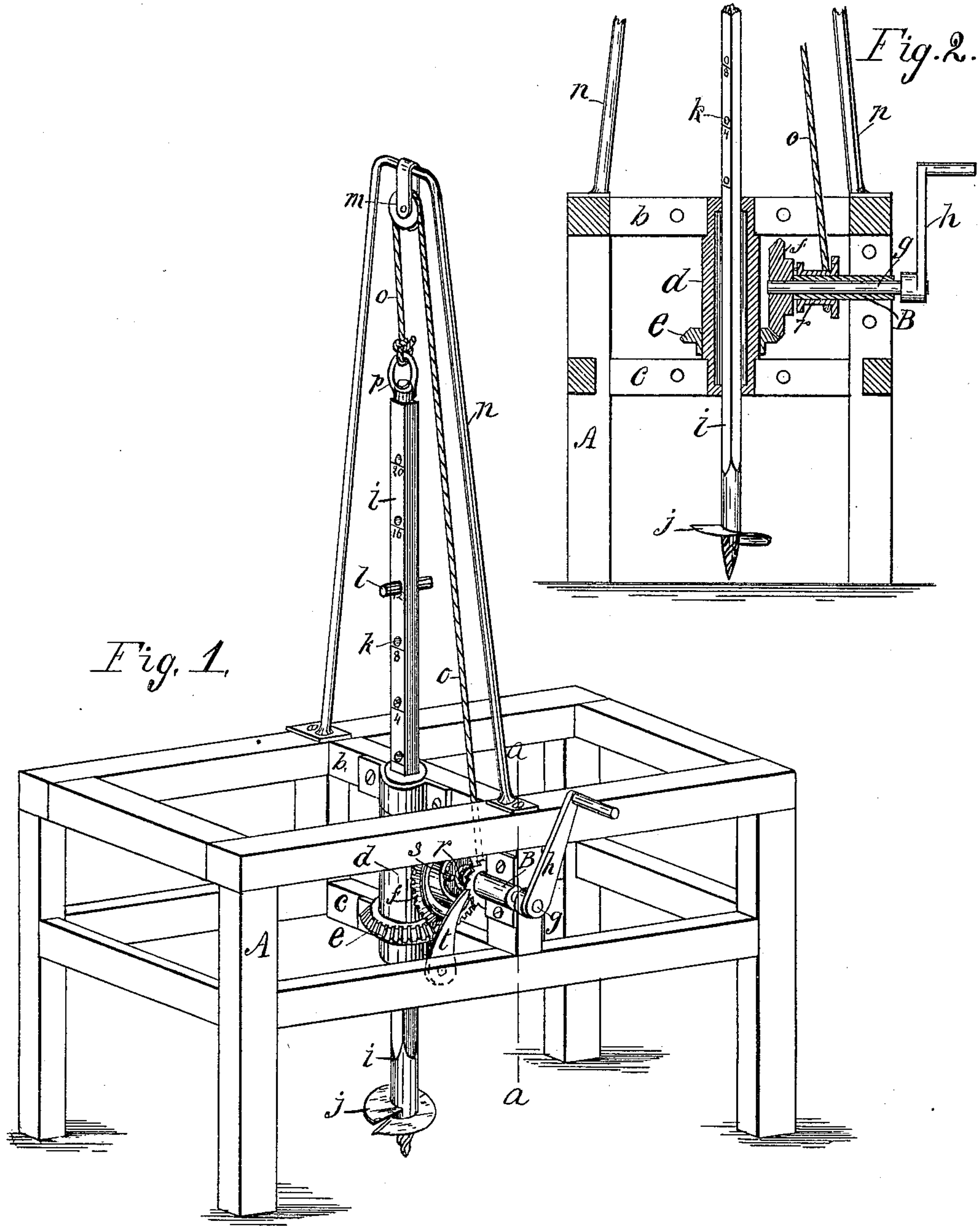


(No Model.)

J. HAGANS.
POST HOLE AUGER.

No. 326,976.

Patented Sept. 29, 1885.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES HAGANS, OF MAXWELL, INDIANA.

POST-HOLE AUGER.

SPECIFICATION forming part of Letters Patent No. 326,976, dated September 29, 1885.

Application filed November 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES HAGANS, a citizen of the United States, residing at Maxwell, in the county of Hancock and State of Indiana, have invented a new and useful Improvement in Post-Hole Machines, of which the following is a specification.

