No. 756,191. PATENTED MAR. 29, 1904.

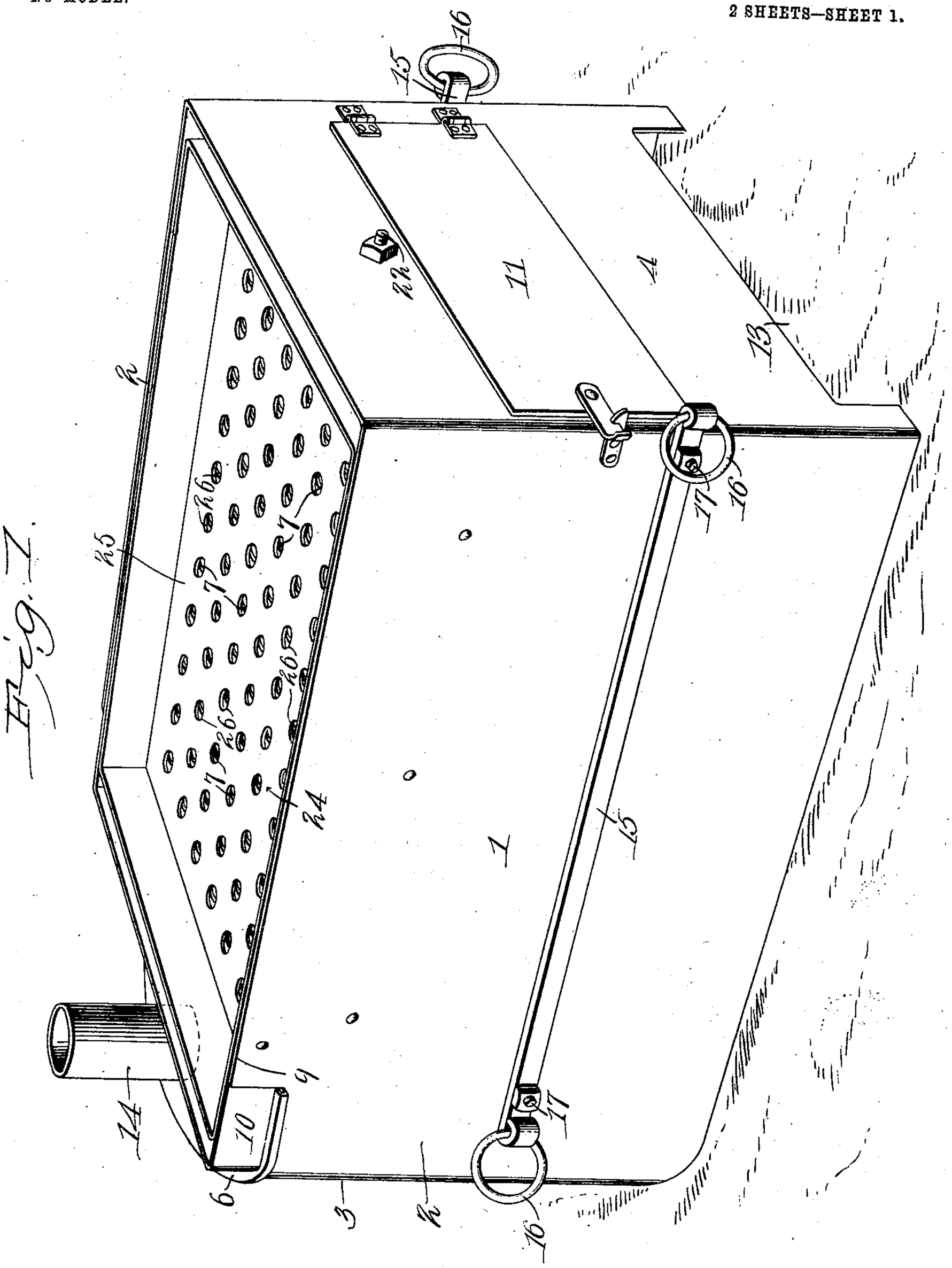
A. P. WARREN.

FURNACE FOR BURNING DIRT.

