

No. 656,169.

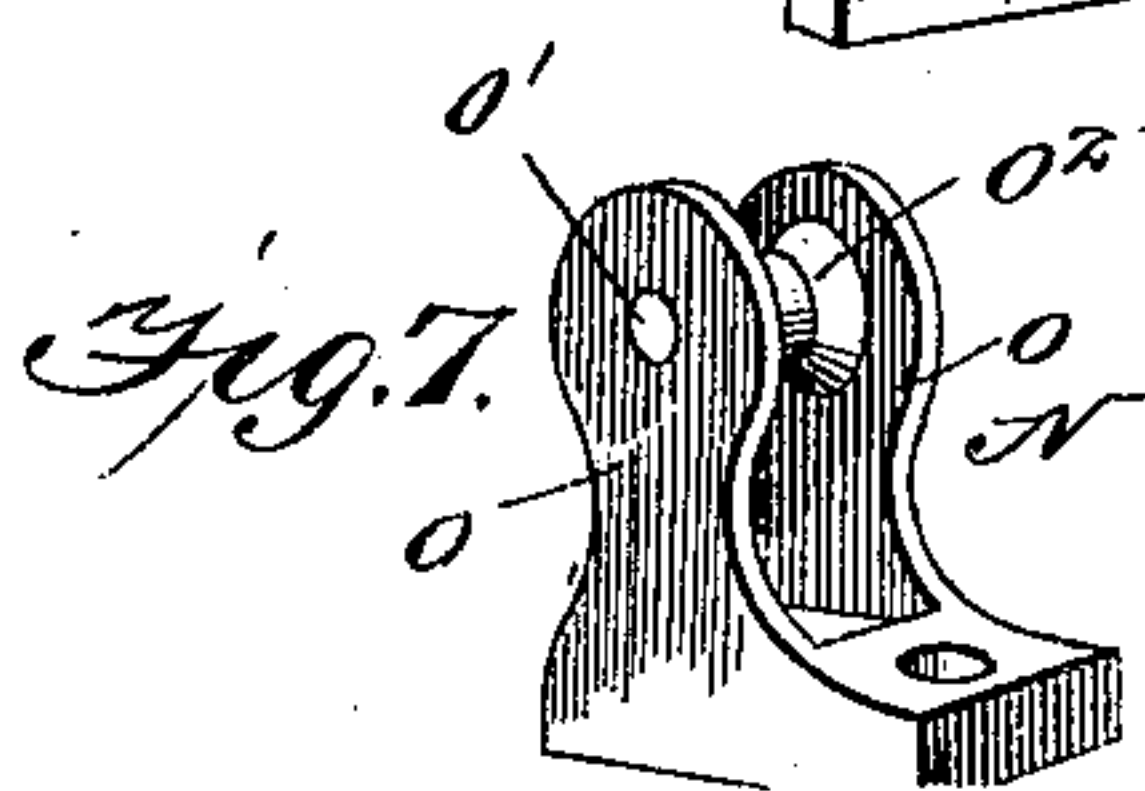
