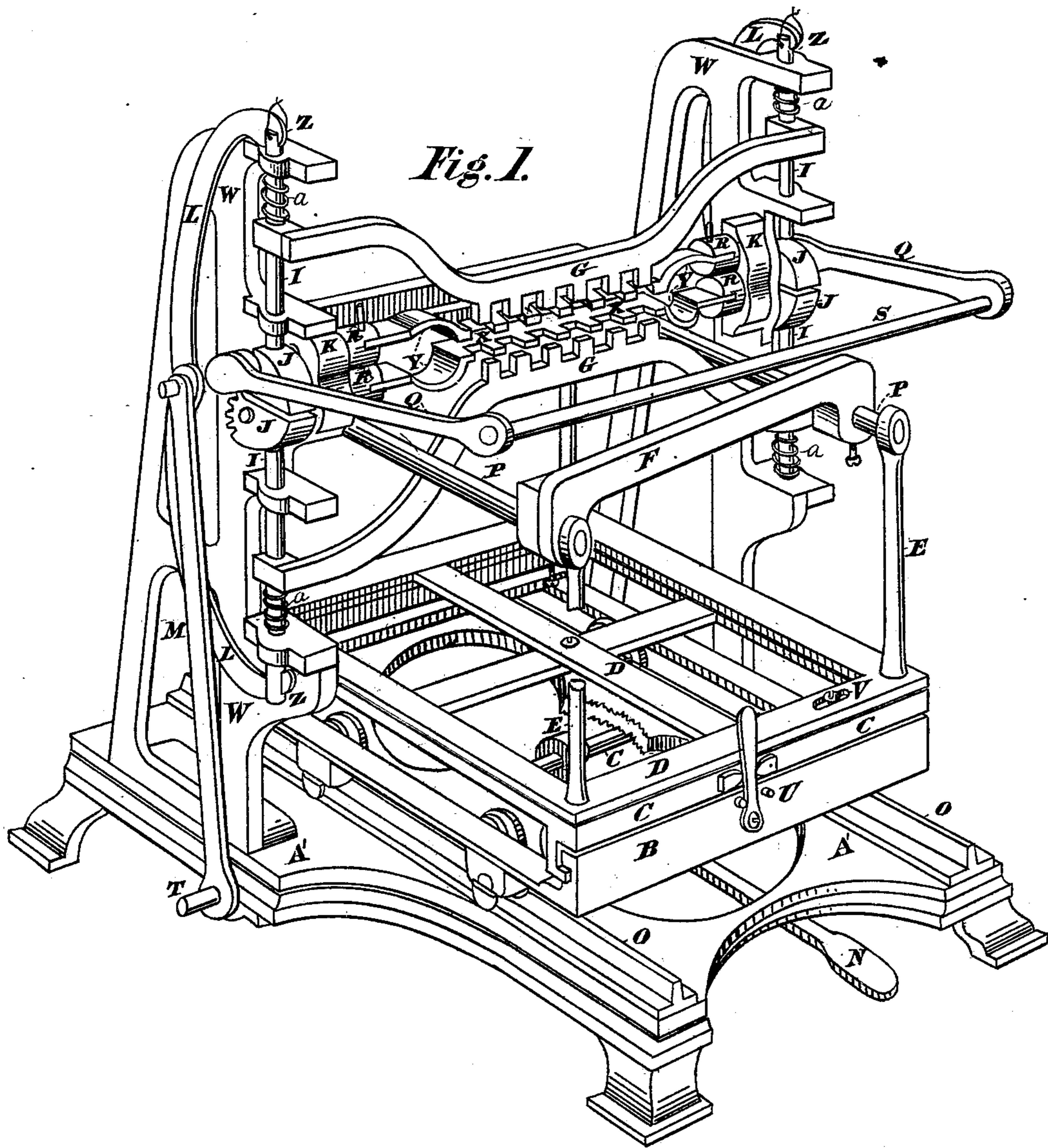


J. C. MILLER.  
Chair Seat Loom.

No. 229,732.

Patented July 6, 1880.



WITNESSES.

