

No. 720,255.

PATENTED FEB. 10, 1903.

A. LA S. KITSELMAN.
EARTH AUGER.

APPLICATION FILED JUNE 21, 1902.

NO MODEL.

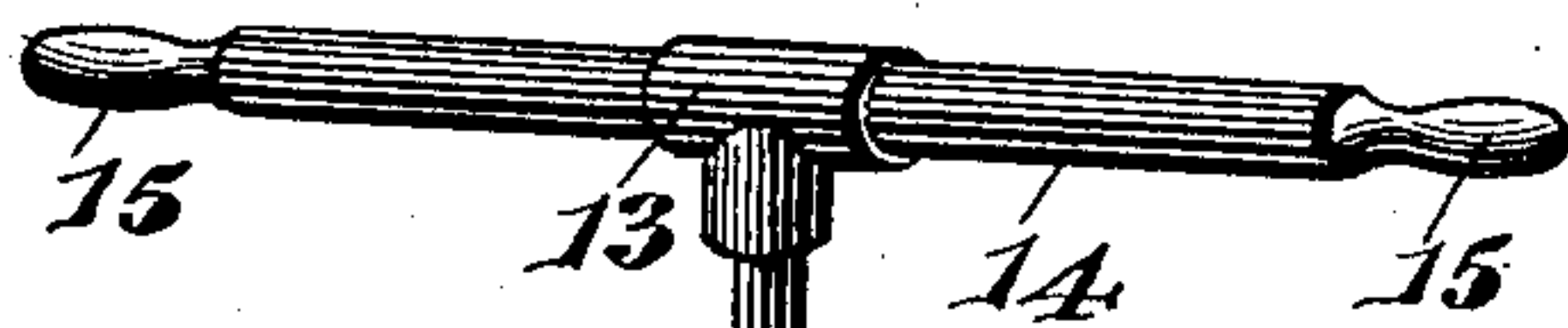


Fig. 1.

Fig. 3.

