

(No Model.)

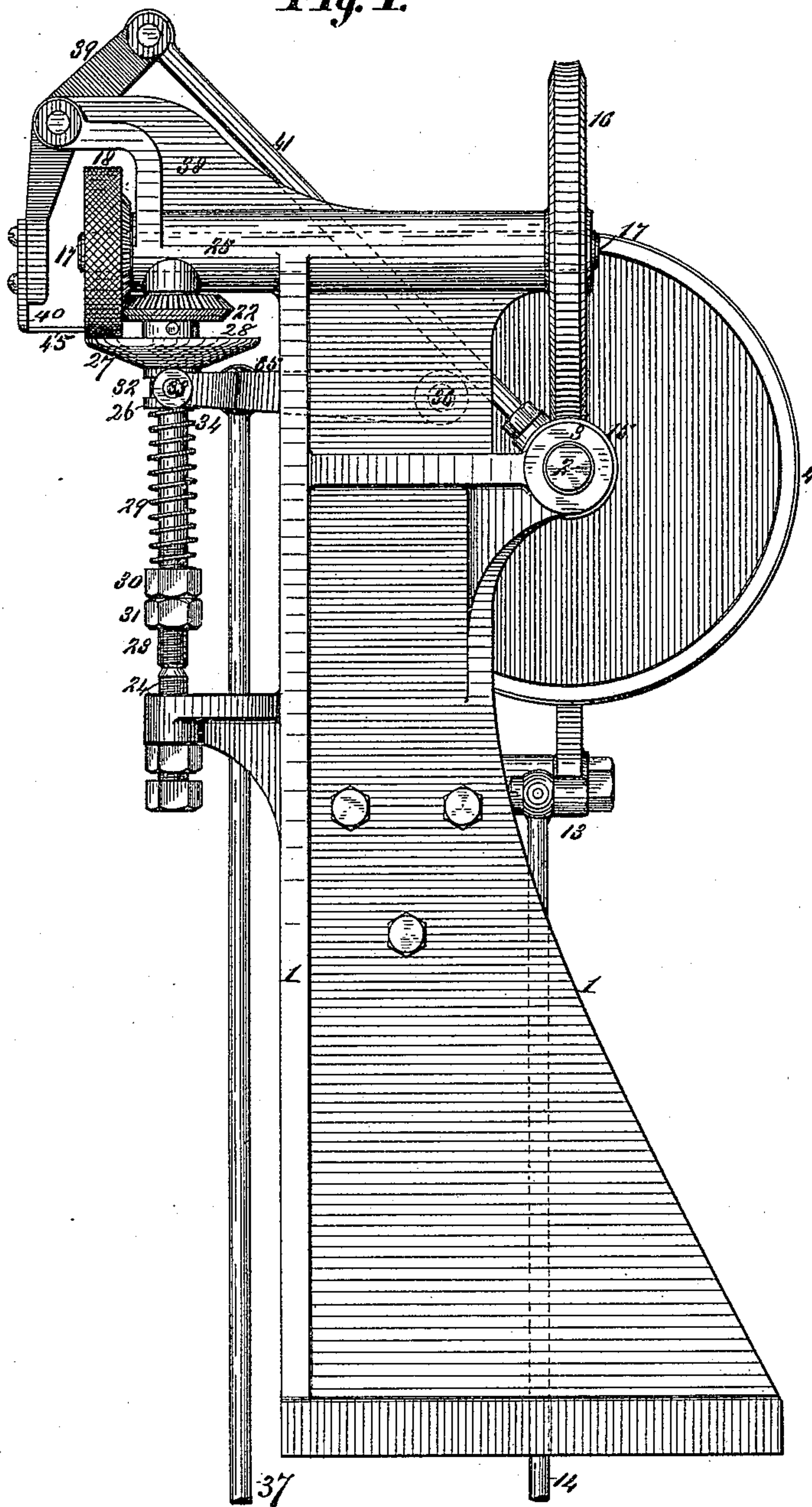
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J. H. RICKER.
WELT TRIMMING MACHINE.

No. 471,079.

Patented Mar. 15, 1892.

Fig. I.



