G. C. HULSE.

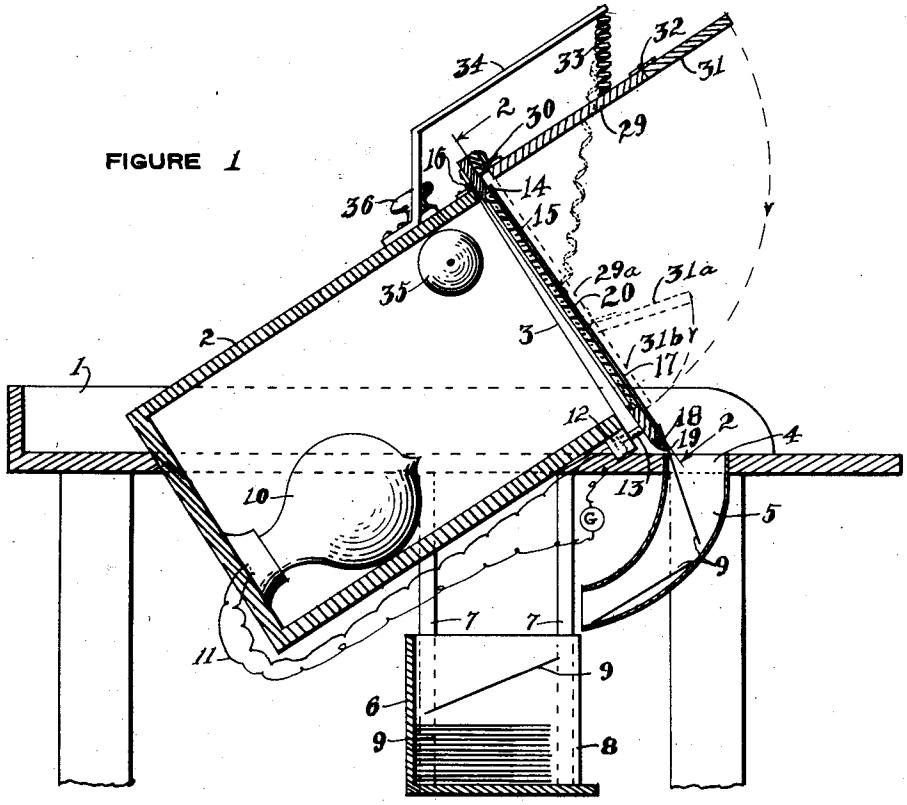
PHOTOGRAPHIC PRINTING MACHINE.

APPLICATION FILED DEC. 20, 1920.

1,435,850. Patented Nov. 14, 1922.

2 SHEETS—SHEET 1.

FIGURE 1



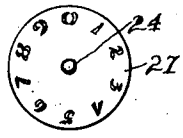


FIGURE 3

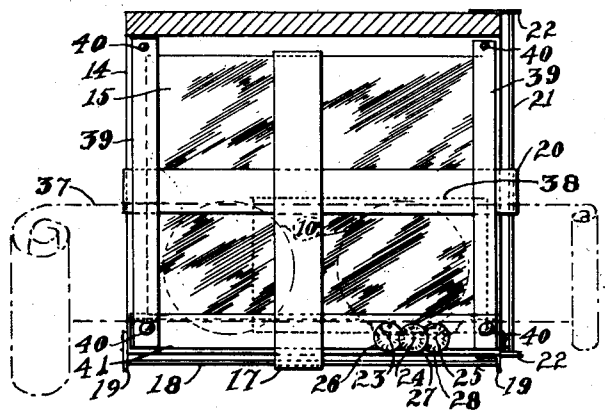


FIGURE 2

INVENTOR

George C. Hulse

BY John A. Chaismith

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2 SHEETS—SHEET 2.

