

(No Model.)

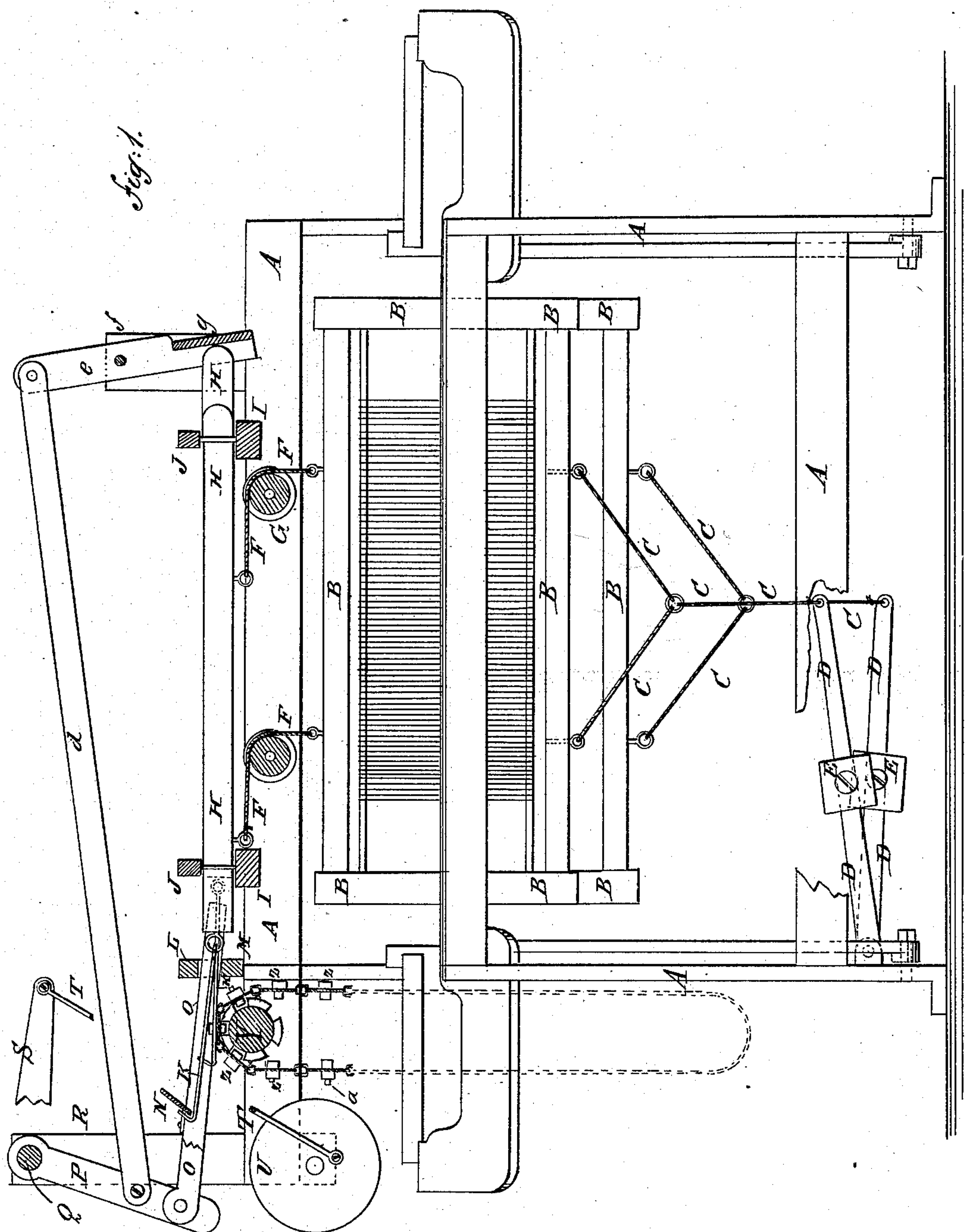
2 Sheets—Sheet 1.

J. DENTON.

SHEDDING MECHANISM FOR LOOMS.

No. 252,438.

Patented Jan. 17, 1882.



WITNESSES:

Chas. Nida.
W. Sedgwick

INVENTOR:

J. Denton
BY *Mum & Co*
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

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Fig: 2.

