Oct. 1, 1929. A. E. KAISER 1,729,783

BORDER PRINTING MACHINE

Filed Dec. 12, 1925

FIG. 1

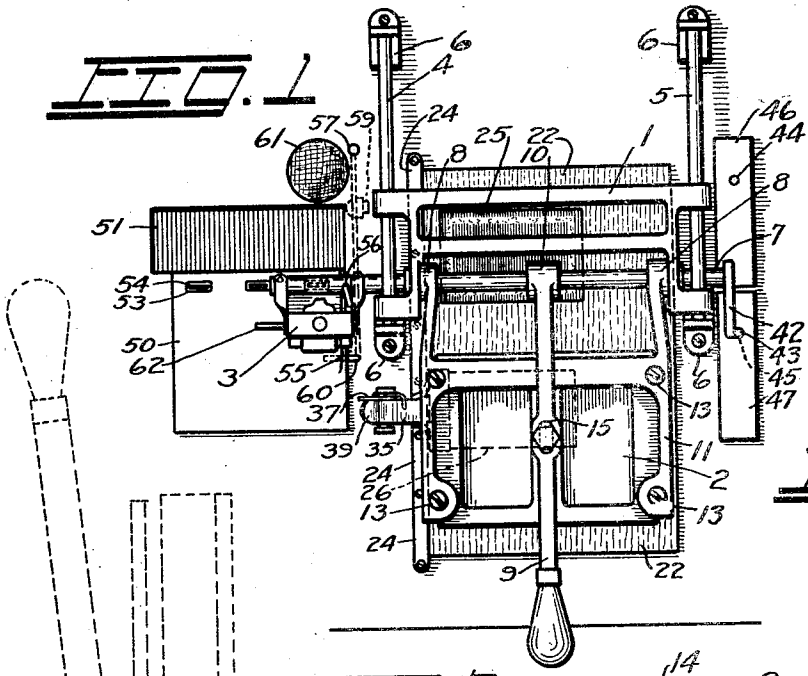


FIG. 3

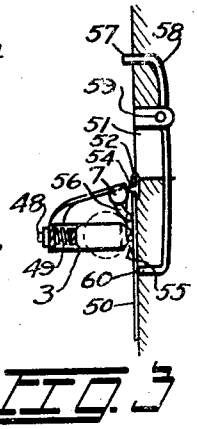


FIG. 2

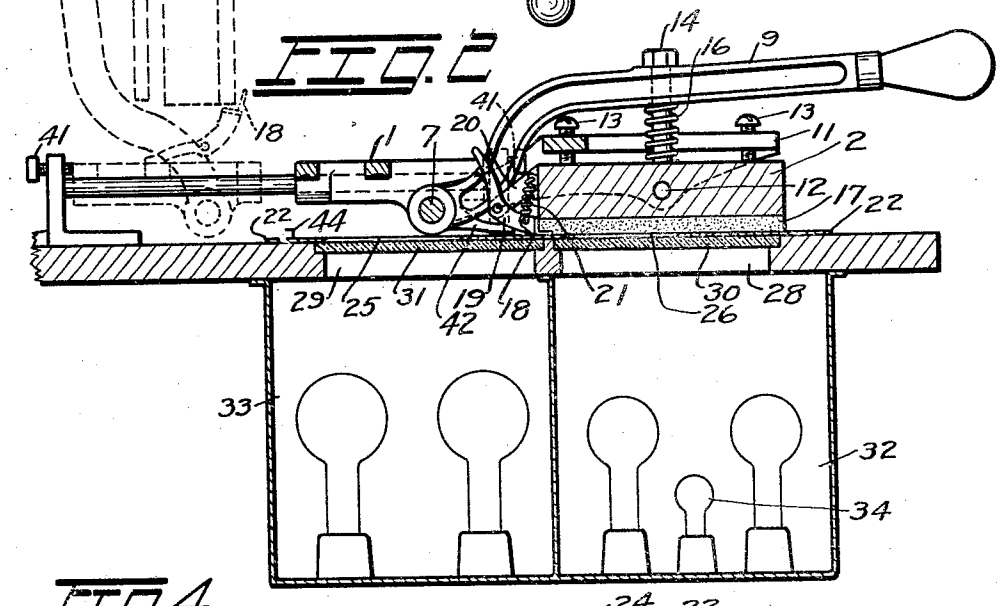


FIG. 4

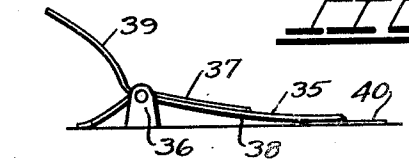
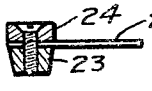


FIG. 5



INVENTOR

Alfred E. Kaiser

Harry Bowen

ATTORNEY

Patented Oct. 1, 1929 1,729,783

# UNITED STATES PATENT OFFICE

ALFRED E. KAISER, OF BELLEVUE, WASHINGTON, ASSIGNOR TO PHOTO EQUIPMENT MFG. CO., OF SEATTLE, WASHINGTON

## BORDER-PRINTING MACHINE

Application filed December 12, 1925. Serial No. 75,058.

