M. FREEMARK.

POST HOLE DIGGER.

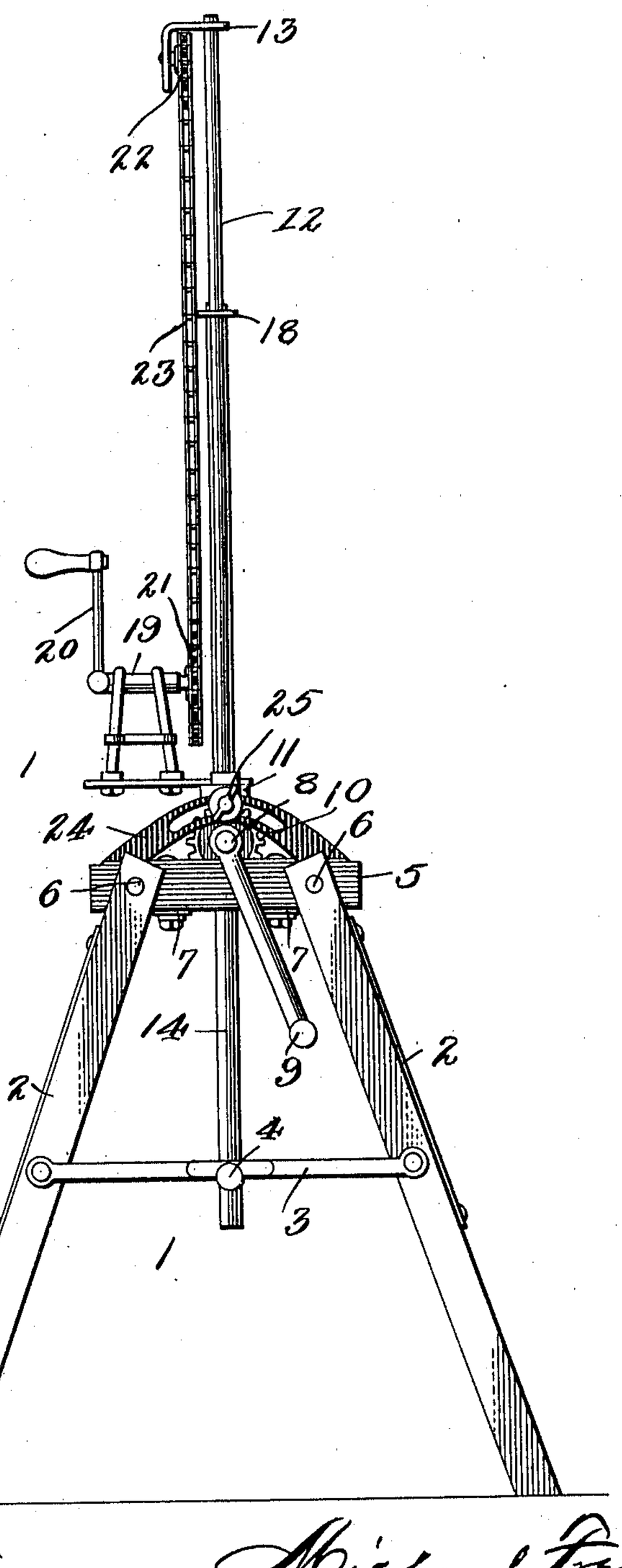
APPLICATION FILED JUNE 18, 1909.

978,444.

Patented Dec. 13, 1910.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 2.

