

Feb. 14, 1933.

C. A. ALBRECHT

1,897,543

HEDGE CUTTER

Filed March 17, 1932

3 Sheets-Sheet 1

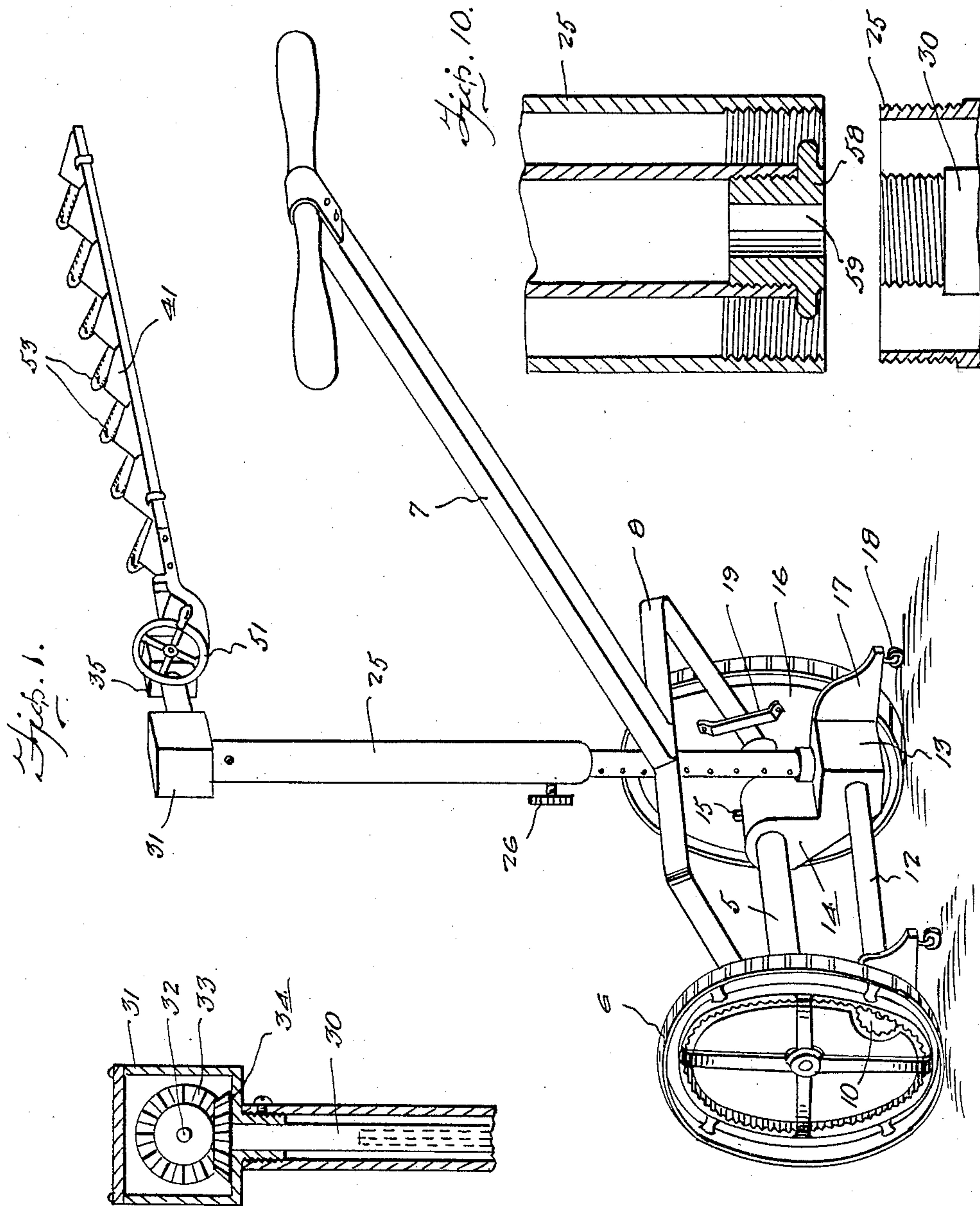


Fig. 5.

Fig. 10.

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Fig. 2.

