

No. 664,560.

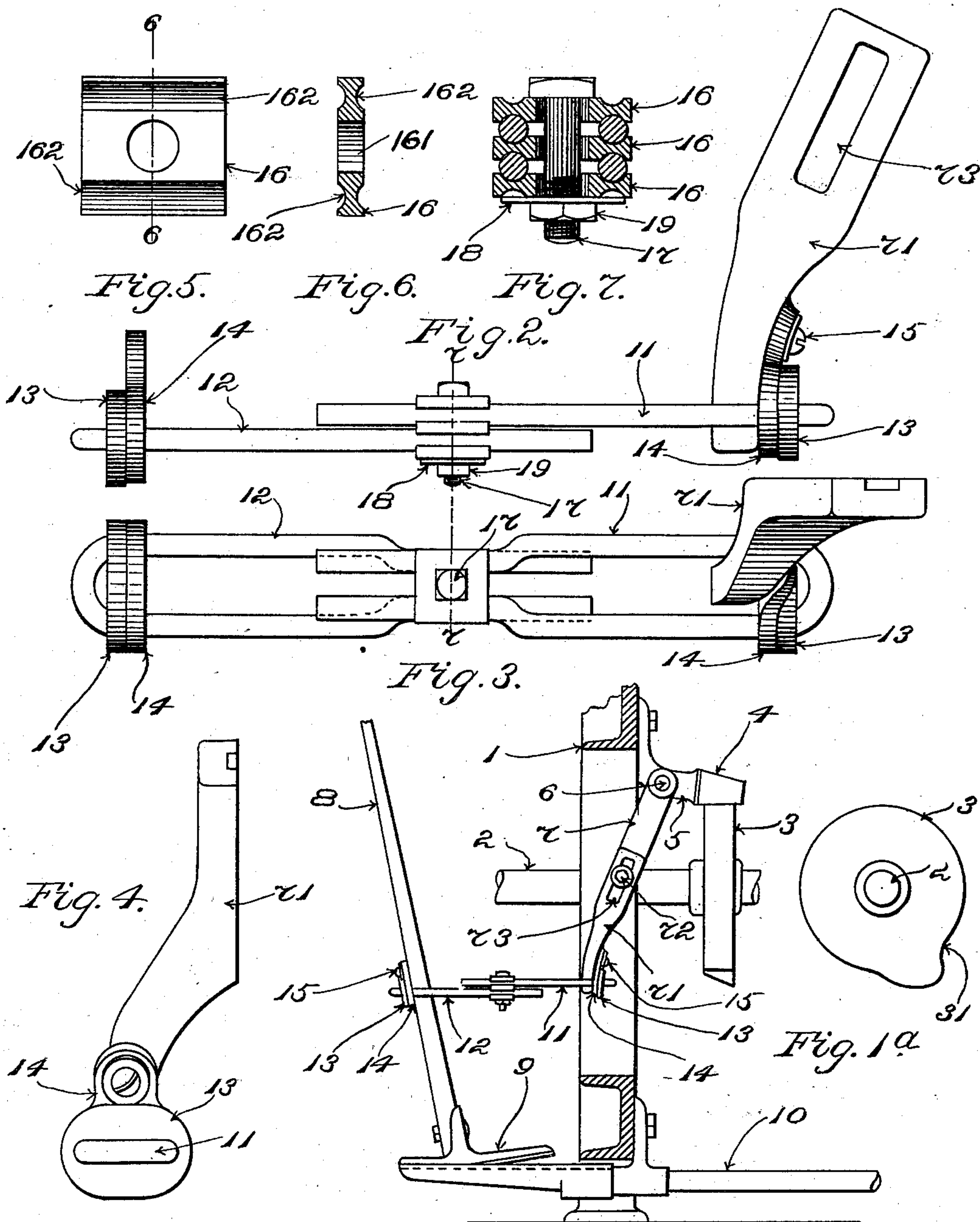
Patented Dec. 25, 1900.

M. M. LAHUE.

PICKING MECHANISM FOR LOOMS.

(Application filed Oct. 23, 1899.)

(No Model.)



Witnesses:

Oscar F. Gill

Lepine & Hall

Fig. 1. Inventor:

Moses M. Lahue

by Macdonald Calver & Randall

his Attorneys.