My invention relates to an improved machine for boring post-holes.

10 The object of my improvement is to mount an earth-auger in a suitable portable frame, so that it may be placed and sustained in a vertical position over the place where a post-hole is desired, may be turned by means of a
15 crank turning in a vertical plane, and may furnish a gage showing at any time the depth to which the hole is bored.

The accompanying drawings illustrate my invention.

20 Figure 1 represents a perspective view of my machine; Fig. 2, a section at *a a*, Fig. 1.

A is a wooden frame having the central upper and lower cross-timbers, *b* and *c*, the lower timber, *c*, being about two feet above
25 the base.

d is a hollow vertical shaft journaled at the opposite ends, so as to turn in bearings formed in or secured to the timbers *b* and *c*.

30 *e* is a bevel gear-wheel secured to shaft *d*; *f*, a corresponding gear-wheel secured to a horizontal shaft, *g*, and intermeshing with wheel *e*. Said shaft *g* turns in a bearing, B, secured to the frame, and is turned by means of a crank, *h*, secured thereto.

35 *i* is a vertical shaft adapted to slide vertically in shaft *d*, without turning therein, but is of such shape in section, preferably square, as shown, as to be turned by said shaft *d*, the interior of which at each end fits loosely shaft

40 *i*. Upon the lower end of shaft *i* is formed or secured an earth-auger, *j*, of ordinary well-known construction. The upper portion of shaft *i* is graduated and marked to indicate inches, and is also provided with a series of
45 holes, *k*, into which a removable pin, *l*, is put. The arrangement of the graduations is such that when a mark reaches the upper surface of timber *b* the figure on said mark indicates the depth of the hole bored; and the purpose
50 of the holes *k* and pin *l* is to facilitate the making of a series of post-holes of uniform

depth by stopping the further penetration of the auger when said pin comes in contact with timber *b*.

For the purpose of raising the auger and
55 loosened earth a pulley, *m*, is suspended from a light frame, *n*, erected on frame A, and a rope, *o*, secured to a swivel-eye, *p*, on the top of shaft *i*, is passed over pulley *m* and downward to a flanged pulley, *r*. Said pulley *r* is
60 mounted so as to turn loosely on a portion of the bearing B in which shaft *g* is mounted, and is adapted to engage, at the will of the operator, with the back of bevel gear-wheel *f*
by means of a pin, *s*, on said gear wheel and
65 a corresponding slot in pulley *r*, or by any other suitable clutch mechanism. One flange of pulley *r* is provided with ratchet-teeth which are engaged by a pawl, *t*.

In operation the frame A is placed so as to
70 stand level, with the auger over the place where the post-hole is to be bored, the auger being held up by rope *o*. Pawl *t* is now withdrawn from pulley *r* and the auger lowered by turning crank *h* backward, pulley *r* being
75 engaged with wheel *f*. Pulley *r* is now disengaged from wheel *f*, and the crank having been turned in the opposite direction the auger enters the earth to the required depth, which is determined by pin *l* coming in contact with
80 beam *b*. Pulley *r* is then re-engaged with wheel *f*, and the operator continuing to turn the crank in the same direction the auger and loosened earth is raised and is held by pawl *t*.

By the use of this machine post-holes may
85 be more rapidly bored than heretofore, and they will be plumb and of uniform depth.

I claim as my invention—

1. In a post-hole machine, the combination, with the vertical shaft carrying an earth-auger, 90 the frame *n*, pulley *m*, and rope *o*, of the bearing B, pulley *r*, arranged to turn on said bearing, shaft *g*, bevel gear-wheel *f*, and a clutch mechanism connecting said pulley *r* and bevel gear-wheel *f*, all substantially as shown and
95 described, and for the purpose specified.

2. In a machine for boring post-holes, the combination, with the supporting-frame, the hollow shaft mounted in said frame, and means, substantially as shown and described, for turn- 100 ing said shaft, of the earth-auger and its graduated shaft having a series of holes and a pin,

all substantially as and for the purpose specified.

3. In a machine for boring post-holes, the combination, with the supporting-frame, the
5 hollow shaft mounted in said frame, the bevel-wheels, the crank-shaft, the crank, the earth-auger and its shaft, of the frame *n*, pulley *m*,

rope *o*, and pulley *r*, all arranged to co-operate substantially as and for the purpose specified.

JAMES HAGANS.

Witnesses:

H. P. HOOD,
A. M. HOOD.