

1,057,653.

2 SHEETS—SHEET 1.



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MACHINE FOR BORING POST HOLES.
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2 SHEETS—SHEET 2.

Fig. 3.

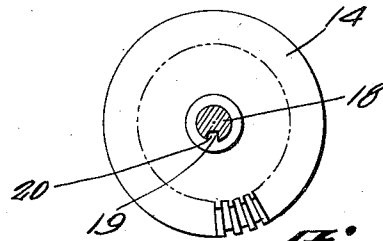
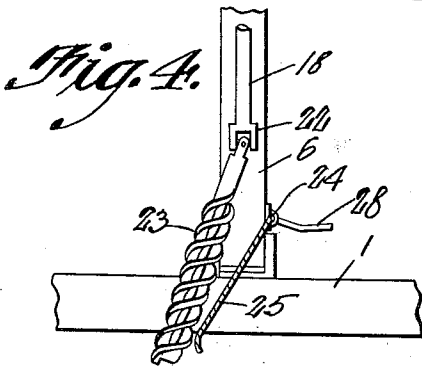
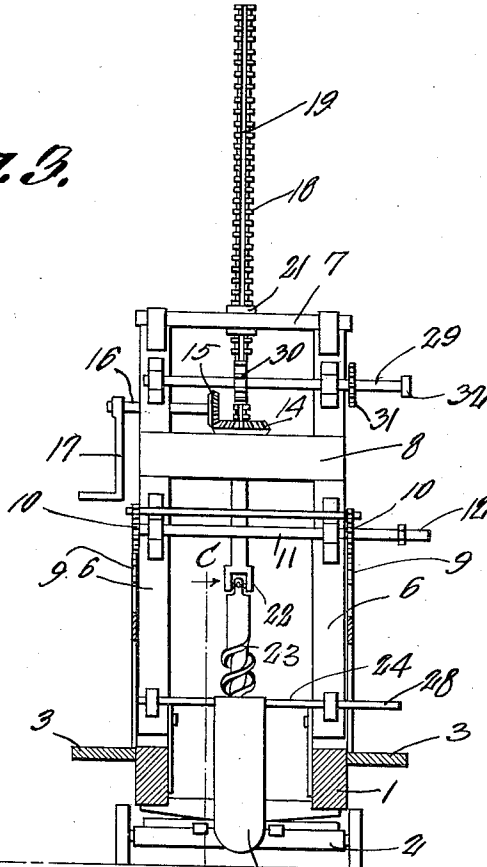


Fig. 5.

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UNITED STATES PATENT OFFICE.

ARTHUR L. MEADOWS, OF HELENA, ARKANSAS.

MACHINE FOR BORING POST-HOLES.

1,057,653.

Specification of Letters Patent.

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Application filed September 5, 1912. Serial No. 718,634.

To all whom it may concern:

Be it known that I, ARTHUR L. MEADOWS, a citizen of the United States, residing at Helena, in the county of Phillips and State of Arkansas, have invented a new and useful Machine for Boring Post-Holes, of which the following is a specification.

This invention relates to machines for boring holes for use in erecting fence posts, telephone and telegraph poles, and the like.

One of the objects of the invention is to provide a machine of this character which can be readily drawn from place to place and which utilizes an auger which can be adjusted angularly relative to the frame so as thus to be held vertical irrespective of the angle of inclination of the body of the machine.

Another object is to provide an auger which is hingedly connected to its feed screw whereby the auger and the dirt adhering thereto can be swung from position above the opening formed, thus permitting the auger to be readily cleaned without danger of the removed dirt falling back into the opening.

Another object is to provide a combined deflector and shield adapted to prevent the dirt from falling into the opening and, furthermore, to shift the auger out of position above the opening.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, can be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings:—Figure 1 is a side elevation of the machine. Fig. 2 is a plan view thereof. Fig. 3 is a section on the line A—B Fig. 1. Fig. 4 is a section on the line C—D Fig. 3, and showing the auger swung out of position above the opening and with the deflecting apron in position between the auger and the top of the opening. Fig. 5 is a plan view of the screw rotating gear, the screw being shown in section.

Referring to the figures by characters of reference 1 designates the body of the machine, the same being in the form of a frame mounted on wheel supported axles 2 whereby

the said frame can be drawn readily from place to place. This frame may be provided with platforms 3 extending along the sides thereof and another platform 4 may be provided on the front portion of the frame.

