

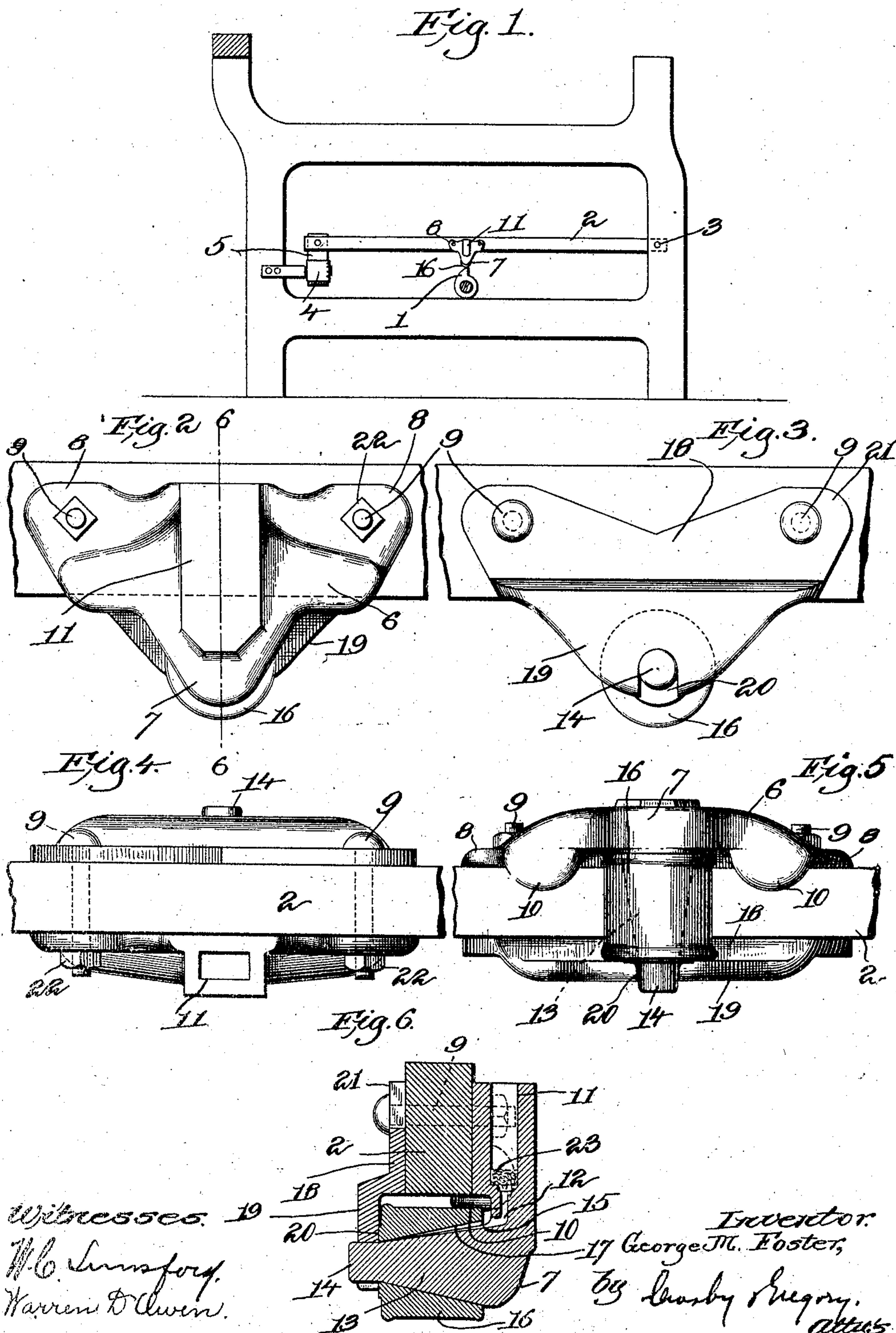
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G. McC. FOSTER.
PICKING MECHANISM FOR LOOMS.

APPLICATION FILED APR. 29, 1904.

NO MODEL.



UNITED STATES PATENT OFFICE.

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PICKING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 772,506, dated October 18, 1904.

Application filed April 29, 1904. Serial No. 205,517. (No model.)