The invention is a machine for making pictures from films or the like which also prints a border around the picture.

The object of the invention is to provide a means for readily placing borders on photographic prints.

Another object of the invention is to provide a photograph printing machine having a double action.

A further object of the invention is to provide a photograph printing machine with a simple, efficient, rigid and interchangeable mat.

A further object of the invention is to provide a photograph printing machine with a simple and efficient means for automatically gripping and holding the prints as they are being printed.

A further object of the invention is to provide a photograph printing machine in which it is necessary to apply an extra force to illuminate the printing lamps.

A still further object of the invention is to provide a photograph printing machine in which the platen or pad is readily adjustable.

And a still further object of the invention is to provide a photograph printing machine with an automatic numbering device having a readily changeable character thereon, and means for automatically dumping the prints from the numbering position, and which is also of a simple and economical construction.

With these ends in view the invention embodies a frame, parallel bars mounted on the said frame, a carriage slidable on the said parallel bars, a printing pad or platen pivotally mounted in the carriage, a numbering device in combination with the said pad, means for automatically dumping the prints after they have been numbered and a readily interchangeable mat.

Other features and advantages of the invention, will appear from the following description, taken in connection with the drawings, wherein:—

Figure 1 is a plan view of the operating mechanism.

Figure 2 is a cross section through the device.

Figure 3 is a detail through the numbering device.

Figure 4 is a detail showing a spring clip for holding the film or the like.

Figure 5 is a detail showing a section through the mat back or strips for holding the mat.

In the drawings I have shown my device as it would be made wherein numeral 1 indicates the carriage, numeral 2 the platen, and numeral 3 the numbering device.

The carriage 1 is slidably mounted on parallel bars 4 and 5 which are mounted on bearings 6 on a flat surface such as a table or cabinet top. The carriage is made as shown in Figures 1 and 2 with a shaft 7 extending transversally therethrough and pivotally mounted therein as shown. The platen 2 is mounted upon the shaft 7 through hubs 8 and a handle 9 is also mounted on the said shaft through a hub 10.

The platen 2 is attached to the hubs 8 to a frame 11 in which it is pivotally mounted on pins 12 as shown in Figure 2 and adjustably held by screws 13. The platen 2 is also connected to the handle 9 through a bolt 14 which passes through a slotted hole 15 in the handle and on which is a spring 16. It will be observed that when the platen is in the position shown in Figure 2 it will be in the free or normal position with the print resting upon the mat, and when the handle is pushed slightly downward it will compress the spring 16 and this extra movement will light the printing lamps as hereinafter described.

On the face of the platen 2 is a pad of felt or other pliable material as indicated by the numeral 17, and at the inner edge is a clip 18 for holding the paper to be printed. The clip 18 is mounted on a lever 19 which is pivotally supported at the ends of bars 20 which are attached to and extend downward from the inner side of the platen as shown in Figure 2. The clip 18 is resiliently held in the position shown by a spring 21. It will be observed that as the platen is lifted upward and moved backward to the position shown in dotted lines in Figure 2 the upper end of the lever 19 will engage the forward

bar of the frame 1 and thereby move the clip away from the face of the platen as shown in dotted lines so that it will be possible to remove and replace the print or paper to be printed.

A mat which is indicated by the numeral 22 and which may be mounted between two bars 23 and 24 as shown in Figure 5 is placed upon the surface of the table below the platen as shown. When in place the bar 23 will fit into a tapered slot and as its sides are also tapered it will rigidly hold the mat. The mat is provided with two openings 25 and 26, the opening 26 being of the same size as the print and the opening 25 having a blank film therein with a border on it to fit around the print. It will be observed that these openings may be of any suitable shape or size to accommodate prints of any suitable shape or size.