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(No Model.)

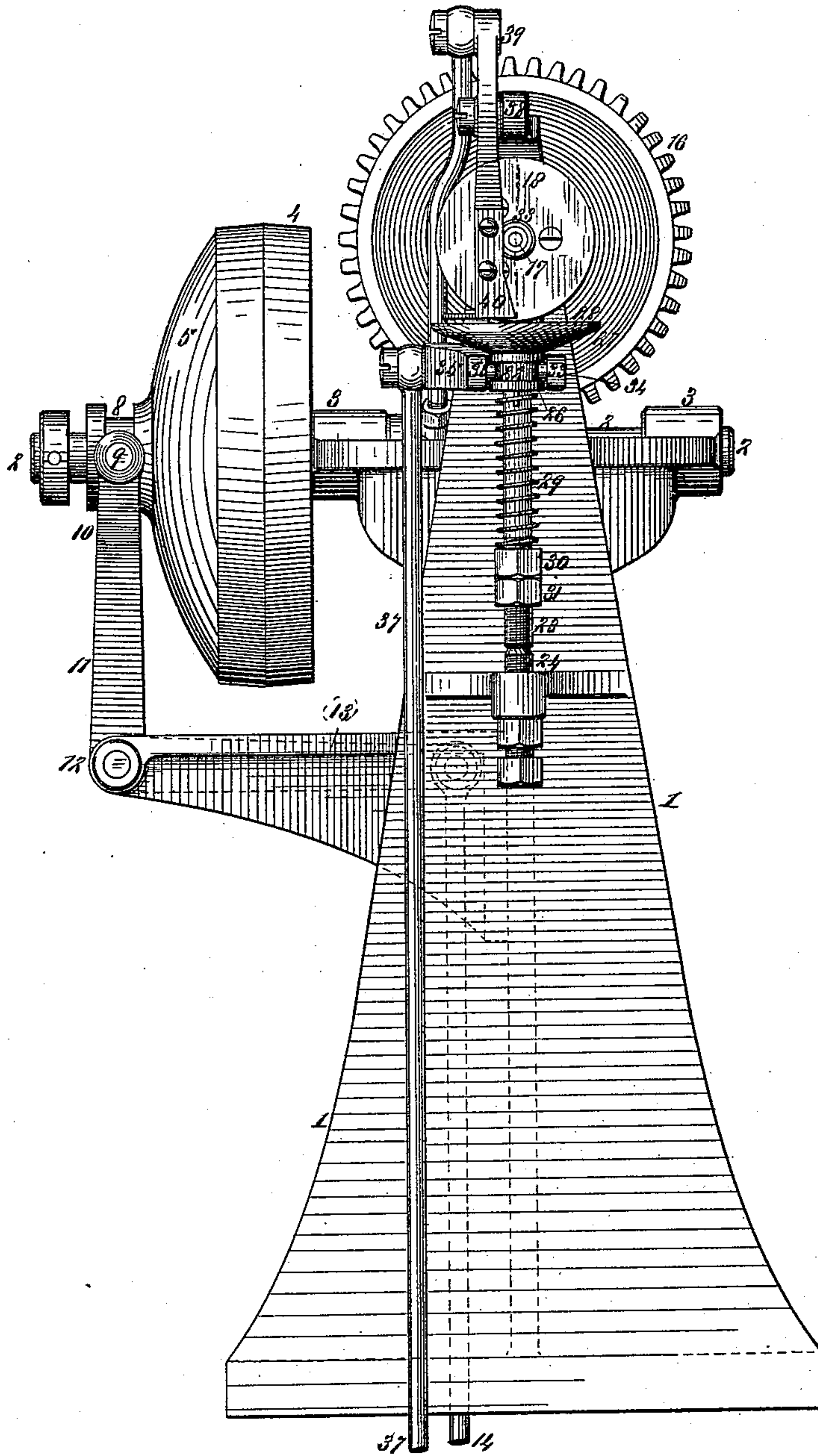
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Fig. II.



