J. H. MOORE.

Loom Shuttle Binder.

No. 167,460. Patented Sept. 7, 1875.

FIG. 1.

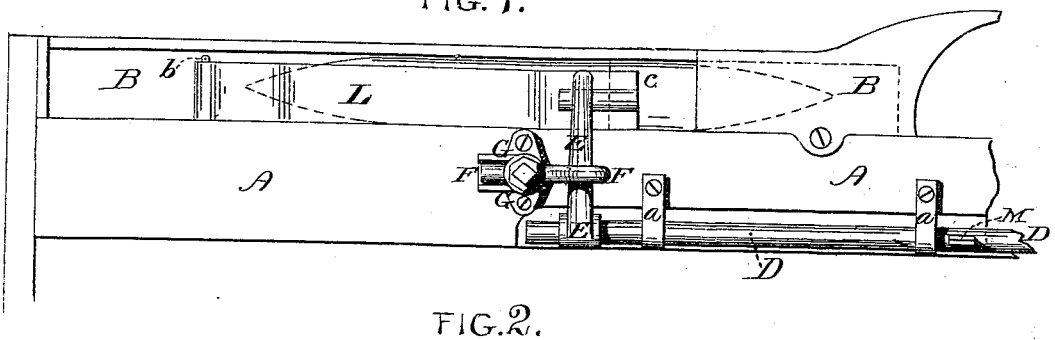


FIG. 2.

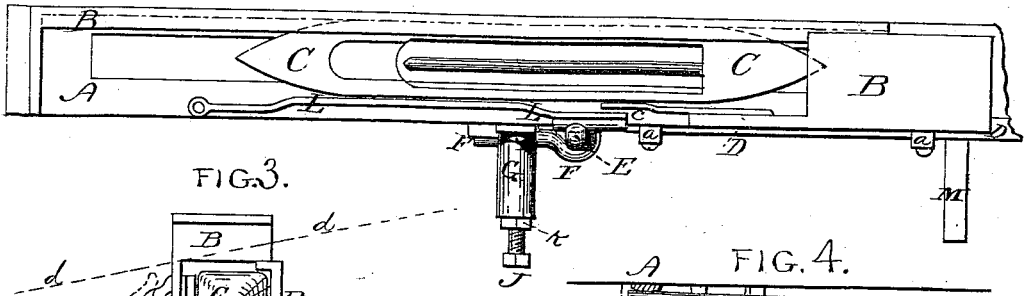


FIG. 3.

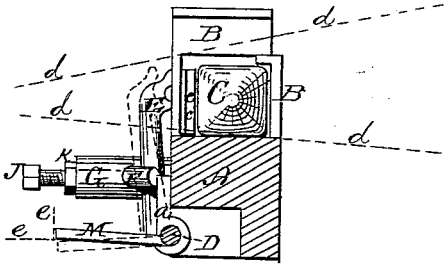
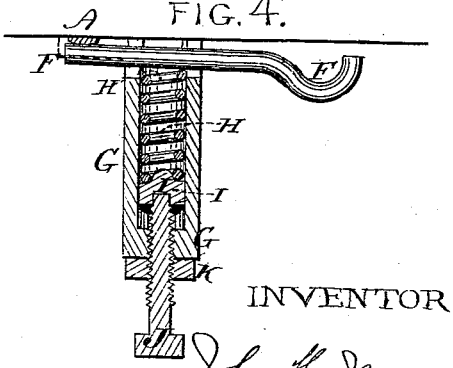


FIG. 4.



WITNESSES.

E. N. Johnson.

J. P. Crawford

INVENTOR.

John H. Moore.

per L. H. Burgin.

Atty.

UNITED STATES PATENT OFFICE.

JOHN H. MOORE, OF FISHERVILLE, NEW HAMPSHIRE.

IMPROVEMENT IN LOOM SHUTTLE-BINDERS.

Specification forming part of Letters Patent No. **167,460**, dated September 7, 1875; application filed July 15, 1875.

To all whom it may concern:

Be it known that I, JOHN H. MOORE, of Fisherville, Merrimack county, State of New Hampshire, have invented certain Improvements in Looms, of which the following is a specification:

My invention relates to the batten of the loom; and consists in a novel construction, combination, and arrangement of parts, and has for its object to arrest the forward movement of the batten should the shuttle be stopped or get stuck in its flight while between the shed, and also to improve the operation of the shuttle-binder, as will be more fully hereafter set forth.

