April 14, 1925. 1,533,974

V. DAVIS

PORTABLE SAW

Filed June 4, 1924

Fig. 1.

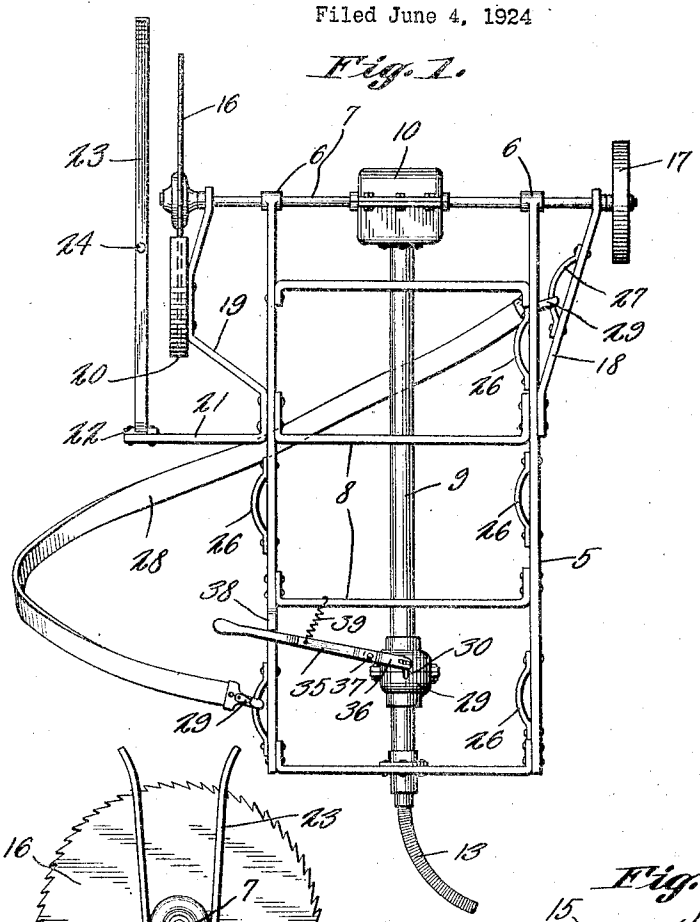


Fig. 2.

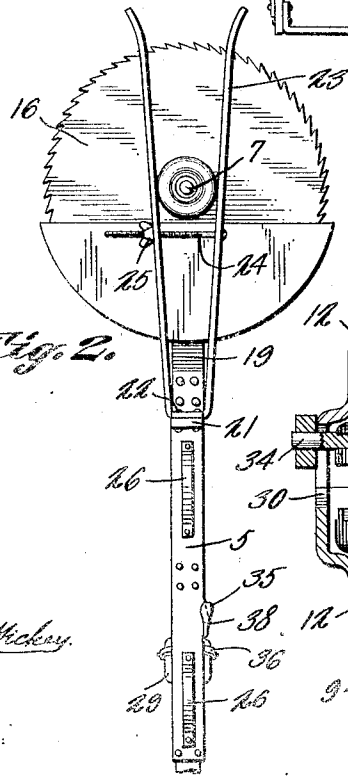


Fig. 3.

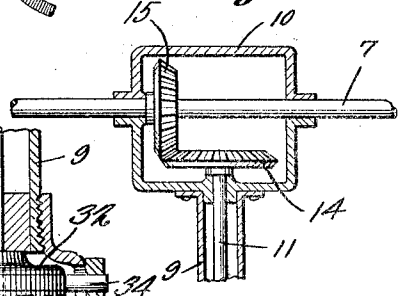
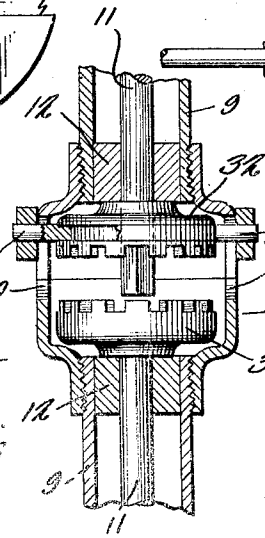


Fig. 4.



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WITNESS:

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UNITED STATES PATENT OFFICE.

VERNON DAVIS, OF FRANKLINVILLE, NEW YORK.

PORTABLE SAW.

Application filed June 4, 1924. Serial No. 717,848.

To all whom it may concern:

Be it known that I, VERNON DAVIS, a citizen of the United States, residing at Franklinville, in the county of Cattaraugus and State of New York, have invented new and useful Improvements in Portable Saws, of which the following is a specification.

My invention relates to portable saws and its principal object is to provide a saw which will be carried by the operator in such a manner as to permit him to stand upon a high perch such as a tree and sever the limbs therefrom.

A further object of the invention is to provide a portable saw which is extremely compact, consists of few parts and can be manufactured and sold at a minimum cost.

Still another object of the invention is to provide a portable saw which may be readily attached to the body of the operator and supported in such a manner as to permit him to have use of both hands in the operation of the device.

With the preceding and other objects and advantages in mind, the invention consists in the novel combination of elements, construction and arrangement of parts and operation to be hereinafter specifically referred to, claimed and illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of a portable saw constructed in accordance with my invention;

Figure 2 is an elevation taken at right angles to Figure 1;

Figure 3 is a fragmentary detail sectional view of the device, and

Figure 4 is a similar view showing the clutch embodied in the invention.

