No. 804,092. PATENTED NOV. 7, 1905.

J. BRANTS.

APPARATUS FOR DRAINING MARSHES AND THE LIKE.

APPLICATION FILED MAR. 20, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

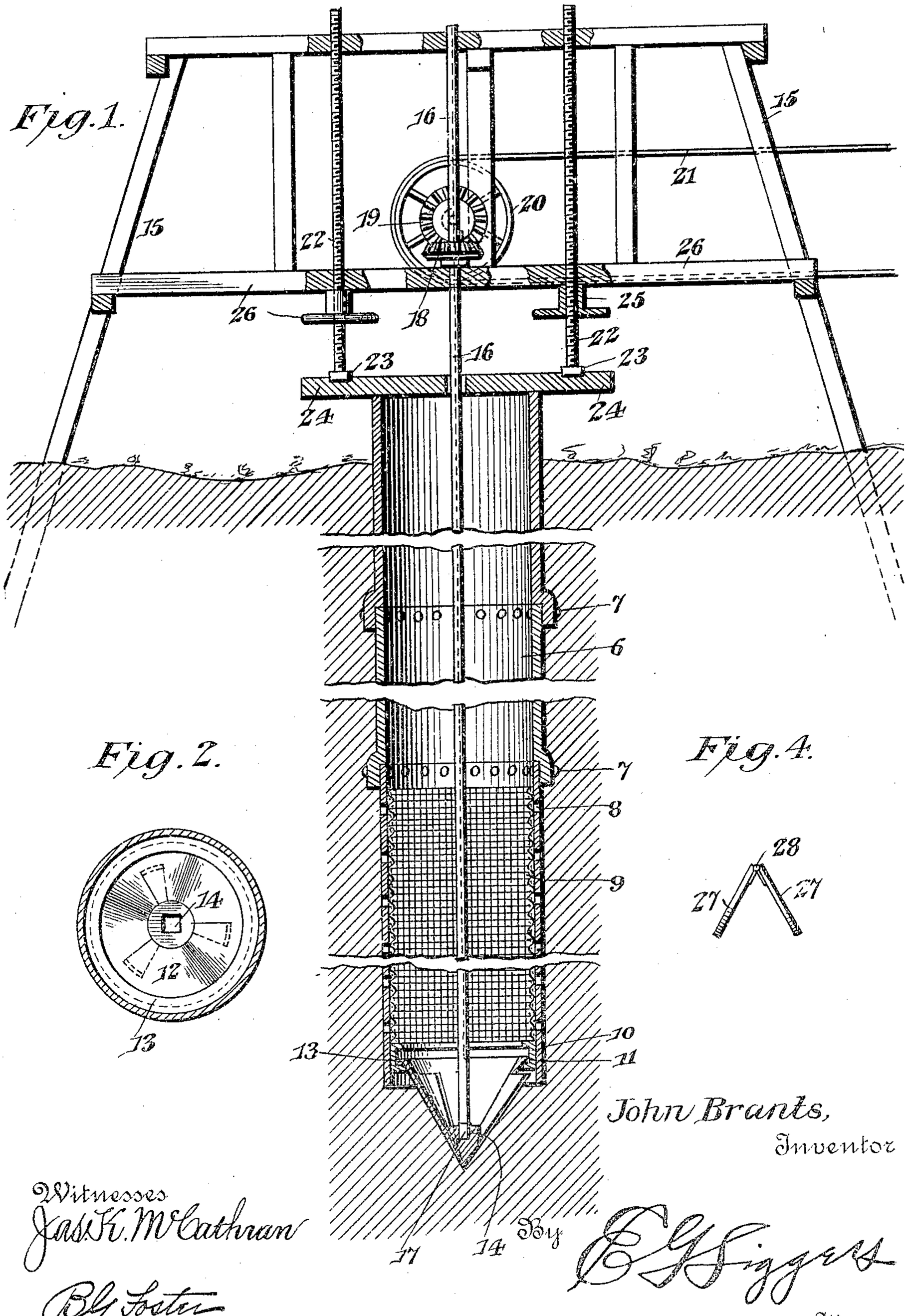

Fig. 2.

Fig. 4.

Witnesses
Jas. F. McCathran
B. G. Foster

John Brants,
Inventor

By E. G. Siggers
Attorney

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Fig. 5.