Frank Pardon.  
Bry. Grov

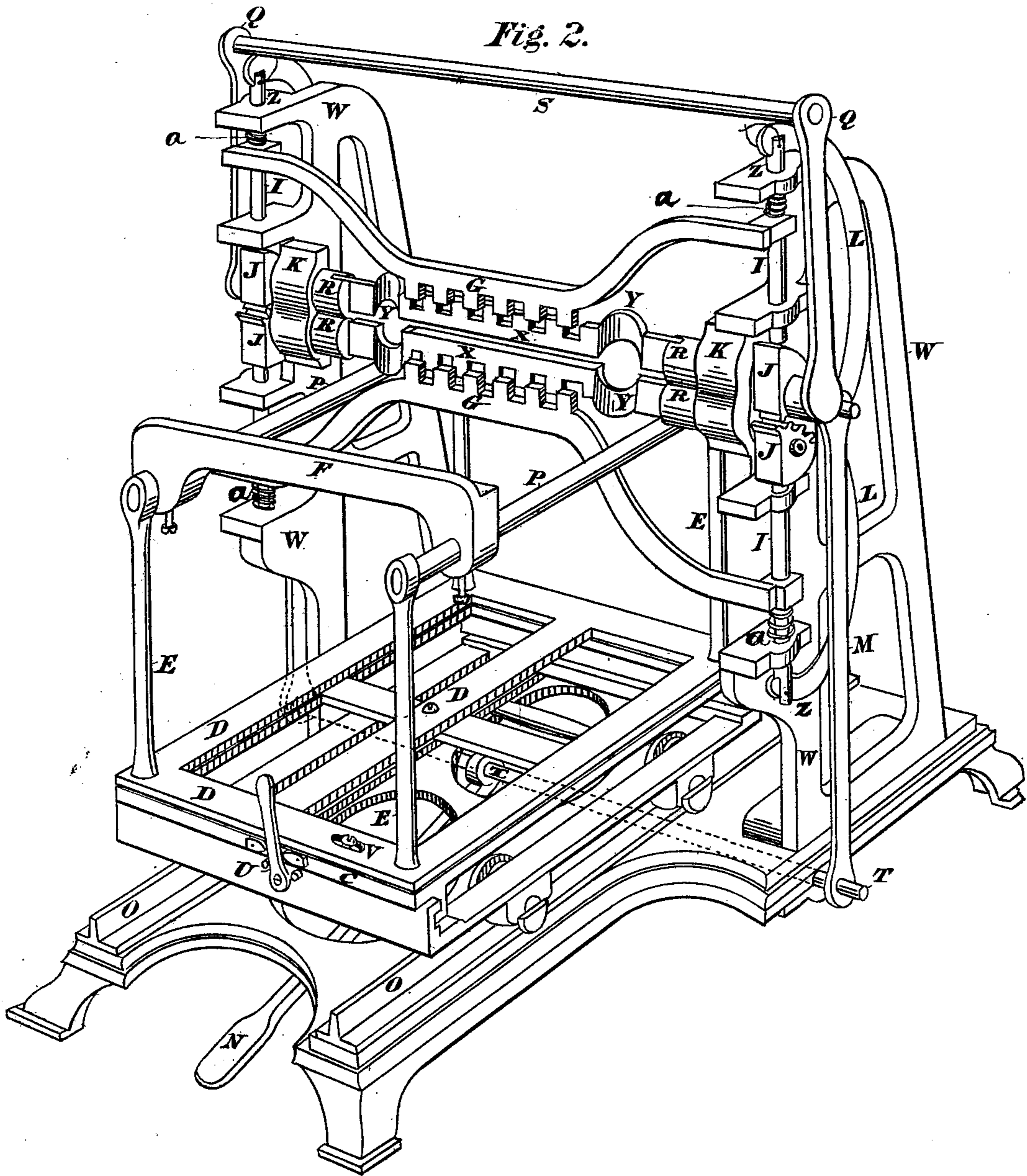
INVENTOR.

John Curry Miller

J. C. MILLER  
Chair Seat Loom.

No. 229,732.

Patented July 6, 1880.



WITNESSES.

