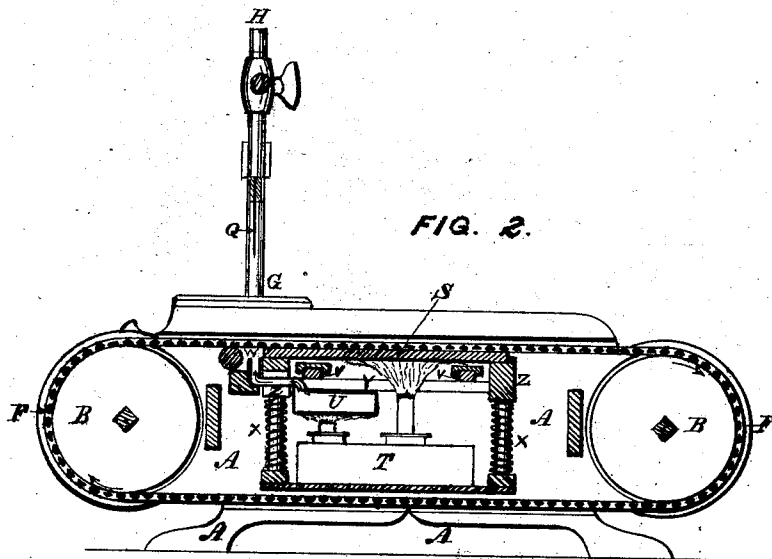
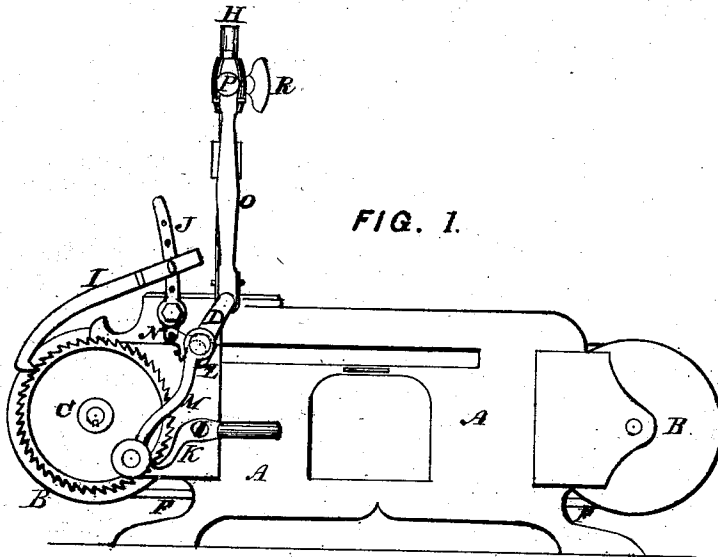


M. A. MAYBEE.
Plaiting-Machine.

No. 224,201.

Patented Feb. 3, 1880.



WITNESSES.

J. N. Perkins
E. S. Hays

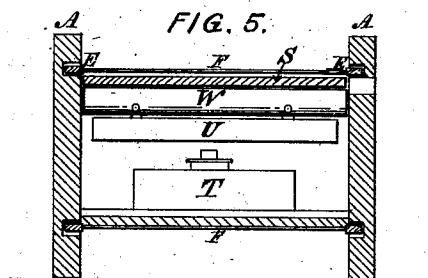
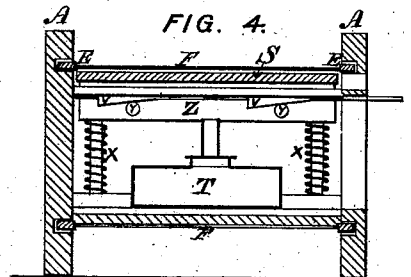
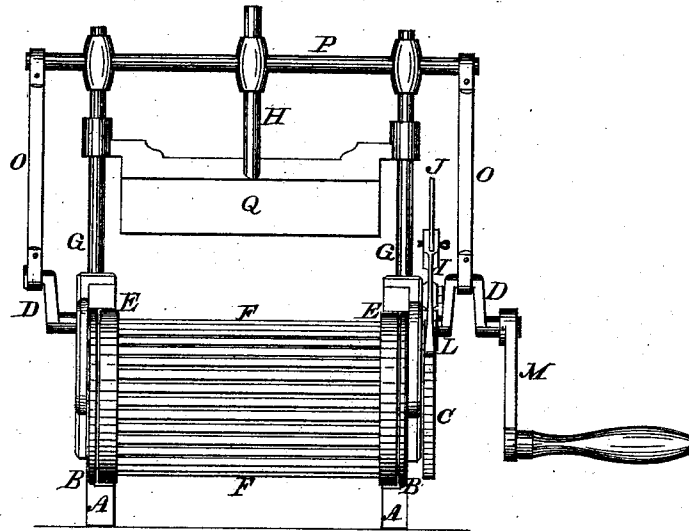
INVENTOR