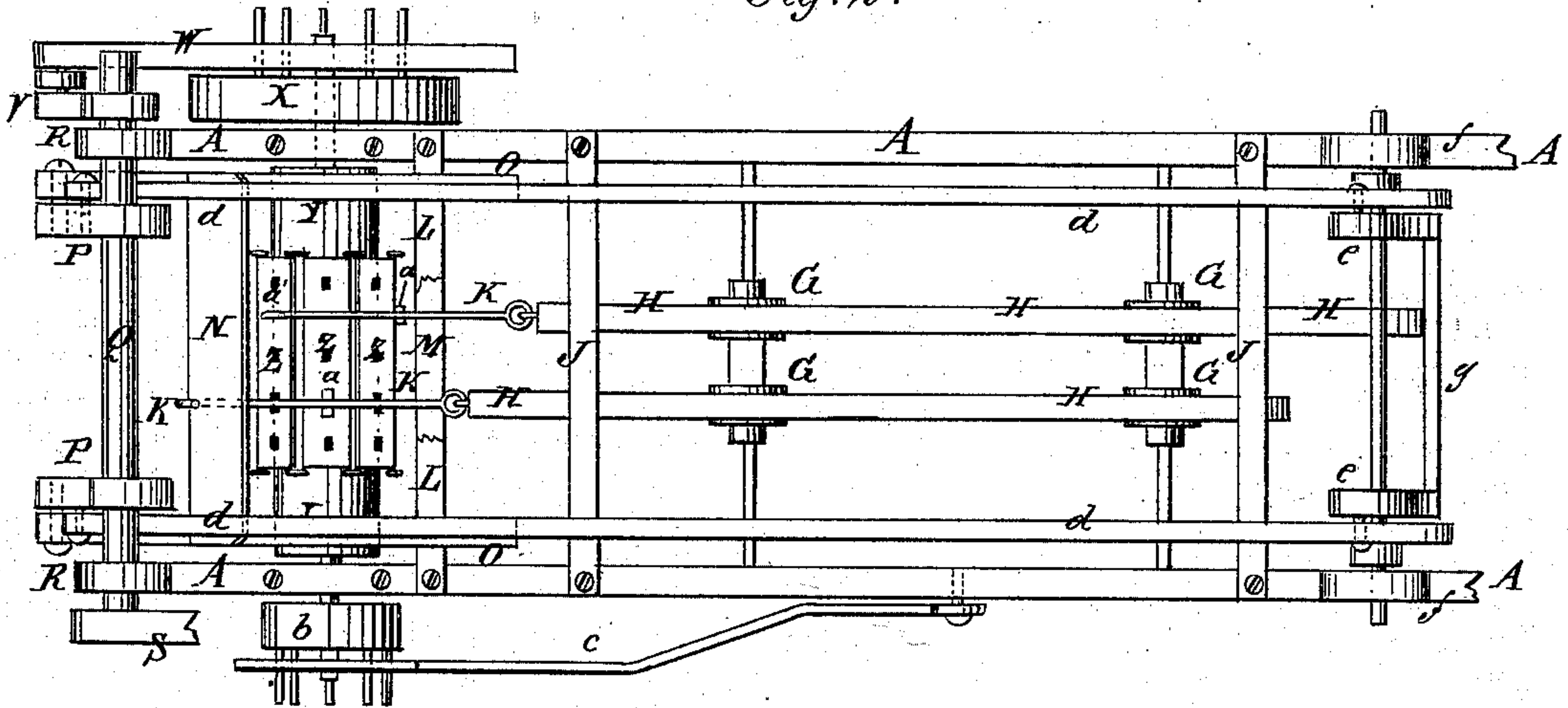


Fig: 3.

