J. N. ANDERSON.

PHOTOGRAPHIC PRINTING MACHINE.

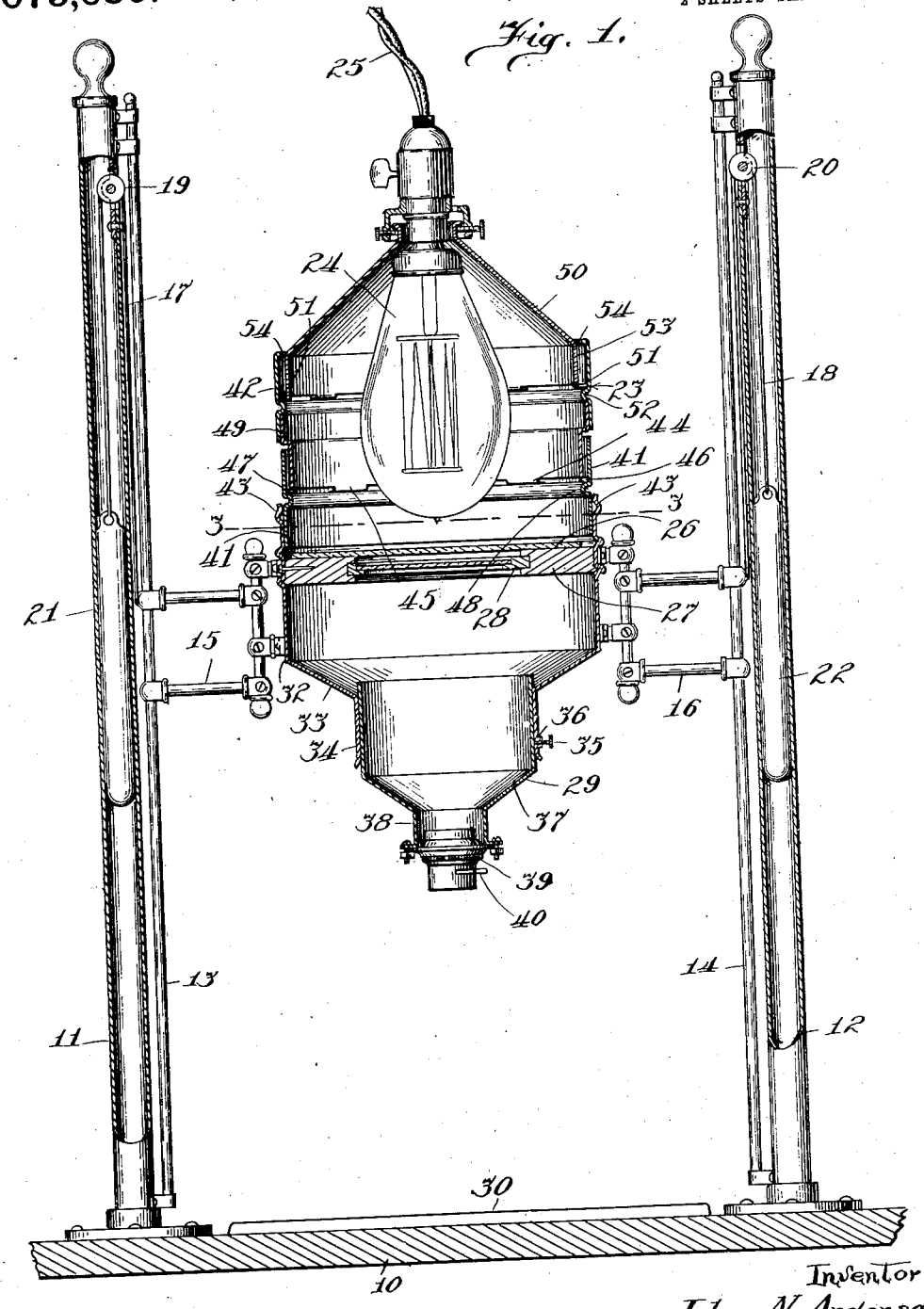
APPLICATION FILED MAR. 23, 1911.

Patented Oct. 14, 1913.

1,075,680.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

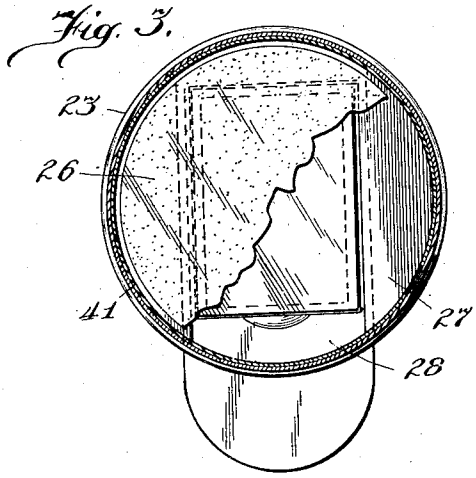


Fig. 2.

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PHOTOGRAPHIC-PRINTING MACHINE.

1,075,680. Specification of Letters Patent. Patented Oct. 14, 1913.

Application filed March 23, 1911. Serial No. 616,399.

To all whom it may concern:

Be it known that I, JOHN N. ANDERSON, a citizen of the United States, and resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Photographic-Printing Machines, of which the following is a specification, and which are illustrated in the accompanying drawings, forming a part thereof.

