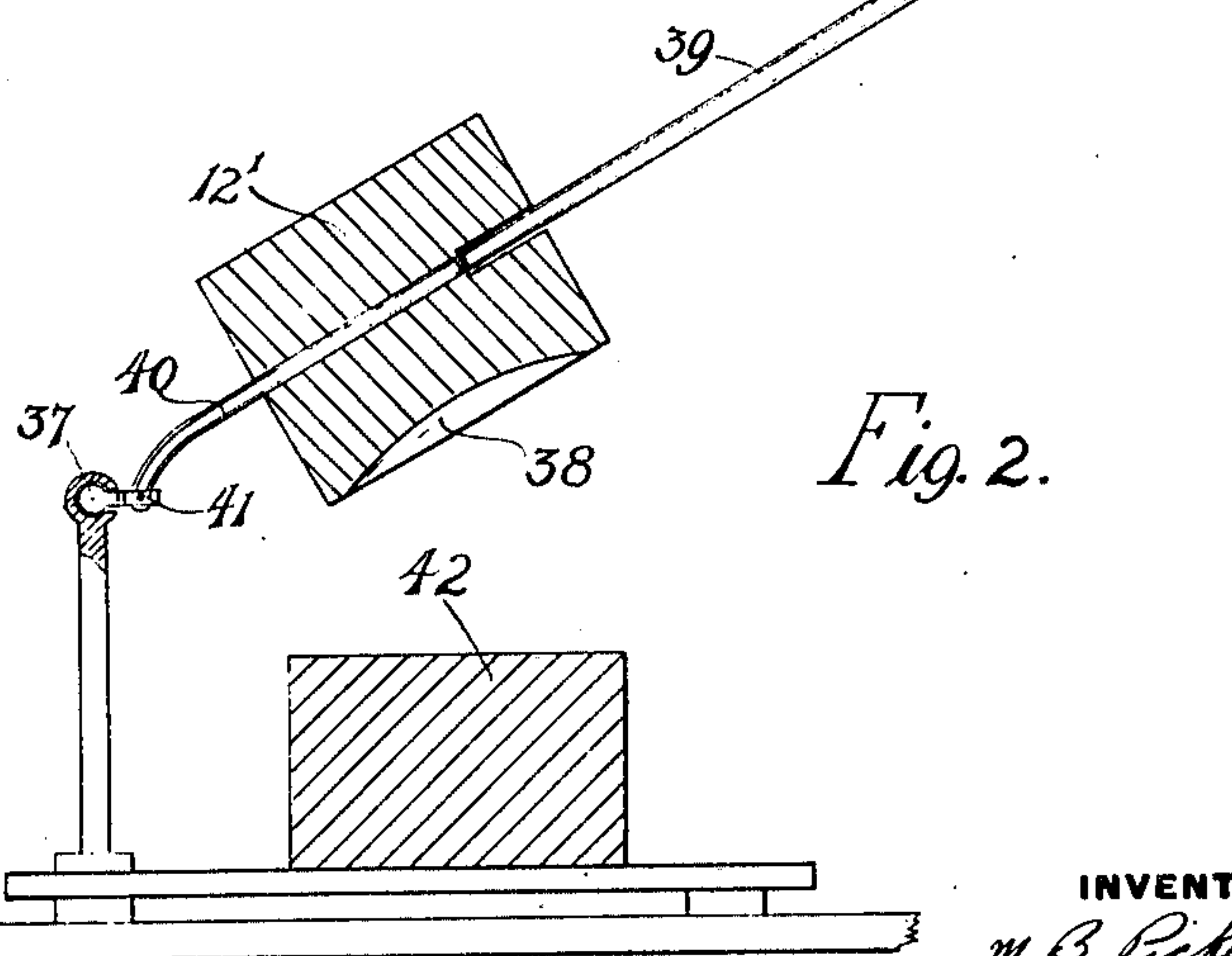
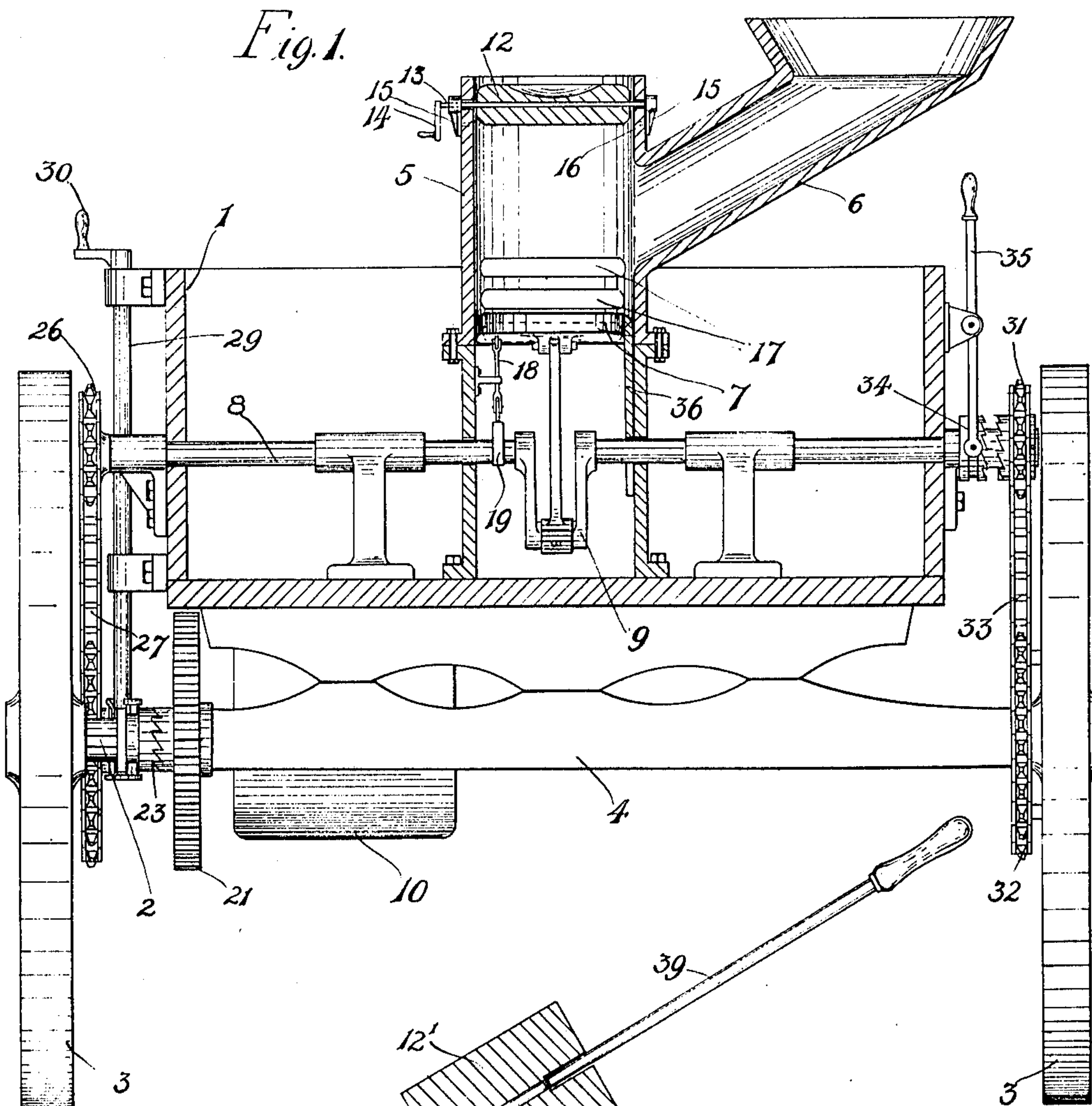


