

(No Model.)

2 Sheets—Sheet 1.

J. J. WHEAT.

FEED DEVICE FOR SEWING MACHINES.

No. 328,162.

Patented Oct. 13, 1885.

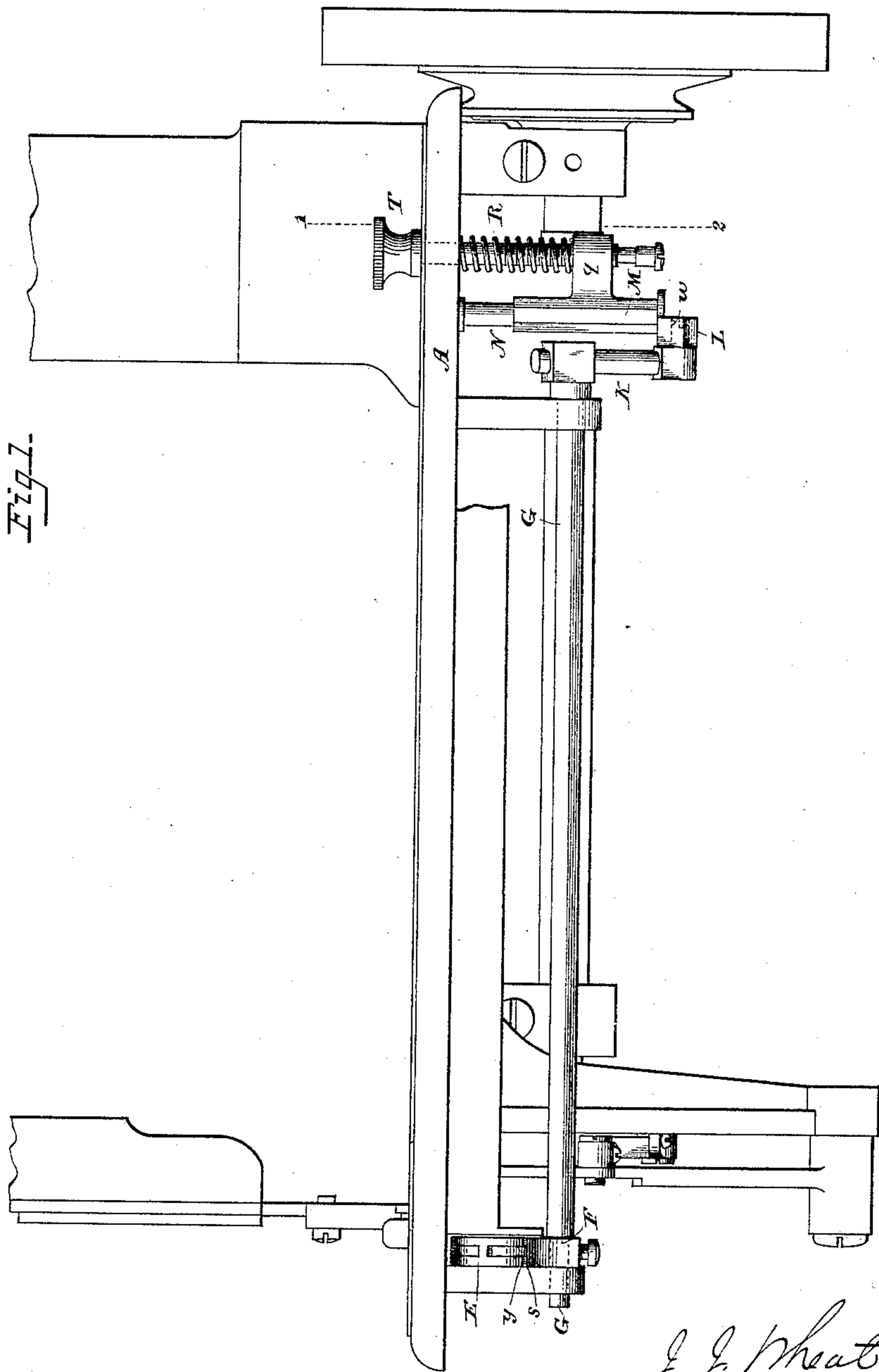


Fig. 1.

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2 Sheets—Sheet 2.

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Fig. 3.