To all whom it may concern:

Be it known that I, GEORGE MCCLELLAN FOSTER, a citizen of the United States, and a resident of Manchester, county of Hillsboro, State of New Hampshire, have invented an Improvement in Picking Mechanism for Looms, of which the following description, in connection with the accompanying drawings, is a specification, like figures on the drawings representing like parts.

This invention relates more especially to the picking mechanism of a loom; and it has for its main object the production of a novel form of tappet which coöperates with the pick-cam, the tappet being rotatably mounted on a rocking lever, and I have also provided simple and effective means for automatically lubricating the tappet as required.

In usual loom construction the pick-cam acts upon a follower, or "tappet," as it is sometimes called, mounted on a rocking lever fulcrumed on the loom-frame, the free end of the lever being operatively connected with a picker-stick to impart the proper swinging movement thereto. Such a follower or tappet requires frequent oiling, practically every day, to not only reduce the wear, but also to obviate danger of fire from dry cams, and very often with such ordinary tappet the cam will slip if the set-screws become loosened by jarring.

In my present invention I have provided a rotatable tappet or roll to coöperate with the cam and with self-oiling means for such roll, so that the oiling is effected automatically as required, the oil being conveyed to the roll in such manner that there is no danger from oil thrown onto the cloth or warp-beams.

There are various other advantageous features involved in my invention—such as simplicity, cheapness of construction, and increased ease of operation of the parts—as will be pointed out hereinafter in the specification and claims.

Figure 1 is a side elevation of a sufficient portion of the picking mechanism of a loom to be understood with one embodiment of my invention applied thereto. Fig. 2 is an en-

larged detail, in side elevation, of a portion of the tappet-lever and the bracket on which the tappet is supported. Fig. 3 is an opposite side view thereof, also enlarged. Fig. 4 is a top or plan view of the two parts of the tappet-support. Fig. 5 is an under side view thereof; and Fig. 6 is a transverse section on the line 6 6, Fig. 2, looking toward the right.

Referring to Fig. 1, the pick-cam 1, tappet-lever 2, fulcrumed at 3 and usually made of wood, and the guide-roll 4 for the strap 5, attached at one end to the free end of the lever and at its other end to the picker-stick, (not shown,) may be and are all of well-known construction, the lever extending above the pick-cam and having a tappet or follower to coöperate with the cam, and thereby govern the movement of the lever.

In accordance with my present invention I have provided a bracket 6, preferably a casting, having a flat inner face to rest against the side of the lever 2, said bracket in side elevation being substantially triangular, with a depending portion 7 at the apex projecting below the lower edge of the lever. (See Fig. 2.) The upper corners of the bracket present flattened ears 8, having holes through which attaching-bolts 9 are passed, as will presently appear, and lugs 10 project from the inner face of the bracket to rest against the under edge of the lever, as shown in Fig. 5. A firm seating of the bracket upon the lever is thus attained. The bracket is provided with an upright pocket 11, which forms an oil-reservoir, (clearly shown in Fig. 6,) a small duct 12 leading downward from the bottom of the reservoir, Fig. 6, for a purpose to be described.

As shown in Figs. 5 and 6, the depending part 7 is extended below and across the lever, as at 13, to form a spindle, which is made tapering or conical, with its larger diameter adjacent the bracket, the free or outer end of the spindle being made cylindrical, as at 14. (See Figs. 5 and 6.) In the top of the spindle I form a shallow groove or passage 15, extending along the conical portion of the spindle and communicating at its inner and higher

end with the duct 12. Upon the spindle I mount a rotatable roll or tappet 16, its bore 17 being made conical to loosely fit upon the conical portion of and rotate upon the spindle, the roll cooperating with the pick-cam, as shown in Fig. 1. In order to maintain the roll upon the spindle in proper operative position, a retaining plate or bracket 18 is secured to the side of the lever opposite the bracket 6, the plate 18 having an offset depending portion or apron 19, provided with an open upright notch 20 to receive the end 14 of the roll-spindle, as clearly shown in Figs. 3, 5, and 6. Headed bolts 9 are extended through the upper corners 21 of the retaining plate or bracket 18 through the lever 2 and the ears 8 of the main bracket 6, and nuts 22 are screwed tight upon the threaded ends of the bolts, thereby clamping the two parts 6 and 18 securely to the lever.

