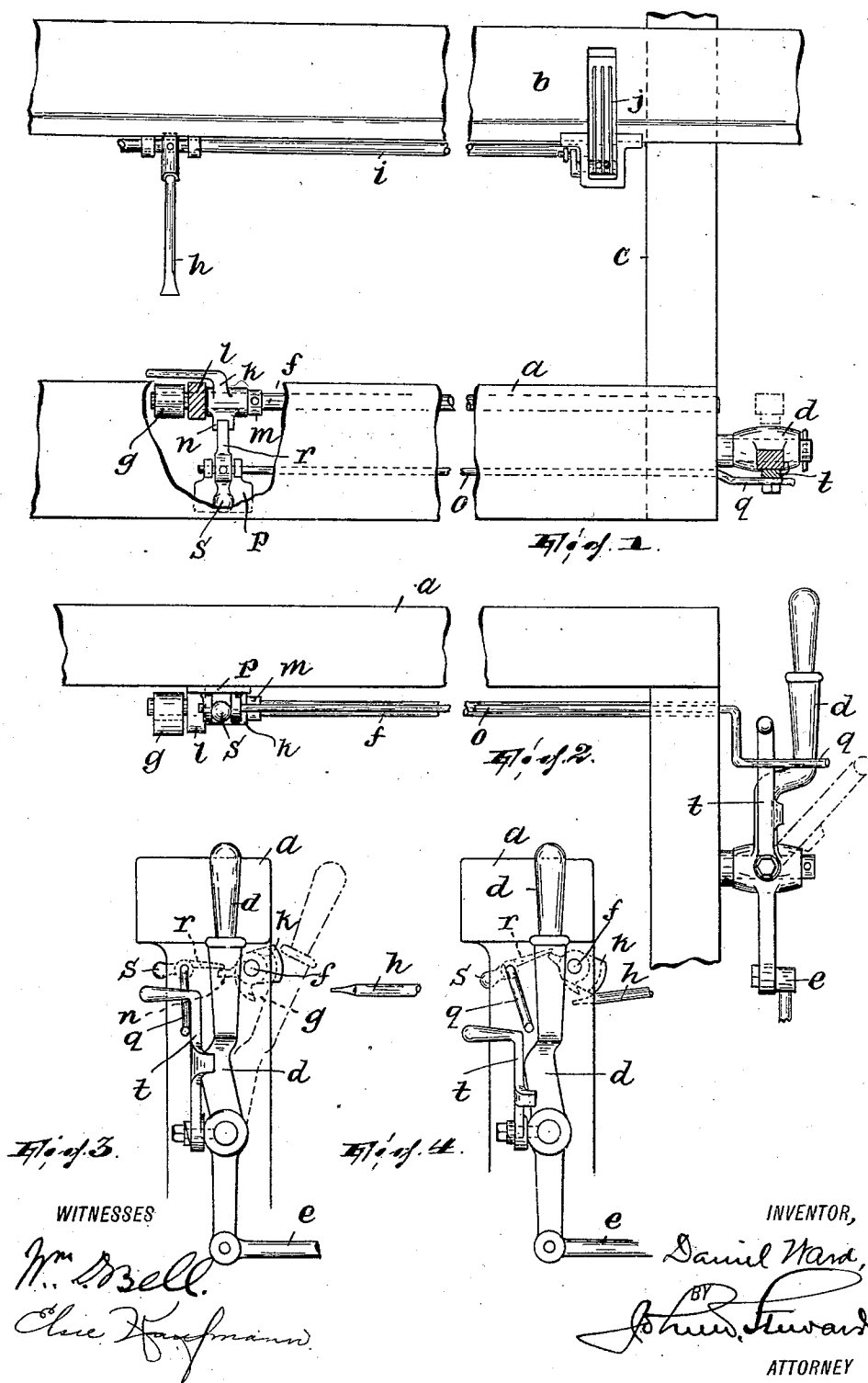


D. WARD.
STOP MOTION FOR LOOMS.
APPLICATION FILED JUNE 25, 1908.

917,817.

Patented Apr. 13, 1909.



UNITED STATES PATENT OFFICE.

DANIEL WARD, OF PATERSON, NEW JERSEY.

STOP-MOTION FOR LOOMS.

No. 917,817.

Specification of Letters Patent.

Patented April 13, 1909.

Application filed June 25, 1908. Serial No. 440,308.

To all whom it may concern:

Be it known that I, DANIEL WARD, a citizen of the United States, residing in Paterson, Passaic county, New Jersey, have invented a certain new and useful Improvement in Stop-Motions for Looms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to looms and particularly to the means for stopping the same automatically upon failure of the filling or weft.

In a well-known type of weft-stop motions for broad looms the shipper lever, when moved, causes the rocking of a shaft which carries a shield adapted to assume an interposed relation with respect to the dagger and the toe or lever on the knock-off shaft when the power is thrown off so that the weaver may "turn the loom over" with the weft or filling absent (the shuttle being temporarily removed) without such absence of filling causing the operation of the stop-motion; since the shield is in the interposed or non-interposed relation according as the shipper-lever is in the "off" or "on" position, respectively, the weaver cannot use the power for driving the loom without filling but must move the loom by hand.

