F. W. HILL.

PHOTOGRAPHIC PRINTING MACHINE.

APPLICATION FILED APR. 3, 1915.

1,181,008.

Patented Apr. 25, 1916.

2 SHEETS—SHEET 1.

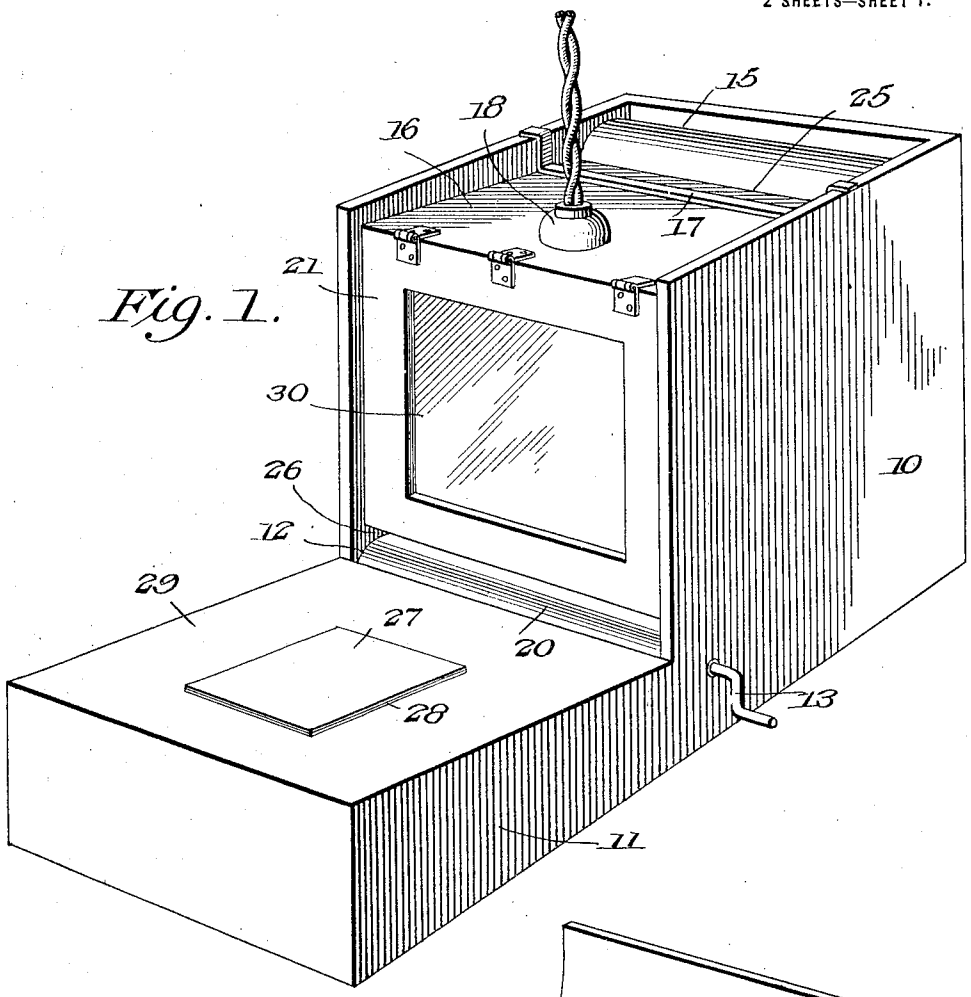


Fig. 1.

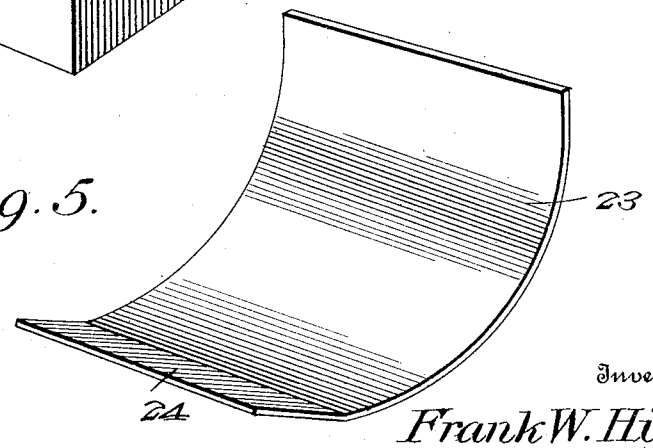


Fig. 5.

Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

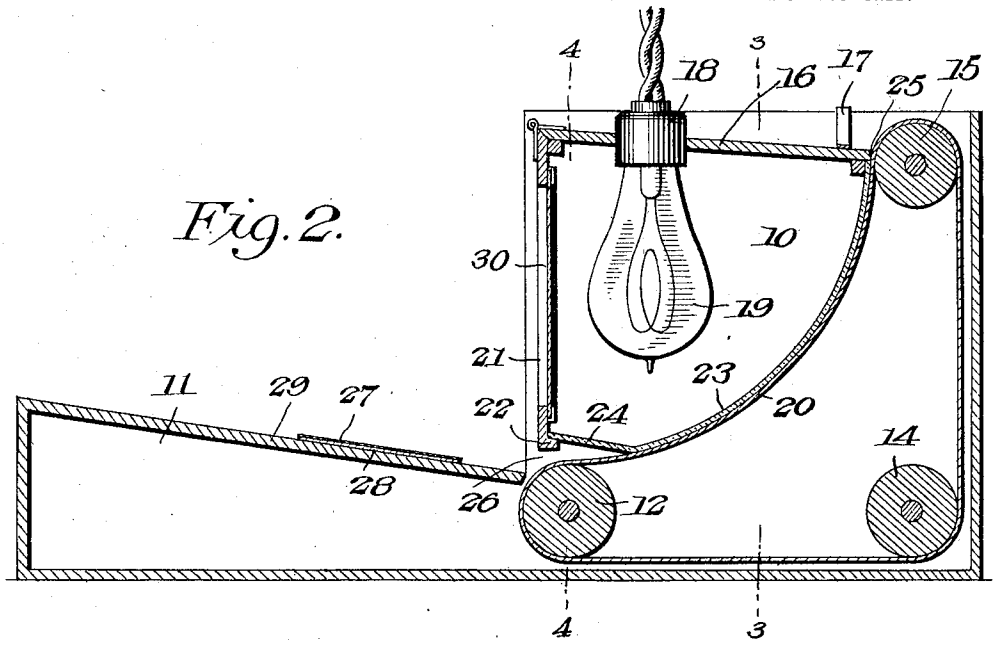


Fig. 3.

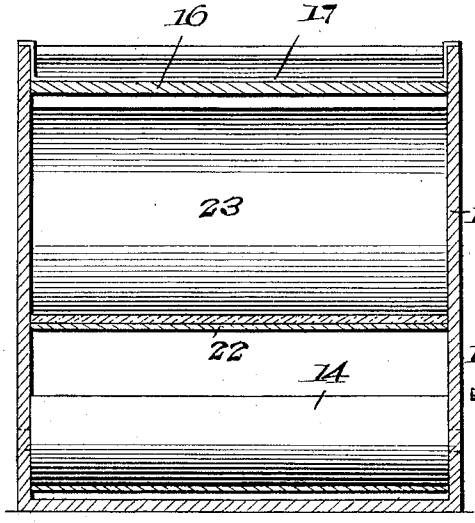
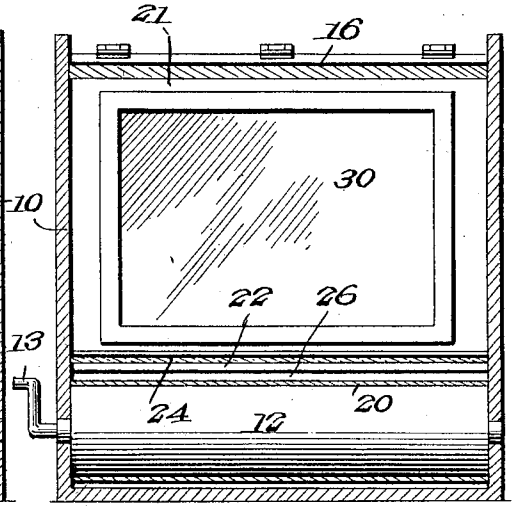


Fig. 4.



Witnesses

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PHOTOGRAPHIC-PRINTING MACHINE.

1,181,008. Specification of Letters Patent. Patented Apr. 25, 1916.

Application filed April 3, 1915. Serial No. 19,050.

To all whom it may concern:

Be it known that I, FRANK W. HILL, a citizen of the United States, residing at Topeka, in the county of Shawnee and State of Kansas, have invented new and useful Improvements in Photographic-Printing Machines, of which the following is a specification.

The invention relates to photography, and has for an object to provide a printing machine for use in readily and effectively printing from negatives.

The invention contemplates, among other features, the provision of a machine preferably adapted for printing from negatives by the aid of artificial light, the machine being so arranged and constructed that a negative and the printing paper can be quickly placed in position, advanced into the machine to be exposed to the light and then removed from the machine, the printing paper being then ready to be subjected to the usual fluid for bringing out, toning and finishing the picture.