Figure 1 is a side or front view of a portion of the lathe or batten of an ordinary power-loom with my improvements. Fig. 2 is a top view of the same. Fig. 3 is a sectional view of the same, and Fig. 4 is a sectional detail view.

The drawings show only one end of the lathe. The other extremity is, however, identical in construction, with one exception, hereafter to be mentioned. I herein show and describe only the parts of the loom to which my invention relates, and to avoid prolixity the parts of the batten in common use and well understood are not described herein, they being simply designated by letters, to which reference is had.

A is the shuttle-bar; B, the shuttle-box; C, the shuttle. The reeds (not shown in the drawings) are constructed and located in the batten, as usual, and the shuttle is driven by the ordinary means. D is a shaft or rod, called a "protecting-rod," extending in front of the shuttle-bar, and supported in bearings *a a*. On this rod is secured a finger, E, over which a crooked rod, F, straddles. This rod or lever passes through the lower end of the hollow cylinder G, secured on the shuttle-bar, and is kept pressed on the finger E by means of the spiral spring H, inclosed inside the cylinder. I is a follower, against which one (the upper) extremity of the spring H presses; and J is a regulating-screw, for varying the pressure of the spring on the hooked rod or lever F. K is a lock-nut for securing the regulating-screw. L is the shuttle-binder, consisting in a spring turning on the pin *b*. The finger E on the shaft D presses against this spring, and when the shuttle is not in the box keeps it against the stop *c;* but the shuttle, on entering the box, presses this spring outward, and it, acting on the arm or finger E, secured on the shaft D, turns this shaft slightly. M are arms, termed "daggers," projecting horizontally from the shaft or rod D. The rod D may be provided with a number of these projecting daggers along its entire length. In Fig. 3 the dotted lines *d d* represent the shed, and the dotted lines *e e* a portion of the loom-frame, or a projection therefrom, immediately in front of, and in line with, the daggers M. Only one extremity of the batten is shown in the drawings. The other is, however, similar to this one, having all the parts constructed and arranged the same, except that the spring device F G H I J on one end serves for the other end also, and is therefore omitted on one end.

The operation of the parts will be as follows: The shuttle, having been set in motion, travels along the shuttle-race and between the shed, as usual. On leaving the shuttle-box at either end of the lathe the binder L, which it had kept pressed outward, is, by the pressure of the arm E on it, pressed into the stop *c*. The arm, in pressing in the spring, turns the shaft D, and moves the daggers M projecting therefrom up. Thus, while the shuttle C is out of the boxes B the binder L is pressed in, and the daggers M on the shaft D raised, so as to come in contact with the portion of the frame *e e*, Fig. 3, and thus prevent the possibility of the batten being thrown forward, and the reed striking the shuttle; but as soon as the shuttle has emerged from between the shed and entered either box it presses the binder L outward, which, acting on the finger E, turns the shaft D, and throws the daggers M down, so that they clear the loom-frame or projection, and permit the batten to operate, and the reeds to beat in the weft. The pressure exerted on the arm E by the spring H, and transmitted to the binder L, can be readily adjusted by the regulating-screw J, so that any desired amount of friction may be brought on the shuttle.

It is evident that various modifications may be made of my invention without departing from the principle of construction or operation.

It will be perceived also, by those versed in the art of textile manufacture, how portions of my invention may be applied to various purposes with but slight alterations, which would not embody invention. For instance, the spring device is adapted to the use of rolls used on the coilers of carding-machines, to dispense with the breaking of the roping, which heretofore have had a sliding box secured tightly by a set-screw, not allowing the rolls to adapt themselves to the bunches in the roping; but with my spring device adjusted in the place of the set-screw the rolls open to let all such bunches through without breaking the roping.

I claim—

1. The spring device, consisting of the cylinder or post G, spring H, crooked lever F, and adjusting-screw J, combined with the protection-rod D and finger E, constructed and operating substantially in the manner described and specified.

2. The combination of the spring device G H F J, protection-rod D, with finger E, and daggers M, shuttle-binder L, and a projection or stop, *e*, on the loom-frame, constructed and operating substantially in the manner described and specified.

JOHN H. MOORE.

Witnesses:

WILLIAM WALSH,

G. E. FLANDERS.