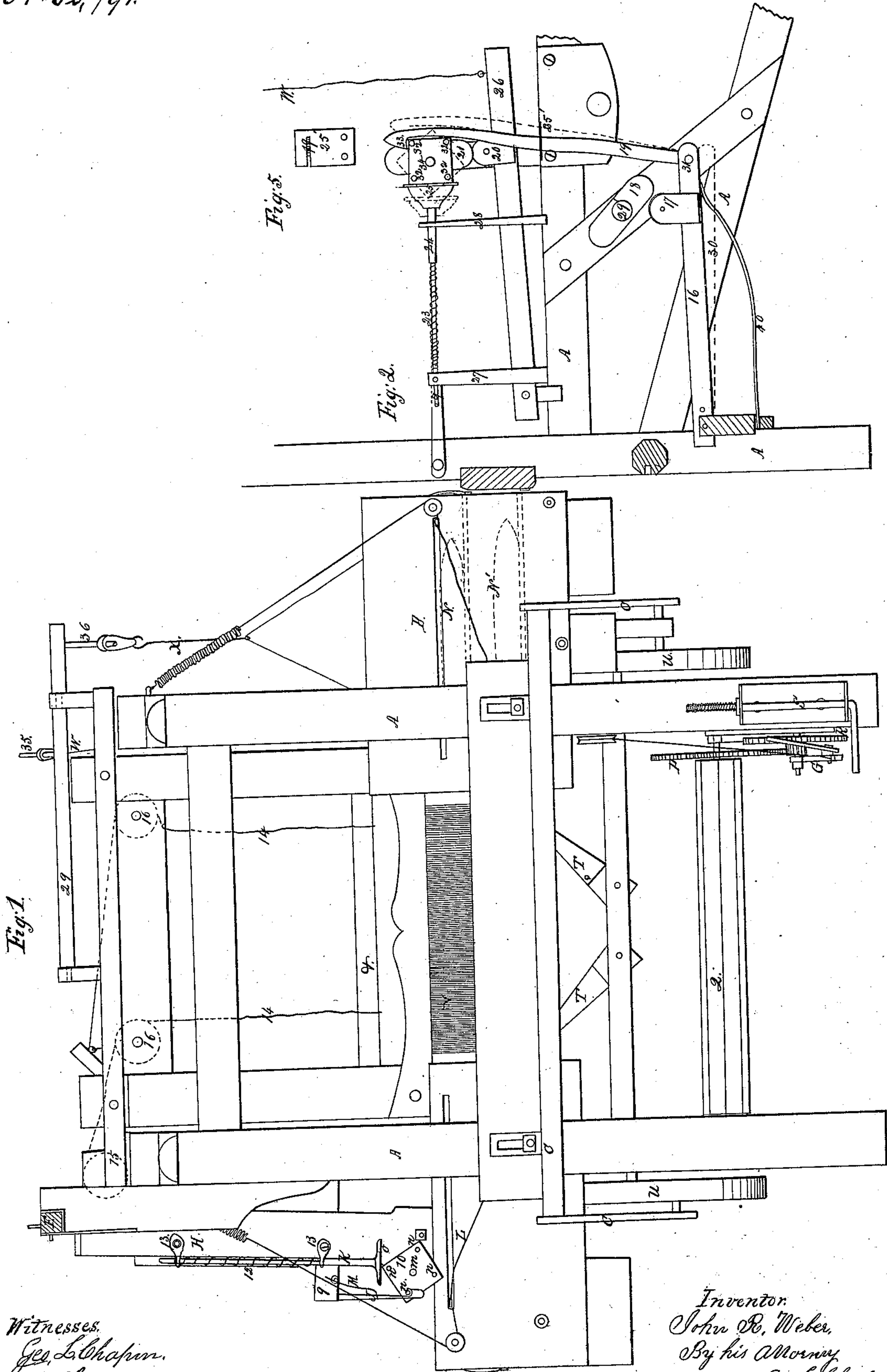


J. R. Weber. Shuttle Box.

No 62,791.

Patented Mar 12, 1867.



