

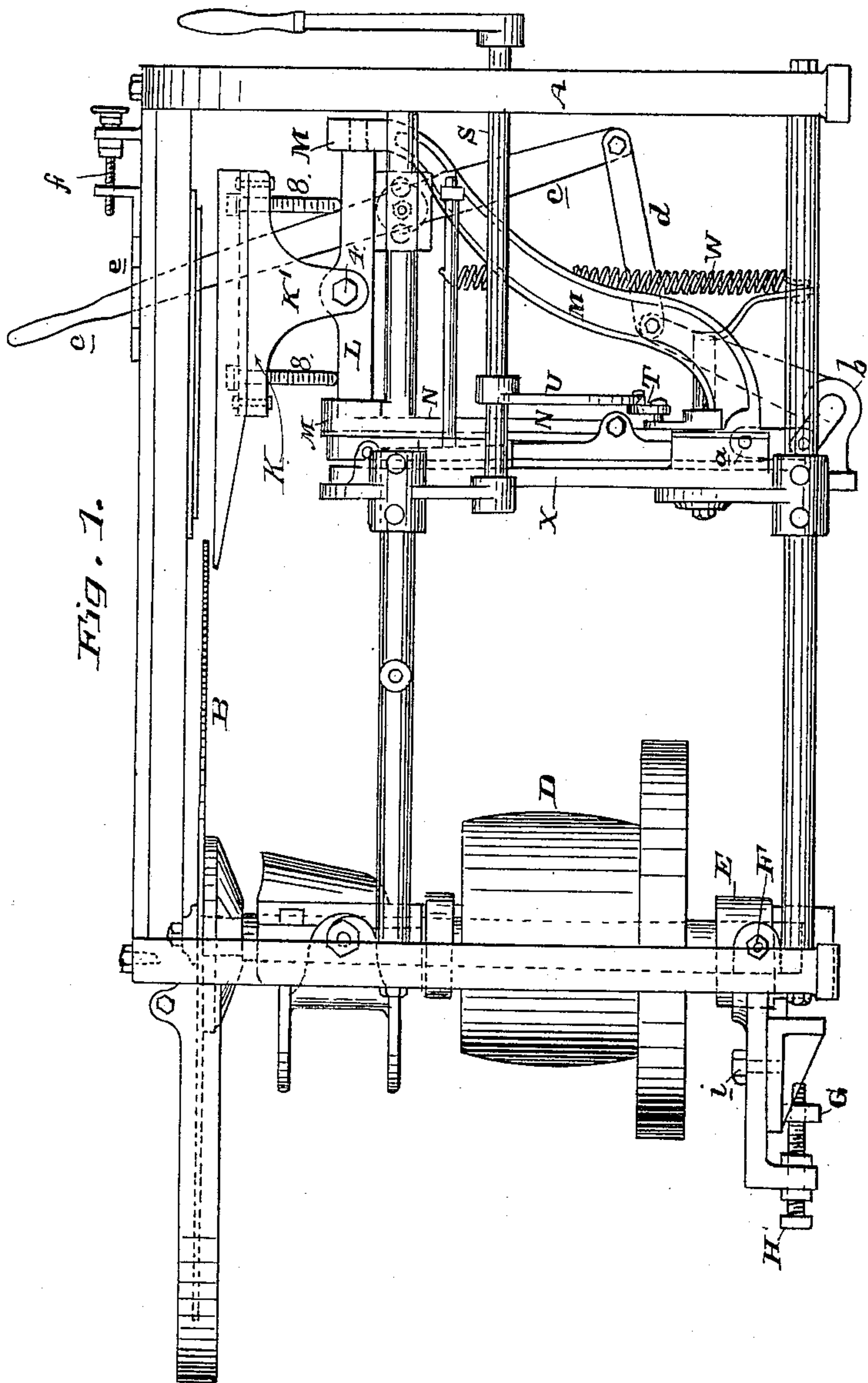
(No Model.)

4 Sheets—Sheet 1.

W. A. CAMPBELL.
SHINGLE SAWING MACHINE.

No. 379,856.

Patented Mar. 20, 1888.



Witnesses,
Geo. H. Strong.
J. H. Moore.

Inventor,
W. A. Campbell
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(No Model.)