*Frank Payson*  
*Bluf. Grove*

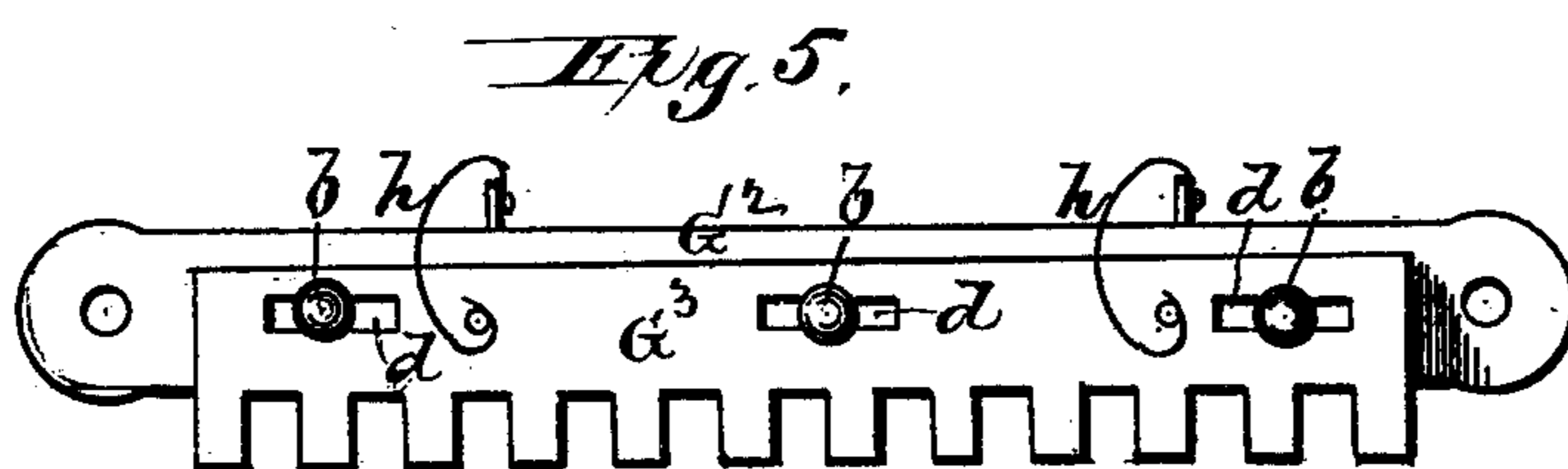