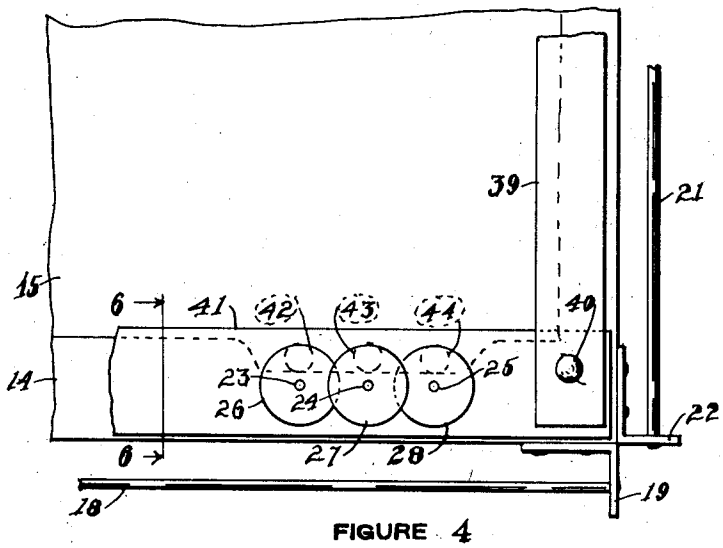
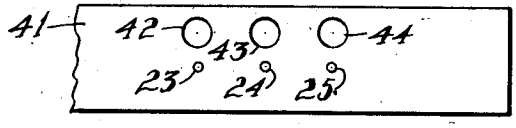


FIGURE 4

FIGURE 5



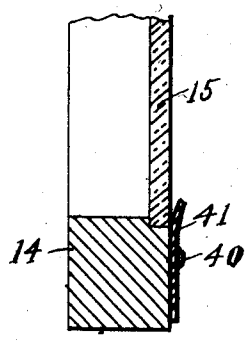


FIGURE 6

INVENTOR

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Patented Nov. 14, 1922. 1,435,850

UNITED STATES PATENT OFFICE.

GEORGE C. HULSE, OF SAN JOSE, CALIFORNIA.

PHOTOGRAPHIC-PRINTING MACHINE.

Application filed December 20, 1920. Serial No. 431,953.

To all whom it may concern:

Be it known that I, GEORGE C. HULSE, a citizen of the United States, and resident of San Jose, in the county of Santa Clara and State of California, have invented certain new and useful Improvements in Photographic-Printing Machines, of which the following is a specification.

My invention relates particularly to a machine for printing pictures from a photographic negative.

It is the object of my invention to provide a machine wherein the printing paper may be quickly and easily positioned and held in place for printing, automatically removed from the printing position when the printing has been accomplished, and automatically deposited in a suitable receptacle in a predetermined position.

In the drawing:

Figure 1 is a vertical cross section through the machine.

Figure 2 is a view on line 2—2 of Figure 1.

Figure 3 is an enlarged detail elevation of one disc.

Figure 4 is an enlarged view of a part of the negative holder.

Figure 5 is a detail of a portion of the film holder.

Figure 6 is a section on line 6—6 of Figure 4.

Referring more particularly to the drawing, 1 indicates a suitable table having a box 2 set therein at an angle as shown and open at its front end 3. A slot 4 is formed in table 1 adjacent to the front edge of box 2 and provided with a rearwardly directed chute 5 discharging into a box 6 supported beneath table 1 by supports 7. The front 8 of box 6 is preferably left open to permit the easy removal of prints 9 therefrom. In box 2 are arranged incandescent lights 10—10 in an electric circuit 11 including any well known form of switch 12 which is provided with a push button 13 spring actuated to an open position and located at the lower front edge of box 2 and extending a distance in front thereof as shown.

At 14 is shown a frame having a glass plate 15 fitted therein and hinged to the upper front edge of box 2 as at 16, the said frame extending over push-button 13 in such a manner as to engage the same when pressure is exerted upon said frame. At 17 is a vignetting member slidably mounted on rod 18 which is in turn mounted upon brackets 19 on frame 14 so as to lie parallel with the lower edge of said frame and spaced a distance therefrom. At 20 is a second vignetting member slidably mounted on rod 21 which is in turn mounted upon brackets 22 on frame 14 so as to lie parallel with the right hand edge of said frame and spaced a distance therefrom.

Near the lower right hand edge of glass plate 15 and mounted on pins 23—24—25 set in frame 14 are three discs 26—27—28 respectively, each having the ordinal numbers up to "9" punched therein near its outer edge as shown, each disc being in fact a revolving stencil.

At 29 is shown a door mounted upon the upper edge of frame 14 by hinges 30, the said door having its lower portion 31 hingedly connected thereto as at 32 and to turn upwardly. To door 29 is connected a spring 33 attached to a supporting rod 34 which is in turn mounted upon box 2. An incandescent light 35 is mounted in box 2 and operatively mounted in an electric circuit not shown, and controlled by switch 36. This light is normally turned on while lights 10—10 are normally out.

