J. D. BOBBROFF.

POWER SAW.

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1,400,496. Patented Dec. 13, 1921.

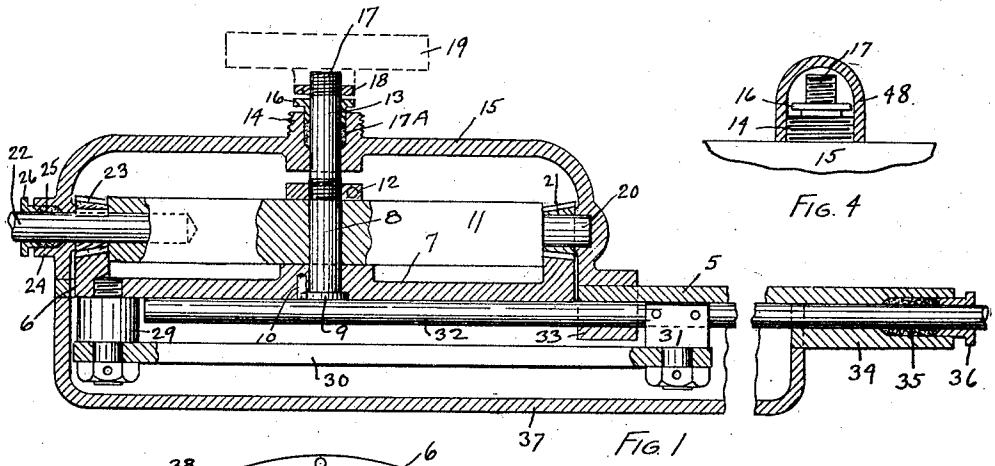


FIG. 1

FIG. 4

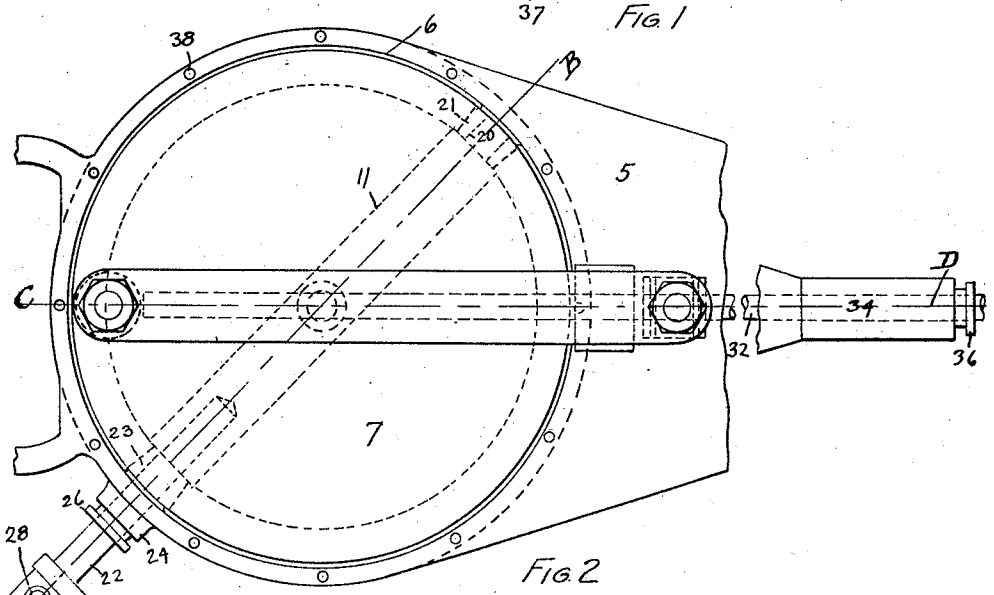


FIG. 2

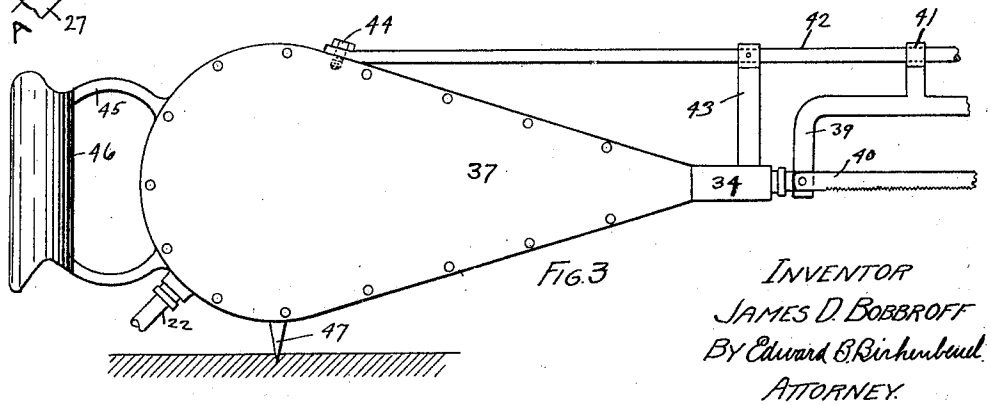


FIG. 3

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POWER-SAW.