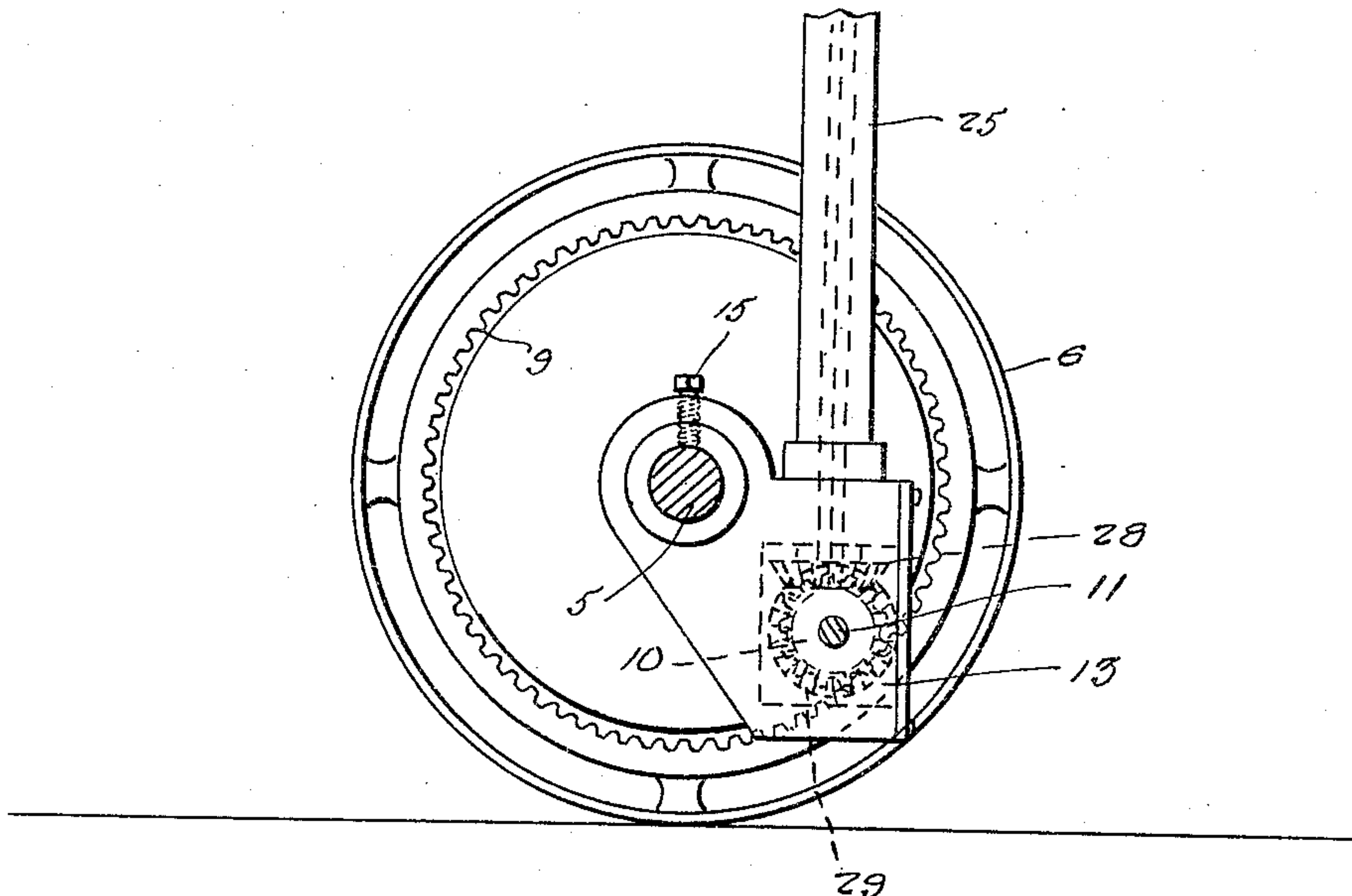


Fig. 3.