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Fig. III

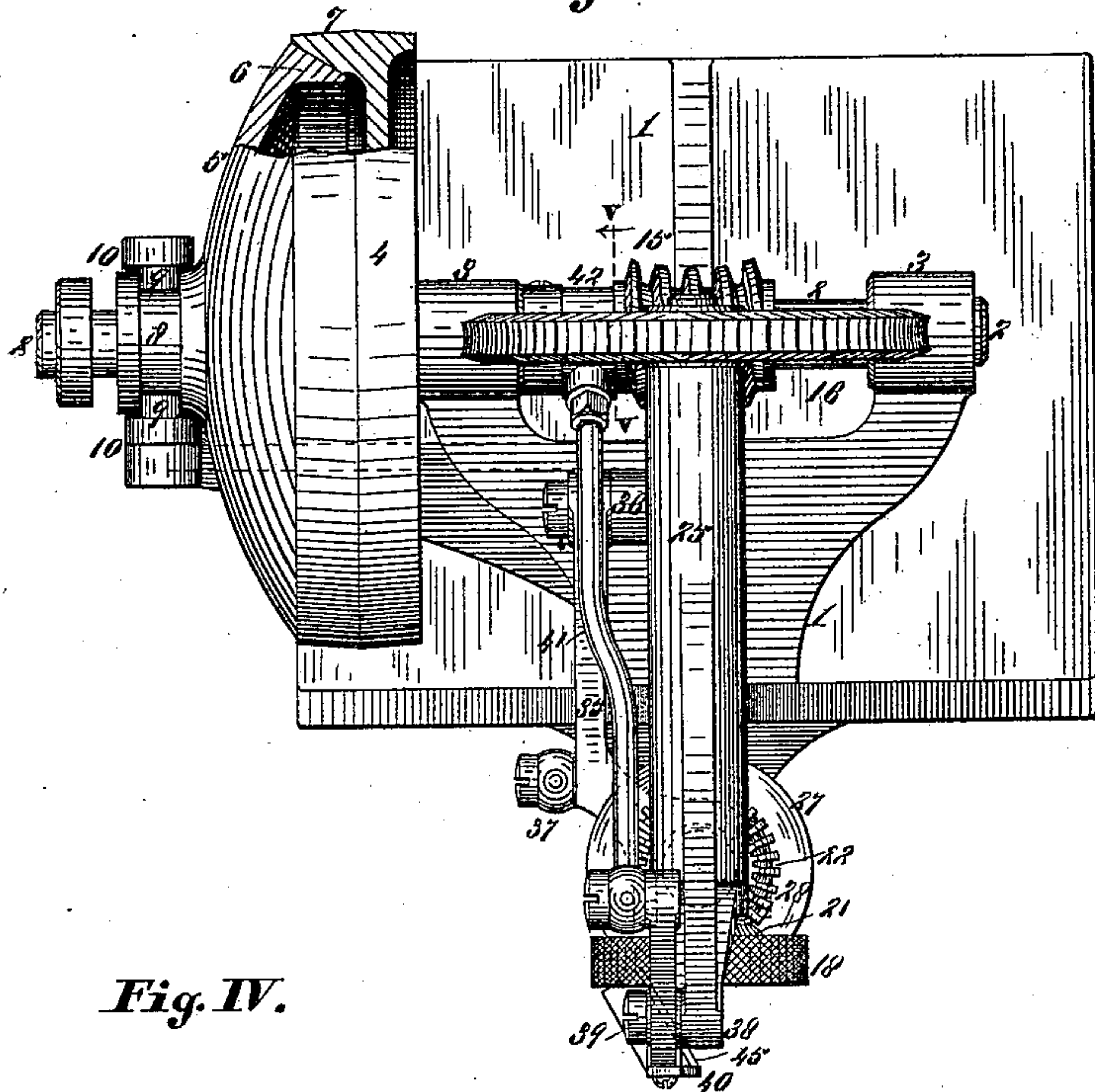


Fig. IV.

