

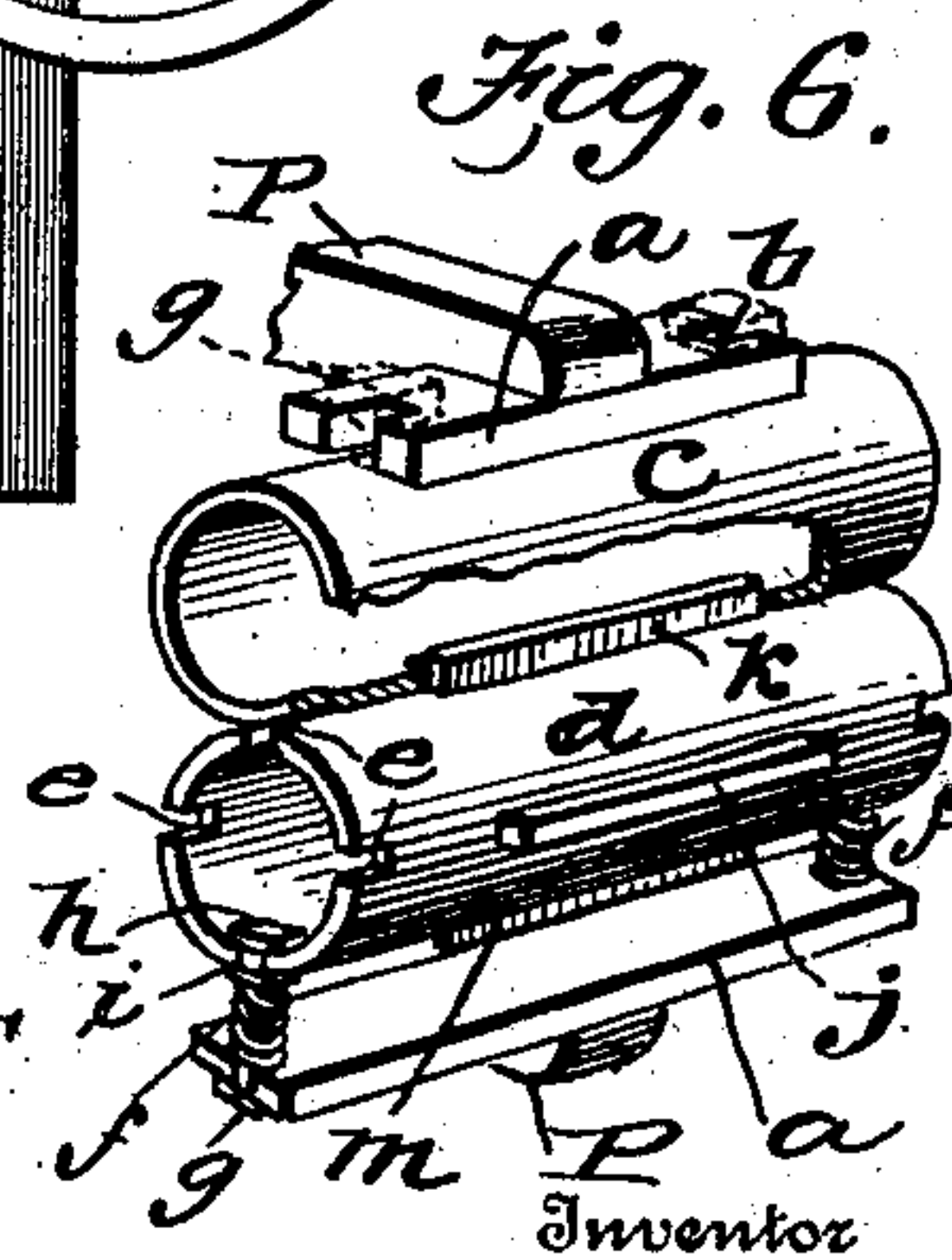