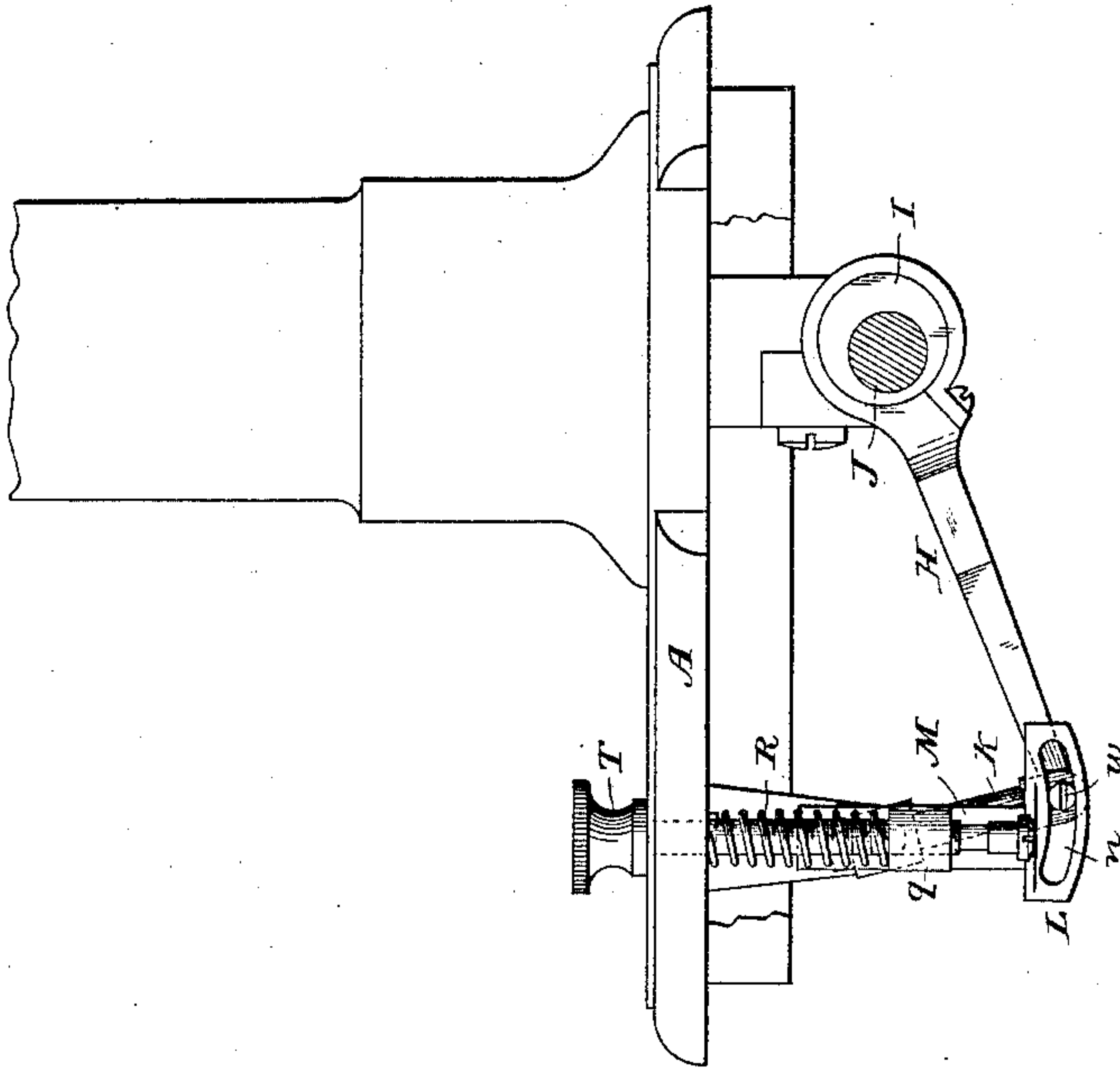
