

(No Model.)

J. C. POTTS.

# HEDDLE OPERATING MECHANISM FOR LOOMS.

No. 357,096.

Patented Feb. 1, 1887.

FIG. 1.

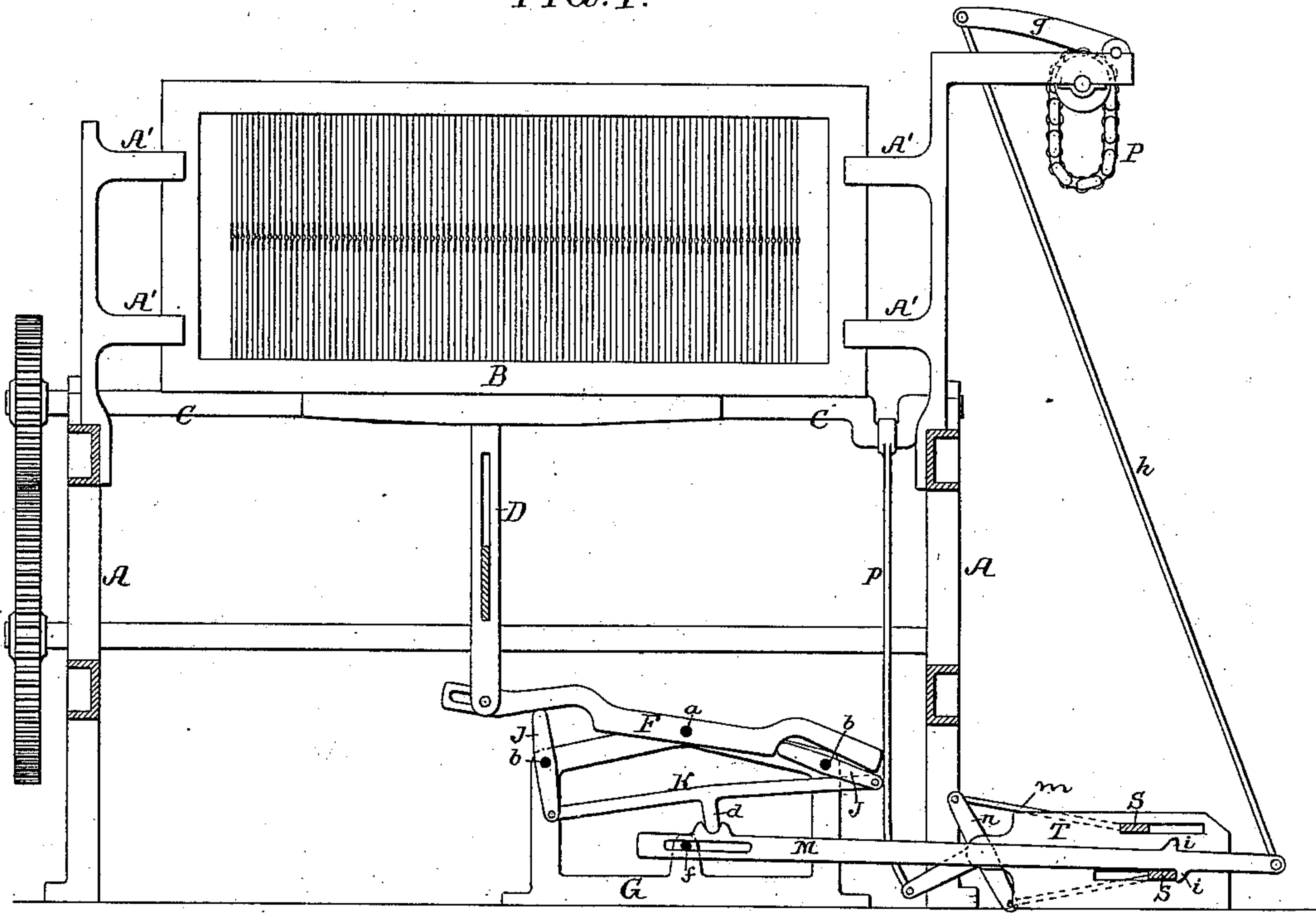


FIG. 2.

