

C. H. WESTON.
Dry-Pressing Printed-Sheets.

No. 158,340.

Patented Dec. 29, 1874.

Fig. 1.

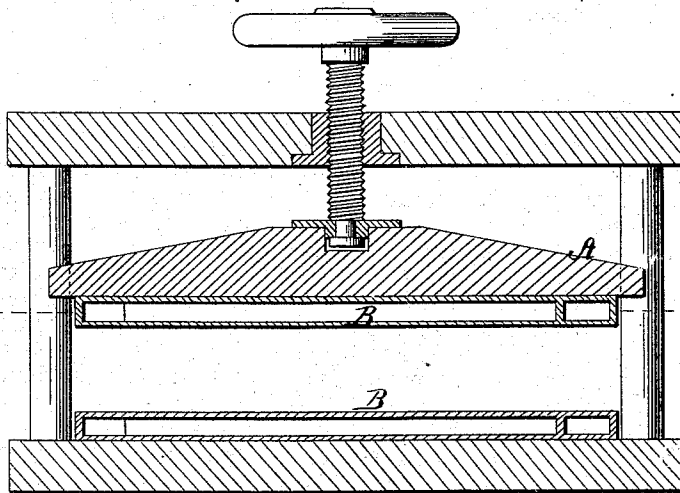
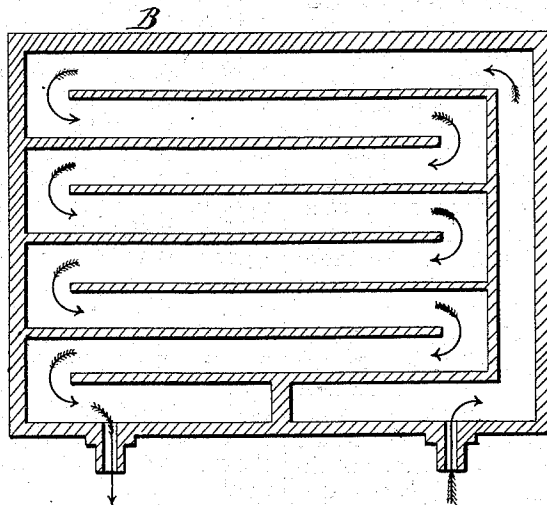


Fig. 2.



WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES H. WESTON, OF LOWELL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF HIS RIGHT TO JOHN DENNIS, OF SAME PLACE.

IMPROVEMENT IN DRY-PRESSING PRINTED SHEETS.

Specification forming part of Letters Patent No. **158,340**, dated December 29, 1874; application filed July 29, 1874.

To all whom it may concern:

Be it known that I, CHARLES H. WESTON, of Lowell, in the county of Middlesex and in the State of Massachusetts, have invented certain new and useful improvements in the application of hollow steam-plates for finishing printed matter, such as books and pamphlets; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in a process for finishing printed paper, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to use the same, I will now proceed to describe the manner in which my process may be carried out, referring to the annexed drawing, in which—

Figure 1 is longitudinal vertical section of a press, in which hollow plates are used for finishing printed paper; and Fig. 2 is a horizontal section of one form of hollow plate.

A represents a screw-press, of any suitable construction, in which hollow press-plates B B are used. The interior of these plates may be arranged in any desired manner, and these are to be heated from the inside by steam or other suitable means.

Printed paper, such as is used in books, pamphlets, &c., has heretofore been pressed between solid plates. With my process the printed sheets are first put between press-papers—say, seventy or more—as follows: First, a press-paper, then a printed sheet, then a press-paper, and another printed sheet, and so on, until is made a pack of seventy or more. The whole is then placed between the series of plates, and the pressure is brought to bear on them. Steam is then let into the hollow plates for from two to four hours, after which cold water is immediately inducted into the plates where the steam has been. The steam-heat acts upon the printed sheets, and dries

the ink quickly, gives the same a bright appearance, and the paper readily yields to the pressure under the steam-heat, therefore leveling the type-print, and forming a nice, even, and smooth surface to the sheet.

By my process the pressure required to press the paper is very slight, and much less than the old process, where no heat is used.

By quickly admitting cold water into the plates, closely following the steam, the plates and the sheets are suddenly cooled, which “sets” the pressing, very much enlivens the colors on the sheets, and the printed matter can be quickly gotten out from the plates, thereby saving time in the finishing process, to allow other unfinished sheets to be put in, and the finishing process quickly carried on.

In the old method it will take about twenty-four hours to get a “pressing” out. By my process I can take four pressings in twenty-four hours, and do much better-finished work.

In finishing book printed matter with my process, the pressing is set so that the sheets can be bound in much less thickness than by the old method, and the matter retains its pressing, and will not swell in binding.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The within-described process for finishing printed sheets, consisting of placing the matter under pressure between hollow press-plates, into which steam is admitted a suitable length of time, immediately after which cold water is admitted into the plates while the matter is still between the same, as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 6th day of July, 1874.

CHARLES H. WESTON.

Witnesses:

J. LADD,

W. E. POTTER.