

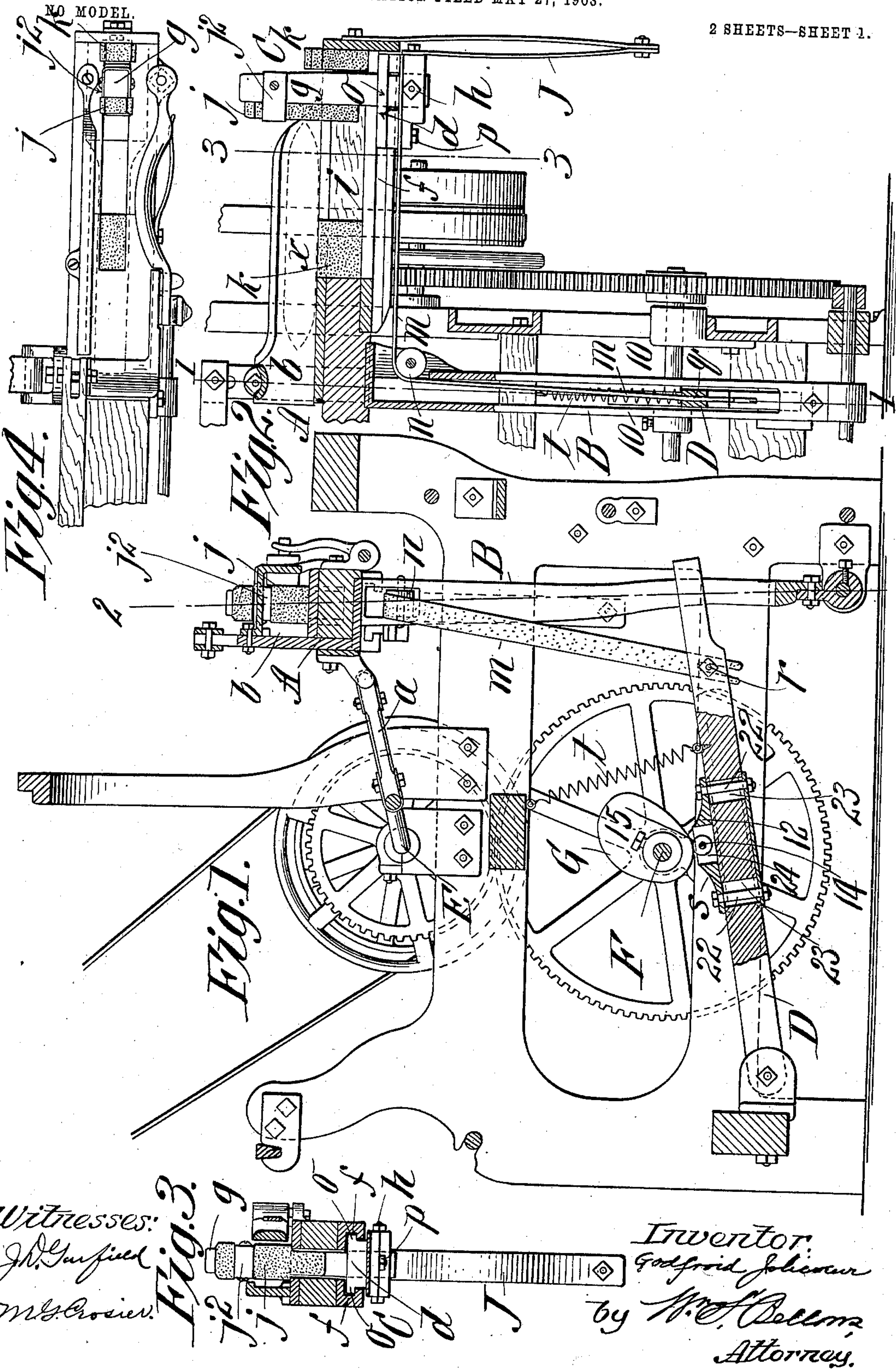
No. 757,043.

PATENTED APR. 12, 1904.

G. JOLICOEUR.
PICKER MECHANISM FOR LOOMS.

APPLICATION FILED MAY 27, 1903.