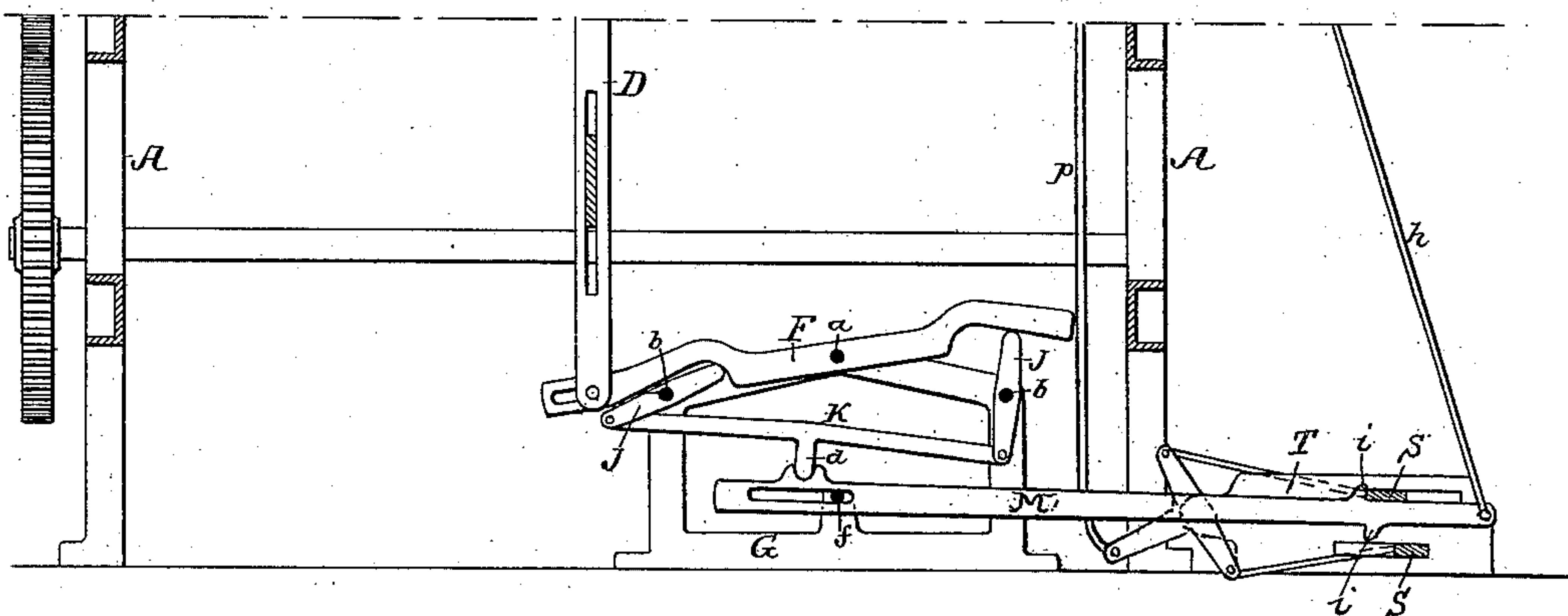
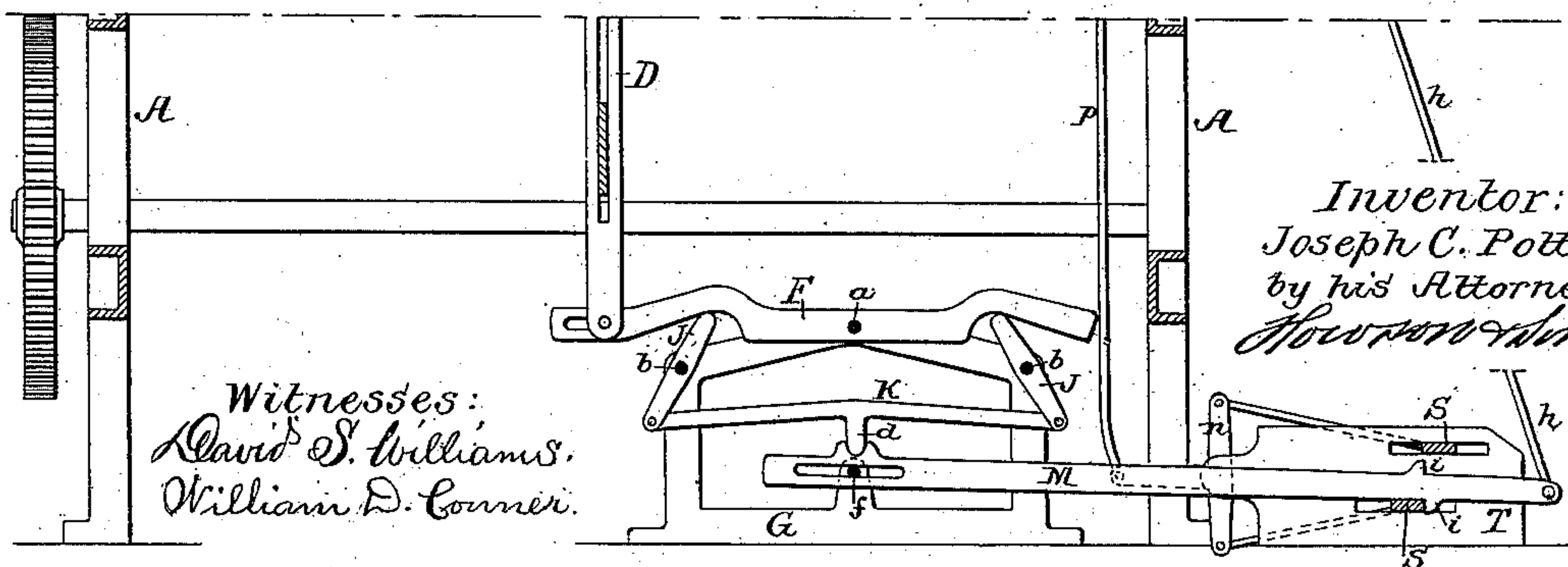


FIG. 3.