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To all whom it may concern:

Be it hereby known that I, JAMES D. BOBBROFF, a citizen of the United States, and a resident of Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Power-Saw, of which the following is a specification.

This invention relates more particularly to a means for operating hand saws by power.

The object of my device is to provide an exceedingly simple, inexpensive and efficient means for operating saws such as butcher's saws, hack saws, etc., by power, and also to supply an auxiliary means for driving rotary tools such as augers, polishers, grinders, etc.

I accomplish these results in the manner set forth in the following specification and illustrated in the accompanying drawing, in which:

Figure 1 is a section along the lines A, B, C, D, which has been made somewhat irregular in order to include the driving pinion. Fig. 2 is an elevation of Fig. 1 with the cover plate removed and portions cut away. Fig. 3 is an elevation of the device to a reduced scale. Fig. 4 is a detail showing the method of capping over the rotating shaft when not in use.

Similar numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawing I have constructed my device upon a flat central frame 5 having a circular opening 6 in which is placed a bevel gear 7 mounted on a shaft 8 having a head 9. Shaft 8 is secured to the gear 7 by means of the pin 10. The shaft 8 journals in the bar 11 which spans the inside diameter of the gear 7. A split nut 12 is threaded on the shaft 8 and maintains the proper adjustment. The end 13 of the shaft 8 passes through a stuffing box 14 in the housing 15. The gland 16 and the packing 17A insure an oil-tight fit for the shaft end 13. The tip 17 of the shaft 8 is threaded and carries a lock nut 18 for securing the various tools which may be attached to same. These tools may consist of the chuck 19, grinding wheels or any other connection for utilizing or transferring rotary motion.

On the one end of the bar 11 I have formed the shank 20 which carries a loose pinion 21 and also journals in a pocket in the housing 15, the pinion 21 serving only to steady the gear 7. In the opposite end of the bar 11 I have formed a hole which receives the rotatable shaft 22 to which is keyed the bevel pinion 23 which drives the gear 7. The shaft 22 also bears in the stuffing box 24 which contains the packing 25 and the gland 26. The shaft 22 may be driven by a flexible shaft 27, or through any other suitable power connection which is controlled by any of the devices now commonly in use.

In the back of the gear 7 I have secured the studded bolt 29 which acts as a crank pin for the connecting rod 30. A cross head 31 driven by the connecting rod 30 is attached to the slide rod 32 which moves within the guide 33 and through the stuffing box bearing 34 which is made oil tight by means of the packing 35 and the gland 36.

A cover plate 37 is placed over the connecting rod side of the device and secured to the central frame 5 by means of the screws 38 which, when convenient, also pass through into the housing 15. To the projecting end of the slide rod 32 is secured a saw frame 39 which is similar to the usual form of butcher's saw and carries a saw blade 40. The saw frame 39 is guided by the arm 41 which slides on the rod 42. The rod 42 is supported by the standard 43 rising from the stuffing box 34 and is secured by means of a bolt 44 to the cover plate 37.

The central frame 5 has formed thereon a handle member 45 which is supplied with the hand grips 46. A pointed member 47 projects from the lowermost point of the cover plate 37 and is used to steady the saw and take the vibration off from the handle 46. I have also provided a cap 48 which is to be screwed on to the stuffing box 14 when the services of the rotary shaft 8 are not required.

The operation of my device is as follows: By the operation of the trigger 28 rotary motion is supplied to the bevel pinion 23 which, in turn, drives the gear 7. This gear acts as a crank and oscillates the slide rod 32 to which is attached a saw or other tool requiring the oscillating-motion.

While I am aware that numerous forms of saws have been constructed having a more or less similar purpose it is maintained that I have constructed an exceedingly unique power saw for reducing the labor required for a given amount of work, and have done

so with the minimum number of parts and the maximum of simplicity and durability.

I am aware that various power saws have been used embodying the general features of my device, I therefore do not claim such a combination broadly, but:

I claim—

1. In a power saw, the combination of a flat central plate member having a circular opening, a housing attached to one side of said plate over said opening, a crank disk occupying said opening and suitably mounted on a shaft means, power means for rotating said crank disk, a slide rod mounted on the side of said flat plate away from said housing, a connecting rod joining said crank disk to said slide rod, a cover plate adapted to inclose the entire connecting rod side of said plate member, and a saw means attached to the outer end of said slide rod.

2. In a power saw, the combination of a crank disk consisting of a bevel gear mounted in an opening in a flat frame member, a housing over said opening, a bar across the diameter of said gear forming a bearing for its shaft, a shank on one end of said bar carrying a loose bevel pinion which meshes with said gear, said shank engaging a recess in said housing, a driving shaft passing through said housing, through a bevel driving pinion and into said bar, said driving pinion mounted on said driving shaft meshing with said gear, and a central shaft member secured to said bevel gear and projecting through said housing member.

JAMES D. BOBBROFF.