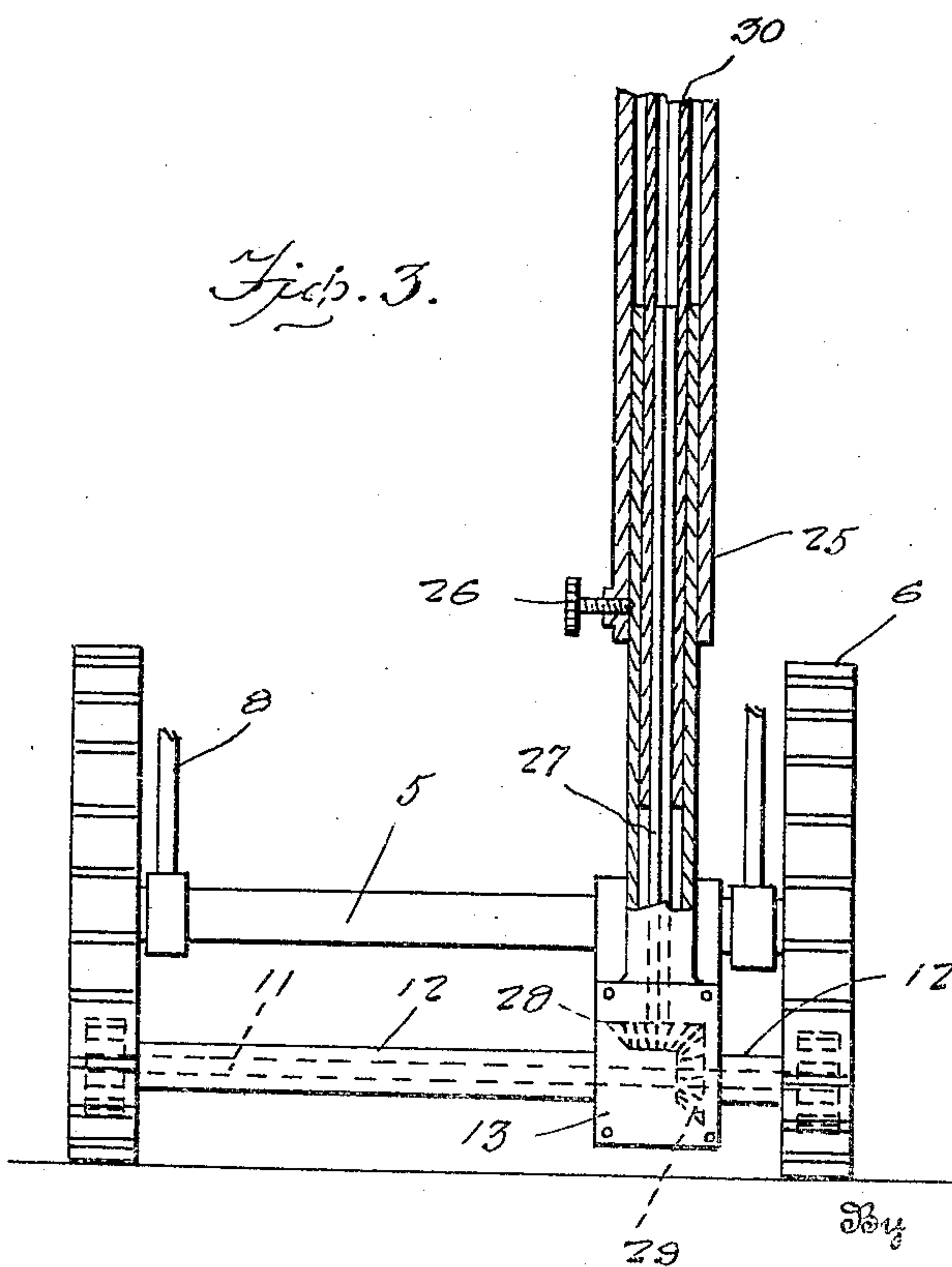
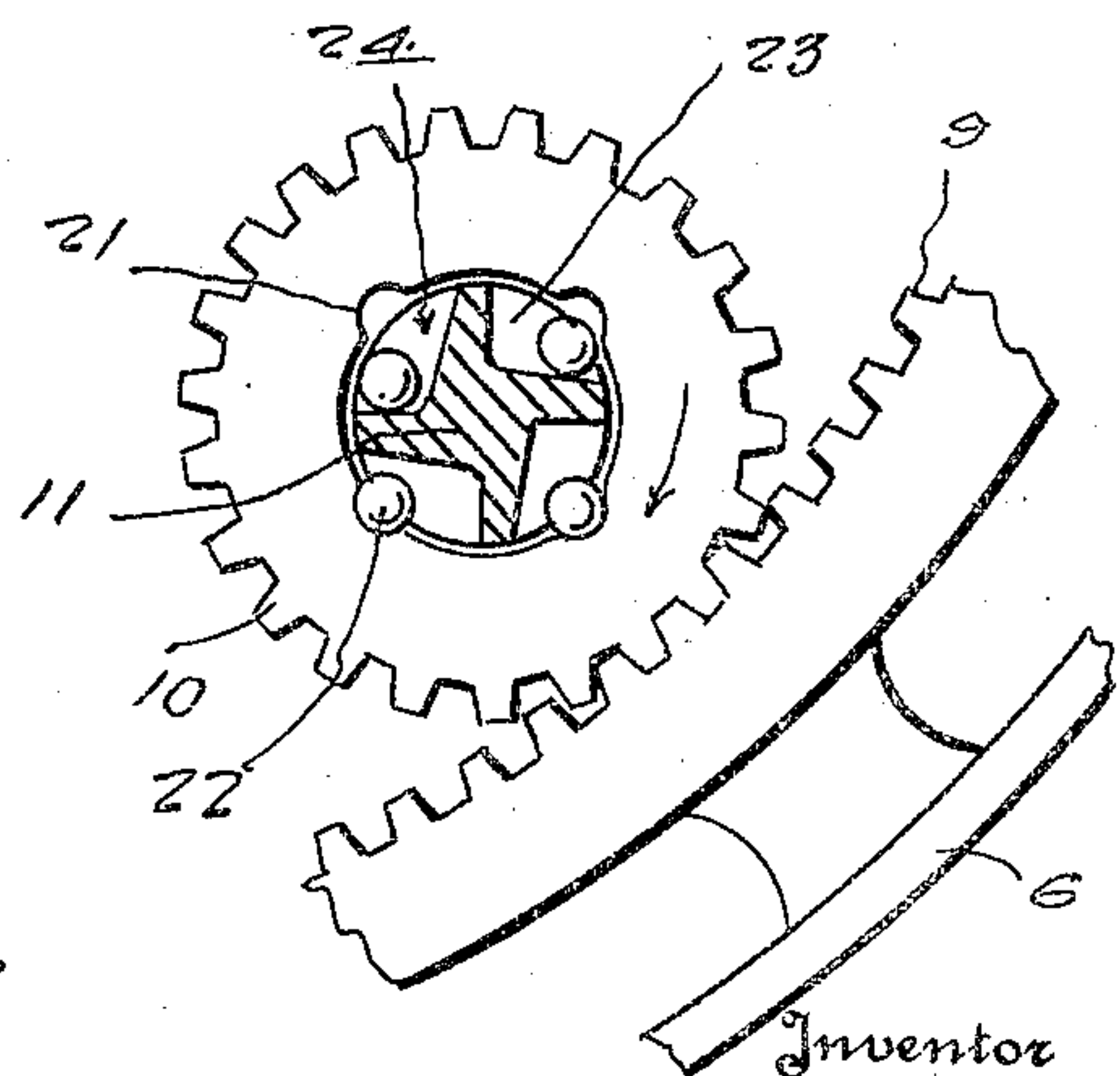


Fig. 4.



