

(No Model.)

A. TAPLIN.
STOPPING MECHANISM FOR LOOMS.

No. 490,175.

Patented Jan. 17, 1893.

F. G. 1.

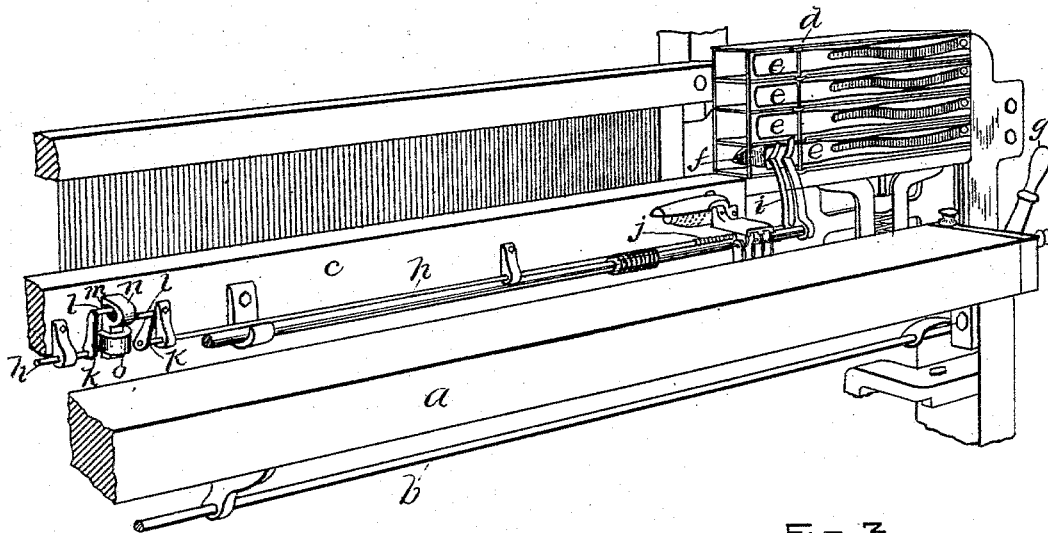


FIG. 2.

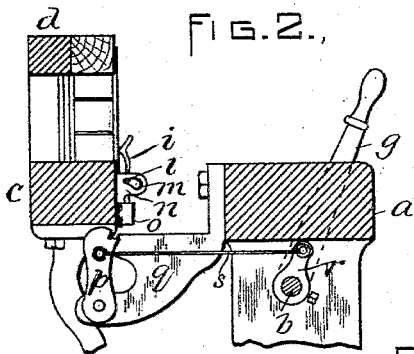


Fig. 3.

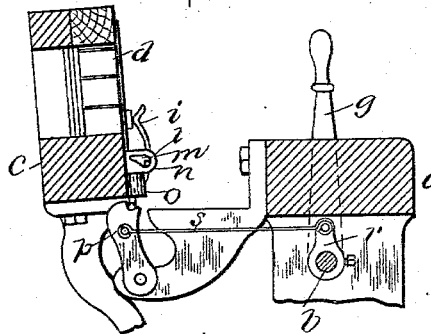


Fig. 4.

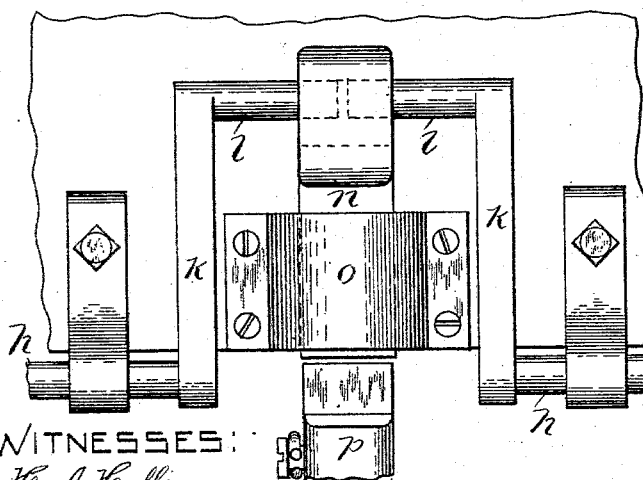
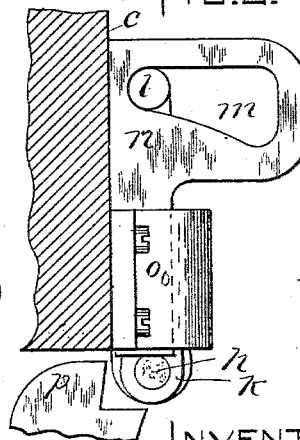