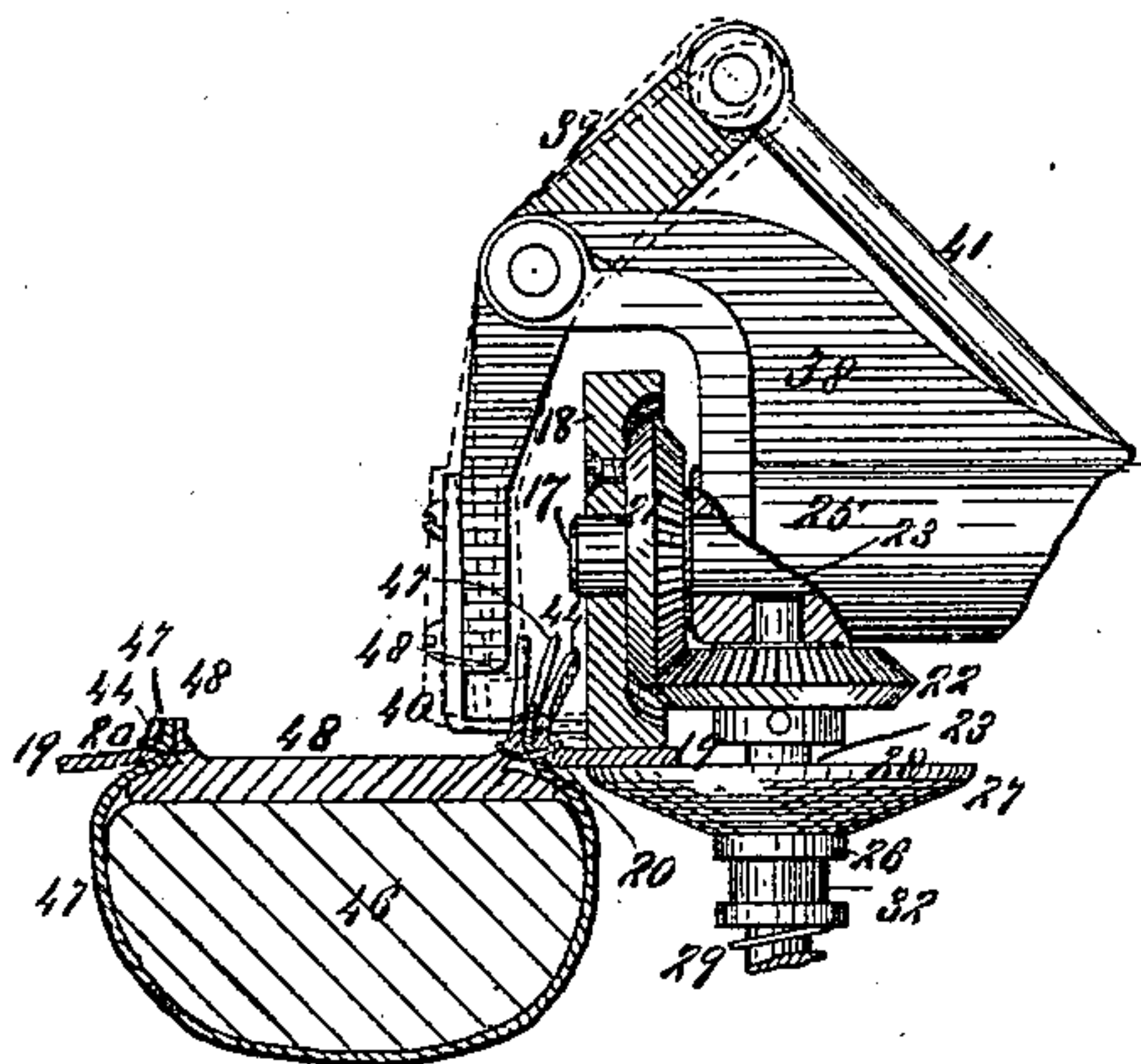
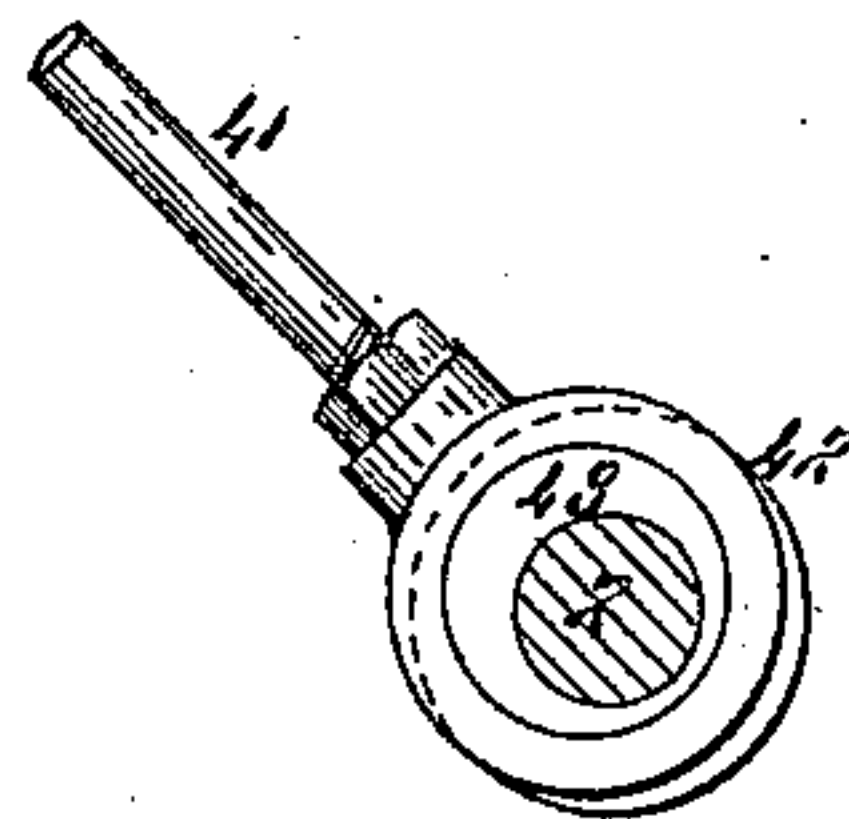


