J. H. MORTIMER.

Stop-Motion for Looms.

No. 196,590 Patented Oct. 30, 1877.

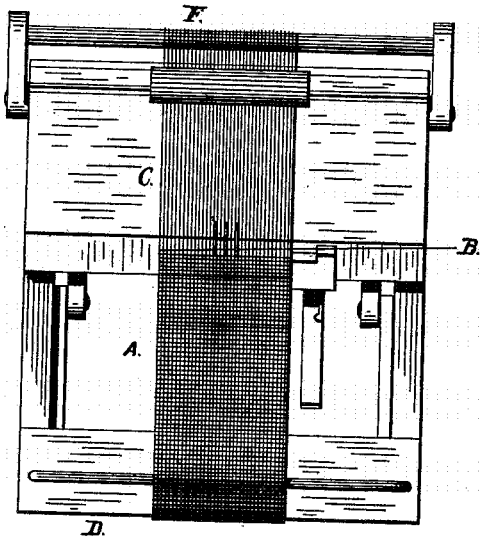

FIG. 1.

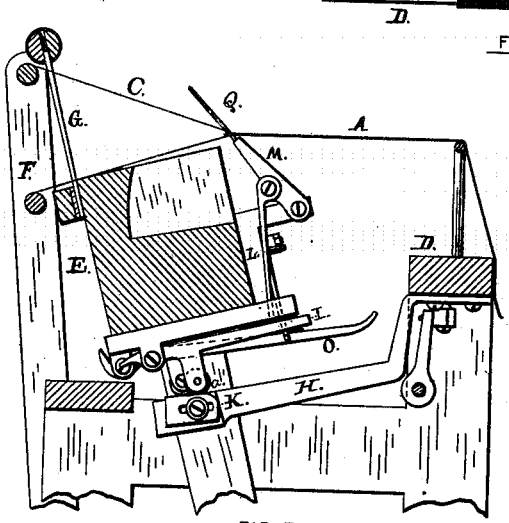

FIG. 2.

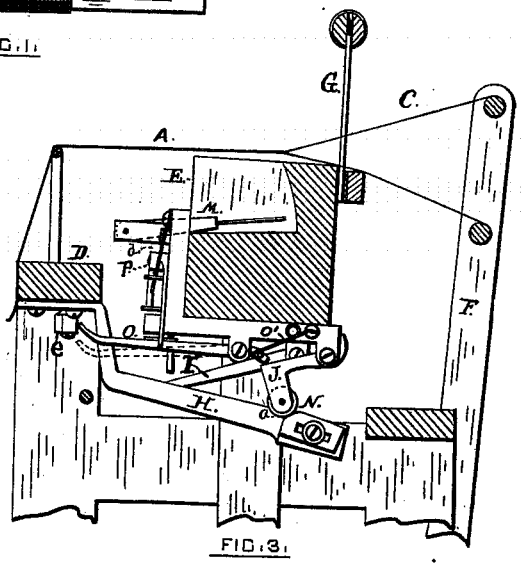

FIG. 3.

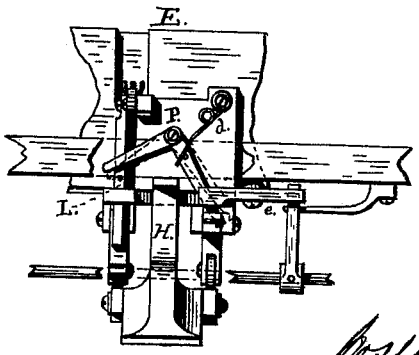

FIG. 4.

ATTEST.

Benj Baker.

Walter B. Vincent

INVENTOR.

Joseph H. Mortimer

UNITED STATES PATENT OFFICE.

JOSEPH H. MORTIMER, OF JOHNSTON, RHODE ISLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO ANDREW S. WYNN, OF SAME PLACE.

IMPROVEMENT IN STOP-MOTIONS FOR LOOMS.

Specification forming part of Letters Patent No. **196,590**, dated October 30, 1877; application filed June 13, 1877.

To all whom it may concern:

Be it known that I, JOSEPH H. MORTIMER, of Johnston, in the county of Providence and State of Rhode Island, have made certain new and useful Improvements in Stop-Motions for Looms; and I do hereby declare that the following specification, taken in connection with the drawings making a part of the same, is a full, clear, and exact description thereof.

Figure 1 is a top view of loom. Figs. 2 and 3 are sections of same, showing opposite sides of stop mechanism. Fig. 4 is a section of loom, showing front view of mechanism.