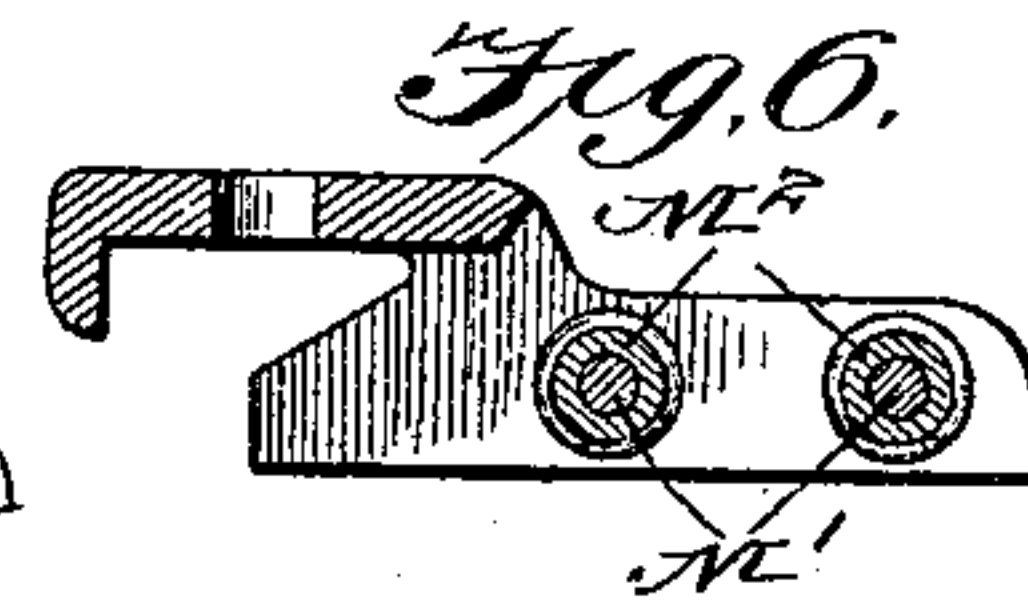
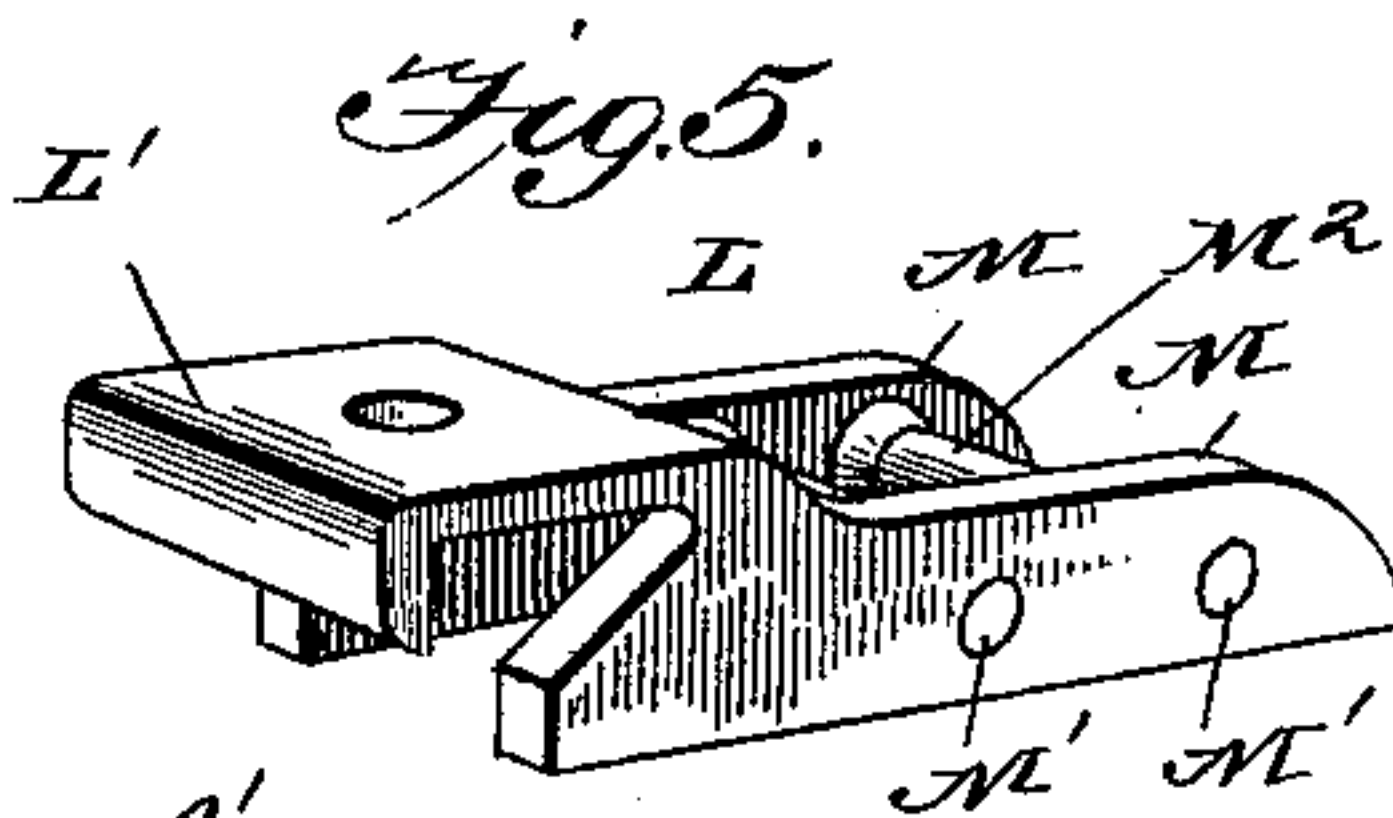