# UNITED STATES PATENT OFFICE.

MOSES M. LAHUE, OF LOWELL, MASSACHUSETTS.

## PICKING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 664,560, dated December 25, 1900.

Application filed October 23, 1899. Serial No. 734,434. (No model.)

*To all whom it may concern:*

Be it known that I, MOSES M. LAHUE, a citizen of the United States, residing at 107 Cushing street, Lowell, in the county of Middlesex, State of Massachusetts, have invented a certain new and useful Improvement in Picking Mechanism for Looms, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention has relation more especially to the devices which in certain forms of picking mechanism for looms are employed for transmitting movement to the picker-stick from the picking rock-shaft.

15 The accompanying drawings illustrate the best form in which I have thus far embodied the invention.

In the said drawings, Figure 1 shows in sectional elevation a portion of an ordinary loom having the said embodiment of the invention applied thereto. Fig. 1<sup>a</sup> shows in side elevation an ordinary picking-cam. Fig. 2 shows in elevation, detached and on a somewhat larger scale, the drop-arm of the picking rock-shaft and the parts which are more immediately concerned in the invention. Fig. 3 shows in plan the parts which are represented in Fig. 2. Fig. 4 is a view of the said parts in elevation looking from the left-hand side in Figs. 1 and 2. Fig. 5 is a plan of one of the grooved washers. Fig. 6 is a view of such washer in cross-section on the plane that is indicated by the dotted line 6 6 in Fig. 5. Fig. 7 is a view in cross-section on the plane that is indicated by the dotted line 7 7 in Fig. 2.

Having reference to the said drawings, 1, Fig. 1, designates the loom-frame.

2 is the cam-shaft of the loom. 3 is one of the picking-cams that are mounted on the said cam-shaft. (See also Fig. 1<sup>a</sup>.)

4 is the picking ball or roll working against the surface of the picking-cam 3.

5 is the arm on which the picking-ball 4 is mounted. 6 is one of the picking rock-shafts, the said arm 5 being fast thereon. 7 is the drop-arm on the said picking rock-shaft. The outer part 71 of the said arm usually is made separate and secured to the fixed part by a bolt 72, the said part 71 being slotted longi-

tudinally, as at 73, to permit of adjustment to vary the operative length of the drop-arm. (See also Figs. 2, 3, and 4.)

8 is one of the picker-sticks of the loom. 9 is the shoe or rocker to which the lower end of the said picker-stick is made fast.

10 is the lay rock-shaft, to one projecting end of which the shoe or rocker 9 is applied.

The foregoing parts are or may be as usual.

In accordance with my invention I provide a novel and improved construction of lug-strap for connecting the drop-arm 7 with the picker-stick 8, as follows: The body of the lug-strap comprises, essentially, two elongated loops 11 12 and means of clamping such loops, together with capacity for adjustment of the loops relatively to each other lengthwise of the lug-strap. This capacity for adjustment enables the lug-strap to be extended or shortened to any length which is necessary in order to meet the requirements of practical use. In practice one of the loops, as 11, is caused to fit around the free end of the drop-arm of the picking rock-shaft, while the other loop, as 12, is fitted around the picker-stick. Upon each loop are strung or threaded two flat pieces of leather or equivalent material, as 13 14. These pieces commonly are termed "washers" by me. The leather washers 13 13 are pushed up close to the closed outer ends of the loops 11 and 12—that is, until they are stopped by the bends or curves at such ends. Each washer 13 subtends like a chord the arc of the adjacent bend, but is located out of contact with such bend. One washer 14 is connected, by means of a screw 15 or other fastening, to the lower end of the drop-arm of the picking rock-shaft. The other washer 14 is connected by a like fastening with the picker-stick. These washers thereby are caused to move with the drop-arm and picker-stick, respectively. By means of one pair of the washers 13 14 movement is communicated from the drop-arm to the lug-strap, and by means of the other pair thereof movement is transmitted from the lug-strap to the picker-stick. Each time the drop-arm is actuated for the purpose of operating the picker-stick, as well as each time the shuttle completes its return flight into the shut-



tle-box, the washers 13 13 become pressed slightly into the bends at the ends of the loops, their elasticity giving a cushioned action.

