No. 804,141. PATENTED NOV. 7, 1905.

E. B. LA MONT.

EARTH AUGER.

APPLICATION FILED MAR. 21, 1905.

2 SHEETS—SHEET 1.

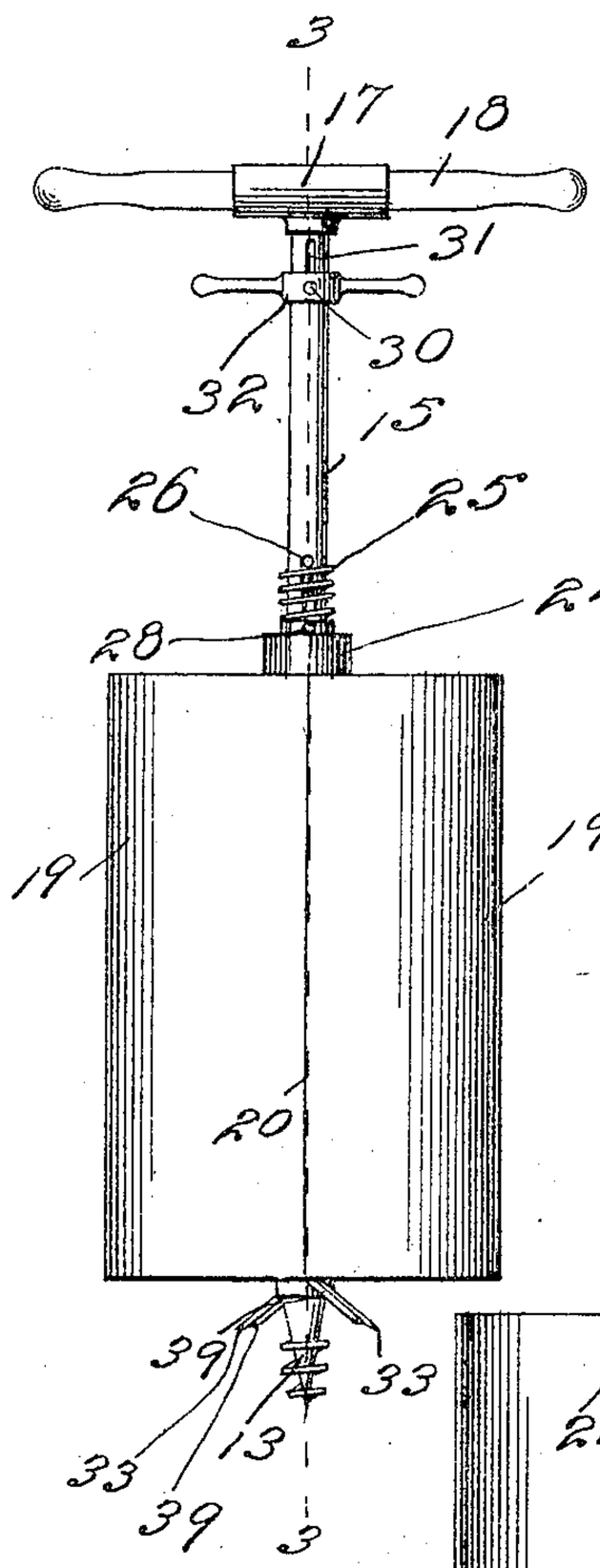
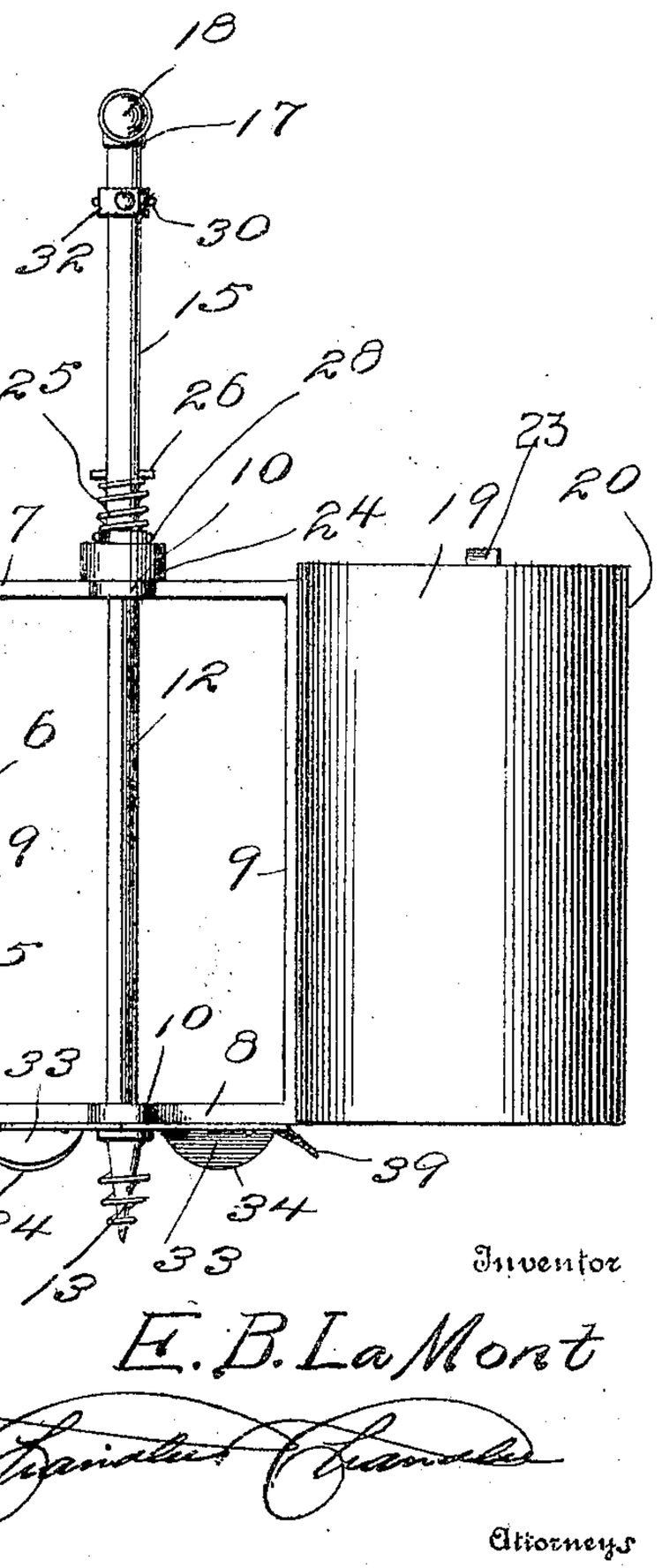