Below the mat are openings 28 and 29 having glass plates 30 and 31 in them and lamp compartments 32 and 33 below them. The lamps may be arranged in any suitable manner in the compartment, and in one of the compartments a pilot lamp as indicated by the numeral 34 may be placed. This lamp will remain on at all times when the machine is in use and the other lamps will only be lighted as the handle is given the extra downward movement with the platen over the respective opening. The film is held over the opening 26 by a clip 35 as shown in Figure 4. This clip is mounted between bearings 36 and held in the downward position by a spring 37. It is formed with a plate 38 having a handle 39 and a thin strip 40 attached to its outer end which engages the edge of the film and passes under the platen. In the bearings 6 at the ends of the bars 4 and 5 are set screws 41 as shown in Figure 2 which may be turned inward or outward to adjustably limit the movement of the carriage 1.

At one end of the shaft 7 is an arm 42 having a projection 43 and the other end which engages pins 44 and 45 in switches 46 and 47 to operate the switches to light the lamp when the pins are pushed downward. It will be observed that as the platen is pushed downward in the position shown or over the opening 26 the projection 43 at the end of the arm 42 will engage the pin 45 in the switch 47 and light the lamp in the compartment 32, whereas when the platen is in the inner position or over the opening 25, the projection 43 will engage the pin 44 of the switch 46 and light the lamps in the compartment 33.

At the opposite end of the shaft 7 is the numbering device 3 which may be arranged in any suitable manner and attached to the shaft by any suitable means. In the design shown the frame of the numbering device is mounted on a pin 48 with a spring 49 around it which will permit the frame of the numbering device to move upward in the bracket as the handle is given the extra downward movement to light the lamp.

Below the numbering device 3 is a plate 50 upon which the prints may be placed as they are removed from the platen and from which they may be dumped through an opening 51 as soon as they are numbered. The plate 50 is hinged to the edge of the opening 51 as shown at the point 52 and the plate is provided with openings 53 having projections 54 extending upward through them as shown in Figures 1 and 3. At one side of the plate is a flange 55 and it will be noted that as the prints are removed from the platen they are placed upon the plate 50 with one edge against the flange 55 and the other against the projections 54, and as the platen is moved backward and pressed downward to print the next picture a pin 56 on the shaft 7 will engage a pin 57 on a bar 58 which is pivotally mounted at the point 59 and the opposite end of the bar 58 which is indicated by the numeral 60 and which extends upward through the surface of the table and under the plate 50 will raise upward and thereby lift the outer portion of the plate 50. As the outer portion of the plate moves upward the plate will move above the projection 54 and the prints will then be free to slide through the opening 51 in the surface of the table. At the same time the numbering device will engage an ink-pad which is indicated by the numeral 61 to reink the type thereof. The numbering device is provided with a handle 62 by which the first type disk may be readily operated to expose a blank space or print a character to designate different classes or groups of pictures.

It will be understood that changes may be made in the construction without departing from the spirit of invention. One of which changes may be in the design of the carriage. Another may be in the design or arrangement of the platen. Another may be in the use of switches of different types of designs. Another may be in the arranging of lamps in a different manner. And still another may be in the use of a numbering device of another type, or in the use of other means for operating it.

The construction will be readily understood from the foregoing description. To use the device it may be arranged as shown and it will be observed that when it is desired to make a print, a border of any suitable design is placed in the opening 25, a film is placed over the opening 26 and the piece of paper to be printed is placed on the platen under the clip 18. The platen is then moved by the handle from the normal position as indicated by the dotted lines forward and downward to the position shown in full lines in Figure 2. The handle is then given the extra downward movement and the lamps in the compartment 32 will be lighted as hereinbefore described. The platen is then lifted by the handle and moved

backward until the rear edge of the carriage 1 engages the setscrews 41, at which time it is moved downward and the handle is then given another extra movement downward to light the lamps in the compartment 33. The platen is then moved upward by the handle to the position shown in dotted lines and the print is removed and replaced by another piece of paper to be printed. In the design shown the picture is printed in the first operation or when the paper to be printed is over the opening 26 and the border is printed in the second operation or when the print is over the opening 25.

The print is then placed upon the plate 50 and a number is automatically placed thereon by the device 3 as hereinbefore described. Then as the second operation is performed on the next print the print just numbered is automatically dumped through the opening 51.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patents, is:—

1. In a photographic printing machine having a plurality of printing positions, a platen, means for attaching a paper to be printed to the platen, means for slidably supporting the platen, means for operating and stopping the platen at two printing positions, means for automatically producing sufficient light to readily print in both of the said positions independently, and means for automatically dumping the said prints from a predetermined position.

2. In a photographic printing machine having a plurality of printing positions, a platen attached to a slidable frame for holding and printing paper in a plurality of positions without removing the said paper from the said platen, means for removably holding a plurality of films to cooperate with the said platen, means for producing light to pass through the film as the platen forcibly engages the film and other means for automatically numbering the said papers as they are removed from the said holding means and placed in a predetermined position.

