June 7, 1932. M. WEINER 1,861,992

PHOTOGRAPHIC PRINTING AND TRIMMING MACHINE

Filed July 3, 1929 2 Sheets-Sheet 1

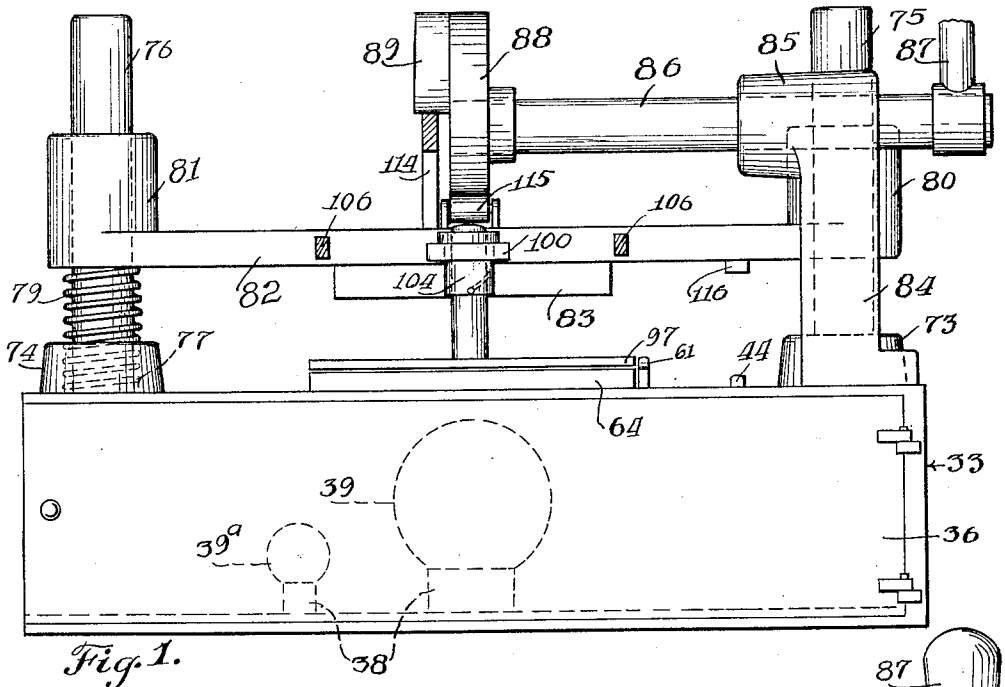
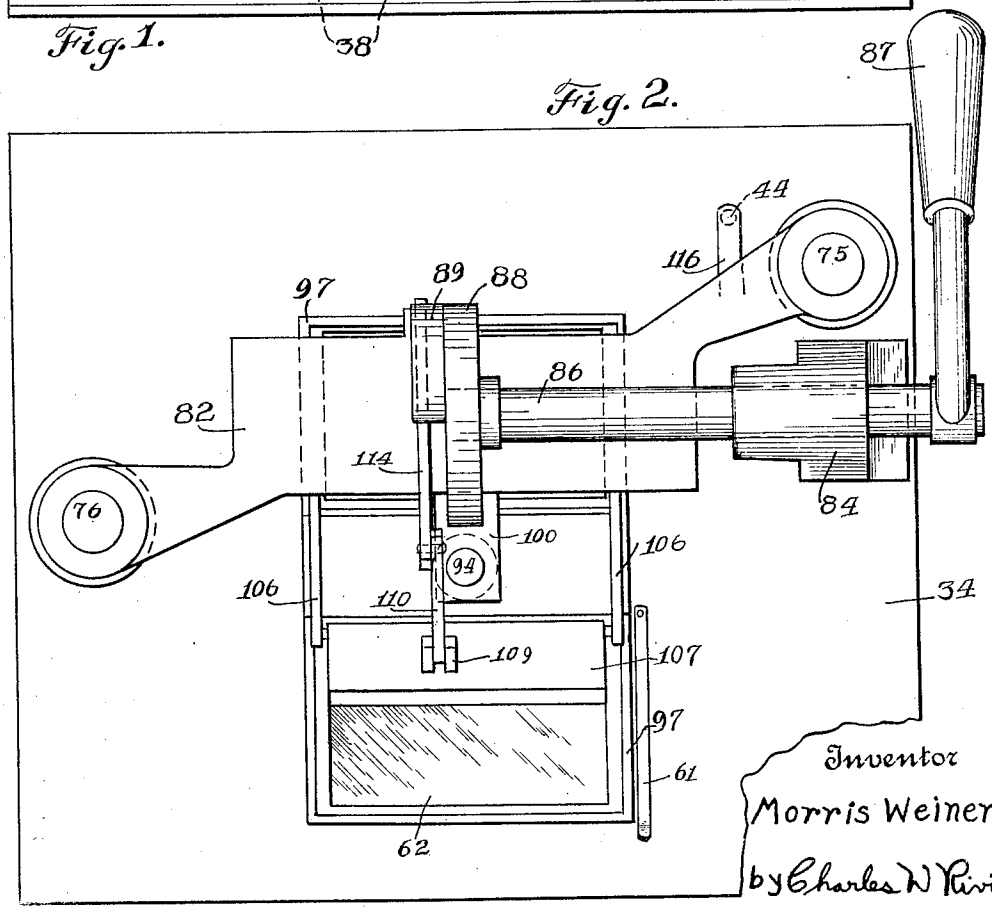



