H. D. WOOD.

LOOM.

No. 186,970 Patented Feb. 6, 1877.

Fig. 2.

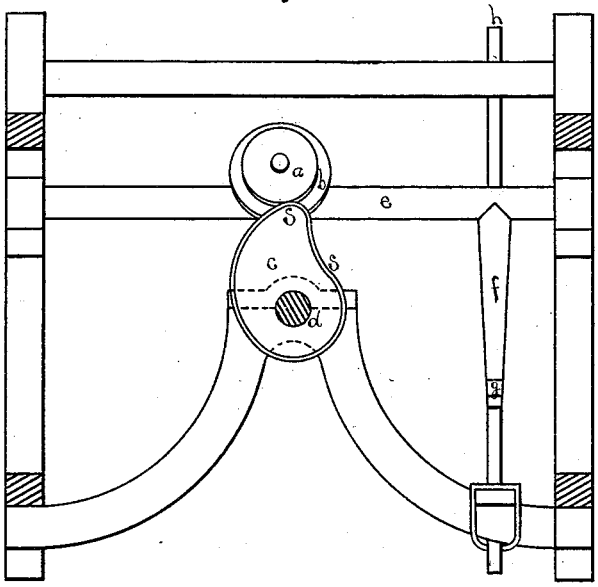


Fig. 3

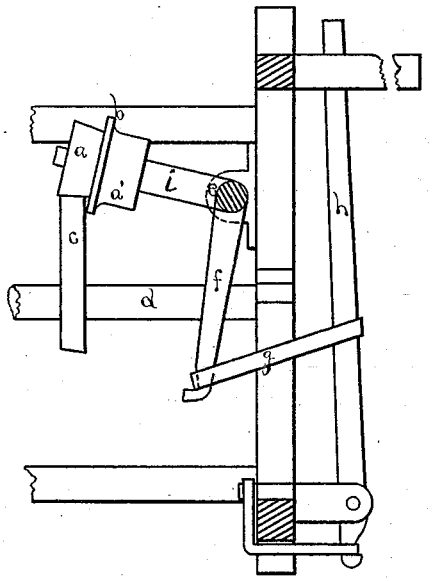
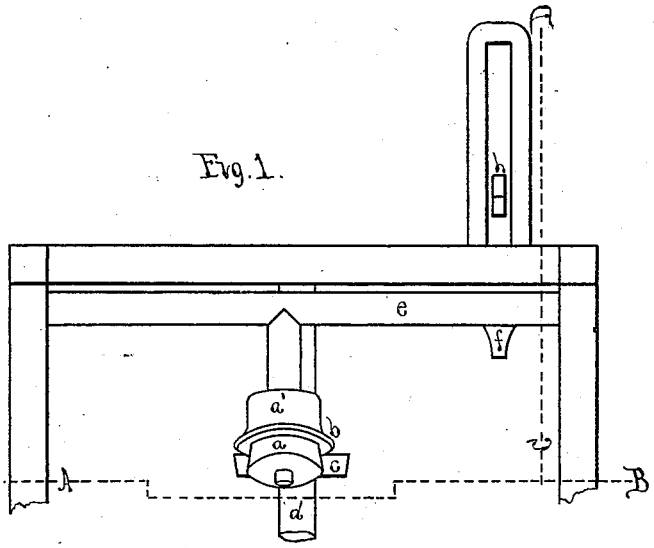


Fig. 1.



Witnesses

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UNITED STATES PATENT OFFICE.

HIRAM D. WOOD, OF SUNCOOK, NEW HAMPSHIRE.

IMPROVEMENT IN LOOMS.

Specification forming part of Letters Patent No. **186,970**, dated February 6, 1877; application filed January 15, 1876.

To all whom it may concern:

Be it known that I, HIRAM D. WOOD, of Suncook, in the county of Merrimack and State of New Hampshire, have invented a new and useful Improvement in Looms, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 represents a plan or top view of a portion of one end of a loom containing my improvement. Fig. 2 is a vertical cross-section of the same on the line A B of Fig. 1. Fig. 3 is a vertical longitudinal section on the line C D of Fig. 1.

This invention relates to that class or kind of loom-picker or picker-staff-operating mechanism in which the picker-staff is operated by a cam on the rotary cam-shaft, such cam engaging a roll or ball-like bearing arranged on one arm of a rock-shaft, having its other arm connected by strap with the picker-staff. This roll or ball is commonly held upon its carrying-arm by means of a screw and nut.

In practice, the cam, acting against the inclined face of the roll drags or pulls the roll constantly in the direction of the free end of the arm and against the force of the screw, and the latter is frequently bent or broken, or the nut forced from the end of the screw, making it necessary to stop the loom for repairs, which, besides involving expense, occasions a serious loss of time. This breakage is of frequent occurrence.

The object of this invention is to overcome this difficulty; and the invention consists in the combination, with the rock-shafts and arm and cam, of ordinary construction, of a flanged roll placed loosely upon the arm, and held from lateral motion, tending to remove it from the arm by the action of the flange alone upon the edge of the rotating cam.

In the drawings, *a* is the flanged roll, and *b* the flange thereof. *c* is the cam on the cam-shaft *d*. *e* is the rocker or cross-shaft; *f*, the depending arm; *g*, the strap; *h*, the connected picker-staff, and *i* the roll-carrying arm.

Once at each revolution of the cam, and by a sharp rise, *s s*, at one portion thereof, the roll is suddenly raised or thrown upward, which movement rocks the cross-shaft *e*, causing a swinging or oscillating movement of the arm *f*, and, by means of the connecting-strap *g*, throws the top end of the staff *h* forward or inward, in the usual way, to project the shuttle from one end of the loom to the other. The face of the flange *b* may be at a right angle to the taper of the conical roll *a*, or at a right angle to the axis or stud on which the roll revolves loosely; or the said flange may be at any other angle or inclination from the roll, so long as said flange retains the roll upon its stud by reason of its bearing against the end of the cam, as shown. I consider any modification in the form or inclination of the flange *b* an obvious substitute for my invention.

It will be observed that the roll in this my invention is simply placed on the arm, and that the usual holding-screw, so frequently broken, is dispensed with. The flange, bearing against the cam, prevents endwise motion of the roll under the action of the cam, and it is impossible for the roll to be thrown off by the action of the cam.

I am aware that it is common in car and other wheels to employ a flanged rim at one edge to prevent the wheels from leaving the track; and I do not, therefore, broadly claim a flanged roller-wheel; but

I do claim—

In a picker-staff-operating mechanism for looms, the combination, with the rotating cam *c*, roller-carrying arm, and rock-shaft adapted to be connected with the picker-staff, of the flanged roll placed loosely upon the arm, and prevented by the action of the flange against the cam from lateral motion from the end of the arm under the action of the cam, substantially as described.

HIRAM D. WOOD.

Witnesses:

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