L. N. HOLSOMBACK.

POST HOLE DIGGER.

APPLICATION FILED NOV. 15, 1915.

1,213,874. Patented Jan. 30, 1917.

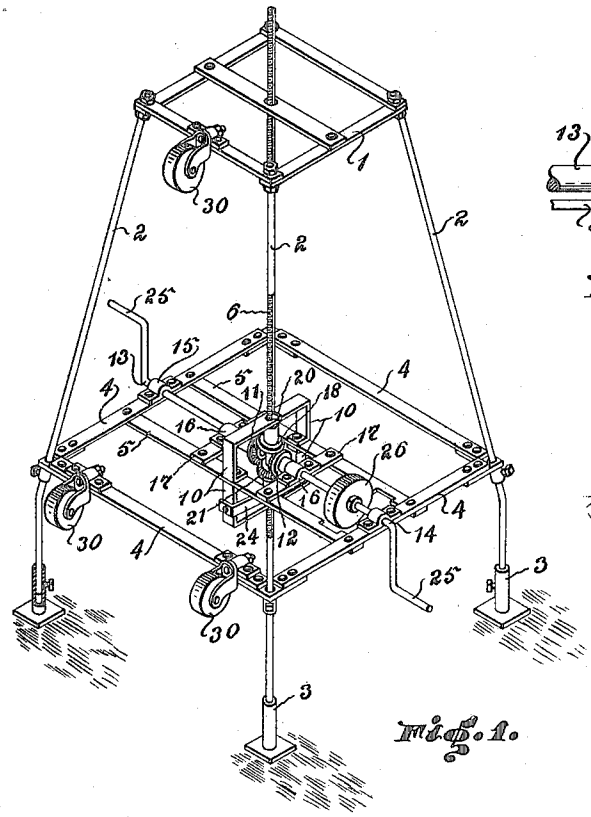


Fig. 1.

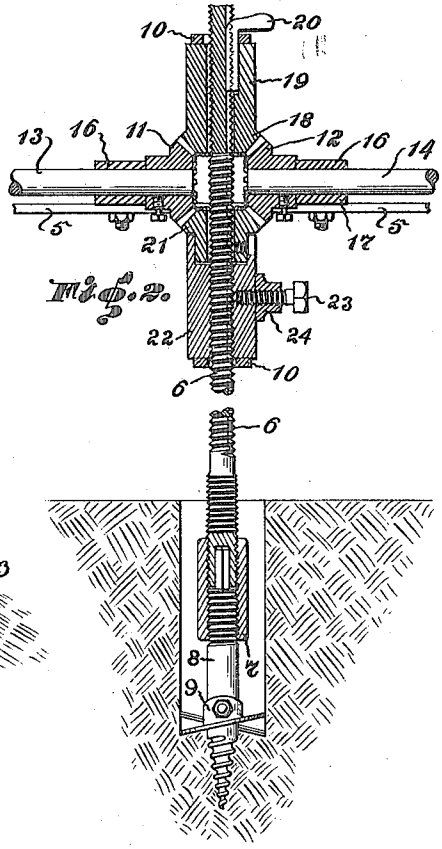


Fig. 2.

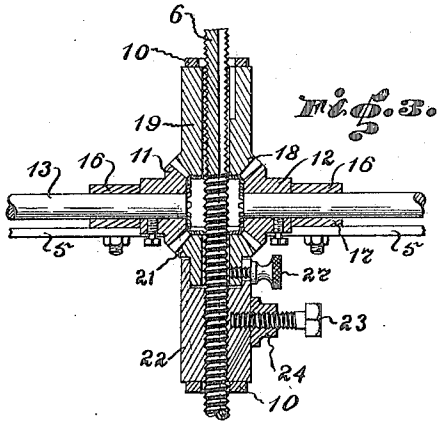


Fig. 3.

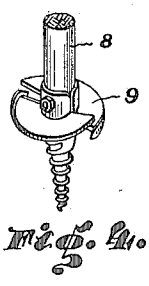


Fig. 4.

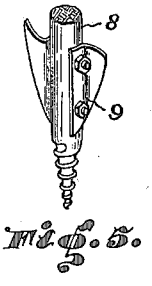


Fig. 5.

WITNESS:

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# UNITED STATES PATENT OFFICE.

LEE N. HOLSOMBACK, OF DALLAS, TEXAS.

## POST-HOLE DIGGER.

1,213,874. Specification of Letters Patent. Patented Jan. 30, 1917.

Application filed November 15, 1915. Serial No. 61,501.

*To all whom it may concern:*

Be it known that I, LEE N. HOLSOMBACK, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Post-Hole Diggers, of which the following is a specification.