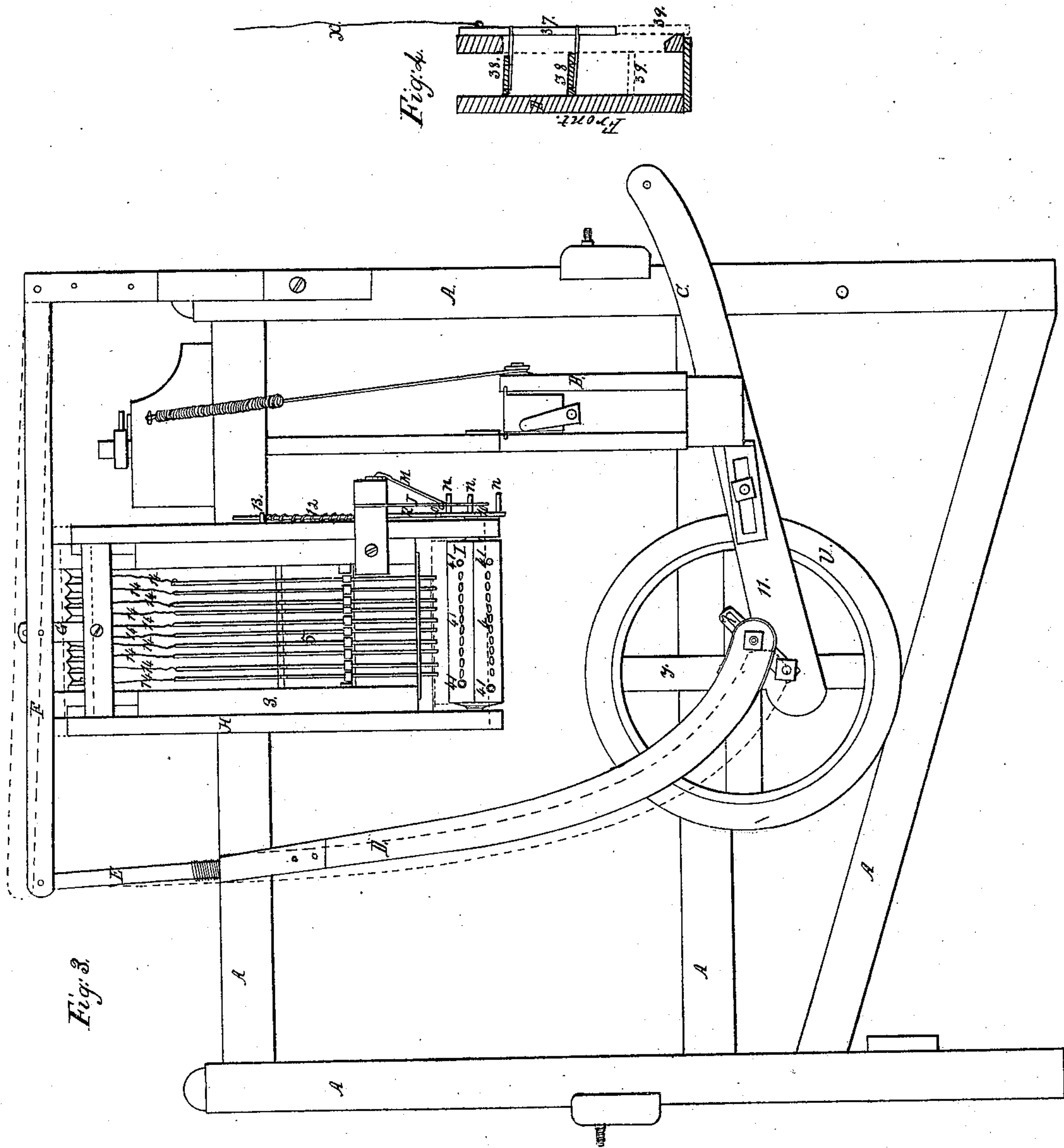
Witnesses.
Geo. L. Chapin.
A. Hayward.

Inventor
John R. Weber.
By his Attorney
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United States Patent Office.

JOHN R. WEBER, OF BOURBON, INDIANA.

Letters Patent No. 62,791, dated March 12, 1867.

IMPROVEMENT IN LOOMS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN R. WEBER, of Bourbon, in the county of Marshall, and State of Indiana, have invented a new and useful Improvement in Looms; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a front elevation of the loom.

Figure 2 is an elevation of a part of my invention for regulating the position of the shuttle-boxes.

Figure 3 is an elevation of the left-hand side of the loom, shown on drawing B; and

Figure 4 is a sectional elevation of the shuttle-race.