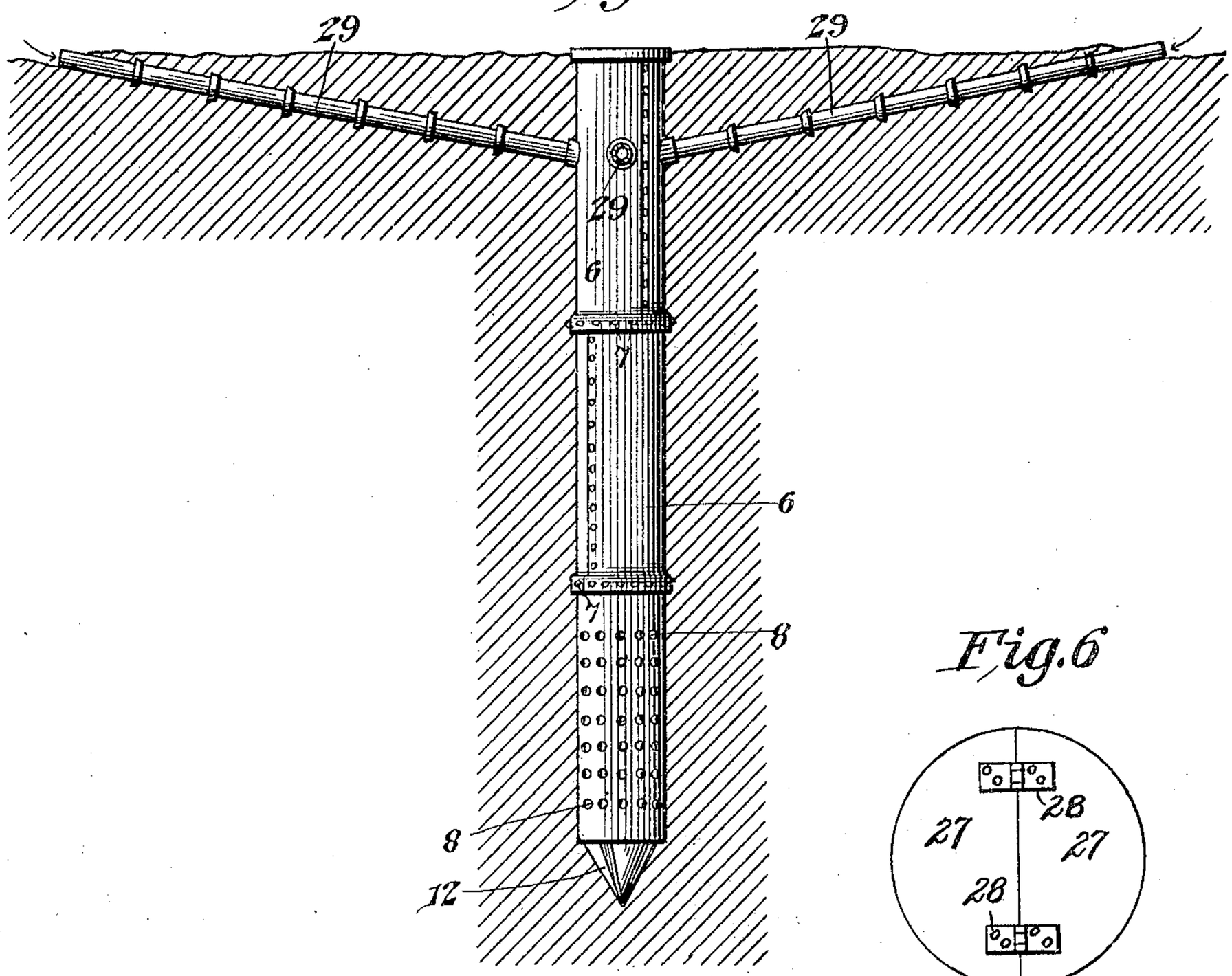
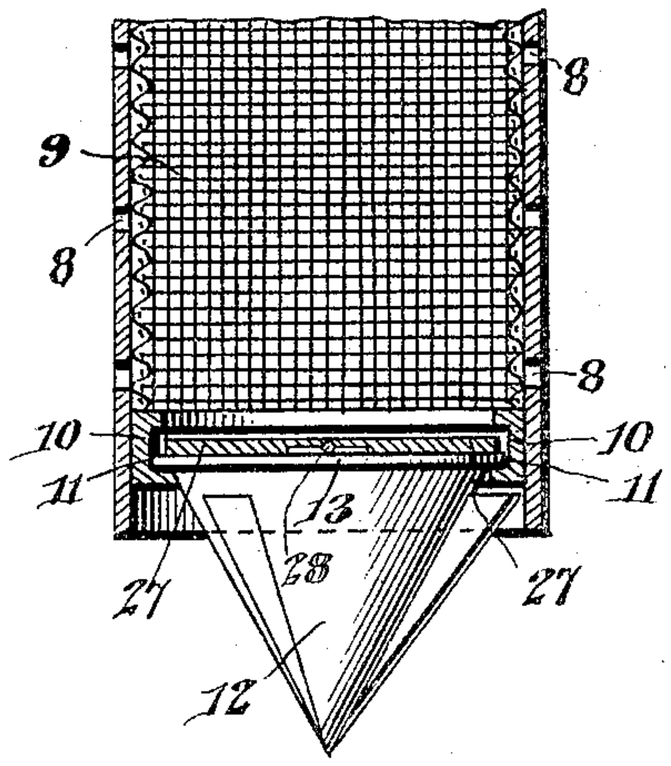


