

(No Model.)

2 Sheets—Sheet 1.

C. MAINE.
COPYING MACHINE.

No. 478,119.

Patented July 5, 1892.

FIG_1_

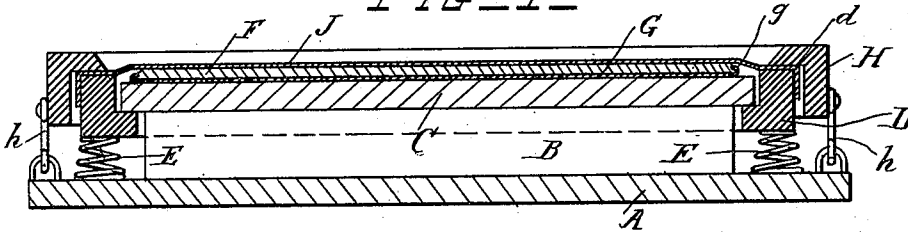
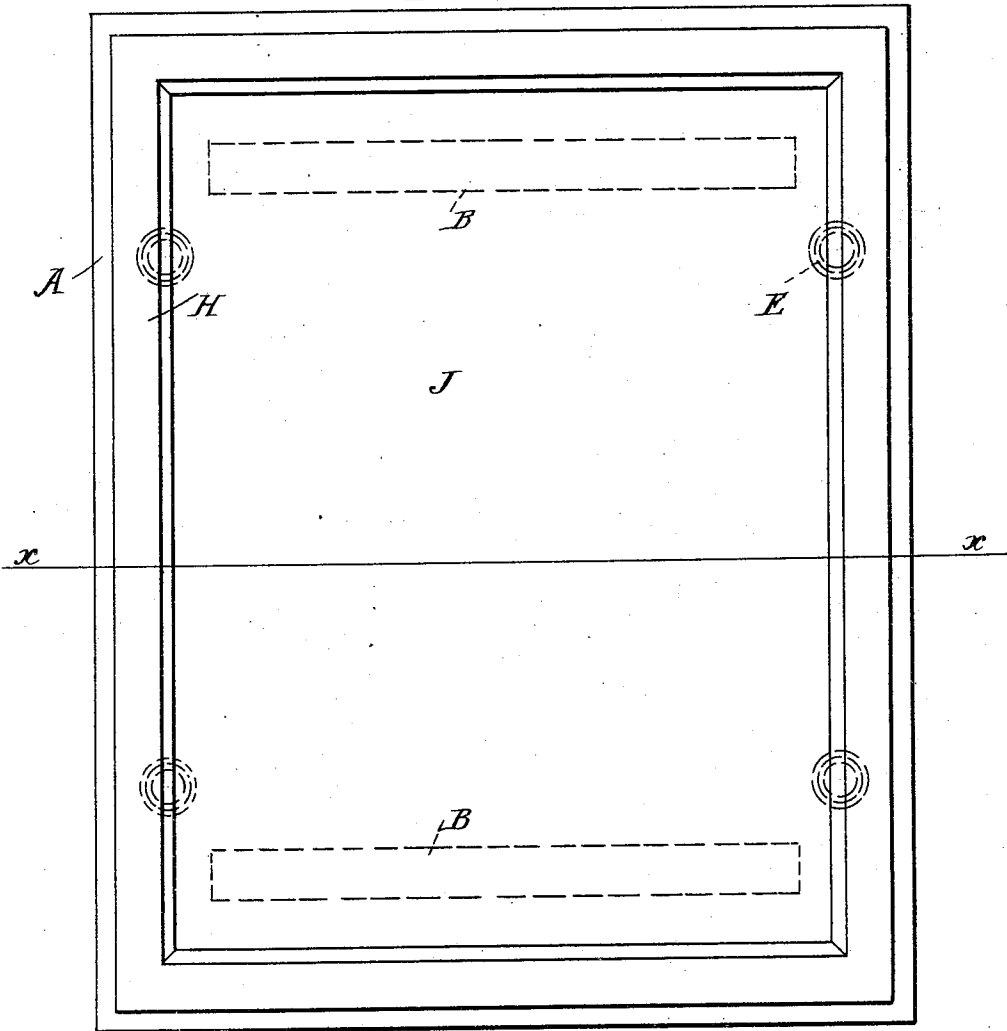


FIG. 2.