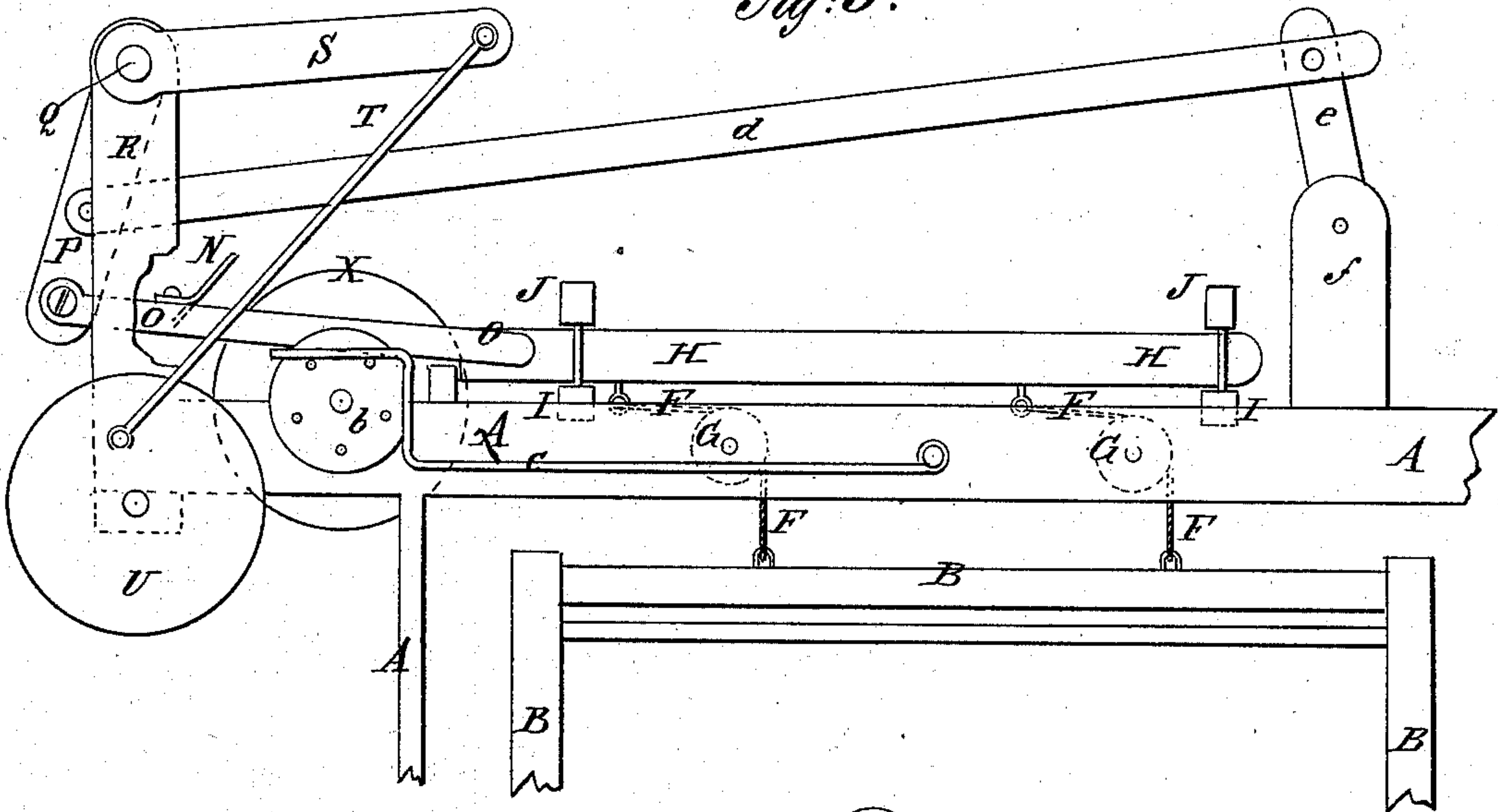
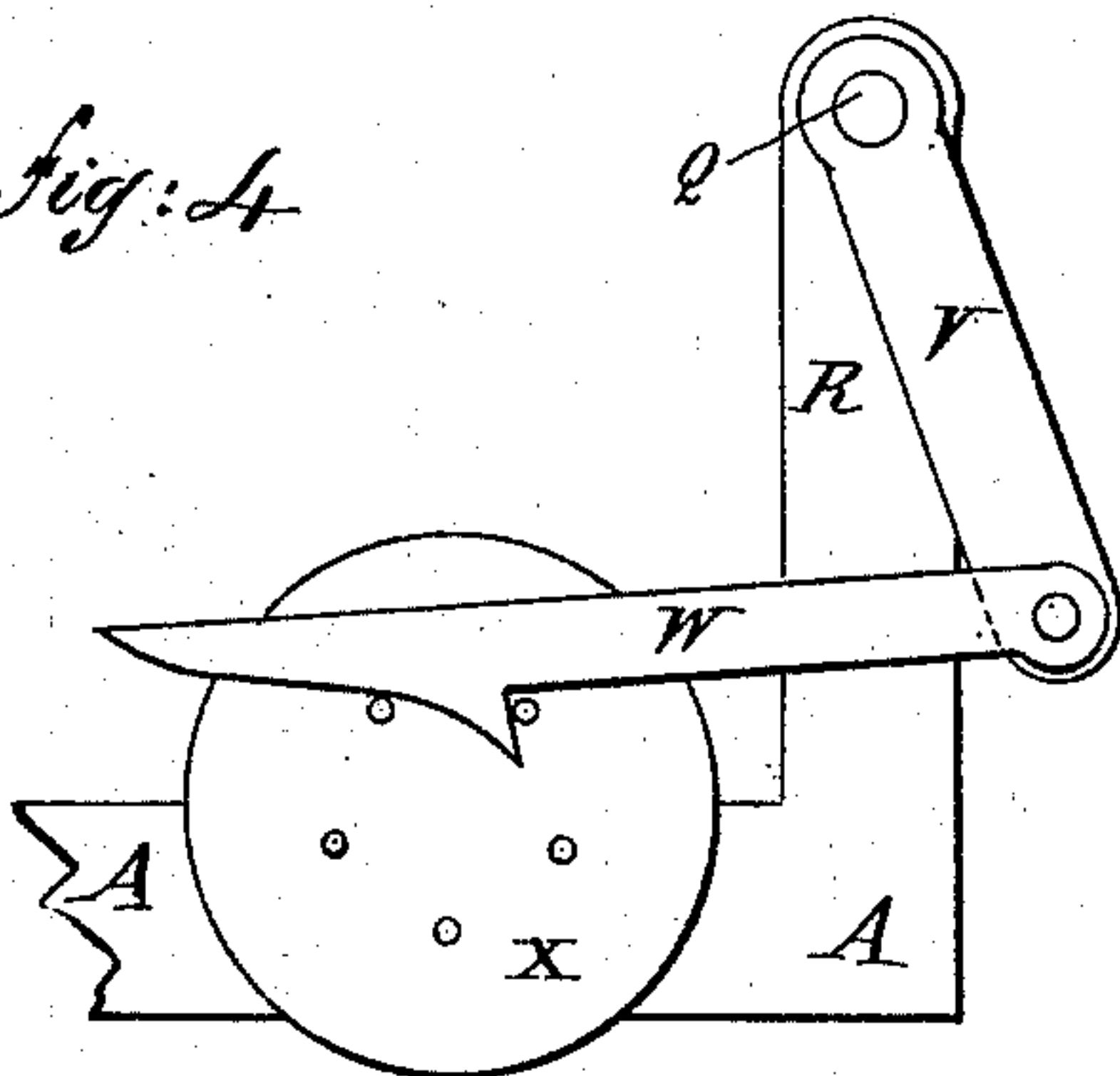


