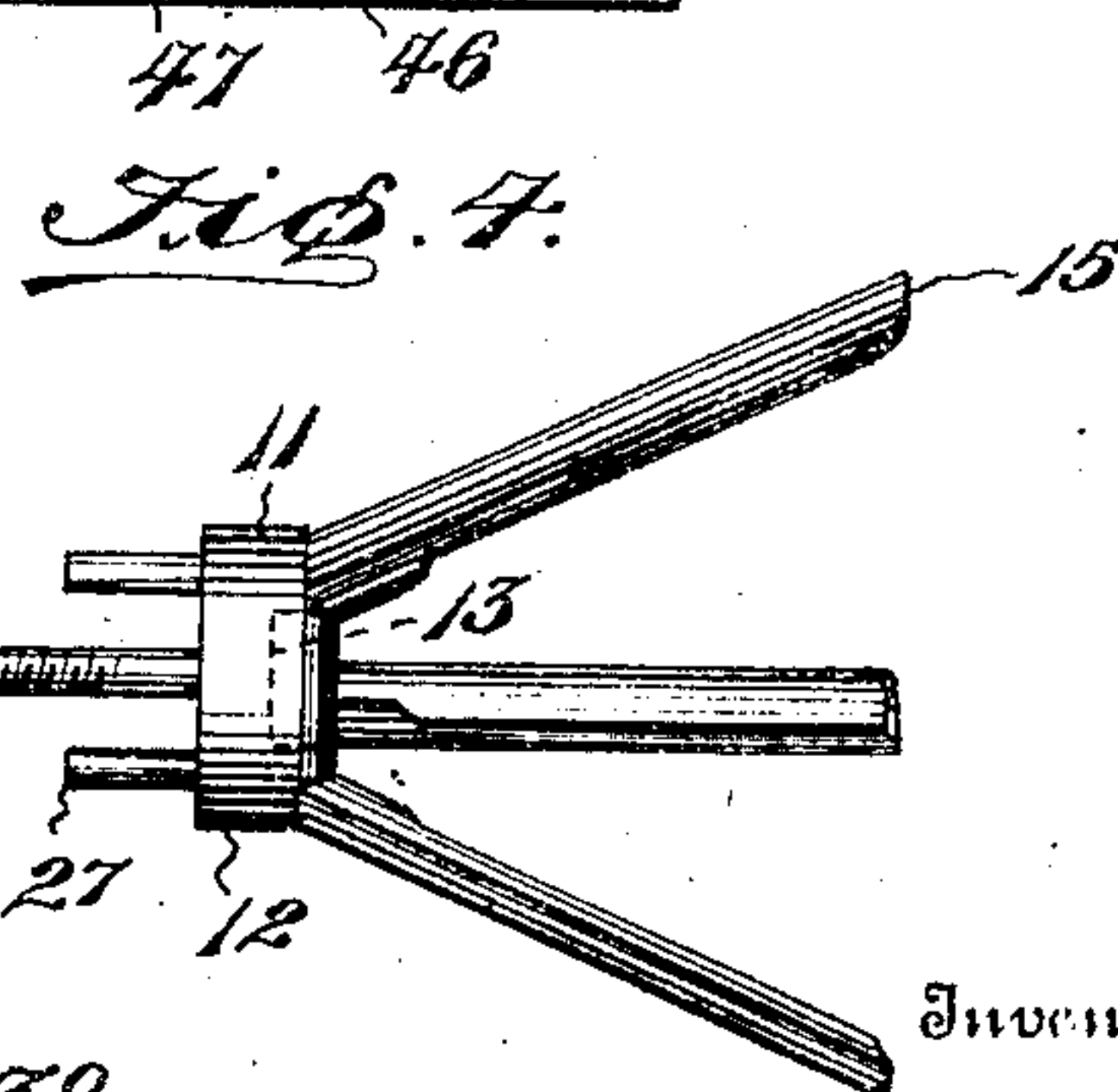