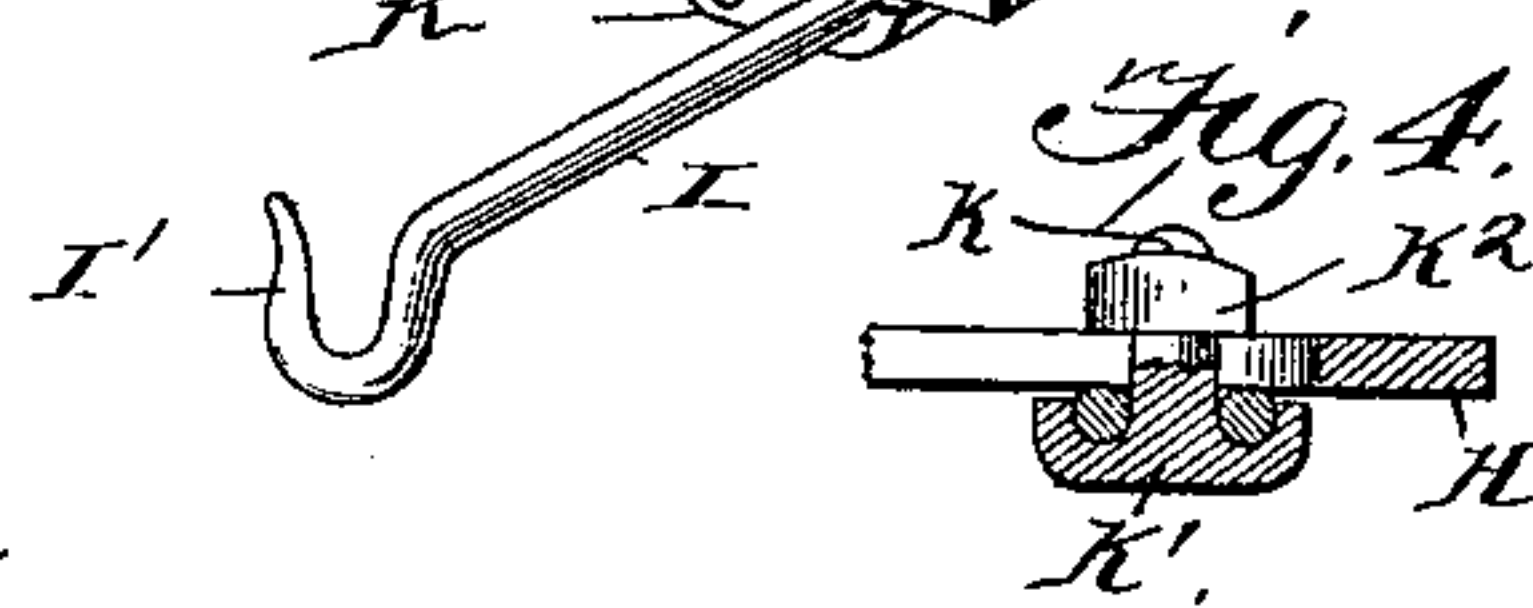