M. B. PICKETT.
MECHANISM FOR CRUSHING CANS.
APPLICATION FILED DEC. 4, 1907.

969,720.

Patented Sept. 6, 1910.

4 SHEETS—SHEET 1.



WITNESSES

Harvey L. Leckner
Archibald Martin

INVENTOR

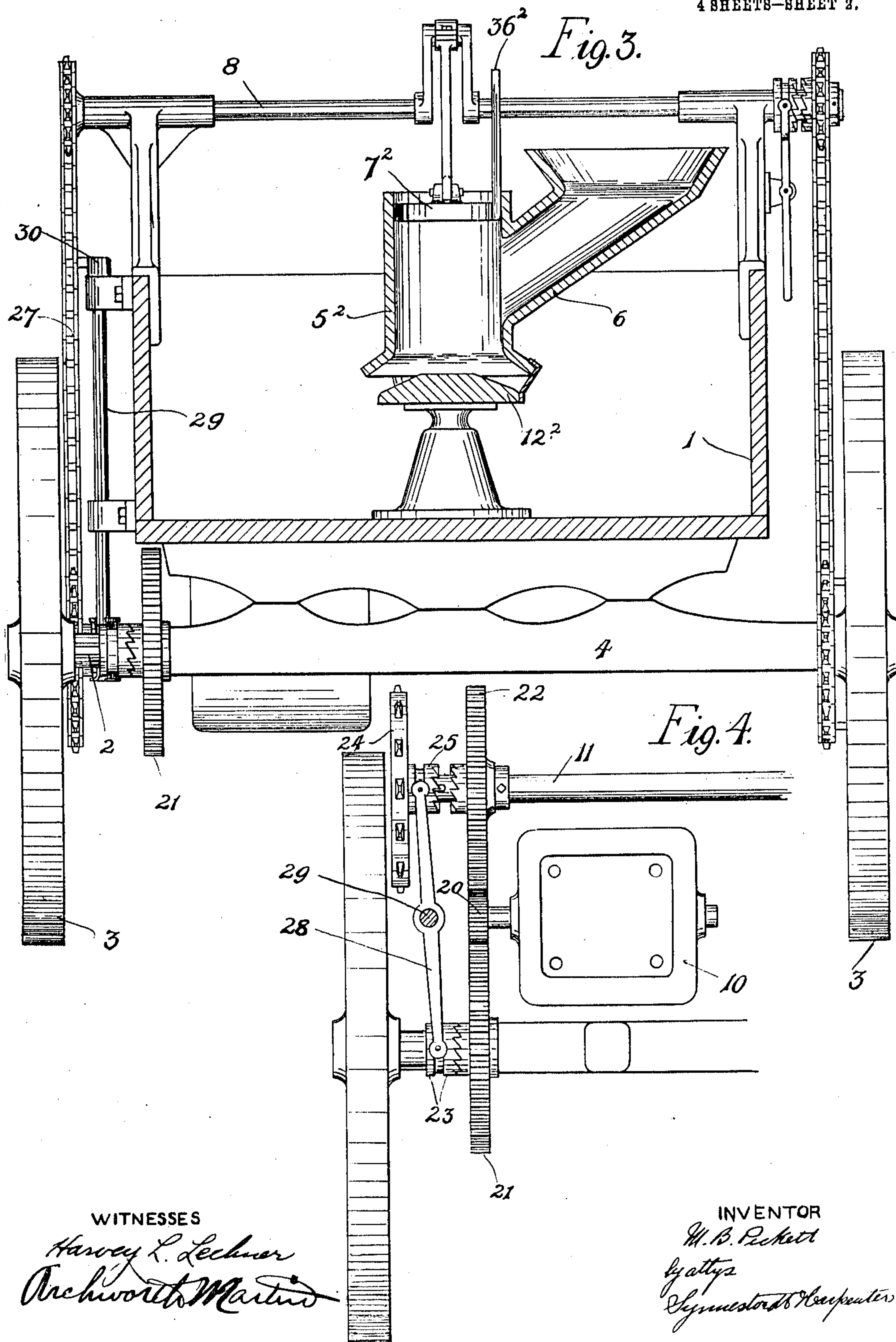
M. B. Pickett
by attys
Ogden & Carpenter