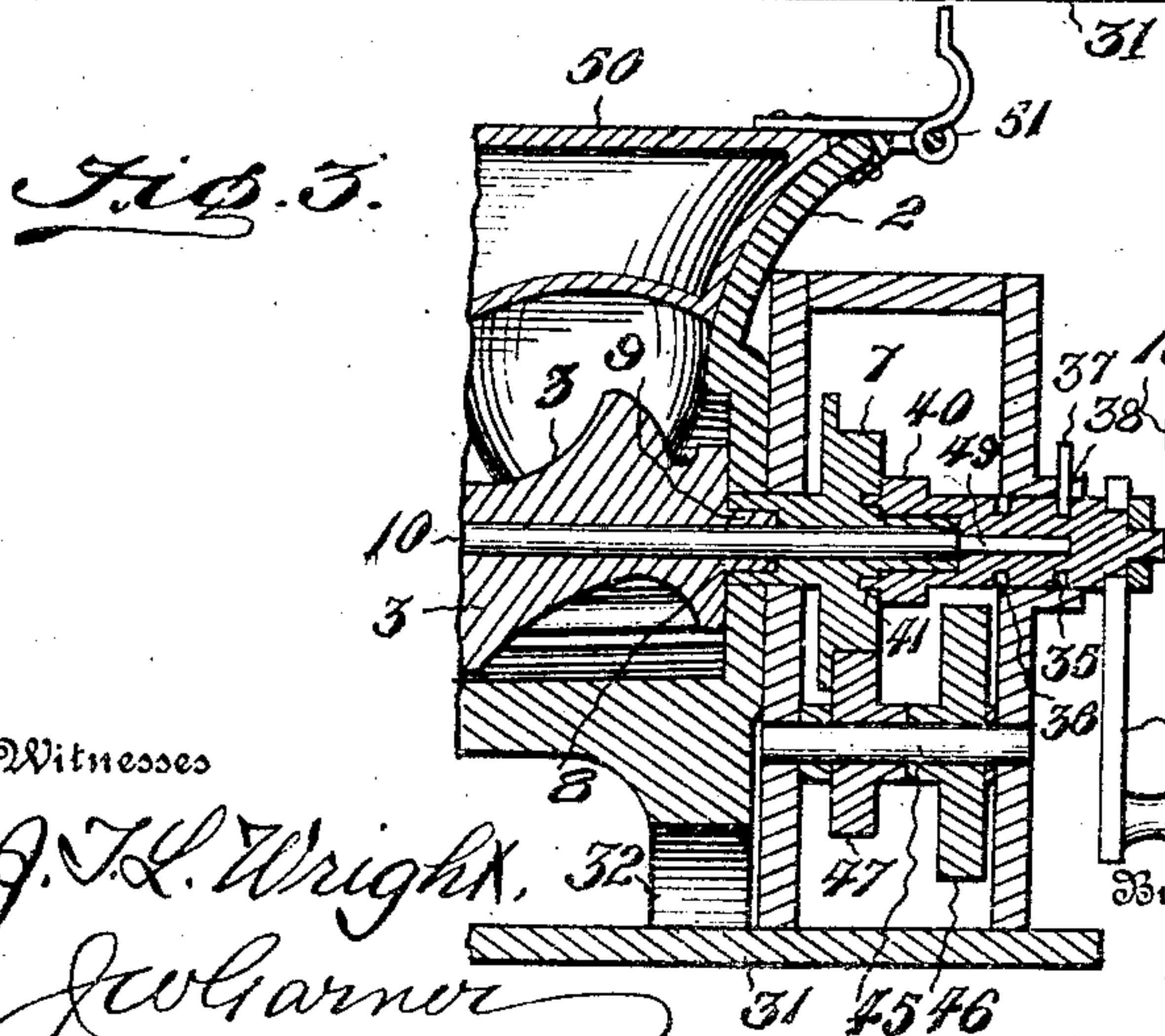
