

J. E. PREST.
 Stop-Motion for Warping-Machines.
 No. 131,372. Patented Sep. 17, 1872.

Fig 1.

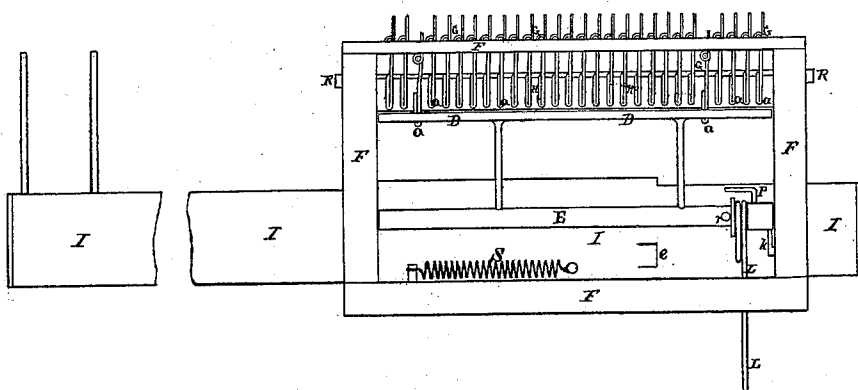


Fig 3.

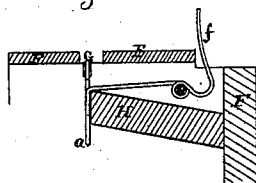


Fig 2.

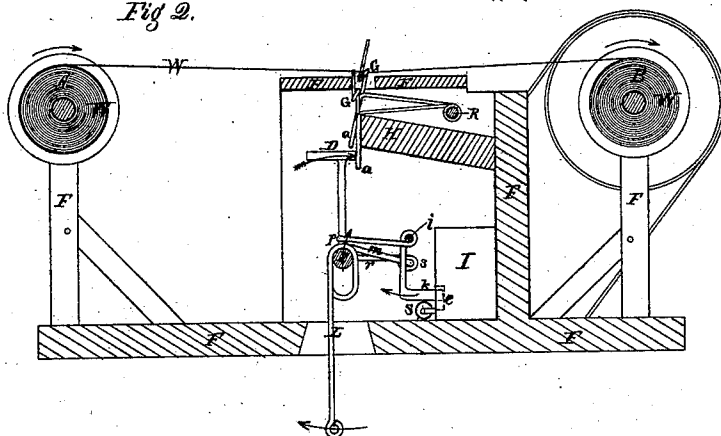
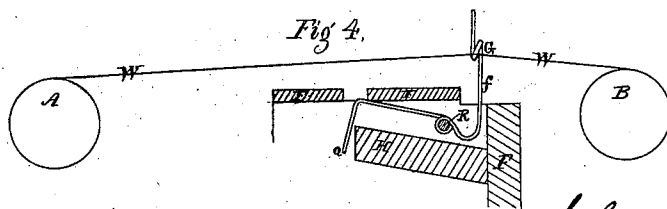


Fig 4.



Witnesses.

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JOHN E. PREST, OF MILFORD, MASSACHUSETTS.

IMPROVEMENT IN STOP-MOTIONS FOR WARPING-MACHINES.

Specification forming part of Letters Patent No. 131,372, dated September 17, 1872.

To all whom it may concern:

Be it known that I, JOHN E. PREST, of Milford, in the county of Worcester and State of Massachusetts, have invented a new and Improved Stop-Motion for Warping-Machines, of which the following is a specification, referring by letters to the accompanying drawing making part of the same, in which—

Figure 1 is a front elevation of the mechanism of said stop-motion and the parts of the warping-machine connected therewith. Fig. 2 is a side elevation and section of the same. Figs. 3 and 4 exhibit certain modifications that are hereinafter referred to.

Similar letters indicate like parts in all the figures.

My invention relates to the combination of a series of drop-yarn guides that are suspended from the warps, a movable bar or detector operated by a swinging lever or equivalent means, and a latch that retains the belt-shipper in position to continue the motion of the machine in such a manner that the breaking or running out of any one of the warps drops its yarn-guide, which arrests the movement of the detector and causes the swinging lever, by its continued movement, to lift the latch and liberate the belt-shipper, which shifts instantly by the force of a spring and stops the machine.

In the drawing, F is the frame of the machine, having two uprights which support the two yarn-beams A and B, containing the warps W, which are wound in proper manner on the beam B from the beam A, passing singly through the yarn-guides G, which are hung on a horizontal rod, R, which is removable at pleasure for the purpose of adding to or taking from the number of yarn-guides thereon, according to the requirements of the machine or the number of ends to be beamed. Each end passes through one of the guides G, as shown in Fig. 2, and by the tension of the warps holds the guides suspended above and out of the way of the horizontal bar or detector D on the rocker-shaft E, so that the detector may swing freely beneath the lower ends *a* of the guides with a vibratory movement, imparted to its rocker-shaft by the lever L from some first mover. The detector is thus continually in motion backward and forward across the line or space into which the ends *a* of the guides G would drop if released by the warps and permitted to do so; and the detector performs the important function

of detecting the releasing and dropping of any single guide, by reason of the breaking or running out of its warp, and of communicating the effect to the mechanism which produces the instantaneous shifting of the belt which drives the machine. This is done by the end *a* of the guide dropping in front of the rest H, and below it sufficiently to obstruct the backward movement of the detector-bar D and hold it stationary, so that the continued movement of the lever by which it was operated shall be directed to liberating the belt-shifting mechanism to stop the machine. This second function of the lever L is performed by connecting the end of the arm *m*, extending from the lever L, to an eye, *s*, at the end of another arm, *r*, extending from the rocker-shaft E, which eye *s* for the time serves as a fulcrum to the lever L and arm *m*, by the continued backward movement of which—in the direction indicated by the arrows in Fig. 2—the bend of the lever over the rocker-shaft is lifted, and with it the overhanging arm *p* of the latch *k* on the fixed pin *i*, and the latch is withdrawn from the catch *e* in the shipper-rod I, which, being thus liberated, slides endwise by the force of the spiral spring S, Fig. 1, and by so doing shifts the belt and stops the machine until the warp is repaired and its guide is elevated by it out of the way of the detector, when the operation goes on until the accident occurs again and the detector and its liberating mechanism repeats its movement to stop the machine. Fig. 3 represents another construction of the drop-yarn guides, having an extension or arm, *f*, at the rear, by which to elevate the opposite end to receive the warp-thread; and Fig. 4 represents still another form of construction, in which the guide-eye G is in the rear extension *f*, which is depressed by the tension of the warp, and so elevates and suspends the forward end *a*, which arrests the movement of the detector, as before described.

Having described my invention, what I claim is—

The combination of the drop-yarn guides G, the detector D, and the liberating mechanism described for effecting the shifting of the belt to stop the machine, substantially as specified.

JOHN E. PREST.

Witnesses:

ISAAC A. BROWNELL,
DAVID HEATON.