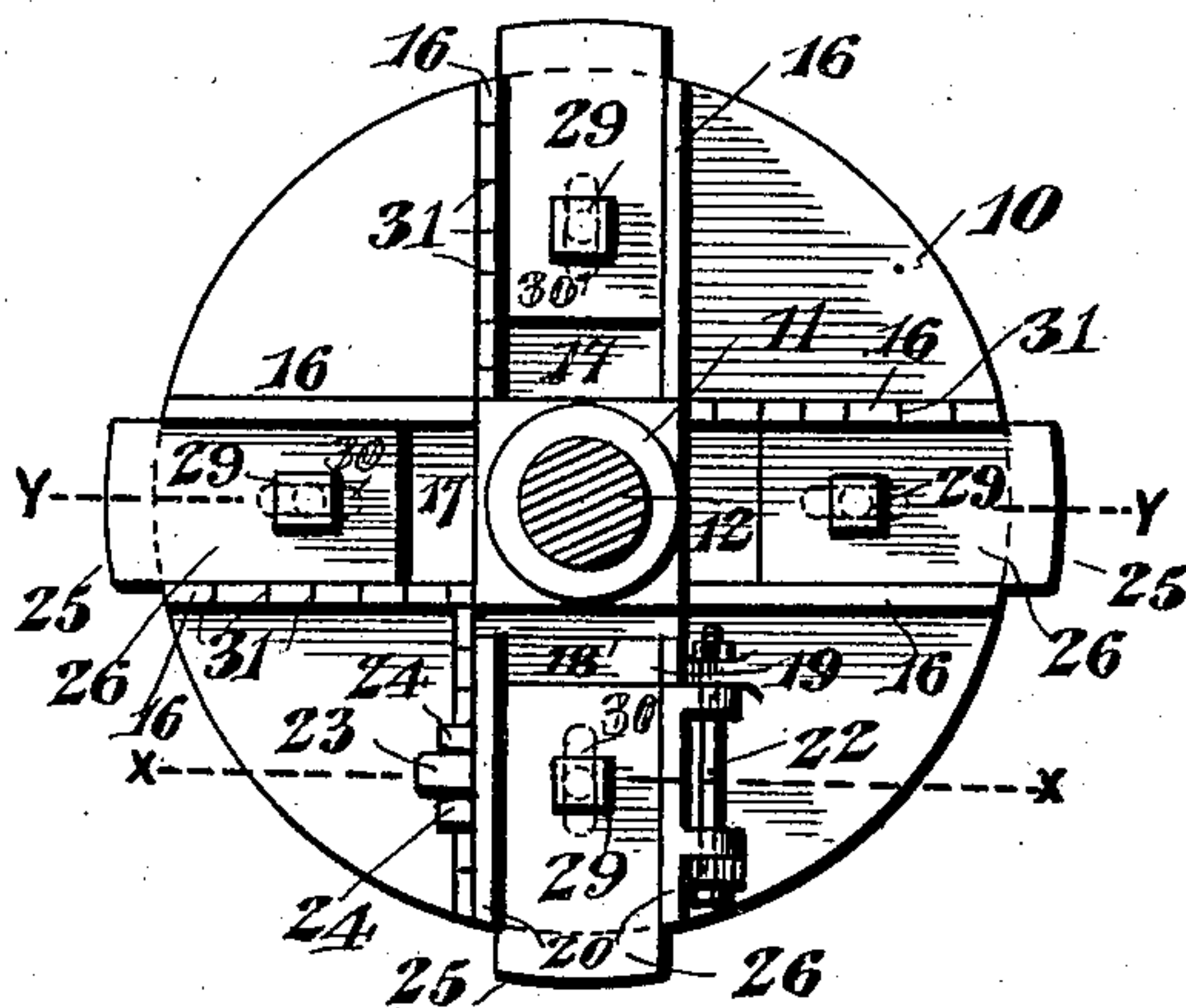


Fig. 2.

