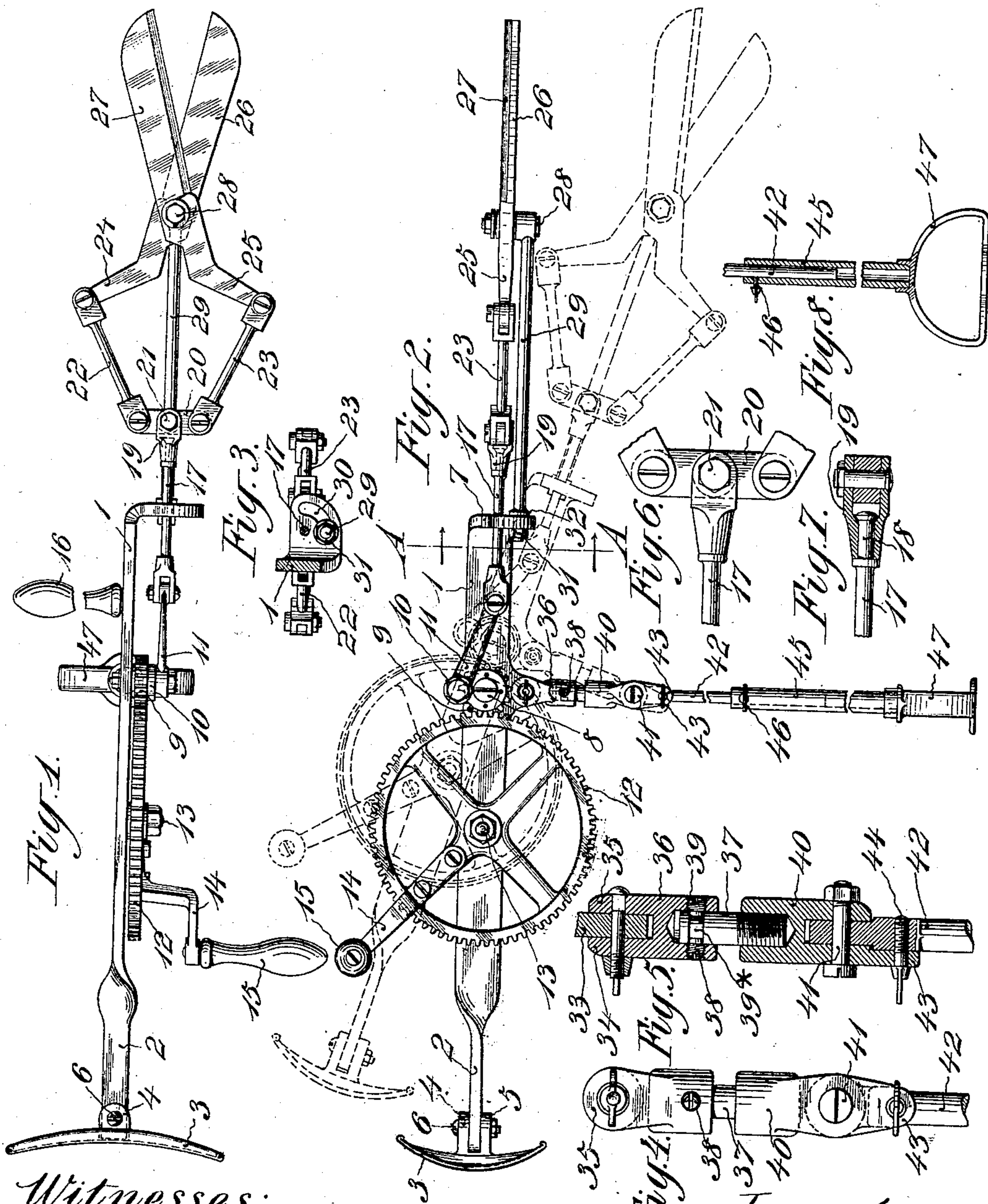


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HEDGE TRIMMER.

APPLICATION FILED SEPT. 21, 1908.

914,731.

Patented Mar. 9, 1909.