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Witnesses:  
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# UNITED STATES PATENT OFFICE.

JOSEPH C. POTTS, OF BERWYN, PENNSYLVANIA.

## HEDDLE-OPERATING MECHANISM FOR LOOMS.

SPECIFICATION forming part of Letters Patent No. 357,096, dated February 1, 1887.

Application filed August 28, 1886. Serial No. 212,069. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH C. POTTS, a citizen of the United States, residing at Berwyn, Pennsylvania, have invented certain Improvements in Heddle-Operating Mechanisms for Looms, of which the following is a specification.

My invention relates to that class of heddle-operating mechanism in which the operating devices are below the heddles, the main objects of my invention being to so construct the heddle-operating mechanism as to provide for the compact arrangement of the heddles, to permit the rapid operation of the same, and to lock them in their extreme positions. These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawings, in which—

Figures 1, 2, and 3 show face views, partly in section, of sufficient of a loom to illustrate my invention.

A A represent part of the opposite side frames of the loom, and B one of the heddles free to slide in guides A' at the upper portion of the loom, the heddles being placed side by side and as closely together as is consistent with their free movement. Only one of the heddles and its operating mechanism is shown, the mechanism being the same for each heddle. The heddle is supported by or connected to a bar, D, suitably guided in the frame of the loom, and connected at the lower end to one arm of a lever, F, which is hung to a rod, a, carried by a frame, G, secured to the floor. To pivot-rods b on this frame are hung levers J, the lower arms of which are connected by a rod, K, the upper arms of the levers acting upon the opposite arms of the lever F, which, as shown, may be recessed for the reception of said levers, so that there will be no loss of space due to the lapping of one upon the other.

The rod K has a projecting arm, d, the lower end of which is adapted to a recess in the top of a bar, M, which is slotted for the reception of a guide-pin, f, carried by the frame G. The other end of the bar M is under the control of a pattern-chain, P, the latter acting on an arm, g, connected to the bar M by a rod, h, and said bar has at the top and bottom a projecting lug, i, to be acted upon by one or other of two reciprocating bars, S, which are guided in a frame, T, and are caused to move in opposite

directions, the rods m connecting said bars to a T-lever, n, the third arm of which is connected by a rod, p, to the crank-shaft C of the loom.

When the outer end of the bar M is lifted by the pattern-chain, the upper lug, i, of the same is acted upon by the upper bar S, and said bar M is moved in one direction, while when the outer end of the bar M is permitted to fall the lower lug of the same is acted upon by the lower bar S, and the bar M is moved in the opposite direction. These means, however, for imparting a reciprocating movement to the bar M under control of the pattern-chain are not essential to my invention, as many other devices, such as are now used in looms for this purpose, may be substituted for those shown, the essential feature of my present invention consisting of the means whereby the reciprocating movement of the bar M is caused to effect the rocking or vibrating movement of the lever F and a consequent rise and fall of the heddle-frame connected thereto.

It will be observed that when the bar M is moved to its full extent to the right, as shown in Fig. 1, the upper arm of the right-hand lever J and the right-hand arm of the lever F, upon which said lever J acts, will be depressed, the upper arm of the left-hand lever J and the corresponding arm of the lever F being elevated, as shown in said figure, and the left-hand lever J occupying a position parallel with the line of thrust thereon, so that the heddle-frame is locked in the elevated position, the downward strain upon the lever J being resisted by the pivot-rod of the latter, and no part of said strain being transmitted to the bar M.

When the bar M is moved to its full extent to the left, as shown in Fig. 2, the conditions are reversed, the heddle-frame being depressed to its full extent, and the strain caused by the tendency of said frame to rise under the influence of the tension of the warp being resisted by the right-hand lever J, which now occupies a position parallel with the line of thrust thereon.

When the bar M has been moved to the intermediate position shown in Fig. 3, the heddles are in line with each other and are supported by the warp, so that there is no strain

upon the lever F and no tendency to move the bar M in either direction; hence the lug of the bar is not pressed firmly against the bar S, and said bar M can be readily moved by 5 the pattern-chain as the exigencies of the pattern may demand.

I claim as my invention—

The combination of a heddle-frame and a supporting lever therefor, a heddle-actuating 10 bar and means for reciprocating the same under the control of the pattern-chain, a pair

of levers each acting on one of the arms of the heddle-supporting lever, and a rod connecting said levers and acted upon by the heddle-actuating bar, all substantially as specified. 15

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOSEPH C. POTTS.

Witnesses:

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