H. T. KENT & S. MOORE.

Stop-Motion for Looms.

No. 169,108. Patented Oct. 26, 1875.

FIG. 1.

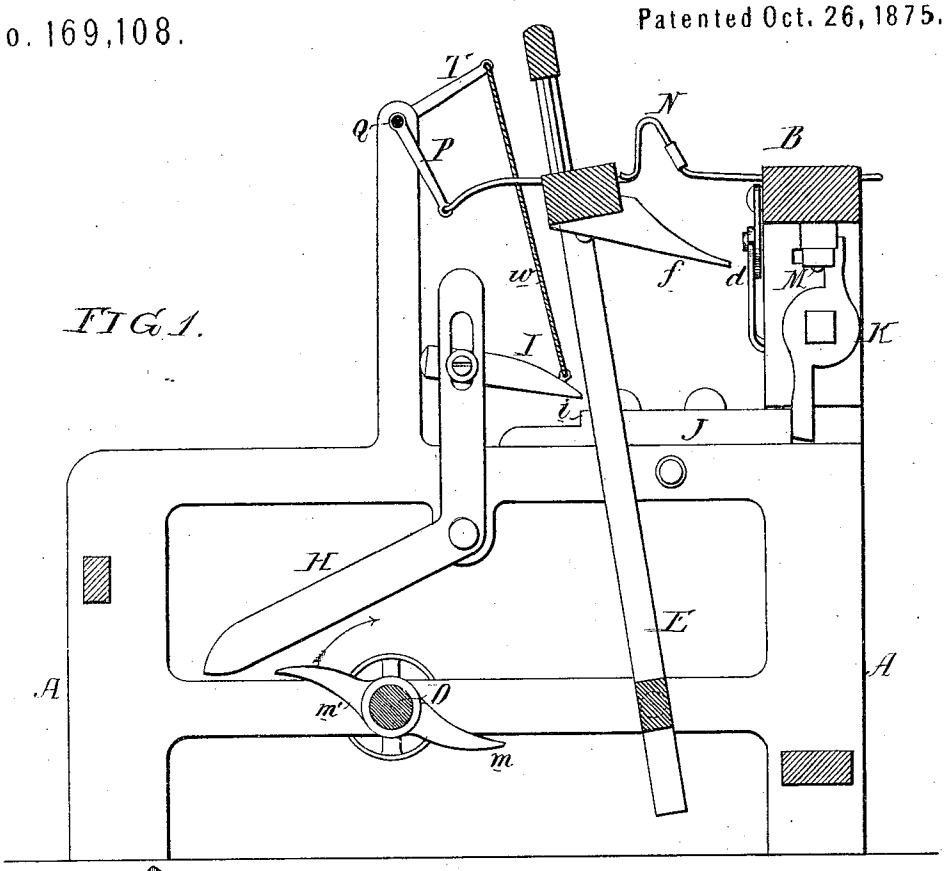


FIG. 3.

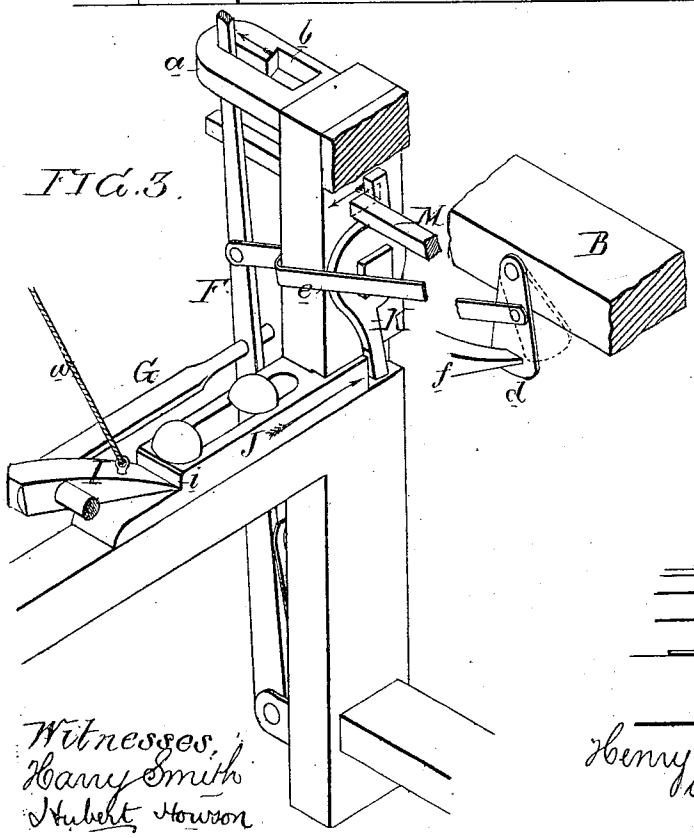
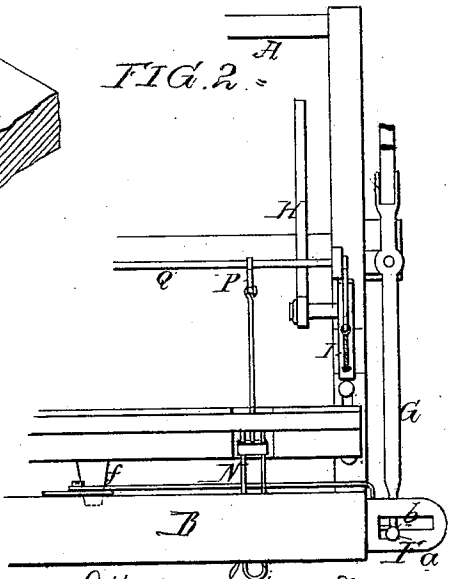