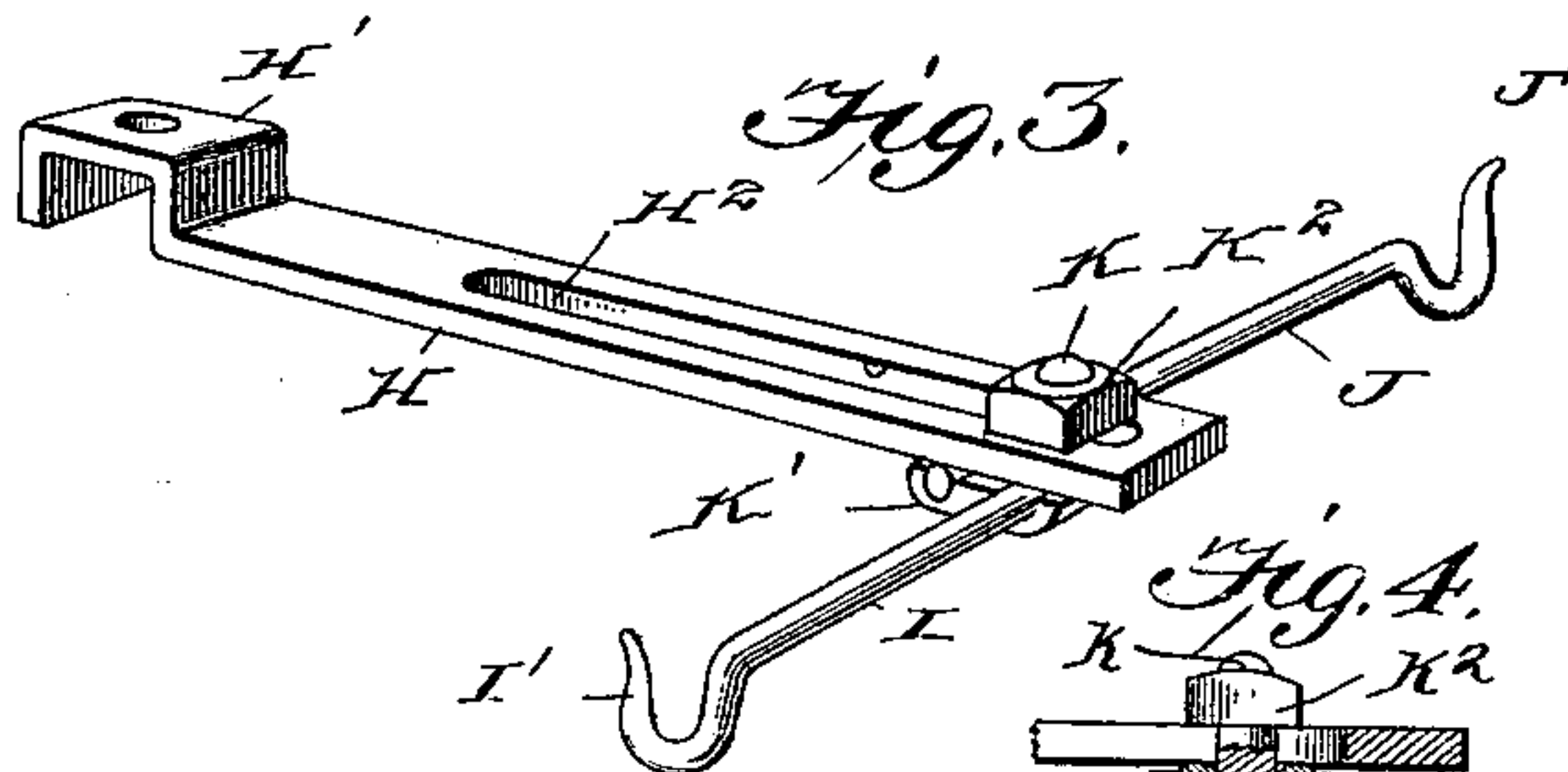
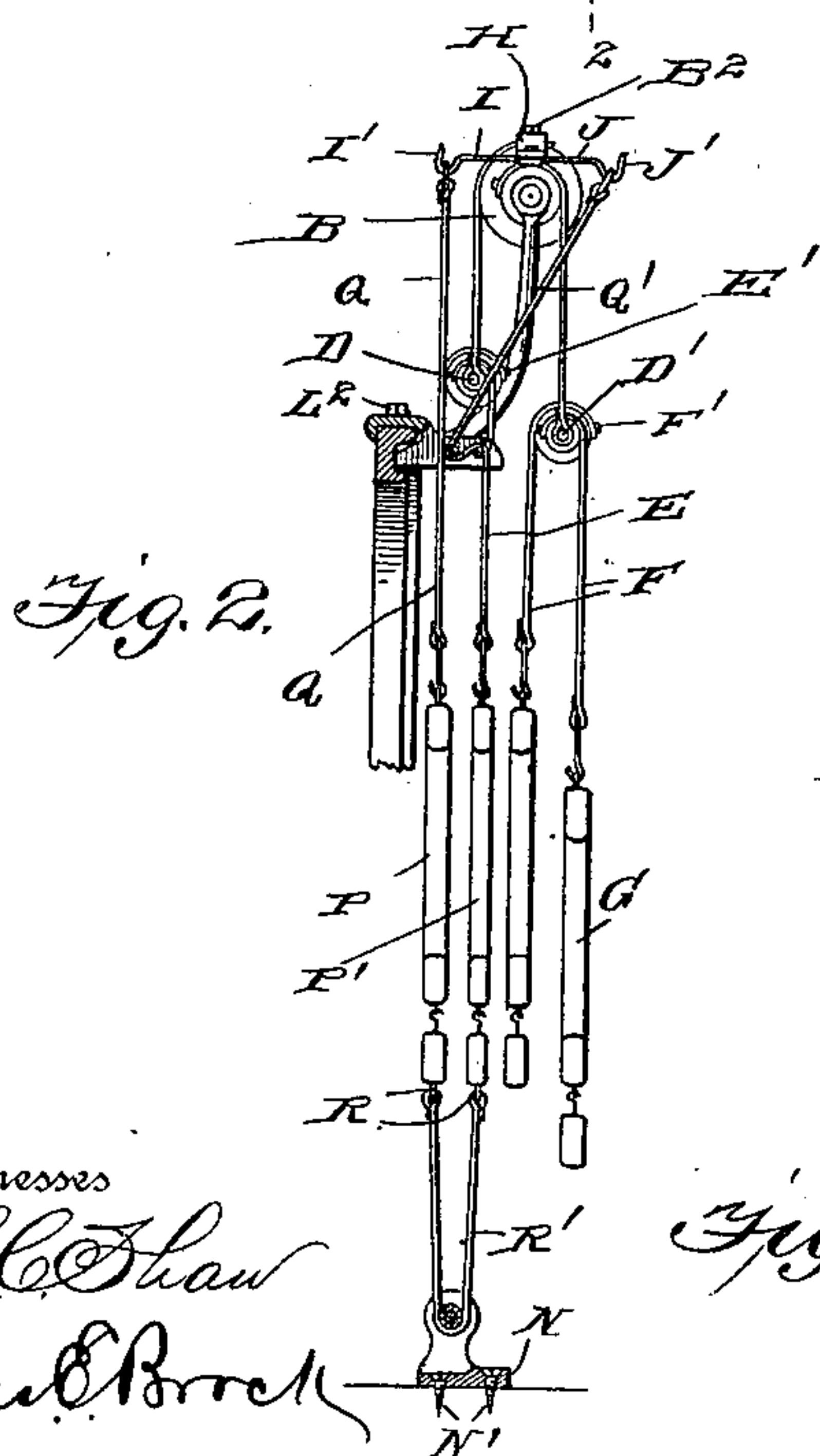