Fig. 1.

Fig. 2.




Inventor
Morris Weiner
by Charles N Rivise

June 7, 1932. M. WEINER 1,861,992

PHOTOGRAPHIC PRINTING AND TRIMMING MACHINE

Filed July 3, 1929 2 Sheets-Sheet 2

Fig. 4.

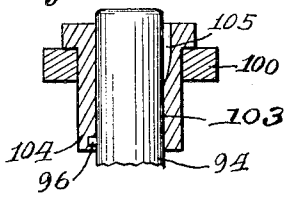



Fig. 5.

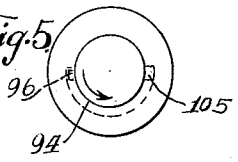
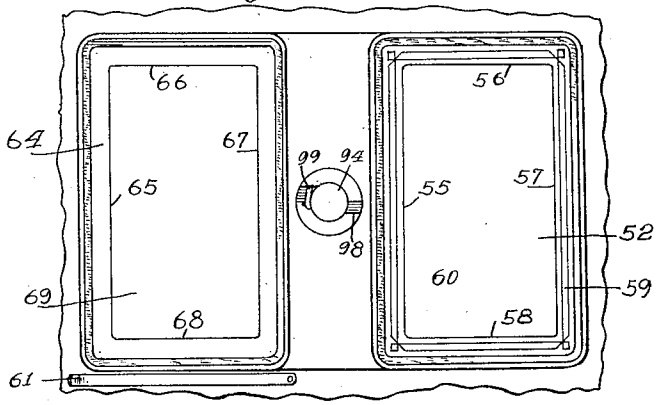



Fig. 3.




Fig. 6.




Inventor

Morris Weiner

by Charles W Rivise

Attorney

Patented June 7, 1932 1,861,992

# UNITED STATES PATENT OFFICE

MORRIS WEINER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO SAMUEL LEFKOWITZ, OF NEW YORK, N. Y., AND ONE-HALF TO ISSIAH MINTZ, OF NEW YORK, N. Y.

## PHOTOGRAPHIC PRINTING AND TRIMMING MACHINE

Application filed July 3, 1929. Serial No. 375,853.

This invention relates in general to photographic printing machines and has more particular reference to a system for handling photographs whereby the greatest amount of work can be done with fewest operations.

Prior to my invention it has been customary to print the positive from the negative in one frame and then transfer it to another to print the border lines with the use of the mask. In such operation, it is very difficult to align the outline of the print with the lines of the mask. And too, the trimming of the finished prints is both difficult and tedious. With my device the same result is accomplished in one operation—pull the handle forwards and push it back and the operation is performed.

The object of my invention is to provide improved means for handling photographic prints in a manner to insure proper alignment of the views with the lines of the border and cut edges of the print paper.

Another object of this invention is to provide a machine simple in construction, cheap to manufacture and positive in operation and which will accomplish a maximum of work with a minimum of energy exerted.

With the foregoing and other objects in view the invention consists in the arrangement and combination of parts hereinafter described and claimed, and while the invention is not restricted to the exact details of construction disclosed herein, still for the purpose of illustrating a practical embodiment thereof, reference is had to the accompanying drawings, in which like reference characters designate the same parts in the several views, and in which—

Figure 1 is a front elevation view of the machine, with parts removed.