A piece of waste, felt, or wicking 23 is inserted in the bottom of the reservoir 11, as shown in Fig. 6, and the reservoir is filled with oil, which slowly percolates through the textile material and passes in small quantity through the duct 12 to the distributing groove or passage 15 in the spindle. As the roll or tappet 16 is rotated the wall of the bore thereof from time to time takes up oil from the passage and distributes it over the contacting surfaces of the roll and spindle, properly lubricating the same. The reservoir will hold sufficient lubricant to last for several weeks, requiring infrequent renewal, so that the tappet is automatically lubricated, and by directing the lubricant to the interior of the tappet there is no danger of the oil being thrown upon the cloth or warp-beams.

With the apparatus herein shown and described the loom picks much more easily than heretofore, as the rotating tappet prevents a sudden jerky motion when the point of the pick-cam is at its highest point, the cam moving under the roll with very little pounding. The construction is simple and inexpensive, and the rolls or tappets wear for a long time without requiring renewal. When they are worn, they can be replaced by merely loosening the bolts 9, so that the worn roll can be removed from the spindle and a new one placed thereon. The retaining-plate not only retains the tappet in place, but it also steadies the outer end of the spindle and takes up the upward thrust due to the action of the cam upon the tappet.

My invention is not restricted to the precise construction and arrangement shown, as the same may be modified in various particulars by those skilled in the art without departing from the spirit and scope of my invention.

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

1. In a loom, a pick-cam, a lever, a bracket

rigidly attached thereto and provided with an oil-reservoir, a spindle on the bracket extended beneath and across the lever and having an oil-passage communicating with the reservoir, and a tappet-roll rotatably mounted on the spindle and cooperating with said cam, the interior of the roll being lubricated by the oil-passage.

2. In a loom, a pick-cam, a lever, a bracket rigidly attached thereto, and depending below it, a spindle integral with said bracket and at right angles to the lever, said spindle being provided with a longitudinal oil-groove, a tappet-roll cooperating with said cam and rotatably mounted on the spindle, means to keep the oil-passage supplied with oil to thereby lubricate the spindle and the bore of the roll, and a roll-retaining device detachably connected with the lever.

3. In a loom, a pick-cam, a lever, a bracket rigidly attached thereto and having an integral conical spindle extended beneath the lever and provided with an open, longitudinal oil-groove along its top, a tappet-roll cooperating with a cam and having a conical bore to loosely receive the spindle, an oil-reservoir communicating with the inner end of the oil-passage, whereby oil is conducted as required from the reservoir to the spindle and the bore of the roll, a roll-retaining device to cooperate with the free end of the spindle and retain the roll thereupon, and common attaching means to secure the bracket and the retaining device on the lever.

4. In a loom, a cam, a lever rocked thereby and having a rigidly-attached conical spindle extended beneath it, said spindle having a longitudinal oil-passage along its top, a tappet-roll rotatably mounted on the spindle and cooperating with the cam, and an oil-reservoir communicating with the inner end of the oil-passage, to lubricate the spindle and bore of the roll as required.

5. In apparatus of the class described, a lever, a bracket rigidly attached thereto provided with an upright oil-reservoir and a tapered spindle below the reservoir and transverse to the lever, said spindle having an oil-passage extended longitudinally thereof on its upper side, a tappet-roll having a tapering bore to loosely receive the spindle, and a duct in the bracket between the reservoir and the inner end of the oil-passage, to conduct lubricant thereto and thence to the interior of the roll.

6. In apparatus of the class described, a lever, a bracket rigidly attached to one side thereof and depending below it and provided with an oil-reservoir, a tapered spindle on said bracket extended below the lever and having an elongated, external passage communicating at its inner end with the reservoir, to conduct lubricant from the latter to and along the spindle, a tappet-roll loosely

and rotatably mounted on the spindle, and internally lubricated by said passage, and a roll-retaining plate secured to the opposite side of the lever and having an open notch to
5 receive the outer end of the spindle and retain the roll thereon.

In testimony whereof I have signed my name

to this specification in the presence of two subscribing witnesses.

GEORGE M. FOSTER.

Witnesses:

DAVID CROSS,
WILLIAM W. FORBES.