M. B. PICKETT.
MECHANISM FOR CRUSHING CANS.
APPLICATION FILED DEC. 4, 1907.

969,720.

Patented Sept. 6, 1910.

4 SHEETS—SHEET 2.



WITNESSES
Harvey L. Lechner
Archibald Martin

INVENTOR
M. B. Pickett
By attys
Chambers & Associates

M. B. PICKETT.
MECHANISM FOR CRUSHING CANS.
APPLICATION FILED DEC. 4, 1907.

969,720.

Patented Sept. 6, 1910.

4 SHEETS—SHEET 3.

Fig. 6.

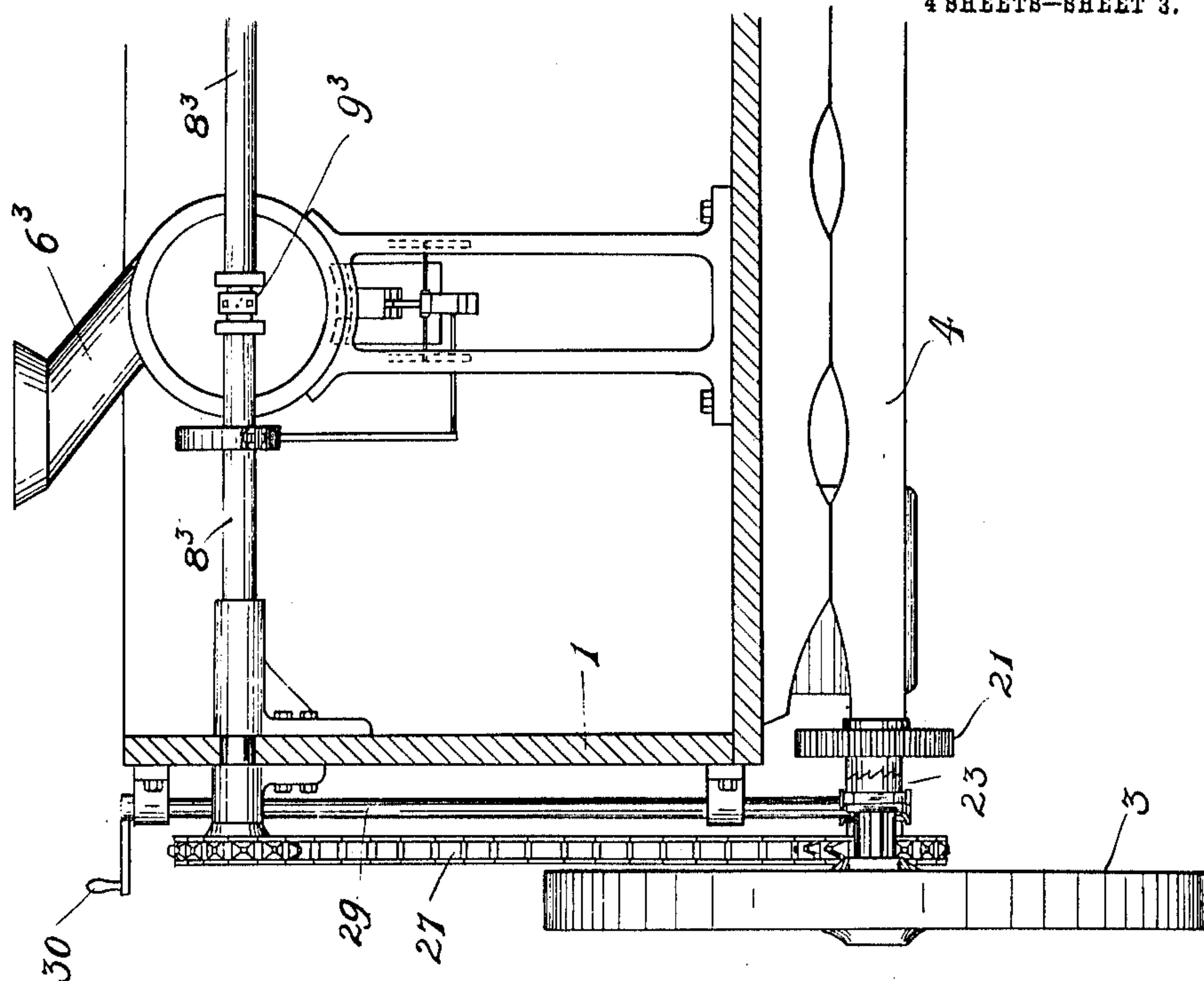


Fig. 5.