FIG. 2.



Witnesses,
Harry Smith
Hubert Howson

Henry T. Kent & Sidney Moore.
by their Attorneys
Howson and Sons

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY T. KENT AND SIDNEY MOORE, OF CLIFTON, PENNSYLVANIA.

IMPROVEMENT IN STOP-MOTIONS FOR LOOMS.

Specification forming part of Letters Patent No. **169,108**, dated October 26, 1875; application filed January 30, 1875.

To all whom it may concern:

Be it known that we, HENRY T. KENT and SIDNEY MOORE, of Clifton, Delaware county, Pennsylvania, have invented certain Improvements in Stop-Motions for Looms, of which the following is a specification:

The object of our invention is to effectually prevent the beating up of broken threads in a loom; and this object we attain by mechanism which we will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a vertical section of sufficient of a loom to illustrate our invention; Fig. 2, a plan view of part of the loom, and Fig. 3 a perspective view.

The opposite side frames A of the loom are connected together by the usual cross-stays, and by the breast-beam B, forming part of the frame-work. D is the driving-shaft, from which the lathe E is operated through the medium of the usual intervening gearing, crank-shaft, and connecting-rods. F is the ordinary spring-lever, to which is connected a belt-shifting arm, G, similar to those of common looms, the lever passing through a projection, *a*, on one of the frames, and this projection having the usual notch *b* for retaining the spring-lever when the loom is in motion. To the inside of the breast-beam is hung a stop, *d*, connected by a rod, *e*, to the spring-lever, the connection being such that when the said lever is retained by the notch *b*, and the loom is in motion, the stop *d* will be beyond the range of a projection, *f*, on the lathe, and when the said lever is moved from the notch the stop will be directly opposite the said projection. On the driving-shaft D are two cams, *m m'*, for operating the bell-crank lever H, which is hung to one of the frames, and which carries an adjustable pawl, I, controlled by the weft-forks, in the manner described hereafter, the end of the pawl being adapted to a shoulder, *i*, on a bar, J, arranged to slide on the frame, and having a notch for receiving one arm of a lever, K, hung to the inside of the frame, the other arm of the lever bearing against an arm, M, which is hung to the under side of the breast-beam B, and which is caused to force the spring-lever F from the notch *b*, under the circumstances explained hereafter. There are two weft-forks, N, one near each end of the shuttle-race, the weft-forks having their usual functions, which are too well known to need description. Each weft-fork is guided at one end by passing through the breast-beam, and is connected at the opposite end to an arm, P, on a shaft, Q, which extends from frame to frame, and has its bearings in the same. An arm, T, on the said shaft Q is connected by a cord or wire, *w*, to the above-mentioned pawl I.

When the loom is in motion, and as long as the weft-thread remains unbroken, the spring-lever F will be retained in the notch *b*, the stop *d* will be beyond the range of the projection *f* of the lathe, and the end of the pawl I will be elevated by the weft-thread above the shoulder *i* on the sliding bar J, as the lathe moves toward the breast-beam, so that the movements of the pawl caused by the cams *m m'* on the driving-shaft can have no effect on the said bar. The moment the weft-thread breaks, however, the weft-forks cease to control the pawl I, which, coming in contact with the shoulder *i* of the bar J, moves the latter forward, and the bar, operating through the medium of the lever K and arm M, will force the spring-lever from the notch *b;* and this lever, operated by the spring as usual, will be quickly moved outward, and the driving-belt as quickly changed from the fast to the loose pulley of the driving-shaft. At the same time the stop *d* will be depressed, and will instantly arrest the lathe and prevent it from beating up into the fabric an imperfect, broken thread. This effect will be produced no matter where the thread is broken; for if the fracture occurs near either end of the shuttle-race, there is an adjacent weft-fork ready to perform the duty which it owes to the broken thread of releasing the pawl I.

We claim as our invention—

The combination, in a loom, of a projection, *f*, on the lathe, and a stop, *d*, arranged upon the frame, connected to the belt-shifting mechanism, and operated by the latter, whereby the stop *d* is brought into line with the projection *f*, and prevents the movement of the lathe when the belt is shifted, all substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY T. KENT.
SIDNEY MOORE.

Witnesses:
THOS. KENT,
WM. MCCORMICK.