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# UNITED STATES PATENT OFFICE.

LOUIS KLITSCH AND OTTO W. THOGODE, OF BROOKLYN, NEW YORK.

## HEDGE-TRIMMER.

No. 914,731.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed September 21, 1908. Serial No. 454,044.

*To all whom it may concern:*

Be it known that we, LOUIS KLITSCH and OTTO W. THOGODE, citizens of the United States, and residents of the borough of Brooklyn, in the city and State of New York, have invented a new and useful Improvement in Hedge-Trimmers, of which the following is a specification.

Our invention relates to a hedge trimmer, with the object in view of providing a simple and effective mechanism for rapidly trimming a hedge without the expenditure of time and labor commonly required in the use of hand shears.

With this object in view, our invention consists in certain features of construction and combinations of parts as will be hereinafter described and pointed out in claims.

A practical embodiment of our invention is represented in the accompanying drawings, in which—

Figure 1 is a top plan view of the trimmer, Fig. 2 is a view of the same in side elevation showing in dotted lines the trimmer in a vertically tilted position and the shears turned at an angle of 90° to the position shown in full lines, Fig. 3 is a view in detail in the plane of the line A—A of Fig. 2, Fig. 4 is an enlarged view in elevation of the upper portion of the standard for supporting the trimmer, Fig. 5 is a view of the same in vertical section, Fig. 6 is an enlarged top plan view in detail of the connection between the connecting rod and cross head for operating the cutters, Fig. 7 is a central section through the same, showing the swivel connection of the connecting rod with the clip, and Fig. 8 is a vertical section of the lower parts of the standard.

The frame of the machine may conveniently consist of a strip of metal, iron or steel, denoted by 1, set edgewise vertically and having its end toward the operator twisted into a horizontal plane, as shown at 2, for the reception of a breast or shoulder piece 3 provided on its back or side opposite the operator, with a pair of ears or lugs 4 and 5 between which the end 2 of the frame is hinged by means of a bolt 6. The forward end of the said frame 1 is bent substantially at right angles to the body portion, as shown at 7, for the support and adjustment of the cutters, as will hereinafter more particularly appear.

To the frame 1 there is secured an axle or pintle 8 on which a pinion 9 is mounted to

rotate, the said pinion having fixed to rotate therewith a crank 10 to the free end of which a pitman 11 is pivotally secured. The pinion 9 is driven by means of a spur drive wheel 12, preferably many times larger than the pinion, the relation between the drive wheel 12 and pinion 8 being determined by the amount of purchase or mechanical advantage required to operate the cutters for any special work, *i. e.*, the larger the drive wheel with respect to the pinion, the greater the purchase or mechanical advantage and the smaller the drive wheel with respect to the pinion, the less the purchase or mechanical advantage.

The drive wheel 12 is mounted on a short axle or pintle 13, also fixed to the frame 1 and the said drive wheel 12 is provided with an arm 14 projecting radially therefrom, the said arm 14 being provided with a handle 15 for turning the wheel. The frame 1 is also provided with a handle 16 extending laterally from it so that the party operating the trimmer may hold, by means of his left hand grasping the handle 16, the shoulder or breast piece 3 tightly against his person while he turns the crank 14 with his right hand.

The pitman 11 is connected to the inner end of a connecting rod 17 which passes through the bent end 7 of the frame 1 and is swiveled, as shown at 18, in a clip 19 (see Fig. 7), the clip itself being made fast to a cross head 20 by means of a bolt 21. The cross head 20 is connected by a pair of links 22, 23, to the outwardly turned shanks 24, 25, of a pair of cutting blades 26, 27. The blades 26, 27, are pivotally secured together by means of a pivot, bolt or rivet 28 supported in the outer end of an arm 29 projected forwardly from the laterally turned end 7 of the frame 1. This laterally turned end of the frame 1 is provided with a curved slot 30 (see Fig. 3) through which the arm 29 projects and in which the said arm is clamped by means of a nut 31 screwed onto the end of the arm, and a shoulder 32 formed on the arm. By means of the swivel connection between the connecting rod and clip 19 and the curved slot 30, the cutting blades or shears 26, 27, may be turned to any desired position within an arc of 90° and there held in position by tightening the nut 31.