The object of my invention is to construct a stop-motion for looms which shall be more reliable in its operation and less likely to get out of repair than those now in use; and consists in the arrangement and operation of the mechanism hereinafter described.

In the drawings, A represents the cloth; B, the filling; and C the warp. D is the breast-beam of the loom; E, the lathe; F, the yarn-frame; and G the reed. H is an arm attached to the under side of the breast-beam, and has at its other extremity, upon either side, adjustable cam-surfaces. I J are levers pivoted in bearings attached to a metal plate upon the under side of the lathe. As the latter moves forward and backward, the cam-surfaces raise the said levers I J, by engaging with rollers N carried by said levers. The letter *m* designates a lever pivoted to a bracket attached to the lathe, and provided with a finger or fork, Q. To the lever *m* is pivoted a rod, L, which is in the same vertical plane with the lever I. The lever I, operated by the cam-surface K, alternately throws up and recedes from the rod L, and, consequently, the finger-lever M, to which it is attached, is alternately elevated and left free to descend.

O is the dagger, of usual construction, and *e* is the shipper-lever. The lever J, operated by the cam-surface N, acts upon the tail of the dagger O to depress the outer or longer arm. This arm will rise immediately after lever J leaves the cam and actuates the shipping mechanism, unless the said arm or dagger O is arrested in its upward movement by the check-lever P, as hereinafter described. The outer arm of the lever O is thrown upward by a spring, O′, which acts on its heel or short arm, as shown in Fig. 3 of the drawings. *d* is a spring which operates or acts upon the double-arm check-lever P, as shown by Figs. 3 and 4 of the drawings.

Having thus described the several parts of my invention, I will now proceed to describe its operation, commencing with the parts in the position shown in Fig. 3, the lathe E having just completed its forward movement and driven up the filling. The lathe E now moves backward to its extreme point in that direction, as shown in Fig. 2, and in so doing brings the levers I J, provided with suitable friction-rollers *a a*, in contact with the cam-surfaces K N, the effect of which is to bring the levers I J to a position nearly at right angles to the lathe E. As the lever I is thus thrown up it comes in contact with and carries upward the rod L and the finger-bar M, to which the rod L is attached, the fingers Q passing through and above the warp, as shown in Figs. 1 and 2. While the fingers Q remain in this elevated position, the filling B passes under them and through the shed, as shown in Fig. 1. The lever J, being thrown up, operates upon and depresses the long arm of the lever O. The lathe E now commences its forward movement. The lever I passes beyond the cam-surface K, and is released, and drops to its former position. The rod L is also released, and slides down, by its own weight and the weight of the finger-lever M, until the fingers Q rest upon the filling. The double-armed check-lever P, the horizontal arm of which was caught and carried upward by a pin upon the rod L, is also released, and, being actuated by aspring, *d*, falls with the rod L until the downward movement of both is arrested by the fingers Q coming in contact with the filling, as before described. The depression of the horizontal arm of the lever P carries its perpendicular arm to a position which enables it to catch and check the upward movement of the long arm of the lever O, upont he release of the lever J from the cam-surface N, as the lathe E continues its forward movement. After the fingers Q drop upon the filling they slide off with the continued forward movement of the lathe, being held, however, a sufficient length of

time to permit the operation of the check-lever P, before described. The lever O, thus checked, passes under the lever *e*, by which the shipping mechanism is operated at the completion of the forward movement of the lathe. The fingers Q, after sliding off from the filling, drop into a recess in the lathe in time to clear the reed as it drives up the filling. The lathe now starts backward, and the same operation of all the parts is repeated. In case, however, the filling is not present in the shed, the fingers Q will not be arrested in their downward movement, but will drop directly into the recess in the lathe, and the horizontal arm of the lever P will be correspondingly depressed, which will carry its perpendicular arm beyond the lever O. The lever O, not being checked upon the release of the lever J from the cam-surface N, will be sufficiently elevated to strike the lever *e* at the completion of the forward movement of the lathe, and operate the shipping mechanism.

The mechanism described is equally well adapted to looms with open or closed shed.

What I claim as my invention, and desire to secure by Letters Patent, is—

The combination, with the lathe of a loom, of the levers I J, operated by cam-surfaces K N, levers O P, with their springs, rod L, and lever M, provided with suitable fingers Q, substantially as described, and for the purpose specified.

JOSEPH H. MORTIMER.

Witnesses:

BENJ. BAKER,

WALTER B. VINCENT.