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Fig. 6.

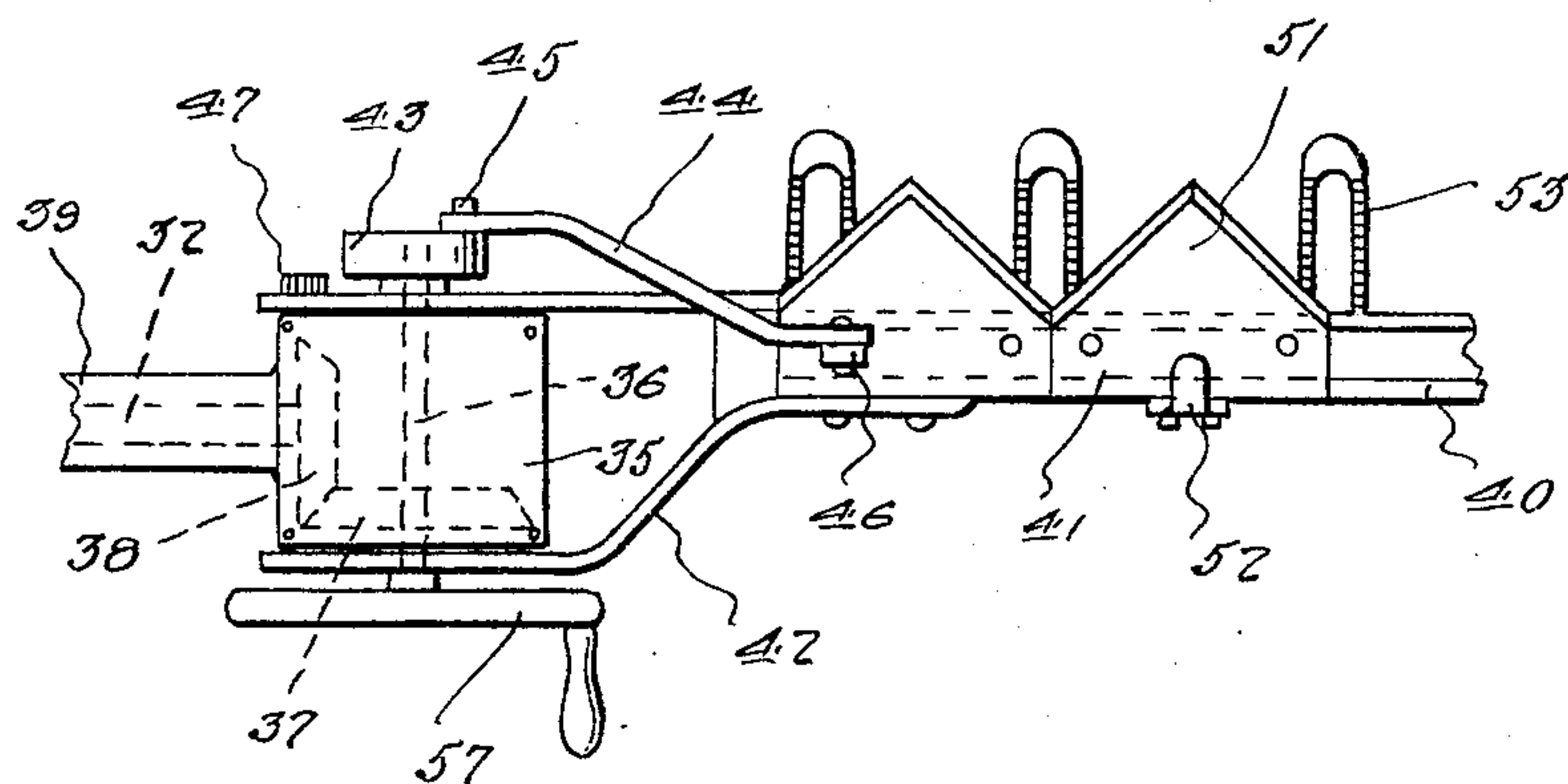


Fig. 7.