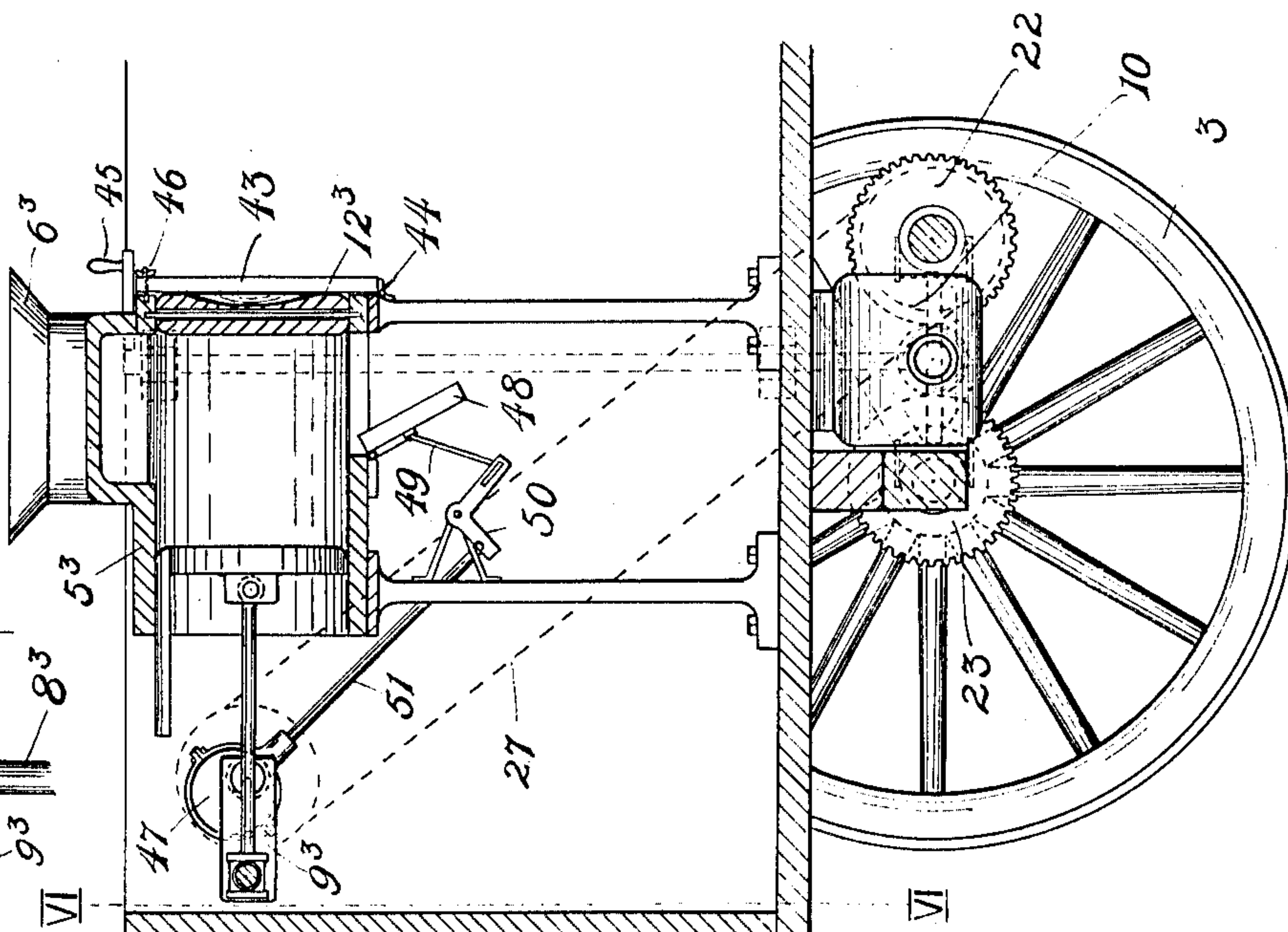
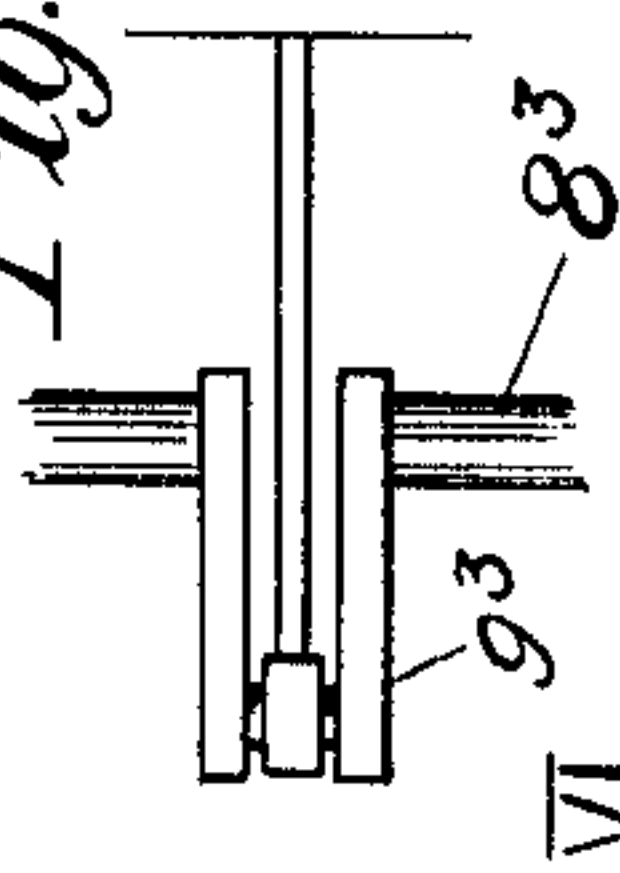


