

JOHN C. FISHER.

Improvement in Loom Picker-Motion.

No. 116,251.

Patented June 20, 1871.

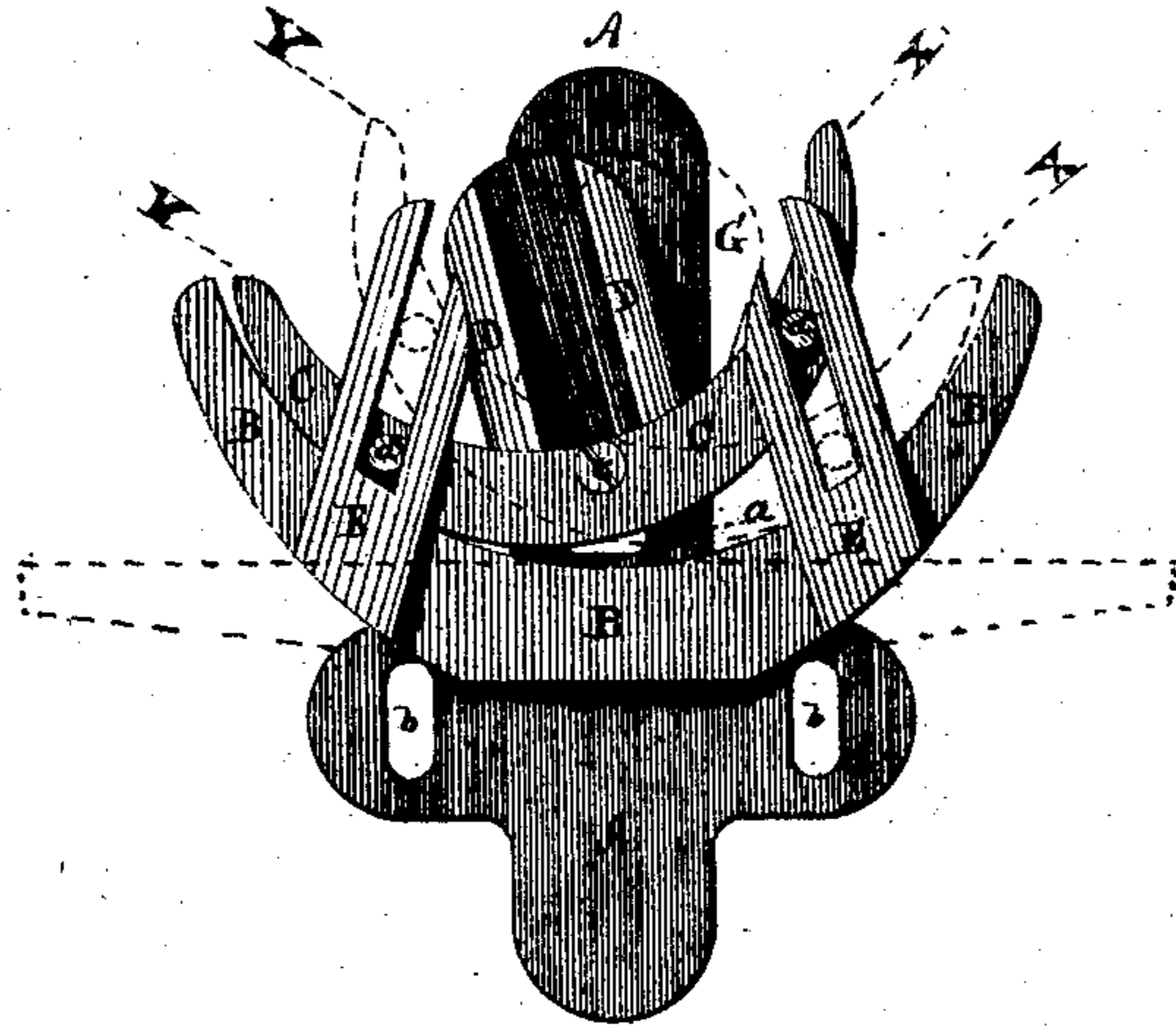


FIG. 1.