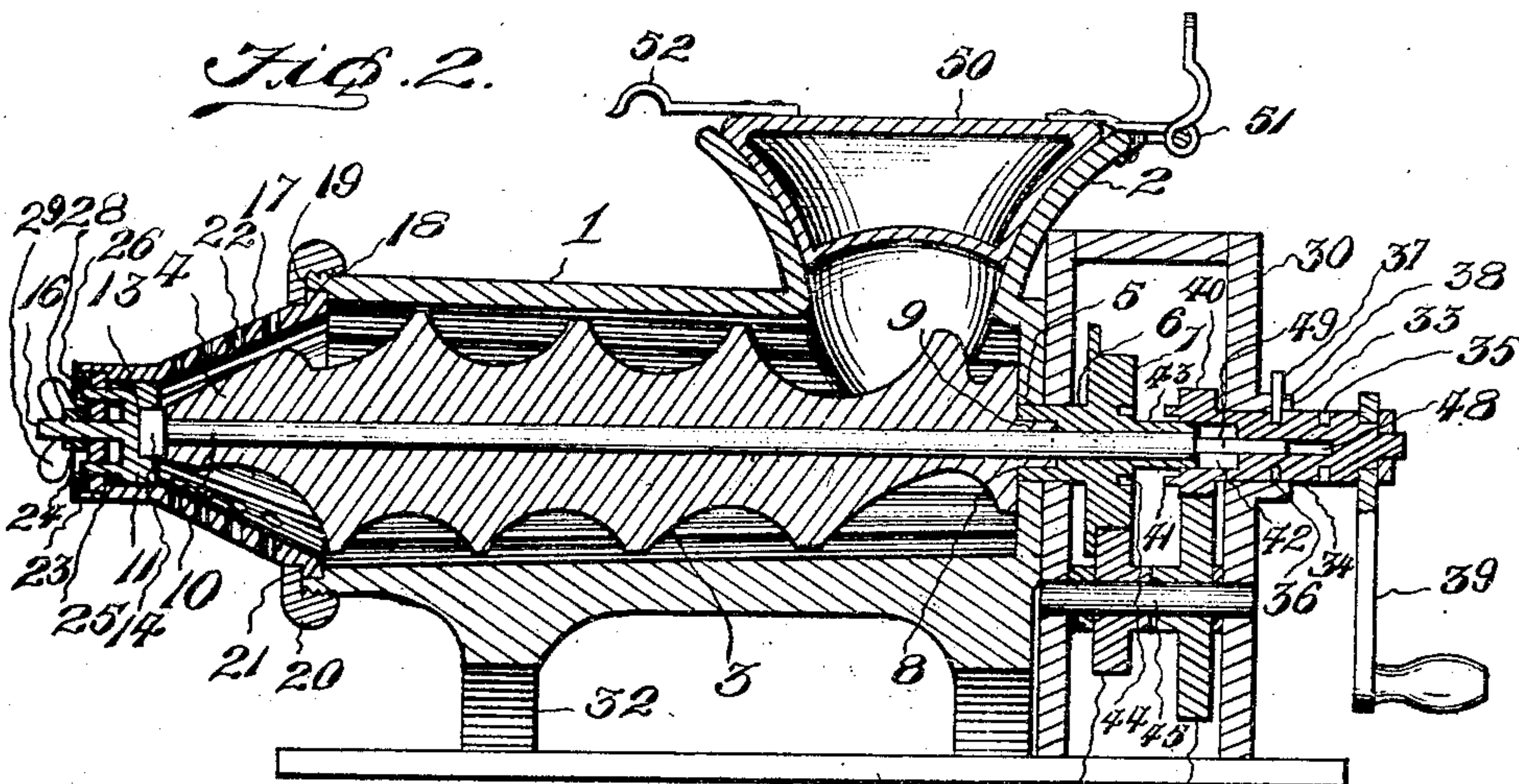
