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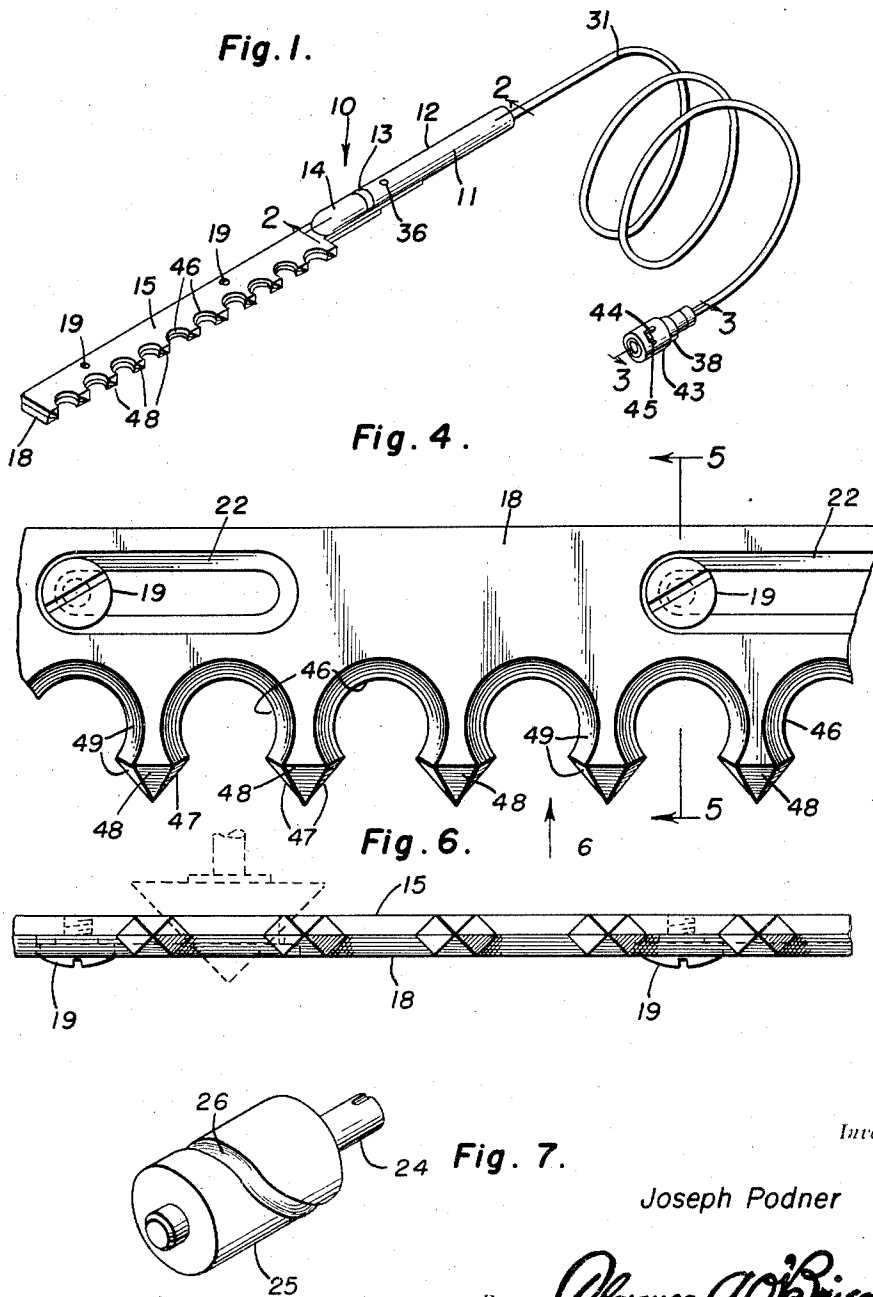
J. PODNER

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HEDGE TRIMMER WITH SECTIONED HOUSING

