

(No Model.)

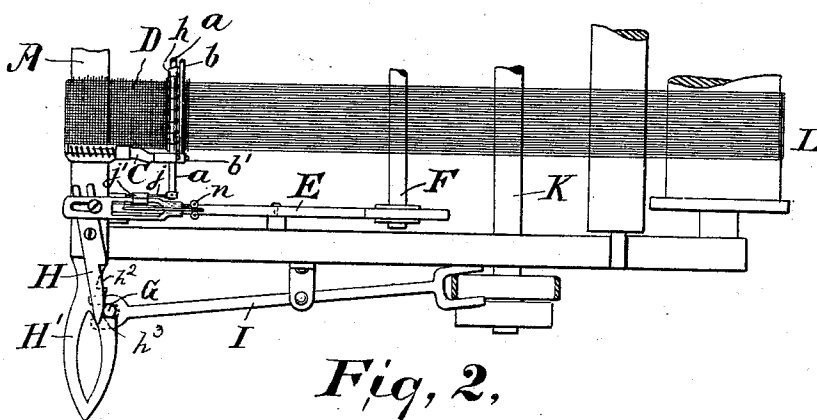
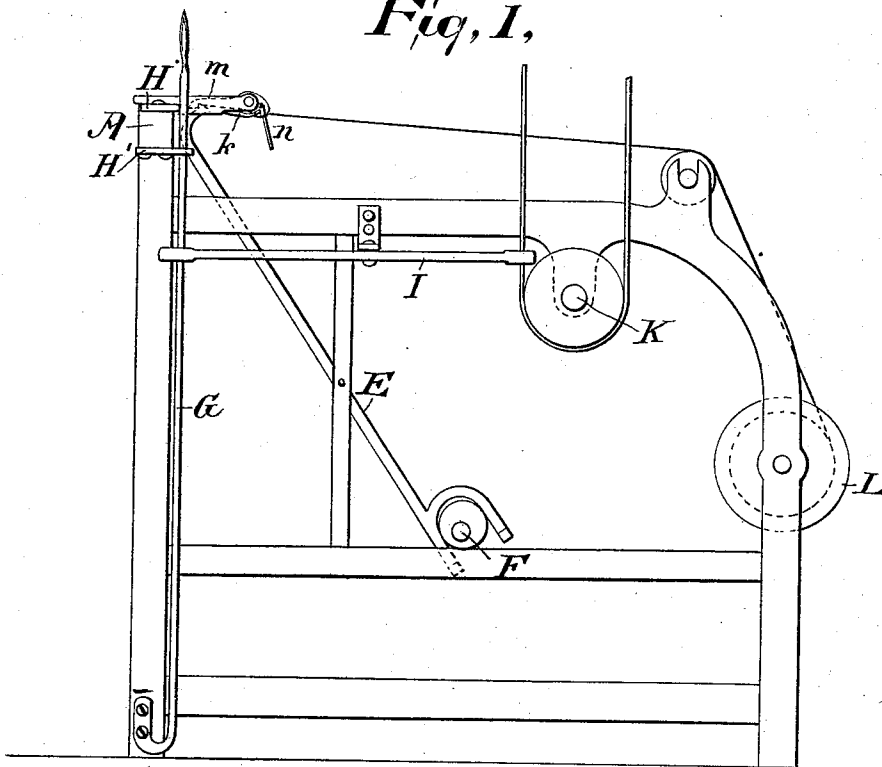
2 Sheets—Sheet 1.

E. J. ASHLEY.
STOP MOTION FOR LOOMS.

No. 534,625.

Patented Feb. 26, 1895.

Fig, 1,



Fig, 2,

Witnesses

Inventor

Robert Loebinger
Louisa Browne.

Edward J. Ashley,

By Drake & Co. Attys.