Fig. 7.



WITNESSES

Harvey L. Lechner
Archworth Martin

INVENTOR

M. B. Pickett
By Atty
Symons & Carpenter

M. B. PICKETT.
MECHANISM FOR CRUSHING CANS.
APPLICATION FILED DEC. 4, 1907.

969,720.

Patented Sept. 6, 1910.

4 SHEETS—SHEET 4.

Fig. 9.

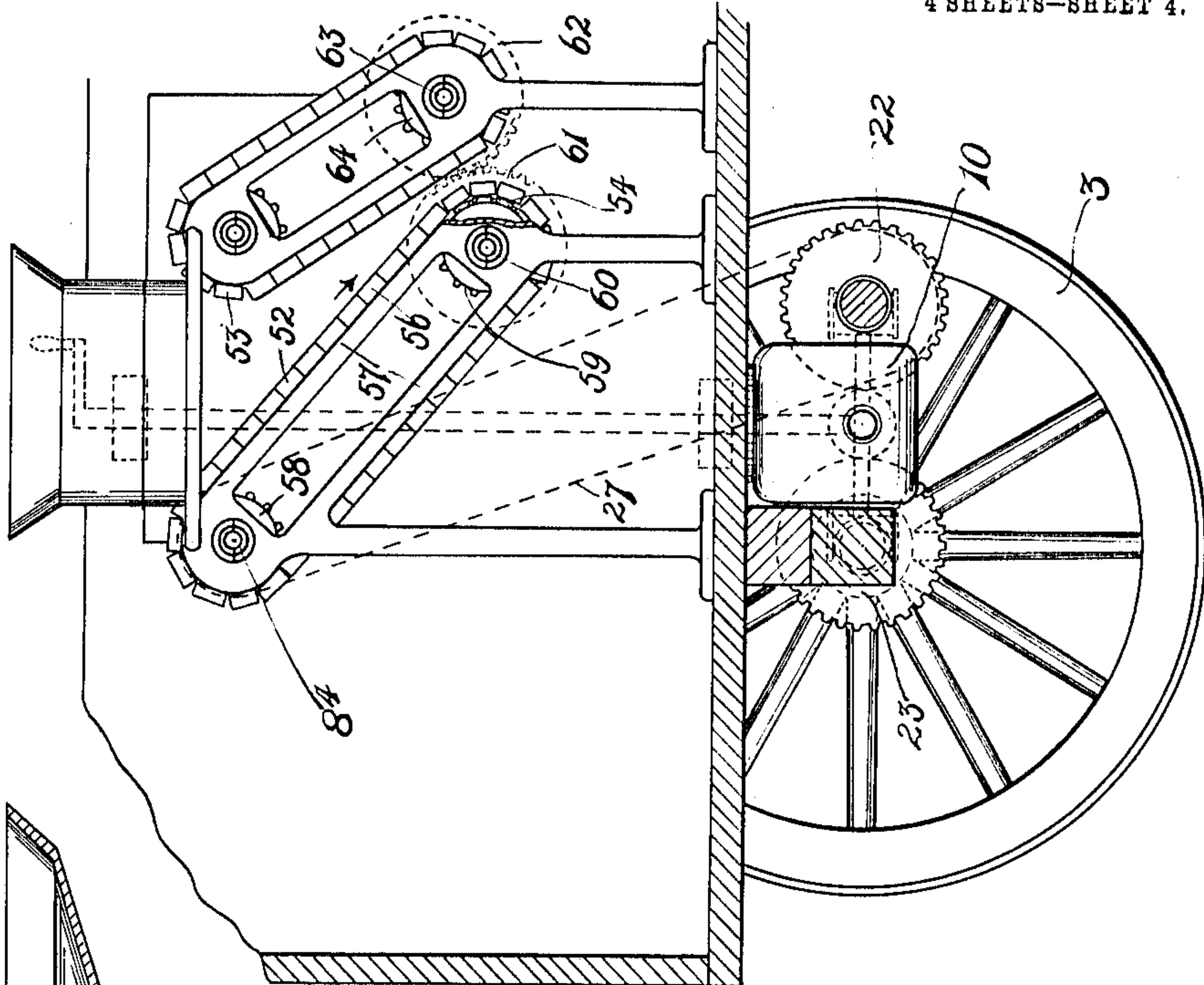
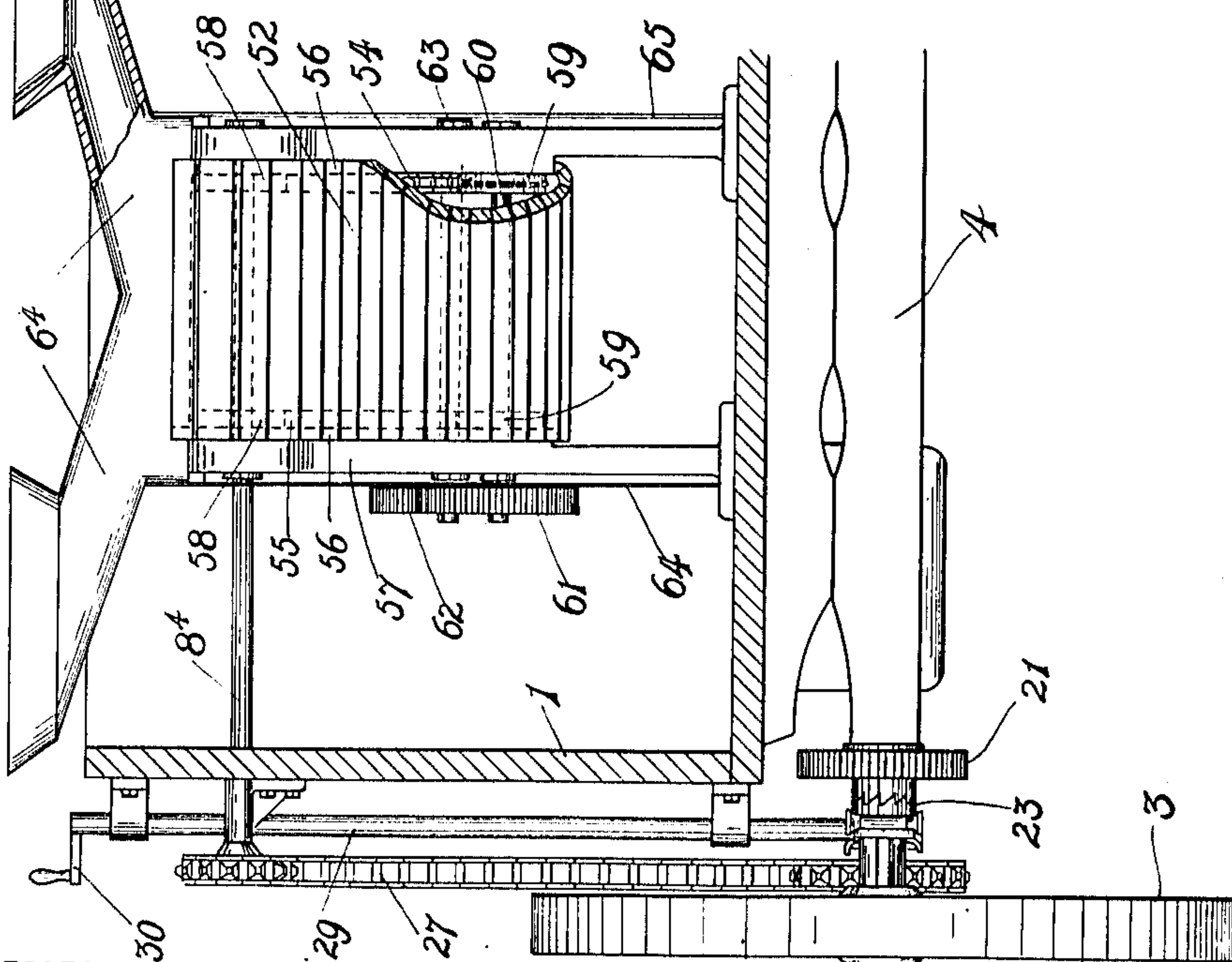


Fig. 8.



WITNESSES
Harry L. Lechner
Archibald Martin

INVENTOR
M. B. Pickett
by attys
Thompson & Carpenter

UNITED STATES PATENT OFFICE.

MONTGOMERY B. PICKETT, OF MAYWOOD, ILLINOIS, ASSIGNOR OF ONE-HALF TO
ROBERT F. PALMER, OF CHICAGO, ILLINOIS.

MECHANISM FOR CRUSHING CANS.

969,720.

Specification of Letters Patent.

Patented Sept. 6, 1910.

Application filed December 4, 1907. Serial No. 405,048.

To all whom it may concern:

Be it known that I, MONTGOMERY B. PICKETT, a citizen of the United States, residing at Maywood, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Mechanisms for Crushing Cans, of which the following is a specification.

The invention relates to mechanism for crushing or flattening tin cans so that their bulk may be reduced for transportation or storage.

The invention has for its principal objects; the provision of a mechanism in which two successive operations may be conveniently performed; the provision of a crushing mechanism which may be conveniently applied to a garbage or other wagon and which may derive its power either from the movement of the vehicle or from the motor means for the vehicle when the vehicle is not in motion; and the provision of a power mechanism which will operate without attention or manipulation other than the supplying of cans thereto.

Other objects of the invention will be apparent to those skilled in the art.