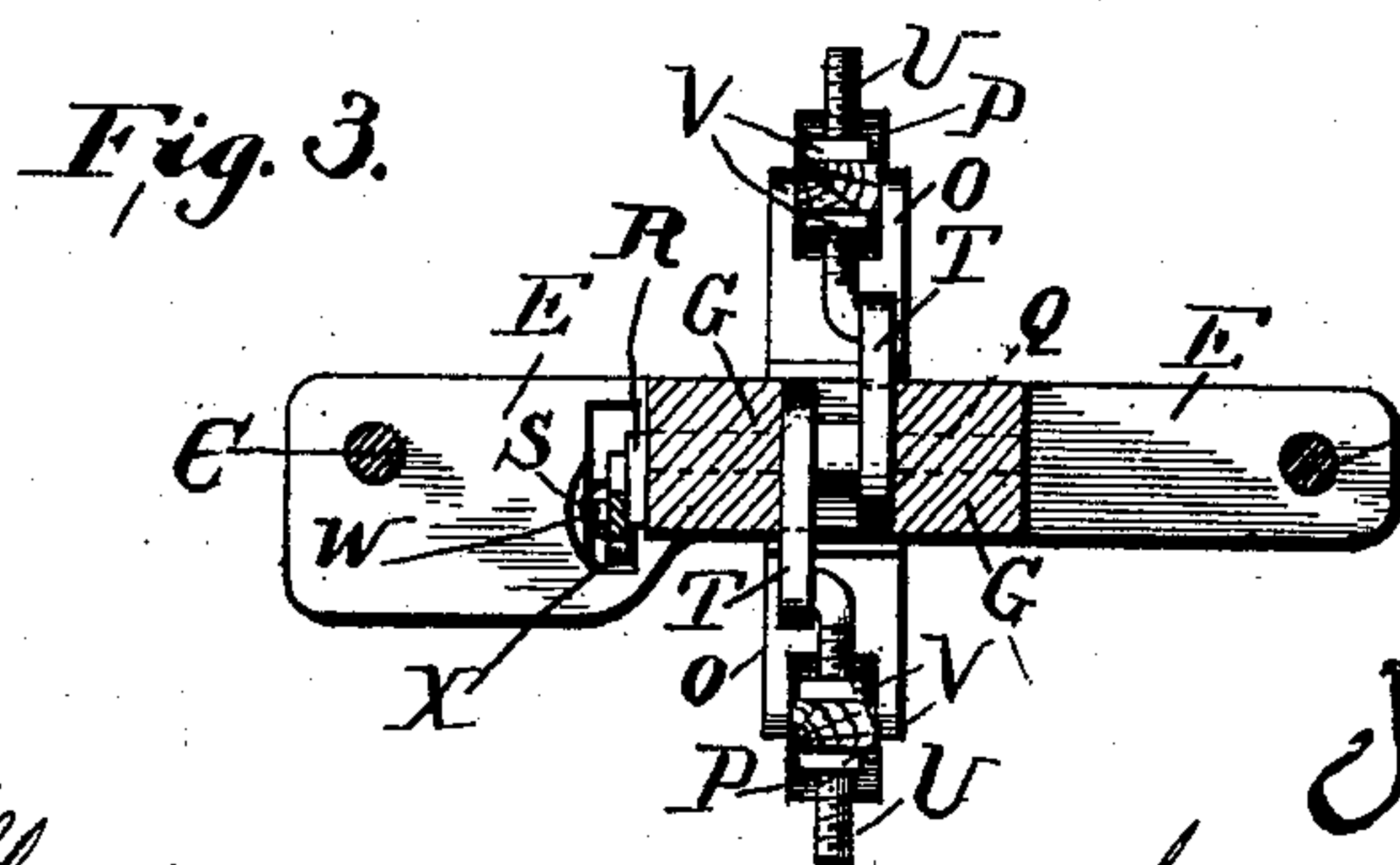
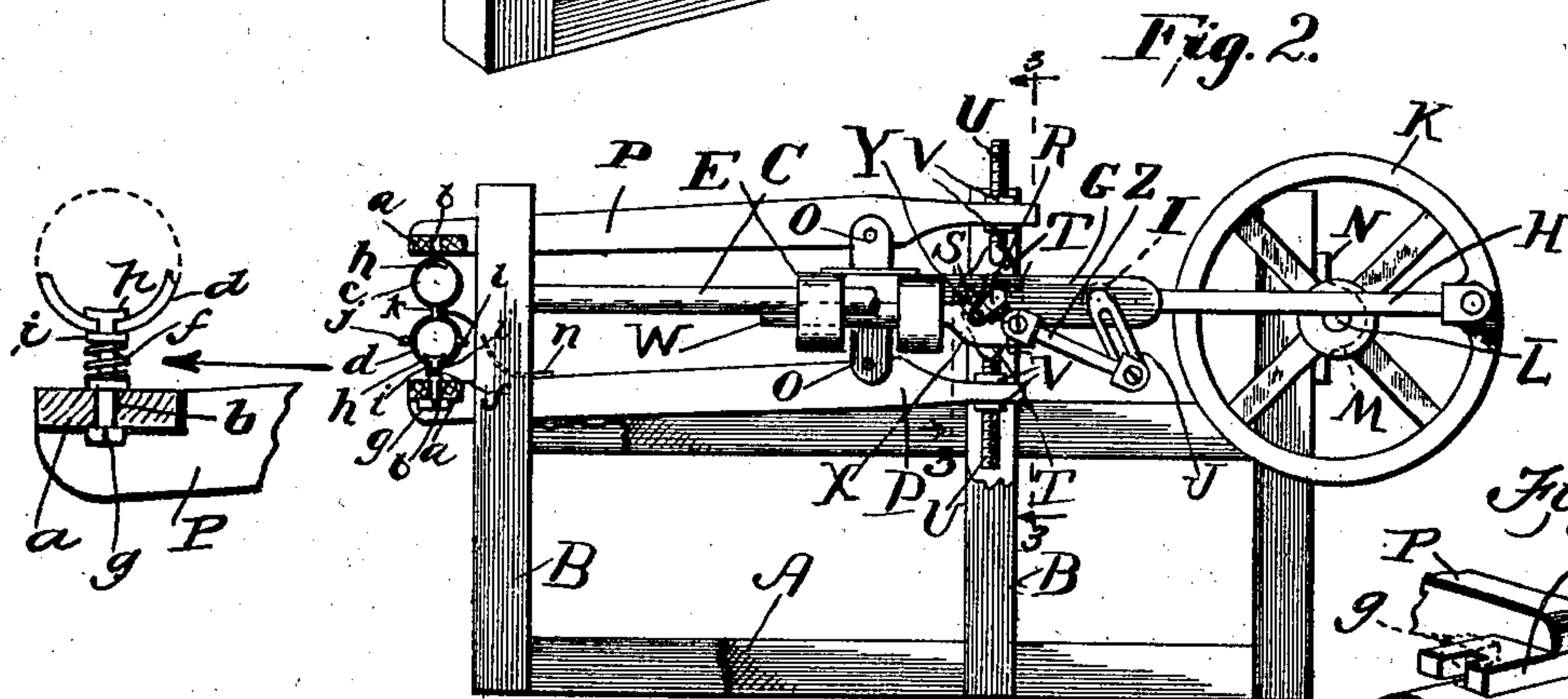
