W. E. BURCKY & H. BERLIN.

PLAITING-MACHINE.

No. 184,584. Patented Nov. 21, 1876.

Fig. 1.

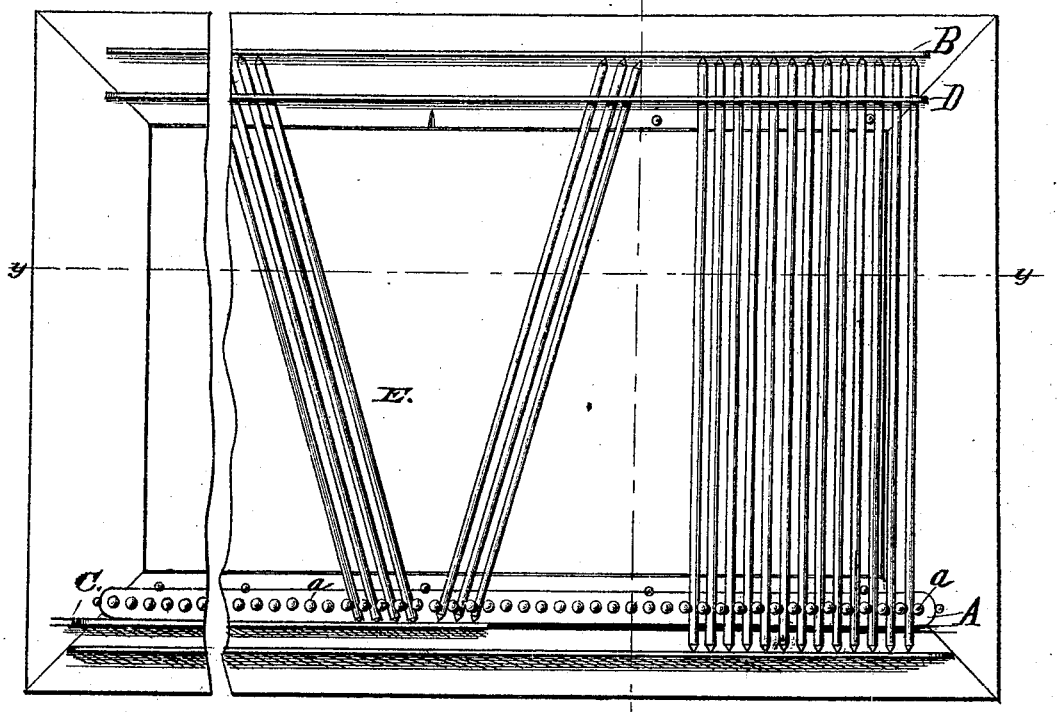


Fig. 2.

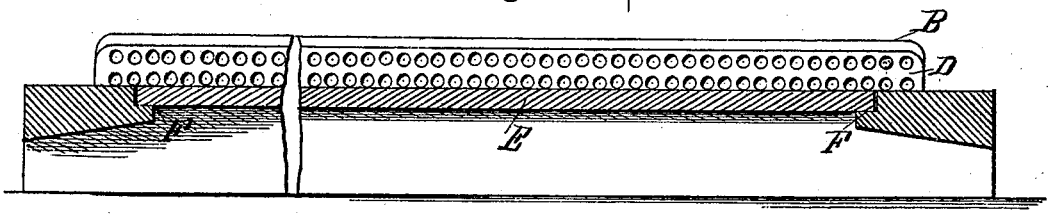


Fig. 3.

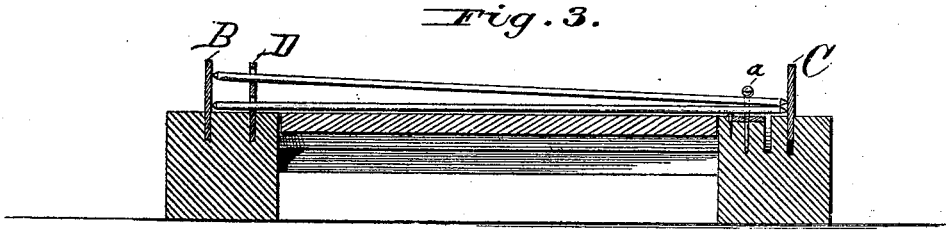
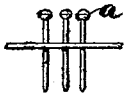


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM E. BURCKY AND HENRY BERLIN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN PLAITING-MACHINES.

Specification forming part of Letters Patent No. **184,584**, dated November 21, 1876; application filed July 13, 1876.