APPLICATION FILED OCT. 28, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



Witnesses
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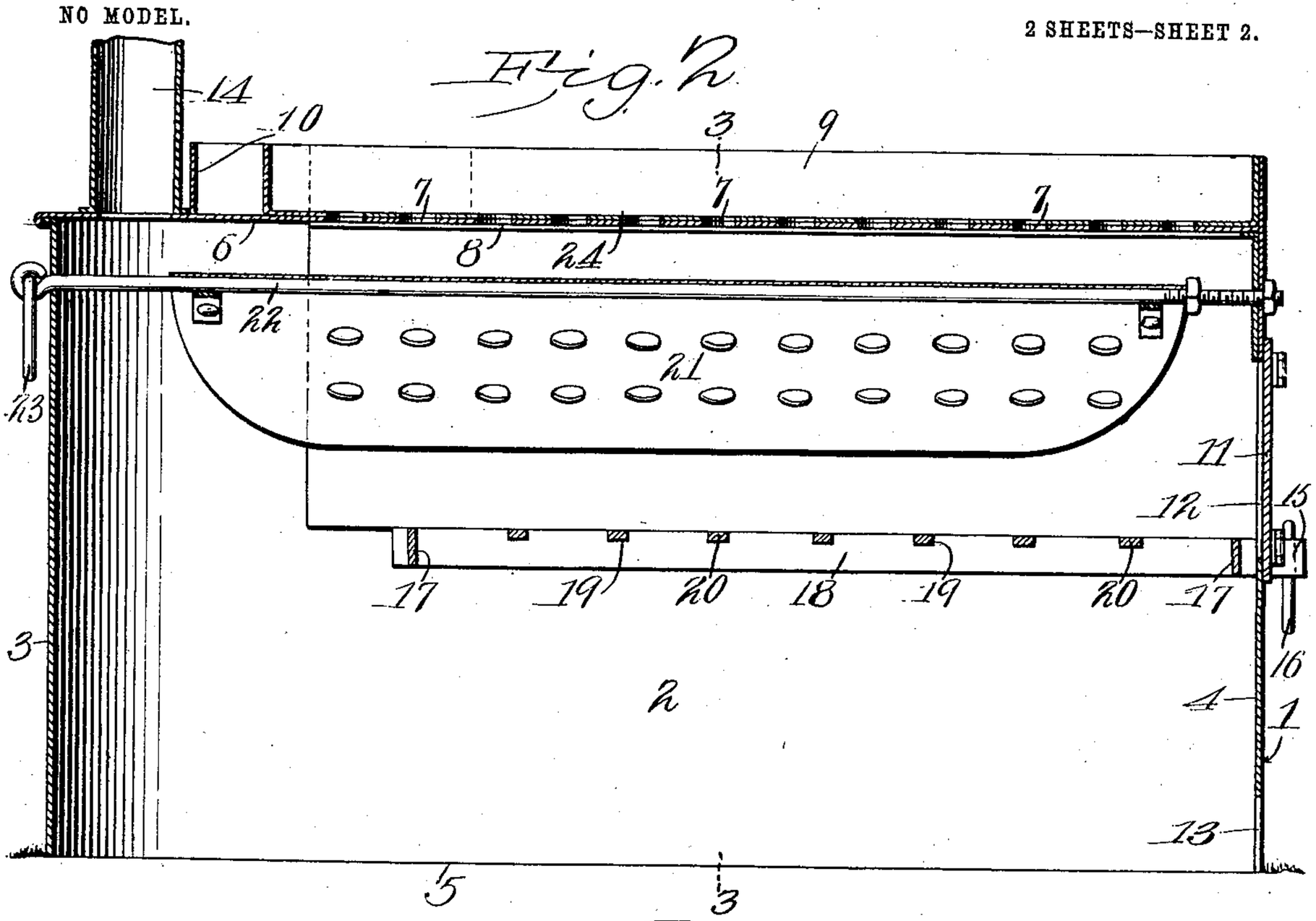
NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.