Witnesses

Walter Allen
J. M. Hester

Inventor

Charles Maine.

By his Attorney

Attorney
Herbert W. Jenner.

(No Model.)

2 Sheets—Sheet 2.

C. MAINE.
COPYING MACHINE.

No. 478,119.

Patented July 5, 1892.

FIG-3-

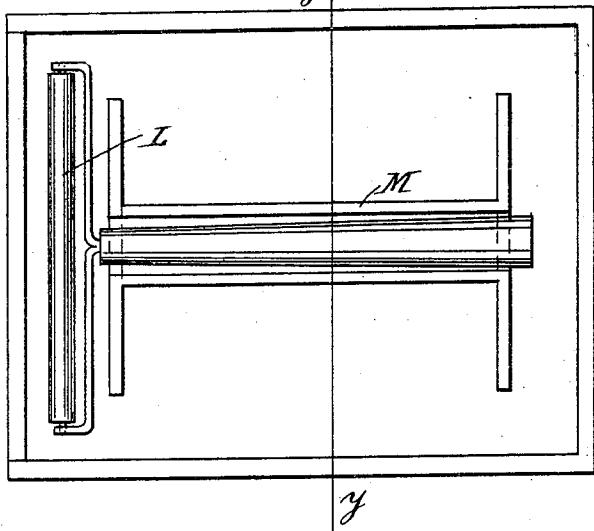


FIG-4-

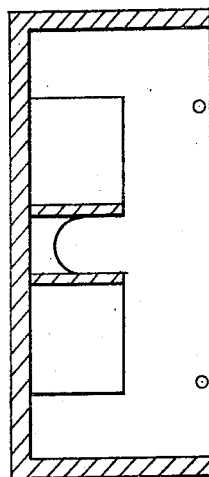
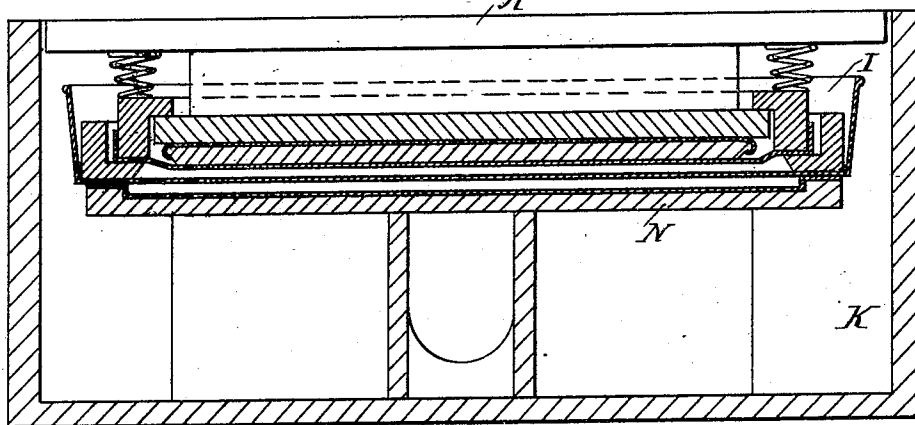


FIG-5-



Witnesses

Walter Allen
J. M. Weister

Inventor

Charles Maine.

By his Attorney

Herbert W. Jenner.

UNITED STATES PATENT OFFICE.

CHARLES MAINE, OF THREE RIVERS, CANADA.

COPYING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 478,119, dated July 5, 1892.

Application filed December 18, 1891. Serial No. 415,560. (No model.)

To all whom it may concern:

Be it known that I, CHARLES MAINE, a citizen of the Dominion of Canada, residing in the city and district of Three Rivers, and Province of Quebec, Canada, have invented certain new and useful Improvements in Copying-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention consists especially in a new composition for a gelatine film that is applied on a parchment-paper, to a special ink for writing anything that is desired to be reproduced, and the general arrangement of parts of my invention, its object being to produce an autotypist by means of which an unlimited number of copies can be taken off.

Referring to the drawings, similar letters refer to similar parts throughout the several views.