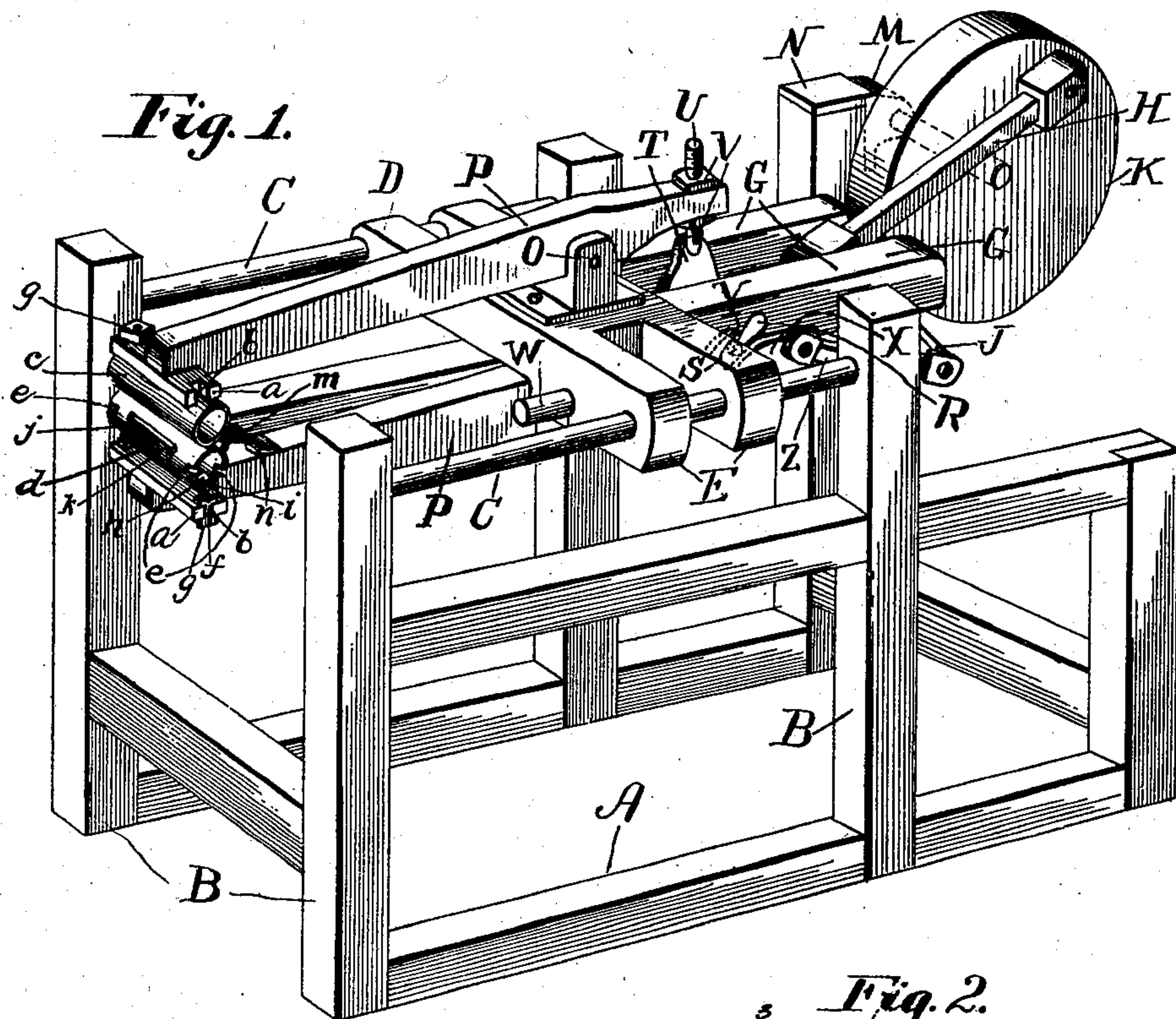
**J. K. MILLER.**