In using this printing machine the negative is arranged as indicated at 37. A supply of sensitized paper is placed conveniently at hand and the operator lays one of these in position over the negative 37 and discs 26—27—28 as indicated at 38, using say, his right hand. With the left hand he brings door 29—31 down to the position indicated in dotted lines at 29^a—31^a, the lower edge of door 29 engaging the paper 38 and holding it in place so that the operator may reach for another piece of sensitized paper with his right hand. The portion 31 is now brought down upon the paper as at 31^b against the tension of spring 33 and enough pressure exerted thereon to operate switch 13 and turn on lights 10—10. Usually the exposure required is but for a moment only, and upon release of the pressure on button 13 the electric circuit is broken and the lights are extinguished. This breaking of the circuit is immediately followed by the raising of door 29—31, and this action releases the print 38 which immediately falls down through slot 4 into chute 5 and thence into box 6. Since the chute 5 is curved as shown each print discharged therefrom falls into box 6 with its sensitized face upwards. Of

course all of the prints could be discharged face downwards if so desired by a rearrangement of the box and chute.

The strips 39—39 are secured to frame 14 as at 40 to act as guides for the negative 37 and hold member 20 in contact with glass 15. The members 17 and 20 may be arranged to accommodate any size of negative by sliding them on their respective rods 18 and 21. The lower edge of the negative in the present case rests on pins 40—40 above discs 26—27—28 so that with the discs arranged to print a given number through the numerals stenciled therein, the said number will be printed upon each paper exposed simultaneously with the printing of the picture from the negative.

A strip is inserted under strips 39—39 and held in place by pins 40—40 as at 41 to support cut films. This strip preferably extends upwardly just over the lower edge of glass 15 and is provided with orifices 42—43—44 so as to act as a mask for the figures on discs 26—27—28 except those in the uppermost positions arranged to print a desired number on the sensitized paper placed thereover.

From the above description it is clear that with quickly printing papers such as are commonly used in amature photography a large number of prints may be made from a single negative in a very short space of time, in fact as fast as the operator can pick up the sensitized sheets and lay them over the negative, the paper not being touched by the hands from the time it is placed on the negative until it is removed from box 6. When the negative is in the form of a film it may be moved along from one picture to the next without difficulty and without injury to the same.

It is to be understood, of course, that changes in form, construction and method of operation may be made within the scope of the appended claims.

I claim:

1. A printing machine comprising a box arranged at an angle to a horizontal plane, an illuminating means arranged therein, a frame carrying a translucent plate hinged to the upper edge thereof and extending over the upper end thereof, a door for closing over the translucent plate, a spring switch normally spacing the frame from the lower edge of the box and operable by pressure of the door on said frame for rendering said illuminating means operative, a jointed door hinged to the upper edge of said frame and adapted to cover the same, a support mounted on said box and extending forwardly thereof, and a resilient connection between said support and one portion of said door.

2. A printing machine comprising a box arranged at an angle to a horizontal plane, an illuminating means arranged therein, a frame carrying a translucent plate hinged to the upper edge thereof and extending over the upper end thereof and normally spaced a distance therefrom at its lower edge, a normally open switch operatively inserted in the wiring system of said illuminating means, and engaging said frame to space the latter normally from the box, means arranged to receive article from the frame when in its normal position, a jointed door hinged to the upper edge of said frame and adapted to cover the same, a support mounted on said box and extending forwardly thereof, and a resilient connection between said support and one portion of said door.

3. A printing machine including a box arranged at an angle to a horizontal plane, an illuminating means operatively mounted therein, means movable from a normal position for holding a printing sheet for a predetermined period in operative relation to said illuminating means, a curved chute arranged to receive each sheet from said holding means, after it has returned to its normal position and turn the same face upward and a receptacle arranged to receive the sheets from said chute.

4. A photographic printing machine comprising a lamp box, a print-discharge chute spaced therefrom, a frame hinged to the box and normally spaced therefrom at one side and disposed at an inclination to discharge a print therefrom into the chute, said frame being adapted for moving from its normal position for closing down onto the box, and means for urging the frame to its normal position.

GEORGE C. HULSE.