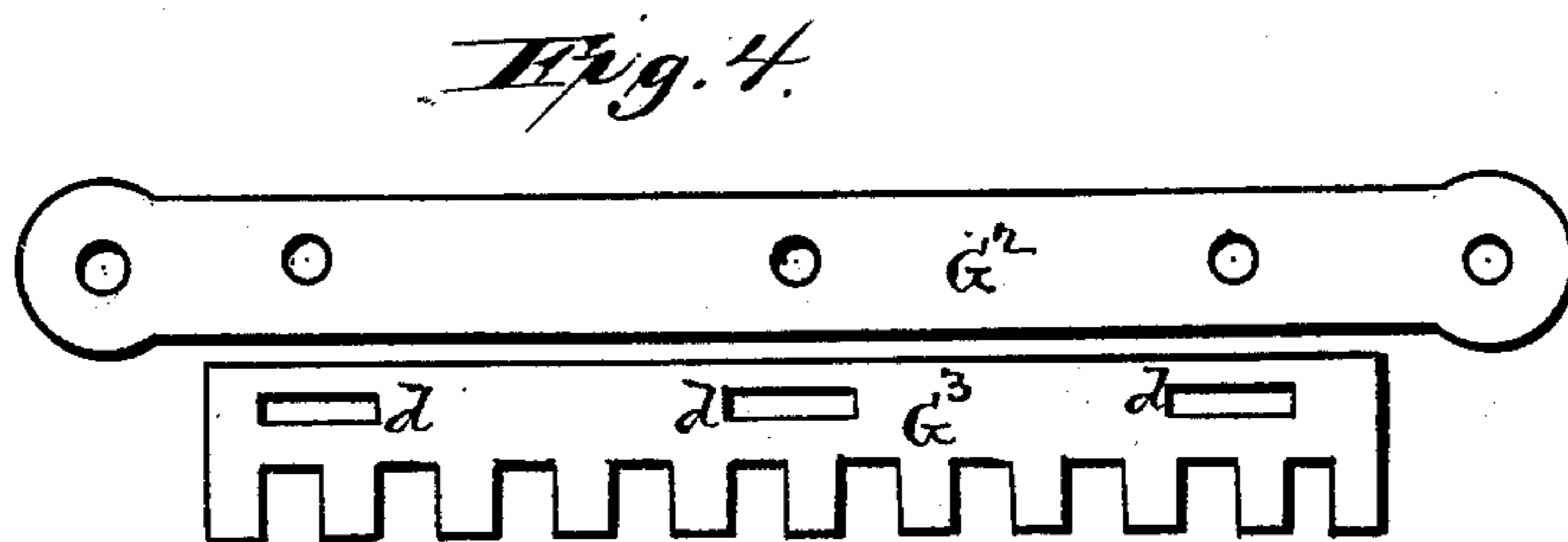
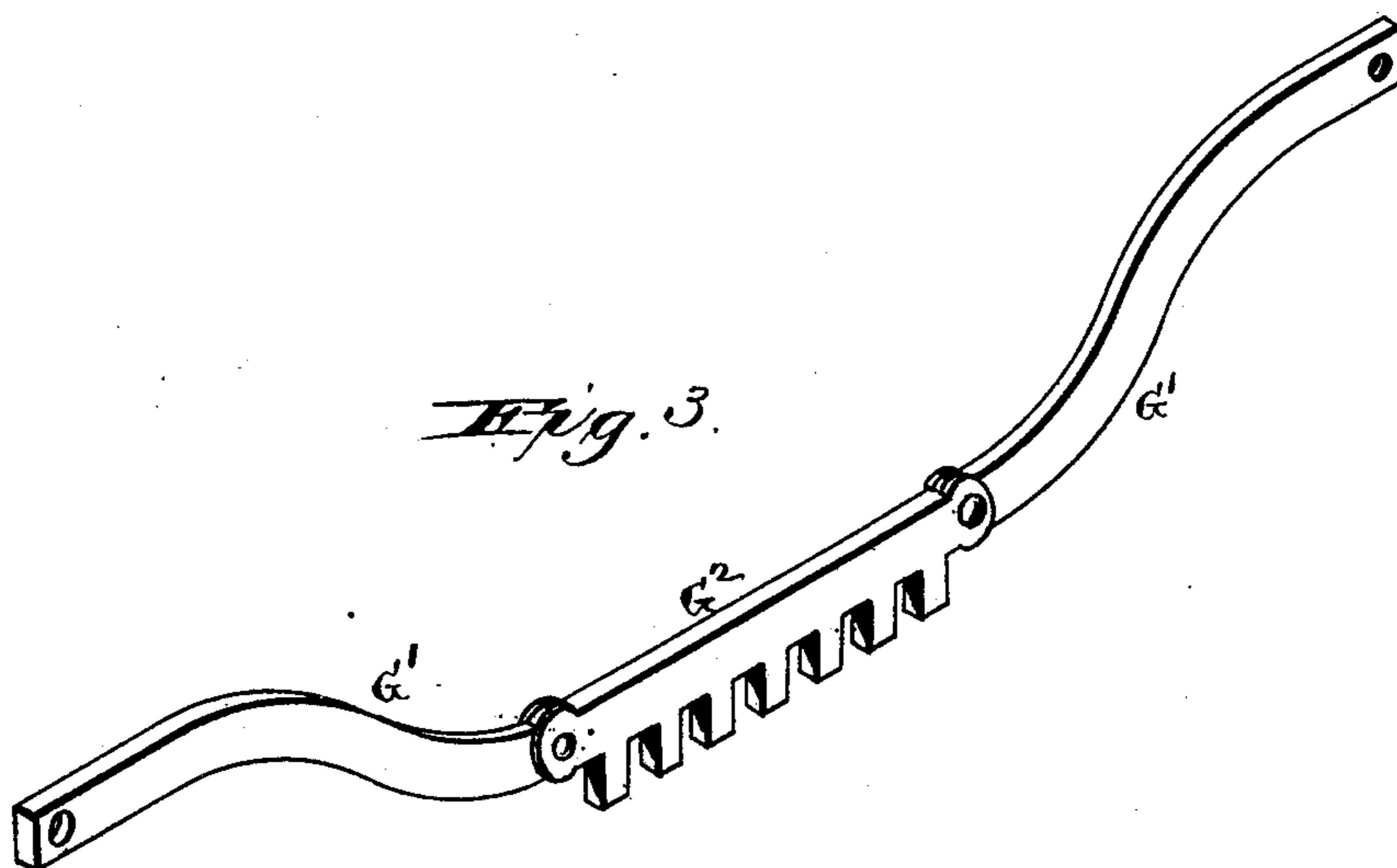
INVENTOR.