M. Addie Maybee
Per George H. Hays
att'y.

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UNITED STATES PATENT OFFICE.

M. ADDIE MAYBEE, OF SYRACUSE, NEW YORK, ASSIGNOR OF ONE-HALF
OF HER RIGHT TO WILLIAM DUFFUS, OF SAME PLACE.

PLAITING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 224,201, dated February 3, 1880.

Application filed May 31, 1879.

To all whom it may concern :

Be it known that I, M. ADDIE MAYBEE, of Syracuse, in the county of Onondaga and State of New York, have invented certain new and
5 useful Improvements in Plaiting-Machines; and I declare the following to be a full, clear, and exact description of the same, so as to enable any person skilled in the art to which it appertains to make and use the same.

10 This invention relates to that class of plaiting-machines in which the plaiting-grate is arranged to be automatically moved under a vertically-reciprocating knife by actuating mechanism, and is particularly designed as
15 an improvement upon the machine described and claimed in Letters Patent No. 207,127, granted to me August 20, 1878.

In the machine covered by the aforesaid patent a plaiting-grate was provided having
20 a ratchet upon its side operated by a pawl connected to the knife. In this construction, owing to the limited range of the travel of the plaiting-grate, it was necessary to withdraw the grate from the frame at the point where
25 it ceased feeding and to replace it on the other side at the commencement of the feed. This necessarily impaired the utility of the machine and involved a considerable expenditure of time and labor in removing the work
30 and resetting the machine.

To overcome this defect I provide an endless plaiting-grate actuated by suitable mechanism to feed continuously. I also operate the knife by means of a crank and pitman, instead of the adjusting handle shown in my
35 former patent.

I have also further improved the device by providing a steaming-trough, into which the folds of the cloth are pressed by the knife in
40 its downward movement. This trough is connected to a water-reservoir located over a spirit-lamp, which is also employed to heat the ironer. A tube leading from the reservoir conveys a jet of steam, which sufficiently moistens the fabric to remove the starch and stiff-
45 ness therein, while the heated ironer thoroughly dries and presses the folds as they are brought in contact therewith by the movement of the grate. The feed is adjusted by means
50 of the detachably-operating pawl and feed-

link attached to the knife-crank, and the depth of plait is varied by lengthening or shortening the stroke of the knife.

For a more specific description of my improvements, reference is had to the accompanying drawings, forming a part of this specification, like letters indicating corresponding parts, in which—

Figure 1 is a side elevation, showing external construction and connection of the parts; 60
Fig. 2, longitudinal vertical section, showing internal arrangement and endless grate; Fig. 3, end view, showing the knife and crank and plaiting-grate; Figs. 4 and 5, cross-sections at opposite ends, showing ironer, lamp, reser- 65
voir, and trough.

The letter A represents the frame, made of suitable material, preferably of metal, and constructed as shown in Fig. 1, having horizontally-extended projections at each end, 70
forming supports for the journals of the rotating carriers B. Two guide-standards, G, connected and braced at their upper ends, P, form supports and guides for the vertical reciprocating knife Q, Fig. 3, Sheet 2. Keyed 75
to the journal of the rear carrier, B, is a spur-wheel, c, which is engaged by a pawl-hook, I, detachably connected to the limb J, which is pivoted to a link, N, or directly to the frame of the machine. A journal, L, passes through 80
the link and frame, provided on opposite ends with cranks D D, and, with an eccentric for operating the link, is employed to actuate the machine by means of a hand-crank, M, Fig. 3. 85
The connecting-rods o o, attached to the cranks D D and to the cross-bar P, impart a reciprocating motion to the knife Q on the uprights G G when the hand-crank M is turned, while the pawl-hook I is operated by the link 90
to engage the spur-wheel c, causing a forward movement of the endless grate F, which passes around the carriers B B on flexible side pieces, the needle-bars of the grate F being permanently secured to the flexible side pieces, as in my former patent. 95

The feed is adjusted to plait in clusters, or to "skip," as it is termed, by making the limb J long enough to lengthen or shorten the pawl-hook I, which is accomplished by detaching the pawl and raising or lowering it, and se- 100

curing it at the desired point on the limb J by a spring-key or other fastener. The depth of the plait is varied by the set-screw R, which bears against the shank of the knife, in the central vertical guide of the cross-bar P, through which the knife-shank passes.