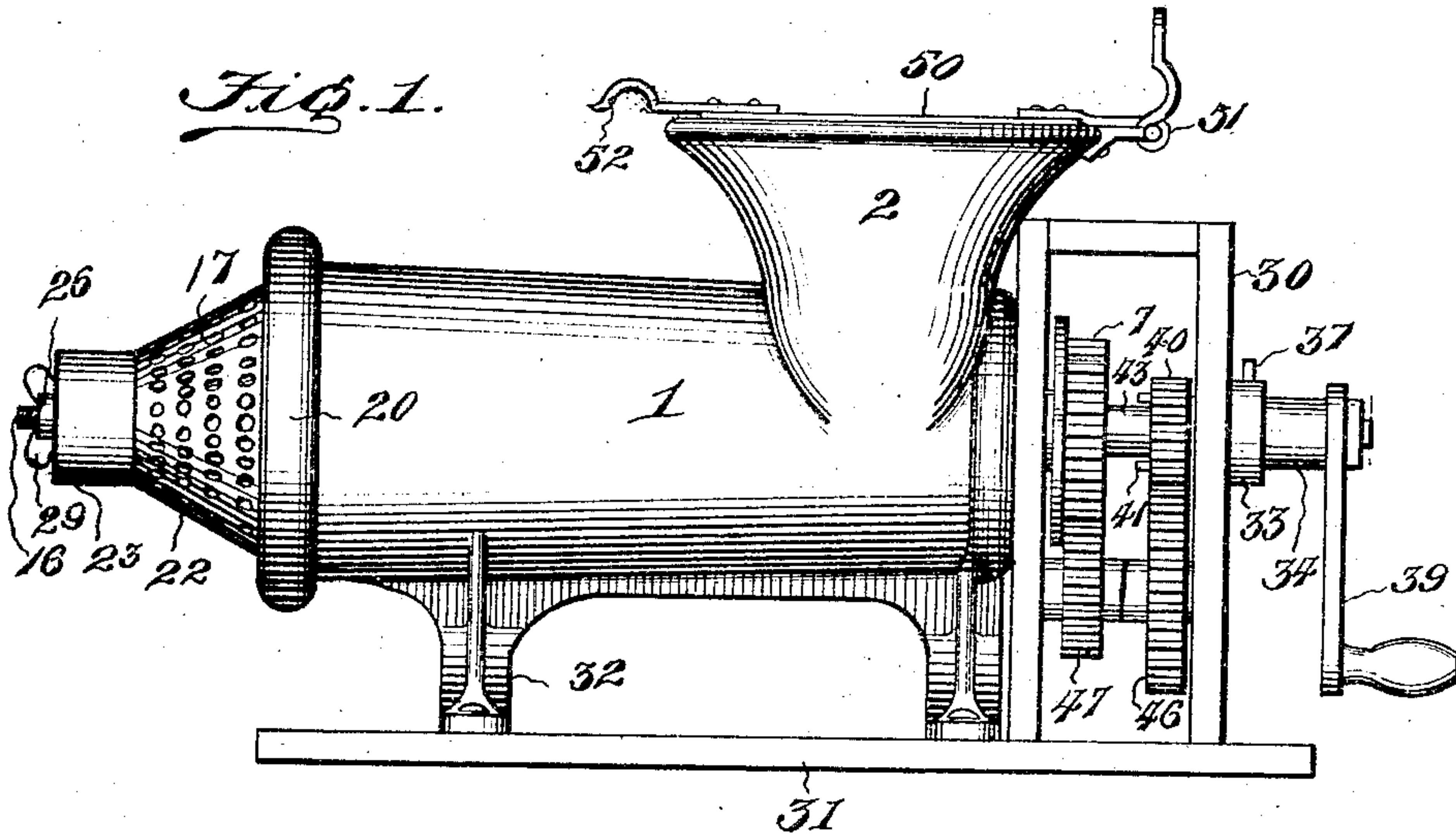


