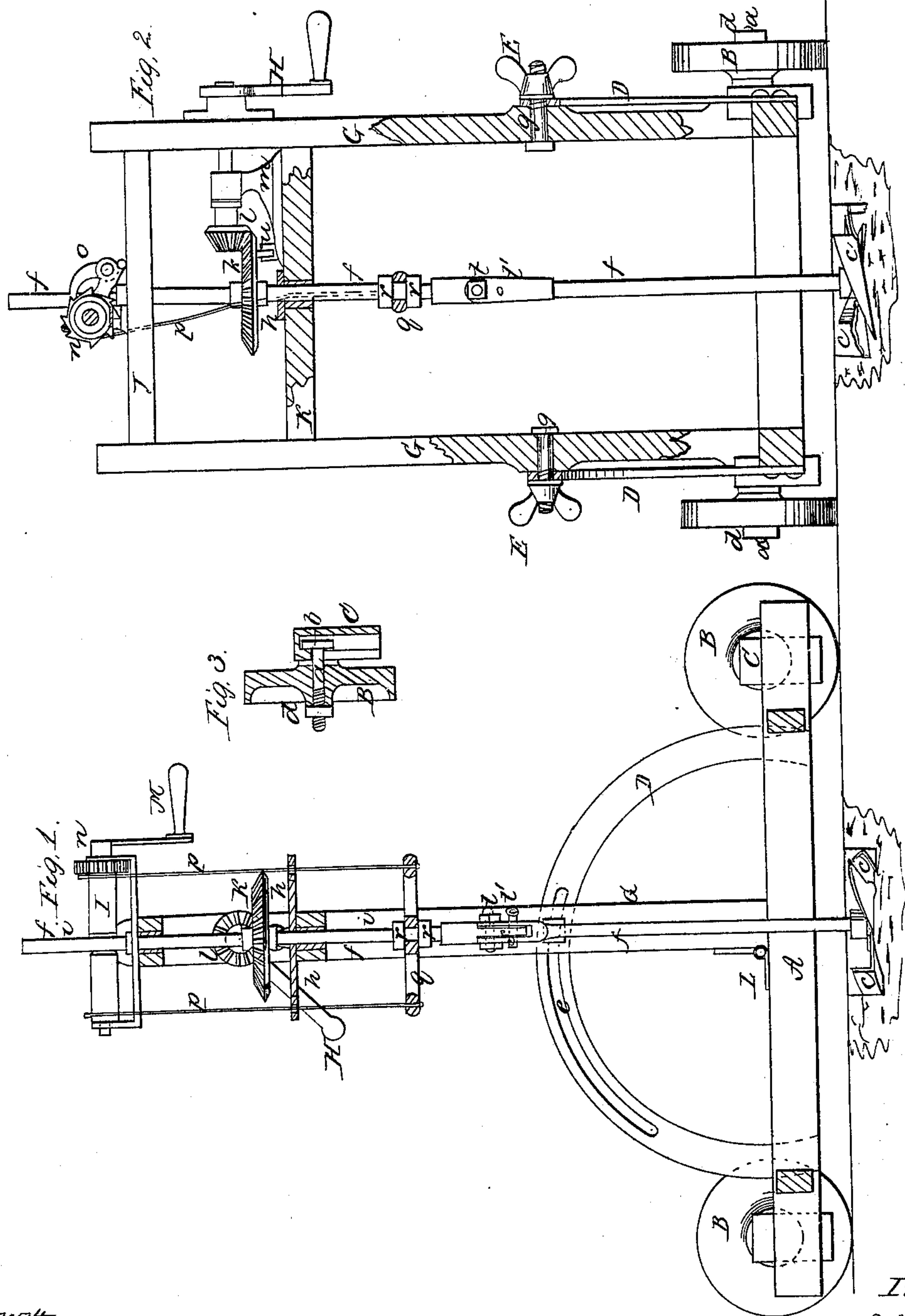


Walter & Shank.

Post Hole Borer.

No. 82,185.

Patented Sept. 15, 1868.



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JACOB M. WALTER AND SAMUEL SHANK, OF SPRINGFIELD, OHIO.

Letters Patent No. 82,185, dated September 15, 1868.

IMPROVED POST-HOLE BORER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, JACOB M. WALTER and SAMUEL SHANK, of Springfield, in the county of Clark, and State of Ohio, have invented a new and useful Improvement in Ground-Auger Machines; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional elevation of our invention.

Figure 2 is a sectional elevation of the same, taken at right angles to that of fig. 1.

