C. H. WESTON & J. DENNIS.

CLOTH PRESS.

No. 86,334. Patented Jan. 26, 1869.

Fig. 3.

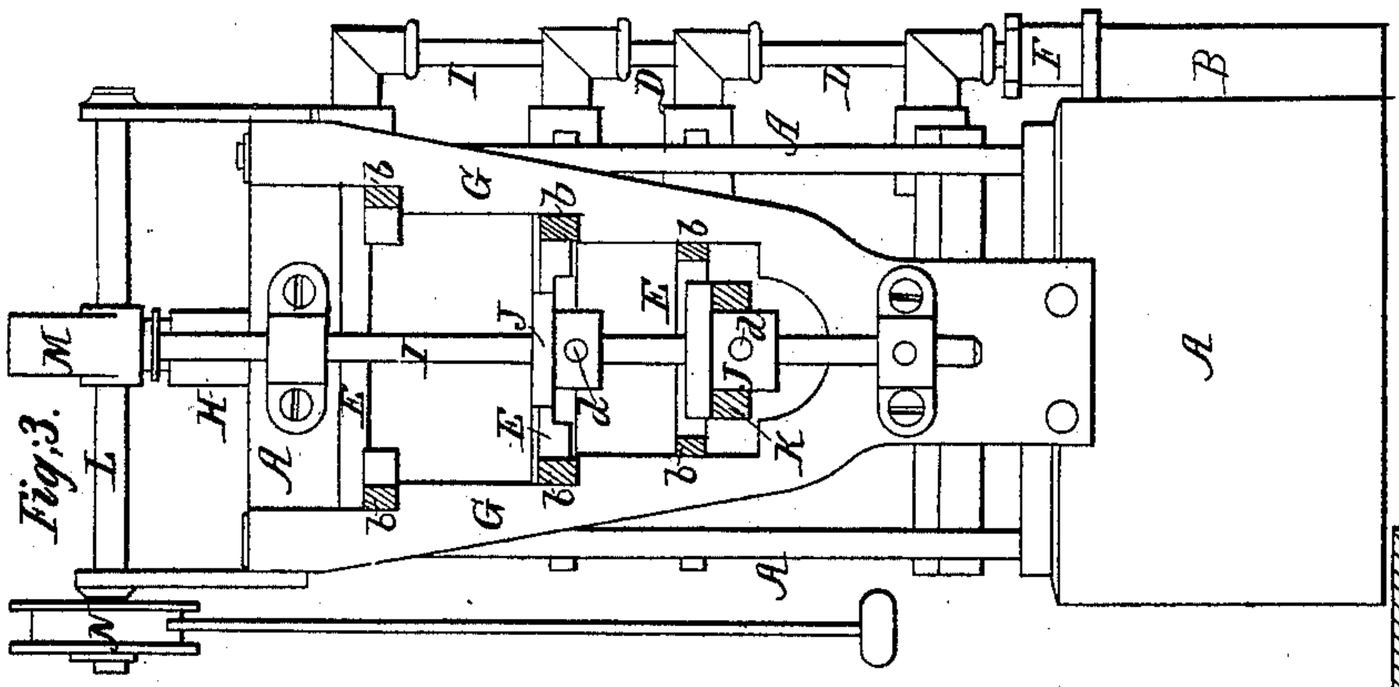


Fig. 2.