Filed April 18, 1947

2 Sheets-Sheet 1



Inventor

Joseph Podner

By

Clarence A. O'Brien
and Harvey B. Jacobson
Attorneys

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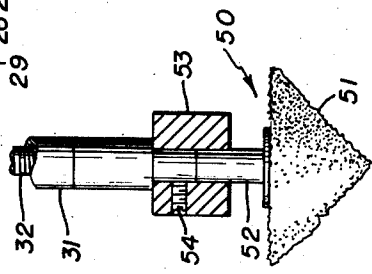
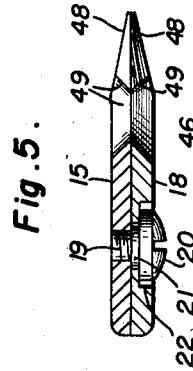
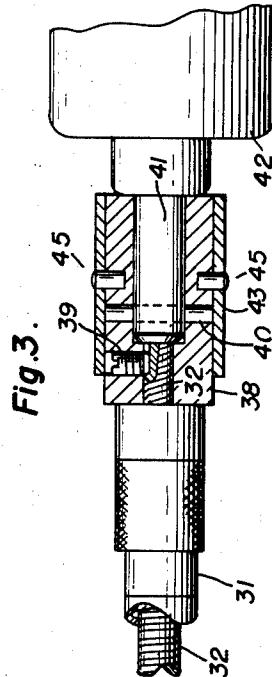
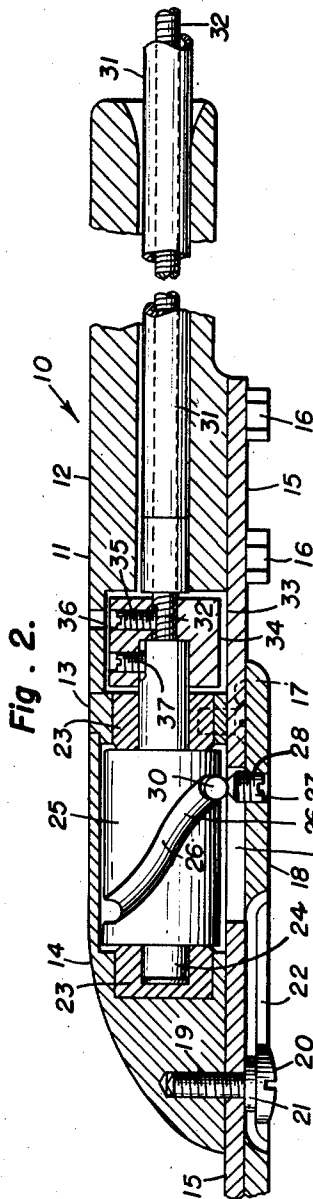
J. PODNER

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HEDGE TRIMMER WITH SECTIONED HOUSING

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2 Sheets-Sheet 2



Inventor

Joseph Podner

By

Alvanice A. O'Brien
and Harvey B. Jacobson
Attorneys

UNITED STATES PATENT OFFICE

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HEDGE TRIMMER WITH SECTIONED HOUSING

Joseph Podner, Hastings, Minn., assignor of
twenty per cent to Kermit A. Larson, St. Louis
Park, Minn.

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2 Claims. (Cl. 30—218)

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This invention relates to new and useful improvements and structural refinements in power clippers, more specifically, remotely actuated portable clippers, and the principal object of the invention is to provide a device of the character herein described, which may be conveniently and effectively employed for the trimming of trees, shrubs, hedges, and the like.

A further object of the invention is to provide a power clipper which embodies in its construction a cutting head operatively connected by means of a length of flexible cable to a relatively stationary actuating motor, so that the manipulation of the cutting head may be easily and conveniently undertaken, even in poorly accessible locations.

Another object of the invention is to provide a power clipper which is simple in construction, which may be easily sharpened even by unskilled persons, and which is otherwise well adapted for the various purposes for which it may be used.

With the above more important objects in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the invention;

Figure 2 is a cross sectional view, taken substantially in the plane of the line 2—2 in Figure 1;

Figure 3 is a cross sectional view, taken substantially in the plane of the line 3—3 in Figure 1;

Figure 4 is a fragmentary underside plan view of the cutting blade used in the invention;

Figure 5 is a cross sectional view, taken substantially in the plane of the line 5—5 in Figure 4;

Figure 6 is an edge view, taken in the direction of the arrow 6 in Figure 4;

Figure 7 is a perspective view of a cam cylinder used in the invention, and

Figure 8 is an elevational view of a blade sharpening attachment, such as may be employed in association with the invention.

Like characters of reference are used to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention consists of a power clipper designated generally by the reference character 10, the same embodying in its construction an elongated carrier housing 11 which is composed

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of a plurality of longitudinally aligned, complementary sections 12, 13 and 14.

These sections are separably connected together by means of a stationary cutter blade 15, the latter being removably attached to the housing sections by a plurality of suitable bolts 16, 17.

A reciprocable cutting blade 18 is positioned adjacent the stationary blade 15 and is slidably attached thereto by means of a plurality of guide screws 19. These screws are equipped with enlarged heads 20 and with diametrically reduced shoulders 21 disposed immediately adjacent the heads, the heads 20 being disposed in elongated, counterbored slots 22 formed in the blade 18, while the shoulders 21 are tightened against the adjacent surface of the blade 15. It will be apparent that in this manner, the screws 19 perform a double function, namely, that of attaching the blade 18 to the blade 15 and guiding the reciprocating movement of the former.

The housing sections 13, 14 are equipped with a pair of bearing blocks 23 which, in turn, accommodate a rotatable shaft 24. A cylindrical drum 25 is secured to the shaft 24 and is provided in the lateral surface thereof with a continuous cam groove 26, as will be clearly apparent from the accompanying drawings.