Figure 3 is a detail section of the adjustable axle.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a machine for boring post-holes in the ground, which is effective, easily and conveniently operated, and adjustable to operate upon side hills.

It consists of a hinged auger-shaft, whereby the earth lifted by the auger may be conveniently deposited away from the hole, together with windlass-and-cord mechanism, for lifting the auger-shaft vertically from the hole.

It further consists in the form of the boring-disk, and hinged or pivoted uprights, supporting the boring and lifting-mechanism, the said uprights vibrating in contact with slotted semicircular plates affixed to the bed-frame of the machine, which serve, in conjunction with clamp-burrs and screw-studs on the uprights, to adjust the uprights and the auger-shaft in a vertical position, when the hole is to be bored on a side hill, and the bed-frame is necessarily inclined from the horizontal.

Other devices, perfecting the whole, render this machine convenient and effective, and capable of being used with advantage in level and inclined ground.

In the accompanying drawings, A is the bed-frame, mounted on the wheels B, the axles of which are adjustable up or down, to adapt the bed-frame to inequalities of the ground, or to the incline of the same.

The axle *a* is affixed to a metallic block, *b*, which slides, with easy contact, in the cavity of the hollow block C, affixed, in any suitable manner, to the bed-frame, as shown. The axle *a* is provided with a nut, *d*, for clamping the same at any part of the slot in which the said axle moves.

The uprights G are hinged to the bed-frame by hinges L, or other suitable device, and may be vibrated between the slotted semicircular plates D D, to maintain the auger in vertical position, when the bed-frame rests on a slope or side hill.

The threaded bolts *g g* pass through the uprights and the slots, *e*, in the plates D, and are provided with burrs, E, to clamp the uprights at any point on the plates.

The uprights are connected, near the top, by cross-braces, J K, which serve to support the auger-shaft *f* and its operating-mechanism.

The auger-shaft is jointed by means of a tongue, *s*, in one part, and corresponding jaws in the other, into which the tongue fits, as shown. The object of this device is to enable the boring-disk, when lifted from the hole with earth upon it, to be swung out laterally, thereby depositing the earth upon the ground near the hole.

The tongue and jaws are formed with two sets of holes, the upper set being for a bolt, *t*, and the lower for a pin, *t'*, which latter is removed when required, and the lower part of the shaft permitted to swing upon the bolt *t*, as a pivot, in depositing the earth.

The auger-shaft is revolved by means of bevel-gear *k m*, and a crank, H, the shaft of which has its principal bearing in the plate *m*, and bears the bevel-pinion *l*, which serves to apply the power.

A similar shaft, plate, crank, and pinion may be placed on the opposite side of the upright frame G K J, if two cranks are required.

The wheel *k* rests on the roller *u*. This wheel is not affixed to the shaft *f*, but slides freely on it, being held from revolving on it by a set-screw passing through the hub-sleeve of the wheel, the front of which set-

screw works in a slot, *i*, in the shaft, or other equivalent device for the purpose. By this device, the shaft may be raised, to lift the earth from the hole, without interrupting the gearing, for the pinion and roller serve to keep the wheel *k* in place.

The shaft is lifted by means of a windlass-drum, *I*, bearing in a suitable plate, as shown. This drum is provided with a crank-handle, *M*, and a ratchet-and-pawl device, *n o*, as shown, and to this drum the cords *p p*, connecting with the arm *q*, are wound.

The arm *q* works loosely on the auger-shaft, being held in place thereon by bosses *r r*, set on the shaft.

The cords pass through a guide-plate, *h*, affixed to the cross-brace *K*.

The boring-disk consists of the usual helical plates or wings, provided with vertical tapering flanges or edges, *c c*, which are sharpened, and act effectively in cutting away roots.

Having thus described our invention, we claim as new, and desire to secure by Letters Patent—

1. The arrangement, within the frame *G J K*, hinged, at *L*, to the main frame, of the jointed shaft *ff*, bearing the auger, the arm *q*, and bevelled-gear wheel *k*, adapted to turn with and move longitudinally on said shaft, pinion *l*, on crank-shaft *H*, windlass *I*, cords *p*, ratchet-wheel *n*, pawl *o*, and crank *M*, all constructed and arranged to operate in the manner and for the purpose herein set forth and shown.

2. The hollow blocks *C*, fixed to frame *A*, and adapted to receive the head, *b*, of axle *a*, on which the wheel *B* is held by means of nut *d*, as herein shown and described, for the purpose specified.

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