My object in the present instance is so to construct a mechanism of the kind above referred to that the shipper-lever may be moved to the "on" position and the loom driven by the power with the shield in its interposed position, thus saving the weaver the exertion required to manually move the loom whenever it is desired to run the loom without filling.

The invention will be found fully illustrated in the accompanying drawing, wherein,

Figure 1 is a plan view of so much of a loom and its starting and weft-stop-motion mechanisms constructed in accordance with my invention as it is necessary to show in order to illustrate the invention; Fig. 2 is a front elevation of what is seen in Fig. 1; Fig. 3 shows the parts in the position where the shipper-lever has effected the movement of the shield to the interposed position; and, Fig. 4 shows the parts in the position where

the shipper-lever is "on" but the shield left in the interposed position.

In the drawing, *a* is the breast-beam; *b* the batten; *c* the loom frame; *d* the shipper-lever; *e* its shipper-rod; *f* the rocking knock-off shaft and *g* its toe; *h* the dagger adapted to engage the toe *g* and rock said shaft *f* on the absence of filling when the loom is running with filling; *i* a rock-shaft on which the dagger is mounted; *j* the weft-fork operatively connected with the rock-shaft *i*; (the means for oscillating the parts *h*, *i* and *j* so that the weft-fork will rise to allow the unobstructed flight of the shuttle when the batten is back not being shown, because not being relevant to my invention); *k* the shield loosely arranged on shaft *f* between the bearing *l* for said shaft and a collar *m* fixed thereon, said shield projecting laterally in the vertical plane of the toe *g* and having the lug *n*; *o* a rock-shaft journaled in the frame *c* and in a bracket *p* carried by the breast-beam, the outer end of said rock-shaft being formed as a crank *q* disposed contiguous to the limit of movement of the shipper-lever in its "on" position; and *r* the shield-controlling finger adapted to engage the lug *n* on the shield when depressed to throw the latter out of its interposed or depressed position, said finger having the weight *s* acting normally to hold the rock-shaft *o* in the position where its crank is in its limit of movement which is the nearer to the shipper-lever. The foregoing mechanism is well known and in common use.

In carrying out my invention I provide a part adapted, when the shipper-lever is thrown to the "on" position, to cause or not cause the actuation of the shield according as said part is or is not in operative position to transmit the actuating influence of the shipper-lever to the shield; to this end I preferably mount a pivoted arm *t* on the side of the shipper-lever adjacent to the crank of the rock-shaft *o*, which arm, when in the position shown in full-lines in Figs. 2 and 3, will engage the crank and rock the rock-shaft when the shipper-lever is pulled to the "on" position, but, when in the position shown in Fig. 4 in full lines and Fig. 2 in dotted outline, will stand clear of said crank so that the latter will not be engaged and the rock-shaft not actuated. Thus, when the loom is running with filling, the arm *t* being then in the position shown in

Figs. 2 and 3, the shield is held raised so that the dagger will engage the toe *g* and rock shaft *f* to stop the loom upon failure of filling; when the loom is stopped, the shield falls back into shielding relation to the toe as soon as the movement of the shipper-lever to the "off" position allows the weight to return the shield. If, now, the weaver desires to "turn the loom over" without filling, the arm *t* is moved to the dotted-line position in Fig. 2 or the full-line position in Fig. 4, so that when the power is thrown on by pulling the shipper-lever forward the arm will not engage the crank on rock-shaft *o* and move the shield out of interposed relation with respect to the dagger and toe *g*.

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

1. In a loom weft stop motion, the combination, of the batten, the breast beam, the weft fork, the dagger, operative connecting means between the dagger and the weft fork, a knock-off device adapted to be engaged by the dagger upon failure of the weft, the shipper-lever, a shield interposable between the dagger and knock-off device, and means, operative from the shipper-lever, for actuating the shield, said means comprising members one of which is movable into and out of engaging relation to the other, substantially as described.

2. In a loom weft stop motion, the combination of the batten, the breast beam, the

weft fork, the dagger, operative connecting means between the dagger and the weft fork, a knock-off device adapted to be engaged by the dagger upon failure of the weft, the shipper-lever, a shield interposable between the dagger and knock-off device, and means, operative from the shipper-lever, for actuating the shield, said means comprising members one of which is arranged on the shipper-lever and movable thereon into and out of engaging relation to the other, substantially as described.

3. In a loom weft stop motion, the combination of the batten, the breast beam, the weft fork, the dagger, operative connecting means between the dagger and the weft fork, a knock-off device adapted to be engaged by the dagger upon failure of the weft, the shipper-lever, a shield interposable between the dagger and knock-off device, and means, operative from the shipper-lever, for actuating the shield, said means comprising members one of which is pivoted on the shipper-lever and movable thereon into and out of engaging relation to the other, substantially as described.

In testimony, that I claim the foregoing, I have hereunto set my hand, this 23rd day of June, 1908.

DANIEL WARD.

Witnesses:

JOHN W. STEWARD,
WM. D. BELL.