

No. 641,960.

Patented Jan. 23, 1900.

J. HERFERT.

EARTH AUGER.

(Application filed June 23, 1899.)

(No Model.)

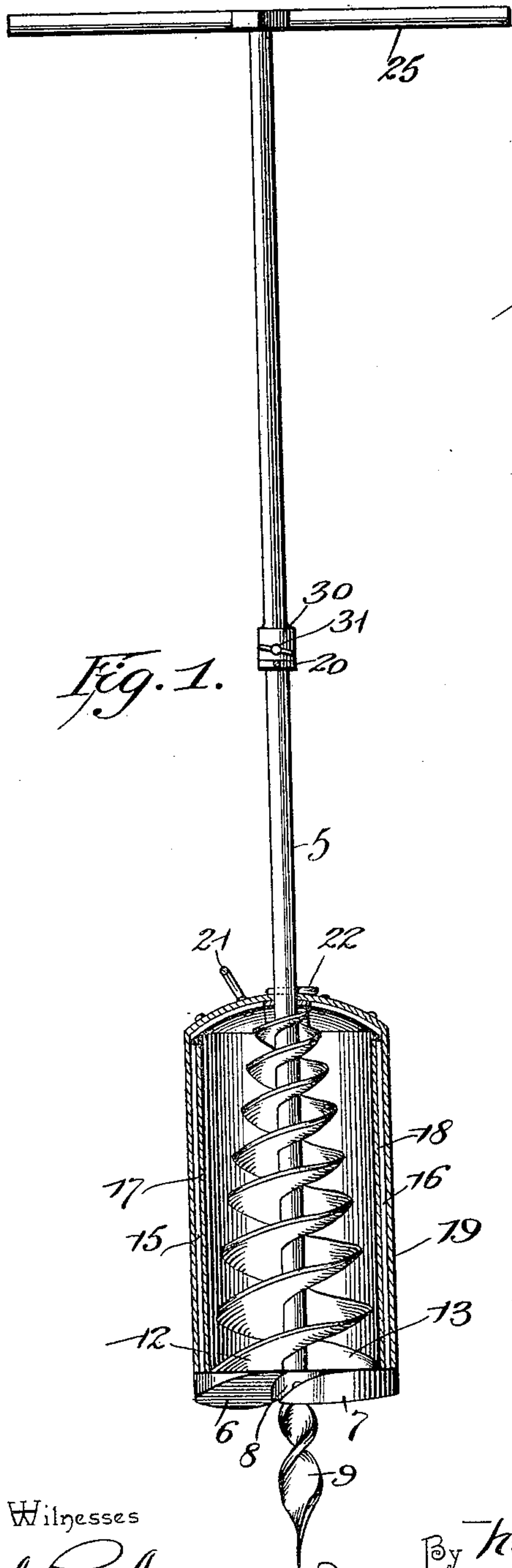


Fig. 1.

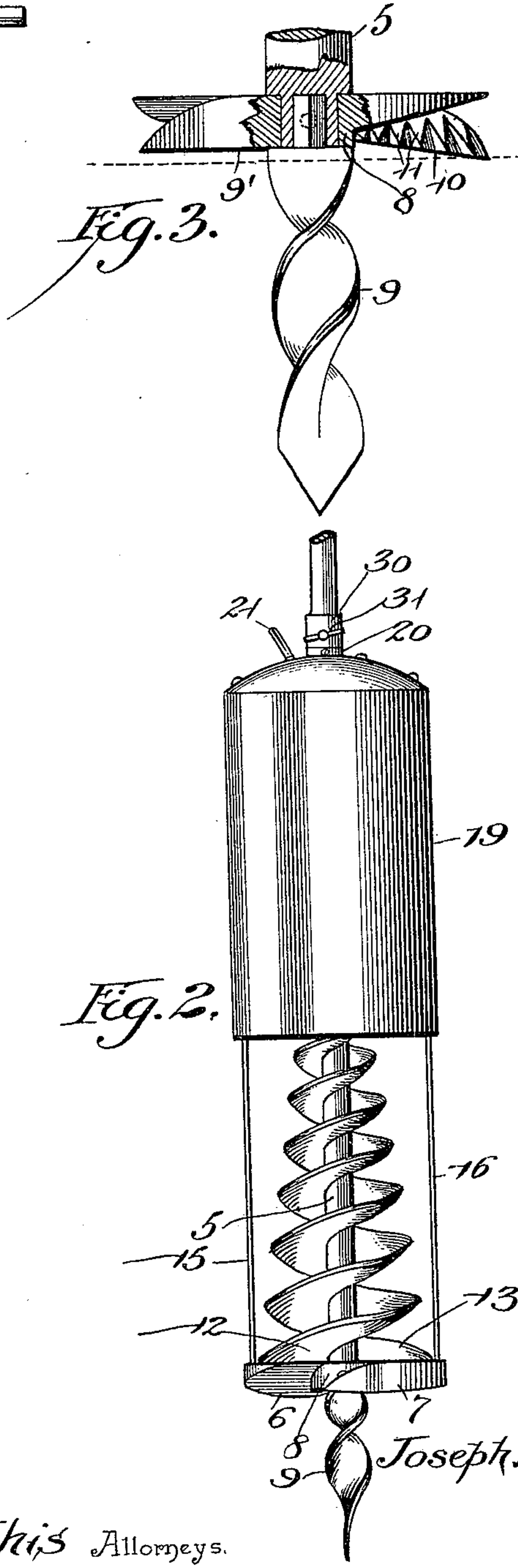


Fig. 2.