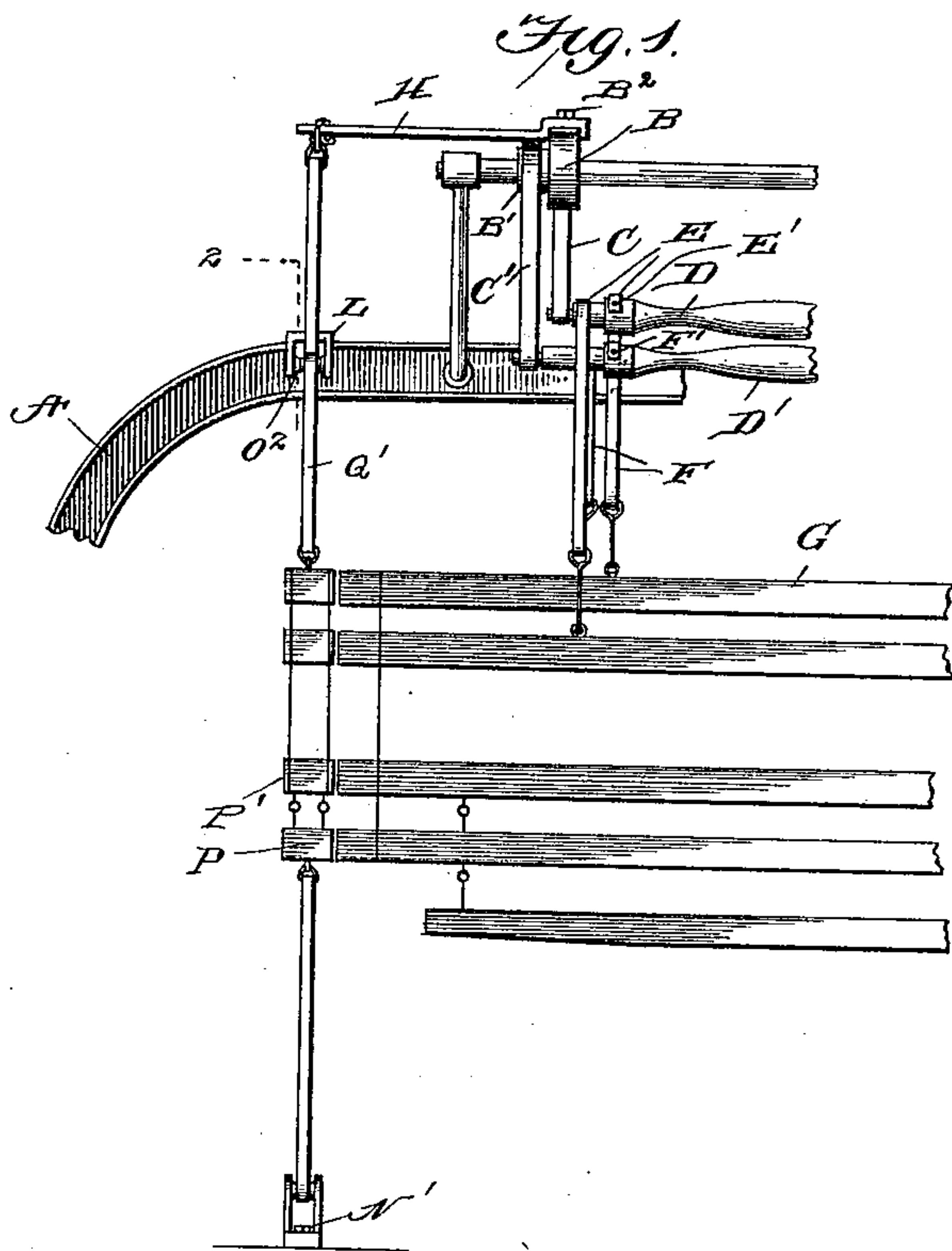
Patented Aug. 21, 1900.