2 SHEETS—SHEET 1.



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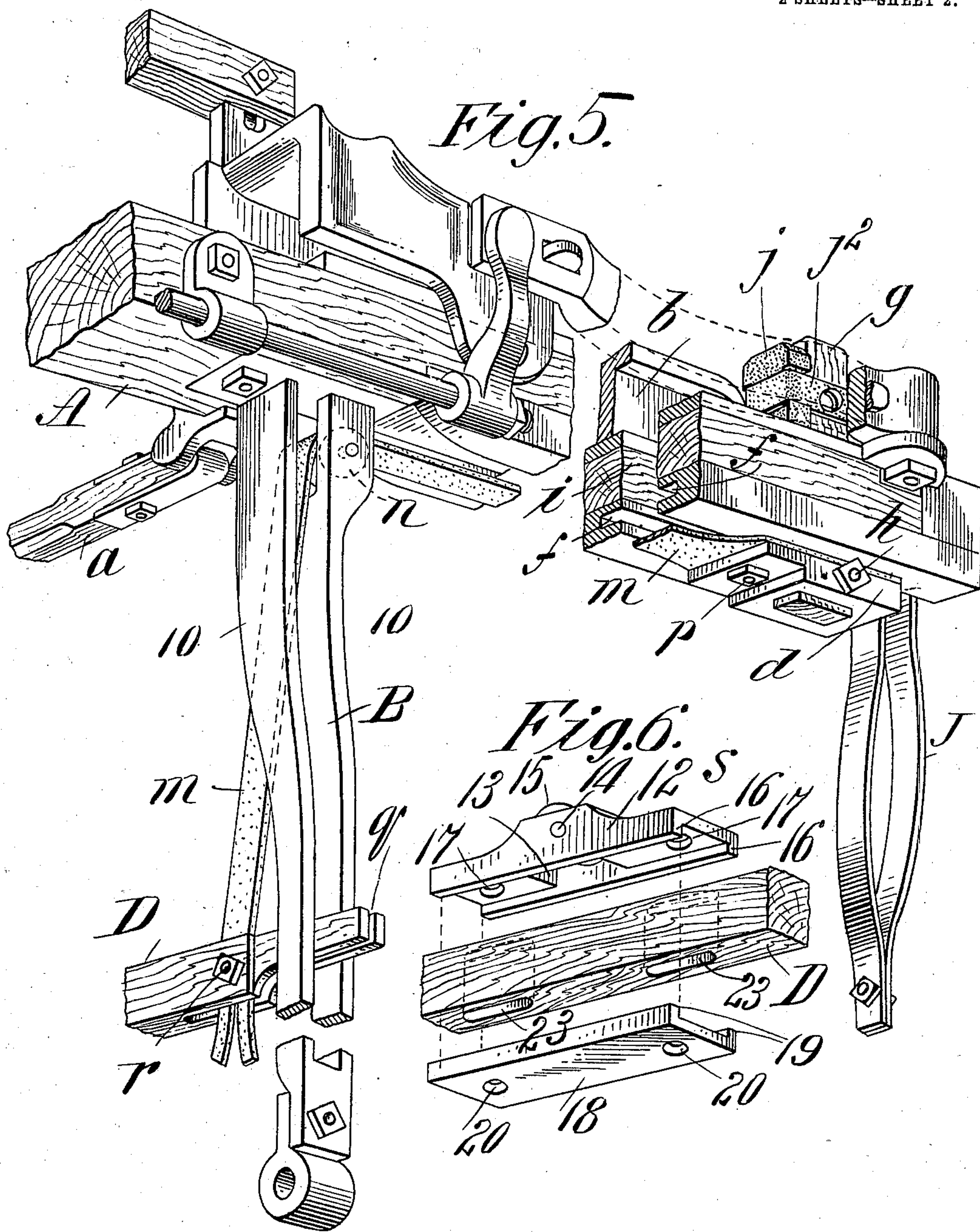
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NO MODEL.

2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

GODFROID JOLICOEUR, OF AUGUSTA, MAINE.

PICKER MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 757,043, dated April 12, 1904.

Application filed May 27, 1903. Serial No. 158,928. (No model.)

