(No Model.)

S. HAMBLIN.

PICKING MOTION FOR POWER LOOMS.

No. 421,703. Patented Feb. 18, 1890.

Fig. 1.

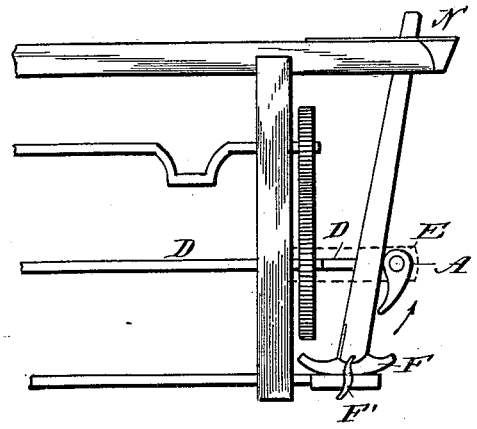
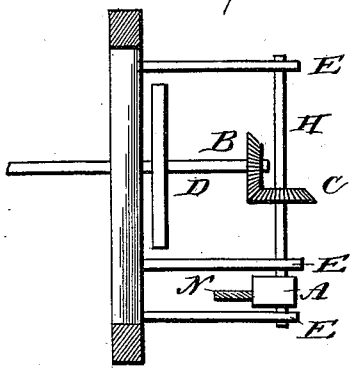


Fig. 2.



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SILVANUS HAMBLIN, OF NEW BEDFORD, MASSACHUSETTS.

PICKING-MOTION FOR POWER-LOOMS.

SPECIFICATION forming part of Letters Patent No. 421,703, dated February 18, 1890.

Application filed December 12, 1888. Serial No. 293,409. (No model.)

To all whom it may concern:

Be it known that I, SILVANUS HAMBLIN, a citizen of the United States, and a resident of New Bedford, in the county of Bristol and State of Massachusetts, have invented a certain new and useful Improvement in Picking-Motions for Power-Looms, of which the following is a specification.

The object of my invention is to provide a simple and efficient picking-motion for looms which shall perform as much work as possible in a given time with a given power, and which shall work equally fast with thin or thick webs.

Figure 1 is a view of part of the loom, showing in side elevation my picking-lever and throwing-cam. Fig. 2 is a sectional view showing the connection of the cross-shaft with the picking-shaft and the bevels which make the connection.

The main object in view in the construction of my picking-motion is the utmost simplicity possible, and the arrangement of the cam with relation to the lever must be such that with a given power the motion may be the quickest possible, and that said motion may take place with as little jar as possible.

To this end I construct my device as follows: Under the frame of the loom and approximately parallel with the raceway of the shuttle there is a cross-shaft D, provided with a bevel-gear B at its extremity, as shown in Fig. 2. Across the end of this shaft and at each side of the loom there extends a picker-shaft H, provided with a bevel-wheel C, gearing with that upon the cross-shaft. This shaft is held in the bearings E, and between two of these bearings there is fastened a cam A, shaped as shown in Fig. 1, and of course rotating with the shaft H. In the path of this cam there is situated a picker-lever N, pivoted below the cam at F and kept in position by any suitable means, as a strap F′. This picker-lever is so balanced that it tends to remain in the position shown in Fig. 1, to which position it is also carried by the action of the shuttle in coming back against it. The upper end of this lever moves in the raceway of the shuttle, as shown, and is of course actuated by the cam A, which moves over and to the left, so that its convex surface comes against the back of the lever. The motion as at first produced is slower than it becomes later during the contact of the cam with the lever. This produces a gradual acceleration of the upper end of the picker-lever and a consequent lessening of the strain to which the cam is subjected, thus allowing of much greater speed without straining the loom. In this manner the motion of the picker-lever is accelerated; but this is not the only advantage which arises from my construction, as the end of the picker-lever works through a long slot in the raceway and acts directly against the shuttle itself without intermediate devices. At the time that the cam commences its downward motion against the back of the lever and the said cam begins to accelerate the motion of the picker-lever said picker-lever has just about reached the vertical position.

In consequence of these various advantageous constructive features the following points of superiority appear in my device.

First. Saving in power by its very light running.

Second. Far greater production by being able to run far faster than any other loom, a loom having my invention applied having often gone at the rate of three hundred and thirty-six picks a minute. An ordinary loom makes one hundred and eighty picks a minute when going at a fair average speed.

Third. The original cost of construction is very small.

Fourth. My device can be used as successfully upon broad as upon narrow looms.

Fifth. My device works equally well upon light or heavy goods.

What I claim is—

1. In a loom, a picking-lever placed at the loom-side and projecting into the path of the shuttle, in combination with a revolving cam sweeping over the back of said lever in a downward direction and acting thereon between its pivot and its shuttle-operating end, and a revolving shaft carrying said cam and mounted at the loom-side, substantially as described.

2. In a loom, a cross-shaft and a picker-shaft located at the loom-side and bearing a cam revolving downward while in action, in combination with means, as the beveled gears, connecting said shafts, and a picking-lever also located at the loom-side and projecting into the path of the shuttle and actuated by said cam, the cam acting on said lever between its pivot and its operating end, substantially as described.

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