The general character of my invention relates to that class of looms which are intended to weave automatically, the pattern being governed by the jacquard; and its nature consists, first, in the use of a revolving rectangular pattern-bed, over which the pattern is made to pass when bringing the harness into position for separating the warp for the shuttle to pass through and make the stitch or over-cast, forming a part of the figure, corresponding with the holes in the pattern-cylinder; and in connection with this, the use of such mechanical appliances as to successfully operate the pattern-bed; second, in the use of a ratchet-pinion attached to the upper cam, and giving suitable motion to the lever controlling the height of the shuttle in the beam, in order that the under or over-shuttle movement may be had, which is necessary in the weaving of figures.

In order to give a correct understanding of my invention, I will first refer to the common parts of the loom, as represented on drawings A and B.

A shows the frame-work of the loom, which is made similar to those now in common use; B is the shuttle-beam; V, the reed; T the picker-staffs; &, the harness-slats; and P Q R S the devices for winding the woven goods upon the beam 2. I represents the revolving pattern-cylinder, adjusted in the sliding frame G H. This cylinder has four rows of holes, 4, corresponding in number with the indicators 5, which may pass through holes made in the common pattern cards and into the holes 4 when the loom is in operation. The sliding frame G H is operated by means of the lever F, connecting-rod D E, and crank 7. 10 represents the ratchet-pinion, attached to the shaft of the pattern-cylinder I, which is operated and made to revolve, when the sliding frame is descending, by means of the hook J catching the arms *n*, thus moving the pattern-cylinder I one-fourth of a revolution, and bringing the holes 4 directly under the indicators 5. The shuttle-beam B is connected to the wheel U by means of the connecting-shaft 11, so that the beam B drives up one thread of woof as soon as the indicators 5 have regulated the proper part of the harness so as to divide the warp for making the required figure. K is a bar, passing through the guides 13, and made to press downward and facilitate the turning of the ratchet-pinion I by means of the spring 12 and foot *o*, the latter resting flat upon the sides of the pinion when in operation, at each quarter revolution. 14, fig. 1, drawing A, shows the cords connecting the indicators 5 with the harness-slats &, passing over the pulleys 15 and 16. Fig. 2, drawing A, represents my improvement for regulating the position of the shuttle in the beam B, fig. 1. 29 shows a section of the shaft, operated by the common gearing of the loom, and to which shaft is attached the cam 18, that strikes the friction-wheel 17, supported on the lever 16, and gives motion to that lever. The dotted lines 30 show the position of the lever 16 when forced downward by means of the cam 18. 19 represents the hook attached to the lever 16 by means of the joint 31. Near the top of the hook 19 is the pinion 34, having the arms 32, similar to the arms *n*, figs. 1, 3, drawings A and B. 21 shows the upper cam, rigidly attached to the pinion 34. This cam, in its rotation, strikes the projection 20, attached to the controlling lever 26, which is forced downward at each half revolution of the cam 21, causing the cord W, attached to the lever 26, and the arm 35, fig. 1, projecting from a rock-shaft, 29, to pass downward, elevating the arm 36 on same rock-shaft, carrying upward the cord X, which is attached to the adjusting plate 37, fig. 4, drawing B. The adjusting plate 37 is suspended by the cord X, and supports the shuttle-beds 38, which will occupy the position shown by the dotted lines 39 at each half revolution of the upper cam 21, fig. 2, drawing A, thus giving the under or over-shuttle movement essential in weaving figures. 24 shows the rod to which is attached the foot 25, similar to the rod and foot shown in fig. 1. 27 and 28 are the standards through which the rod 24 slides when the foot 25 is forced backward by means of the rectangular pinion 34 and the hook 19. This rod and foot are used to assist in turning the pinion 34 after the hook 19 has lost most of its force in

its downward movement. The spiral spring 23 causes the foot 25 to press against the pinion 34, and as a result, will speedily bring it into the position shown in the drawing after either corner of the same has been forced against the foot 25 by means of the hook 19. 40 represents the spring which forces upward the lever 16 after the cam 18 has forced it down, as shown by dotted lines 30. N N' represent common shuttles.

Operation.

The pattern cards can be made adapted to any style desired, after which they must be put on the pattern-cylinder I, and the projections 41 will carry the pattern forward as the cylinder is rotated. The loom may be driven by hand or by power, as most convenient. The most of the gearing necessary in giving motion to the weaving apparatus is omitted in the drawing, it being so simple as to need no illustration.

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

The combination of the lever 16, cams 17 and 18, with the hook 19, pinion 34, bar 24, spring 23, lever 26, cams 20 and 21, when constructed to operate the shuttle-plate 37, substantially as set forth.

JOHN R. WEBER.

Witnesses:

GEO. L. CHAPIN,

A. HAYWARD.