Fig. 6

Fig. 3.



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Jas. K. McCathran
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By E. G. Siggers
Attorney

UNITED STATES PATENT OFFICE.

JOHN BRANTS, OF TAMPICO, ILLINOIS.

APPARATUS FOR DRAINING MARSHES AND THE LIKE.

No. 804,092. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed March 20, 1905. Serial No. 251,056.

To all whom it may concern:

Be it known that I, JOHN BRANTS, a citizen of the United States, residing at Tampico, in the county of Whiteside and State of Illinois, have invented a new and useful Apparatus for Draining Marshes and the Like, of which the following is a specification.

This invention relates to improvements in means whereby marshes, swamps, and low places, wherein water ordinarily collects and makes the ground worthless for the purpose of agriculture, can be drained. The way in which this is now ordinarily accomplished is to dig trenches through the land and carry the water thereby to some neighboring stream or body of water. In many instances, however, this is very expensive, if not entirely impracticable; and the object in the present invention is to provide novel means of a simple and inexpensive nature, whereby outlets can be provided at one or more suitable points in or directly adjacent to the area to be drained and water led to the same, so that said area may be dried at comparatively small cost.

The preferred form of construction is illustrated in the accompanying drawings, wherein—

Figure 1 is a sectional view through the apparatus when the same is being placed in position. Fig. 2 is a cross-sectional view through the lower portion of the same. Fig. 3 is a detail sectional view, showing the bottom closure in position. Fig. 4 is a view of said closure detached, and Fig. 5 is a view showing the drain when complete. Fig. 6 is a bottom plan view of the closure.

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

In the embodiment illustrated a tubular casing is employed, comprising sections 6, preferably formed of galvanized sheet metal, riveted or otherwise secured together, as shown at 7, the lowermost section having perforations 8 and containing a screen 9, which covers said perforations. Secured in the lower end of the lowermost or perforated section is a channeled ring 10, thus having an annular seat 11. A conical auger-bit 12, revolubly mounted in said lower end, projects beyond the same and has an outturned flange 13 at its upper end, revolubly mounted in the seat 11 of the channel-ring. This bit has a flat top and, furthermore, has in its apex an angular socket 14.

For the purpose of actuating the bit and driving the casing-tube the following mechanism is employed: A suitable frame 15 is provided, and in the same is slidably mounted a vertical shaft 16, that extends downwardly through the casing-tube and has an angular lower end 17, that detachably engages in the socket 14 of the bit. A beveled gear 18, suitably mounted on the frame, is feathered to the shaft 16, and said shaft is slidable therethrough. Suitable means is employed for driving the beveled gear 18, said means being shown in the present construction as another gear 19, connected to a pulley 20, driven by a belt 21, which receives its motion from any suitable source of power.

For the purpose of sinking the casing-tube screw-shafts 22 are provided, the lower ends of which have heads 23, bearing against a beam 24, that is placed upon the upper end of the uppermost section. Threaded upon these shafts are hand-wheels 25, bearing against one of the cross-beams 26 of the frame.

