

A. A. Barker,

Loom.

No 90,627.

Patented Jun 1. 1869.

Fig. 1.

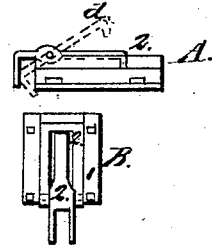
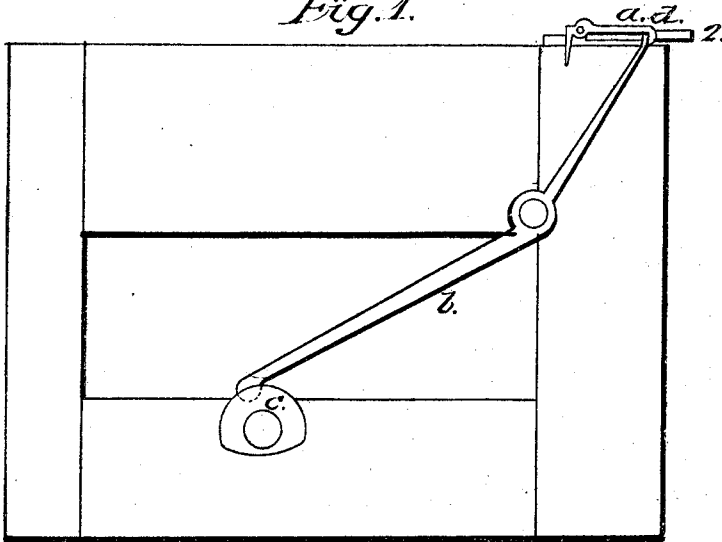


Fig. 2.

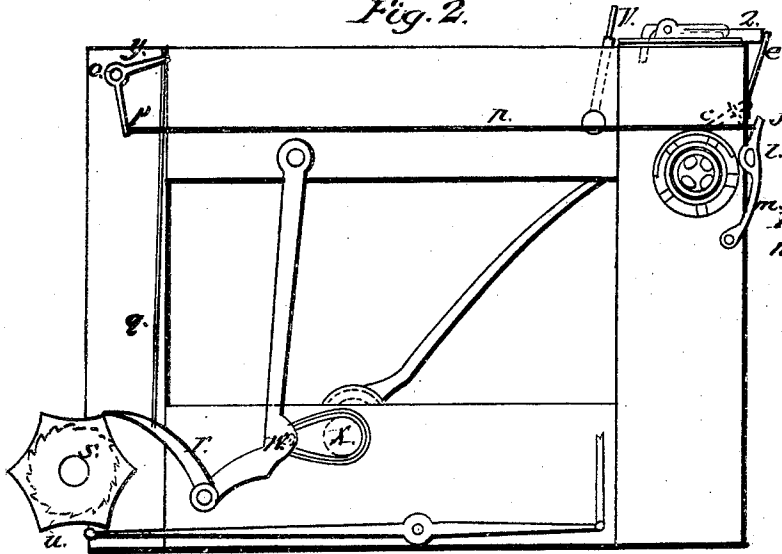
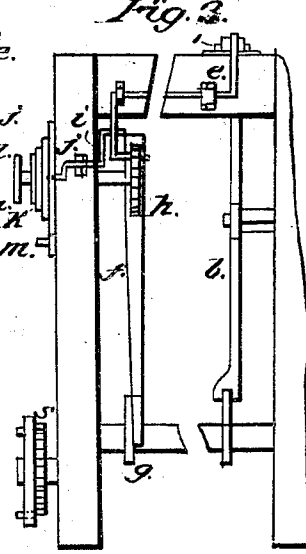


Fig. 3.



Witnesses:

*Mr Franklin J. Gray,
Henry C. Houston.*

Inventor:

*A. A. Barker.
W. H. Clifford Atty.*

United States Patent Office.

A. A. BARKER, OF LEWISTON, MAINE.

Letters Patent No. 90,627, dated June 1, 1869.

IMPROVEMENT IN STOP-MOTION FOR LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, A. A. BARKER, of Lewiston, in the county of Androscoggin, and State of Maine, have invented a new and useful Improvement in Looms; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others to make and use my invention, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view of the interior of one side of the loom, next to the stop-motion.

Figure 2 is a side elevation of my invention, showing the pattern-chain, stop-motion, &c.

Figure 3 is a front end elevation.

A is a side view in detail of the stop-motion.