Fig. 3.

Witnesses

A. Roy Appleman
Geo. H. Chandler

By His Attorneys.

Cashnow & Co.

Joseph Herfert,
Inventor.

UNITED STATES PATENT OFFICE.

JOSEPH HERFERT, OF TUCKER, WASHINGTON.

EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 641,960, dated January 23, 1900.

Application filed June 23, 1899. Serial No. 721,620. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH HERFERT, a citizen of the United States, residing at Tucker, in the county of Cowlitz and State of Washington, have invented a new and useful Earth-Auger, of which the following is a specification.

This invention relates to earth-augers; and it has for its object to provide a device of this nature which may be employed in digging post-holes, in prospecting, in digging shallow wells, and for all other purposes for which devices of this nature are adapted.

The object of the invention is to provide a simple and efficient style of auger and one in which, moreover, there will be provided a casing or receptacle to receive the dirt as dug by the cutting-blades and will hold it when the tool is withdrawn from the earth.

In the drawings forming a portion of this specification, and in which like numerals of reference designate similar parts in the several views, Figure 1 is an elevation of the entire auger with the exception of the casing or bucket, which is shown in section. Fig. 2 is an elevation of the cutting and conveying mechanism, the casing being also in elevation and shown as raised in the act of discharging the dirt therefrom, the upper portion of the stem being omitted. Fig. 3 is an elevation of the cutting-blades of the auger and the starting-screw, showing the teeth upon one of the cutting-blades and showing also one of the cutting edges extending below the other.

Referring now to the drawings, 5 represents the stem of the auger, adjacent the lower end of which are fixed two cutting-blades 6 and 7, said blades being carried by a common hub 8, through which is formed an angular opening, in which the stem is seated and held by means of a pin or in any other desired manner. In the end of the stem projecting into the opening of the hubs 8 is the upper end of a starting-screw 9, which upper end is angular in cross-section and is adapted to fit in a corresponding recess in the end of the stem. The blades 6 and 7 comprise each a cutting edge 9 and 10, respectively, which edges are disposed at a slight angle to the stem, and one of which edges, 10, is provided with teeth 11, as shown in Fig. 3. The blades 6 and 7 are in other respects like the ends of an ordinary

wood-auger, and extending upwardly from the upper ends of said blades are two concentric helical webs 12 and 13, the diameters of which diminish constantly from the bottom to the top thereof, said webs acting as a conveyor of material cut and initially raised by the blades 6 and 7.

Secured to each of the blades 6 and 7 at diametrically opposite points of their upper surfaces are guide-rods 15 and 16, which extend parallel with the stem 5 and play in tubular guides 17 and 18 upon the inner surface of a cylindrical casing or bucket 19, which is adapted to be reciprocated on said rods to cover and uncover the webs 12 and 13, said casing in its covered position resting upon the upper surfaces of the blades 6 and 7.

In order to limit the upward movement of the casing, a collar 20 is adjustably held upon the stem 5 through the medium of a set-screw, the reciprocation of the casing being facilitated by a handle 21, fixed to the upper end thereof. When the casing is at the limit of its downward motion, its upper wall rests upon the upper ends of the webs 12 and 13, and in order to hold it in this position I may employ a pin 22, passed through a perforation in the stem directly above the upper end of the casing.

In the operation of this device the casing is lowered into the position shown in Fig. 1, and through the medium of an auger-handle 25 upon the upper end of the stem the auger may be rotated, when the screw 9, entering the ground, will draw the cutting edges of the blades against the ground, with the result that they will take up the dirt and pass it through the webs 12 and 13, which, acting as a conveyor, will pass the dirt upwardly of the casing and will keep the lower end of the casing free of dirt until said casing has been filled. By means of the handle 25 the auger is then withdrawn, the pin 22 is removed, the casing is raised, and the dirt is emptied therefrom and from the conveyor. Under certain conditions it would be necessary to rotate the auger in an opposite direction in order to withdraw the screw from the solid earth before the auger can be lifted out.

In order to adjust the length of the stem for different depths of holes, the stem is formed in sections, the lower end of each section

having an enlargement 30, provided with a pin 31, adapted to enter and hold the end of the succeeding section, which is passed into an angular recess in the lower end of said enlargement.

It will of course be understood that in practice the auger may be made of any desired proportions, any suitable materials may be employed, and, furthermore, that the specific construction and arrangement shown may be varied without departing from the spirit of the invention.

Having thus described the invention, what is claimed is—

1. An earth-auger comprising a stem, cutting-blades removably connected with the stem, the cutting edge of one of said blades extending beyond the other, a starting-screw removably connected with the blade, concentric helical webs connected with the blades inclosing portions of the stem and diminishing in diameter upwardly, guide-rods carried by the blade and a casing adapted to cover and uncover the webs, said casing being cy-

lindrical and having tubular portions fitted upon the guide-rods to establish slidable connection therewith.

2. An earth-auger comprising a stem, having a diminished end provided with a longitudinal recess, cutting-blades having a socket in which the diminished portion of the stem is seated, a starting-screw seated in the socket of the stem, a pin holding the stem, the blades and the screw in position, concentric helical webs connected with the blades and inclosing portions of the stem and tapering upwardly, rods mounted upon the blades and a cylindrical casing having slidable connection with the rods upon the blades and adapted to cover and uncover the webs.

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

JOSEPH HERFERT.

Witnesses:

A. J. HICKS,
E. W. ROSS.