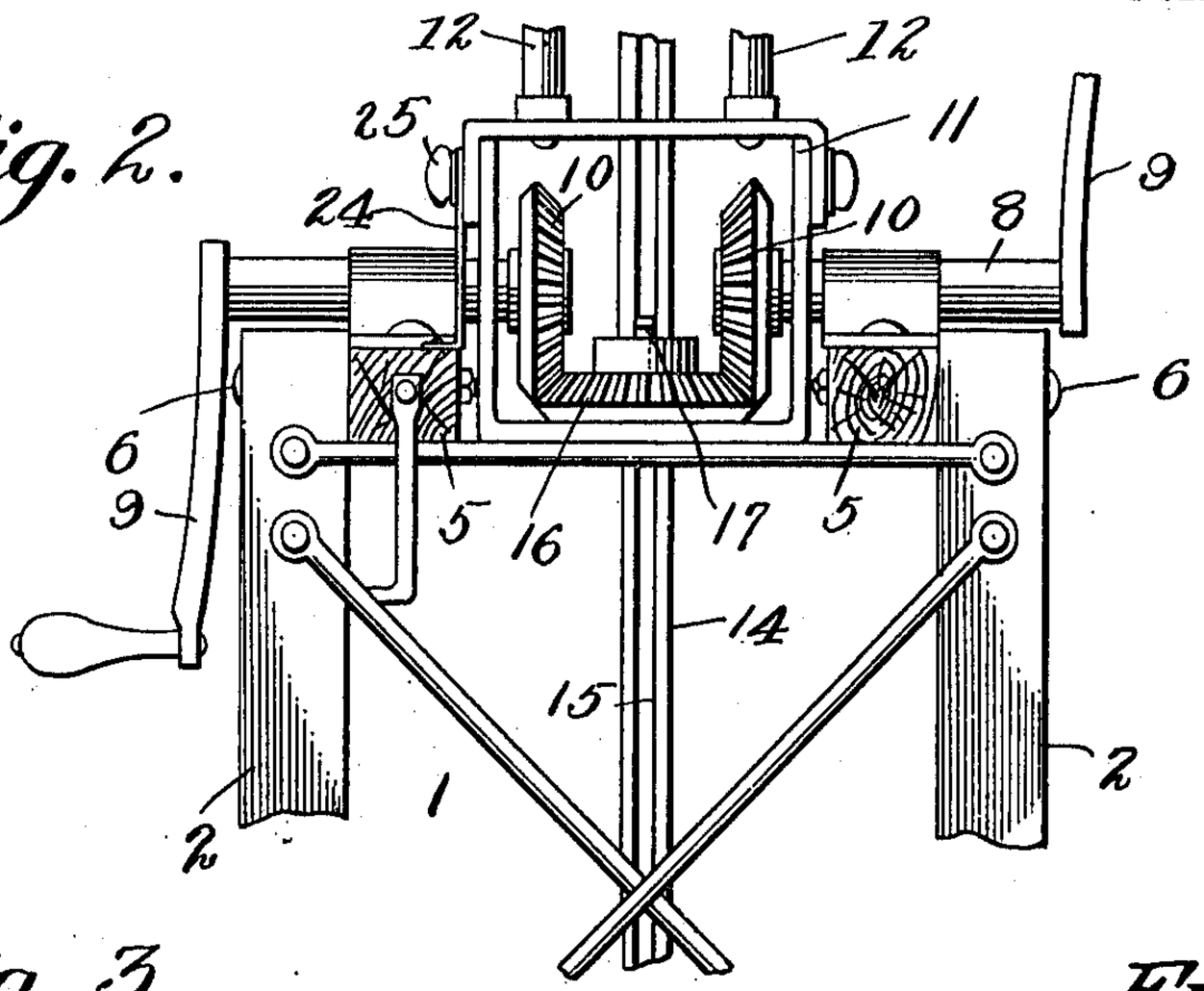


Fig. 3.