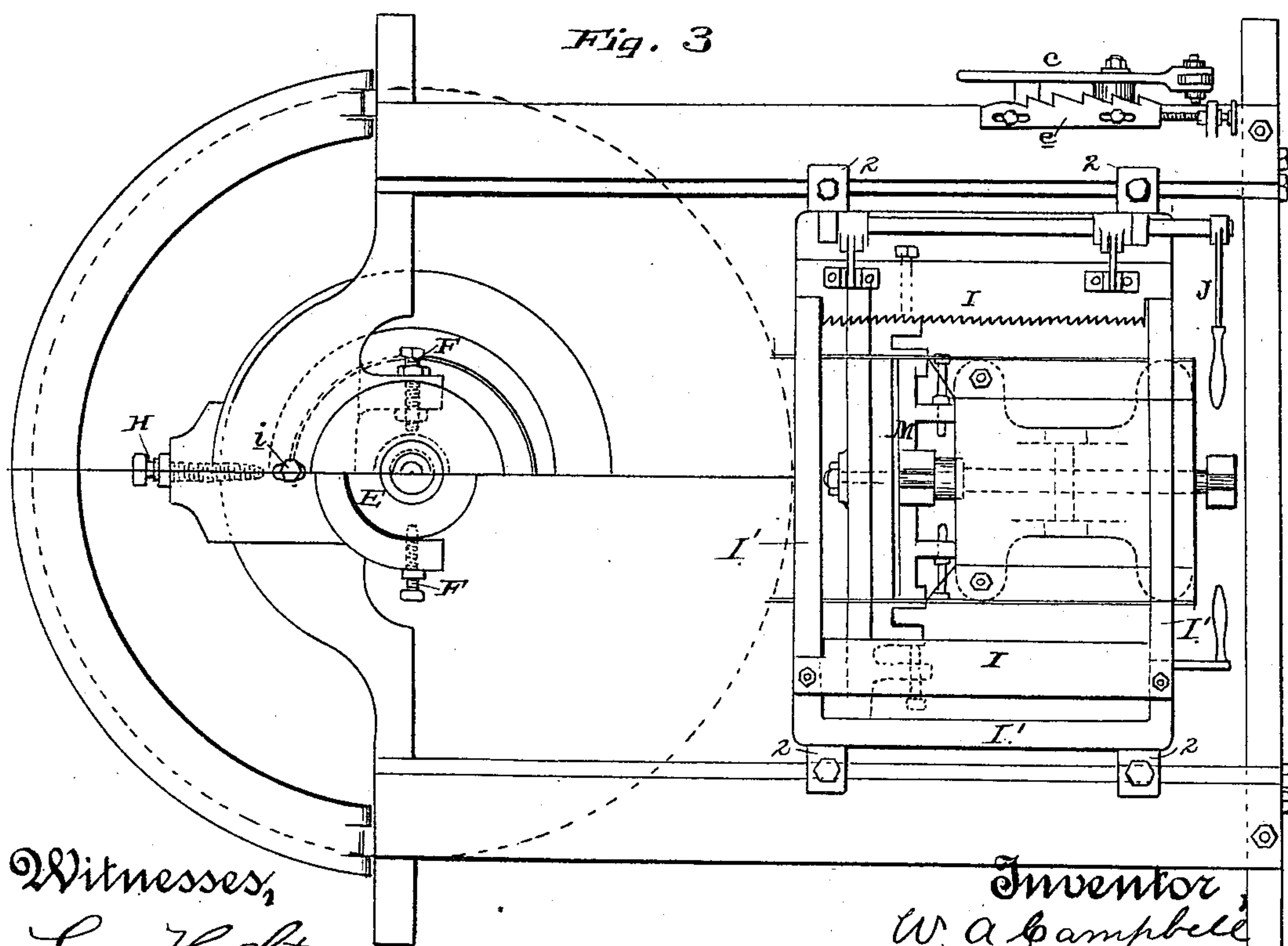
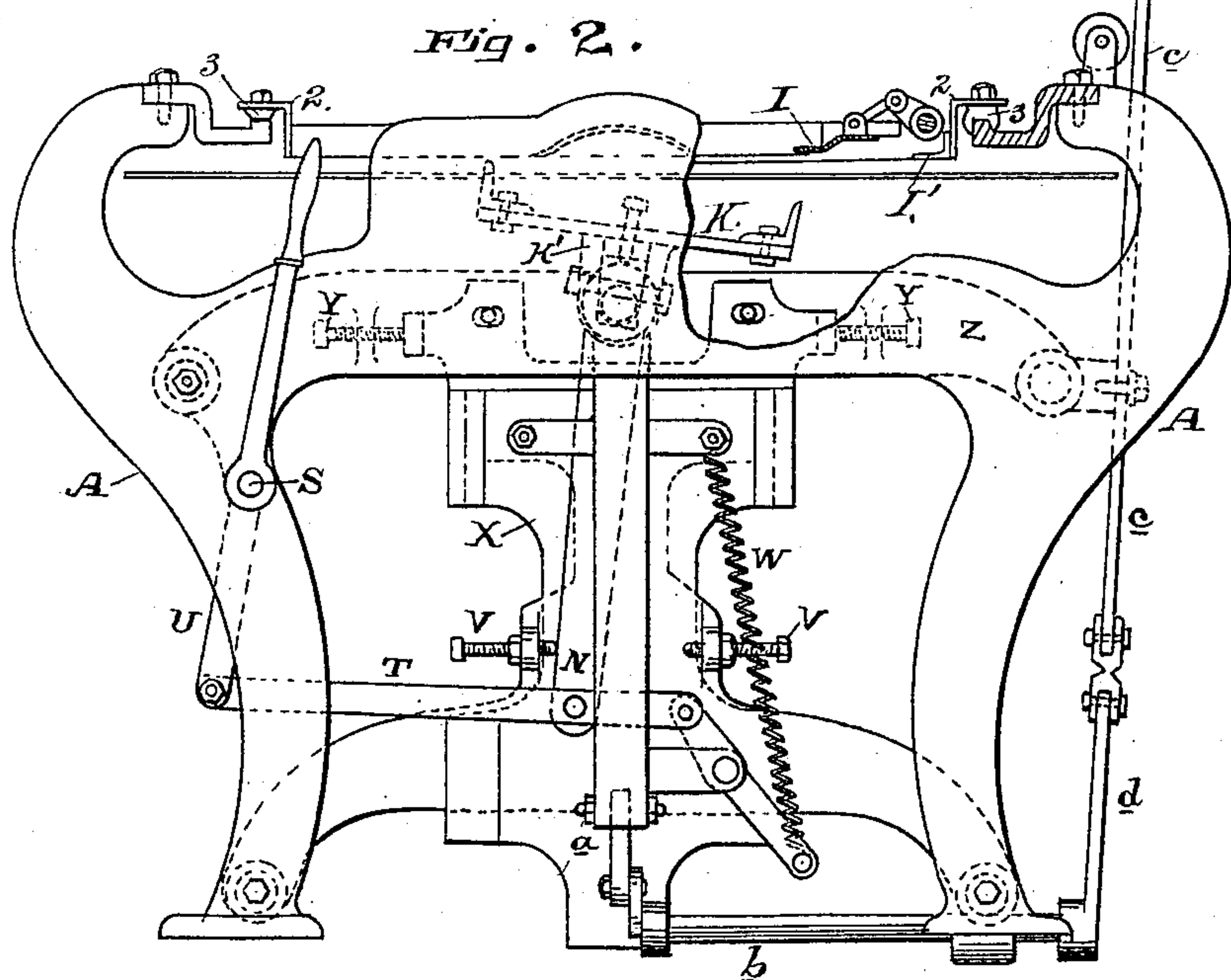
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W. A. CAMPBELL.