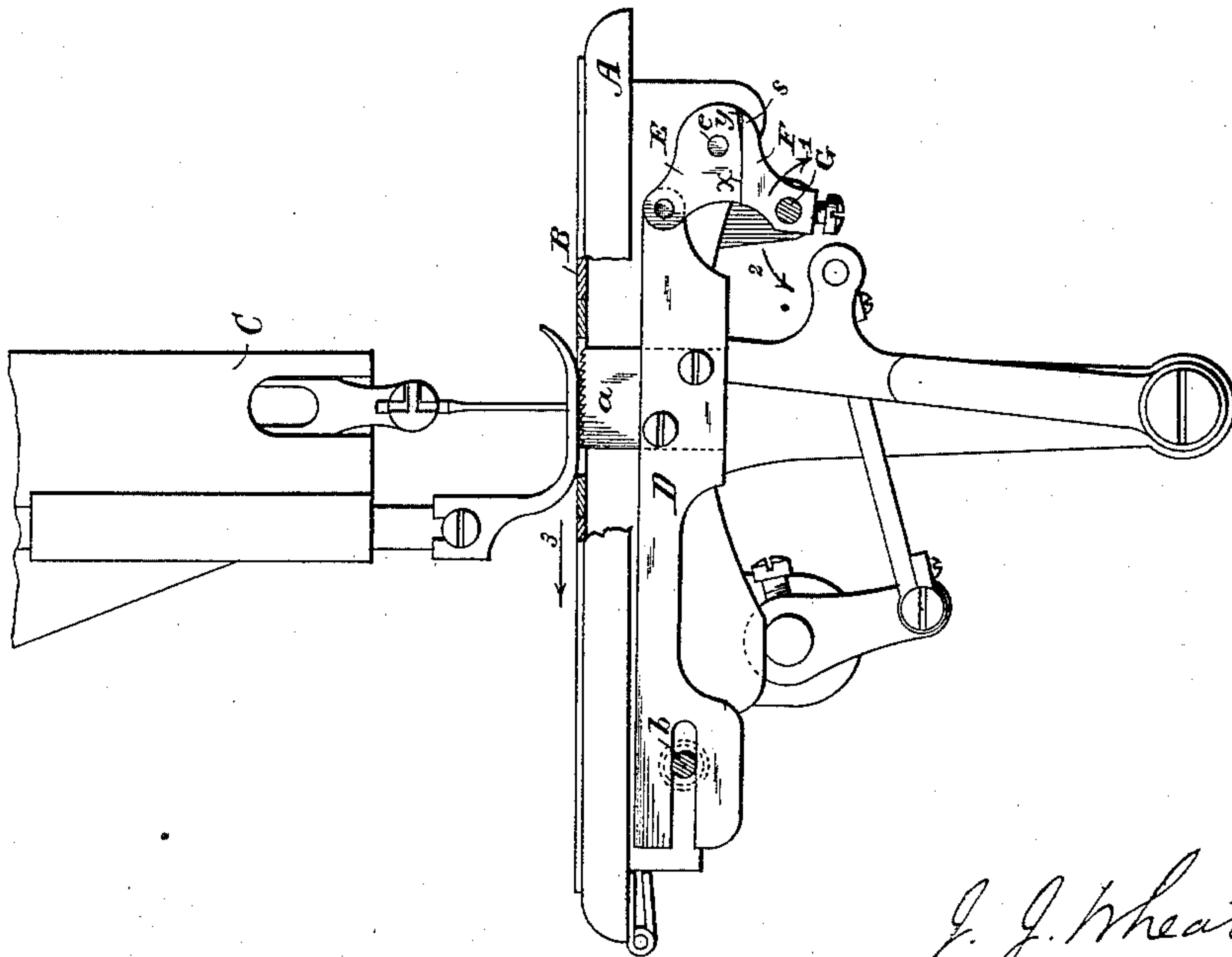


