

(No Model.)

2 Sheets—Sheet 1.

P. ROHAN.

SHEET METAL TRIMMER AND CUTTER.

No. 476,075.

Patented May 31, 1892.

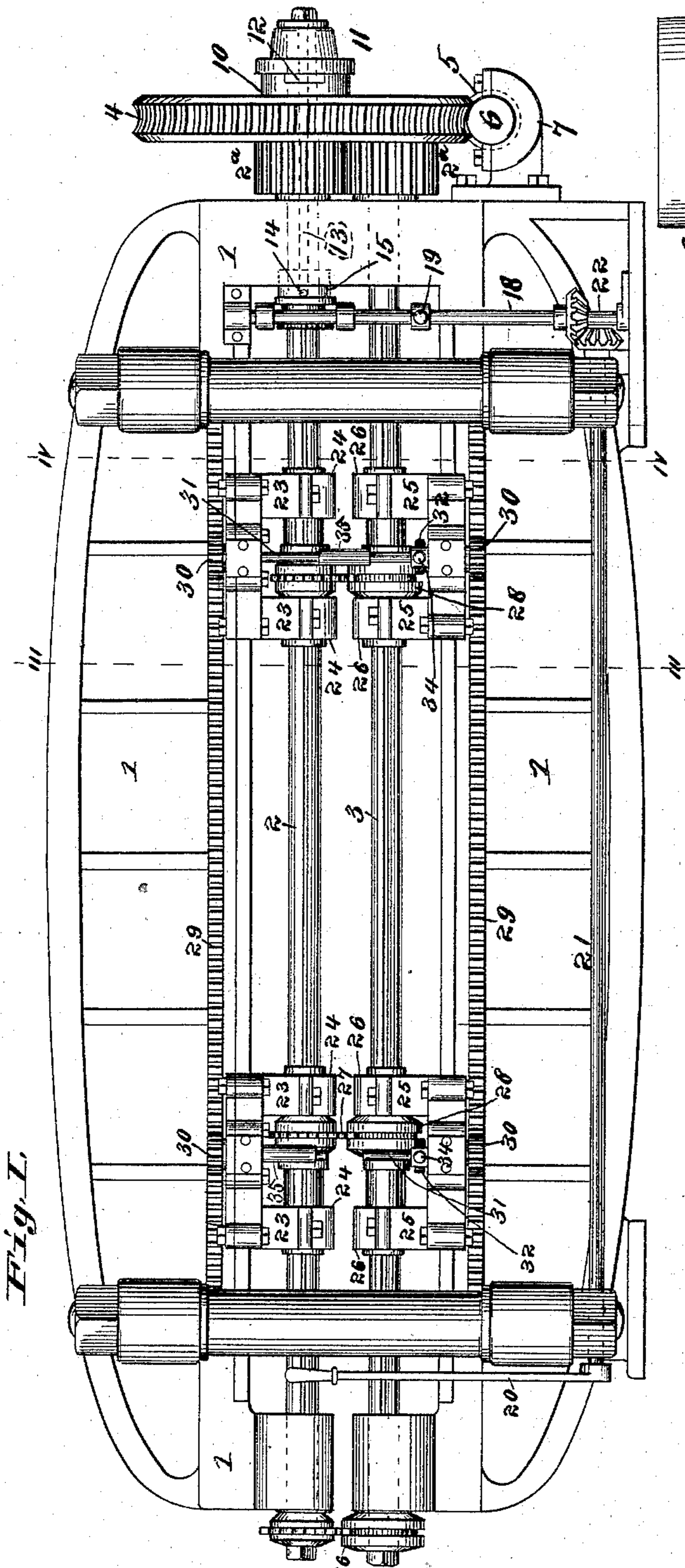


Fig. I.