Fig. V.



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UNITED STATES PATENT OFFICE.

JAMES H. RICKER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE ROCKINGHAM MACHINE COMPANY, OF NEW HAMPSHIRE.

WELT-TRIMMING MACHINE.

SPECIFICATION forming part of Letters Patent No. 471,079, dated March 15, 1892.

Application filed April 2, 1890. Serial No. 346,298. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. RICKER, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Trimming Shoe-Welts, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This is a machine for trimming the inner edge of the welt after the same has been sewed to the upper and the insole, the edges of these parts being also trimmed to the same line as the welt, and for trimming the edge of the upper in turned work. The novel features are given in the claims.

Figure I is a side elevation of the machine, except the working treadles and the parts of the treadles beneath the table or bench on which the frame of the machine is supported. Fig. II is a front elevation of the same. Fig. III is a top view, part of the clutch being broken out and omitted. Fig. IV is a detail in side elevation, the upper feed-wheel and work being shown in vertical section. Fig. V is a transverse section of the drive-shaft at V V, Fig. III, the knife-driving eccentric being shown in side view.

1 is the frame or housing, which, as shown, is adapted to stand on a bench or table.

2 is the main shaft, having journal-bearings at 3 and carrying a loose pulley 4, adapted to take a drive-belt.

5 is a friction-wheel feather-keyed to the main shaft, so as to turn therewith and to slide endwise thereon. The wheel has a beveled edge 6, fitting the interior bevel 7 of the edge of the pulley when the wheel is in the position shown. The hub of the wheel has a circumferential groove 8, in which are the studs 9 upon the ends of the fork 10, which constitutes the upper end of the vertical arm 11 of the bell-crank lever 12. The horizontal arm 13 of the bell-crank lever is connected by a rod 14 to a treadle. (Not shown.) The construction is such that when the treadle is depressed the friction-surface 6 is forced against the surface 7 and the wheel revolves with the pulley and causes the rotation of the shaft. When the foot is removed from the treadle,

the friction-clutch ceases to act and the rotation of the shaft stops.

The shaft 2 carries a drive-screw 15, engaging with a worm-wheel 16 upon a shaft 17, carrying a feed-wheel 18, whose periphery bears upon the upper side of the outer part 19 of the welt 20. (See Fig. IV.) The shaft 17 carries a miter-wheel 21, which engages a miter-wheel 22 upon a vertical shaft 23, stepped on a center screw 24 and having bearing at top in the head 25.