My invention has relation to a machine for digging post holes or the like and in such connection it relates more particularly to the construction and arrangement of the parts constituting such a machine.

The machine of my present invention is so constructed and arranged as to be comparatively light yet strong and firm when mounted in operative position. The machine being comparatively light may readily be transported from place to place. The machine is also equipped with a mechanism for turning the boring tool which mechanism is of simple arrangement and construction and readily adapted to be operated either by the hand or by power.

The nature and scope of my invention will be more fully understood from the following description taken in connection with the accompanying drawings forming part hereof, in which,

Figure 1, is a perspective view of a post hole digging machine embodying the main features of my invention, one corner of the frame-work being broken away to disclose the mechanism for operating the boring tool; Fig. 2 is a vertical sectional view, illustrating the boring tool, the screw threaded standard carrying the tool and the miter gearing for lowering and turning said standard as required; Fig. 3 is a view similar to Fig. 2 but illustrating the parts when the standard and tool are to be raised from the hole, and Figs. 4 and 5 are perspective views of different forms of tools to be used with the machine.

Referring to the drawings, 1 represents a truncated pyramidal frame having four legs 2 adapted to enter suitable supports 3 or enter the ground to hold the frame 1 in an upright position. The base of the frame 1 is reinforced by the side strips 4, two of which are spanned by the cross strips 5 which are designed to support the driving mechanism for the machine.

Centrally of the frame 1 and properly guided in the top thereof is a screw-threaded standard 6, the lower portion of which is connected by a socket piece 7 or sleeve with the shank 8 of a boring tool 9.

On the cross strips 5 and in vertical position is supported a boxlike frame 10 traversed by said standard 6. This frame 10 incloses and supports the driving mechanism in the form of two oppositely disposed miter gears 11 and 12. A shaft 13 or 14 for each gear turns in bearing 15 formed at the end on the side strip 4 and intermediate bearing 16 formed on auxiliary band or strip 17 uniting the cross strips 5, as clearly shown in Fig. 1.

Referring now to Fig. 2 which illustrates the arrangement of parts when the screw-threaded standard 6 and tool 9 are to be turned and lowered in the ground. In this instance both miter gears 11 and 12 mesh with a miter gear 18 having sleeve-like extension 19 normally inclosing the standard 6 but not in positive locking engagement therewith until a key 20 is inserted between sleeve 19 and standard 6. Below the gear 18 is arranged a miter gear 21 normally in mesh with the gears 11 and 12 but running idle on the standard 6 when the gear 18 is locked to said standard. Below the gear 21 and adapted to be locked thereto if required is a screw-threaded sleeve 22 which, when the gear 21 is an idler is locked against turning by means of a screw 23 passing through a band or strap 24 connected with the frame 10. It is obvious that if the shafts 13 and 14 be one or both turned the miter gears 11 and 12 will turn the upper gear 18 and turn the screw-threaded standard 6 to advance it downward through the stationary sleeve 22 and hence the tool 9 will be both rotated and advanced in the ground. For manual operation each shaft 13 and 14 is provided with a handle 25 and for power operation one shaft 13 or 14 is provided with a driving pulley 26 which may be connected by belt (not shown) to a source of power (not shown).

When the tool 9 is to be withdrawn from the hole it is desirable that the same be raised without being turned in the hole. To accomplish this the arrangement of parts is readily changed from that shown in Fig. 2 to that shown in Fig. 3. First, the key 20 is removed and miter gear 18 and its extension 19 become idlers with respect to

standard 6. Next, the screw 23 is withdrawn from sleeve 22 to permit said sleeve turning on standard 6. Finally the lower miter gear 21 is locked to sleeve 22 by the insertion of a screw 27. When now miter gears 11 and 12 are rotated the upper gear 18 turns loosely upon standard 6 but the lower gear 21 with sleeve 22 turns on said standard to raise the standard and tool without rotating the standard.

If desired on one face of the frame 1 may be secured the rollers 30 which, when the machine is not in use and is tilted over on its side, serve to support the machine and to permit it to be readily transported from place to place.

Having thus described the nature and objects of my invention, what I claim as new and desire to secure by Letters Patent, is,—

In a machine of the character described, a screw-threaded standard, a miter gear normally idle on said standard, a means for locking said gear to said standard, a second miter gear arranged on said standard below said first gear, a threaded sleeve wherein said standard is adapted to be advanced, means for normally locking said sleeve against rotation, said locking means being releasable, said second gear normally idle on said standard and a means for releasably locking said second gear to said sleeve.

In testimony whereof I have signed my name to this specification.

LEE N. HOLSOMBACK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents. Washington, D. C."