## LEATHER WORKING MACHINE.

(Application filed Aug. 3, 1900.)

(No Model.)

**2 Sheets—Sheet 1.**



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No. 702,023.

Patented June 10, 1902.

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LEATHER WORKING MACHINE.

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(No Model.)

2 Sheets—Sheet 2.

Fig. 4.

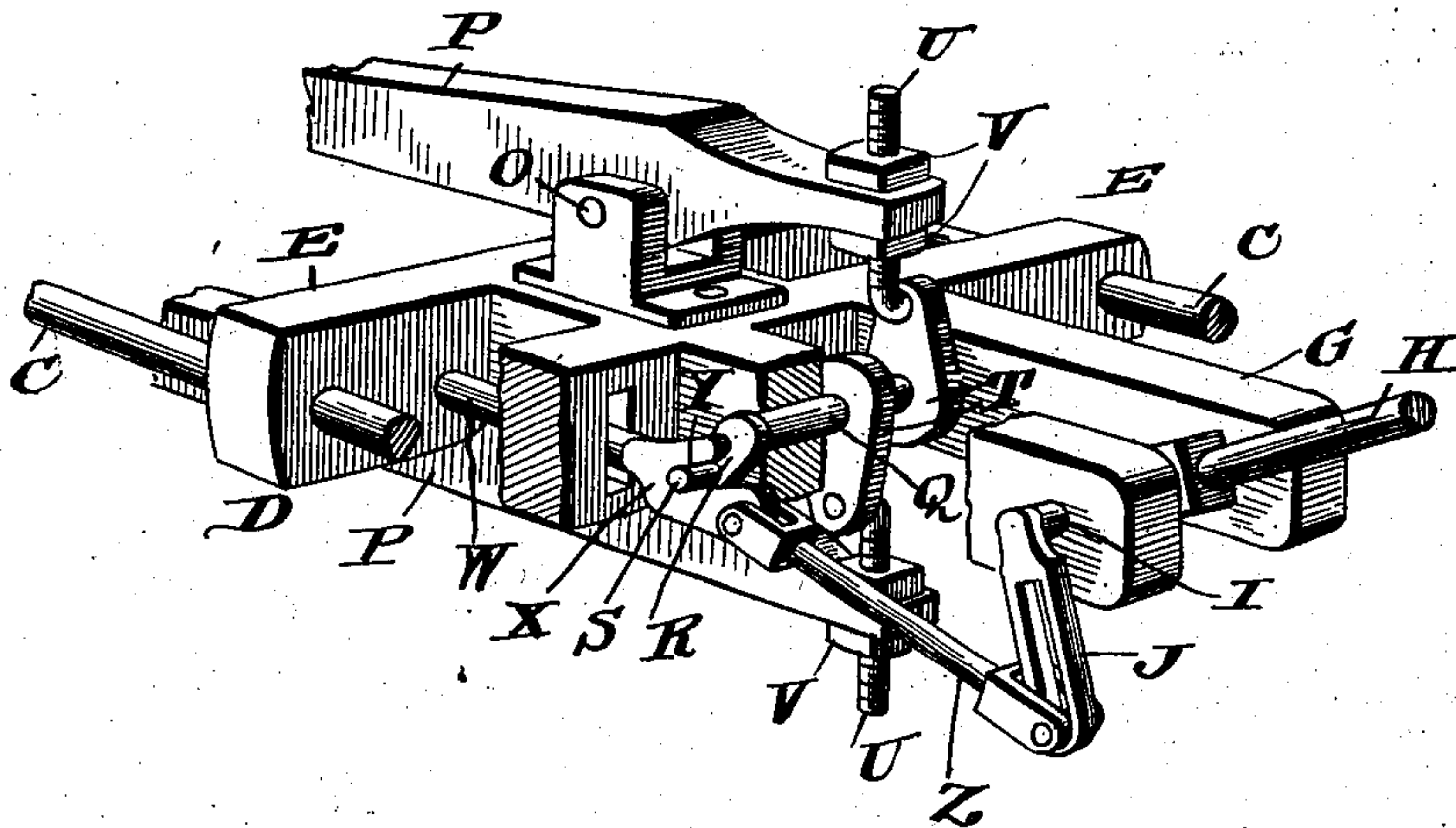
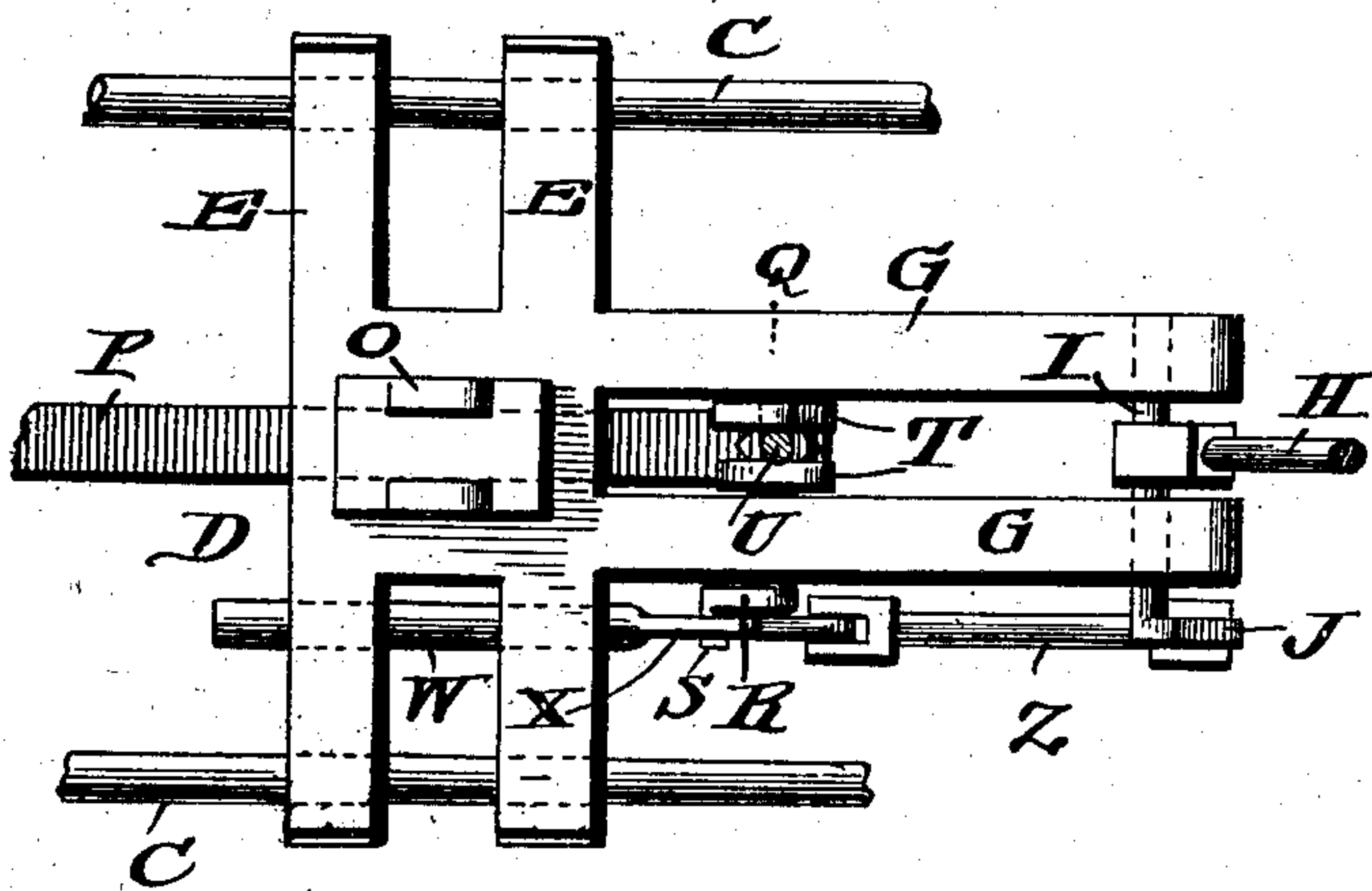