Figure 2 is a top plan view of the machine.

Figure 3 is an end elevational view with parts in section.

Figure 4 is an enlarged view, parts in section, of one of the details.

Figure 5 is a top plan view of Figure 4.

Figure 6 is a detail view of one of the parts.

Referring now more specifically to the drawings, I show a photographic printing and trimming machine having a base 33 consisting of a top plate 34, side members 35, a hinged door 36 and a bottom piece 37. To the bottom piece 37 are secured the electric light sockets 38 having the bulbs 39 and pilot $39^a$. The electric current is supplied through the wires 40. A circuit breaker is shown at 43 having the push button 44. The current supplying the pilot $39^a$ is continuous and separate from that supplied to the bulbs 39.

In the top plate 34 are two rectangular apertures 45 and 46. The aperture 46 has depending sides 47 to which is secured the strip 48 supporting the springs 49. Bordering the aperture 46 is the female cutter member 53. Loosely, but snugly, fitted within the aperture 46, and supported by the springs 49 is a glass closure 54. The surface 52 of closure glass 54, bounded by lines 55, 56, and 57, and 58 is opaque, the outer surface 59 is transparent and has printed thereon the border lines 60.

The aperture 45 has a glass cover 62, held in position by the binder 63. The glass cover 62 has an opaque border 64 around its edges extending inwardly to the lines 65, 66, 67, and 68, the surface 69 within said lines is transparent.

To the top plate, and integral therewith, are the base blocks 73 and 74, having the upstanding stubs 75 and 76. The base blocks 73 and 74 have annular recesses around the base of the stubs 75 and 76. Within the recesses 77 are seated the coil springs 78 and 79. Slidably positioned on the stubs 75 and 76 are the guide blocks 80 and 81 of the main supporting plate 82 of the male cutter member 83.

From the top plate extends upwardly the standard 84 having the long sleeve journal bearing 85. Journaled within the bearing 85 is the shaft 86. To one end of the shaft 86 is fixed the operating handle 87, and to the opposite end of said shaft is fixed the cam 88, said cam 88 having attached thereto the smaller cam 89.

Within the top plate is an aperture 93 having pivoted therein the stub shaft 94. Integral with shaft 94 at its lower end, is the

washer 95 and intermediate its ends is the stub pin 96.

Secured to the washer 95 is the revolving double frame 97. Loosely fitted around the stub shaft 94 and secured to the frame 97 is the ratchet toothed disc 98. In engagement with the toothed disc 98, and secured to the stub shaft 94 is the pawl 99.

Extending from the front edge of the supporting plate 82 is the bracket 100. The bracket 100 has an aperture 103, into which is secured by means of a set screw, or otherwise, the sleeve 104. The sleeve 104 has a spiral groove 105 which engages the stub pin 96.

Extending from the front edge of the supporting plate 82 are the arms 106, to which is pivoted the platen 107, having the felt lining 108. To the back of the platen 107 are the ears 109 to which is pivoted the toggle link 110. Pivotally connected to the back edge of plate 82 is the toggle link 114. To the top side of plate 82, substantially in the center of same, is secured the anti-friction roller 115.

Extending from back portion of plate 82 is the arm 116 which operates the electric push button.

Seated within a recess in the top side of plate 82 and acting against toggle link 114, is the spring 117.

In operation: The machine is set as shown in Figure 3, the negative is placed on the glass cover 62 and held by the flat spring clip 61, the print paper is placed into the frame $97^a$, the operating handle 87 is brought forward, through an angle of 45 degrees, the cam 88 contacting with the roller 115 forces down, against the action of the springs 78, 79, the supporting plate 82. With the motion of cam 88 the cam 89 forces down the toggle links 110 and 114 thereby bringing the under surface of the platen 107 parallel with surface of the print paper occupying the frame $97^a$, and presses upon the frame until said paper contacts with the negative resting on the glass cover. At this stage of operation the arm 116 forces down the push button 44 closing the circuit at 43 thereby turning on the light for making the exposures. As the grooved sleeve 104 makes its descent the shaft 94 turns in the direction shown by arrow in Figure 5, the pawl 99 riding over the toothed disc 98. As the handle 87 is thrown backwards, springs 78 and 79 lift the supporting plate back to its normal position. As the grooved sleeve 104 ascends the shaft 94 turns in an opposite direction, to that made on the descent of said grooved sleeve, the pawl 99 engaging toothed disc thereby revolving the frame 97. Upon succeeding operations as the exposure is being made under frame $97^a$ the cutter 83 trims the print in frame $97^b$. In the first exposure the edges of the paper is shielded from the light by the opaque border 64 but when it has been revolved to be trimmed as the cutter comes down another exposure is made, the glass 54 through which this exposure is made admits the light only at its edges thereby printing the border of the paper in accordance with the design on the glass 54. The glass 54 normally stands just a little above the female cutter member so that the male cutter member holds the paper firmly against the glass 54 before the cutting process starts. As the male member of the cutter presses the glass 54 the springs 49 allow it to yield and by no means interfere with the trimming of the photograph. The border lines and figure may be of any design having such as circular, blocked or clipped corners.