Brackets 5 are arranged on the side portions of the frame and pivotally connected to these brackets are the side beams 6 of an angularly adjustable frame, the said side beam being connected at their upper ends by a head 7 and, at intermediate points by a cross strip 8. Toothed segments 9 are secured to the sides of frame 1 and close to the outer sides of the beams 6, these segments being constantly engaged by gears 10. Said gears are secured to a shaft 11 journaled on the side beams 6 and provided with a crank 12 or the like whereby the gears can be rotated readily. Thus the gears can be caused to travel along the toothed edges of the segments 9 and, as a result, the side beams 6 will be adjusted angularly relative to the frame 1. If, therefore, the frame 1 should be inclined, as when supported on the side of a hill or on uneven ground, the beams 6 can be adjusted angularly so as to be supported in a vertical plane. The segments 9 are preferably tied to the side beams 6 by means of straps 13 which are secured to the beams and bridge the segments.

A gear 14 is mounted on the cross strip 8 so as to rotate relative thereto, this gear being suitably connected to the strip 8. A gear 15 meshes with gear 14 and is secured to a drive shaft 16 journaled in one of the side beams 6. This drive shaft may be rotated by means of a crank 17 or the like.

An elongated feed screw 18 is slidably mounted within the gear 14 and has a longitudinal keyway 19 for the reception of a feather 20 arranged within the gear 14. Thus, while the feed screw is free to slide longitudinally within the gear 14, it is compelled to rotate with said gear. A guide sleeve 21 is secured in the head 7 and is engaged by the feed screw 18. The lower end of the feed screw is provided with a yoke 22 and pivotally mounted in this yoke is the upper end of an auger 23 which may be of any size desired.

A shaft 24 is journaled upon the side beams 6 and has an apron 25 depending therefrom and to a point close to the surface on which the machine is mounted. An arm 26 extends from one end of the shaft 24 and is connected to the adjacent beam 6 by

a spring 27. This spring thus serves to hold the apron 25 normally in the position shown in Figs. 1 and 3. A foot lever 28 or the like may be employed for rotating the shaft 24 so as to shift arm 26 against the action of spring 27 and to swing the apron 25 toward and against the auger 23.

A shaft 29 is journaled upon the upper portions of the side beams 6 and has a gear 30 thereon which meshes with the threads of the feed screw 18. This shaft may be provided with pawl and ratchet mechanism such as shown at 31 whereby it is prevented from rotating in one direction. The said shaft can be rotated in any suitable manner, as by means of a crank arm 32.

In using the apparatus the machine is placed in the position where the hole is to be formed after which the beams 6 are adjusted angularly until they are vertical. The pawl and ratchet mechanism 31 is then disengaged so as to free shaft 29 and permit the auger and the feed screw to be lowered so as to bring the auger into contact with the ground. The pawl and ratchet mechanism is then reset so as to hold the shaft 29 against rotation. Gear 30 thus acts as a feed nut and, when shaft 16 is rotated, motion will be transmitted therefrom through gears 15 and 14 to the screw 18. As the thread of the screw engages gear 30 and this gear can not rotate, it will be apparent that the feed screw will be gradually moved downwardly. Thus the auger will be forced into the soil and, at the same time, gear 14 will rotate the auger. After the auger has been forced into the soil to a desired depth, the pawl and ratchet mechanism 31 is disengaged and shaft 29 is rotated. Gear 30 thus moves the feed screw 18 upwardly and causes the auger to pull out of the soil and to carry therewith the dirt packed between the convolutions of the auger. As soon as the auger is lifted entirely above the ground, the foot lever 28 is pressed downwardly

and apron 25 thus swings against the lower portion of the auger so as to swing it from over the hole and into an inclined position. The dirt can then be removed from between the convolutions of the auger and, as the apron 25 extends over the hole, none of this dirt can fall back into the hole. These positions of the parts have been illustrated in Fig. 4.

What is claimed is:—

1. The combination with a frame mounted for angular adjustment, of a feed screw mounted to slide and rotate within the frame, an auger pivotally connected to the screw, a deflecting apron supported adjacent the auger, and means for shifting said apron against the auger to swing said auger relative to the feed screw and to deflect material dropped from the auger.

2. The combination with a portable body, of a frame thereon, means for adjusting the frame angularly relative to the body, a feed screw mounted to slide and rotate within the frame, an auger pivotally connected to and depending from the feed screw, said auger normally alining with the feed screw, a deflecting apron suspended adjacent the auger, and means for shifting said apron against the auger to move it out of alinement with the screw and to deflect material dropped by the auger.

3. The combination with a frame, of a feed screw mounted to slide and rotate therein, an auger pivotally connected to the screw, a deflecting apron supported adjacent the auger, and means for shifting the apron against the auger to swing said auger relative to the feed screw.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ARTHUR L. MEADOWS.

Witnesses:

W. R. SATTERFIELD,
J. T. FRIBERG.