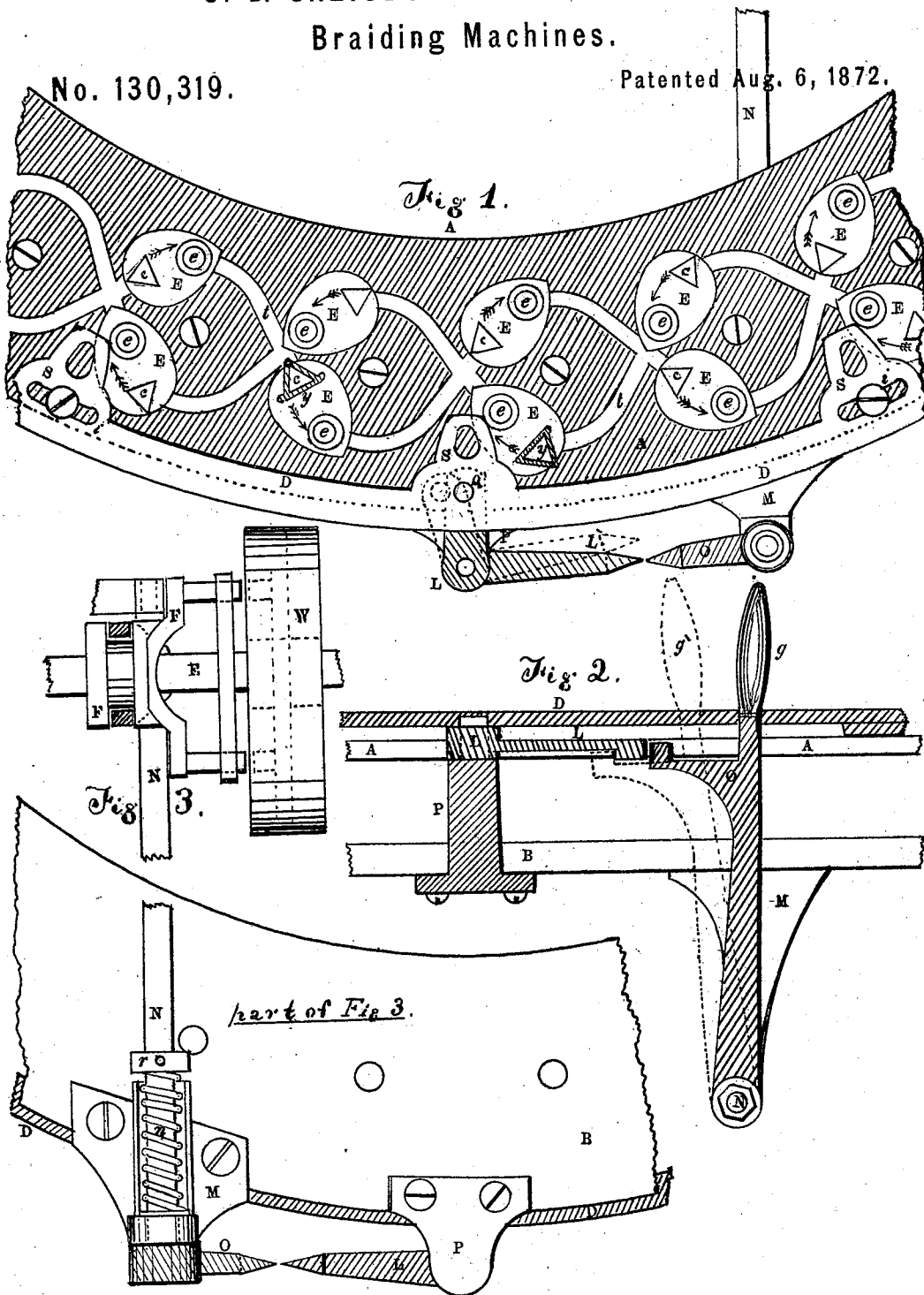


S. B. SALISBURY & J. McCAHEY.
Braiding Machines.

No. 130,319.

Patented Aug. 6, 1872.



Witnesses:

Henry L. Leonard.
Benjamin Arnold.

Inventors:

Stephen B. Salisbury
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UNITED STATES PATENT OFFICE.

STEPHEN B. SALISBURY AND JOHN McCaHEY, OF PROVIDENCE, R. I., ASSIGNOR TO NEW ENGLAND BUTT COMPANY, OF SAME PLACE.

