July 19, 1932. S. E. STOOP 1,868,081

POST HOLE DIGGER

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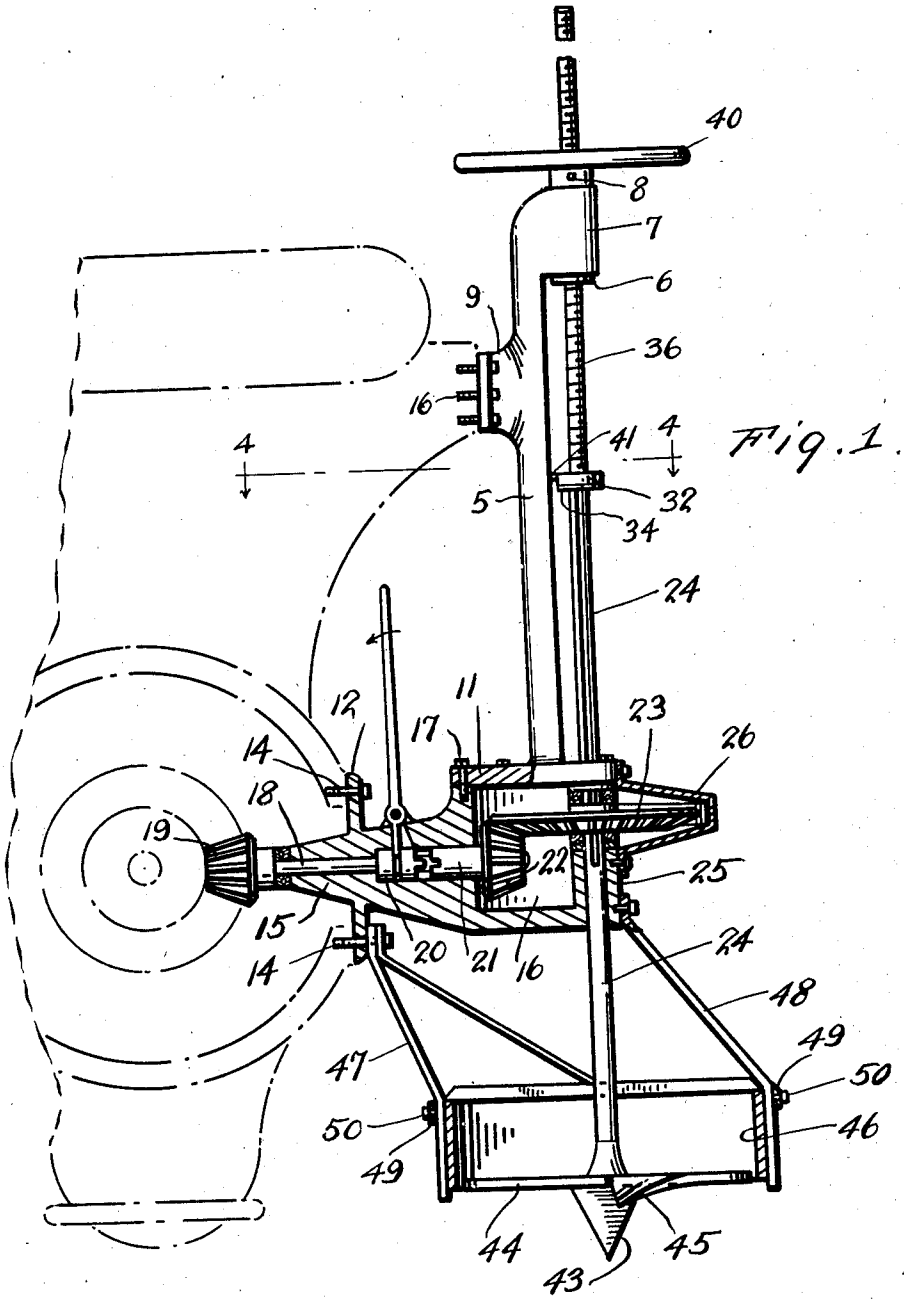


Fig. 1.

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Fig. 3.