In the event it is desired to use the trimmer without supporting its weight by the handle 16, provision is made for supporting the



trimmer on a standard as follows:—The supporting frame 1 is provided with a downwardly projected lug 33 (see Fig. 5) which is received between the branches 34 and 35 of a bifurcated connecting piece 36, the lower end of which is swiveled to a short post 37 by means of screws 38, 39, which screw into the opposite sides of the connecting piece 36 and project into an annular groove 39 near the top of the post. The post 37 itself is screwed into a supporting piece 40, which is hinged by means of a bolt 41 to the top of a rod 42, said supporting piece 40 being provided with an extension 43 through which a finger bolt 44 passes and screws into the rod 42 for holding the supporting piece 40 securely in upright position or by removing the finger bolt 44 permitting the supporting piece 40 to tilt, as shown in dotted lines, Fig. 2. The rod 42 is in turn held in vertical adjustment in a tubular standard 45 by means of a set screw 46 and the tubular standard 45 is provided at its foot with a foot piece, in the present instance in the form of a stirrup 47 for receiving the foot of the operator to hold the standard in position while the trimmer is being operated.

In operation, the operator either with or without the use of the standard moves the shears, working either in a horizontal plane or a vertical plane along the top or sides of the hedge to be trimmed and, at the same time, causes the shears to rapidly open and close by means of the reciprocating movement of the connecting rod 17 actuated by the pitman 11, the forward or outward movement of the connecting rod 17 serving, through the connection of the links 22 and 23 with the outwardly turned shanks of the blades, to open the shears while the return movement of the connecting rod serves to close them and cut the twigs, sprouts or branches which it is desired to remove.

What we claim is:—

1. A hedge trimmer comprising a pair of shears, a longitudinally reciprocating rod connected with the blades of the shears for operating them, a rotary pinion connected with the reciprocating rod for operating it, a drive wheel for operating the pinion and means for holding the parts in assembled adjustment.

2. A hedge trimmer comprising a suitable framework provided with a breast or shoulder piece for engaging the operator and with a handle for holding the framework in posi-

tion against the body of the operator, a pair of shear blades supported by the frame, a rotary pinion and a drive wheel supported by the frame, the drive wheel being provided with a handle for operating it and a reciprocating rod eccentrically connected with the pinion, and means for connecting the rod to the shear blades.

3. A hedge trimmer comprising a pair of shear blades having their shanks turned outwardly, a reciprocating rod, a cross head connected with the outer end of the rod, a pair of links connecting the cross head with the shanks of the shear blades, a rotary pinion, a pitman eccentrically connected with the pinion and pivotally connected with the rod, a drive wheel for engaging the pinion and a suitable frame for supporting the parts in assembled adjustment.

4. A hedge trimmer comprising a pair of shear blades, a longitudinally reciprocating rod for transmitting motion to the blades, links swiveled to the rod and connected with the blades, means for reciprocating the said rod and means for holding the blades in different planes about the longitudinal axis of the reciprocating rod.

5. A hedge trimmer comprising a pair of blades, a longitudinally reciprocating rod, blade operating links connected with the rod by a swivel joint, means for operating the rod, an arm for supporting the blades, a supporting frame for holding the parts in assembled adjustment and means for securing the blade supporting arm in different positions in a curved path around the longitudinal axis of the said reciprocating rod.

6. A hedge trimmer comprising a pair of cutting blades, means for operating them, a frame for holding the blades and their operating mechanism in assembled adjustments, the said frame being provided with a handle for holding the framework against the body of the operator and a standard for supporting the frame in different vertical adjustments, the said standard being provided at its base with a foot-receiving loop.

In testimony, that we claim the foregoing as our invention, we have signed our names in presence of two witnesses, this eighteenth day of September 1908.

LOUIS KLITSCH.  
OTTO W. THOGODE.

Witnesses:

HENRY THIEME,  
F. GEORGE BARRY.