To all whom it may concern:

Be it known that I, GODFROID JOLICOEUR, a subject of the King of Great Britain, and a resident of Augusta, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Picker Mechanism for Looms, of which the following is a full, clear, and exact description.

This invention relates to improvements in looms, and more particularly to the picker mechanism—that is, the devices for throwing the shuttle from side to side to lay in the weft.

The object of the invention is to provide a mechanism of the class referred to which is of unusual efficiency in operation, very durable, and susceptible of protracted use without derangement.

The devices constituting this invention are fully and clearly illustrated in the accompanying drawings, are hereinafter particularly referred to, and are set forth in the claims.

In the drawings, Figure 1 is a cross-sectional view as taken on a plane through one of the swords for the lay near the end of the loom. Fig. 2 is a vertical section of an end portion of the loom as taken on the plane indicated by the line 2 2, Fig. 1. Fig. 3 is a vertical cross-sectional view as taken on the line 3 3, Fig. 2, in the direction represented by the arrow. Fig. 4 is a plan view of parts shown in Fig. 2. Fig. 5 is a perspective view showing the arrangement of the principal parts comprised in the invention. Fig. 6 is a fragmentary perspective view illustrating constructions in detail of appliances pertaining to the picker-lever.

Similar characters of reference indicate corresponding parts in all of the views.

In the drawings, A represents the lay-beam, mounted and movable on and with the lay-swords B through the crank-and-pitman-rod connection at *a*, operated as usual, and *b* indicates the shuttle-race, the shuttle being indicated at *x* in Fig. 2.

C represents the shuttle-thrower, the same consisting of the reciprocatory carrier-block *d*, movable transversely of the loom and constrained for its back-and-forth movements in

the double ways *f f* therefor in the lower portion of the extension of the lay-beam, and the picker *g*, which is set within a mortise or aperture in the carrier, being rigidly confined by a set-screw *h* and extending vertically through a sufficiently long slot *i* in the lay-beam and extended upwardly through the shuttle-race, and said picker has a block of leather *j* or other suitable and similar material on its face, which is brought to impact against the end of the shuttle, the same being held in place by a clip *j*². Further blocks *k*, of leather or other more or less yielding material, are provided as abutments at the ends of the aforementioned slot *i* to minimize the shock of the picker at the limits of its movements.

The reciprocatory movement of the carrier-block of the shuttle-thrower is imparted, to throw the shuttle, by means of the cam-operated lever D and the strap or flexible connection *m*, connected to such lever, the same being intermediately guided from its vertical to its horizontal course by a sheave *n*, located in a slot in the sword; and said strap being confined by being clamped between the separable parts of the carrier-block, which is made in sections.

The aforementioned ways *f* are formed in metallic castings or fittings secured on the under side of the lay-beam extension, and the carrier-block has at its upper portion flanges *o o*, which engage in said ways for free sliding movement therealong, and the lower section of the carrier-block is held in its strapped clamping confinement to the upper section by one or more bolts *p*.

The aforementioned lever D is pivotally mounted in a suitable clip or device comprising paired ear-lugs at the rear of the loom, such pivotal mounting being on a support constituted by the back girth or end frame of the loom.

The forward end of the lever D projects forwardly through and within a lay-sword B, which has paired upright bars or members 10 10, suitably united at the bottom and joined to the lay at the top, such separated members

constituting a guard or guide for the picker-lever, constraining the latter against any undue lateral movement. The forward extremity of the lever is split, as indicated at *g*, receiving within such split portion the lower end of the strap, which is held in confinement by the clamping-bolts *r*, having at one end a head and at the other end a nut operable to constrict and pinch the split lever to its firm binding on the strap.

G represents the operating-cam for the shuttle-thrower mounted on the counter-shaft *F* therefor, having gearing connection with the driving or power shaft *E* of the loom.

s indicates what is herein termed an adjustable "pick-point," the same constituted by a member or part carried on the upper edge of the lever and adjustably movable forward or backward to be subjected to the most advantageous manner of impingement thereagainst of the cam which operates the shuttle-thrower. This device, as specifically shown in Figs. 1 and 6, consists of a metallic fitting 12, resting on the top of the picker-lever *D* and having a recess 13 therein, in which is mounted for rotation on a small axle-pin 14 a roller 15, the upper edge of which projects above the fitting 12. Said fitting 12 has depending flanges 16 16 to lap down over the opposite sides of the lever, and it has the perforations 17 through its top.