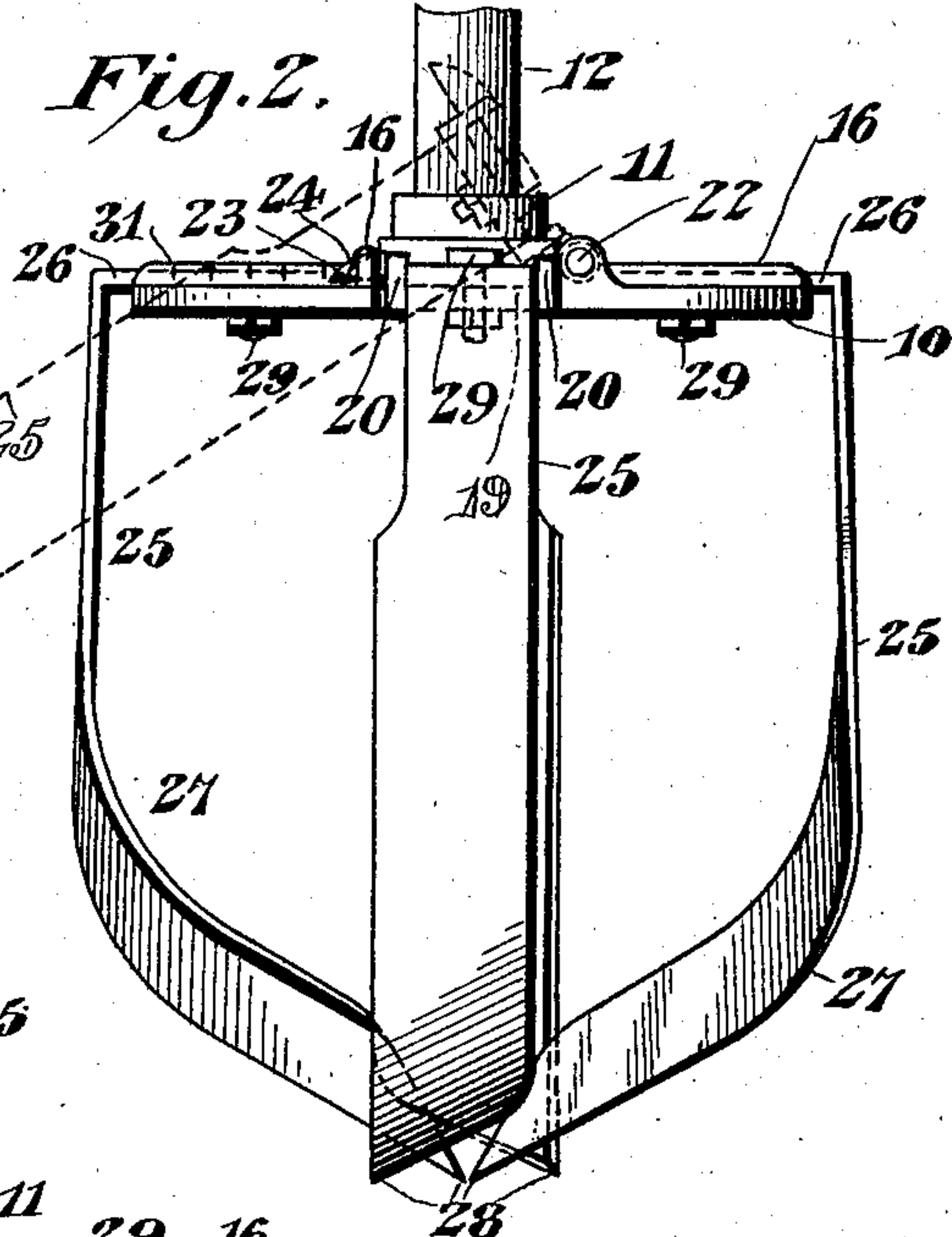


Fig. 4.