*John Curry Miller*

J. C. MILLER.  
Chair Seat Loom.

No. 229,732.

Patented July 6, 1880.



Witnesses.  
F. L. Quiraud  
J. J. Mc Carthy.

Inventor  
John Curry Miller

# UNITED STATES PATENT OFFICE.

JOHN CURRY MILLER, OF LOUISVILLE, KENTUCKY, ASSIGNOR TO LONG & BROTHER CHAIR COMPANY, OF SAME PLACE.

## CHAIR-SEAT LOOM.

SPECIFICATION forming part of Letters Patent No. 229,732, dated July 6, 1880.

Application filed February 9, 1880.

*To all whom it may concern:*

Be it known that I, JOHN CURRY MILLER, of Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Chair-Seat Looms; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a loom for weaving chair-seats, as will be hereinafter more fully set forth.

In the annexed drawings, Figure 1 is a perspective view of my loom, showing the upper working parts of the same at the downstroke or extreme closest point of motion. Fig. 2 is a similar view, showing the separating-racks at their extreme widest point of motion and the jam-racks moved outward or apart. Figs. 3, 4, and 5 show modifications in the construction of the racks G.

A' represents the base or bed of the machine, on which are suitable tracks, O, to receive the carriage B, moving longitudinally thereon. This carriage B is provided with a laterally-movable frame, C, and upon this frame is a centrally-pivoted frame, D, as shown.

On the frame D are corner-posts E, which support two rods, P P, and on these rods are two sliding chucking-rests, F, held in proper place by set-screws, for receiving and clamping the chair-frame.

On the base A' are side pieces, W, in which are pivoted or journaled two separating-racks, X X, the journals of said racks being connected by cogged segmental cams J, and upon the journals of one rack are arms Q, connected by a handle-rod, S. This rod S, connecting the arms or levers Q, is caused to describe a quarter-circle, by which the racks X are turned vertically or horizontally.

The cogged cams J act upon rods I I, which are placed in suitable bearings in the side pieces, and each set of rods carries a jam-rack, G. These jam-racks are thrown toward each other by means of springs a a, as shown.

The guide-rods I on each side are connected by means of toggle-levers L L, and at the joint

of said toggle-levers is attached one end of a lever, M, the other end of which is attached to a shaft, T, under the bed of the machine. This shaft is provided with a treadle, N, by means of which the toggle-joint levers are operated in such a manner as to throw the jam-racks G apart independent of any movement of the separating-racks X.

It will, however, be seen that the quarter-circle movement of the handle-rod S operates the two sets of racks simultaneously.

The chair-seat frame has the warp first put on it in another machine, for which I have made a separate application for patent, and it is then fastened on the chucking-rests F, which are properly adjusted and held on the rods P.

The separating-racks, when moving upward, will raise alternate courses of the warp, and thus make the openings for the insertion of the filling or woof.

On both the upward and downward stroke the jam-racks will hold the elevated courses of the warp in their proper places as regards the separating-racks. After the course of filling is inserted the movable double-acting base B C D must be rolled toward the jam-racks after the machine is brought to its closest point of motion. The object of this is to push the filling or woof to its proper place in the seat, thus gaining a close or open texture, as may be desired.