P. CASSIDY.

HARNESS ATTACHMENT FOR LOOMS.

(Application filed Oct. 14, 1899.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

PATRICK CASSIDY, OF SALEM, MASSACHUSETTS.

## HARNESS ATTACHMENT FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 656,169, dated August 21, 1900.

Application filed October 14, 1899. Serial No. 733,631. (No model.)

*To all whom it may concern:*

Be it known that I, PATRICK CASSIDY, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented a new and useful Harness Attachment for Looms, of which the following is a specification.

My invention relates generally to harness-motions for looms for weaving textile fabrics, and more particularly to motions for the harness which receives the warp-threads of the selvages, the object of the invention being to provide an improved attachment for roller-loom for operating the selvage-harness thereof, which attachment shall be composed of a minimum number of very simple parts, can be attached quickly to the loom without in any manner altering the construction of any part thereof, will be exceedingly economical and durable in construction, and thoroughly reliable in operation.

In the drawings forming part of this specification, Figure 1 is a view, in front elevation, of part of a loom having my invention applied thereto, only so much of the loom being shown as is necessary to illustrate the application of the improvement. Fig. 2 is a detail section, partly in elevation, taken on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view showing a portion of my improved attachment; and Figs. 4, 5, 6, and 7 show further details of construction.

Inasmuch as both ends of the loom are constructed exactly alike it will of course be understood that it is only necessary to illustrate the attachment as applied to the one end of the loom.

Like letters of reference mark the same parts wherever they appear in the various figures of the drawings.

Referring to the drawings by letters, A indicates the arch of the frame of the loom; B B', the harness-rollers at each end; C C', the straps, secured to rollers B B' by means of set-screws B<sup>2</sup>, said straps C C' being attached to rollers D D', to which straps E F are secured by set-screws E' F', said straps E F carrying the harness-frames G, which are moved up and down by any usual levers and cams (not shown) in a well-known manner, the parts thus far described being old and well known and forming the harness-motion of what is technically

called a "four-harness" motion, the loom being what is known to the trade as a "roller-loom," owing to the fact that the harness is supported on rollers, as at B D D'.

My improved attachment comprises the following parts, viz:

H indicates an arm or extension shaped at one end, as at H', to fit over one of the rollers B (there being an arm for each roller) and adapted to be secured to the roller by the same screw B<sup>2</sup> which secures the harness-straps, the arms extending outward in both directions in line with the axis of the rollers B and each provided with a longitudinal slot H<sup>2</sup>.

I J indicate cross-arms composed of wire bent to form hooks at the ends, as at I' J', each of said cross-arms being positioned on one end of the extension-arms H and secured thereon at any desired distance from the roller B by means of a bolt K, passed through slot H<sup>2</sup>, having a double-hooked head K' to grip and hold the parallel wires of the cross-arm by means of a nut K<sup>2</sup>.