IMPROVEMENT IN BRAIDING-MACHINES.

Specification forming part of Letters Patent No. 130,319, dated August 6, 1872.

Specification describing certain Improvements in Braiding-Machines, invented by STEPHEN B. SALISBURY and JOHN McCaHEY, of the city and county of Providence and State of Rhode Island.

This invention relates to the stop-motion used to stop the machine when one of its yarns or threads breaks or runs out; and its nature consists in the shape and position of a sliding plate, catches, rocker-shaft, &c., whereby the plate is brought back to its proper place by the carriers themselves, instead of using a spring for that purpose, thus rendering the motion much quicker, easier, and less complicated in its parts.

Figure 1 is a top plan of a part of a braiding-machine with the "stop-motion." Fig. 2 is a front elevation of the same. Fig. 3 is a bottom view of the same parts.

A is a part of a top plate of a braiding-machine, showing the channel or run *t*, in which the carriers *E E* move. D is a light curved plate sliding on the outer edge of the plate A, being attached to it by means of screws passing through the slots *i i*. The plate D is made to extend as far around the machine as may be desired. S S are projections made on the inner edge of plate D, arranged to come opposite to every alternate space between the circles of the run. These spaces should be those in which the carriers on each side run in toward the center of the machine. The projections S are extended far enough in to just allow the shoulders of the carrier-spindles *e e* to pass clear on each side when the plate D is in the center of its motion, but near enough to the run to be hit and pushed to one side by the weights *y y* when clear down on their standards. P is a stud-slip screwed to the lower plate B of the machine, the stud standing up in front to hold the knee-lever L, which springs on a pivot on its top. The short arm Q of the knee-lever extends under the plate D, and receives a pin, which is fast in the plate, in a recess in the end of the arm, so that when the plate slides in either direction it shall move the lever. Another arm of the knee-lever, placed at right angles to the first, has its end made in the shape of a wedge, with the line of its edge vertical, and is cut out underneath so as to form a hook to catch into a

similar hook in a reversed position on the end of the arm O of the lever *g*. The lever *g* is fastened on the outer end of the rocker-shaft N, the inner end of which holds the fork that throws the clutch F in and out of gear. The outer end of the shaft N is held by the standard M fastened to the bottom plate B, the inner end by another standard from another part of the same plate. The lever *g* is thrown back so as to keep the clutch out of gear by the tension of the spiral spring *n*, one end of which is fastened to the bearing of the standard M, and the other end to the collar *r* fast to the shaft N. R is a cross-shaft suspended from the plate B in like manner as the shaft N, and carries on it a loose pulley, W, the clutch F, which slides on a spline fast to the shaft and the gear-wheel that runs the machine, which, not having any direct connection with the stop-motion, is not considered as requiring any description. The plate D is raised above the plate A by projecting lips, on which it slides so as to allow the foot-plates of the carriers E to pass under the projections S without moving the plate.

The operation is as follows: To start the machine, throw the clutch F into gear by pushing the handle of the lever *g* over to the position of the dotted lever *g'*; the carriers E, being then in motion, will, as they pass the projections S in either direction, push them into the center of the spaces between the circles and throw the hook on the arm L into the hook on the arm O so as to hold the lever *g* over and keep the clutch in gear. Each carrier is provided with a tension-weight, though only two are shown, *y y*, sliding up and down on the triangular standards *c c* to keep the strands taut; but when a strand breaks or runs out this weight drops down to the foot of the carrier E, and as it passes one of the projections S S pushes it over, according to which way it may be going, so as to move the lever L and throw the hook free from the arm O, and allow the spring *n* to throw the clutch out of gear and stop the machine. This lessens the liability of breaking the weights, when stopping the machine, by decreasing the resistance of the plate D, by leaving off the old spring that pushed the plate back to place.

Having thus described the construction and

operation of our improvements, what we claim as our invention, and desire to secure by Letters Patent, is—

1. The sliding plate D, in combination with the plate A and carriers E E, when constructed and arranged so as to be pushed into the proper position to keep the machine running by the carriers as they pass along the run in either direction, substantially as shown and described.

2. The combination of the knee-lever L, starting-lever *g*, rocker-shaft N, spring *n*, with the clutch F, substantially as herein set forth, and for the purpose specified.

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Witnesses:

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