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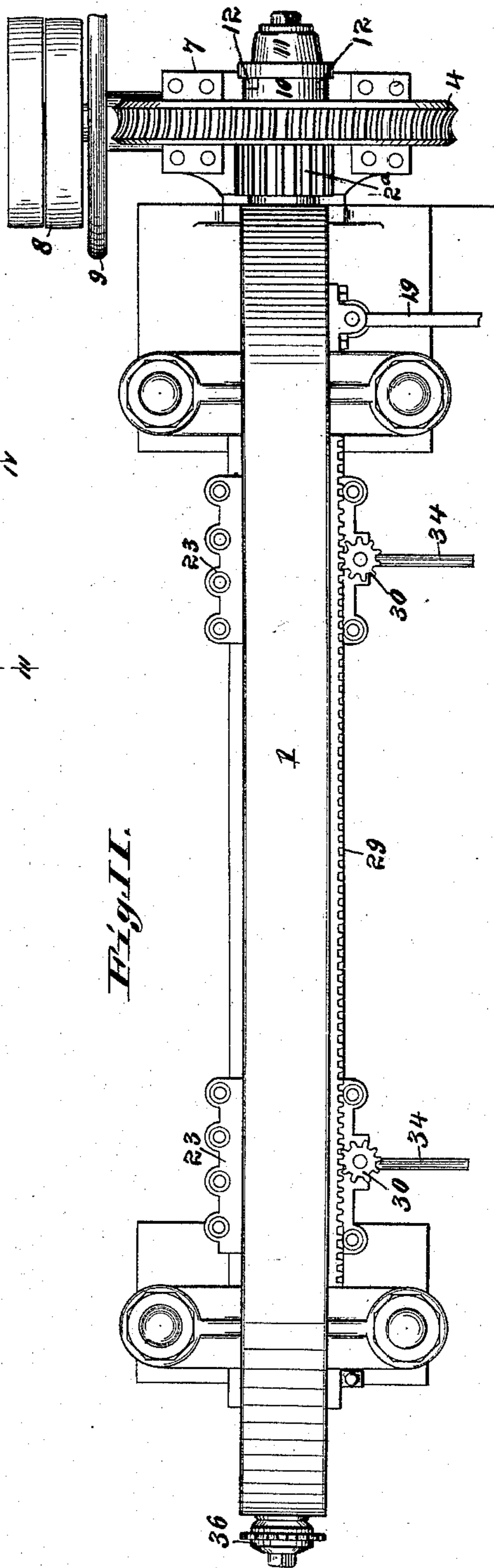


Fig. II.

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2 Sheets—Sheet 2.

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Fig. IV.

