

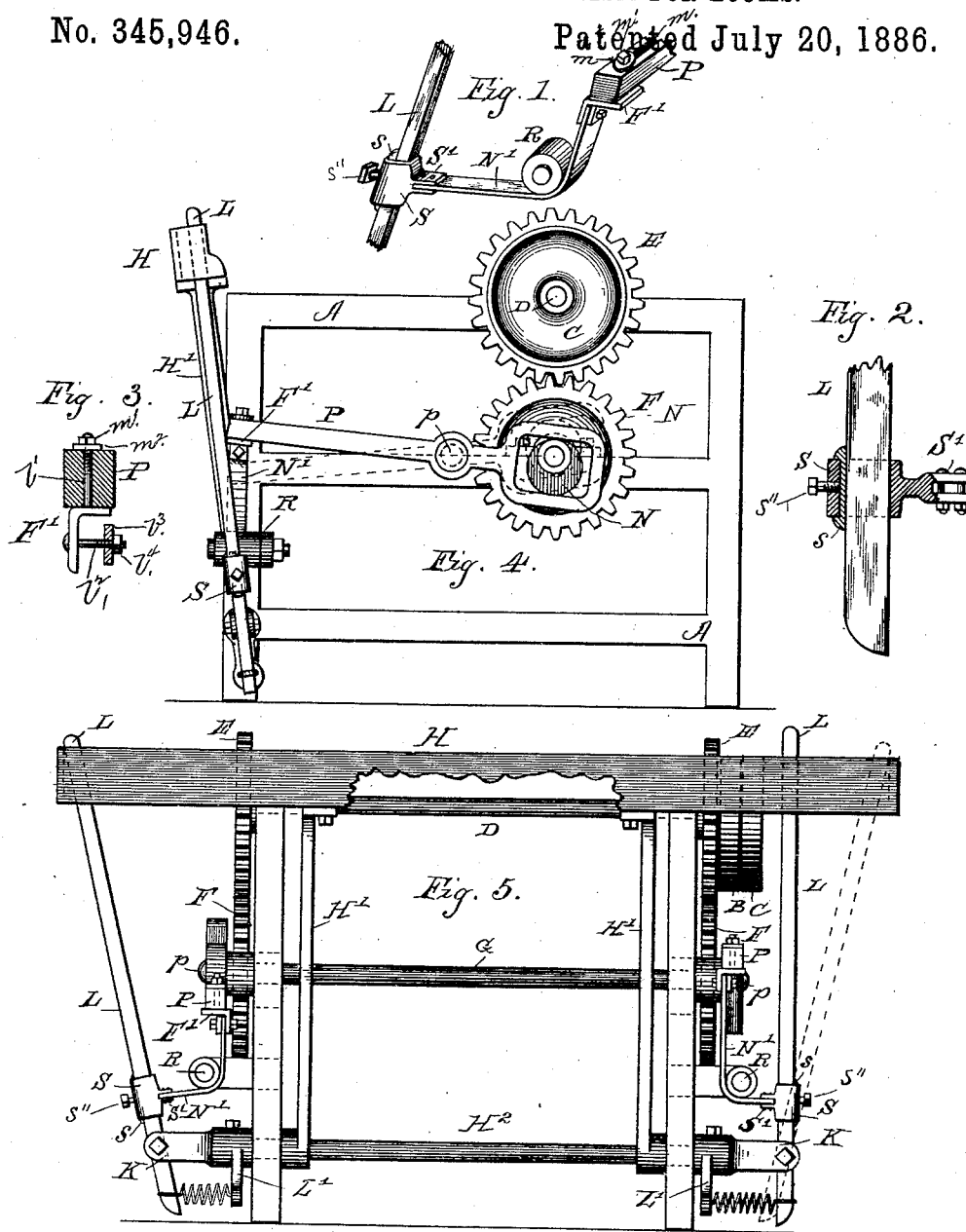
(No Model.)

C. H. BACHELDER.

SHUTTLE OPERATING MECHANISM FOR LOOMS.

No. 345,946.

Patented July 20, 1886.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

CHARLES H. BACHELDER, OF PITTSFIELD, NEW HAMPSHIRE, ASSIGNOR OF  
ONE-HALF TO GEORGE E. KENT, OF SAME PLACE.

## SHUTTLE-OPERATING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 345,946, dated July 20, 1886.

Application filed March 12, 1886. Serial No. 194,957. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. BACHELDER, a citizen of the United States, residing at Pittsfield, in the county of Merrimac and State of New Hampshire, have invented certain new, useful, and Improved Shuttle-Operating Mechanism for Looms, of which the following is a specification.