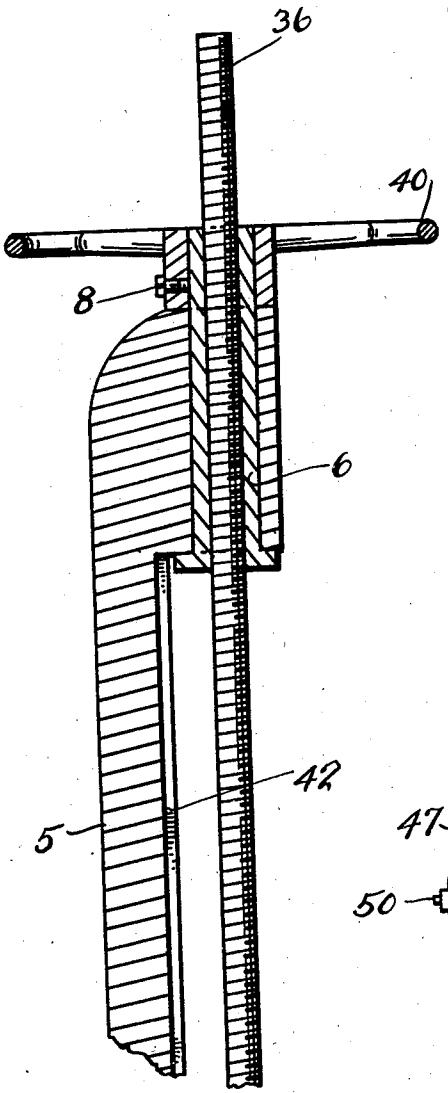
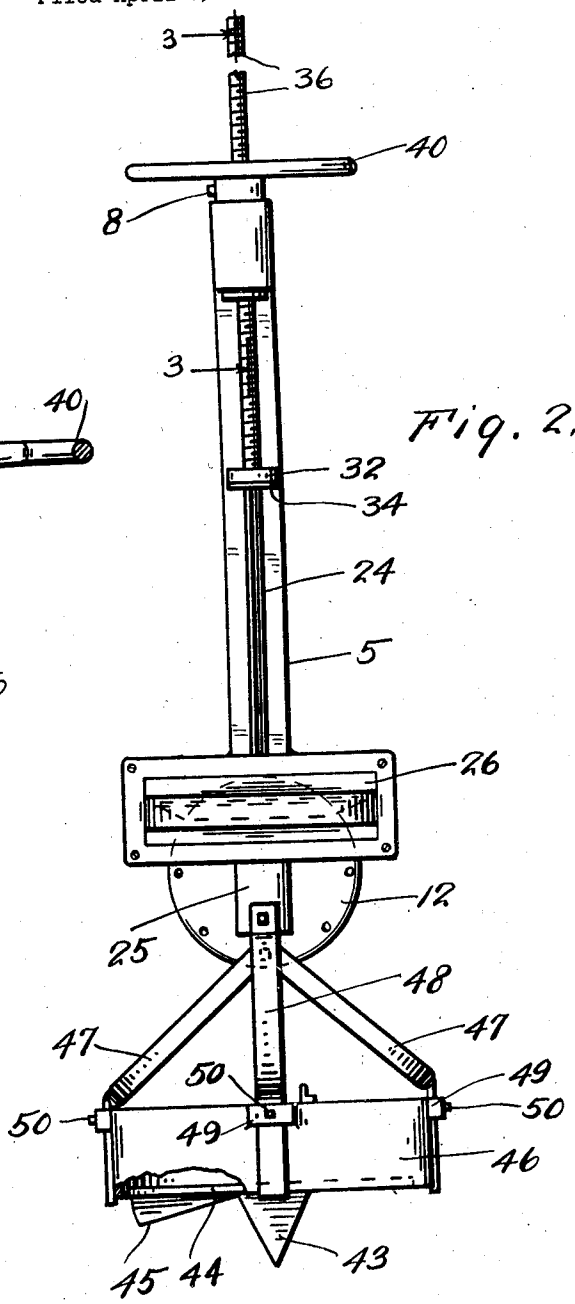


Fig. 2.



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Fig. 4.