SHINGLE SAWING MACHINE.

No. 379,856.

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4 Sheets—Sheet 3.

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Fig. 4.

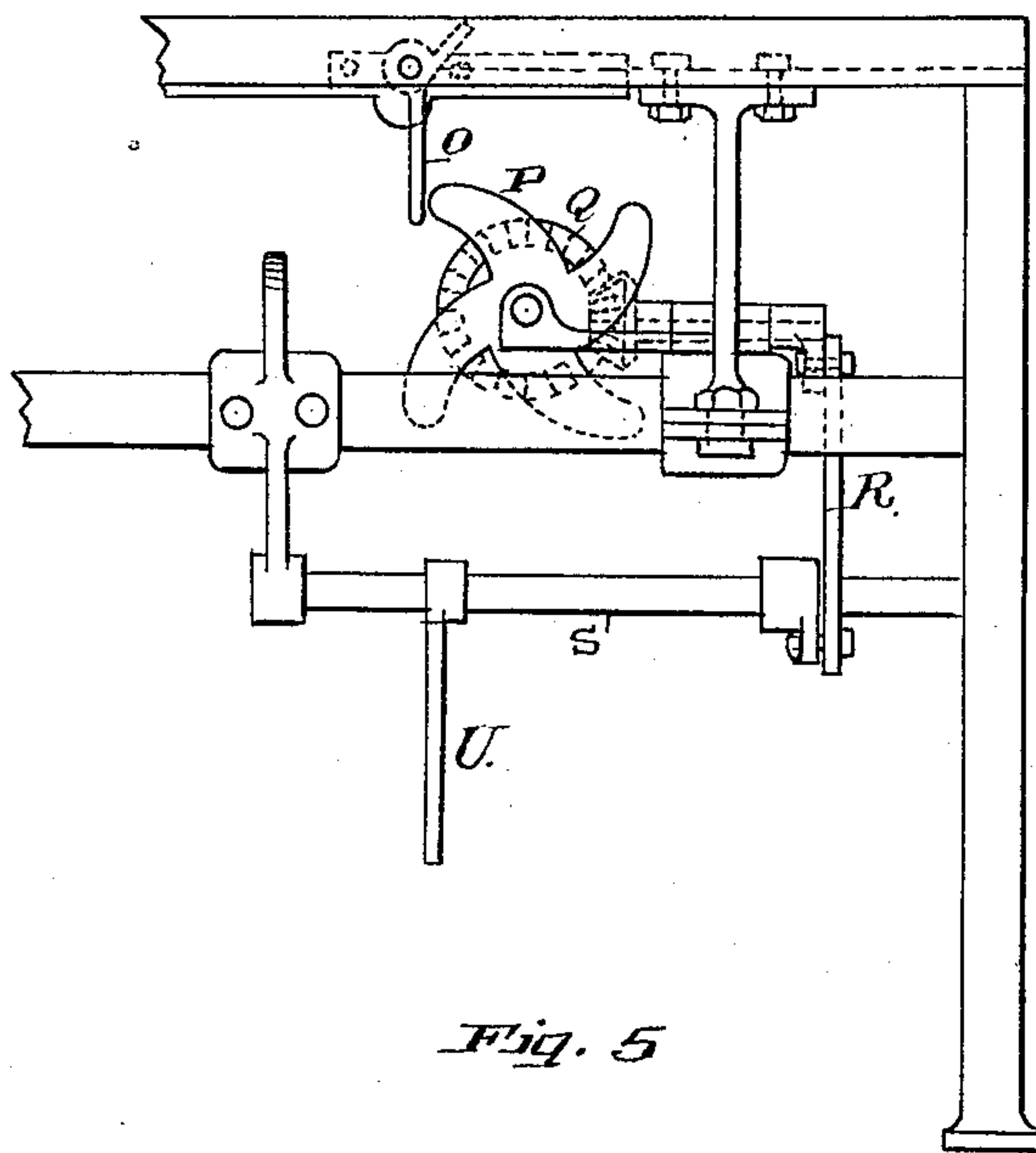


Fig. 5

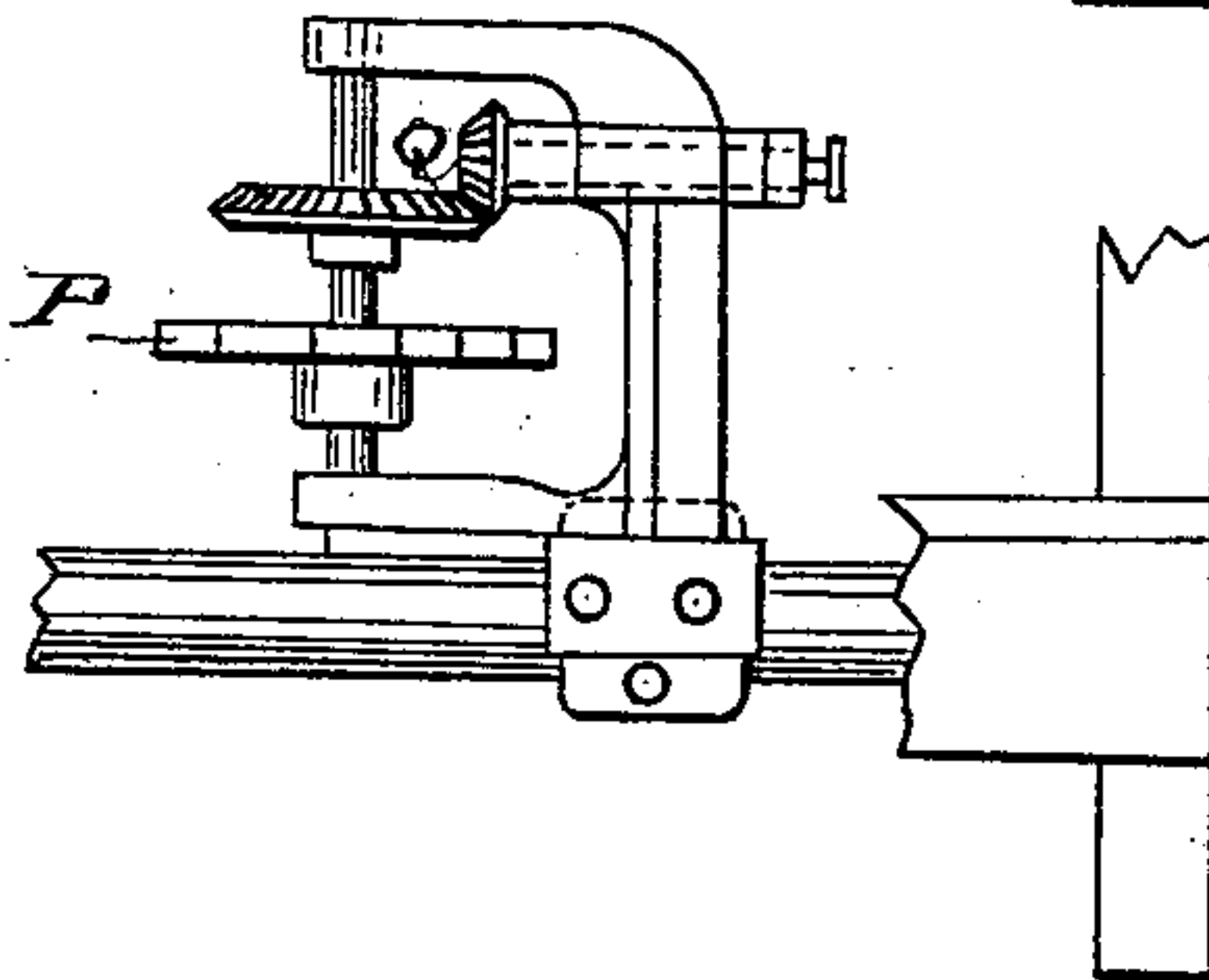
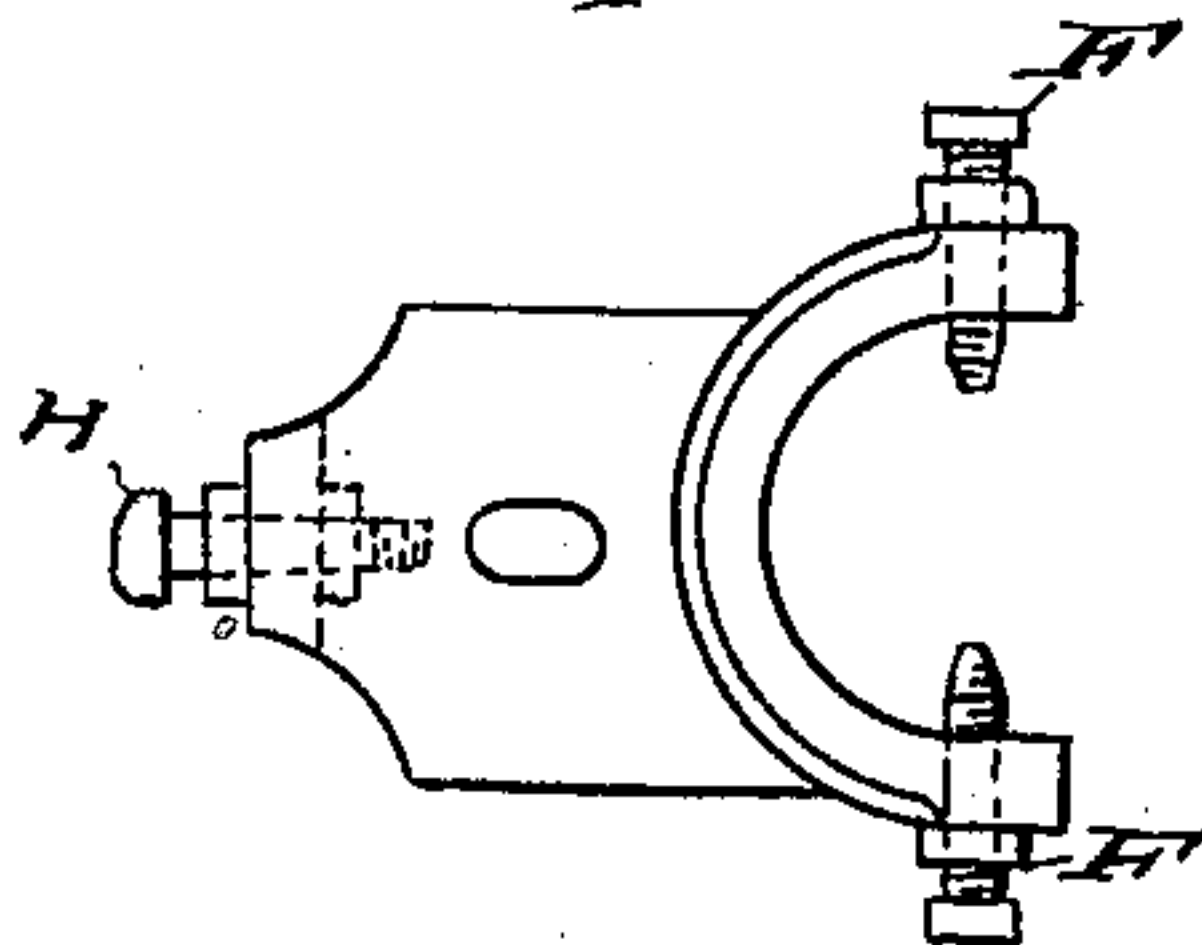


Fig. 6.



