W. STEARNS.

Loom-Picking Mechanisms.

No. 158,606. Patented Jan. 12, 1875.

FIG 1.

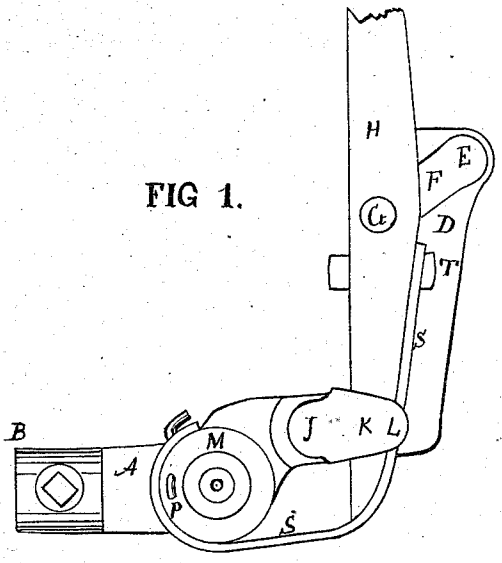

FIG 2.

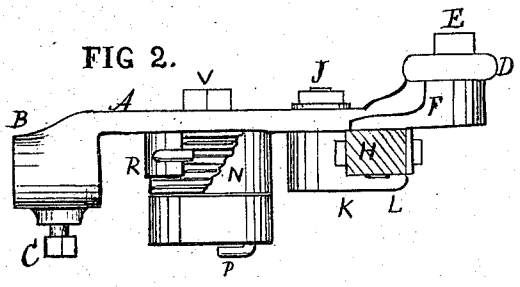

FIG 3.

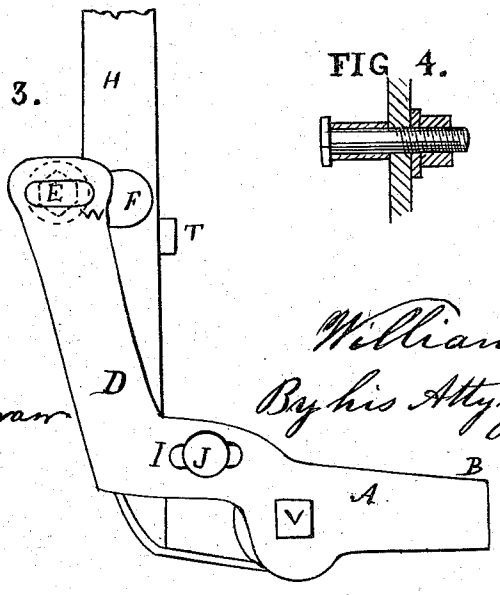

FIG 4.

WITNESSES.

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WILLIAM STEARNS, OF MANCHESTER, NEW HAMPSHIRE.

IMPROVEMENT IN LOOM PICKING MECHANISMS.

Specification forming part of Letters Patent No. **158,606**, dated January 12, 1875; application filed June 2, 1874.

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 hanging the picker-staff to the upper end of an arm projecting up from the rock-shaft of the lay by a swinging arm, to make the upper end of the staff work parallel or nearly parallel with the race-board of the lay; also, in a rocking arm provided with a side nearly straight for the picker-staff to work against, and a projection to hold the picker-staff in place if any part breaks.

In the accompanying drawings, Figure 1 is an elevation of my improved picker-motion. Fig. 2 is a plan of the same, and Fig. 3 an elevation of the rear side.

In the above-mentioned drawings, A is a cast-iron stand, which may be made in the form shown, or in such other form as will answer the purpose, and provided with a perforated end, B, to receive the end of the rock-shaft of the lay of the loom, to which shaft it is fastened by the set-screw C. The vertical arm or portion D of the stand A is perforated to receive the pivot E, which is fastened in it for the swinging arm F to vibrate on, which arm is provided with a pivot, G, which passes through the picker-staff H to hold it, and give it a proper motion vertically, as it is worked to throw the shuttle. The horizontal portion of the stand A is provided with a slot, I, in which the stud J is fastened for the friction-arm K to vibrate on, which arm K has one nearly straight side, against which the picker-staff works as it is vibrated to throw the shuttle, and a projection or arm, L, extends from the straight side across the foot of the picker-staff to keep or hold it in its place. To draw back the picker-staff after it has thrown the shuttle, I make a hollow or cup-shaped stud, M, with a lug to pass through the cup-shaped pulley N, which turns freely on the lug; the lug serving as a means of fastening the stud to the stand A. I place a coiled spring partly in the cup of the stud and partly in the cup of the pulley, with one end hooked through the stud at P, and the other end projecting through the opening in the pulley N at R, where it has the leather-strap S hitched to it, which strap passes under the pulley and the end of the picker-staff, and up on the outside, and is fastened by the bolt T, as shown in the drawing. The tensity of the strap S may be adjusted by turning back the bolt V, and turning the stud M, and screwing in the bolt. The pivot E may be adjusted in the slot W, and the stud J in the slot I, so as to make the swing of the picker-staff suit the length of the shuttle-box. The pivot E and stud J are simply metal cylinders fastened by a bolt, as shown in section, Fig. 4, so that they can be cheaply and easily renewed when worn. The strap which works the staff may be applied to it above the pivot E in the stand. I find it is desirable to extend the arm L a little beyond the strap S, and turn the end around parallel with the straight side, so that if any part breaks the part so bent will hold the lower end of the picker-stick in position.

I am aware that picker-staffs of looms have long been made to hang by a link from the lay, which hanging-link had the full sweep of the lay and added much weight to it, which has the motion of the lay, requiring much power to run the loom and great resistance to the dagger to stop the loom. Besides, anything fastened to the lay has all the jar of the lay in beating up the weft and stopping the loom, and it is extremely difficult to fasten the necessary parts to the lay so firmly that they will not work loose. And further, in looms that run at a high speed, the hanging of the picker-staff to the lay is not found to work well.

By my improvement all the objections enumerated above, and many others, are overcome by hanging the picker-staff to an arm of the stand on the rock-shaft of the lay. Besides, it is much cheaper and far easier done, and more durable and not so liable to work loose or get out of order by the motion of the lay, which swings six inches, while the arm of the stand only swings one and one-quarter inch.

And further, by hanging the picker-staff to the stand, the upper portion of the staff may be made much smaller, so as to spring some, which is found to be a great advantage in throwing the shuttle.

What I claim as my invention, in the above-described picker-motion for looms, is—

1. The combination of the arm D, extending up from the stand A, pivot E, swinging arm F, picker-staff H, rocking arm K, and projection L, constructed to operate substantially as described, for the purpose set forth.

2. In combination with the arm D, pivot E, and swinging arm F, the coiled-spring stud M, pulley N, and strap S, substantially as described.

WILLIAM STEARNS.

Witnesses:
S. N. BELL,
N. P. HUNT.