Figure 1 is a cross-section on line X X of Fig. 2; Fig. 2, a plan view of my invention; Fig. 3, a plan view of the box used in packing it away; Fig. 4, a section of line Y Y of Fig. 3, and Fig. 5 a longitudinal section of the whole apparatus when packed into its box.

As can be seen in Figs. 1 and 2, my apparatus is very simple, it consisting in a board A, to which are firmly secured the pieces B, supporting in turn the table or board C, which is joined to them, the rectangular frame D, shaped as shown in Fig. 1, being supported from the board A by means of any suitable number of springs E. Onto the table C is firmly secured a heavy piece of felt F by means of the metallic sheet G, which has its edges turned down onto it, as shown at g in Fig. 1. This piece of sheet metal G is firmly secured to the table C in any suitable manner, and instead of covering the whole of it it could simply be a rectangular U-shaped piece, which when the two sides are pressed down would serve the same purpose. Over the frame D comes the one H, which can be freely put on and taken off, its use being explained hereinafter, this constituting my apparatus proper; but the most important part is the parchment-paper, on which is put a film of specially-prepared gelatine, which has the following composition: water, twelve pounds; gelatine, four

pounds; chloride of calcium, one-half ounce; glycerine, eight ounces; bichromate of potash, two drams.

The use of the chloride of calcium is to facilitate the absorption of water by the prepared gelatine from the heavy felt F, which is moist, as explained hereinafter, and also serves to make the gelatine more adhesive to the parchment-paper, that of glycerine to make it render the gelatine elastic, while the role of the bichromate of potash is to give body to the whole.

Now whenever it is desired to get any number of copies of a written document all that is necessary to do is to write it with an ink having the following composition: water, one gallon; Campeachy wood, one pound; alum, one-fourth pound; or instead of Campeachy wood any other vegetable dye. Any kind of paper will do to write on, and following is the description of the way to proceed to make any number of reproductions desired.

Water is first of all put into a tray I (shown in section in Fig. 5) of sufficient size to contain my apparatus, and the latter is turned upside down, so as to have the felt F underneath, the frame H of course being taken off, and the whole is put into the tray I, so that the felt F is completely submerged and absorbs all the water that it can. It is then taken out and the parchment-paper J, Fig. 1, which is covered with the gelatine film, is put on, the film side up. Then the frame H is put on, compressing the edges of the parchment-paper between it and the one D, as shown at d, and by pressing down somewhat more the frame D, only being supported by the springs E, is pushed downward and the parchment-paper stretched out perfectly tight and smooth, thus insuring a perfect contact with the moist felt F, which serves the purpose of keeping it wet the whole time, for the moment the gelatine-covered parchment gets dry the film of gelatine peels off, the frame H being held down by means of the hooks h or by any other suitable arrangement. The gelatine surface is now ready to receive the transfer of the writing or drawing previously executed with the above-described ink. This is done merely by laying the piece of paper having the writing on it, as the gelatined parchment-paper, and gently passing the hand over it, so as to

have a perfect contact between the side of the paper having the writing and the film of gelatine, the same as would be done on lithographic stone. On removing the paper it
5 will be seen that there has been an imprint left on the gelatine, and then all that is necessary to do is to apply with the hand sheets of paper on it, previously passing an ordinary
10 inking-roller covered with lithographic ink over it. In this way any number of well-reproduced copies can be taken.

The whole can be packed away in the box K, (shown in Fig. 5,) the inking-roller L being held in position by means of the frame M. The
15 inking-slab or tin-covered board N is first put in after the roller and inks, on top of the frame M. Then comes the tray I, and lastly my autocopyist upside down, the board A forming the top of the box.

20 Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a copying-machine, the combination, with the board C, of the metallic plate secured to it, the sheet of absorbent material secured
25 on the said plate, the gelatine-covered paper, and the frames for stretching the said paper and holding its under surface in contact with the said sheet, substantially as set forth.

2. In a copying-machine, the combination, 30 with the back board A, provided with pieces B, of the board C, resting on the said pieces, the frames D and H, the gelatine-covered paper held by the said frames, a sheet of absorbent material under the said paper, the
35 springs interposed between the board A and the frame D, and means for securing the frame H to the board A, substantially as set forth.

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

CHAS. MAINE.

Witnesses:

F. X. MALO,

ALF. WALTER.