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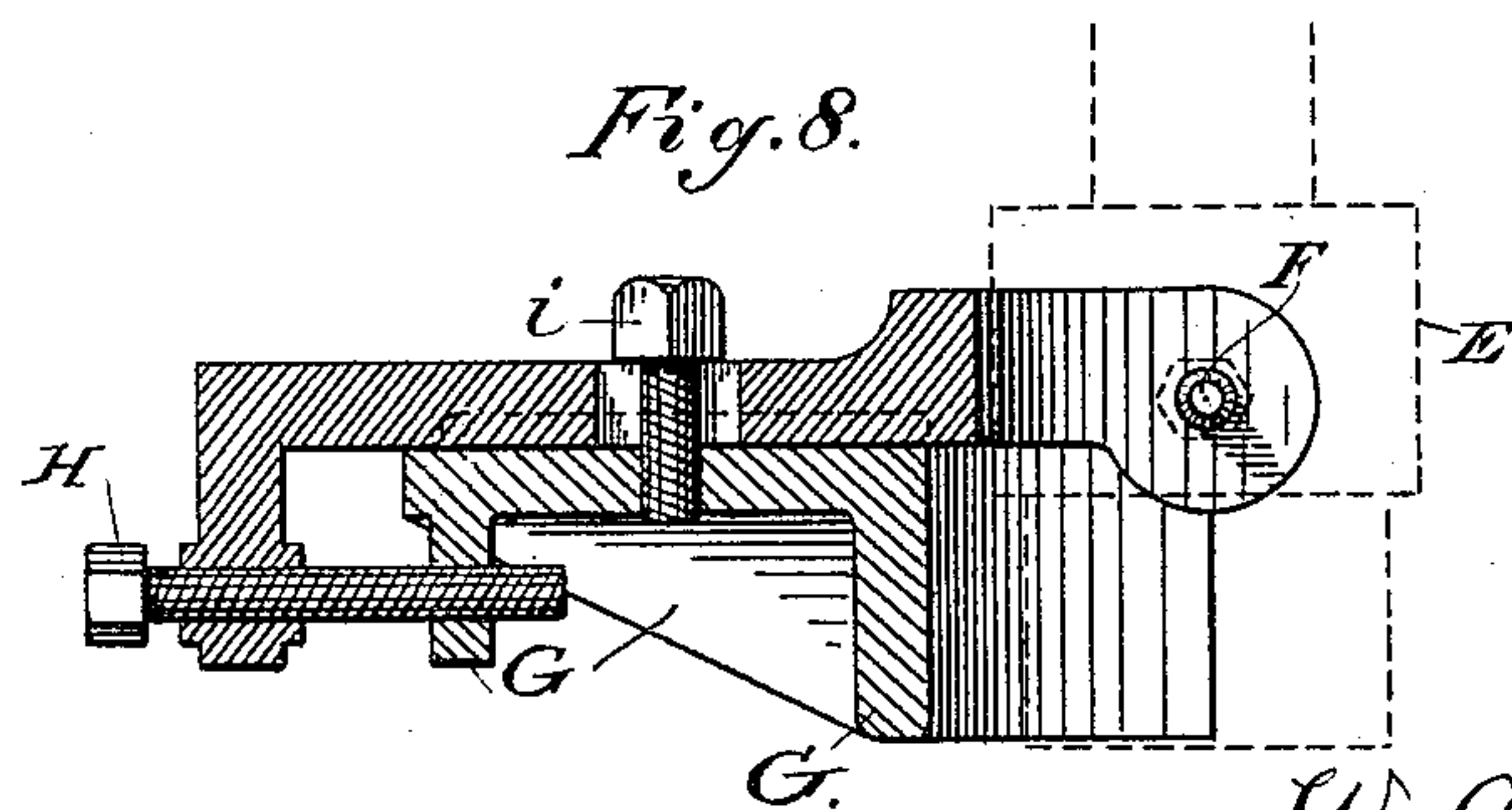