Fig. 5.



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# UNITED STATES PATENT OFFICE.

JOHN K. MILLER, OF WILMINGTON, DELAWARE.

## LEATHER-WORKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 702,023, dated June 10, 1902.

Application filed August 3, 1900. Serial No. 25,819. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN K. MILLER, a citizen of the United States, residing at Wilmington, in the county of Newcastle and State of Delaware, have invented a new and useful Leather-Working Machine, of which the following is a specification.

This invention relates to improvements in leather-working machines; and the object is to provide an improved machine of this class which will operate in a very effective manner upon the leather and stretch, shape, and smooth the grain thereof, the machine being so constructed as to be adapted for operating upon various kinds of leather and capable of exerting an increased pressure with its gripping-arms upon the leather.

With the above object in view the invention consists in the novel features of construction hereinafter fully described, particularly pointed out in the claims, and clearly illustrated by the accompanying drawings, in which—

Figure 1 is a perspective view of a machine embodying my invention. Fig. 2 is a side elevation thereof with parts of the framing broken away to more clearly show the mechanism carried by the clamping-plates. Fig. 3 is a transverse section through the sliding plate, showing the connection between the pivoted arms and the eccentrics, the section being taken on about line 3 3 of Fig. 2 looking in the direction indicated by the arrows. Fig. 4 is a detail perspective view of the rear end of the sliding carriage with parts also being broken away. Fig. 5 is a detail plan view of the clamping-plate, the upper pivoted arm being removed and the link connecting the said arm and one of the eccentrics being shown in section; and Fig. 6 is an enlarged detail view of the shells, the upper one of which being broken away to show the longitudinal slot into which the blades of the lower shell are adapted to enter.

Referring now more particularly to the drawings, A designates the framework of the machine, having the pairs of vertical standards B thereof extending above the upper side bars of the frame, forming supports for the longitudinally-extending rods C, upon which the sliding frame or plate D recipro-

cates. This frame is formed with the pairs of laterally-extending arms E, which are perforated to receive said rods, and with the rearwardly-extending pair of arms G, between which one end of a connecting-rod H extends, said rod at that end being secured to a shaft I, loosely mounted in said arms and having a slotted crank-arm J formed upon one of its ends. The end of the connecting-rod is attached to the crank-pin carried by the driving-wheel K, said wheel being fixed to the shaft L, mounted in a bearing M, carried by the casting N, which is secured to an upright at the rear end of the machine.

Secured upon the upper and lower sides of the sliding plate are brackets O, in which the arms P are intermediately pivoted. Loosely mounted in arms G of the plate and extending transversely thereof is a rocking shaft Q, having upon one of its ends a crank-arm R, which carries a crank-pin S. Fixed upon this shaft and occupying the space between the arms are two eccentric disks T, to which the inner ends of the pivoted arms are connected by means of threaded rods U, formed with pins entering perforations in the disks. The rods are adjustable, so that the amount of pressure at the opposite ends of the arms may be varied. The arms are retained in the adjustment and connected with the rods by nuts V, placed on said rods and bearing against the upper and lower sides of the arms.