26 is a sleeve upon the shaft 23 and connected therewith by a feather-key, said sleeve forming the hub of a wheel 27, upon whose flat top 28 the part 19 of the welt is carried, thus the part 19 of the welt is pressed between the wheels 18 and 27, which turn at substantially the same speed. 29 is a spiral spring surrounding the shaft 23 and whose upper end bears against the lower end of the sleeve, while its lower end bears upon the nut 30, screwing on the shaft 23. This gives means for increasing or diminishing the force of the spring.

31 is a jam-nut. The sleeve has a circumferential groove 32, in which engage the studs 33 upon the forked end 34 of the lever 35, fulcrumed to the frame at 36. This lever is depressed by a treadle (not seen) at the lower end of a rod 37. It will be seen that as the rod 37 is drawn down the feed-wheel 27 will descend and the welt will be released, so that it may be removed and another welt placed between the wheels.

38 is a projection extending over the feed-wheel and located on the front end of the head, to which is fulcrumed the lever 39, carrying the reciprocating knife 40, working in a horizontal plane.

41 is a rod whose upper end is hinged to the upper end of the lever 39 and whose lower end 42 works on the eccentric 43, fixed to the main shaft. (See Figs. IV and V.) Thus the motion of the knife will be across the upper edge 44 of the welt. The edge 45 of the knife is inclined to its line of motion, so that it makes a shear cut and cuts only in its forward movement as it moves toward the head of the machine. (See Fig. III.) As the knife reciprocates and only cuts in its forward move-

ment, it does not move or lift the loose edge of the welt backward and forward while cutting it, the back-stroke of the knife not acting on the welt.

5 The last 46, upper 47, and insole 48 are shown in section in Fig. IV.

On the left hand of the last the edges of the welt, upper, and insole are shown as trimmed and on the right side as untrimmed.

10 I claim as new and of my invention—

1. The combination of the reciprocating horizontally-arranged knife having an inclined edge so as to make a shear cut, push the leather inward, and cut only in its forward movement, and means for supporting
15 the welt and holding and feeding it, consisting of a vertical feed-wheel and a horizontal feed-wheel, the vertical feed-wheel working on the outer portion of the horizontal feed-wheel,
20 substantially as described.

2. The combination, in a machine for trimming shoe-welts, of the horizontal shaft 17, having a vertical feed-wheel 18 and the miter-wheel 21, the vertical shaft 23, having a hub
25 26 and a horizontal feed-wheel 22 feather-keyed thereto, a spring adapted to lift said hub and horizontal feed-wheel, a lever 35 and treadle adapted to depress the same, a swinging lever 39, a horizontally-arranged knife
30 formed with an inclined cutting-edge to produce a shear cut in its forward movement,

and mechanism for operating the swinging lever, substantially as described.

3. The combination, in a machine for trimming shoe-welts, of the shaft 17, carrying a
35 feed-wheel 18 and miter-wheel 21, the shaft 23, with miter-wheel 22 engaging wheel 21, sleeve 26, feather-keyed to the shaft 23 and carrying the feed-wheel 27, and a spring 29, lifting the sleeve, substantially as and for the
40 purpose set forth.

4. The combination, in a machine for trimming shoe-welts, of the main shaft having an eccentric 43 driving a reciprocating knife, and a drive-screw 15, actuating feed-wheels by
45 which the welt is fed to the knife, all substantially as and for the purpose set forth.

5. The combination, in a machine for trimming shoe-welts, of the main shaft 2, carrying a gear-screw 15 and eccentric 43, the shaft 17,
50 carrying a screw gear-wheel 16, miter-wheel 21, and feed-wheel 18, the shaft 23, carrying the vertically-movable feed-wheel 27, lifting-spring 29, and the trimming-knife 4, fixed to the lever 39, connected with the eccentric by
55 the rod 41, all substantially as and for the purpose set forth.

JAMES H. RICKER.

In presence of—

SAML. KNIGHT,
THOMAS KNIGHT.