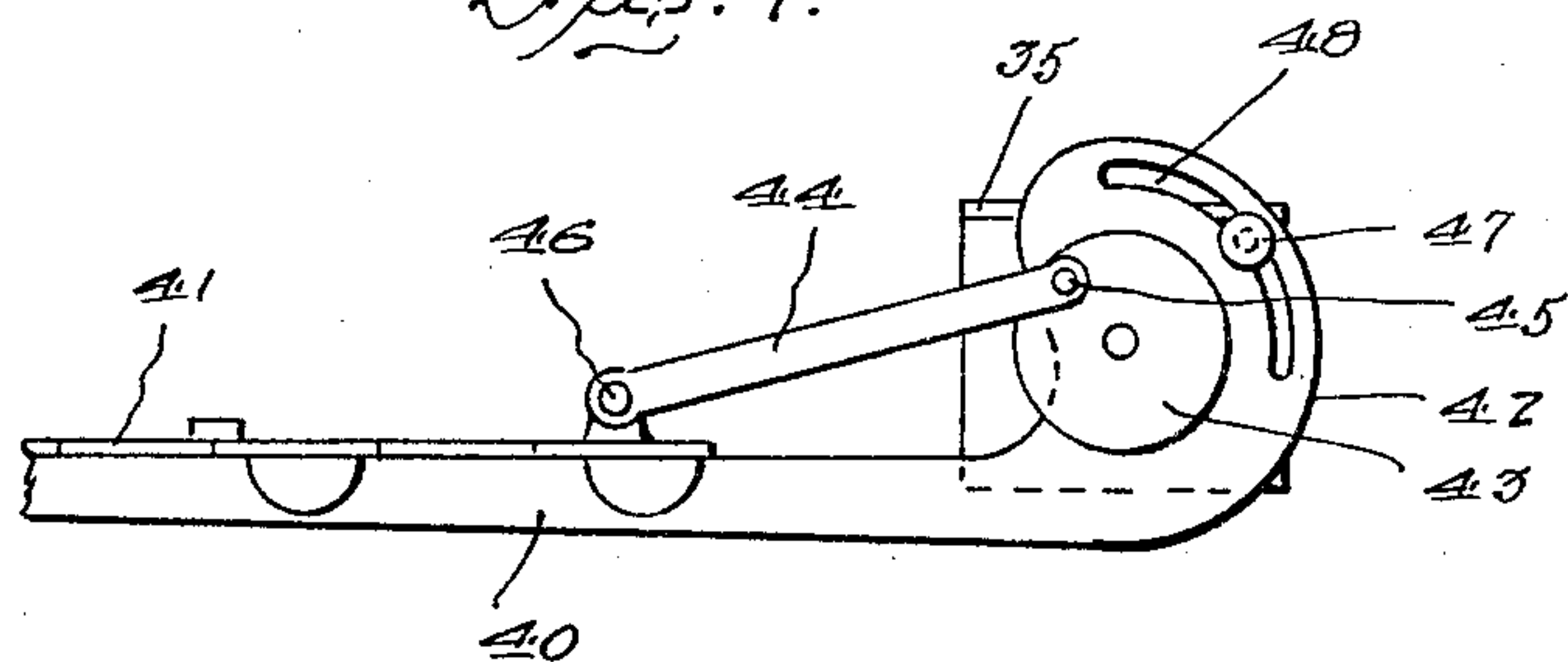


Fig. 8.