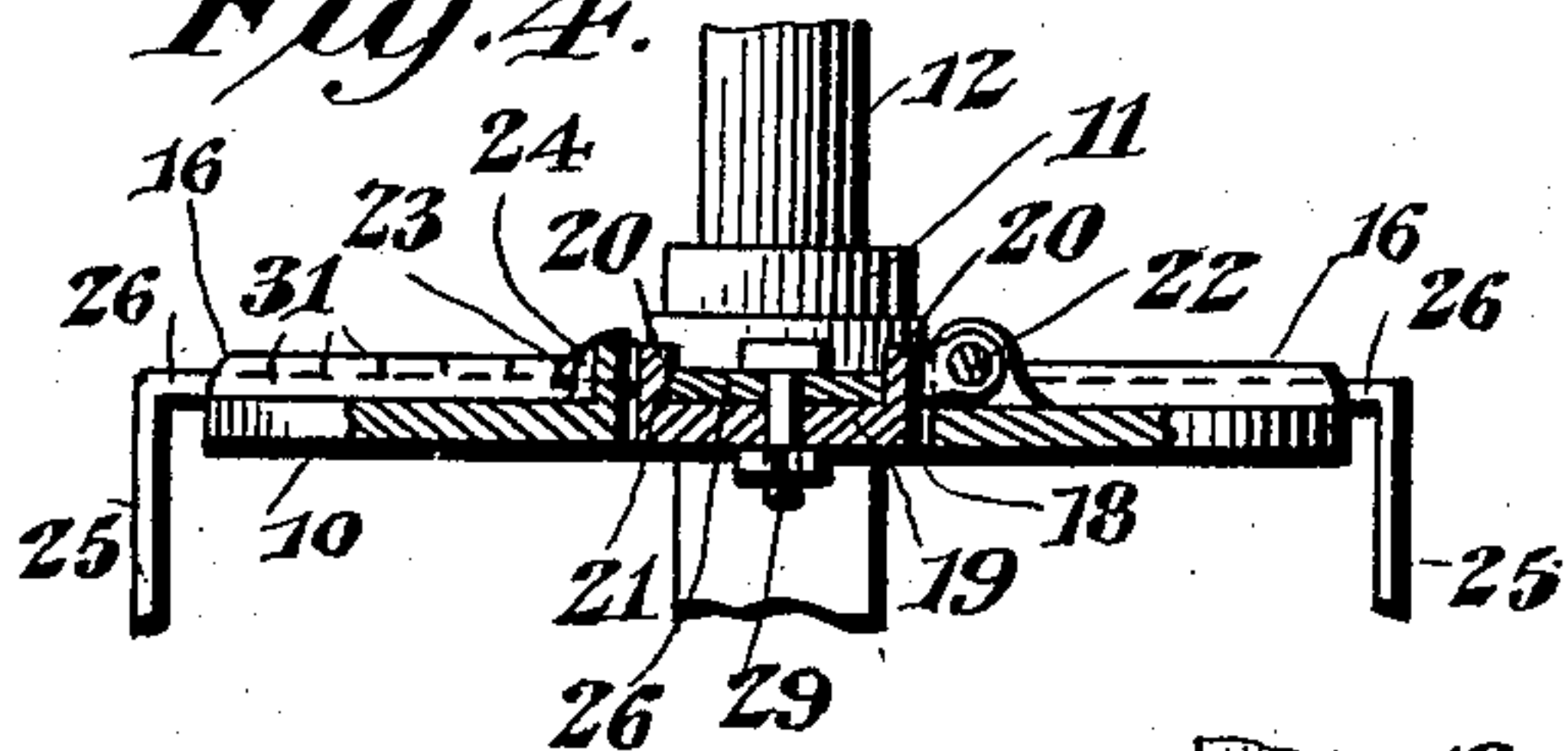
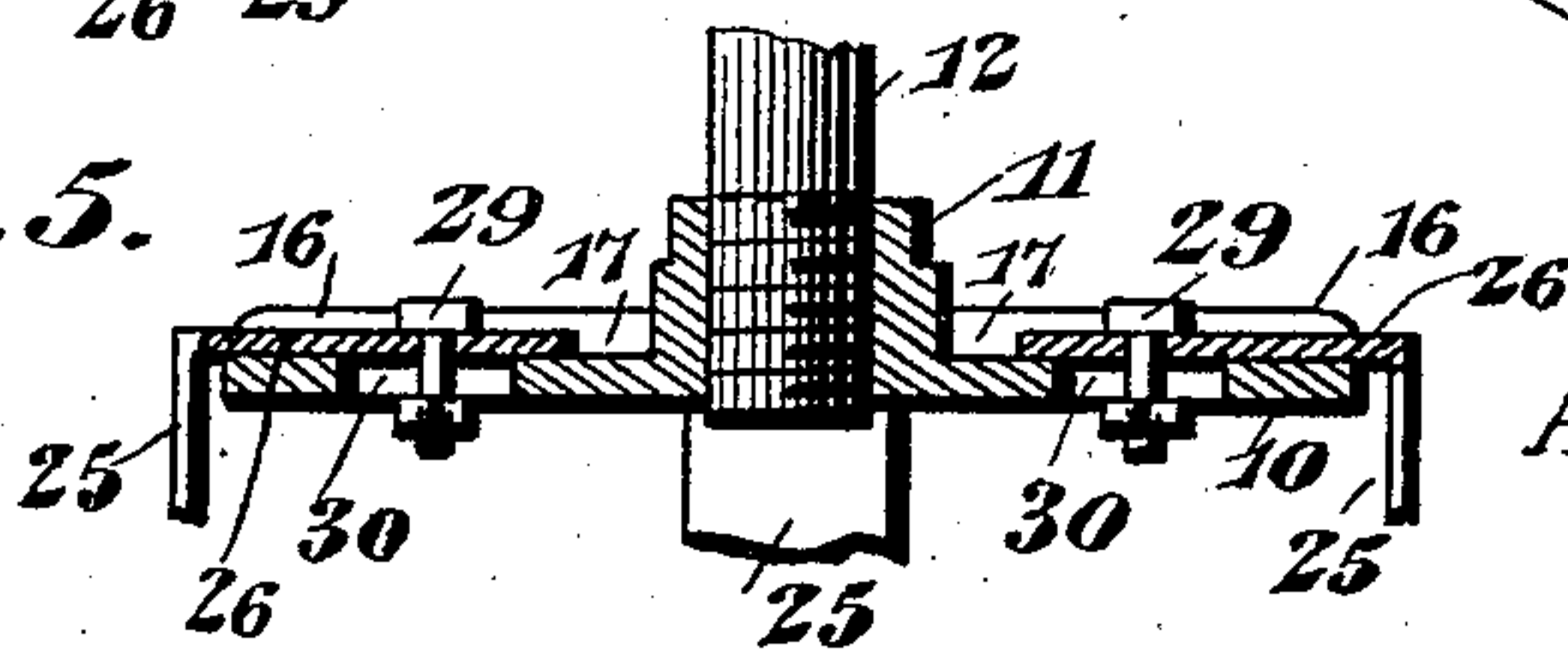