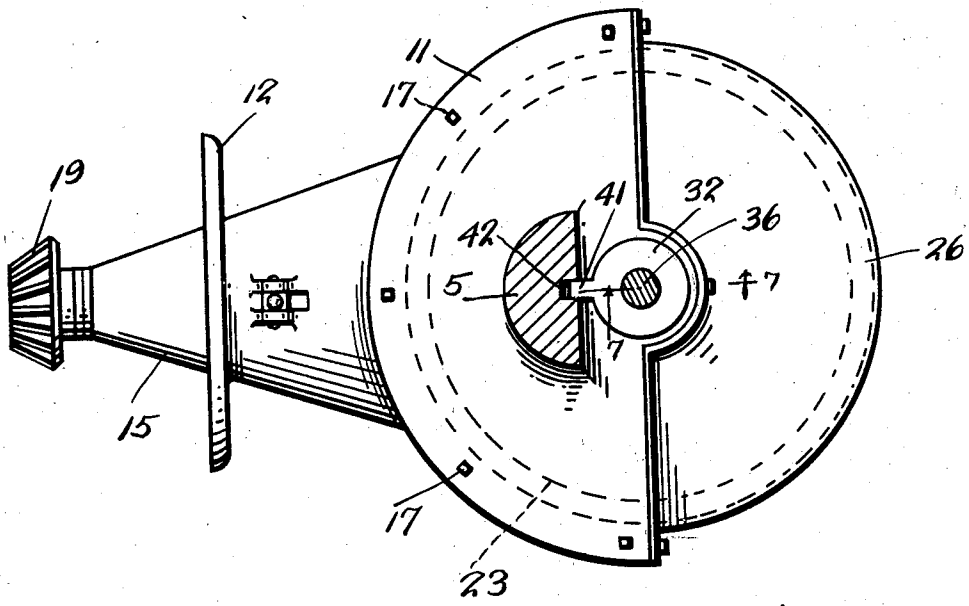


Fig. 5.

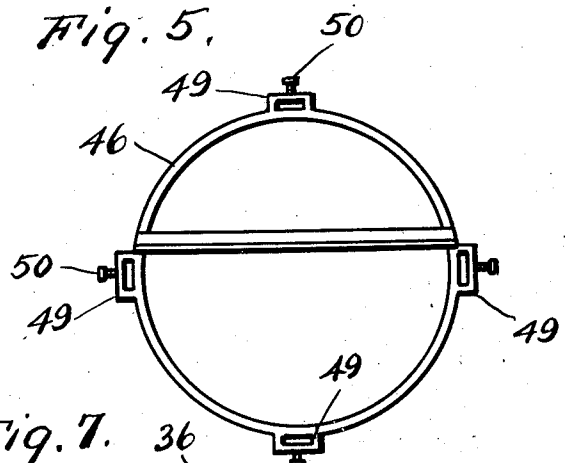


Fig. 6.

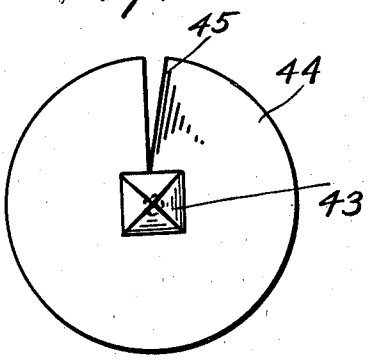
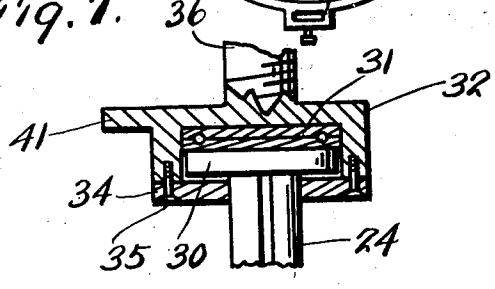


Fig. 7.



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Patented July 19, 1932

1,868,081

UNITED STATES PATENT OFFICE

SAMUEL E. STOOP, OF NEW HOPE, PENNSYLVANIA

POST HOLE DIGGER

Application filed April 7, 1931. Serial No. 528,399.

The present invention relates to a post hole digger and has for its prime object to provide a mechanism of this nature in the form of an attachment for a tractor.

Another very important object of the invention resides in the provision of a mechanism of this nature which is simple in its construction, inexpensive to manufacture and install, thoroughly efficient and reliable in use and operation, and otherwise well adapted to the purpose for which it is designed.

With the above and numerous other objects in view as will appear as the description proceeds, the invention resides in certain novel features of construction, and in the combination and arrangement of parts as will be hereinafter more fully described and claimed.

In the drawings:

Figure 1 is a sectional elevation of the mechanism embodying the features of my invention.

Figure 2 is a side elevation thereof.

Figure 3 is an enlarged detail section taken substantially on the line 3—3 of Figure 2.

Figure 4 is a horizontal section taken substantially on the line 4—4 of Figure 1.

Figure 5 is a plan view of a guard.