G. W. STENZ.
MEAT CUTTING MACHINE.
APPLICATION FILED JULY 20, 1907.

908,348.

Patented Dec. 29, 1908.



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MEAT-CUTTING MACHINE.

No. 908,348.

Specification of Letters Patent.

Patented Dec. 29, 1908.

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To all whom it may concern:

Be it known that I, GEORGE W. STENZ, a citizen of the United States of America, residing at Ashland, in the county of Ashland and State of Wisconsin, have invented new and useful Improvements in Meat-Cutting Machines, of which the following is a specification.

This invention relates to improvements in meat cutting machines of that class in which a thumb screw operates in a cylinder and forces the meat to a cutter and through openings in a discharge plate, and the said invention consists in the construction, combination and arrangement of devices hereinafter described and claimed.

One object of my invention is to provide means for driving the cutter independently of and at a higher rate of speed than the feed screw.

A further object is to effect improvements in the construction of the discharge plate, whereby the superficial area of said discharge plate is increased and the latter is enabled to be provided with a greater number of discharge openings for the meat so that the meat will be prevented from being unduly compressed in the machine.

A further object is to provide means for adjusting the cutter with reference to the perforated discharge plate.

In the accompanying drawings,—Figure 1 is a side elevation of a meat cutting machine constructed in accordance with my invention. Fig. 2 is a vertical longitudinal central sectional view of the same. Fig. 3 is a similar view of one end of the same, showing the gearing in a different position from that indicated in Fig. 2. Fig. 4 is a detail elevation of the cutter.

The cylinder 1 with its hopper 2 for feeding meat into one end of the cylinder is of the usual construction. In accordance with my invention the feed screw 3, which is otherwise of the usual form, is provided at its rear end with a conical extension 4 which projects beyond the rear or discharge end of the cylinder. In the opposite end of the cylinder is a bearing opening 5 for the reception of a bearing sleeve 6 provided on a gear 7, the said gear having its said sleeve provided with a socket 8 of polygonal form cross sectionally, the said socket receiving a similarly shaped projection 9 at the front end of the feed screw so that such end of the feed screw

is mounted for rotation with and by the said gear 7. The feed screw is provided with a central cylindrical bore through which extends a shaft 10 which drives the cutter 11. The said cutter comprises a cylindrical head 12 having a polygonal recess 13 for the reception of a similarly shaped shoulder 14 at one end of the shaft 10, a plurality of cutter knives 15 which are inclined laterally with respect to the said head and converge toward such head, and a centrally disposed stud 16 which projects from the outer side of the said head, is threaded and forms an adjusting screw.

At the discharge end of the cylinder 1 is a discharge plate 17 which is conical in form and is provided at its inner larger end with an annular circumferential shoulder 18 which fits in a similarly shaped groove 19 in said end of the cylinder. A collar 20 is screwed on such end of the cylinder and has a flange 21 on its outer side which engages the flange 18 of the conical discharge plate and locks such plate to the said cylinder. The said plate is provided with a plurality of discharge openings 22 for the passage of the cut particles of meat, and owing to the shape of the said plate it is evident that a greater number of these openings may be provided than is possible where the plate, as is usual in machines of this class, is a flat disk, the diameter of which is only slightly greater than that of the interior diameter of the cylinder. Hence by thus constructing the discharge plate the effective superficial area of the same is greatly increased, and such plate may be provided with a sufficient number of discharge openings to enable the meat fed thereto by the screw and cut by the cutter to be forced through such openings without being subjected to undue and injurious compression. The outer end of the said conical discharge plate is provided with a concentric cylindrical extension 23 open at its outer end and provided therein with an annular recess 24 providing an annular shoulder 25. A cap plate 26 is revoluble in said recess and against such shoulder and hence has its bearing in the said cylindrical extension of the discharge plate. Such cap plate is provided with a central opening through which the adjusting screw 16 of the cutter extends and is further provided with openings for the reception of a pair of studs 27 which project from the outer side of the head 12 of the cut-

ter so that the cutter is connected to the said cap plate to cause the cap plate to rotate with the cutter. An adjusting nut 28, which is here shown as having wings 29, whereby it may be readily turned manually, is provided for the adjusting screw 16 and bears against the outer side of the cap plate and serves to adjust the cutter, as will be readily understood, to enable the cutter to be moved as may be required from time to time to compensate for wear of the knives or blades 15 thereof and of the inner surface of the discharge plate.