Fig. 5.



WITNESSES:

H. A. Hall.
A. J. Harrison

INVENTOR:

By A. Taplin,
Wm. Brown Crossley,
Attys.

UNITED STATES PATENT OFFICE.

ALDEN TAPLIN, OF LAWRENCE, MASSACHUSETTS.

STOPPING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 490,175, dated January 17, 1893.

Application filed July 25, 1892. Serial No. 441,099. (No model.)

To all whom it may concern:

Be it known that I, ALDEN TAPLIN, of Lawrence, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Stopping Mechanisms for Looms, of which the following is a specification.

It is the object of my invention to provide improved means applicable to what are commonly known as "pick-and-pick" looms, which improvement shall operate to stop the loom whenever, through mishap, a shuttle may be brought into pick position in the boxes on both sides of the shed at the same time.

It is well known that in pick-and-pick looms;—that is, looms in which the picking motion on both sides of the shed is operated after each beat of the lay;—it not infrequently happens, through defective operation in the mechanism controlling the shuttle, or shuttle boxes, or other cause, that a shuttle is brought into position to be picked through the shed from both sides at the same time, so that if the loom is not stopped, both shuttles will be picked at the same moment, resulting in a "smash," seriously injuring the loom, the fabric being woven, and very often, the loom operative.

My improvement is designed to overcome the objection and difficulty mentioned, and consists of the combination, with the shuttle binder, of means connected therewith and with the stop motion mechanism whereby when a shuttle is brought into pick position on each side of the shed to be picked there-through at the same time, the stop-motion will be operated as the lay moves back in such manner as to stop the loom before a smash can occur, all as will be hereinafter more fully described and particularly pointed out in the claim.

Reference is to be had to the annexed drawings, and to the letters marked thereon, forming a part of this specification, the same letters designating the same parts or features, as the case may be, wherever they occur.

Of the said drawings, Figure 1, is a perspective view of a portion of the breast beam, the lay, the shuttle boxes, and immediate connections, of a loom, to which my improvement

is applied. Fig. 2, is a cross sectional view of the same. Fig. 3, is a sectional view similar to Fig. 2, but showing some of the parts in a different position. Fig. 4, is a front elevation of the parts of my improvement attached to the central part of the lay. Fig. 5, is a transverse sectional view of the parts shown in Fig. 4.

In the drawings, "a" designates the breast beam; "b," the protector rod supported in the bearings beneath the breast beam; "c," the lay; "d," the shuttle boxes; "e," the shuttle binders; "f," a shuttle in pick position in one of the shuttle boxes; and "g" the shipper handle for operating the means for stopping the loom; said shipper handle being secured upon the protector rod "b."

All of the parts so far described are common to pick-and-pick looms, and have not been changed in form or arrangement by my improvement.

"h" designates rods having bearings in brackets secured to the lay "c" and extending along in front of the same, from the shuttle boxes to a central point longitudinally of the lay, there being two such rods employed in the carrying out of my improvement upon each loom. Each rod at its outer end is provided with an arm "i" secured to it, which arm extends up and rests at its upper end against the shuttle binder "e" of the shuttle box which may happen to be in position to receive the shuttle in use for the time being.