Fig: 4.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOSEPH DENTON, OF PATERSON, NEW JERSEY.

SHEDDING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 252,438, dated January 17, 1882.

Application filed June 11, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH DENTON, of Paterson, in the county of Passaic and State of New Jersey, have invented certain useful
5 Improvements in Shedding Mechanism for Looms, of which the following is a specification.

Figure 1, Sheet 1, is a sectional elevation of my improvement shown as applied to a loom.
10 Fig. 2, Sheet 2, is a plan view of my improvement. Fig. 3, Sheet 2, is a front elevation of the same. Fig. 4, Sheet 2, is a rear elevation of a part of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to cause the heddles to move up and down vertically and squarely.

The invention consists in the combination,
20 with the heddle-slides, and the crank-wheel, the connecting-rod, the rock-shaft, and the rigid arms, of the connecting-rods, the levers, and the stop-board, whereby the inward movement of the heddle-slides is controlled.

25 In the accompanying drawings, A represents the frame of a loom, and B represents the heddle-frames.

To the bottom bars of the heddle-frames B are attached the branched upper ends of the
30 cords C, the lower ends of which are attached to the ends of levers D. The levers D, at their other ends, are pivoted to the frame A, and to them are attached, or upon them are formed, weights E of sufficient gravity to draw the heddles down promptly as soon as they are released from the power that raised them.

To the top bars of the heddle-frames B, upon the opposite sides of and equally distant from their centers, are attached the ends of two
40 cords, F, which pass over two pulleys, G, pivoted to the frame A in such positions that the said cords F will pass vertically from their points of attachment to the heddle-frames B to the sides of the pulleys G. The upper ends
45 of the cords F are attached to the lower sides of the bars H, which slide upon bars I, attached to the frame A, and are made to move back and forth in straight lines by guide-racks J, attached to the bars I, upon which the said
50 bars H rest and slide. With this construction the heddle-frames B are raised by the forward movement of the slides H, and the two cords

F and pulleys G cause the said heddle-frames to move up and down vertically and squarely.