A follower screw 27 engages a screw threaded aperture 28 formed in the blade 18 and extends through a slot 29 provided in the blade 15, so that the inner end thereof may function as a seat for a ball 30 which is urged in engagement with the groove 26 by the screw (27).

Accordingly, it will be observed that rotation of the shaft 24 will reciprocate the blade 18 by virtue of the cam groove and follower structure described.

The housing section 12 provides a receptacle, as it were, for one end portion of a flexible casing 31 which accommodates a rotatable, flexible cable 32. This cable projects into a chamber 33 formed in the housing section 11 and carries a coupling 34 which is removably secured to the cable by means of a set screw 35. This set screw is accessible through an aperture 36 formed in the housing section 12, and the coupling 34 is also equipped with a further set screw 37, whereby it may be secured to the adjacent end portion of the aforementioned shaft 24. If desired, the latter may be provided with a suitable, longitudinally extending bore so as to accommodate the adjacent end portion of the cable 32.

It will be apparent from the foregoing that the cable and casing 31, 32 may be readily disconnected from the housing 11 by simply loosening

ing the set screw 35 and removing the screws 16, 17 whereupon the housing sections 13, 14 may be readily separated from the section 12.

The remaining end portion of the cable 32 is provided with a further coupling 38 which is secured thereto by means of a set screw 39, the coupling 38 being, in turn, equipped with a shear pin 40 which also passes through the drive shaft 41 of a suitable gasoline or electric motor 42. The coupling 38 is enclosed by a tubular sleeve 43, the latter being formed with a pair of diametrically opposed bayonet slots 44. These slots accommodate a pair of diametrically opposed pins 45 provided on the coupling 38, and it will be noted that by simply rotating and sliding the sleeve 43 on the coupling 38, immediate access may be had to the set screw 39 for the purpose of attaching the coupling to or disconnecting the same from the cable 32.

When the invention is placed in use, the coupling 38 may be connected, as aforesaid, to the drive shaft of a suitable electric or gasoline motor, and by virtue of the flexible cable and casing 32, 31, the cutting head may be conveniently manipulated, while the actuating motor remains relatively stationary on the ground.

Needless to say, the cable 32 may be of any desired length, and also, a rigid extension shaft may be interposed between the outer end of the cable and the cutting head, so as to facilitate access to high trees, or the like.

Referring again to the structure of the cutting blades 15, 18, the extent of reciprocating movement of the blade 18 is, of course, governed by the "throw" of the groove 26 in the cam cylinder 25, as will be readily appreciated.

Each of the blades 15, 18 consist of a strip formed adjacent one end thereof with a row of substantially circular openings 46 and with suitable notches 47 which extend inwardly from the edge of the strip to said openings. As is best shown in Figures 4 and 5, these openings and notches define a row of teeth 48 on each of the two blades, and the edges of the openings 46 as well as of the teeth 48 are beveled on one side of the blade, as indicated at 49. In this manner, the formation of sharp cutting edges is achieved, but it will be noted that the adjacent contacting surfaces of the blades 15, 18 are flat, so that relative sliding movement of the two blades is facilitated.

Finally, with reference to the accompanying Figure 8, a sharpening attachment designated generally by the reference character 50 is provided for use in association with the invention, the same embodying in its construction a substantially conical grind stone 51 mounted upon the shank 52. This shank is, in turn, equipped with a coupling 53 provided with a set screw 54, whereby the entire attachment may be readily mounted upon the outer end portion of the cable 32, after the cutting head has been removed from the latter. The configuration of the stone 51 is complementary to the beveled edges 49 of the

openings 46, whereby sharpening of the blades 15, 18 may be undertaken even by unskilled persons.

It is believed that the advantages and use of the invention will be clearly understood from the foregoing disclosure and accordingly, further description thereof at this point is deemed unnecessary.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim as my invention is:

1. A power clipper comprising a housing including first, second and third endwise abutting sections, said first section having a recess therein, a cam member disposed in said recess and journaled in said first and second sections, said third section having a passage therein, a drive shaft extending through said third section and into said passage, means disposed in said passage for coupling said shaft and cam member, a fixed blade having a portion thereof underlying said sections and constituting a closure for said recess and passage, means securing said second and third sections to said fixed blade, a movable blade, common means slidably connecting said movable blade to said fixed blade and immovably connecting said fixed blade to said first section, and follower means carried by said movable blade and engaging said cam member.

2. The combination of claim 1 wherein said movable blade has a shouldered slot therein, said common connecting means including a bolt having a stepped head, said stepped head being slidably received in said shouldered slot and engaged with said fixed blade to immovably attach the first section to the fixed blade and slidably attach the movable blade to the fixed blade.

JOSEPH PODNER.

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