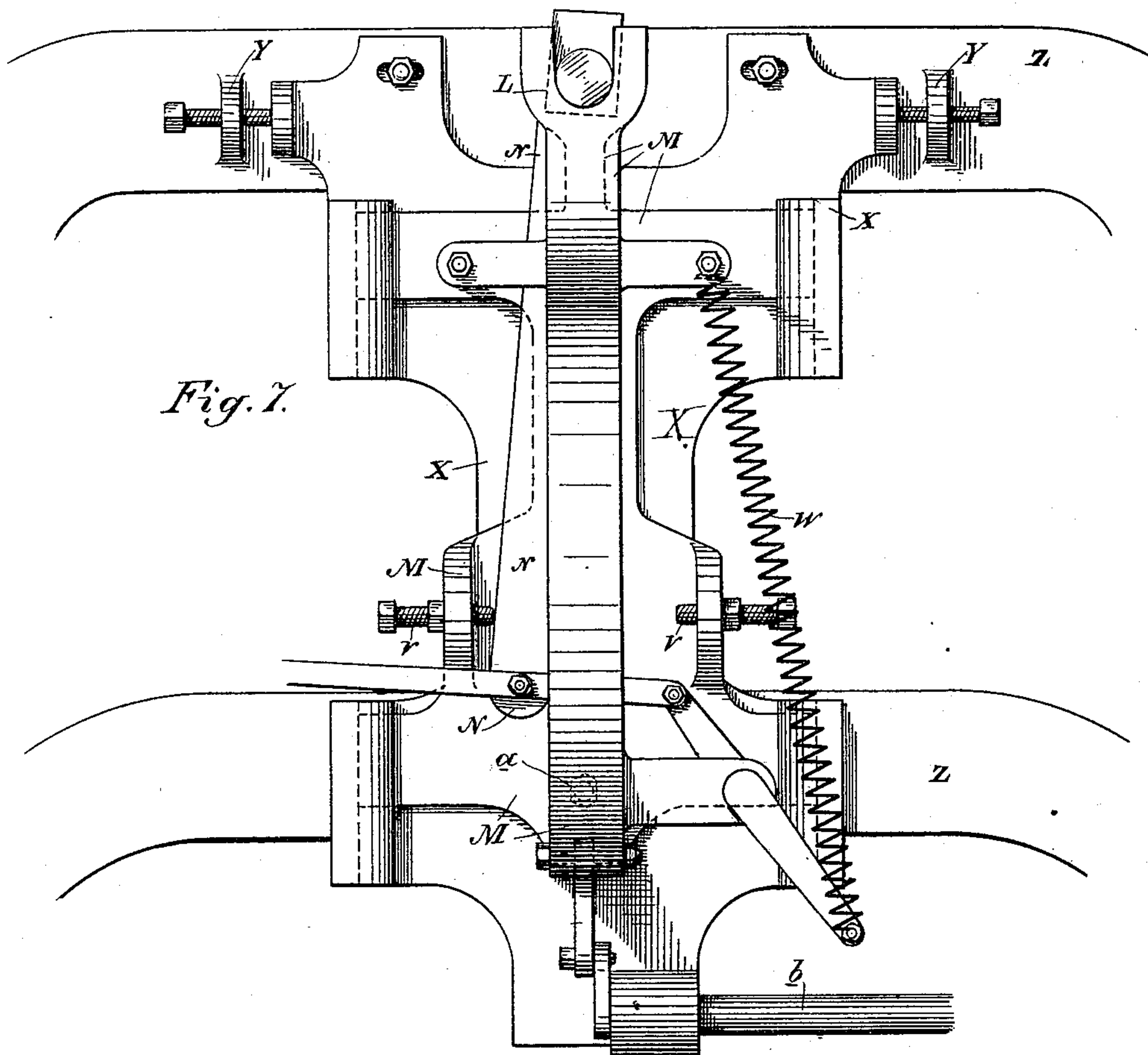
(No Model.)