Referring to the drawing in detail wherein the corresponding characters of reference designate corresponding parts throughout the several views, the numeral 5 designates a substantially vertical rectangular frame provided with bearings 6 in its upper end in which a horizontally arranged shaft 7 is journaled. As shown in Figure 1, this frame includes a plurality of parallel cross bars 8 and extending therethrough and supported thereby is a vertically arranged tubular casing 9 carrying a substantially rectangular gear housing 10 at its upper end through the side walls of which the shaft 6 extends. A shaft 11 extends longitudinally within the casing 9 and is retained in a central position therein by bearings 12 arranged in this casing 9. A flexible drive shaft 13 is connected with the lower end of the shaft 11 and is adapted to be driven from any suitable source of power not shown. A pinion 14 is carried by the upper end of the shaft 11 and is arranged within the gear housing 10 and meshes with a second gear 15 also arranged within this housing and fixed to the shaft 6. A circular saw 16 is carried by the outer end of this shaft 6 which is driven through the instrumentality of the parts mentioned. However, in some instances, it may be desirable to drive the saw 16 directly from the shaft 6 and in that event a drive pulley 17 carried by the shaft 6 will be utilized.

A brace 18 is connected with one side of the frame 5 and extends at an angle from the same and engages one end of the shaft 6. A brace 19 extends from the opposite side of the frame 5 at a point in horizontal alinement with the brace 18 and carries a saw guard 20. This brace 19 is connected to the saw guard 20 intermediate its ends and is then extended upwardly and engaged with the adjacent end of the shaft 6. The lower end of the brace 19 terminates in a laterally and extending arm 21 which supports a substantially vertical tree branch guide 22, the latter including a pair of divergent resilient arms 23 which are adjustable toward and away from each other by means of a threaded bolt and wing nut indicated at 24 and 25 respectively.

A plurality of longitudinally bowed straps 26 are carried by the frame 5, while a similar strap 27 is carried by the brace 18. A body encircling flexible strap 28 is provided and carries snap hooks 29 engageable in any pair of these straps 26 whereby to support the frame and parts carried thereby on the operator in a convenient manner.

The tubular housing 9 is formed with a circular casing 29 which is of a diameter greater than the diameter of the tubular housing 9 and is provided with slots 30 at diametrically opposite points. A pair of clutch elements are arranged within the housing 29, the fixed one of which being designated at 31 while the slidable clutch element is designated at 32 and is slidable upon a rectangular part 33 of the shaft 11. Pintles 34 extend from the movable clutch element 32 and at diametrically opposite points and pass through the slots 30. A slightly resilient lever is designated at 35

and carries a U-shaped yoke 36 which is distributed as at 37 and has its ends loosely engaged with the pintles 34. The frame 5 is formed with an outstanding shoulder 38 against which the lever 35 is normally held by means of a contractile spring 39 which is attached to this lever 35 and the adjacent cross bar 8.

Normally the lever 35 is engaged beneath the shoulder 38 and holds the movable clutch element in an elevated position as shown in Figure 5. However, when it is desired to drive the rotary saw 16, the lever 35 will be swung outwardly from the shoulder 38 and the coil spring will move this lever upwardly rocking it on its pivot 37 and consequently shifting the movable clutch element 32 into operative engagement with the fixed clutch element 31.

While I have shown and described the preferred embodiment of the invention, it is to be understood that changes may be made in the arrangement of parts, and that I am only limited by the appended claims.

What is claimed is:—

1. In a portable saw, a frame, means for supporting the same from the person, a shaft journaled in the frame, a bar carried thereby, a tubular casing extending longitudinally of the frame, a drive shaft arranged therein, and adapted to be connected with a source of power, clutch elements arranged within the tubular casing, one of which being fixed to the shaft and the other being slidable thereon, a lever pivoted to the tubular casing and having operative connection with the slidable clutch element, and means for locking the lever in a position to retain the movable clutch element in inoperative position.

2. In a portable saw, a frame, means for supporting the same from the person, a shaft journaled in the frame, a bar carried thereby, a tubular casing extending longitudinally of the frame, a drive shaft arranged therein, and adapted to be connected with a source of power, clutch elements arranged within the tubular casing, one of which being fixed to the shaft and the other being slidable thereon, a lever pivoted to the tubular casing and having operative connection with the slidable clutch element, means for locking the lever in a position to retain the movable clutch element in inoperative position, and a substantially U-shaped tree limb receiving guide supported by the frame and extending parallel to the plane of rotation of the saw.

3. In a portable saw, a frame, means for supporting the same from the person, a shaft journaled in the frame, a bar carried thereby, a tubular casing extending longitudinally of the frame, a drive shaft arranged therein, and adapted to be connected with a source of power, clutch elements arranged within the tubular casing, one of which being fixed to the shaft and the other being slidable thereon, a lever pivoted to the tubular casing and having operative connection with the slidable clutch element, means for locking the lever in a position to retain the movable clutch element in inoperative position, a substantially U-shaped tree limb receiving guide supported by the frame and extending parallel to the plane of rotation of the saw, the guide including resilient arms, a threaded bolt fixed to one of the arms and passing through the other arm, and a wing nut threaded on the bolt and engaging the last mentioned arm.

In testimony whereof I affix my signature.

VERNON DAVIS.