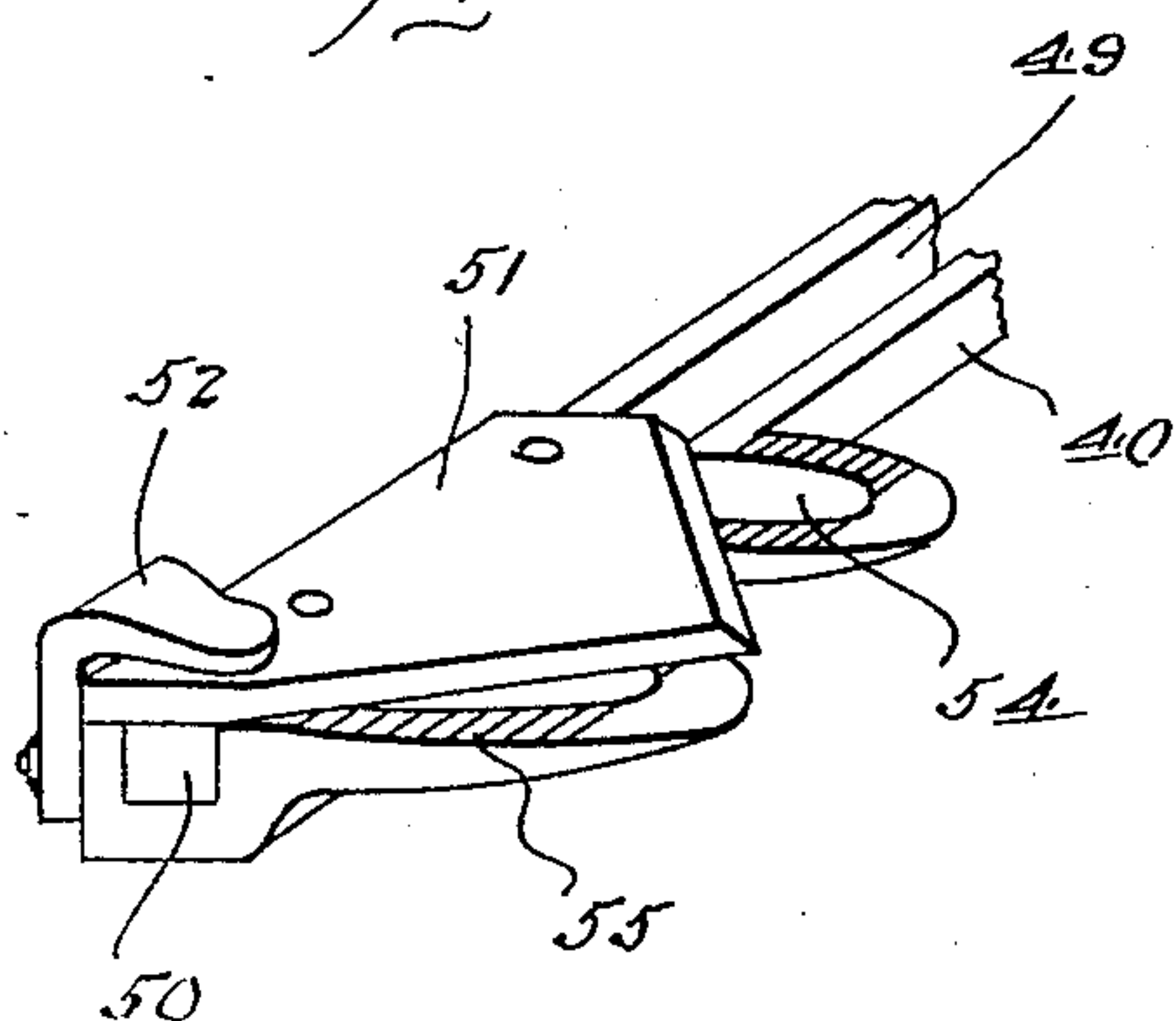
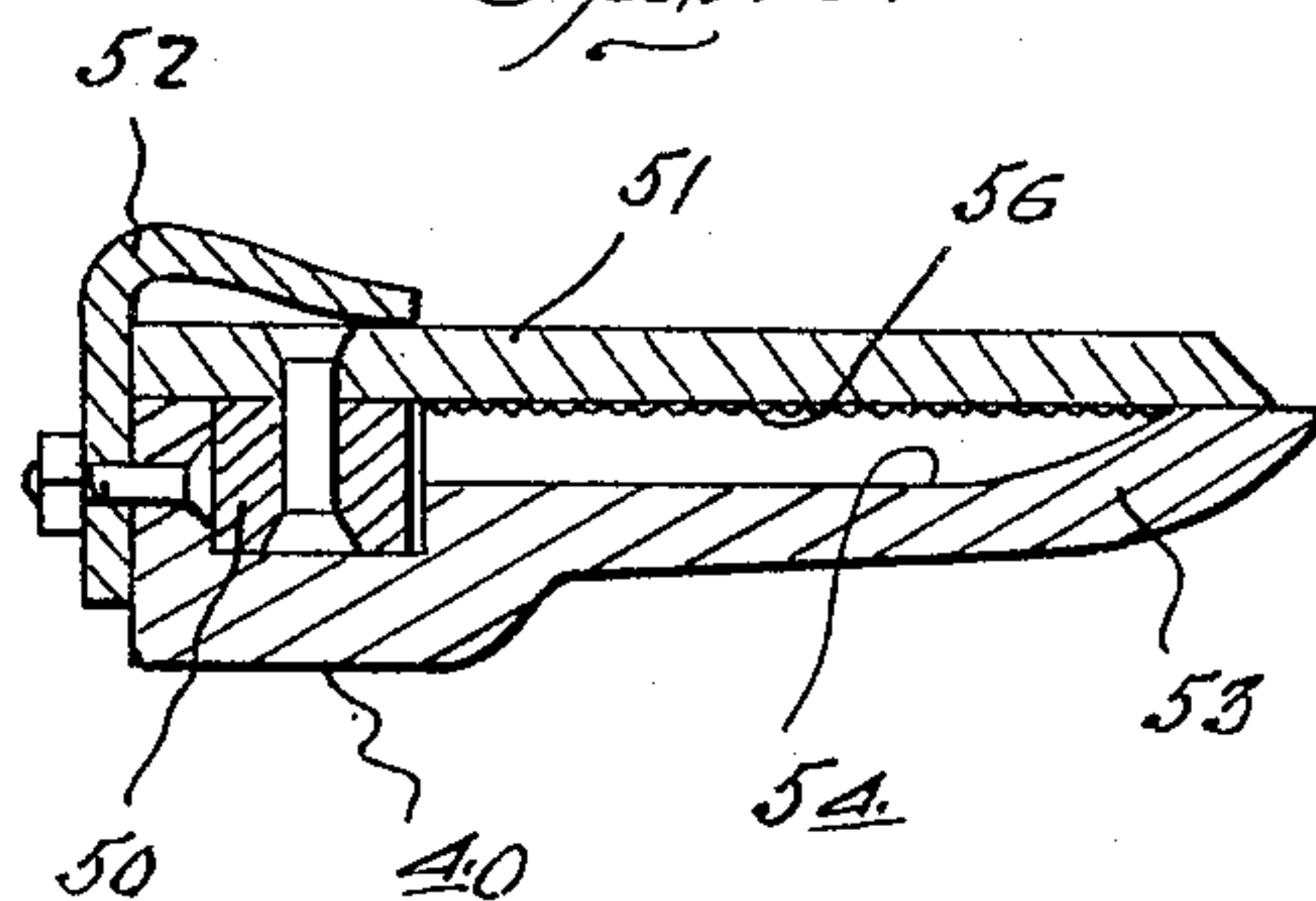


Fig. 9.



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UNITED STATES PATENT OFFICE

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HEDGE CUTTER

Application filed March 17, 1932. Serial No. 599,523.

My invention relates to a hedge cutter and has for its object to provide a cutter adjustably mounted on a wheeled carriage and operable through movement of the carriage wheels to cut the top of the hedge as the carriage is moved along the side thereof.

A further object is to provide dual operating means for the cutter enabling the selective operation thereof either by a hand crank or by a drive connection with the wheels of the carriage.

A still further object is to provide a specially designed cutter element for hedges and the like.