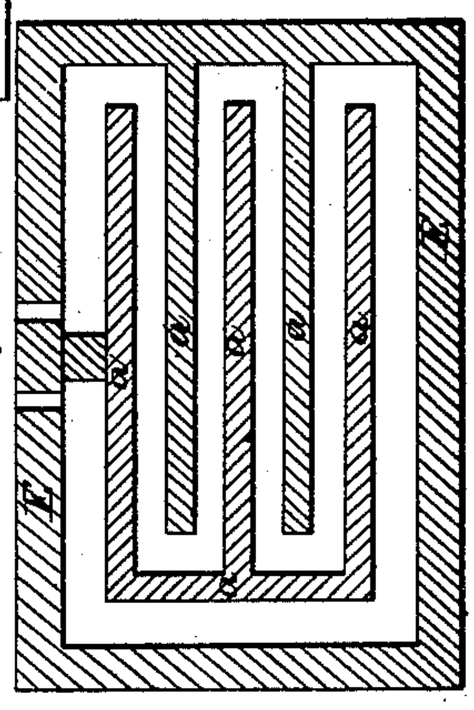
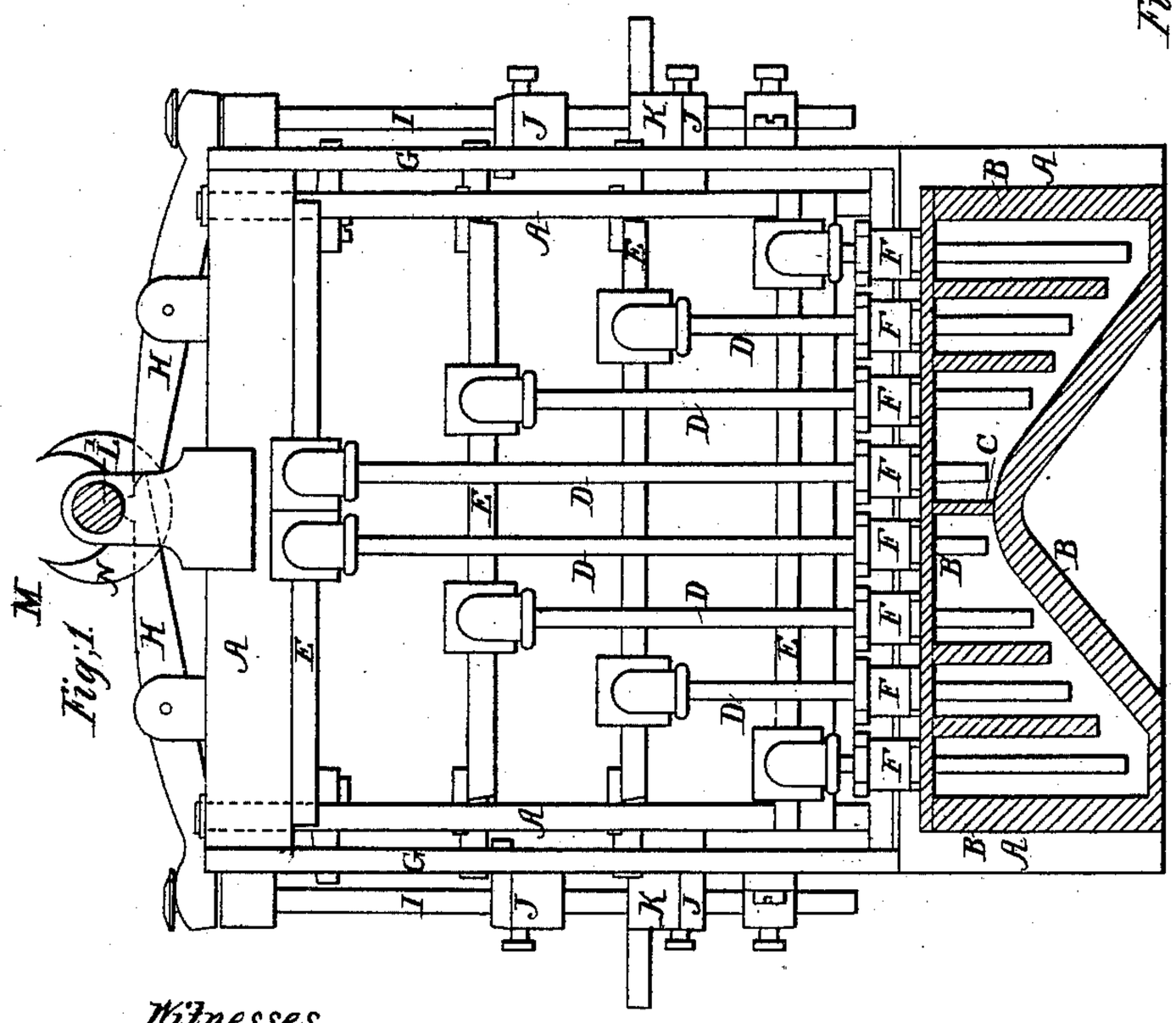


Fig. 1.



Witnesses.

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Letters Patent No. 86,334, *dated January* 26, 1869.

IMPROVEMENT IN CLOTH-PRESS.

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

To all whom it may concern:

Be it known that we, C. H. WESTON and JOHN DENNIS, of Lowell, in the county of Middlesex, and in the State of Massachusetts, have invented a certain new and useful Improvement in Hollow Steam-Press Plates, with their conections; 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,

This invention relates to that class of presses in which the several pieces of folded cloth to be pressed are placed between metallic plates, arranged one above the other, each plate being internally heated by steam, or otherwise, and having conducting-pipes, to permit the pressure upward of the plates, by means of an hydraulic ram, or pump; and

It consists in, first, the means of raising any indicated plate separately, so as to increase the space for the insertion of the fabric; second, the arrangement of the inside of the plates, whereby the plates are heated very quick, the steam passing through easier than in any plates now in use, and also not being so liable to be strained or leak on the goods; third, the steam-box, and the manner of connecting the pipes to it; fourth, the stands on which the plates rest.