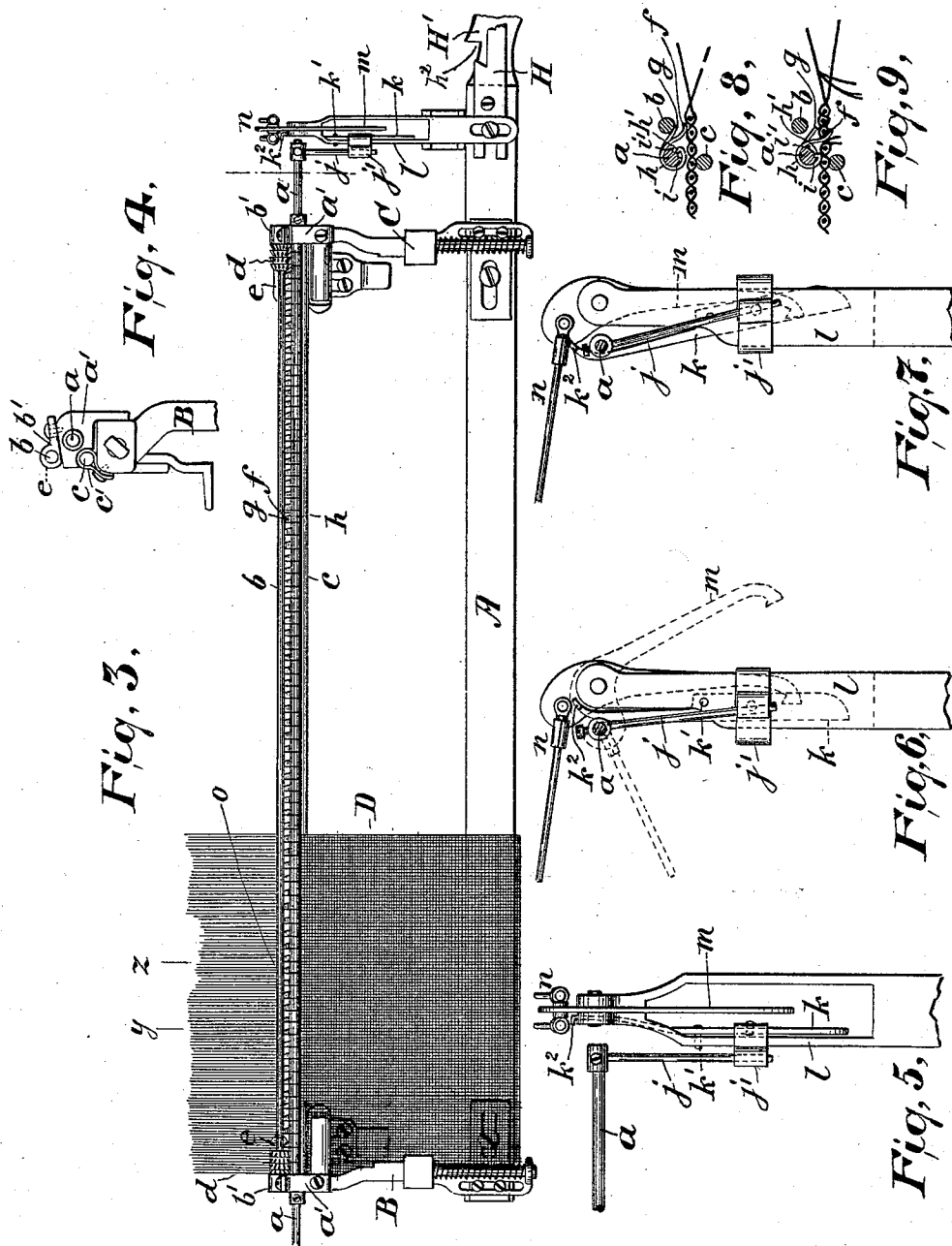
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UNITED STATES PATENT OFFICE.

EDWARD J. ASHLEY, OF NEWARK, NEW JERSEY.

STOP-MOTION FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 534,625, dated February 26, 1895.

Application filed January 13, 1894. Serial No. 496,710. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. ASHLEY, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements 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.

The object of this invention is to prevent or reduce the loss of material and time resulting from the breaking of warp-threads while weaving and to secure other advantages hereinafter referred to.

The invention consists in the improved stop-mechanism and in the combination and arrangement of the parts thereof and connected therewith as herein set forth and finally pointed out in the claims.

Referring to the accompanying drawings, in which similar letters of reference designate corresponding parts in each of the several figures where they occur, Figure 1, represents a side elevation of an ordinary loom showing the parts with which my improvements are connected. Fig. 2, is a top plan, broken off, showing portions of the ordinary stop-mechanism and portions of my improvements connected therewith, the loom being stopped. Fig. 3, is a top plan view showing the ordinary breast-beam, temples, &c., and portions of my improvements in connection therewith. Fig. 4, is a side elevation of one of the temples, broken off, and also showing some of my improvements in connection therewith. Fig. 5, is a plan of the end portion at the right of Fig. 3, enlarged, and Fig. 6, is an elevation of the same. Fig. 7, is also an elevation of the same parts shown in another position. Figs. 8 and 9 are sections taken through the lines *y* and *z* respectively, of Fig. 3.

In said drawings A, designates the ordinary breast-beam of a loom; B, C, the temples.

E is the finger rod; F, the shaft of the eccentric or cam for operating the same; G, the shifter handle; H, the shifting plate; I, the belt shifter; H', the shifter handle holder;

L, the warp beam, and K the shaft of the driving pulley.

D, Figs. 2 and 3, designates a section of cloth as it appears in connection with my improvements, which consist in part of rods *a*, *b*, *c*, and certain mechanism connected therewith as hereinafter described, said rods being mounted in bearings *a'*, *b'*, and *c'*, as indicated in Figs. 3 and 4. The rod *b*, carries, at each end, burrs *d*, beneath which are guards *e*, connected with or forming part of the bearings *b'* as indicated in Figs. 3 and 4.