Certain embodiments of the invention are illustrated in the accompanying drawings, wherein:

Figure 1 is a transverse section through one form of my mechanism, Fig. 2 is a longitudinal section through a hand-operated mechanism embodying certain features of construction found in the power operated mechanism of Fig. 1, Fig. 3 is a transverse section similar to that of Fig. 1, but through a modified form of apparatus, Fig. 4 is a plan view of certain of the driving connections of the apparatus, which driving connections are the same in all of the various forms of apparatus used, Fig. 5 is a longitudinal section through still a different type of apparatus, Fig. 6 is a transverse section through the apparatus shown in Fig. 5 on the line VI—VI, Fig. 7 is a detail plan view of the crank device employed in Fig. 5, Fig. 8 is an end elevation, partly in section, of a further different type of apparatus, and Fig. 9 is a side elevation of the type of apparatus shown in Fig. 8.

In its preferred form, the crushing mechanism is designed to be mounted on a garbage or other similar receiving wagon, and comprises a means for flattening the cans to

which the cans are adapted to be fed, which flattening means is connected so as to be operated either from the motor means of the vehicle, when a motor vehicle is used and the vehicle is stationary, or from some moving part of the vehicle when the vehicle is either motor driven or not motor driven and is in motion.

Referring first to the general arrangement of the parts as shown in Figs. 1 and 4, 1 is the body of the vehicle employed, 2 is the axle of the vehicle upon which are mounted the rear wheels 3 of the vehicle, 4 is the axle support through which the rotary axle 2 carrying the wheels 3 extends, 5 is the cylinder or guide means of the crushing mechanism, to which the cans to be flattened may be fed through the chute 6, 7 is the piston by means of which the cans fed into the cylinder 5 are crushed, 8 is the drive shaft for the piston to which the piston is connected by the usual crank mechanism 9 shown in Fig. 1, 10 is the motor which may be of any desired type, and 11 (Fig. 4) is the counter-shaft from which the drive shaft 8 is driven.

Referring now more particularly to the construction of the crushing means as shown in Fig. 1, it will be noted that the cylinder 5 is provided with a reversible end 12 pivoted on the rod 13 which rod is provided with a turning handle 14 and a pair of holding members 15. These holding members are adapted to be held in the position shown or in positions 180° therefrom by means of pins passing through such members and engaging the recesses 16 in the cylinder 5, the upper surface of the member 12 is concave as shown in Fig. 1, while the opposite side is flat. It is designed to give the can first a preliminary flattening between the piston 7 and the concave face of the member 12 which recurved face prevents the can from slipping, and then reverse the member 12 and by another operation of the piston completely flatten the can. In order to discharge the cans after they have been flattened, the slots 17 are provided in the side of the cylinder 5 and the piston 7 is loosely mounted so that it may be tilted slightly to cause the cans to slide out through these openings 17. The tilting is accomplished by means of the slide rod 18 carrying at its opposite ends rollers engaging the bottom of the piston and the roller 19 on the shaft 8,

the roller 19 being eccentric in form and the rotation of the parts being so timed that when the piston is in the position shown in Fig. 1, it will be tilted to permit the cans to slide out through one of the openings 17.

The driving means for operating the shaft 8 will now be considered, reference being had particularly to Fig. 4. Referring to this figure it will be noted that the drive pinion 20 of the motor engages with a pair of opposing spur wheels 21 and 22, which are loosely mounted respectively on the axle of the vehicle and upon the shaft 11. The wheel 21 is brought into driving connection with the axle of the vehicle by means of the feathered clutch member 23 mounted upon the axle 2. The gear 22 is brought into driving connection with the shaft 11, which gear carries at its end the sprocket 24 by means of the clutch member 25, which clutch member is feathered upon the shaft 11. The shaft 8 carries a sprocket wheel 26 and this sprocket is driven from the sprocket 24 on the shaft 11 by means of the chain 27. The clutches 23 and 25 are operated by means of the lever 28 carried by the upwardly projecting rod 29, which rod has at its upper end in position to be conveniently operated, the handle 30. It will be seen that by the arrangement of clutches the motor of the vehicle may be used either to drive the vehicle or to drive the crushing means when the vehicle is stationary, and if desired the clutch members 23 and 25 might both be thrown into inoperative position. In the latter case the vehicle might be propelled in the usual way by the use of horses or mules, and in this case if desired, the can crushing means might still be operated by the use of the connection shown at the right hand side of Fig. 1. This connection includes the sprocket wheel 31 mounted on the end of the shaft 8, the wheel 32 carried by the axle of the vehicle, the chain 33 and the clutch member 34 feathered onto the shaft 8. The lever 35 is employed for operating the clutch member 34. In order to prevent a can from being fed through the chute 6 and into the cylinder when the piston 7 is in its upper or operative position, the cylinder is provided with a downwardly projecting guard 36 which closes the opening of the chute into the cylinder when the piston is in its upper position.

In Fig. 2 a hand operated device is illustrated, which hand operated device involves one of the features of invention as shown in the form of apparatus of Fig. 1, in that the upper crushing member 12 is rotatable about the ball joint 37 so that either the lower concaved face 38 may be used or the upper flat face, which operation corresponds to that of the device of Fig. 1 in which the member 12 may be reversed by rotating it about its axis. The block 12 is provided

with a removable operating lever 39 and a rigidly connected section 40 which is pivoted at 41 to the member carrying the ball 37. The member 42 constitutes the lower crushing member. In operation the can is preferably first crushed between the concave face 38 and the member 42 and then finally crushed between the upper flat face of the member 12 and the member 42.