In order to enable others skilled in the art to which our invention appertains, to make and use the same, we will now proceed to describe its construction and operation, referring to the annexed drawings, which form a part of this specification, and in which—

Figure 1 is a rear elevation of the machine, showing the steam-box and connecting-pipes;

Figure 2 is an inside view of the plate, showing the various channels through which the steam passes; and

Figure 3 is a side view of the press.

A represents the frame of a steam-press, at the lower end of the rear side of which is placed the steam-box B, the peculiar construction of which is seen in fig. 1.

A partition, C, divides the steam-box into two chambers.

The steam entering one of those chambers, is carried, through pipes D D, into the plates E E, thence out through similar pipes to the other chamber of the steam-box.

The pipes are so arranged that, passing through packing-boxes F F, on top of the steam-box B, they are raised or lowered with the plates E E, in conformity with the action of the steam on said plates.

It will be seen that we use only two pipes to each plate, to convey the steam and water in and out.

The packing is put into the simple box F, on top of the steam-box B, and the pipe works in the box, making a safe and sure packing.

The shape of the steam-box B, as shown in fig. 1, allows the condensed water to run away with great ease, which is absolutely necessary, as, if water remains in the same, it causes a strain throughout the whole machine.

The plates E E are hollow, and their inner sides provided with a series of bars, *a a*, as shown in fig. 2, forming channels for the steam to pass through acting upon the whole inner surfaces of the plate.

It will be seen that the bars *a a* are so arranged as to be at right angles with the sides, and form a single passage for the steam to pass through, and that they are, further, so placed that the steam acts upon the largest possible surface with the smallest possible number of turns.

The corners of the bars *a a* are shown as being square, but we prefer rounding them, as steam and water will more easily pass a round corner than a square one; and the channel through which the steam and water have to pass is so arranged that the steam is sent around the outside of the plate first, as shown in fig. 2, by red arrows.

By this arrangement of the bars *a a*, the plates heat much quicker, the steam passes through easier, and is not so liable to strain the plates and leak on the goods. In like manner, when the steam is stopped, the water goes through much quicker and easier, cooling the plates in the shortest possible time.

They are further provided on their ends with lugs *b b*, which rest on and work in the stands G G, one on each end of the frame A.

These stands, as shown in fig. 3, form a kind of stair-step arrangement, in which the plates work up and down, each plate having its own step on which it rests.

On top of the press are pivoted two levers, H H, which meet at the centre, and their outer ends extend beyond the ends of the press, these ends of the levers being forked and surrounding the upper ends of the shafts I I, which are placed perpendicularly in sockets or loops, on the ends of the press, for the purpose of raising each of the plates separately, if desired, to give more room to insert the goods which are to be pressed.

The shafts I I are provided with dogs J J, which can be adjusted at any height desired, by means of screws *d d*, holding them on said shafts.

Slides K K are then placed on the dogs J J, under the plate which is to be raised.

Across the upper end of the press, a shaft, L, is placed, in suitable bearings, which is provided with a cam-wheel, M, on its centre, working on the inner ends of the levers H H, and a wheel, N, at its end, this wheel being provided with ropes and weights, or other suitable arrangement, to be turned in either direction.

It will be seen that, by turning the shaft L, by means of the wheel N, the cam-wheel M presses the inner ends of the levers H H down, raising the outer forked ends, and with them the shafts I I.

The dogs J J and slides K K being first placed in proper position on said shafts, will, of course, raise any plate desired.

Having thus fully described our invention,

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

1. The shafts I I, provided with adjustable dogs J J and slides K K, in combination with the levers H H, shaft L, cam-wheel M, and wheel N, all arranged as described, and operating for the purpose of raising any indicated plate separately, substantially as herein set forth.

2. The arrangement of the steam-box B, packing-boxes F F, and pipes D D, substantially as shown and described.

3. The stationary stands G G, constructed as described, with stair-steps, on which the lugs *b b*, on the plates E E, rest, substantially as herein set forth.

In testimony that we claim the foregoing, we have hereunto set our hands, this 18th day of July, 1868.

C. H. WESTON.
JOHN DENNIS.

Witnesses:
DAN'L CUSHING,
A. E. CONANT.