Another object of the invention is to provide a machine of the above-mentioned character which is simple and durable in construction, reliable and efficient in operation and inexpensive to manufacture.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawings, forming a part of this specification and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a perspective view of the machine,

Figure 2 is a section thru the axle showing the inner side of one of the wheels and the casting for the rear housing in elevation,

Figure 3 is a fragmentary sectional view through the adjustable shaft housing,

Figure 4 is a detail of the ratchet drive connection,

Figure 5 is a sectional view thru the upper connection for the adjustable shaft,

Figure 6 is a fragmentary top-plan view of the cutter,

Figure 7 is a side elevational view thereof,

Figure 8 is a fragmentary view of the cutter in perspective,

Figure 9 is a transverse sectional view thereof, and

Figure 10 is a fragmentary vertical sectional view of the shaft housing showing the removable connecting plug for inserting an added section.

In the drawings, wherein for the purpose of illustration, I have shown a preferred em-

bodiment of my invention, a carriage is shown consisting of an axle 5 having wheels 6 journalled on the ends thereof. The carriage is pushed along the ground by a handle 7 connected to the axle by means of a yoke 8, the ends of which are pivoted on the axle.

The wheels are formed with an internal gear 9 engaged by pinions 10—10 carried at the outer ends of a shaft 11 extending through a gear housing 13, the ends of the shaft being journalled in a pair of shaft housings 12—12. The gear housing is formed at one side of a casting 14 which is provided with an opening through which the axle 5 is inserted for support thereon, and secured in position by a stud 15. Plates 16 are fixedly supported on the axle for covering the inner sides of the wheels 6 and have openings through which the outer ends of the shaft 11 and housings 12—12 are inserted. Arms 17 project rearwardly from the plates upon which ground rollers 18 are mounted for supporting the shaft housings 12—12 and the rear end of the casting 14. The plates 16 also carry clamping brackets 19 through which the ends of the yoke 8 are inserted for adjustably securing the handle in elevated position.

The pinions 10 are provided with a ratchet engagement with the outer ends of the shaft 11, the pinions having a central opening 20 formed with spaced recesses 21 within which balls 22 are partially seated. The ends of the shaft 11 inserted through the openings are formed with pockets 23 having one edge 24 inclined from the radial plane of the shaft to wedge the balls in one portion of the pockets upon rotation of the pinion in one direction, as indicated by the arrow in Figure 4 of the drawings, and to permit the balls to ride freely in the pockets upon a reverse movement of the pinion. Thus upon the rotation of the wheels 9 in a forward direction the power will be transmitted to the shaft 11, while a rearward movement of the wheels will cause the shaft to idle.

A telescoping shaft housing indicated generally at 25 rises vertically from the gear housing 13, the sections of the shaft housing

being secured in vertically adjusted position by a set-screw 26. A lower shaft section 27, square-shaped in cross section, extends upwardly in the housing and is connected at its lower end with the shaft 11 by bevel gears 28 and 29. A tubular shaft section 30 is provided with a squared bore for receiving the upper end of the shaft section 27, the upper end of the tubular shaft section extending within a gear housing 31 supported on the upper end of the housing 25.

A horizontal shaft 32 extends from one side of the gear housing 31 and is connected at one end to the shaft section 30 by bevel gears 33 and 34. The opposite end of the shaft 32 extends within a gear housing 35 within which is journaled a transverse shaft 36 connected to the shaft 32 by bevel gears 37 and 38. The two gear housings 31 and 35 are connected by a tubular arm 39 within which the horizontal shaft is journaled.

A reciprocating cutter is supported by the gear housing 35 and comprises a stationary cutter bar 40 and a movable cutter bar 41, the former having a yoke 42 at its inner end which straddles the housing 35 and has its ends pivotally mounted on the ends of the shaft 36, which project therefrom. A crank 43 is fixedly mounted on one end of the shaft 36 and is connected with the movable cutter bar 41 by means of a connecting rod 44, which has one end attached to the crank pin 45 of the crank and its opposite end pivotally connected with the cutter bar 41, as at 46.

Thus it will be seen, the cutter is readily adjustable to assume either a horizontal or vertical position with respect to the ground and is held in its adjusted position by a set screw 47 which extends through an arcuate slot 48 in one end of the yoke 42 and is screwed into the side of the housing 35.

The upper surface of the cutter bar 40 is formed with a longitudinal groove 49 within which is slidably seated a bar 50 secured to the under side of the individual teeth 51, of which the cutter bar 41 is formed. The bar and groove cooperate to guide the movable cutter bar during its operation. Spring fingers 52 secured to the rear edge of the stationary bar overlie the top of the movable bar to releasably secure the movable bar in position.

The teeth 53 provided on the stationary bar have their upper surfaces recessed as at 54 to provide double edges 55 cooperating with the edges of the teeth 51 of the movable bar. The surface of the teeth 53 are notched as shown at 56 and the outer ends of the teeth 53 project beyond the outer edges of the teeth 51 to prevent the twigs of the hedge from slipping off the teeth.

On the end of the shaft 36, opposite from the crank 43, is secured a hand crank or wheel 57 which provides an independent operating

means for the cutter and intended for use when the machine is moving slowly as when turning the corner of the hedge. The ratchet connection between the pinions 10 and shaft 11 will enable the cutter to be operated at an increased speed by the hand crank without necessitating a corresponding speed in the movement of the carriage.