To all whom it may concern:

Be it known that we, WILLIAM E. BURCKY and HENRY BERLIN, of Chicago, county of Cook, and State of Illinois, have jointly invented certain new and useful Improvements in that class of devices known as Plaiting-Machines, of which the following, in connection with the accompanying drawing, is a full, clear, and exact description:

Figure 1 is a plan view of the machine; Fig. 2, a section on the line *y y*, showing plates D and B in elevation; Fig. 3, a section on the line *x x*, and Fig. 4 an enlarged view of the needle-sustaining pin.

The object of our invention is, first, to form the heads of the pins which sustain the plaiting-needles on one or both sides of the frame in such manner that said needles may be readily inserted or removed; second, to provide a re-enforcing-plate of metal upon the frame, through which the sustaining-pins pass, for the purpose of securely holding them in place; third and fourth, to provide the frame with an adjustable guard-plate and suitable grooves for the same, and with needle-holding devices arranged so that diagonal as well as square plaiting may be made upon the machine; fifth, to provide the machine with a removable bottom board, which, when removed, will admit of various depths of plaiting; and, sixth, to attach to the frame beneath the needles suitable guiding or gage pins or marks, to enable the operator to verify the accuracy of the adjustment of each needle.

The heads of the sustaining-pins *a* are beveled or rounded off above and below, and are located so that the distance between the peripheries of two adjacent heads shall be a trifle less than the diameter of the plaiting wires or needles. A slight pressure upon the wire will cause the two pins between which it is to be forced to separate sufficiently to admit it, and if it be desired to remove the wire or needle for any reason, the beveled under side of the head permits it to be easily withdrawn.

The advantage of this construction consists in the facility with which the needles may be located in the process of plaiting, and withdrawn in case of an error, which frequently occurs.

If the pins were driven directly into the wood of which the frame is composed, it is obvious that they would soon work loose and become displaced. To obviate this we place a perforated re-enforcing-plate, A, upon the frame, and through it insert the pins *a*. This metallic plate prevents lateral displacement of the pins, which should be driven sufficiently deep to prevent their being drawn out when the needles are being manipulated.

Upon one side of the frame is located a stationary needle-plate, D, having two or more rows of perforations, which are sufficiently large to permit the needles to be inclined for the purpose of forming the diagonal plaiting, as shown at Fig. 1. Outside of this plate D is located the guard-plate B, the office of which is to prevent the needles from slipping too far or becoming displaced. On the opposite side of the frame we cut two or more grooves to receive the movable guard-plate C, which, together with the plate B, pins *a*, and perforated plate D, prevent displacement of the needles. When the needles are inclined the perpendicular distance between their extremities is, of course, diminished, and the guard-plate C should then be inserted in a groove nearer the pins *a*. The frame of the machine is recessed, as at F, and a bottom board, E, of sufficient thickness to render it flush with the upper surface of the frame when in place, is removably fitted therein. When ordinary plaiting is to be accomplished, this board E forms the bottom of the machine and serves to support the work. If it be desirable to make deep plaits, the board E is removed and the cloth woven about and between the needles in the manner desired, the open space below the needles admitting the plaiting-knife to any depth. The board may then be placed over the plaited cloth and pressed to form the necessary creases.

To enable the operator to readily detect and correct any inaccuracy in the location of his needles, suitable marks are placed opposite each other upon the frame of the machine at convenient distances. These should be distinctly visible at any stage of the work, and may be made by notching or painting the frame, or by driving suitable tacks therein.

The machine as thus constructed is operated upon the same principle as ordinary needle plaiting-machines, so far as weaving the cloth

between the needles is concerned. Our improvements obviate many difficulties heretofore encountered, are simple and easily understood, and are in many respects desirable.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a plaiting-machine of the character herein described, the pins *a*, having the heads beveled above and below, for the purpose set forth.

2. The combination, as before set forth, of the plaiting-machine frame, the re-enforcing plate A, and the pins for sustaining the needles.

3. The combination, as before set forth, of the plaiting-machine frame, provided with the stationary plate B on one side and two or more grooves on the other, and the removable plate C, adapted to confine the needles, as described.

4. The combination, as before set forth, of the stationary plate B, the perforated plate D, the pins *a*, and the removable plate C, all mounted upon the frame, substantially as explained.

5. In combination with the plaiting-machine frame, having recesses substantially as described, the removable bottom board E, for the purpose set forth.

6. The combination, as before set forth, of the plaiting-machine frame carrying needles, as described, with the gage-pins or notches, for the purpose set forth.

In testimony that we claim the foregoing we have hereunto set our hands this 3d day of July, 1876.

W. E. BURCKY.
HENRY BERLIN.

Witnesses:
WM. R. BURCKY,
H. D. HUTTON.