"j" designates a spring coiled around each rod "h" and connected thereto and with the lay in such manner as to operate with a tendency to hold the arm "i" against the shuttle binder "e." Each rod "h" is provided at its inner end with a crank "k," the pin "l" of which extends into a slot "m" formed in the head of a vertical sliding block "n" arranged in a bracket "o" connected with the lay. The form of the slot "n" is such that when the pin "l" is back in the rear end of the same, as is shown in Fig. 5, the said block will be supported in raised position, as is represented in said last mentioned figure, and also in Fig. 2; but when the pin is moved into the forward part of the slot, as is shown in Fig. 3, and as it will be when the rod is rocked in its bearings by reason of the upper end of the

arm "i" being pressed out by a shuttle in the box, the said block will not be supported, but will drop, so as that when the lay moves back it will engage with a short lever "p" pivoted upon a bracket "q" attached to the rearward face of the breast beam, and move said lever and a similar short arm or lever "r" projecting out from the protector rod, with which arm "r" the lever "p" is connected by a rod or wire "s." The effect of this operation will be to move the parts from the position in which they are represented in Fig. 2, to that in which they are shown in Fig. 3, resulting in actuating the shipping mechanism and stopping the loom.

In Fig. 1, I have represented but substantially one-half of the breast beam, lay, and connections, as also but a single shuttle box and its equipments; but it will be understood that the other end of the lay and breast beam are provided with similar devices, so that there will be two rods "h" supported in bearings on the lay, each of which rods extends from the inner or free end of the shuttle binder upon which it is adapted to operate, to a central point longitudinally of the lay where it is provided with the crank "k" and pin "l" the latter device operating in the slot "m" of the sliding block "n," as before explained. It will be understood that each rod "h" is rocked in its bearings in one direction by means of the spring "j" which moves the pin "l" to the position represented in Figs. 2, and 5, and in the opposite direction by the shuttle binder "e" which acts to move the rod so as to bring the pin "l" to the position represented in Fig. 3.

When the lay moves forward and the shuttles are operating properly, but one shuttle box will have a shuttle in pick position therein; in which case, but one of the rods "h" will be acted upon by the shuttle binder "e," so that the other rod acted upon by the spring "j" will be held back so as to bring its pin "l" to the position represented in Fig. 5, still maintaining the block "n" in raised position. In this way, so long as the loom is operating properly, one of the rods will be kept in position to hold up the block "n." If, however,

a shuttle should, through mishap, be brought into pick position in a box at each side of the shed, both rods "h" will be rocked outward against the tension spring "j" and the pins "l" on cranks "k" turned downward to the position in which they are represented in Fig. 3, allowing the sliding block "n" to drop so as to engage the lever "p" and move the parts to the position in which they are represented in the last mentioned figure, effecting the stopping of the loom before the shuttles can be picked through the shed, or before the lay moves forward to occasion a smash.

In Fig. 1 I have shown the usual protector rod arranged parallel with the rod h, and provided with an arm or finger which bears at its upper end against the shuttle binder. This feature of the loom, is, however, old and common, and not of my invention, the said devices being employed to stop the lay in case a shuttle lodges in the shed.

It is to be noted that changes may be made in the form and arrangement of parts comprising my invention without departing from the nature or spirit thereof.

Having thus explained the nature of my invention, and described a way of constructing and using the same, I declare that what I claim is:—

The combination, with the lay, shuttle box, and shuttle binder, of the rods "h" each provided with an arm "i" arranged to rest against the shuttle binder, a spring "j" for holding the arm against the shuttle binder, a crank "k" provided with a pin "l," the vertically sliding block "n," provided with a slot "m" in which the pins "l" operate, a lever "p" pivoted below the block "n," the protector rod, and an arm or lever thereon, and a rod or wire connecting the lever "p" to the lever or arm on the protector rod, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 16th day of July, A. D. 1892.

ALDEN TAPLIN.

Witnesses:

ARTHUR W. CROSSLEY,
A. D. HARRISON.