The means of clamping the loops together with capacity for adjustment relatively to each other may be varied somewhat in practice. I usually form the said loops of round rods or wire and in U shape, as shown, and hence I employ, preferably, the grooved plates or washers 16 16 16, the bolt 17, the ordinary washer 18, and the nut 19. One grooved plate or washer 16 is placed between the two loops 11 and 12, a second being applied beneath the lower loop, and a third being applied above the upper loop. The grooves 162 162 in the said plates or washers receive the arms of the two loops, and thus form seats in which the said arms are received, thereby enabling the parts to become firmly secured together. The plates or washers 16 16 are grooved on both of the faces thereof. This is actually necessary in the case of the middle one only; but for convenience in assembling the parts all of the said grooved plates or washers usually are made of one pattern, since this enables them to be fitted into place immediately and without reference to any difference of pattern. The clamping-bolt 17 passes through the central holes 161 in the grooved plates or washers 16.

The described construction secures a positive transmission of the picking action, while still attaining a cushioned effect. It is impossible for the lug-strap to stretch, and consequently the pick cannot lag back in point of time, while there arises no necessity for making adjustment to compensate for stretching, as in the case of a leather strap. The respective pairs of leather washers 13 and 14 give or yield, so as to adapt themselves to the varying positions of the drop-arm and picker-stick, and consequently there is full bearing of the washers against each other in all positions of such parts and throughout all portions of their stroke. Ordinarily I make the holes in the washers 14 14 of such a size that the arms of the loops 11 and 12 fit loosely therein. This enables the said washers to move freely independently of the loops. Thereby I provide for relieving the picking rock-shaft 6 from all restraint in its reverse movement following a picking action. This leaves the picking ball or roll 4 free to follow the surface of the picking-cam all around the contour of the latter. As a result of enabling the said picking-ball to follow the surface of the picking-cam entirely around the latter the lubricant which is applied to the two is more uniformly distributed throughout the entire circuit of the picking-cam. Thus the picking-ball is enabled to enter fully into the hollow or depression 31 just preceding the nose of the picking-cam and to act efficiently in distributing the lubricant upon the said nose, thereby diminishing the wear. The ca-

capacity for independent movement of the parts enables the picker-stick to be left, when desired, in a partly-advanced position in readiness to receive and check the shuttle in the return flight of the latter.

I claim as my invention—

1. A lug-strap for looms comprising, essentially, the two oppositely-disposed open or U-shaped loops adapted to receive within their closed ends the actuating-arm and the picker-stick, respectively, the said loops having their open ends overlapped, clamping means applied to said open ends, and cushions applied to said closed ends, substantially as described.

2. A lug-strap for looms, comprising, essentially, loops to receive and encircle the actuating-arm and the picker-stick, respectively, having their inner ends overlapped, a clamp engaging with such inner ends to secure the said loops with capacity for adjustment lengthwise of the strap and yielding washers 13, 14 strung on said loops and normally located adjacent the bends of the latter but out of contact therewith.

3. A lug-strap for looms, comprising, essentially, loops to receive and encircle the actuating-arm and the picker-stick, respectively, having their inner ends overlapped, the clamping-washers between and outside said overlapping ends, and the clamping-bolt.

4. A lug-strap for looms, comprising, essentially, the loops to receive and encircle the actuating-arm and the picker-stick, respectively, having their inner ends overlapped, the grooved plates or washers between and outside said overlapping ends, and the clamping-bolt.

5. A lug-strap for looms, comprising, essentially, loops to receive and encircle the actuating-arm and the picker-stick, respectively, having their inner ends overlapped, the washers between and outside said overlapping ends, the clamping-bolt, the yielding washers 13, 13, applied to the said loops, and the washers 14, 14, also applied thereto and adapted to be connected with the said arm and the picker-stick, respectively.

6. A lug-strap for looms, comprising, essentially, the loops to receive and encircle the actuating-arm and the picker-stick, respectively, having their inner ends overlapped, the grooved plates or washers between and outside said overlapping ends, the clamping-bolt, the yielding washers 13, 13, applied to the said loops, and the washers 14, 14, also applied thereto and adapted to be connected with the said arm and the picker-stick, respectively.

In testimony whereof I affix my signature in presence of two witnesses.

MOSES M. LAHUE.

Witnesses:

CHAS. F. RANDALL,  
WILLIAM A. COPELAND.