A frame 30 is here shown at the front end of the cylinder, secured to the latter and also to the base 31 on which the supporting legs 32 of the cylinder rest. The said frame has a bearing 33 for a driving shaft 34. Said shaft is adjustable longitudinally in the said bearing and is provided with annular circumferential adjusting grooves 35, 36, either of which may be engaged by a key 37 which is inserted in an opening 38 in the upper side of the said bearing. Said driving shaft is provided with suitable means, here shown as a hand crank 39, whereby it may be rotated and is provided at its inner end with a pinion 40 and with clutch studs 41. The said driving shaft has its inner end provided with a cylindrical recess 42 for the reception of a similarly-shaped sleeve or boss 43 which projects from the outer side of the gear 7, and said gear is also provided in its outer side with clutch openings 44 for engagement by the clutch studs 41 when the said driving shaft is moved inwardly to the position shown in Fig. 3, to lock such shaft directly to the said gear 7.

The frame 30 provides bearings for a counter shaft 45 on which are gears 46, 47, the former larger than the latter. The said gear 46 may be engaged or disengaged by the pinion 40, according to the position in which the latter is placed by the adjustment of the driving shaft. The gear 47 is at all times in engagement with the gear 7. Said driving shaft has a recess 48 of polygonal form cross-sectionally for the reception of a similarly shaped extension 49 at one end of the shaft 10. The length of the said extension of the said shaft is such as to enable the driving shaft 34 to be adjusted longitudinally without causing it to be disengaged from the shaft 10, and hence the shaft 10 of the cutter is under all conditions connected to the driving shaft for rotation thereby. When the driving shaft is in the position indicated in Fig. 2, unclutched from the gear 7, and is rotated, power therefrom is transmitted to the gear 46, from the

latter to the gear 47, and from such gear to the gear 7 so that the said gears act as speed-reducing gears to enable the cutter shaft 10, which is driven directly by the driving shaft, to be revolved with its cutter at a higher rate of speed than the feed screw, to enable the cutter to cut the meat as fast as it can be supplied thereto by the feed screw and prevent the meat from being subjected to an undue degree of compression and also reduce the power required to operate the machine. When the driving shaft is coupled directly to the feed screw as well as to the shaft of the cutter, as shown in Fig. 3, the cutter and shaft are driven together and at the same rate of speed, and the gears 46, 47 rotate idly.

To enable the meat to be readily forced around to the feed hopper through the action of the feed screw I provide the hopper with a hinged cover 50, its hinge being shown at 51 and provide the said cover at its free side with a handle 52 which serves as a lever whereby to depress the cover and cause the latter to force the meat down through the hopper to the action of the feed screw.

I do not desire to limit myself to the precise construction and combination of devices herein shown and described, as it is evident that modifications may be made therein within the scope of the appended claim.

Having thus described the invention, what is claimed as new, is:—

In a meat cutting machine of the class described, the combination of a cylinder having a conical discharge plate provided with a concentric cylindrical portion having an internal annular shoulder, a cap plate revoluble in said cylindrical portion and bearing against said shoulder, a feed screw revoluble in the cylinder and having a central longitudinal bore, a shaft in said bore and having an angular end portion, a cutter comprising a head and a blade, said head having a socket receiving the end portion of the shaft and adapting said head to move longitudinally with respect to said shaft, said head being slidably connected to and revoluble with said cap plate and having a screw stud operating in an opening in said cap plate and an adjusting nut on said screw stud and bearing against and coacting with said cap plate to adjust said head and blade with respect to the conical discharge blade of the cylinder.

In testimony whereof, I affix my signature in presence of two witnesses.

GEORGE W. STENZ.

Witnesses:

P. E. COLLIER,
W. T. WILCOX.