This improvement relates to connections for and means of operating picker-sticks for looms; and it consists in the peculiar construction, arrangement, and adjustability of the parts, as hereinafter fully explained and specifically claimed.

In the drawings herewith filed as part hereof, the same letters of reference denote the same parts in the different views.

Figure 1 is a perspective representation of an adjustable connection for picker-sticks embodying the features of my improvement. Figs. 2 and 3 are vertical sectional detail representations, more fully illustrating the construction and relation of the parts. Fig. 4 is a side elevation representing a loom with parts removed and provided with my improvement for showing the application thereof. Fig. 5 is a front elevation of the same. Fig. 6 is a view of a modification of one of the parts of my improvement.

A A represent a loom-frame; B and C, fast and loose pulleys on the driving-shaft D; E E, gear-wheels fixed to driving-shaft D; F F, gear-wheels fixed to additional shaft G, and meshing with the gear-wheels on the driving-shaft.

H is the lay-beam, supported in the ordinary manner by arms H' H', fixed to the rocking shaft H<sup>2</sup>, which is provided with suitably-connected fulcrums K K for the picker-sticks L L.

L' L' are perpendicular arms of the fulcrum parts K K, to which the lower ends of the picker-sticks are connected by springs, as shown.

N N are eccentrics fixed to the shaft G.

P P are picker-stick-operating levers, suitably secured to the loom-frame by means of their fulcrum-pins p p. The levers P P may be provided with yokes at their rear ends, as shown in Figs. 4 and 5; or they may be pro-

vided each with a curved extension, as shown in Fig. 6, or other suitable means for engaging with and being operated by the eccentrics on the shaft G. The levers P P are each provided at the front end with a slot, as shown in Figs. 1 and 3, for a purpose hereinafter explained.

R R are friction-rollers supported by studs fixed to or made integral with the loom-frame.

SS are picker-stick sleeves, made in the form of eyes, each provided with set-screw S' and gib s, for tightening them on the picker, and also with a bifurcated extension, S', for reception of and connection with the continuous flexible metal bands N' by means of bolts or rivets, as indicated in Fig. 2.

F' F' are right-angled plates, each provided with a screw-threaded bolt, l', having a nut, m', and washer m<sup>2</sup>, for securing the same to the levers P, the said bolts passing through the longitudinal slots m in the ends of said levers. The plates F' F' are also provided with one or more screw-threaded bolts, l<sup>2</sup>, and a secure connection of one end of a picker-strap with one of said plates is had by the washer l<sup>2</sup> and nut l' upon the bolt l<sup>2</sup>. Because of the action of the picker-sticks away from the ends of the levers P with each oscillation of the lay-beam and the shaft to which they are connected, the bands N' would, as ordinarily arranged, be twisted with each forward movement, and thus be prevented from squarely engaging with the rollers. The repeated twisting, especially in leather or rope bands, causes the bands to wear and stretch unduly, and thus detracts from the proper action of the picker-sticks. Now, by reason of the adjustable clasp-connection of the bands with the operating-levers P, the twisting of the bands may be entirely abrogated, and this by securing the clasps F' to the levers P at an inclination corresponding with and adapted to equalize the twist, and a positive and uniform action of the bands will be obtained.

Flexible metal bands are for some reasons preferable for connecting the picker-sticks with their operating-levers; but this improved means of connection is entirely adapted to the use of leather or other bands, as any discrepancy in the action of the picker-sticks accruing

from stretch of the bands, or other relative causes, may be quickly corrected by moving and securing the clasps S in a higher position on the picker-sticks, to which a longer or shorter throw may be given by moving the clasps outward or inward on the operating-levers P.

Having explained the features of my improvement, what I claim as new, and desire to secure by Letters Patent, is—

1. In a loom, the combination, with the longitudinally-slotted lever, of the metallic picker-strap, the angular plate provided with a bolt, nut, and washer, for clamping one end of said strap to said lever, as shown, the picker-

stick, and means, substantially as described, for connecting said strap to said stick, as set forth.

2. The combination, with the metallic picker-strap, the longitudinally-slotted lever, and the angle-plate provided with a bolt, washer, and nut, as described, of the sleeve S, having extension S', set-screw S'', and gib s, and the picker-stick L, as set forth.

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

CHARLES H. BACHELDER.

Witnesses:

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