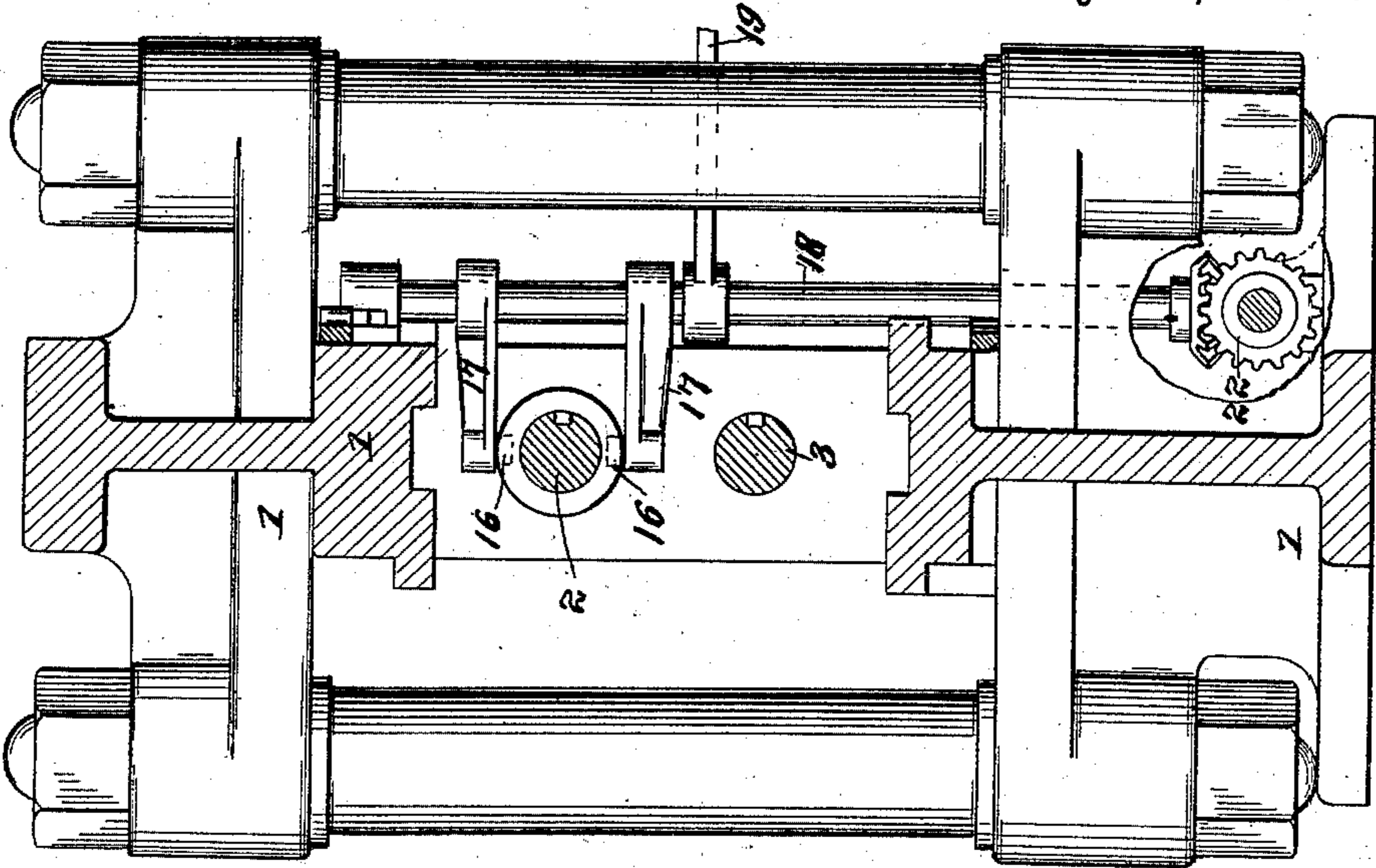


Fig. III.