3. In a photographic printing device having a plurality of printing positions, means for holding papers to be printed, means for slidably supporting the said paper holding means, means for readily operating the said holding means to a plurality of positions, adjustable means for locating the said holding means in the different positions, and means for printing the said papers in the different positions, means for holding a plurality of films to cooperate with the said paper holding means of the said holding means.

4. In a device for making photographic prints or the like having a plurality of printing positions, a platen, means for holding the papers to be printed on the platen, means for automatically releasing the said holding means, means for slidably supporting the said platen so that it may readily be moved to a plurality of positions, adjustable means for locating the said platen in the different positions, a plurality of mats, suitable film holding means to hold films in relation to the said mats and to cooperate with the said paper holding means in the different positions, and means for automatically lighting lamps adjacent the mats as the platen is located and pressed downward in the different positions.

5. In a device for making photographic prints or the like having a plurality of printing positions, a platen for holding the paper to be printed, means for slidably supporting the platen, said platen being adaptable to be moved to a plurality of printing positions, and means for automatically lighting lamps to make the said photographic prints as the said platen is held in a plurality of positions and moved downward with an extra movement.

6. In a device for making photographic prints or the like, a carriage, parallel bars upon which the carriage is slidably mounted, a frame pivotally mounted on the said carriage, a platen adjustably held in the said frame, a handle also pivotally mounted on the said carriage and attached to the said platen with a resilient connection, means at the ends of the said parallel bars for adjusting the movement of the said carriage, switches adjacent the said parallel bars, means on the said platen supporting frame for engaging and operating the said switches as the handle is given an extra downward movement, a mat with a plurality of openings therein upon which the said platen is placed as the switches are operated, individual compartments below the openings in the said mat, lamps in the said compartments, the said lamps in each of the said compartments being independently lighted by the said switches, respectively, a plate upon which the said prints may be placed as they are removed from the said plates, means for automatically numbering the said prints as the successive prints are made and means for automatically removing the said prints from the said plates.

7. In a machine for making photographic prints or the like, a platen, a track, means for pivotally and slidably supporting the said platen from the said track, means for stopping the said platen in different positions, automatically releasable means for holding papers to be printed to the said platen, a mat, bars between which the said mat is held, one of the said bars having tapering sides to fit a tapering groove to rigidly hold the said mat in position, said mat having a plurality of openings and being located so that as the said platen is stopped in different positions the said paper thereon to be printed will cover one of the openings in the said platen, indi-

vidual lamp compartments under the openings in the said mat and means for lighting the said lamps independently as the platen operating means is moved downward with an extra movement.

8. In a device for making photographic prints or the like, a platen, means for rotatably and slidably supporting the said platen in different positions, lamp compartments under the respective positions of the said platen, a mat having openings over the said lamp compartments and individual switches for automatically operating the lamps in the said compartments as the platen is moved down over them with an extra downward movement.

9. In a machine for making photographic prints or the like having a plurality of printing positions, a movable paper holding means, a slidable frame in which the said paper holding means is pivotally mounted, a plurality of film holding means cooperating with the said paper holding means, and means for making a plurality of prints on the same paper as it is operated in the different positions.

10. In a device for making photographic prints or the like having a plurality of printing positions, a paper holding means, a slidable means for pivotally supporting the said holding means, means for adjusting the movement of the said paper holding means, means for holding films in a plurality of positions cooperating with the said paper holding means, and means for making a plurality of prints on the said paper as it is held in the said paper holding means.

11. In a device for making a plurality of exposures on one piece of paper having a plurality of printing positions, a movable paper holding means having a slidable pivot through which it is supported, means for holding films to cooperate with the said paper holding means, and means for automatically lighting lamps to make exposures through the films on the said paper as it is placed in different positions.

12. In a device of the class described having a plurality of printing positions, a paper holding means, means for supporting the said paper holding means so that it may readily be moved to a plurality of printing positions, suitable mats, suitable film holding means cooperating with the said paper holding means, and means for automatically exposing and printing the said paper as it is placed in the said positions.

13. In a photographic printing machine having a plurality of printing positions a paper holding means, means for readily moving the said paper holding means to a plurality of positions, means for holding a plurality of films to cooperate with the said paper holding means, means for automatically exposing and printing the paper in each of the said positions and means for automatically placing numbers on the reverse side of the said paper when it is removed from the said paper holding means and placed in a predetermined position.

In testimony whereof I hereby affix my signature.

ALFRED E. KAISER.