Figure 6 is a bottom plan view of the digging elements, and

Figure 7 is a detail sectional view taken substantially on the line 7—7 of Figure 4.

Referring to the drawings in detail it will be seen that numeral 5 denotes an elongated upright member or casting terminating at its upper end in an offset vertical hollow portion 7 in which is an internally threaded sleeve 6 held in place by a set screw 8 or the like. A protrusion 9 from an intermediate portion of the member 5 is bolted or otherwise secured as at 10 to a well known form of tractor. On the bottom end of the member 5 is formed a plate 11. Said well known form of tractor is provided with a removable plate on the side of its gear housing for which I substitute a plate 12 bolted in place as at 14 and formed with an elongated bearing 15 projecting to both sides thereof and at its outer end terminating in a gear box 16 bolted to the plate 11 as at 17. A shaft 18 is rotatable in the bearing 15 and has a pinion 19 meshing with the gear of said tractor. A clutch segment 20 is splined on the shaft 18 to cooperate with a clutch segment 21 rotatable on the shaft having formed thereon a pinion 22 meshing with a gear 23. This gear 23 is splined on a shaft 24 rotatable and slidable through a bearing 25 formed in the gear housing 16. A hood 26 is fastened to the plate 11 and the housing 25 to close the housing and cover the gear 23. On the upper end of the shaft 24 there is formed a head 30 on top of which is a thrust bearing 31 in a casing 32 which also houses the head and has a removable plate 34 secured thereto by suitable means 35, the plate 34 having an opening through which the shaft 24 extends.

Rising from the casing 32 is a shaft 36 externally threaded in the sleeve 6. A wheel 40 has its hub secured on the upper end of the sleeve 6 by the set screw 8 and by turning the wheel 40 the sleeve 6 is turned to raise or lower the shaft 36 and the shaft 24. The casing 32 and the shaft 36 are prevented from rotation by a lug 41 which slides in a vertical groove on the outer face of the member 5 as is indicated at 42.

A digging element is formed on the lower end of the shaft 24 and consists of a bit 43 with a disk 44 formed on the upper portion thereof and having a blade portion 45 struck downwardly therefrom. Numeral 46 denotes a circular hood held in place by suitable braces 47 and 48, the lower ends of which are received in loops 49 formed on the hood 46 and held therein by set screws 50 so that this hood may be adjusted vertically.

Hood 46 is provided with a transverse scraper blade 46′ for scraping the bladed disk 44 when the latter is drawn into the hood and rotated relative to the hood.

It is thought that the construction, utility and advantages of this invention will now be quite apparent to those skilled in this art without a more detailed description thereof.

The present embodiment of the invention has been described in considerable detail merely for the purposes of exemplification since in actual practice it attains the features

of advantage enumerated as desirable in the statement of the invention and the above description.

It will be apparent that changes in the details of construction, and in the combination and arrangement of parts may be resorted to without departing from the spirit or scope of the invention as hereinafter claimed or sacrificing any of its advantages.

Having thus described my invention, what I claim as new is:

1. In combination with an apertured gear housing of a farm tractor, a bearing having an inner end extending into the housing through the aperture therein, a vertical member adjacent the outer end of the bearing and secured above the bearing to a fixed part of the tractor, a hood suspended from the bearing, a drilling device movable vertically through the hood, an adjusting screw swivelly connected with the drilling device and an internally threaded sleeve fixed on the vertical member and with which said screw is threadedly engaged, and means mounted in the bearing to provide a drive connection between the gears in said housing and said drilling device.

2. A post hole digger attachment for tractors comprising a bearing provided at one end with a gear case, an upright rising from said gear case and provided with a fixed vertical sleeve, a vertical shaft slidably and rotatably mounted at said end of the bearing and extending through said gear case, an adjusting screw extending through the sleeve and threadedly engaged therewith, means swivelly connecting the screw and shaft, a driven shaft journalled in the bearing, clutch means including gearing arranged in said gear case connecting said shafts and a drilling device on the lower end of the vertical shaft.

3. In a post hole digger device, a bearing provided at one end with a gear casing, a shaft journaled in the bearing, a slidable and rotatable shaft extending through the gear casing at substantially right angles to the first-named shaft, gearings in the gear casing connecting said shafts, a screw alined with the second-named shaft, means for feeding it and supporting the screw, means swivelly connecting the screw with said second-named shaft, and a drilling device on the free end of the second-named shaft.

In testimony whereof I affix my signature.

SAMUEL E. STOOP.