After this operation the position of the seat must be shifted to one side or the other the distance of the spaces in the racks, the object of which is to raise alternately the courses of the warp, which is necessary to let the filling be pushed close together, and also to give a diagonal texture to the seat.

The position of the seat is changed by moving the frame C laterally by means of a lever, U; but before so shifting the seat the jam-racks must be moved away from the seat, so as to alternate the raising and lowering of the courses of the warp, and this is done by pressing down the treadle N, which, as already described, throws the jam-racks away from each other.

The separating-racks X are formed with curves Y, to fit around the rounds of the chair-frame.

The jam-racks G are removable and made

fast on the guide-rods I by means of set-screws or other devices, so that one or both of them may be taken out in order to chuck the chair in the chucking-frame.

5 My loom may be used both for "set-up" and "knockdown" chairs—that is to say, for chairs that have the back and legs attached to the seat-frame, or such as have the back and legs separated from the seat-frame.

10 For greater convenience the jam-racks may be made in several pieces—for instance, as follows: the curved parts  $G'$   $G'$  forming two pieces, the straight part  $G^2$  one piece, and the rack  $G^3$  a separate plate, connected to the  
15 straight center piece by means of screws  $b$  passing through round holes to fix them firmly in position, or slotted holes  $d$ , to allow them to be adjustable in order that they may travel with the seat when it is shifted, for the purpose of holding the cane more firmly in position.  
20

If the rack-piece is made adjustable, it must have a spring-connection,  $h$ , to push it back to the starting-point when moved away from the  
25 seat by means of the toggle-joint levers and treadle-connection. The upper edge of the rack-piece should in such case move within a groove provided for the purpose in the central or straight part of the jam-racks as now  
30 constructed. The straight or central piece just mentioned may be attached to the curved pieces by mortises, tenons, and pins, or in any other convenient manner.

The adjustable base chucking-frame must  
35 be shifted diagonally by turning the top frame, D, on its center pivot one-half the width of the material used, in order to bring the courses of the warp on true lines with the center of the machine.

40 The pivoted top frame, D, is slotted and held at any angle desired by a set-screw, V, or other suitable means.

In operation the racks X X are between the top and bottom warp on the chair-seat frame,  
45 and when said racks are turned vertically they will hold alternate courses elevated and depressed, and the racks G G, being at the same time raised, will intermesh with the racks X X and hold the courses of the warp steady.

50 While in this position the filling is put in, and by means of the handle-rod S the racks X X are turned down horizontally, while the racks G G are lowered by their actuating-springs, so as to fit in between the proper courses of the  
55 warp and hold them separated, and the teeth

of said racks project between alternate courses of the warp, and by moving the carriage forward the filling will then be brought up in place. The chair-seat frame could not then be moved laterally to shift the warp as required, and for this reason I have the independent movement of the racks G. These racks are then raised by pressing down the treadle N, as described, and the chair-seat frame can then be moved the required distance to either side by means of the frame C of the base, and when so shifted the operation may be continued as before.

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

1. In a loom for weaving chair-seats, the longitudinally-movable carriage B, provided with the laterally-movable frame C and centrally-pivoted frame, D, carrying the chair-holder, substantially as and for the purposes herein set forth.

2. The combination of the racks X X, provided with the curves Y Y and journals R R, and mechanism, as described, to actuate the same, whereby the courses of the warp are shifted to form the shed for the insertion of the filling, substantially as set forth.

3. The racks G G and their supporting and actuating mechanism, in combination with the chair-seat-supporting frame, the said racks being adapted to engage and hold the filling as the seat and its frame are moved to push the filling to its place, substantially as described.

4. In a loom for weaving chair-seats, the combination of the separating-racks X X, the racks G G, and mechanism whereby the two sets of racks may be operated simultaneously and the racks G operated independently of the racks X, substantially as and for the purposes herein set forth.

5. The combination, with the racks G G and X X, of the cogged cams J J, arms Q Q, with handle-rod S, guide-rods I I, springs  $a$   $a$ , toggle-joint levers L L, levers M M, shaft T, and treadle N, substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto affixed my hand this 5th day of February, A. D. 1880.

JOHN CURRY MILLER.

Witnesses:

FRANK PARDON,  
D. B. McMULLEN.