To the forward ends of the slides H are
55 hinged the ends of hooks K, which pass through a guide-rack, L, attached to a bar, M, secured to the frame A, so that the said hooks will move forward and back in straight lines. The hooks K are drawn forward at the proper time
60 by the knife or plate N, attached in an inclined position to the bars O, so that its lower edge will engage with the hooks K when the said hooks are raised, but will pass over the hooks when not raised. The bars O are hinged at
65 their outer ends to the lower ends of the arms P, the upper ends of which are rigidly attached to the shaft Q. The shaft Q works in bearings in standards R, the lower ends of which are attached to the loom-frame A. To the shaft Q
70 is rigidly attached the end of an arm, S, which projects at an angle a little greater than a right angle with the arms P.

To the outer part of the arm S is hinged the upper end of a connecting rod, T, the lower end
75 of which is pivoted to the crank-pin of a crank-wheel, U, pivoted to the frame A, and to which motion is given by a belt or other suitable gearing. To the other end of the shaft Q is rigidly attached an arm, V, parallel with the
80 arms P, or nearly so. To the lower end of the arm V is pivoted a hook-pawl, W, which rests upon and engages with pins, cogs, or teeth attached to or formed upon the wheel X, attached to a journal of the pattern-cylinder Y.
85 The cylinder Y is journaled in bearings attached to the frame A, and in the face of the said cylinder are formed a number of parallel longitudinal grooves, or to it are attached a series of parallel ribs, to allow it to operate as
90 a long chain or lag wheel.

Z are the lags, which are connected in an endless chain of any desired length by links. In each lag Z are formed as many holes as there are hooks K to be used. The holes in the lags
95 Z are in line with the hooks K, and are designed to receive pins *a*, to raise the hooks K into position for the knife N to engage with them to draw the slides H forward and raise the heddles. With this construction, by inserting and
100 removing or rearranging the pins *a* in the lags Z any desired pattern can be woven.

To the journal of the pattern-cylinder Y, opposite the ratchet-wheel X, is attached another

ratchet-wheel, *b*, with the teeth, cogs, or pins
 of which engages a spring or holding pawl, *c*,
 attached to the frame *A*, to prevent the said
 pattern-cylinder from being moved out of place
 5 by friction or jarring. To the middle parts of
 the arms *P* are pivoted the ends of two con-
 necting-rods, *d*, the other ends of which are
 pivoted to the upper ends of two levers, *e*. The
 levers *e*, at their middle parts, are pivoted to
 10 standards *f*, attached to the frame *A*, and to
 their lower ends are attached the ends of a
 board or plate, *g*, in such a position that the
 said board or plate will be directly opposite
 the inner ends of the slides *H*. With this con-
 15 struction, when the knife *N* is moving inward
 the slides *H*, connected with the said knife by
 the hooks *K*, also move inward, being drawn in
 that direction by the weighted levers *D E* until
 the said slides *H* meet the inwardly-moving
 20 plate *g*, and are stopped before the said knife
N has reached the end of its inward move-
 ment. The advance of the knife *N* after the
 slides *H* have been stopped withdraws the
 said knife *N* from the hooks *K* and allows the
 25 said hooks to drop away from the knife, so that
 all the slides *H* will stand with their inner ends
 resting against the plate *g*. As the knife *N*
 moves outward it engages with such hooks *K*
 as have been raised by the lag-pins and carries
 30 the said hooks and their slides *H* with it, rais-

ing the heddles connected with the said out-
 wardly-moving slides. At the same time the
 plate *g* is moved outward or in the opposite di-
 rection, which allows the slides *H*, resting
 against the said plates *g*, to be drawn in the 35
 same direction by the weighted levers *D E*,
 lowering the heddles connected with the said
 slides. By these movements some of the hed-
 dles will be moved upward and the others
 downward, forming a split shed. 40

When it is desired to form a standing shed
 the stop-board *g* is secured in proper position,
 the connecting-rods *d* are disconnected, and the
 connecting-rod *T* is adjusted to give a longer
 throw to the knife *N*, so that the heddles will 45
 be raised higher than is necessary in forming
 a split shed.

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

In a loom, the combination, with the heddle- 50
 slides *H* and the crank-wheel *U*, the connect-
 ing-rod *T*, the rock-shaft *Q*, and the rigid arms
S P, of the connecting-rods *d*, the levers *e*, and
 the stop-board *g*, substantially as herein shown
 and described, whereby the inward movement 55
 of the heddle-slides is controlled, as set forth.

JOSEPH DENTON.

Witnesses:

JAMES T. GRAHAM,
 C. SEDGWICK.