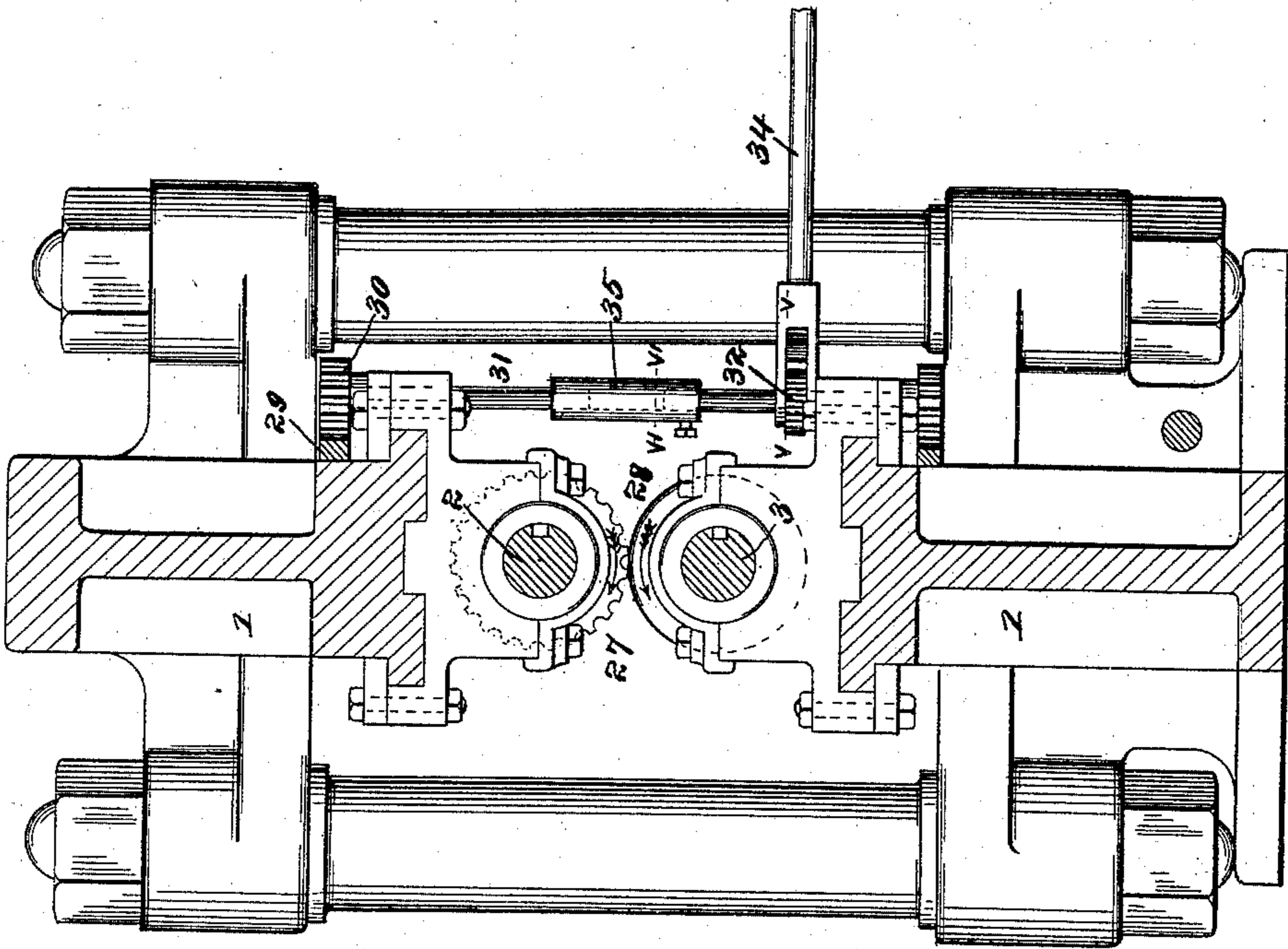


Fig. V.

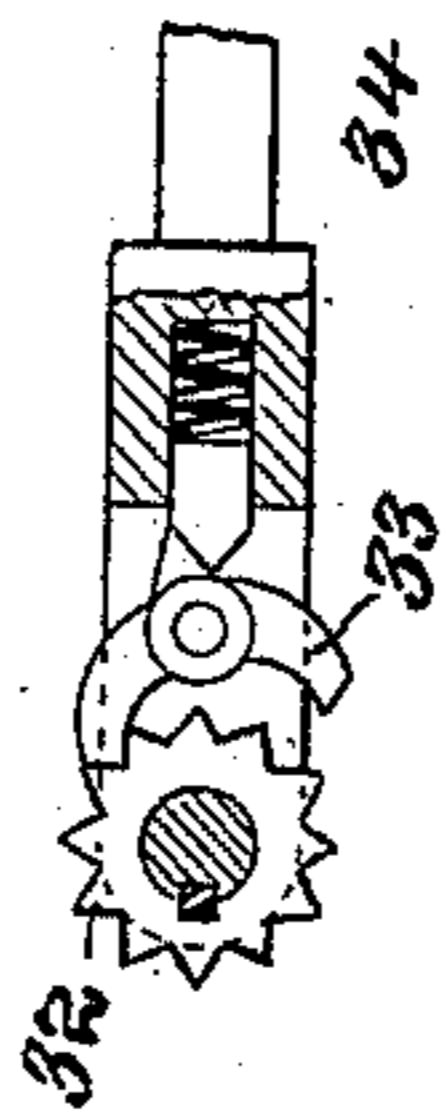


Fig. VI.



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# UNITED STATES PATENT OFFICE.

PHILIP ROHAN, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE ST. LOUIS IMPROVED SHEAR AND TOOL MANUFACTURING COMPANY, OF SAME PLACE.

## SHEET-METAL TRIMMER AND CUTTER.

SPECIFICATION forming part of Letters Patent No. 476,075, dated May 31, 1892.

Application filed January 15, 1892. Serial No. 418,148. (No model.)

*To all whom it may concern:*

Be it known that I, PHILIP ROHAN, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Sheet-Metal Trimmers and Cutters, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a machine for trimming and cutting sheets of metal, and is particularly intended for trimming sheets of metal as they come from the rolls of the mill in which they are formed.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a front elevation of my improved machine. Fig. II is a top view. Fig. III is a vertical transverse section taken on line III III, Fig. I. Fig. IV is a similar view taken on line IV IV, Fig. I. Fig. V is an enlarged detail section taken on line V V, Fig. III. Fig. VI is a similar view taken on line VI VI, Fig. III.