The form of device shown in Fig. 3 is substantially the same as that of Figs. 1 and 4 with the exception that the crushing mechanism is slightly altered. In this form of device the cylinder 5² is provided with a stationary lower end 12² and an opening is provided between the edges of such lower end and the lower edges of the cylinder for the escape of the cans after they have been crushed. The piston 7² is reciprocated by precisely the same operating mechanism as that shown in Figs. 1 and 4, and is provided with an upwardly projecting guard 36² corresponding to the guard employed in the device of Fig. 1.

In the form of device as shown in Figs. 5 and 6, the driving means for the operating shaft 8³ is just the same as that heretofore described for the forms of devices shown in Figs. 1, 3 and 4, but the construction of the crushing mechanism is considerably modified. In this form of device the cylinder 5³ is placed horizontally instead of vertically, and the cans are fed to the top thereof through the chute 6³. The end 12³ is pivotally mounted in a manner similar to that shown for the end 12 in Fig. 1, but is kept from turning by somewhat different means, such means comprising the bar 43 hinged at 44 and provided at its upper end with the handle 45. The bar 43 is held in the position shown in Fig. 5 by means of the thumb screw 46 which passes through the bar and engages the end of the cylinder in the manner shown. The operating shaft 8³ is provided with the crank 9³ shown in plan view in Fig. 7, and also carries an eccentric 47 for operating a means to permit the cans to escape from the cylinder after crushing. The means permitting the cans to escape from the cylinder comprises a hinge door 48 connected to the eccentric by means of the links 49, 50 and 51 in the manner shown, the parts being so arranged that the door 48 is opened as the piston of the cylinder recedes from the crushing operation.

In the form of device as shown in Figs. 8 and 9, the driving means for the operating shaft 8⁴ is just the same as that heretofore described for the forms of devices shown in Figs. 1, 3, 4, 5 and 6, but the crushing means is substantially different. The crushing means in this form of device comprise two oppositely arranged series of continuously moving crusher blocks 52, 53, which approach each other at their respective lower

ends. Each block is mounted near its respective ends on the corresponding links of a pair of drive chains 54, 55, and the projecting ends 56 of each block ride upon a part of the supporting frame 57, in order to maintain the relative positions of the crushers. The chains 54, 55 which carry the series of blocks 52 are driven by a pair of sprockets 58 mounted on the shaft 8⁴, and in turn drive the sprockets 59 mounted on the shaft 60. At the end of the shaft 60 gear wheel 61 is provided for driving a like gear 62 mounted on the shaft 63 carrying the sprocket 64 which in turn drives the chains upon which are mounted the series of crusher blocks 53. At the sides of the frame 57 sheet metal guards 64, 65, are provided in order to prevent the cans from falling away from the crushers and, with reference to the guard 64, between the said gears. In this form of device the cans are fed into the space between the tops of the moving crushers from the side of the wagon, through one of the branches of the chute 6⁴, and are discharged at the lower end of the device.

Having thus described and illustrated its use, what I claim as new and desire to secure by Letters Patent is the following:—

1. A can crushing means comprising a pair of relatively movable crushing members, one of which has its opposite faces of different contour and is pivotally mounted to rotate so as to bring either face in position to cooperate with the face of the other member.

2. In combination in a can crushing machine, a cylinder, a power operated piston working in the cylinder, a feed chute, and means for preventing the feeding of cans from the chute to the cylinder when the piston is in operative position.

3. In combination in a can crushing machine, a cylinder, a power operated piston working in the cylinder, a feed chute, and stop means on the piston for preventing any feed to the cylinder when the piston is in operative position.

4. In combination in a can crushing ma-

chine, a cylinder, a power operated piston working in the cylinder, a feed chute leading into the side of the cylinder, and a rearwardly extending guard on the piston for closing the chute and preventing any feed to the cylinder when the piston is in operative position.

5. In combination in a can crushing machine, a cylinder having a reversible end with surfaces differing in contour, a power operated piston working in the cylinder and means whereby cans may be fed into the side of the cylinder.

6. In combination, a receiving vehicle, a pair of opposing relatively movable can crushing members mounted thereon and power means from a wheel of the vehicle for operating the crushing means.

7. In combination, a receiving vehicle, a pair of opposing relatively movable can crushing members mounted thereon, power means driven from the wheel of the vehicle for operating the crushing means and automatic means for discharging the crushed cans into the vehicle.

8. In combination, a receiving vehicle, a pair of opposing relatively movable can crushing members mounted thereon, power means driven from the wheel of the vehicle for operating the crushing means, a chute for feeding the cans between the crushing means and automatic means for discharging the crushed cans into the vehicle.

9. In combination, a receiving motor vehicle, a pair of opposing relatively movable can crushing members mounted thereon, and a clutch and driving connections whereby the motor of the vehicle may be connected either to drive the vehicle or to operate the crushing members.

In testimony whereof I have hereunto signed my name in the presence of the two subscribing witnesses.

MONTGOMERY B. PICKETT.

Witnesses:

PAUL CARPENTER,
ALFRED Y. ANDREWS.