L indicates a bracket shaped at one end, as at L', to fit upon the arch A, such bracket being secured to the arch by a screw, as at L<sup>2</sup>, and having bifurcated or forked arms M M, in which are fixed pins M' M', upon which are journaled antifriction or roller spools M<sup>2</sup> M<sup>2</sup>.

N indicates a bracket secured to the floor or other basic support by means of a screw or screws N', said bracket having bifurcated or forked arms O O, in which is fixed a pin O', upon which is journaled an antifriction or roller spool O<sup>2</sup>.

P P' indicate the heddles of the selvage-harness, connected at their upper edges to the hook ends I' J' of cross-arms I and J by straps Q Q' and provided with hooks R R at their lower edges, upon which are attached the ends of a strap R', which passes around the spool O<sup>2</sup>. The strap Q' passes under one of the spools M<sup>2</sup> and over the other, as clearly shown in Fig. 2, thus bringing the heddles P P' quite close to each other, giving an even shed for the passage of the shuttle.

When the harness-frames G are alternately carried up and down in their usual operation, the rollers B B' are rocked, carrying the extension-arms H with them and oscillating the cross-arms I J, causing the selvage-heddles



to be raised and lowered alternately, the selvage-heddles being held vertical and in the proper relative positions by the straps R'.

The selvage-harness motion herein described can be made at an extremely low cost, is extremely simple in construction, and can be put in position or taken off any ordinary roller-loom in about one-fourth the time it takes to adjust any motion with which I am acquainted.

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

1. In a loom, the combination with the upper roller of the harness-motion, of an extension-arm secured thereto in line with the roller, a cross-arm secured on the extension, and selvage-heddles connected to the ends of the cross-arm, substantially as described.

2. In a loom, the combination with the selvage-heddles, of an oscillating cross-arm, a bracket secured to the frame of the loom carrying two rollers or spools, a strap connecting one heddle with one end of the cross-arm direct and a strap connecting the other heddle with the other end of the cross-arm and passing under one and over the other spool or roller, substantially as described.

3. In a loom, the combination with the upper harness-motion roller, and the usual strap connecting it with the harness; of an extension-arm fitted at one end over the roller, a set-screw securing both the strap and extension to the roller, and a cross-arm secured to the extension-arm and carrying the selvage-heddles, substantially as described.

4. In a loom, the combination with the upper harness-motion roller, of an extension-arm secured thereto in line with the roller and longitudinally slotted, a cross-arm on the extension adapted to carry the selvage-heddles, and a screw-bolt passing through the slot of the extension-arm, having a head fitting over the cross-arm, and a nut threaded on the bolt; whereby the cross-arm is securely but adjustably clamped upon the extension, substantially as described.

5. In a loom, the combination with the harness-motion roller and an arm in line therewith, removably secured thereon, and longitudinally

slotted, of a cross-arm comprising two wires bent to form parallel arms and hooked ends, said arms being positioned across the extension-arm, a bolt passing through the slot of the extension and provided with a hooked head to hold the wires, and a nut for clamping the bolt, substantially as described.

6. In a loom, a selvage-harness motion comprising the harness-motion roller, an extension-arm secured thereto and in line therewith, a cross-arm on the extension, straps attached at the ends of the cross-arm, selvage-heddles suspended by said straps, a bracket attached to the floor or other basic support, a roller therein, and a strap attached to the lower edges of the selvage-heddles and passed around said roller, substantially as described.

7. The combination, with a loom, of an arm, one end of which is provided with means for securing it to the harness-roller, and the other end is provided with a cross-arm, said cross-arm being provided with means for connecting the selvage-harness therewith, and means for adjusting the length of the cross-arm and also adjusting it relatively to the first-mentioned arm.

8. In an attachment for looms the combination, with an arm, one end of which is provided with means for detachably connecting it with the harness-roller and the other end is slotted longitudinally, a bolt through said slot, of two wires secured under the head of said bolt, the outer end of each of which is formed into a lock by means of which the selvage-harness is connected therewith.

9. In an attachment for looms the combination, with an arm, one end of which is provided with means for securing it to the harness-roller and the other end is provided with means for connecting the straps of the selvage-harness thereto, of a bracket provided with two rollers and with means for detachably securing it to the arch of the loom, said rollers being so arranged that one of said straps may pass under one and over the other.

PATRICK CASSIDY.

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