B is a top plan of same.

As looms are now usually constructed, when the filling runs out, the stop-motion used stops the loom, but the momentum of the machinery springs the shed three or four times, and operates, for about the same number of times, the pattern-chain and box-motion. By this continued motion, the shuttles are changed, and frequently a thread or threads of another color woven in before their turn. This necessitates the picking out of the wrong thread or threads, and setting back the pattern-chain and box-motion to the exact point at which they were when the filling run out.

Any error in the setting back causes a break in the web-pattern.

To avoid accidents of this kind, and the loss of time required to correct them, the weaver is obliged to watch his loom very carefully, and replace the shuttles as soon as they are empty, which occurs about once in three-quarters of a minute. But on an average, with an ordinary weaver, this accident will occur about once in five shuttles, and, with an intricate pattern, from five to eight minutes are required to set the loom in motion again.

It has long been desirable to obtain some device which will stop the box-motion and pattern-chain as soon as the filling runs out, as it would enable a weaver to take charge of more looms, and consequently do his work more cheaply. The quality would also be improved, as it would lessen the liability of breaks occurring in the pattern, which detract from the value of the fabric.

To obviate this difficulty is the object of my invention, and by reference to the accompanying drawings its details will be understood.

Fig. 1 shows an inside view of the loom.

The stop-motion is seen at *a*, fig. 1, with the tongue *d* dropped and caught by the lever *b*.

b is operated by the cam *c* on the main shaft of the loom.

As long as the thread remains in the shuttle, the tongue *d* is thrown up by it, as seen in dotted lines at A, but when it runs out, it is caught by *b*, as seen in fig. 1, and the stop-motion pushed outward by it, as shown.

B shows a top view of the stop-motion, the portion marked 1 being the bed of the same, and 2 being the slide moving in it, operated by *b* in the manner described.

Fig. 3 is a front view.

We have seen the manner in which the slide 2 of the stop-motion is operated by the tongue *d*, and the lever *b* being pushed forward when the filling runs out. We shall now see how it affects the motion of the machine.

It strikes first the wire *e*, seen in figs. 2 and 3, and forces it outward.

This wire *e*, bent as shown in the drawings, operates to raise the dog, which gives movement to the chain-motion.

This dog is seen at *f*, and is operated by the grooved eccentric *g* on the main shaft. The wire *e* raises it, and detaches it from the ratchet *h* of the pattern-chain. At the same time it presses inwardly the wire *i*, pivoted at *j*.

The end of this wire is passed through the loop *l*, fig. 2, in the lever *m*, drawing it out from the pattern-chain.

To this lever *m* is attached the wire *n*, connecting with the right-angled lever *o* at its lower end *p*.

The upper end *q* of this lever has a wire, *q*, attached to it, the lower extremity of which is fastened to the dog *r*, which operates the box or shuttle-motion by means of the ratchet *s*, seen in dotted lines.

The lever working the shuttles is indicated at *t*.

u is the cam giving it motion.

v is the reed through which the web passes.

w shows the lever moved by the cam *x* on the main shaft, which gives to the pawl *r* its motion.

While the thread remains in the shuttle as it passes through the shed, it strikes the tongue of the stop-motion, and throws it up, as seen in dotted lines at A, so that it does not engage the lever *b*, but when the filling runs out, the tongue is caught by its lip by *b*, the slide is pushed forward, pressing outward the wire *e*, which both raises the dog, or pawl *f* from the ratchet *h* of the chain-motion, stopping that, and at the same time forcing the wire *i* inward, turning out its end *k*, and the lever *m* connected with it, and drawing with it the wire *n* and end *p* of the right-

angled lever *o*, and raising the end *y*, wire *q*, and dog, or pawl *r* of the box-motion, disengaging it from the ratchet *s*.

It will be seen that both the pattern-chain and box-motion are disconnected from the ratchets that give them motion, and of course remain stationary until the shuttle is refilled and replaced, and consequently are unaffected by the movement of the loom, and none of the threads of the succeeding shuttle can be woven into the web out of their proper place.

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

The combination, with the weft-fork, pattern-cylinder, and shuttle-box operating-cam, of the rods *e*, *i*, *n*, and *q*, and levers *o* *m*, for stopping the pattern-cylinder and shuttle-box cam when the weft fails, substantially as described.

Witnesses:

F. O. SANDS,
B. S. BARR.

A. A. BARKER.