Fig. 1.

Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

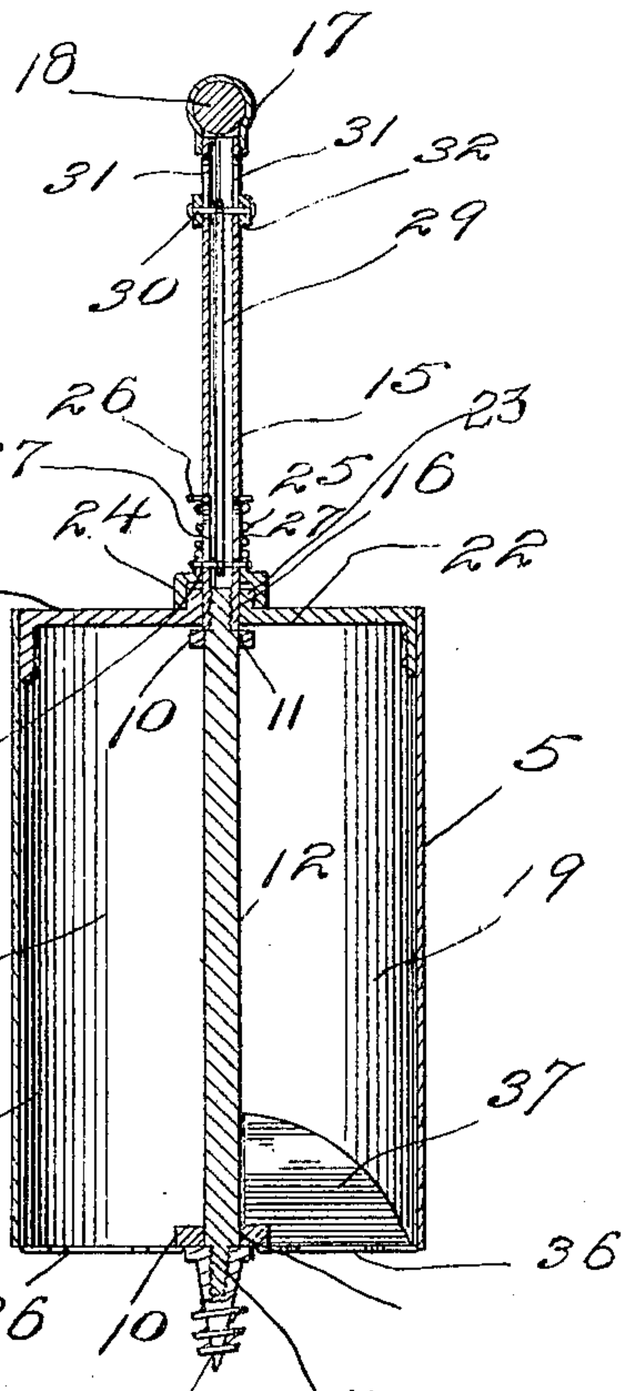


Fig. 5.

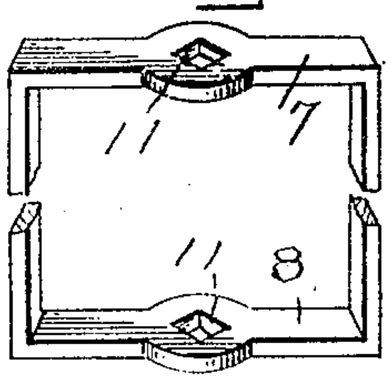
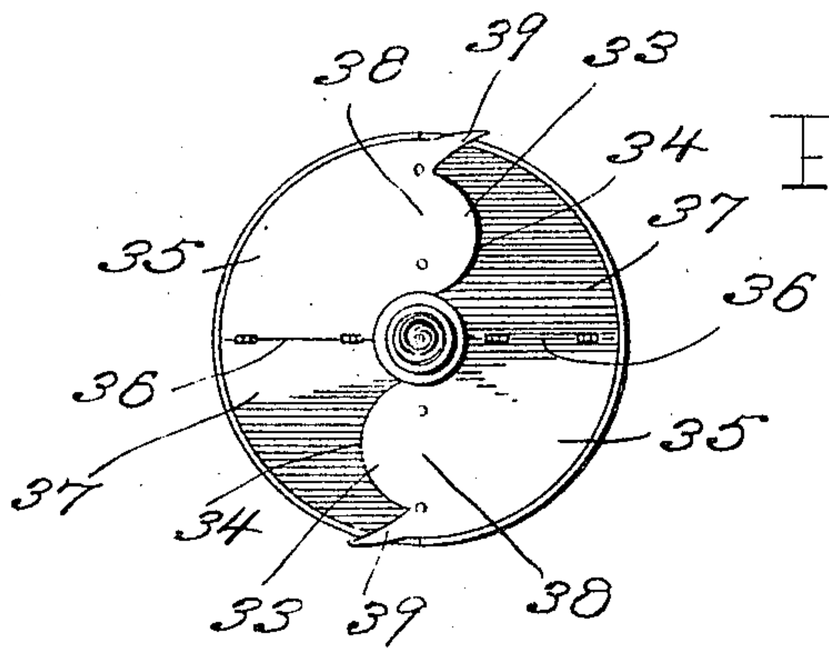


Fig. 4.