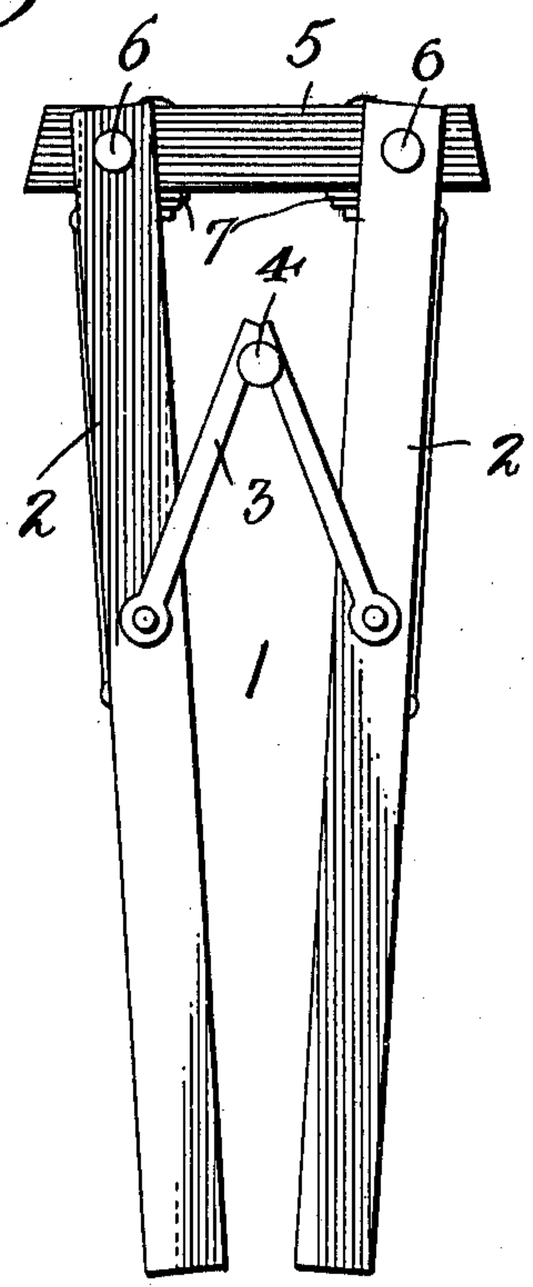
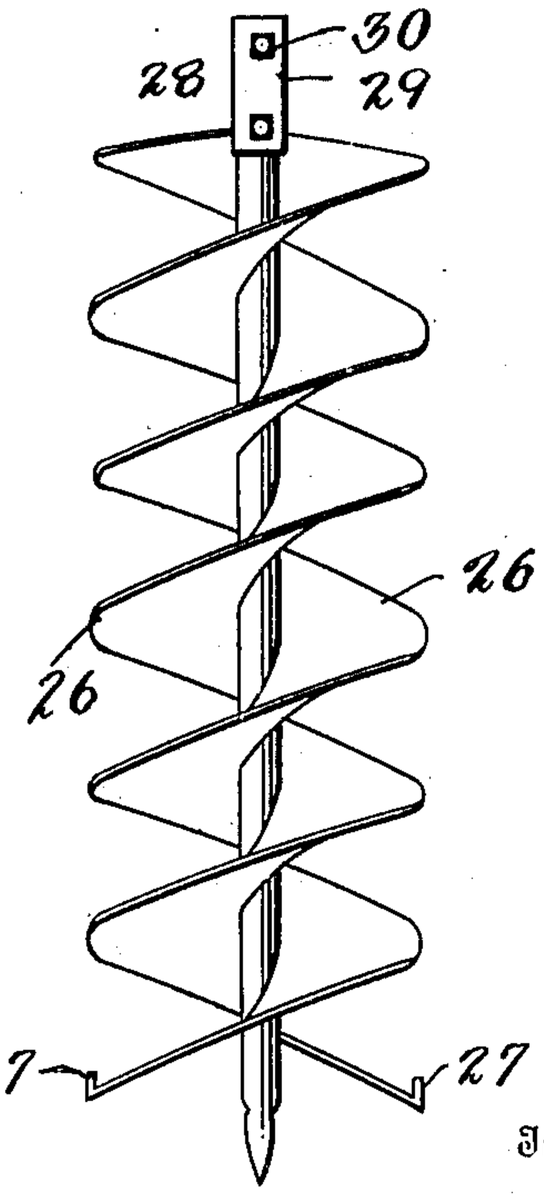


Fig. 4.



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UNITED STATES PATENT OFFICE.

MICHEAL FREEMARK, OF HOPE, NORTH DAKOTA.

POST-HOLE DIGGER.

978,444. Specification of Letters Patent. **Patented Dec. 13, 1910.**

Application filed June 18, 1909. Serial No. 502,984.

To all whom it may concern:

Be it known that I, MICHEAL FREEMARK, a citizen of the United States, residing at Hope, in the county of Steele and State of North Dakota, have invented certain new and useful Improvements in Post-Hole Diggers, of which the following is a specification.