In connection with the rod *a*, are a series of double teeth *f*, *g*, one of which projects inward and the other outward, forming a double row of teeth which are carried by jaws *h*, mounted and working upon said rod *a*, each jaw having a lip *h'*, which engages shoulders *i*, and *i'*, formed upon said rod, the purpose of which will appear farther on.

The rod *c* serves to support the cloth or fabric as it is being woven as will be understood upon reference to Fig. 3, and the burrs *d*, on the ends of the rods *b*, engage the edges of the cloth at each side and prevent the latter from slackening, as will be understood.

To one end of the rod *a* is secured an arm *j*, which connects by a lip or lug, *j'*, with a finger *k* pivotally secured, at *k'*, to the arm *l* which carries the portions *m*, *n*, of the stop-mechanism. Said finger *k* extends to the fork *n*, at which point its end is slightly curved upward and bent outward, as seen at *k''*, Figs. 3, 6 and 7. This finger, in its normal position, as in Figs. 3, 5 and 6, permits the free vibration of the fork *n* when the loom is in operation and working properly, but, should some of the warp-threads break, as indicated at *o*, Fig. 3, one, or more, of the inner teeth, *f*, which rest upon the cloth, will drop into the opening formed by the broken and missing threads, Fig. 9, and, engaging with the weft or filling, a pressure is thereby exerted upon said tooth which forces the lip *h'* upon the jaw *h*, to engage the shoulder *i* upon the rod or carrier *a* and thereby to turn the latter in its bearings, to a slight extent and sufficient to cause the arm *j* to lift the rear end of the finger *k* upward and to correspondingly lower the opposite extremity until it engages or abuts against the fork *n*, below its pivotal point, Fig. 7, thus stopping its vibrations and causing an

engagement of the finger rod E with the portion *m* of the stop mechanism. Said finger rod E under control of the eccentric upon the shaft F will follow its proper movement, drawing the arm *l* a certain distance, thereby turning the shifting plate H from the position shown in Fig. 3 to the position shown in Fig. 2; that is, sufficient to push the shifter handle G out of engagement with the notch *h*² on the catch H'. The shifter handle, actuated by its spring power, will then automatically fall into the notch *h*³, and cause the shifting of the belt by the ordinary mechanism, from the tight to the loose pulley, and thereby automatically stopping the loom, as will be understood.

From the above the importance of the invention will be appreciated especially in cases where a person is attending to eight or more looms, each one of which under ordinary circumstances, requires constant watching in order that when a break of the warp threads occurs, the attendant may become aware of it, stop the loom, repair the damage and start up again. It frequently occurs in such cases however that the attendant fails to note the break immediately, the consequence of which is that quite a strip of damaged cloth is woven occasioning a waste therein. Moreover while he is repairing a break in one loom, a break may occur in one or more of the other looms which he is tending, followed of course by the same results. These difficulties and disadvantages as well as others are effectually overcome by my improvements.

Having thus described my invention, what I claim as new, and wish to secure by Letters Patent, is—

1. In a loom, the combination, with the stopping mechanism, of two rods journaled transversely of the loom frame, one of which is smooth and the other one is provided with a longitudinal groove or recess, a series of jaws mounted and working upon the

grooved rod, each jaw having a lip at one end projecting into the groove in said grooved rod, and provided with two teeth at its other end, one of which teeth rests against the smooth rod and the other one rests upon the cloth, and means for connecting the grooved rod with a stopping mechanism, whereby the loom will be stopped when the rod is rotated, substantially as set forth.

2. In a loom, the combination, with the stopping mechanism, of two rods, one of which is smooth and the other one is provided with a longitudinal groove or recess, a series of jaws upon the grooved rod, each of which has a lip within the groove, said lip being of a less width than the width of the groove, whereby the jaw may be rotated a portion of a revolution around the rod without rotating the rod, the opposite end of said jaw being provided with two teeth, one of which rests against the smooth rod, and the other one rests upon the cloth, and means for connecting the grooved rod with the stopping mechanism, whereby the loom will be stopped upon the rotation of the rod, substantially as set forth.

3. In a loom stopping mechanism, provided with an arm *l*, of a finger *k* and a portion *m* pivotally secured thereto, the portion *m* being provided with a fork, a lip *j'* upon the finger, a rod journaled across the loom and provided with a series of jaws, each of which is adapted to rotate the rod when its respective warp thread breaks, and an arm *j* secured to the end of the rod, in engagement with the lip on the finger, whereby, when the rod is rotated, the mechanism is operated and the loom is stopped, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 10th day of January, 1894.

EDWARD J. ASHLEY.

Witnesses:

OLIVER DRAKE,
HILEN H. MOON.