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UNITED STATES PATENT OFFICE.

EMERY B. LA MONT, OF ASHTON, SOUTH DAKOTA.

EARTH-AUGER.

No. 804,141. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed March 21, 1905. Serial No. 251,278.

To all whom it may concern:

Be it known that I, EMERY B. LA MONT, a citizen of the United States, residing at Ashton, in the county of Spink, State of South Dakota, have invented certain new and useful Improvements in Earth-Augers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to augers, and more particularly to earth-augers, and has for its object to provide a device of this nature which may be used in digging post-holes or similar excavations and which will be so arranged that after the earth has been loosened by the present invention it may be also lifted from the hole thereby, the device being arranged to quickly discharge its load of loosened earth after the latter has been raised to the surface of the ground.

Another object is to provide an auger which will be simple and which may be manufactured at a low figure.

Other objects and advantages will be apparent from the following description, and it will be understood that modifications of the specific construction shown may be made and any suitable materials may be used without departing from the spirit of the invention.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the present invention closed. Fig. 2 is a view similar to Fig. 1, showing the wings open. Fig. 3 is a section on line 3 3 of Fig. 1, showing the valves raised to permit of the entrance of earth to the chamber and also illustrating the wing-releasing mechanism. Fig. 4 is a bottom plan view showing the arrangement of the cutting-blades and illustrating the valves in dotted line. Fig. 5 is a detail perspective view of the frame, partly broken away.

Referring now to the drawings, the present invention comprises a body portion 5, which includes a frame 6, comprising upper and lower horizontal portions 7 and 8, respectively, which are connected at their ends by vertically-extending portions 9. The horizontal portions 7 and 8 have centrally-located enlargements 10, provided with registering vertical openings 11, which are rectangular, as shown, and these openings receive a rectangular central rod 12, which is threaded above and below the frame. A threaded auger-point 13 is provided, which consists of a cone having a spiral thread thereon, and this cone has a threaded recess 14 in its base, in which is engaged the lower threaded end of the rod 12.

A tube 15 is provided and has interior threads 16 at its lower end, which are engaged with the threads at the upper end of the rod 12, the lower end of the tube resting against the enlargement of the upper horizontal portion 7, while the enlargement of the lower horizontal portion rests against the auger-point 13, the frame thus being held upon the rod 12 by the tube and the auger-point. The upper end of the tube 15 has a T 17 engaged therewith, and engaged in the head portion of the T there is a horizontally-extending handle 18, by which the auger may be rotated.

Hinged at one edge to each of the vertically-extending portions 9 of the frame there is a semicircular metallic ring 19, and these rings are movable to extend outwardly from the portions to which they are hinged or to lie each with its free edge 20 against the vertical portion to which the other wing is hinged, thus forming a continuous circular wall surrounding a chamber 21. When the wings are in position to form the continuous wall, which is their operative position, inwardly-extending arms 22, carried by the wings, rest at their free ends against the tube 15 adjacent to the lower end thereof, and the arms 22 are provided with upwardly-extending projections 23, which lie against the tube, the faces of these projections and the end faces of the arms being concaved to conform to the convexity of the surface of the tube.

