S. S. WALKER.

Take-Up Pawls for Looms.

No. 167,418. Patented Sept. 7, 1875.

Fig. 1.

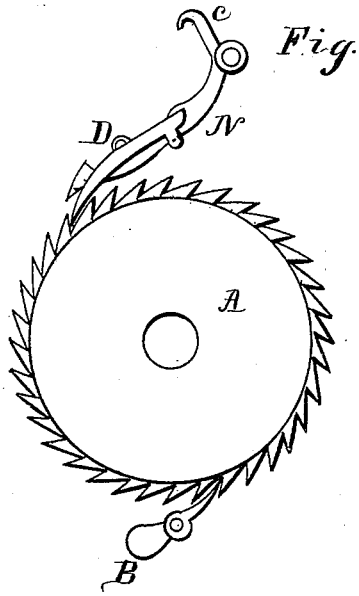


Fig. 2.

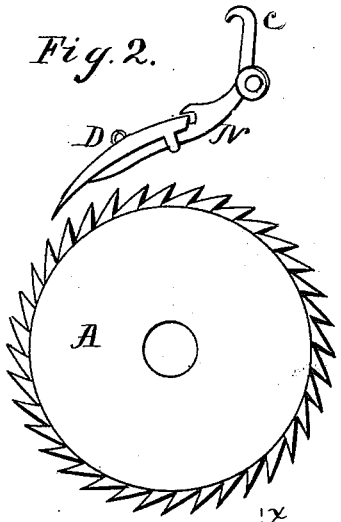


Fig. 4.

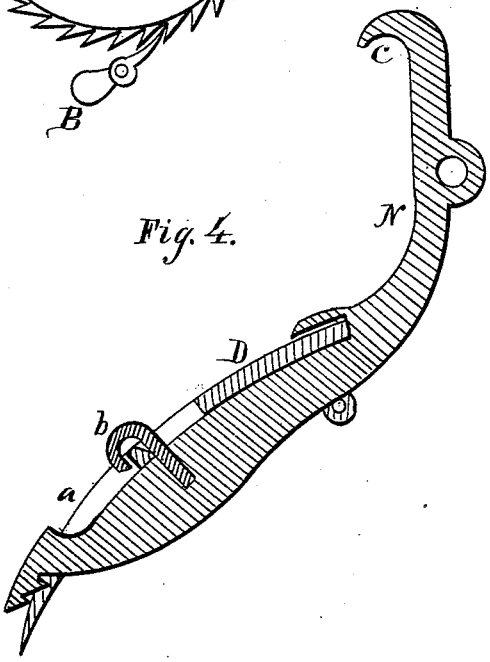
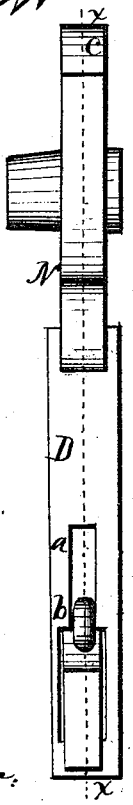


Fig. 3.



Witnesses:

James E. Arnold

H. A. Arnold

Inventor:

Samuel S. Walker.

By Benj. Arnold Atty

UNITED STATES PATENT OFFICE.

SAMUEL S. WALKER, OF CROMPTON, RHODE ISLAND.

IMPROVEMENT IN TAKE-UP PAWLS FOR LOOMS.

Specification forming part of Letters Patent No. **167,418**, dated September 7, 1875; application filed July 31, 1875.

To all whom it may concern:

Be it known that I, SAMUEL S. WALKER, of Crompton, in the county of Kent and State of Rhode Island, have invented an Improvement in Pawls for the Take-Up Motions of Looms, of which the following is a specification:

The object of this invention is to make the retaining-pawl on the take-up motion of a loom more durable and certain in its operation; and consists in making a slot in the back of the sliding pawl, through which a wire, fastened to the lever on which the pawl slides, projects, and is bent over forward, so as to catch over the front end of the slot and hold the pawl in place while working.

Figure 1 shows the pawl as it works on the ratchet-wheel; Fig. 2, the same when thrown out. Fig. 3 shows a top view of the pawl. Fig. 4 is a section taken through line *x*.

A is the ratchet-wheel, that is geared to the take-up roll. B is the operating-pawl, moved by a cam on the main shaft of the loom. D is the retaining-pawl that holds the ratchet-wheel while the working-pawl is moving back. This pawl D slides on the lever N. The end of the lever projects through an opening near the end of the pawl, and two teeth are made on the under side of the end of the lever, which catch into a recess in the pawl. A narrow slot, *a*, is made in the pawl just above the opening through which the lever projects, and a wire, *b*, made fast in the lever N, projects up through this slot, the end of the wire being bent over forward, so as to catch over the bar, forming the end of the slot. The inside of the end of the slot and the outside of the end of the wire hook are made beveling, so that pawl will slide under the hook easily.

The operation is as follows: Fig. 1 shows the pawl as it is when the loom is running, but when the filling breaks or runs out the weft-stop motion throws off the belt, and at the same time trips up the lever N by striking the hooked end *c*. This releases the hook *b*, and allows the pawl D to slide forward, so as not to count the two or three beats that the loom usually makes before it stops. These extra beats, when the filling is broken or out, would cause a thin streak in the cloth if the take-up motion continued; but these two or three beats are taken up in pushing the pawl back to place before it will hold the ratchet-wheel. The first beat slides the pawl back far enough to catch the first tooth on the end of the lever N in the recess in the pawl, and the second beat usually carries the pawl clear back, so that the second tooth catches in the recess, and the wire hook *b* catches over the end of the slot, and the pawl begins to hold the ratchet-wheel as the working-pawl moves it. The teeth on the lever and the edge of the recess on which they catch soon become worn, so that they will not hold, and being very difficult to repair the pawl has to be thrown aside and a new one put on.

The wire hook acts as an auxiliary holder, that can be easily adjusted when the loom is first started, and very readily bent down to account for any wear that it may come to, thus making a great saving in the pawls and a much more satisfactory appearance in the cloth.

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

The wire hook *b*, in combination with the pawl D and lever N, substantially as and for the purpose specified.

SAMUEL S. WALKER.

Witnesses:

BENJ. ARNOLD,

H. A. REMINGTON.