Referring to the drawings, 1 represents a suitable frame-work, in which are journaled two shafts or spindles 2 3, connected by pinions 2<sup>a</sup>. One of these shafts has a driving-wheel 4, engaged by a worm 5 on a shaft 6, journaled to a projection 7 on the frame 1 and provided with a tight and loose pulley 8 and, if desired, a fly-wheel 9. The worm-wheel 4 is loose on the shaft and has a notched hub 10 for engagement with a sliding collar 11 on the outer end of the shaft. The collar has a feather-and-groove connection with the shaft and has lugs 12 for engagement with the notches of the hub of the worm-wheel. The outer end of the shaft carrying the worm-wheel and collar has a central bore or opening in which fits a rod 13, (see dotted lines, Fig. I,) made fast at its outer end to the collar and having a pin 14 passing through its inner end and through a collar 15, which slides on the shaft, having a feather-and-groove connection therewith. The shaft is slotted to receive the pin 14 to permit the collar 15 and rod 13 to be moved endwise along the shaft. The collar 15 has a circumferential groove (see Fig. I) to receive pins 16 (see Fig. IV) on levers 17, se-

cured to a rock-shaft 18, journaled to the frame 1. It will thus be understood that when the shaft 18 is rocked the collar 11 will be moved out of and into engagement with the hub of the worm-gear 4, and thus the machine can be easily thrown into and out of gear. The shaft may be rocked by a lever 19 upon it or by a lever 20 on a counter-shaft 21, which has a gear connection 22 with the shaft 18, so that a person at either end of the machine can throw it out of or into gear.

23 represents a sliding head journaled to the shaft 2 by boxes 24, and 25 represents a sliding head journaled to the shaft 3 by boxes 26. There is a pair of heads 23 25 at each end of the machine, and these heads are held to the frame 1, as shown in Fig. III, provided with suitable ways along which they slide.

27 represents circular disks, preferably with notched peripheries (see Fig. III) on the shaft 2, with a feather-and-groove connection between them and the shaft. The disks are respectively embraced by the heads 23, so that by moving the heads the disks can be shifted along the shaft.

28 represents grooved dies having a feather-and-groove connection with the shaft 3 and which act in conjunction with the disks 27 to do the cutting or trimming of the sheets. These dies are respectively embraced by the heads 25, so that by moving the heads the dies can be shifted along the shaft to correspond with the adjustment of the disks. It will thus be seen that the cutters (the disks and dies) may be adjusted to trim any width of sheets.

As a means of moving the heads, I have shown racks 29, secured to the frame of the machine and engaged by pinions 30 on the ends of shafts 31, journaled in the heads. On the shafts are ratchet-wheels 32, (Figs. I, III, and V,) engaged by double-acting spring-actuated pawls 33 on levers 34. By moving the levers the shafts will be turned and through their connections with the stationary racks 29 will cause the heads 23 25 to be moved along the shafts 2 3 in either direction desired.

In order that the shafts 31 may not interfere with the passage of the sheets through the machine, I form each of them in two parts connected by a sleeve 35, (see Figs. I, III, and VI,) which has a feather-and-groove connec-

tion with the shaft. After the heads have been adjusted the sleeves may be raised up, as shown left hand of Fig. I, so as to separate the two parts of the shafts and admit the passage of the sheets.

36 represents a pair of cutters like those 27 28, located on the outer ends of the shafts 23, which may be used, when desired, for trimming or cutting sheets or pieces of metal.

My machine is admirably adapted to be placed at the delivery side of the last or finishing pair of rolls of a sheet-metal mill to receive the sheets as they come from the rolls and trim their edges or cut them up into narrower sheets.

I claim as my invention—

1. In a machine for trimming or cutting sheet metal, the combination of the frame provided with suitable ways, the parallel shafts, means for turning the shafts, two pairs of movable cutters arranged on the shafts, sliding heads 23 and 25, guided on the ways and embracing the cutters for moving them along the shafts, and a rack-and-pinion mechanism for adjusting the heads on the ways, substantially as and for the purpose set forth.

2. In a machine for trimming or cutting sheet metal, the combination of two parallel shafts, means for turning the shafts, two pairs of cutters arranged on the shafts, boxes for moving the cutters along the shafts, and means for adjusting the boxes, comprising stationary racks, pinions engaging the racks, shafts to which the pinions are secured, and devices for turning said shafts, substantially as set forth.

3. In a machine for trimming or cutting sheet metal, the combination of two parallel shafts, means for turning the shafts, two pairs of cutters arranged on the shafts, boxes for moving the cutters along the shafts, and means for adjusting the boxes, consisting of stationary racks, pinions engaging the racks, shafts to which the pinions are secured, levers, and pawl-and-ratchet connection between the levers and pinion-shafts, substantially as and for the purpose set forth.

PHIL. ROHAN.

In presence of—

A. M. EBERSOLE,  
E. S. KNIGHT.