The invention relates to machines for printing photographs from negatives, and is adapted for making contact prints or enlargements; and it consists broadly in a structure having a table and a lantern mounted on standards rising from the table, and being provided with a removable lens holder and a movable plate holder; and more specifically it consists of various details of construction as hereinafter described.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section of the machine, parts being shown in elevation; Fig. 2 is a detail perspective, some of the parts being broken away; and Fig. 3 is a plan section of the lantern on the line 3—3 of Fig. 1.

The table is shown at 10, and may be provided with any suitable supports, not shown. A pair of tubular standards 11, 12, are firmly fixed in the table and project upwardly therefrom. The lantern is provided with brackets 15, 16, of any preferred form of construction, which are adapted to slidably engage the standards or appurtenances thereof. I prefer to provide as ways for the brackets rods 13, 14, which are fixed to the standards and located at the inner sides thereof. The lantern is supported by cables 17, 18, turning over sheaves 19, 20, journaled within lateral apertures in the standards and adjacent their upper ends, one end of each cable being attached to a counterweight 21, 22, running within the standards, the other ends thereof being secured to the brackets.

The lantern, generally designated by the numeral 23, is preferably, though not necessarily, cylindrical in form, as shown. Within the upper end of the lantern there is placed a suitable lamp 24, preferably an incandescent electric lamp supplied with current through wires 25 leading from a suitable circuit. Below the lamp there is preferably placed a ground glass screen 26, and below this screen a frame 27 for receiving a removable plate holder 28. Within the lower end of the lantern there is placed a removable lens carrier 29, which is used in making enlargements, and is longitudinally adjustable for the purpose of securing the desired focus. The sensitized paper upon which the imprint is to be made is placed upon the table 10 in the position indicated at 30.

When contact prints are made a printing frame 31 is used, and is located upon the table 10, and the lens carrier 29 and plate holders 28 are, for this class of work, entirely removed from the lantern, as indicated in Fig. 2. The light is thrown for this work through the open end of the lantern directly upon the printing frame.

When enlargements are to be made the negative is carried by the plate holder 28, the lens holder is fixed within the lantern and is adjusted as may be necessary for the purpose of securing the proper focus, and the paper for receiving the print is simply spread upon the table and is under the direct view and control of the operator. As shown, each of the brackets 15, 16 comprises a pair of arms each having at its outer ends an eye encircling one of the guide rods, as 13, 14, the inner ends of these arms being united by a cross bar to which they are rigidly attached, the lantern being clamped to this cross bar, being provided with radially projecting lugs for this purpose. This arrangement gives the operator full control of the lantern for the purpose of adjusting it vertically to secure the proper enlargement of the picture. It also enables him to conveniently shade the print as may be necessary for equalizing the light should the negative be of unequal density through portions of its area, this manipulation being provided for whether the print is made by contact or by enlargement.

In the preferred form of construction of the lantern the body thereof is formed of a sheet metal cylinder 32, having its lower end contracted, as shown at 33, and terminating in a cylindrical section 34 within which the lens carrier makes a slip joint. A set-screw 35 is set through the wall of the tubular section 34, preferably a boss 36 being secured to the outer face thereof to give ample

stock within which a threaded aperture may be formed. This set-screw may be used for locking the lens holder in any position to which it may be adjusted within the lantern. The lens holder is also shown as formed of sheet metal, its upper end being cylindrical in form for fitting into the lower end of the lantern, and is contracted, as shown at 37, and terminates in a tubular section 38 to which the lens casing 39, of any desired construction, may be attached. The lens casing is also preferably provided with a shutter, the controlling finger-piece of which is indicated at 40.

The frame 27 for the plate holder is secured within the cylinder 32, and this cylinder has a lateral opening 56 in line with the slideways of the frame 27 through which the plate holder 28 may be inserted.

The glass screen 26 is shown as seated directly upon the plate holder frame 27. The upper portion of the body of the lantern comprises a plurality of cylindrical sections 41, 42, the lower one telescoping into the upper end of the section 32 and being secured in place by suitable beading 43; the upper section 42 telescoping into the section 41 and making a loose fit therewith, and being provided with a plurality of outstanding lugs, as 44, 45, 46, 47, adapted to rest upon an instanding bead 48 formed in the section 41. The upper end of the section 42 is offset outwardly, as shown at 49, the offset being spaced apart from the upper end of the cylindrical section 41, thereb providing for ventilation.

A conical cap 50 is fitted loosely withi the upper end of the cylindrical section 4 and is provided with outstanding lugs, a 51, for resting upon an instanding bead 5 formed in the section 42. The lower end o the cap is cylindrical in form, as shown a 53, and the upper end of the cylindrical sec tion 42 is provided with instanding lugs 54 55, as many as may be found desirable fo properly supporting the cap, thus providing further ventilating space.

The body of the lantern is secured to the brackets 15, 16, in any suitable manner.

I claim as my invention—

In a photographic machine, in combination, a table, standards rising from the table, a vertically adjustable lantern carried by the standards and having a downwardly opening light emitting aperture, a lens carrier adapted to be removably applied to the aperture, and a plate holder seat located above the aperture and adapted to permit the unobstructed passage of light therethrough when unoccupied by a plate, whereby the machine may be interchangeably used for making enlargements or for contact printing.

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