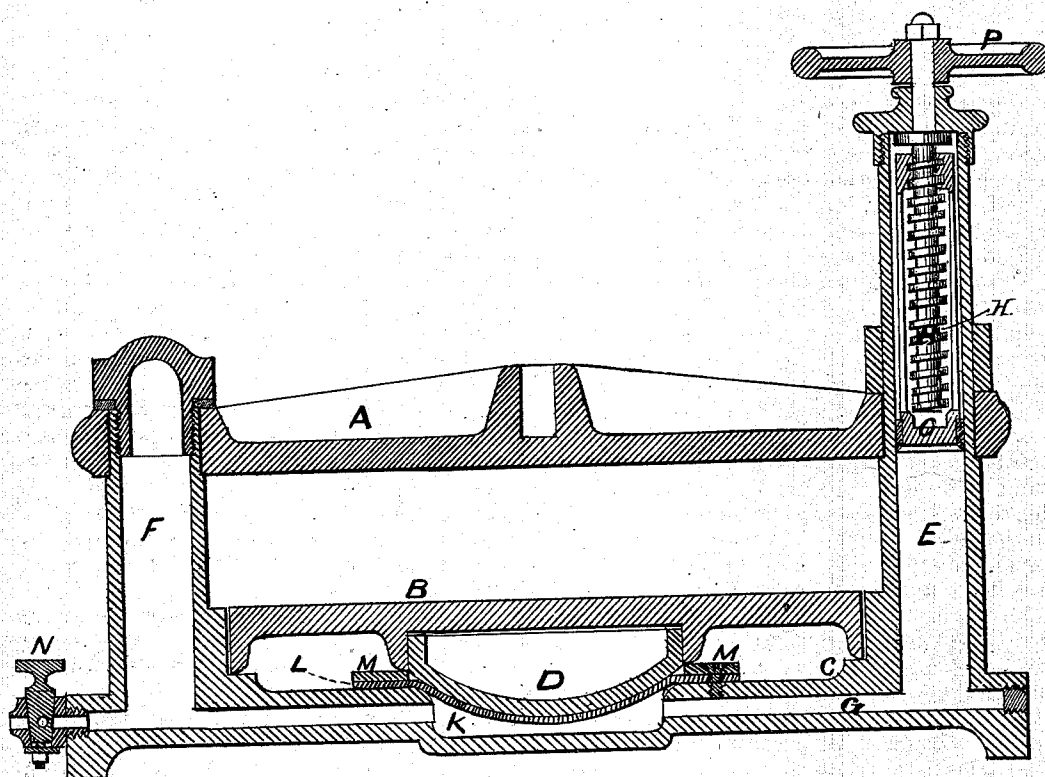


W. U. FAIRBAIRN.
Copying-Presses.

No. 146,519.

Patented Jan. 20, 1874.



Witnesses.

W. Schaubert
Chas. E. Randall

Inventor.

Wm. U. Fairbairn

UNITED STATES PATENT OFFICE.

WILLIAM U. FAIRBAIRN, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO HIMSELF, W. S. CHAMBERLIN, AND C. E. RANDALL.

IMPROVEMENT IN COPYING-PRESSES.

Specification forming part of Letters Patent No. 146,519, dated January 20, 1874; application filed December 17, 1873.

To all whom it may concern:

Be it known that I, WILLIAM U. FAIRBAIRN, of Boston, in the county of Suffolk and State of Massachusetts, have invented a new and useful or Improved Copying-Press; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawing, which is a vertical section thereof.

Copying-presses, as at present in general use, are operated mostly by a combination of lever and screw, and require considerable effort of the operator at the final compression—so much so that not only the parts of the apparatus require considerable weight, but also that the stand or table has to be of great strength, in order to resist effectually the strain to which it is subjected.

To avoid this overstraining, to make a press which is light, and to reduce the expense in the manufacture of it, to cause the operation of working to be easy and without shocks and injury to the stand, and make it thus more convenient, is the object of my invention; and I accomplish this by applying hydrostatic pressure, either by means of a force-pump, when water or other liquids are to be used, or by the direct pressure of public water-works, where it is available.

Referring to the drawing, C represents the base of the press, consisting of a square or rectangular frame connected by tubes G G', with circular center-piece or basin, K, and of the tubular standards F E. The frame C is provided with a rim to guide the movable plate B, to the lower portion of which is fitted the convex disk D. An elastic diaphragm of rubber, L, is secured water-tight by ring M, and screws to the rim of the basin K. The plate A is firmly attached to the standards F E, as

shown, one of which, E, forms the pump-barrel, into which a piston, O, is moved by means of screw H and hand-wheel P. At the end of one of the passages G G' is attached a four-way cock, N, to form connection with the conduit of water-works, or to discharge the water or fluid from the passages and basin.

When liquids and force-pump are used, raise the piston and fill with liquid the passages, basin, and standards. After the copying-book is placed between the plates the piston is moved down by the screw H working in the nut in the upper portion of the piston, and the liquid is thus forced against the diaphragm L, which latter, with disk D and plate B, exerts the pressure required to the copying-book. By elevating the piston by return movement of screw, the pressure of platen D is released and the press ready for a repetition of the operation.

If water from a reservoir is used as acting force, then, by simply operating the four-way cock N, the desired work is effected without requiring the pump at all.

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

1. A copying-press with force-pump, diaphragm L, and plate B, operated by hydrostatic pressure, as above specified.
2. A copying-press with tubular standards F E, piston O, basin K, diaphragm L, plate B, in combination with discharge-cock N.
3. A copying-press with standards F E, diaphragm L, plate B, and four-way cock N, combined in the manner and for the purpose as above described.

WM. U. FAIRBAIRN.

Witnesses:

W. S. CHAMBERLIN,
CHAS. E. RANDALL.