W. STEARNS.

Loom Picking-Mechanisms.

No. 142,592. Patented September 9, 1873.

Fig 1.

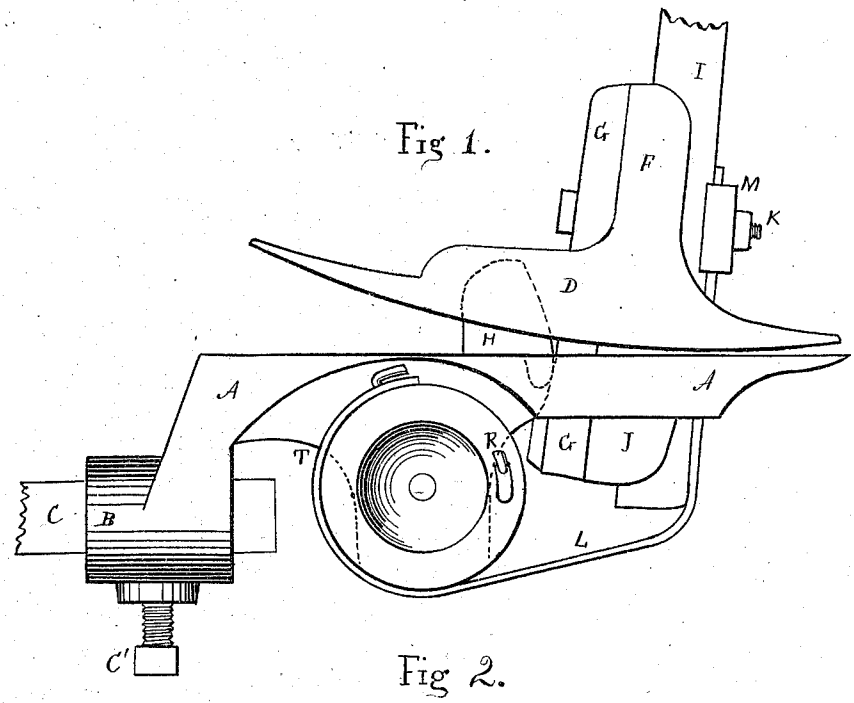


Fig 2.

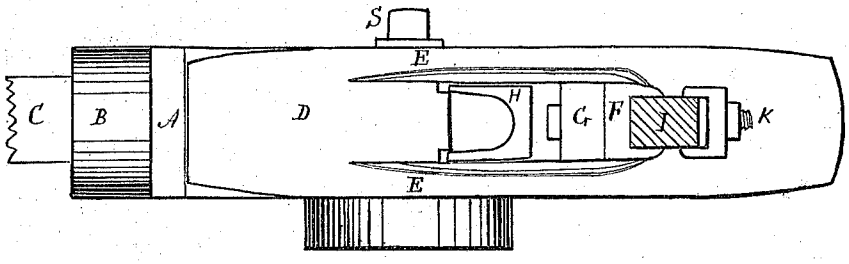
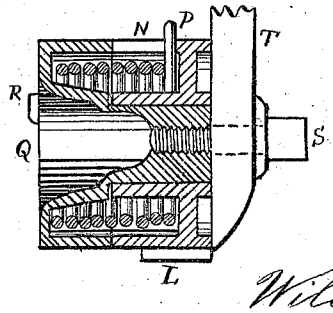


Fig 3.



WITNESSES.

Sam'l. Slater

E. D. Murray.

William Stearns

By his Atty. J. Dennis Jr

UNITED STATES PATENT OFFICE.

WILLIAM STEARNS, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN LOOM PICKING MECHANISMS.

Specification forming part of Letters Patent No. **142,592**, dated September 9, 1873; application filed July 28, 1873.

To all whom it may concern:

Be it known that I, WILLIAM STEARNS, of Manchester, Hillsborough county, in the State of New Hampshire, have invented certain new and useful Improvements in Picker-Motions for Looms; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings forming part of this specification.