When it is desired to drain a marshy or wet area, one or more of the casing-tubes, as may be found desirable or necessary, is sunk in or directly adjacent to the area. This is accomplished by first placing the perforated section in position on the surface of the ground and rotating the auger-bit through the medium of the mechanism disclosed and as said bit cuts its way into the earth forcing down the section. Other sections are consecutively applied until the casing has reached a lower water-stratum or porous earth. The earth within the tube is taken out in any suitable manner—as, for instance, by means of a pump. When the desired depth has been attained, the driving mechanism, including the shaft, is removed from the casing and a closure is introduced into the bottom of the same, so as to cover the top of the auger-bit. This closure, as shown in Fig. 4, consists of sections 27, hinged together, as shown at 28, said sections being substantially semicircular in form. Said closure is introduced into the tubing and the sections brought into alinement in the seat 11, thus resting on the flat top of the body. Lines of tiling 29 (shown in Fig. 5) are then laid with their inlets at the surface

to receive the water and with their outlets in communication with the casing, as shown in Fig. 5. It will thus be seen that the water will find its way into the lines of tiling, thence to the casing, and flowing down the same will discharge into the lower strata of earth, so that the ground above will be drained and kept dry. In this way it will be seen that marshes, swamps, and other low-lying places can be readily and cheaply drained and kept in condition for cultivation.

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 apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly mounted at the lower end thereof, and means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit.

2. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly journaled on the lower end of the tube and projecting beyond the same, and means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit.

3. In apparatus of the class described, the combination with a casing-tube, of a tapering auger-bit revolubly journaled on the lower end of the tube and having an angular socket in its lower end, and means for revolving the bit, said means including a shaft extending downwardly through the tube and detachably engaging in the angular socket.

4. In apparatus of the class described, the combination with a casing-tube comprising sections, the lowermost of which is perforated, of a strainer covering the perforations, an annular seat formed in the lower end of the perforated section, an auger-bit revolubly mounted on the lower end of the tube and having a portion engaging in the seat, and means for revolving the bit, said means including a shaft extending downwardly through the tube and detachably engaged with the bit.

5. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly mounted at the lower end of the tube, means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit, and a closure arranged to fit in the lower end of the tube and cover the bit when the actuating means therefor is detached.

6. In apparatus of the class described, the combination with a casing-tube, of an auger-bit revolubly mounted at the lower end of the tube, means for revolving the bit, said means extending downwardly through the tube and having a detachable engagement with the bit, and a folding closure comprising sections, said closure being arranged to fit in the lower end of the tube and cover the upper end of the bit when the actuating means therefor is detached.

7. In apparatus of the class described, the combination with a casing-tube having a perforated lower section and a screen covering the perforations thereof, said lower section having at its lower end an annular seat, of an auger-bit revolubly journaled on the lower end of the tube and engaging in the seat, means for revolving the bit including a shaft extending through the tube and detachably engaging said bit, and a closure arranged to engage in the seat and cover the bit when the shaft is detached therefrom and removed from the tube.

8. In apparatus of the class described, the combination with a sectional casing-tube, the lowermost section of which is perforated, of a screen extending across the perforations of the section, a flat-topped auger-bit journaled in the lower portion of the lowermost section and projecting beyond the same, means for revolving the bit including a shaft detachably passing downward through the tube and detachably engaging the bit, and a closure for the lower end of the tube comprising hinged sections arranged to be brought into alinement upon the top of the bit when the shaft is disengaged therefrom.

9. In apparatus of the class described, the combination with a casing-tube having a perforated portion, of an auger-bit revolubly mounted at the lower end of the tube and carried thereby, a closure for the tube below the perforated portion, and means for connecting moisture-conducting means to the upper end of the tube.

10. In apparatus of the class described, the combination with a casing-tube having a perforated lower portion and openings in its upper portion to permit the attachment of moisture-conducting means, of an auger-bit revolubly mounted at the lower end of the tube and carried thereby, and a detachable closure for the tube below the perforated portion and above the auger-bit.

11. In apparatus of the class described, the combination with a casing-tube having a perforated lower portion, of an auger-bit mounted on the lower end thereof, and a closure arranged to fit in the lower end of the tube and cover the bit.

12. In apparatus of the class described, the

combination with a casing-tube having a perforated lower portion, of an auger-bit mounted on the lower end of the tube below the perforations, and a detachable closure arranged to fit in the lower end of the tube below the perforations and above the bit to cover said bit.

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

JOHN BRANTS.

Witnesses:
DEWITT WEST,
DELOS CRADDOCK.