The ironer S, shown at Fig. 2, is held up against the plaiting-grate on a frame, Z, resting on spirals X X, Figs. 2 and 4, or it may rest directly on the spirals X X. The frame Z is constructed with wedges *v v* and side pieces, *y*, Fig. 4, which allow the same to be dropped down to receive the ironer S. In this construction it is necessary to provide a longitudinal slot in the frame A (shown in Fig. 1) of sufficient width for the ironer to pass through.

Upon a platform within the frame a spirit-lamp, T, constructed as shown at Fig. 2, and having two burners, is secured. One of the burners is directly under and heats the ironer S. The other heats the reservoir *u*, which is provided with tubes communicating with the trough W, Figs. 2 and 5. The trough W is located directly under the knife Q, and the folds of the fabric are pushed between the needle-bars, by the knife, into the trough, where they receive jets of steam from the steamer *u*, which moistens the fabric, removing the stiffness, while the ironer S presses and dries the same as the folds are carried along by the grate.

It will be observed that an apron can be attached to the machine next to the ironer to carry the finished work clear of the plaiting-grate, and that the operation of plaiting is greatly facilitated thereby.

A gravity-stop, *k*, Fig. 1, pivoted on the frame, prevents back motion of the spur-wheel and carriers.

It will be observed that suitable gages can be secured to the frame for securing uniformity in narrow work, and that when the various parts are constructed of metal or other suitable material the machine is strong, compact, and durable, and well adapted for the purpose intended.

I am aware that plaiting-machines have been constructed with two endless aprons geared to move in unison, consisting of jointed sections provided on their contiguous surfaces with undercut blades which mesh in the intervening folds of the cloth and thus form the plait, being particularly adapted to what is termed "box-plaiting." My invention differs from this construction in that the side pieces of the endless grate are made of flexible material, and the needle-bars inserted so as to allow a reciprocating knife to push the folds

of the fabric between the bars of the grate. I do not therefore claim, broadly, an endless grate, excepting when combined with a reciprocating plaiting-knife and suitable mechanism, as described above.

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

1. In combination with the reciprocating knife Q, the endless plaiting-grate F, actuated by suitable mechanism, substantially as herein described and for the purposes set forth.

2. The endless plaiting-grate F, in combination with the ironer S, sustained and operated as herein specified and set forth.

3. The endless plaiting-grate F, in combination with the knife Q and steaming-trough W, substantially as herein specified and set forth.

4. The endless plaiting-grate F, in combination with the steaming-trough W, reservoir *u*, and ironer S, as herein specified and set forth.

5. The endless plaiting-grate F, in combination with the knife Q, steaming-trough W, ironer S, and lamp T, provided with burners for heating reservoir *u*, and ironer S, substantially as described and set forth.

6. The endless plaiting-grate F, supported on the carriers B B in the frame A, in combination with the pawl I, detachably connected to the limb J on the link N, and the spur-wheels C, substantially as described and for the purposes set forth.

7. The endless plaiting-grate F, supported on the carriers B B in the frame A, in combination with the vertically-reciprocating knife Q, link N, operated by an eccentric on the journal L, detachable pawl I, and spur-wheel *c*, provided with a gravity-stop, *k*, as herein set forth and specified.

8. The knife Q, provided with a cylindrical stem, H, passing through a central guide on the cross-head P, and retained at any point of its stroke by a set-screw, R, in combination with the cross-head P and endless plaiting-grate F, substantially as and as specified.

9. The ironer-frame Z, provided with the side pieces, *y*, and wedges *v v*, in combination with the spirals X X, substantially as herein described, and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 4th day of March, A. D. 1879.

M. ADDIE MAYBEE.

Witnesses:

HOMER WESTON,
J. W. WHITTIE.