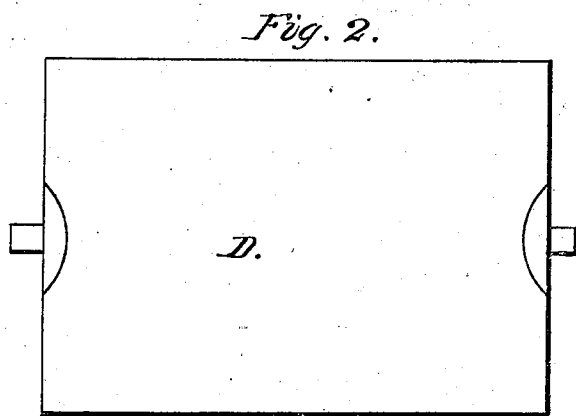
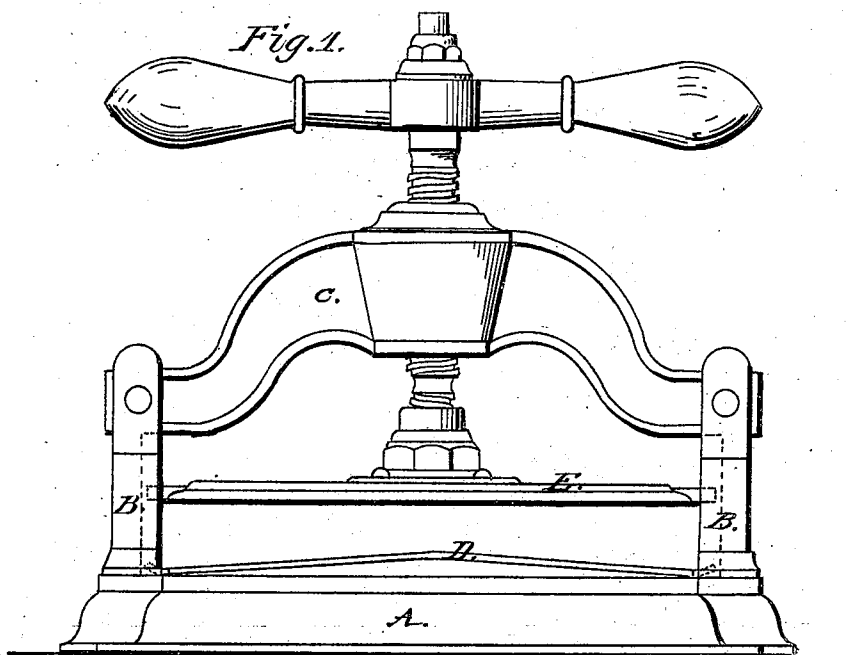


W. M. Smith.
Copying Press
N^o 87,304. Patented Feb. 23, 1869.



Witnesses;
Sydney O. Smith
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W. MORRIS SMITH, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 87,304, dated February 23, 1869.

IMPROVEMENT IN COPYING-PRESSES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that I, W. MORRIS SMITH, of the city and county of Washington, in the District of Columbia, have invented a new and useful Improvement in "Copying-Presses;" and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, through letters of reference marked thereon, forming part of this specification, and in which—

Figure 1 represents a front elevation of a press, with my improvement applied, and

Figure 2, a plan of my improvement detached.

All experienced in the use of the copying-press have at times, if not uniformly, observed that, in different parts of the copy, one or more letters, and sometimes whole words, would be missing, in which case, after the subject had passed from memory, the reading of the copy would be almost unintelligible; owing to such omission.

These imperfections arise from the presence of air between the sheet to be copied and the dampened page, which, in the process of dampening, becomes wrinkled, so that the two sheets will not lie in close contact, and the bed and platen of the press, being parallel to each other, clamp the book, with all the air contained in spots between the two sheets, and, being thus confined, can only be compressed, but not expelled, so that the two sheets cannot, with any reasonable amount of pressure, be brought in contact to make the copy.

To remedy this difficulty is the object of my present invention, which consists in the application to the bed or platen of an ordinary screw or lever-press, or to both, of a semi-elliptical plate of spring-steel or other arched, yielding substance, so arranged and formed that, on screwing down the platen, the pressure shall first be applied to the centre of the book or page on which the copy is to be made, and then gradually extended toward its borders, in which manner any globules of air will be gradually expelled at the edges of the book or sheet, and the dampened paper and sheet to be copied be brought in close contact over their entire surface, and a perfect copy be insured.

To the more perfect understanding of my invention, I will describe it by referring to the drawing, in which—
A represents the bed.

B, the uprights or standards, to which is attached the arch, or bridge, C, through the centre of which the pressure-screw, cam, or lever, as the case may be, operates, to raise or lower the platen E, as in the ordinary press.

To this structure, I apply a plate, D, of spring-steel or other suitable metal, slightly curved, or arched, and corresponding or thereabouts in size with the bed or platen, or, instead of such semi-elliptical plate, an elastic rubber bed, flat on one side and curved or rounded on the other, may be substituted; and such yielding bed or spring may be applied to the bed A or the platen E, or to both, but it is believed its application to the bed alone will be sufficient; and should it have the effect of curving the book, by its application to one side only, this objection, if such it be, may be overcome by inserting the book with its opposite sides upward alternately.

It will be obvious to any mechanic that this bed may be shaped with a cavity at each end to span the pillars B, as shown in black outline in fig. 2, or with a tongue to enter the groove in grooved pillars, as represented in red outline, or, if applied to the under side of the platen, may be slotted at each end, and connected by fixed studs, or in the use of gum-elastic or other similar material, by cement, or in any other suitable manner, to hold them in place.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

The application, to a copying-press, of a spring-plate or yielding bed, curved or rounded on its surface, for operation in combination with the permanent bed or platen, or both, or with any copying-frame, or clamp, substantially as and for the purpose set forth.

W. MORRIS SMITH.

Witnesses:

SYDNEY E. SMITH,
E. H. SPANG.