4 Sheets—Sheet 4.

W. A. CAMPBELL.
SHINGLE SAWING MACHINE.

No. 379,856.

Patented Mar. 20, 1888.



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UNITED STATES PATENT OFFICE.

WILLIAM A. CAMPBELL, OF PORTLAND, OREGON.

SHINGLE-SAWING MACHINE.

SPECIFICATION forming part of Letters Patent No. 379,856, dated March 20, 1888.

Application filed August 16, 1887. Serial No. 247,104. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. CAMPBELL, of the city of Portland, county of Multnomah, State of Oregon, have invented an Improvement in Shingle-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in shingle-machines; and it consists especially in the employment of a tipping table, by which the bolt from which the shingles are to be cut is alternately tipped from one side to the other, so as to give the proper taper to the shingles, a means for adjusting and regulating said table, and an automatic mechanism, by which the tipping or tilting of the table is produced, together with mechanism for adjusting, raising and lowering, and centering the table, adjusting the lower step of the saw-arbor, and certain details of construction, all of which will be more fully described by referring to the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is an end view. Fig. 3 is a plan view. Figs. 4, 5, and 6 show detailed parts of the machine. Fig. 7 is a detailed view of the tilting-table frame and its adjustments. Fig. 8 is a sectional view of the adjustable step-bearing.

A is the upright frame of the machine, having a vertical saw-arbor and circular saw, B, fixed to its upper end, the arbor and saw being driven by a pulley, D, and belt from any suitable source of power. In order to adjust the lower bearing or step E of the vertical spindle, it is suspended by two screws, F, in the yoke-frame G. These screws are tapered on the ends and fit into recesses in the sides of the step, and thus acting as trunnions to allow it to be adjusted crosswise of the machine. The yoke-frame is carried out behind and is planed to fit in a slide or guides cast on the bottom of the back frame, so that it may be moved in this slide lengthwise of the machine by means of a screw, H, working against a lug cast at the end of the yoke-frame G. By this construction the step may be adjusted in all directions, and when properly adjusted the yoke-frame is held in position by means of a bolt, I, fitted into a slotted hole, by which it may be secured firmly to the main frame.

The bolt of wood from which the shingles are to be cut is secured between two steel dogs, I, upon a carriage, I', one of these dogs being stationary and the other movable by means of a lever, J, and intermediate connecting parts.

The carriage-frame is made of angle-iron, having lugs 2 riveted to the sides, to which brass sliding gibs 3 are bolted. On one side the gibs rest on top of the slides, and on the other they are flanged, so as to hold the carriage in position.

