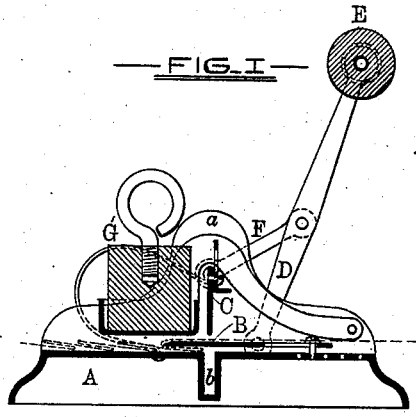
J. F. BARROW & J. SOLTER.

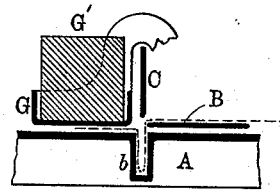
PLAITING-MACHINE.

No. 192,216. Patented June 19, 1877.

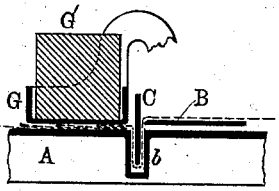
—FIG. I—



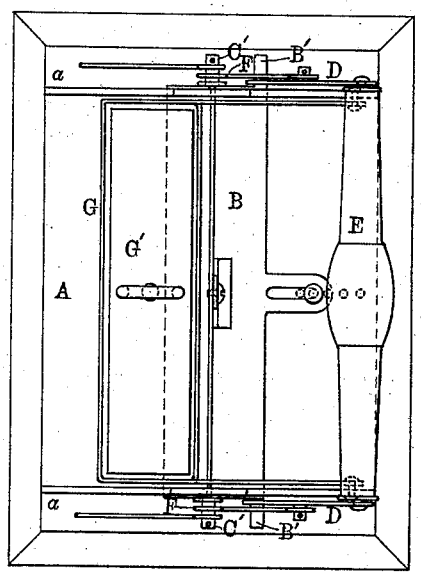
—FIG. III—



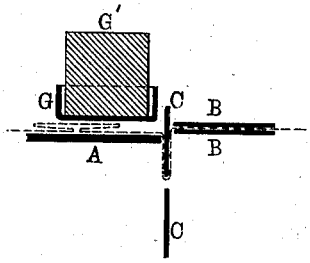
—FIG. IV—



—FIG. II—



—FIG. V—



—WITNESSES—

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UNITED STATES PATENT OFFICE.

JACOB F. BARROW AND JOHN SOLTER, OF BALTIMORE, MARYLAND, ASSIGNORS TO THE AMERICAN MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN PLAITING-MACHINES.

Specification forming part of Letters Patent No. **192,216**, dated June 19, 1877; application filed April 5, 1877.

To all whom it may concern:

Be it known that we, JACOB F. BARROW and JOHN SOLTER, both of the city of Baltimore and State of Maryland, have invented certain Improvements in Plaiting-Machines, of which the following is a specification; and we do hereby declare that in the same is contained a full, clear, and exact description of our said invention, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

This invention relates to a machine for plaiting or folding textile fabrics of various kinds; and consists in a machine in which the above operation is performed by the forward and backward movements of a folder and a gatherer, and the constant pressure of a heated smoothing device under which the material when plaited or folded is passed.

In the description of the invention which follows, reference is made to the accompanying drawing forming a part hereof, and in which—

Figure 1 is a transverse section of the improved plaiting-machine, and Fig. 2 is a plan of the same. Figs. 3 and 4 are sectional transverse views of parts of the machine showing the relative positions of the folder, gatherer, and smoothing devices, at different stages of the plaiting operation. Fig. 5 illustrates certain modifications in the machine, whereby the character of the plaits is changed.

Similar letters of reference indicate similar parts of the invention in all the views.

A is the base-plate of the machine, preferably consisting of a hollow metallic block. B is the gatherer, adapted to slide upon the upper face of the base-plate, with its ends projecting through slots in the upright standards *a*. The folder C is susceptible of a vertical or slightly angular movement, within slots in the standards, and during a portion of its motion passes partially within an aperture or a pocket, *b*, in the base-plate. The gatherer is furnished with pins B′ at its ends, to which the levers D are loosely attached. The said levers are connected at their upper ends by means of a handle, E. The folder is also furnished with pins C′ at its ends, which pins are connected by means of links F to the levers D. The smoothing and pressing devices consist of a tray, G, having bent extensions thereof hinged to the standards *a* in such manner as to allow the said tray to be slightly elevated, and an iron block, G′, which is placed when heated within the said tray.

In the operation of the machine, one end of the fabric to be plaited is laid upon the gatherer and under the folder. The handle is then thrown forward, which has the effect of holding the gatherer from the folder, and of forcing the said folder with the fabric into the pocket or aperture in the base-plate. The positions of the principal parts of the machine at this stage of the operation are illustrated in Fig. 4. Upon the reversal of the handle the folder is first withdrawn from the pocket, leaving the fabric therein in the form of a loop, as is shown in Fig. 3. But by continuing the movement of the handle in the same direction after the elevation of the folder, the lower ends of the levers D operate to force the gatherer beneath the heated tray, the said gatherer carrying with it the loop left by the folder in the pocket in the base-plate. The relative positions of the folder, gatherer, and smoothing devices at this stage of the operation are shown in Fig. 1 of the drawing. The fabric is thus held by the tray until the direction of the handle is again reversed, and the tray being heated by the block G, as before described, the folded edges of the fabric are flattened.

By the operation of the machine as described a plait is formed at each complete stroke of the handle, and the folds or plaits are flattened by being fed under the heated tray. The character of the plaits can be varied at pleasure, by altering the distances moved by the folder and gatherer, and for this purpose the said parts are provided with adjustable stops, which may be of any suitable kind. If desired, springs H may be used to assist in the elevation of the folder.

In order to make what are termed "box-plaits," two folders and two gatherers are used, but their operations are substantially the same as herein described.

We do not wish to be limited to any peculiar ironing or smoothing device, as rollers or

other mechanical expedients may be employed; but the devices herein shown and described are the most effective, as the fabric after being plaited is subjected to a smoothing operation similar to that effected by an ordinary smoothing-iron.

Having thus described our invention, what we claim as new, and wish to secure by Letters Patent of the United States, is—

1. In a plaiting-machine, the combination of a folder moving practically in a vertical line, a horizontally-moving gatherer, and a lever or series of levers provided with a handle, and attached to the said folder and gatherer in such manner as in the forward and backward motion of the handle to cause the alternate operation of the same, substantially as and for the purpose herein specified.

2. In a plaiting-machine, a gatherer and a folder connected to act reciprocally as described, and adapted to be operated or moved alternately in the plaiting operation, by means of a handle, substantially as herein set forth.

3. The folder and gatherer herein described, provided with adjustable stops or gages to limit their reciprocating movement, substantially as and for the purpose herein specified.

4. In a plaiting-machine, a reciprocating gatherer, adapted to be operated by means of a handle, in combination with a smoothing device having a practically flat smoothing surface, and adapted to be elevated by the entrance of the said gatherer between the said smoothing surface and that portion of the machine upon which the said smoothing device rests, substantially as described.

In testimony whereof we have hereunto subscribed our names this 4th day of April, in the year of our Lord 1877.

JACOB F. BARROW.
JOHN SOLTER.

Witnesses:
WM. T. HOWARD,
JNO. J. MADDOX.