In the further disclosure of the invention reference is to be had to the accompanying drawings, constituting a part of this specification, in which similar characters of reference denote corresponding parts in all the views, and in which:

Figure 1 is a perspective view of the machine; Fig. 2 is a vertical longitudinal sectional view taken through the machine; Fig. 3 is a vertical transverse sectional view taken on the line 3—3 in Fig. 2; Fig. 4 is a vertical transverse sectional view taken through the power roller; and Fig. 5 is a perspective view of the transparent member.

Referring more particularly to the views, I disclose a box 10 including a trough-like base 11, in one end of which is journaled a roller 12 which I will term the power roller and which has connected thereto an exteriorly arranged crank 13 whereby rotation is imparted to the roller, it being understood, however, that any form of driving power can be employed to rotate said roller. A second roller 14 is journaled in the bottom of the box and a third roller 15 is journaled in the box near its upper end and adjacent to one end of a suitable cover 16 secured by substantially U-shaped brackets 17, said cover supporting a socket 18 for a lamp 19, such as an incandescent bulb or the like. A continuous feeding belt 20 in the nature of a strip of canvas or the like passes around the rollers 12, 14 and 15, said belt thereby having a large portion thereof lying within the box and the remainder lying in the trough-like base 11 thereof, thus disposing a portion of said belt exteriorly of said box. An end 21 of the box 10 is spaced slightly from the belt to form an entrance 26 to the box for the belt, and supported in the box near one end and carried by a supporting flange 22 on the end 21 and the other end connecting with the cover 16, is an arcuate transparent member 23 preferably formed of glass and having a lower portion thereof covered with an opaque substance 24, such as red paint, enamel or any other desirable red or opaque substance, through which the rays of light from the lamp cannot strongly penetrate. The cover 16 at the juncture of the upper end of the transparent member 23 therewith is spaced slightly from the belt 20 to provide an exit opening in the end of a slot indicated by the numeral 25, the entrance mentioned heretofore being indicated by the numeral 26.

Now it will be clearly seen that a portion of the belt bears against the under side of the transparent member and when it is desired to print from a flexible negative, the negative, indicated by the numeral 27, with the printing paper indicated by the numeral 28, arranged beneath the negative, are both placed upon the exposed part of the belt, after which the crank 13 is operated to actuate the belt and advance the negative and printing paper beneath it through the entrance 26 into the box so that the negative and printing paper will lie between the transparent member and the belt and bear against the under side of the transparent member. The lamp 19 being lighted, it will be clearly seen that as the belt advances in the box, the negative and printing paper, advancing with the belt, will appear beneath the transparent member 23 and be subjected to the rays of the lamp, thus resulting in the printing of the representation on the negative on the printing paper. The continued advancement of the belt brings the negative and printing paper up to the exit 25 through which said negative and printing paper will pass and fall upon the cover, said printing paper being now ready to be subjected to the usual fluids or substances which bring out, tone and fix the printing paper to produce the desired result.

It will be clearly seen that the frictional

contact of the printing paper with the belt and the frictional contact between the negative and printing paper, together with the smoothness of the under side of the transparent member, will readily permit of the negative and printing paper being advanced by the belt in the box as the negative bears against the under side of the transparent member, and thus it will be further clearly seen that a large number of prints of negatives can be readily and quickly made without the necessity of first placing the negative and then the printing paper in the usual printing frames now generally used for the purpose. The cover and transparent member 23 are preferably made removable so that the entire machine can be easily cleaned and, if desired, replaced by new parts when the old ones become worn.

It will be noted that the trough-like base 11 has a cover 29 in the nature of a top, which is inclined toward the entrance 26 as shown, so as to form a feeding table upon which the negatives can be arranged prior to feeding the same through the entrance to the belt 20. The end or front 21 of the box 10 is provided with a glass or other transparent member 30 which is preferably colored red so that the light from the lamp 19, passing through the transparent member, will dimly illuminate the feeding table so that the operator will be facilitated in his work in arranging the negatives upon the feeding table prior to advancing the same with the printing paper into the casing.

Having thus described my invention, I claim:

A photographic machine comprising a box having a flanged end wall, a cover for the box, an endless belt, means for movably supporting said belt in said box and disposing a portion of the belt beyond the plane of the cover, and an arcuate transparent member in said box supported at one end on the flange of the box and having its opposite end disposed in spaced relation with the free end of the cover and having said belt bearing against its under side, the end of the transparent member supported on said flange providing an inlet opening and the end of the transparent member spaced from the free end of the closure providing an outlet opening.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK W. HILL.

Witnesses:
LINN E. WYATT,
PRESTON R. SHEPHERD.

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