Should it be desired to use the device for cutting hedges of an unusual height, additional sections of the housing 25 and tubular shaft 30 may be inserted through the use of the coupling member 58 threaded in the lower end of the shaft 30 and provided with a squared opening 59 into which the ends of the squared shaft sections 27 are inserted.

I claim:

1. A hedge cutter comprising a wheeled carriage, a cutter bar supported in elevated position thereon, a drive connection for the cutter bar with the wheels of the carriage and auxiliary operating means for the cutter bar.
2. A hedge cutter comprising a wheeled carriage, a cutter bar supported in elevated position thereon and dual operating means for said cutter bar.
3. A hedge cutter comprising a wheeled carriage, a cutter bar supported in elevated position thereon, a drive connection for the cutter bar with the wheels of the carriage and auxiliary operating means for the cutter bar interposed in said drive connection.
4. A hedge cutter comprising a wheeled carriage, a cutter bar supported in elevated position thereon, a drive connection for the cutter bar with the wheels of the carriage and a hand crank operatively associated with said drive connection providing independent operating means for the cutter bar.
5. A hedge cutter comprising a wheeled carriage, a cutter bar operatively supported in elevated position thereon, a drive connection for the cutter bar with the wheels of the carriage for operating the cutter bar upon movement of the wheels in one direction, said connection being disengaged from the wheels upon a reverse movement of the wheels, and auxiliary drive means for the cutter bar interposed in said drive connection.
6. A hedge cutter comprising a wheeled carriage, an upright shaft rotatably supported thereon, gears operatively connecting the lower end of the shaft with the wheels of the carriage, a cutter bar adjustably supported in elevated position on the carriage, gears operatively connecting the shaft with said cutter bar, a shaft for one of said last named gears, and a manually operated crank connected to said last named shaft.
7. A hedge cutter comprising a wheeled carriage, a vertically extensible shaft rotatably supported thereon, gears operatively connecting the lower end of the shaft with the wheels of the carriage, a horizontal shaft

rotatably supported at the upper end of said vertical shaft, a cutter bar pivotally supported at one end, gears operatively connecting said shafts with the cutter bar, and independent manual operating means for the cutter bar attached to said horizontal shaft.

8. A hedge cutter comprising a wheeled carriage including an axle, a gear housing secured to the axle, a shaft projecting from the side of the housing and operatively connected with the wheels of the carriage, a vertical shaft extending upwardly from the housing, gears within the housing operatively connecting said shafts and a reciprocating cutter operatively connected with said vertical shaft.

9. A hedge cutter comprising a wheeled carriage including an axle, a gear housing secured to the axle, a shaft projecting from the side of the housing and operatively connected with the wheels of the carriage, a telescoping shaft housing rising from said gear housing, means for securing the same in vertically adjusted position, a vertically adjustable shaft in said shaft housing, gears operatively connecting said shafts and a reciprocating cutter operatively connected with the upper end of said vertical shaft.

10. A hedge cutter comprising a wheeled carriage including an axle, a gear housing secured to the axle, a shaft projecting from the side of the housing and operatively connected with the wheels of the carriage, a vertically adjustable shaft housing rising from the gear housing, a sectional shaft therein comprising a shaft section of non-circular formation in cross-section and a second shaft section having a plug removably fitted in one end provided with a recess for receiving said first named shaft section, gears connecting the lower end of the sectional shaft to said first named shaft, a gear box on the upper end of the shaft housing, a reciprocating cutter adjustably supported thereby, a crank shaft for the cutter and gears in the gear box operatively connecting said section shaft with said crank shaft.

11. A hedge cutter comprising a wheeled carriage, including an axle having a pair of wheels freely mounted thereon, internal gears on said wheels, plates mounted on the axle enclosing said gears, a casting adjustably supported on said axle, a gear housing in one portion of the casting, a pair of shaft housings connecting the opposite sides of said gear housing with said plates, shafts in the housings operatively connected to the gears of the wheels, a shaft extending upwardly from the gear housing having a cutter operatively mounted at its upper end and gears in the gear housing operatively connecting said shafts.

12. A hedge cutter comprising a wheeled carriage including an axle having a pair of wheels freely mounted thereon, internal gears

carried by said wheels, a pair of plates on the axle covering one side of the wheels, a casting having an opening therethrough adjacent one edge for receiving the axle to support the front edge of the casting, a gear housing in the rear of the casting, shaft housings projecting from opposite sides thereof and connected to said plates for supporting the rear of the casting, shafts journaled in the housings and operatively connected to the gears of said wheels, a shaft rising from the housing having a cutter operatively connected thereto and gears in the gear housing operatively connecting said shafts.

13. A cutter comprising a stationary cutter bar having a longitudinal groove therein, a reciprocating cutting member having a guide seated in the groove and a plurality of angular clips carried by the stationary cutter for releasably holding the reciprocating cutting member in cutting engagement.

14. A cutter comprising a stationary cutter bar having teeth thereon, said teeth having their cutting surfaces recessed to provide double edges, said edges being serrated transversely and a movable cutter bar having teeth cooperating in cutting relation with the serrated edges of said stationary bar and terminating short of said stationary teeth.

15. A cutter comprising a stationary cutter bar and a movable cutter bar, one of said cutter bars having teeth formed with a plurality of spaced parallel upstanding cutting edges.

In testimony whereof, I affix my signature.
CHARLES A. ALBRECHT.

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