The nature or essence of my invention consists in a lug on the rail, which works through an opening in the rocker, and a lug on the under side of the rocker, working in an opening in the rail, which lug also supports the lower end of the picker-staff; also, in a flange on the stud to cover the spring and keep the waste and dirt from it.

In the accompanying drawings, Figure 1 is an elevation of the front side of my improved picker-motion, and Fig. 2 is a plan. Fig. 3 is a horizontal section of the stud and spring which throw back the picker-staff.

In the above-mentioned drawings, A is a rail made of cast iron, in the form shown, or in such other form as will answer the purpose, and provided with a hub, B, at one end, which is perforated for the rock-shaft C of the lay of the loom, to which it is fastened by the set-screw C′. The top of the rail A is plain and horizontal for the rocker D to work or rock on, which rocker D is made of cast-iron, in the form shown, or such other form as will answer the purpose intended. It should be about as long as the distance the upper end of the picker-staff is required to traverse to throw the shuttle; and the curve of the bottom of the rocker should be the arc of a circle, the center of which circle should be the point on the picker-staff which strikes the shuttle to traverse it, so that said point on the picker-staff will traverse parallel with the race-board on which the shuttle runs. The rocker D has two flanges, E E, on its upper side, which join the vertical arm F, in front of which arm F there is a mortise through the rocker for the wooden hook G and for the lug H on the rail A to work through, which lug H is shown by dotted lines in Fig. 1. There is a mortise through the rocker, to the right of the arm F, for the picker-staff I to pass down through the rocker and through the rail, which is mortised for that purpose, and to receive the lug J on the under side of the rocker, which is an extension of the arm F, on the opposite side of the rocker, shown in Fig. 1. The arm F and lug J are provided with flanges, between which the picker-staff I is fastened by the bolt K, which also fastens the hook G, which works against the curved side of the lug H, shown by dotted lines in Fig. 1. The curve of the lug H, against which the hook G works, should be such that the hook will rock against it and traverse as little as possible. The picker-staff I is drawn forward by a strap applied to it above the arm F, and after it has thrown the shuttle it is drawn back by the strap L fastened to the staff by the plate M and bolt K, which strap L passes down under the picker-staff onto the pulley N, Fig. 3, and is fastened to the end of the coiled spring P, which surrounds the hub of the pulley N, and a portion of the stud Q, on which the pulley turns. The end of the stud Q is made in the form of a cup, as shown in section, Fig. 3, to cover that portion of the spring P that is not covered by the pulley N, and keep the dust and dirt from the spring; and there is a hole through the end of the stud, in which the stationary end R of the spring is hooked, and a notch in the flange of the pulley, through which the opposite end of the spring passes to receive the end of the strap L, so that the stationary end of the spring surrounds the stationary hub of the stud, and the movable end of the spring surrounds the movable hub of the pulley, which moves with the spring, and thereby the friction of the spring on the hubs is almost entirely avoided. The end of the stud Q, under the pulley, is perforated, and provided with a female screw for the bolt S, which passes through the arm T, which projects down from the under side of the rail, and then the bolt screws into the end of the stud, so that, by loosening the bolt and turning the stud with the hand, the tension of the spring may be adjusted and the bolt tightened to hold the spring at the tension required. The arm T is partially shown in dotted lines in Fig. 1.

This device is made very cheaply, and the lug H on the rail working in the opening in the rocker, and the lug J on the rocker work-

ing in the opening in the rail, hold the rocker in its proper place on the rail, and allow it to rock, as required, to throw the shuttle with very little friction.

I claim—

1. The combination and arrangement of the lug H, cast on the rail and entering the hole in the rocker, with the lug J on the rocker working in the hole in the rail, the whole being constructed and operating as described, and for the purpose set forth.

2. In combination with the picker-staff extended down through the rail, the lug J on the rocker D, extended through the rail and embracing and supporting the picker-staff I, substantially as described.

3. In combination with the coiled spring P and the picker-staff I, the stud Q, provided with the cup-flange, as and for the purpose specified.

WILLIAM STEARNS.

Witnesses:

S. N. BELL,

N. V. HUNT.