W designates a rod which reciprocates in one of the pairs of arms E, said rod being formed on one end with a plate X, slotted at Y to receive the pin S of the crank-shaft Q. A connecting-rod Z is loosely connected at one end with said plate and at its opposite end loosely and adjustably connected with the slotted crank-arm J of shaft I.

From the above description it will be seen that the rotation of the wheel K causes the plate to reciprocate and also effects the reciprocation of rod W, which causes the forward end of the arms to move toward or away from each other at predetermined times. As the plate moves forwardly the action of the pitman H, crank-arm J, and the shaft I causes the plate X to press against pin S, thereby partially rotating the shaft Q and operating the cams T for the purpose of opening the



jaws. This opening of the jaws occurs during their forward movement, and upon the return stroke the pitman H, crank-arm J, and shaft I will operate in such a manner as to relieve the pressure or pull of the plate X upon the pin S, and the forward ends of the jaws will then close by their own weight and bear upon the leather which is to be worked. Each of the pivoted arms at its forward end is provided with a cross-piece *a*, formed at its ends with vertical slots *b*. Secured to these cross-arms are the circular shells *c* and *d*, which are formed at their ends with slots *e*, the lower shell *d* being provided about its periphery and at each of its ends with a plurality of these slots. These shells are secured to the cross-arms by spring-bolts *f*, said bolts having threaded portions which extend through the slots of the cross-arms and receive nuts *g*, and are formed with shoulders bearing against the opposite sides of the cross-arms. These bolts are inserted in the slots of the shells and are formed on their inner ends with heads *h*, which bear upon the inner surfaces of the shells, and with shoulders *i*, bearing against the outer surfaces thereof.

The lower shell carries about its periphery a plurality of blades, there being four in the present instance, blade *j* being formed of steel, blade *k* of slate, blade *l* of glass, and blade *m* of fiber. The slate blade is to be used on leather containing a large amount of oil, the fiber blade upon heavy leather, and the glass blade for imparting a gloss to the leather. The steel blade is used for what is known as "first staking." The shell is adjusted to bring either of the blades in operative position by loosening the nut on one of the spring-bolts and moving said bolt, so that the shell may be withdrawn from the opposite bolt and placed in engagement again therewith with the desired blade in operative position.

The upper shell is formed with a longitudinally-extending slot receiving the blades when the arms are closed by the operation of the eccentrics. *n* designates a shoulder which is secured to the lower arm and is curved upwardly and forwardly, terminating at its opposite end at a point above the lower shell and in close proximity to the operative blade. This shell prevents the leather from catching upon the blades. The upper shell is made circular, for the reason that a round surface is much more effective and imparts

to the leather a much neater finish than the flat surface.

By using the double eccentrics a much greater pressure may be secured at the outer ends of the arms, as will be readily understood.

Having thus fully described my invention, what I claim is—

1. In a leather-working machine, the combination with a sliding plate, of arms pivotally mounted thereon, a shaft mounted on said plate, eccentrics carried by said shaft, connections between the inner ends of said arms and the eccentrics, a reciprocating member for rocking said shaft, a crank-shaft carried by said plate, a connecting-rod connecting said reciprocating member and said crank-shaft, a driving-wheel, and a connecting-rod operatively attached to said crank-shaft and driving-wheel, substantially as described.

2. In a leather-working machine, the combination with pivoted arms, of cylindrical shells carried by said arms, one of said shells carrying a blade and the other being provided with a slot to receive said blade, substantially as described.

3. In a leather-working machine, the combination with the pivoted arms, of shells carried by the outer ends of said arms, one of said shells provided with an opening and the other carrying a plurality of blades, and means for adjusting said blade-carrying shell to bring the blades into operative position, substantially as described.

4. In a leather-working machine, the combination with a driving-wheel, of a sliding plate, arms pivotally mounted upon said plate, a shaft carried by said plate having a crank and crank-pin upon one end thereof, eccentrics fixed upon said shaft, connections between the inner ends of said arms and said eccentrics, a rod reciprocable in said plate and formed with a slot to receive the crank-pin of said shaft, a second crank-shaft mounted in said plate, an operative connection between the crank thereof and said reciprocable rod, and an operative connection between said last-mentioned crank-shaft and the driving-wheel, substantially as described.

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