My invention relates to machines for drilling post holes and has for one of its objects the provision of a machine simple in construction and effective in operation and that is so constructed that holes may be drilled at an angle to the perpendicular in addition to perpendicularly.

Another object of my invention is the provision of mechanism for forcing the auger into the ground should it be necessary to do so, said mechanism being also used for raising the auger out of the hole after it has been completed or when it is desired to remove the loosened dirt from the hole.

My invention will be described in detail hereinafter and illustrated in the accompanying drawings in which—

Figure 1 is a side view of my improved post hole digger, Fig. 2, a fragmental view showing the gearing, Fig. 3, a view of the supporting frame in a folded position, and Fig. 4, a detail view of the drill bit.

In the drawings similar reference characters indicate corresponding parts throughout the several views.

The supporting frame 1 of my improved digger consists of legs 2 secured together in pairs and each pair secured together by rods 3 hinged together as shown at 4 and pivotally secured to the legs 2 so that when the machine is not in use the frame 1 may be folded as shown in Fig. 3 for convenient transportation.

The drilling mechanism is mounted on a table consisting of side bars 5 secured to the upper ends of legs 2 by means of bolts 6, said side bars being connected by cross-bars 7.

8 indicates shafts journaled on side bars 5, having crank handles 9 secured to their outer ends and beveled gear wheels 10 secured to their inner ends.

11 indicates a rectangular frame mounted on shafts 8, and 12 rods secured to the top plate of frame 11 and having a plate 13 connecting their upper ends.

14 indicates the drill shaft slidably mounted in frame 11 and having a longitudinal groove 15 therein.

16 indicates a beveled gear wheel mounted on drill shaft 14 and splined thereon by means of a key 17 engaging groove 15 and secured to said gear wheel. Gear wheel 16 meshes with gear wheels 10. The upper end of drill shaft 14 is journaled in guide plate 18 slidably mounted on rods 12, this construction serving to guide the upper end of said shaft.

19 indicates a shaft suitably journaled and actuated by crank handle 20, and 21 a sprocket wheel secured to the shaft.

22 indicates a sprocket wheel mounted on top plate 13 and 23 a chain geared to sprocket wheels 21 and 22 and secured to guide plate 18. This construction admits of force feeding the drill shaft should it be found to be necessary and periodically withdrawing the drill bit from the boring to remove the loosened dirt and to remove the bit at the end of the boring.

24 indicates a segmental slotted guide secured to one of the side bars 5 and 25 a thumb screw engaging said guide and the side of rectangular frame 11 to hold said frame in the position desired to drill the hole, this construction admitting of drilling the hole at an angle to the perpendicular if desired without tilting the supporting frame 1. The drill bit may be of any form desired, the form shown having a double spiral flange 26 with a cutting lip 27 at the lower end of each flange, being preferred.

28 indicates the drill chuck for securing the bit to shaft 14 consisting of tube 29 having set screws 30 to secure it to the shaft and bit stock.

Having thus described my invention what I claim is—

A post hole digger comprising a collapsible supporting frame, a table comprising side bars and cross bars secured to said side-bars, power shafts journaled on said side bars, beveled gear wheels secured to said power shafts, a rectangular frame swivelly mounted on said power shafts, a segmental slotted guide secured to one of said side bars, a thumb screw secured to said rectangular frame and engaging said slotted guide, rods secured to said rectangular frame and extending upwardly, a cross plate connecting the upper ends of said rods, a guide plate slidably mounted on said rods, a drill

shaft journaled in said guide plate and slidably mounted in said rectangular frame, a beveled gear wheel splined on said drill shaft and meshing with the beveled gear wheels on the power shafts, a shaft journaled on said table, a sprocket wheel secured to said shaft, a sprocket wheel secured to the cross plate aforesaid, and a chain geared to said sprocket wheels and secured to the guide plate aforesaid.

In testimony whereof I hereto affix my signature in the presence of two witnesses.

MICHEAL FREEMARK.

Witnesses:

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EDW. S. JOHNSON.