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALVA LA SALLE KITSELMAN, OF MUNCIE, INDIANA.

EARTH-AUGER.

SPECIFICATION forming part of Letters Patent No. 720,255, dated February 10, 1903.

Application filed June 21, 1902. Serial No. 112,643. (No model.)

To all whom it may concern:

Be it known that I, ALVA LA SALLE KITSELMAN, a citizen of the United States, residing at Muncie, in the county of Delaware and State of Indiana, have invented a new and useful Earth-Auger, of which the following is a specification.

This invention relates to improvements in earth-augers or post-hole diggers; and the object is to provide an extremely simple implement of the above character which will securely hold the earth cut, but will permit the ready removal of the same when it is desired to dump the digger.

Another object is to provide a structure which may be adjusted accurately to cut different sizes of holes.

The preferred embodiment of the invention is illustrated in the accompanying drawings and described in the following specification; but it will be apparent upon an inspection of the claims that the invention is not limited to the construction shown and described, but is open to various changes and modifications.

In the drawings, Figure 1 is a perspective view of the improved auger. Fig. 2 is a side elevation, on an enlarged scale, of the lower portion or cutting apparatus. Fig. 3 is a top plan view of the same. Fig. 4 is a vertical sectional view taken on the line X X of Fig. 3. Fig. 5 is a vertical sectional view taken on the line Y Y of Fig. 3.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In the embodiment of the invention as shown a head 10 is employed, which is preferably in the form of a horizontally-disposed disk having a central upstanding boss 11, into which is threaded the lower end of a handle-stem 12, the upper end of this stem being provided with a suitable socket 13, through which is passed a cross-arm 14, having its ends formed into handles 15. The upper face of the head-disk 10 is provided with pairs of spaced radially-disposed ribs 16, forming between them guideways 17, and said disk is also provided in one side with a radially-disposed opening 18. In this opening is located a carrier-block 19, having flanges 20 at its opposite side edges, forming therebetween a guideway 21. The carrier-block is pivoted at one

side to the adjacent side of the disk, the pivot 22 being disposed in tangential relation to the handle-stem. The opposite sides of the carrier are provided with a stop ear or projection 23, that rests upon the adjacent portion of the head-disk 10 between two lugs 24 formed thereon.