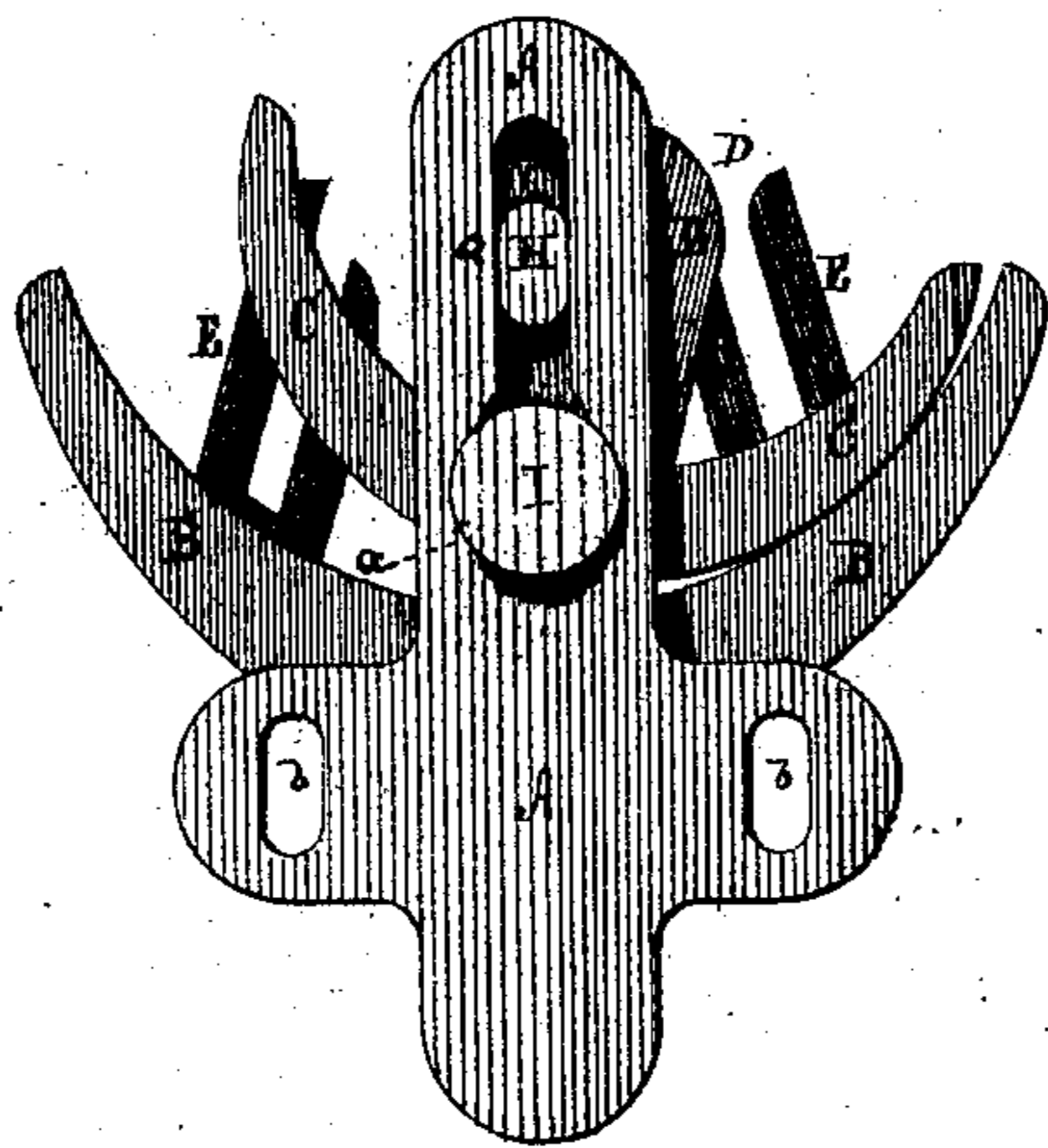


FIG. 2.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

JOHN C. FISHER, OF PROVIDENCE, RHODE ISLAND, ASSIGNOR TO HIMSELF  
AND ROBERT F. WALSH.

## IMPROVEMENT IN LOOM PICKER-MOTIONS.

Specification forming part of Letters Patent No. 116,251, dated June 20, 1871.

*To all whom it may concern:*

Be it known that I, JOHN C. FISHER, of the city and county of Providence, in the State of Rhode Island, have invented a certain new and useful Picker-Motion for Looms.

My invention consists in attaching the picker-staff, at its foot, to a combined strap-lever and rocker-plate, which, in turn, is mounted in or on a concave or straight bed, by means of which a prompt, steady, and uniform movement of the picker-staff is effected, and the blow of the staff upon the picker and shuttle is delivered on a line parallel with the top of the lathe; and I do hereby declare that the following specification, taken in connection with the drawing furnished and forming a part of the same, is a true, clear, and exact description thereof.