A collar 24 is slidably engaged with the tube and is movable into and out of engagement with the arms 22, it being understood that when the collar is in engagement with the arms it incloses the projections 23 to hold the arms with the wings in their operative position, and the collar is held yieldably in its operative position by a helical spring 25, which is engaged with the tube 15 between the collar 24 and a transversely-extending pin 26, which is engaged in the tube above the collar. At diametrically opposite points the tube 15 is provided with longitudinal slots 27, and these slots lie in the path of movement of the collar 24. Slidably engaged in the slots 27 there is a bolt 28, which is engaged at its ends in the collar, and this bolt has engaged therewith a rod 29, which extends upwardly within the tube and which is engaged at its

upper end with a horizontally-extending bolt 30, which is slidably engaged in a pair of longitudinally-extending alining slots 31, which are formed in the tube 15 adjacent to the upper end of the latter. The bolt 30 extends outwardly beyond the tube at its ends and has its ends engaged in an operating-collar 32, which is slidably engaged in the tube, and it will thus be seen that the collar 32 may be moved to move the collar 24 out of its operative position and release the wings 19.

Cutting-blades 33 are provided and are secured to the under surface of the lower horizontal portion 8 of the frame 6 at opposite sides of the auger-point 13, these blades having their cutting edges 34 directed oppositely, and these blades have portions 35, which extend beyond the opposite side of the portion 8 of the frame from the cutting edges of the blades, the outer edges 36 of these two portions 35 alining transversely of the chamber 21 and extending at right angles to the portion 8 of the frame. Hinged to each of these edges 36 for vertical movement there is a valve-plate 37, which when at the downward limit of their movement lie at one edge against the upper faces of the portions 38 of the cutting-blade, these portions 38 lying between the cutting edges 34 of the blades and the horizontal portion 8 of the frame, and these portions 38 are turned to extend downwardly at an angle to the portion 35, as shown, for engagement in the earth. The blades 33 have cutting-fingers 39 extending outwardly beyond the wings 19 when the latter are in their operative position, so that the hole dug by the auger is of a size to permit of movement of the body portion 5 freely therewithin.

In operation the auger-point is forced into the ground, the auger being rotated by means of the handle 18 until the blades 33 come into engagement with the ground, when they will cut the earth, the loosened particles raising the valve-plate 37 and passing into the chamber 21. After this chamber has been filled the auger is removed from the excavation and the wings 19 are released, as described in the foregoing, to discharge the contents of the chamber.

What is claimed is—

1. A device of the class described comprising a body portion including wings movable into and out of position to form an earth-receiving chamber, a bottom for the chamber, cutting-blades located at the lower end of the body portion and arranged to discharge into the chamber, means movable into and out of operative position for holding the wings in operative position, means for holding the wing-holding means yieldably in operative position, and means for moving the wing-holding means against the action of the second-named means.

2. A device of the class described comprising a body portion including a frame, semicylindrical wings hinged to the frame for movement into and out of position to form a continuous wall, a bottom for the inclosure of the wall, an upwardly-extending member connected with the frame, arms carried by the wings and resting against the member when the wings are in operative position, said arms having upwardly-extending projections thereon, a collar engaged with the member for movement into and out of position to engage the projections to hold the wings against movement, means for moving the collar, and cutting-blades connected with the frame and arranged to discharge into the inclosure of the wings.

3. A device of the class described comprising a frame including vertically-spaced horizontal portions and connecting vertical portions, said horizontal portions having alining openings therein, a rod engaged in the openings, an auger-point engaged with the rod below the frame and resting against the latter, an upwardly-extending member engaged with the rod above the frame and resting upon the latter, wings hinged to the vertical portions of the frame for movement into and out of position, to form a continuous wall, means for holding the wings in their operative positions, means for moving the wing-holding means into inoperative position, an operating-handle carried by the upwardly-extending member, and cutting-blades carried by the lower end of the horizontal portions of the frame and arranged to discharge into the inclosure of the wings.

4. A device of the class described comprising semicylindrical wings arranged for movement into and out of position to form a hollow cylinder, a bottom for the cylinder, said bottom having openings therein, a cutting-blade located at one edge of each opening, upwardly-opening valves for the openings, means movable into and out of operative position for holding the wings in operative position, and means for moving the wing-holding means into inoperative position.

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

EMERY B. LA MONT.

Witnesses:
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