A plurality of cutting-blades 25 are employed in connection with the above-described structure, these blades having at their upper end angularly-disposed shanks 26, slidably mounted in these several guideways. The lower portions of the blades are curved inwardly, as shown at 27, and their lower ends are sharpened, as at 28. The shanks 26 are held against movement in the guideways by means of bolts 29, which pass through said shanks and also through slots 30, formed in the head-plate 10 between the flanges, and also in the carrier 19. Upon certain of the flanges are arranged indicator-scales 31, the corresponding marks of said scales being located at equal distances from the center of the handle-stem.

The manner of using the device will be obvious. In digging a hole the lower end is simply placed upon the ground and the implement rotated. The earth cut by the knives will be collected between them and securely held until the cage formed thereby is entirely filled. The auger may then be elevated and the pivotally-supported knife swung to one side either by hand or by tilting the structure. The earth may then be readily emptied through the open side and the movable blade permitted to return to its normal position. The various blades may be adjusted to different distances from the stem in order to make larger or smaller holes, and it will be observed that the pivoted blade may be adjusted as readily as the other. The scales insure the proper relation of the blades, so that they will follow each other in the cutting action. During the operation of the machine the movable blade will be maintained in its operative position by the stop 23, which will prevent the pivotal movement thereof toward the rear. As a result it will be seen that an exceedingly simple structure is provided which will quickly cut the earth and hold it until ready to be dumped. At the same time the most tenacious soil may be discharged without trouble and without the ne-

cessity of pounding the implement on the ground or using a stick to free it of dirt.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an instrument of the class described, the combination with a handle-stem, of a head mounted upon the lower end of the stem, a carrier, a pivot connecting the head and the carrier, said pivot being arranged tangentially of the handle-stem, and a blade attached to the carrier and adjustable toward and from the handle-stem in a plane parallel with the pivot.

2. In an instrument of the class described, the combination with a handle-stem, of a head mounted upon the lower end of the stem, and a plurality of cutting-blades secured to the head, one of said blades being located in substantially the same plane as the handle-stem, a pivot connecting the said blade to the head and arranged parallel with a vertical plane intersecting the blade and stem, said pivot extending from the inner portion toward the periphery of the head and being arranged tangentially of the handle-stem to permit the swinging of the blade out of the plane of the handle-stem.

3. In an instrument of the class described, the combination with a handle-stem carrying a head, of a carrier pivotally attached to the head tangentially of the handle-stem and having a guideway located radially of said handle-stem and substantially parallel with the pivot-axis of the carrier, a blade having an attaching portion slidably mounted in the guideway, and means for fastening the blade against movement thereon.

4. In an instrument of the class described, the combination with a handle-stem carrying a head, of a carrier pivotally attached to the head tangentially of the handle-stem and having a guideway located radially of the handle-stem and substantially parallel with the pivot-axis of the carrier, said guideway being provided with a slot, a blade having an attaching portion slidably mounted in the guideway, and a bolt passing through the slot in the guideway and the blade to hold the latter against movement.

5. In an instrument of the class described, the combination with a head, of a carrier pivoted at one side to the head and swinging in one direction, a stop carried by the carrier and engaging the head to prevent its movement in an opposite direction said stop being located at the side opposite the pivot, and a cutting-blade adjustably secured to the carrier.

6. In an instrument of the class described, the combination with a head-disk having a radially-disposed opening therein, of a carrier located in the opening and pivoted at one side to the disk, a stop carried by the free edge of the carrier and arranged to engage the adjacent portion of the disk, and a cutting-blade secured to the carrier.

7. In an instrument of the class described, the combination with a head-disk having a radially-disposed opening therein, and a plurality of radially-disposed guideways, each being provided with an indicator-scale, of a carrier located in the opening and pivoted at one side to the disk, said carrier also having a guideway, cutting-blades having attaching-shanks slidably mounted in the several guideways and coacting with the scales thereof, and means engaging the shanks to hold the blades against movement.

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

ALVA LA SALLE KITSELMAN.

Witnesses:

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D. M. KITSELMAN.