Figure 1 represents, in front view, my improved apparatus ready for attachment to a loom and for receiving the picker-staff. Fig. 2 represents a rear view of the same.

A is a standard or base-plate, consisting of a vertical arm and two horizontal arms. The latter are provided with bolt-holes *b*, by which the standard may be attached to the loom. The vertical arm is provided with a vertical slot, *a*, extending from a point near its top downward for about half its length, when it suddenly enlarges in width, so continuing to a point near its base. B is a concave bed-plate, attached to or forming a part of the standard or base-plate. It is obvious that the extreme arms of the bed-plate serve merely as stops, by which the movement of the rocker-plate is limited, and also that it is not absolutely essential that the bed-plate be concave so long as the arms of the rocker-plate be sufficiently convex to effect the vertical throw of the staff, and also sufficiently long to serve as strap-levers. It is preferable, however, to have the bed, as shown, with a concave line, which would be the arc of a circle—say of one-quarter greater diameter than that described by the rocker-plate. When the concave bed is constructed as shown and described, less movement of the rocker-plate is required to cause the reciprocating vertical movement than would be the case if the bed were not concave. In Fig. 1, dotted lines exhibit the bed-plate B as straight instead of concave. C is the main rocker-plate.

Its lower edge describes the arc of a circle of lesser diameter than that described by the arc, as exhibited in the concave bed-plate. To the arms of this plate the straps are attached, making it a combined strap-lever and rocker-plate. D is a socket-plate, fitted to receive and hold the butt of the picker-staff. It is secured to the rocker-plate midway between its arms in such a manner that when the rocker-plate rests evenly in the bed-plate in proper position the socket-plate will be vertical. E and E represent slotted guides, which serve to keep the rocker in the bed-plate, and also bear a portion of the strain on the rocker by means of studs *d* on the outer side of the rocker, which extend through the slots in the guides. G is a vertical sliding plate interposed between the rear of the socket-plate and the front face of the vertical arm of the standard A. This sliding plate is provided with a stud, H, projecting from its rear face into and through the slot *a* of the vertical arm of the standard. This plate is capable of a reciprocating vertical movement, guided or controlled by the stud H in the slot *a*. Without this sliding plate very good results may be attained. In such case the rear of the socket-plate should bear against the face of the vertical arm of the standard. The rocker-plate C and socket-plate D are rigidly connected. A pin, *c*, passes through both at their junction, then loosely through the lower end of the sliding plate G, terminating in a roller or block, I, projecting into and through the lower or wide portion of the slot *a* in the standard. A washer or other suitable device should be employed at the block I to hold it in the groove or slot *a*. The straps should be attached to the ends X or Y of the rocker-plate C, as but little play of strap causes extensive vibration of the picker-staff.

It will be observed that when the strap or straps are thus attached a leverage is formed between the ends of the rocker and the top of the picker-staff, the fulcrum being at the point of contact between the rocker-plate and its bed, wherever, in its rocking course, that point may be. There can be but little friction at such fulcrum, and, therefore, but little power is requisite for operating the picker and throwing the shuttle.

It will also be observed, as the rocker C vi-

brates in the bed, that the socket-plate has not only a vibratory movement, but also a reciprocating vertical movement, controlled laterally by the sliding plate G, stud H, and main pin c, in connection with the vertical slot a in the standard. When, therefore, the picker-staff is ready for delivering its blow to the picker or shuttle, as shown in Fig. 1, its base is elevated. When the blow is delivered, and as it is being followed up, the base of the staff falls until the staff is perpendicular. Immediately thereafter it commences to rise again until the staff has traveled its full course. By this means there is little, if any, vertical sliding movement of the upper end of the picker-staff, as it must travel nearly if not quite on a true horizontal line from the moment it strikes the shuttle to the moment the shuttle leaves the picker. By the peculiar and easy movement of the rocker in its bed the shuttle will be thrown with uniformity.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent—

1. The combination of the combined strap-lever and convex rocker-plate C with the picker-staff and the concave bed-plate, substantially as described.

2. The combination of the combined strap-lever and convex rocker-plate C, the picker-staff rigidly connected thereto, and a vertical slide, substantially as described, for the purposes specified.

3. The strap-lever C, bed-plate, picker-staff, and vertical slide, all combined substantially as described.

JOHN C. FISHER.

Witnesses:

J. ERASTUS LESTER,  
FRANCIS P. SHANLY.