An underfitting constituted by a plate 18, having upstanding side flanges 19 19, is applied at the bottom portion of the lever, and this fitting has perforations 20 20 matching with those 17 17 of the fitting 12, and headed bolts 22 22 extend vertically through the upper and lower metallic fittings 12 and 18, the intermediate portions of their shanks freely passing through the longitudinally-elongated slots 23 23 in the lever. By loosening the nuts 24, freeing the said fittings, the latter may be conjointly slid forwardly or backwardly along the lever, so as to bring the pick-point to its best adjusted position with respect to the cam *G*. The said fittings constructed as described reinforce the lever in a manner to increase its strength in a degree more than is offset by the weakening of the lever occasioned by the formation of the bolt-accommodating slots 23 therein.

The retracting movement of the picker-lever after it has been forcibly cam-actuated and swung in its working direction is accomplished by the spring *t*.

The retracting movement of the carrier-block of the shuttle-thrower is accomplished by the flat double-leaf spring *J*, the upper ends of the leaves of which are respectively connected or bolted to the end of the lay-beam extension and to the end of the carrier-block, while the lower ends of the spring are joined, as shown in Figs. 2 and 5.

The downward cam-imparted movement of

the lever *D* through the described connections drives the shuttle-thrower inwardly (impelling the shuttle for the laying in of the weft) with a violence or positiveness of action corresponding to the abruptness in the grade of the cam *G* and the speed with which the cam is rotated, the results of these conditions being susceptible of regulation by the adjustable pick-point which has been described, and the cam having done its work and while receding from the pick-point and the lever is being raised and the strap slackening the spring *J* returns the shuttle-thrower to its retired position in readiness for reaction on the shuttle after the same has been thrown back again by the corresponding or duplicated mechanism at the other side of the loom, illustration of which, because of its being identical with what is shown for the one side of the loom, being deemed unnecessary.

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

1. In a loom, the combination with the lay having at the end portion of its beam a slideway, and having its sword vertically slotted, of a shuttle-thrower consisting of a carrier-block slidable in said way, and a picker carried by the block and extending upwardly through the shuttle-race in the lay, a cam-operated lever, having its forward end extended for guided engagement through the slot in the lay-sword, a strap connected to said lever, being intermediately sheave-guided and connected to said carrier-block, and a spring for retracting the shuttle-thrower.

2. In a loom, the combination with the lay-beam having at the upper portion of its extremity the shuttle-race having at the lower portion of such extremity opposite slideways with a downward opening therebetween, and having the slot *i*, of a shuttle-thrower consisting of a block made in sections, one thereof having flanges engaging in said ways and the other being clamped to the under side of the first-named section, and the picker carried by the united blocks and extending upwardly through the slot and raceway in the lay, the cam-operated lever, a strap secured thereto, intermediately sheave-guided and secured to and between the said clamped blocks, and a double-leaf spring, one member of which is secured to the end of the lay and the other end to the shuttle-thrower.

3. In a loom, the combination with the lay having a shuttle-race and having a slideway, of a shuttle-thrower movable in said slideway and provided with the picker extending upwardly through the shuttle-race, the cam *G*, the lever *D* having the slots, the strap secured to the lever, intermediately guided in the lay-sword and connected to the shuttle-thrower, a retracting-spring for the lever, a retracting-

spring for the shuttle-thrower, and a cam-im-
pingement-receiving appliance comprising a
fitting having an aperture, a roller therein, and
side flanges, an underflanged fitting, and the
5 uniting headed bolts, with nuts, the shanks of
the bolts passing through the lever-slots and
through the upper and lower metallic fittings.

Signed by me, at Augusta, Maine, in pres-
ence of two subscribing witnesses.

GODFROID ^{his} × JOLICOEUR.
mark

Witnesses:

BENEDICT F. MAHER,
WILLIAM J. RYAN.