Fig. 2.



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UNITED STATES PATENT OFFICE.

JOHN J. WHEAT, OF INDIANAPOLIS, INDIANA.

FEED DEVICE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 328,162, dated October 13, 1885.

Application filed September 20, 1884. Serial No. 143,578. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. WHEAT, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Feed Devices for Sewing-Machines, of which the following is a specification.

My invention relates to certain improvements in feed devices for sewing-machines; and it consists in the peculiar construction and organization of the parts, whereby such devices are greatly simplified and their operation rendered more certain and efficient, all as fully set forth hereinafter.

In the drawings, Figure 1 is a side view of sufficient of a sewing-machine to illustrate my improved feed device. Fig. 2 is a front view in part section. Fig. 3 is a transverse section on the line 1 2, Fig. 1.

A is the bed-plate; B, the work-plate; C, the head of the overhanging arm of a sewing-machine, which may be of any of the usual constructions permitting the application of the feed arrangements hereinafter described.

The claw *a* of the feed device is carried by a bar, D, slotted to receive a pin, *b*, upon which the bar reciprocates and vibrates, as hereinafter set forth. At the opposite end the bar D is secured to a link, E, pivoted by a pin, *e*, to an arm, F, upon a rock-shaft, G, supported in suitable bearings upon the frame of the machine.

The link E is provided with faces or stops *x y*, so arranged as to permit a limited vibration of the link upon the pin *e* as the shaft G is rocked, the result being that one movement of the shaft will cause the bar D first to be lifted and then carried longitudinally, while the opposite movement of the shaft will cause the said bar first to descend vertically, and then to slide in a direction the opposite from that in which it was first moved. Thus when the shaft G has been turned to the limit of its movement in the direction of the arrow 1, Fig. 2, the claw *a* will be below the work-plate, and the other parts will be in the position shown in the said figure.

Upon the rocking of the shaft G in the direction of the arrow 2, Fig. 2, the first effect will be to lift the pin *e*, and with it to raise the bar D and the claw *a* until the latter has entered the under surface of the fabric. This upward

movement of the bar and claw will be continued until the stop or face *y* of the link E is brought in contact with the opposite shoulder, *s*, of the arm F, when the vibration of the link upon its pin will be arrested; but the link will travel with the arm, and the bar D and claw will then be carried longitudinally, feeding the fabric in the direction of the arrow 3 until the shaft ceases its rocking movement. When the shaft rocks in the opposite direction, the arm F will be carried downward, and the link E will rock upon its pin *e*, so that the bar D and claw *a* will descend until the claw is free from contact with the fabric, after which the contact of the shoulder *x* of the link E with the shoulder *s* of the arm F will arrest the independent movement of the link, which will thereafter travel with the arm, and the bar D and its claw will be carried longitudinally beneath the fabric to their first position. By these appliances the rocking movement of the shaft is made the means of first elevating the claw, then carrying it, with the fabric, in one direction, then lowering it and carrying it back beneath the fabric, securing the requisite four-motion feed without the use of any springs or friction devices.

I have shown shoulders *x, y*, and *s* arranged to limit the independent movement of the link upon the arm F. It will be apparent, however, that stop-pins or other equivalent appliances may be used for this purpose.

The means for imparting the rocking movement to the shaft G consist of a connecting-rod, H, adapted to an eccentric, I, upon one of the shafts J of the machine, said rod being jointed at its outer end to an arm, K, extending from the shaft G, so that the latter is rocked by the revolution of the shaft J.

The extent of the feed movement may be varied by varying the extent to which the shaft G is rocked, the means for effecting this being to adjust the connection between the arm K and rod H to a greater or less extent from the center of the rock-shaft. This adjustment I accomplish by the use of a block, L, having a curved slot, *u*, receiving the pin *w*, connecting the arm K and the rod H, and attached to a slide, M, adjustable vertically, so as to carry the pin to and from the shaft G, according to the adjustment of the said slide, the arm K sliding in an enlargement at the head of the

rock-shaft. The slide M is supported by and moves upon a pin, N, and is raised and lowered by means of a screw-rod, T, turning in the base-plate of the machine and passing through a projection, *q*, of the slide, a spring, R, encircling the rod T between the base-plate and projection *q*, and tending to depress the slide and hold the parts steadily in the position in which they are placed.

10 I claim—

1. The combination, with the rock-shaft, arm F, pivoted link E, and feed-bar, of an arm, K, passing through and adjustably supported in said shaft, driving-shaft provided with an eccentric, and a connecting-rod between the eccentric and the arm, substantially as and for the purpose set forth.

2. The combination of a rock-shaft carrying

an arm connected by a link to the feed-bar, shaft J, carrying an eccentric, connecting-rod 20 H, connecting-pin *w*, and slotted block L, and means, substantially as described, for varying the vertical position of the latter, for the purpose set forth.

3. The combination of the rock-shaft G, arm 25 K, pin *w*, connecting-rod H, slide M, carrying a slotted block receiving the end of the pin, and an adjusting screw-pin, T, substantially as set forth.

In testimony whereof I have signed my name 30 to this specification in the presence of two subscribing witnesses.

JOHN J. WHEAT.

Witnesses:

CHARLES E. FOSTER,
LEONARD SARGEANT.