Having thus described my invention, what I claim as new and wish to protect by Letters Patent, is:

1. In a photographic printing and trimming device in combination with a work supporting surface provided with two printing stations, each of which is provided with complementary light pervious and light impervious portions, the light pervious portion of one station corresponding to the field of a photographic negative and the light pervious portion of the other station corresponding to a border, two printing frames each mounted for selective vertical alinement with one or the other of the said printing stations and each adapted to support printing paper, means for pressing the printing paper in the first printing frame against a photographic negative positioned at the first printing station to print the field thereon, means for pressing the printing paper in the second printing frame against the second printing station to print the border thereon, and for simultaneously trimming the same and means under the control of the last mentioned means for reversing the position of the two printing frames with respect to said printing stations.

2. In a photographic printing and trimming machine, a reciprocable cutter supporting member, revolvable print holders, printing stations, one for each of said print holders, means to reciprocate said cutter supporting member and means actuated by the reciprocation of said cutter supporting member to revolve said print holders in timed relation to the reciprocation of said cutter supporting member and bring said holders into vertical alinement with its corresponding printing station in readiness for a printing operation.

3. In a photographic printing and trimming device, in combination with a work supporting surface provided with two printing stations, each of which is provided with complementary light pervious and light impervious portions, the light pervious portion of the first station corresponding to the field of a photographic negative and the light per-

vious portion of the second station corresponding to a border, means at each station to support a sheet of print paper in vertical alinement with the corresponding station, means to apply even pressure over the surface of the sheet of print paper at the first station and against a negative positioned at said station, to print the field of said negative, means to trim and apply pressure against the sheet of printing paper at the second station to complete the print and means to reverse the position of the two sheets of printing paper, the said last mentioned means and the means for applying pressure against the printing paper at the first station being actuated by the means to trim and apply pressure against the printing paper at the second station.

4. In a photographic printing and trimming device, in combination with a work support having two stations, means to trim a sheet of printing paper at one of said stations and means actuated by the last mentioned means to print a sheet of printing paper at the other of said stations.

5. In a photographic printing and trimming device, in combination with a work support having two stations, means to print a sheet of printing paper at one of said stations, means to trim a sheet of printing paper at the other of said stations and means to reverse the positions of the two sheets of printing paper, the printing means and the reversing means being both actuated by the trimming means.

6. In a printing and trimming device, means for applying evenly distributed pressure over the surface of printing paper and against a negative, said means consisting of a platen, a vertically reciprocatable member, means for pivotally connecting one portion of said platen to a portion of said vertically reciprocatable member, toggle means for connecting another portion of said platen to another portion of said reciprocatable member and means for reciprocating said reciprocatable member and actuating said toggle means.

7. In a printing and trimming device, a platen for applying evenly distributed pressure over the surface of printing paper and against a negative, a reciprocatable member, pivotal means for connecting one portion of said platen to a portion of said reciprocatable member, toggle means for connecting another portion of said platen to another portion of said reciprocatable member and a compound cam for actuating the reciprocating member and said toggle means.

8. In a device as defined in claim 2, said last mentioned means consisting of a sleeve secured to said reciprocable supporting member and having an internal spiral groove, a rotatable stub shaft receivable within said sleeve and having a stub pin intermediate its ends receivable within said spiral groove and a ratchet and pawl mechanism connecting said rotatable shaft with said revolvable print holders.

In testimony whereof I have signed my name to this specification.

MORRIS WEINER.