In order to adjust the bolt so as to give it the proper angle for the purpose of sawing the shingle tapering or wedge shape, it is dropped upon a tilting table, K, which stands below the carriage, being temporarily released from the holding-dogs for this purpose, when it takes the desired inclination, and is then gripped again by the holding-dogs and the carriage moved forward so that the shingle will be sawed off by the saw. This tilting table K is alternately tipped to one side and then to the other, so that the butt of the shingle is alternately formed on one side and then on the other. This tipping table is made of cast-iron, having lugs cast on the bottom, as shown at K', to receive a bolt, 4, which passes through them and forms a pivot or fulcrum about which the table may tip, other bolts or screws, 8, being located in front of and behind the lugs K', whereby the level of the tilting table in the direction of its travel is adjusted and secured. The bolt 4, passing through the lugs K, passes also through a square piece of cast-iron, L, which is journaled at each end in bearings upon the sliding frame M. The piece L also has a lever, N, keyed to it and extending downward, so that by the proper connections this lever will act to tilt the table from side to side, as will be hereinafter described. A pawl, O, is attached to the carriage, and this pawl engages a notched wheel, P, (shown plainly in details 4 and 5,) thus turning the ratchet, which acts through beveled gearing Q and levers R to turn the shaft S. From this shaft movement is imparted to the lever N by means of intermediate connecting-rods, T, and lever U, so that as the carriage is moved back each time, the pawl O, engaging the ratchet-wheel, acts to tip the table K, and

the bolt, being released from its holding-clamps, drops upon the table and takes the angle at which the table then stands, after which it is then again clamped and moved forward to the saw. When the carriage again returns, the pawl O again moves the ratchet P and tilts the table in the opposite direction. As the table tips from side to side, it is held against adjusting-screws V by means of the spring W.

10 The frame M, to which the table is attached, moves in planed slides in a vertical slide-frame, X, this frame being adjustable to the center of the machine by means of the screws Y, which press against the side of the frame, these screws passing through lugs in the cross-piece Z, as shown in Fig. 7.

The sliding frame X is supported at the bottom by means of a pivotal bolt, *a*, in the lower cross-piece, which allows it to be moved from side to side by means of the adjusting-screws before described. The frame M is moved in the slides by means of the shaft *b*, levers *c*, and connecting-rods *d*, as shown in Figs. 1, 2, and 7. The adjusting-lever *c* works in a rack, *e*, bolted to the slide on the top of the machine. This rack is adjustable by means of a screw, *f*, working against a lug cast on the slide. This rack, lever, and screw move the tip-table and sliding frame, and this determines the thickness of the shingle.

When it is necessary to take a thick piece off the bolt, it can be done by dropping the table and frame by means of this lever, and after this has been sawed off the table may be again returned to its proper position for sawing shingles and giving them the proper thickness.

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

1. The tilting table K, having the lugs projecting downward from the center of its sides, the pin passing through the lugs, the vertically-moving frame, and the horizontal shaft or bar which has its ends journaled in said vertically-moving frame M, in combination with the stationary frame X, having the guides within which the frame M travels, the crank-shaft *b*, with its crank and connecting-rod *d*,

and lever *c* and rack *e*, whereby the vertical adjustment of the table may be effected, substantially as herein described.

2. The vertically-moving adjustable frame M and the table K, fulcrumed so as to tilt from side to side upon said frame, in combination with a vertical frame, X, having guides in which the frame M slides, said frame being adjustable from side to side and having adjusting and holding screws Y, acting upon its opposite sides, substantially as herein described.

3. The vertical frame X, attached to the main frame, and the screws Y, by which it may be adjusted from side to side, the vertical sliding frame M, moving in guides upon the frame X, with the crank-lever, connecting-rods, and holding-rack, as shown, in combination with the tilting table pivoted to the horizontal oscillating bar, which is journaled to the frame M, said table having the bar N extending outwardly at right angles, and the adjusting and regulating screws V, between which the oscillating motion of the bar N is limited and adjusted, substantially as described.

4. The saw-arbor, the yoke or frame G, sliding upon guides upon the main frame of the machine, the screw H, by which it may be advanced or receded, and the locking or holding screw *i*, in combination with the step within which the lower end of the saw-arbor turns, the trunnion-screws passing through the sides of the yoke and fitting into recesses in the sides of the step, so that the whole may adjust itself with relation to the movements of the yoke G, substantially as herein described.

5. The combination of the tilting table K, having the lugs K' extending downward from the center of its sides, the pin 4, passing through said lugs, the horizontal bar or shaft L, having its ends journaled in the vertically-moving frame, and the bolts or screws for leveling the table in the direction of its travel, substantially as described.

In witness whereof I have hereunto set my hand.

WILLIAM A. CAMPBELL.

Witnesses:

G. ROSENBLATT,
J. M. ARTHUR.