frame will be supported by the upright frame-rest 13, and the lower portion of the frame will rest in one of the grooves A B C, &c., as the case may require, thus bringing the comparatively dense portion of the negative into greater proximity to the source of light. Should it be necessary to subject one corner of the negative to greater exposure than the remainder thereof, the printing-frame containing the negative may be first tilted with the dense portion in greatest proximity to the source of light, and finally the adjustable arm carrying the illuminating device is swung around in the proper direction toward the portion to receive the greatest exposure.

It is particularly desirable to mount the illuminating device in pivotal relation upon the supporting-arm when the ordinary type of gas-burner is employed, for it enables the burner to maintain such a position that the broad or flat side of the flame will be presented at all times to the surface to be exposed, and it likewise avoids the difficulty occasioned by the twisting or bending of the tube or connection whenever the adjustable supporting-arm is moved about its pivot.

A printing-frame embodying my invention may be readily and inexpensively constructed, and it is particularly adapted to the needs of amateur photographers, as it enables prints to be successfully obtained from negatives the sides or corners of which may be considerably overexposed, and consequently denser than other portions which should receive less exposure to the light during printing, the manipulation of the device during this operation being exceedingly simple and convenient. Moreover, by suitably marking the slots for the printing-frame rest and the grooves or recesses within which the printing-frame may rest during the printing from each individual negative a record may be obtained showing the relative position required for each negative in order to secure the best results. In the same manner the position of the illuminating device or source of light may be recorded by observing the position of the pointer 6 relative to the graduated scale 5.

I claim as my invention—

1. In a device of the character described, the combination with a base adapted to support a photographic-printing frame, of an illuminating device, and means for adjusting the relation between the frame and the illuminating device so that the relative distances between different portions of the frame and the illuminating device may be proportioned.

2. An apparatus of the character described embodying a base having one or more recesses or stops thereon adapted to receive the edge of a photographic-printing frame, a rest thereon for supporting the frame in a tilted or relatively inclined position on the base, and an illuminating device occupying a predetermined relative position in proximity to the frame.

3. An apparatus of the character described embodying an illuminating device, a base having supporting means thereon at graduated distances from the illuminating device to receive a rest adapted to support a photographic-printing frame, and a series of stops or recesses adapted to receive the edge of the frame when it is supported by said rest in a relatively tilted position on the base.

4. An apparatus of the character described embodying a base adapted to support a photographic-printing frame, an illuminating device, and adjusting means for varying the position of the illuminating device to proportion the relative distances between the latter and different portions of the frame.

5. An apparatus of the character described embodying a base adapted to support a photographic-printing frame, an illuminating device, and a support therefor capable of being adjusted laterally in relation to the printing-frame, and a scale for indicating the position of the illuminating device.

6. An apparatus of the character described embodying a base adapted to support a photographic-printing frame, an illuminating device, and a support therefor mounted in pivotal relation to the base and capable of being adjusted to alter the position of the illuminating device relative to the printing-frame.

7. An apparatus of the character described embodying a base adapted to support a photographic-printing frame, an illuminating device, and an adjustable arm pivotally mounted upon the base and carrying the illuminating device for adjusting the relation between the latter and the printing-frame, and a scale for indicating the relative position of the illuminating device.

8. An apparatus of the character described embodying a base adapted to support a photographic-printing frame, a plate mounted thereon provided with a dial, the supporting-arm having the adjusting-screw for securing it in relative adjusted position with the plate and having a pointer coöperating with the dial of the plate for indicating the position of the arm, and an illuminating device carried by the said adjustable arm.

9. In an apparatus of the character described, the combination with a base adapted to support a photographic-printing frame, of an adjustable arm mounted in pivotal relation to the said base, and an illuminating-burner or other device pivotally mounted upon the free end of the said arm to enable the burner to occupy a given position, irrespective of the position of the adjustable arm.

JOHN S. CUMMINGS.

Witnesses:
BERTHA M. FARRINGTON,
H. L. AUSTIN.