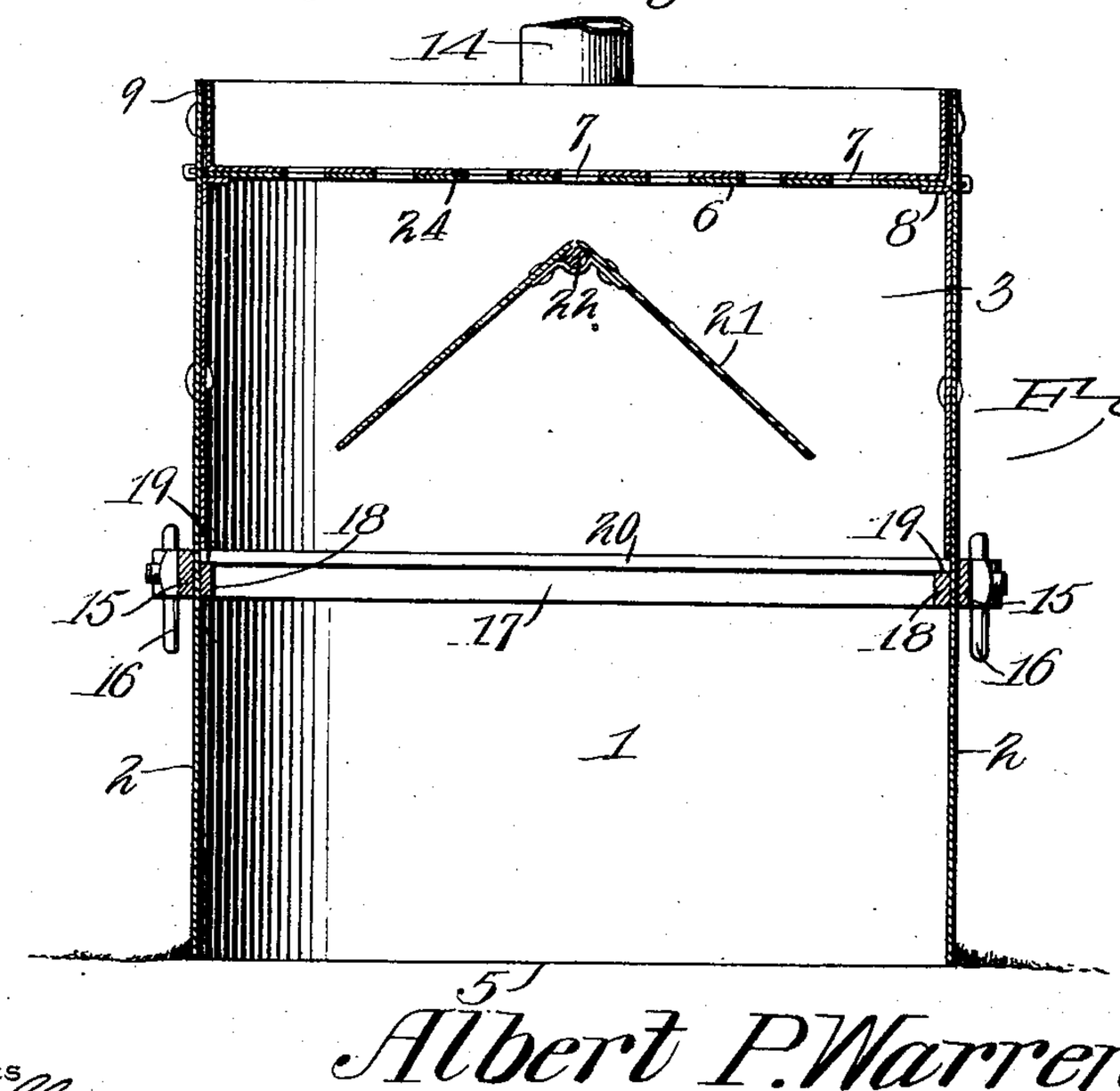


Fig. 3.

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UNITED STATES PATENT OFFICE.

ALBERT P. WARREN, OF ADAIRVILLE, KENTUCKY, ASSIGNOR OF ONE-HALF TO GUY E. FORT, OF ADAIRVILLE, KENTUCKY.

FURNACE FOR BURNING DIRT.

SPECIFICATION forming part of Letters Patent No. 756,191, dated March 29, 1904.

Application filed October 28, 1903. Serial No. 178,890. (No model.)

To all whom it may concern:

Be it known that I, ALBERT P. WARREN, a citizen of the United States, residing at Adairville, in the county of Logan and State of Kentucky, have invented a new and useful Furnace for Burning Dirt, of which the following is a specification.

My invention relates to furnaces, being especially directed to a furnace for burning and preparing soil for use in seeding plants, and has for its objects to produce a simple inexpensive device of this character which will be efficient in operation and one in which the soil after being prepared may be readily discharged without passing directly through the furnace-fire.

To these ends the invention comprises the novel features of construction and combination of parts more fully hereinafter described.

In the accompanying drawings, Figure 1 is a perspective view of my improved furnace. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a vertical transverse section.

Referring to the drawings, 1 designates the furnace, preferably of the form herein shown, and comprising side walls 2, a front outwardly-curved end wall 3, a rear wall 4, an open bottom 5, and an open-work or sieve-like top 6, which is preferably composed of perforated sheet metal, of which the perforations 7 are spaced uniformly one from another, being herein shown as arranged in transverse rows. The sides and rear end of the furnace are provided upon their inner faces with a substantially continuous inwardly-projecting horizontal flange 8, formed from angle metal bolted or otherwise secured in place at a plane somewhat below the upper edges of the wall and constituting a support upon which the perforated top 6 rests, whereby said walls extend above the top and form a vertically upstanding flange 9, surrounding the sides and rear end of the top, this flange being completed at the front by a supplemental portion or extension 10, riveted or otherwise secured in place.

11 is a door hinged at the rear end of the furnace and normally closing an opening 12, through which fuel is delivered for charging the furnace, there being provided beneath said opening and through the rear wall 4 adjacent to its bottom a draft-opening 13, while at the front of the furnace there arises vertically upward from the top 6 a stack or flue 14.

Arranged upon the outer faces of the side walls 2 and extending longitudinally thereof from end to end are horizontal stay-bars 15, disposed in a plane with the lower edge of opening 12 and carrying at their ends rings or other suitable handpieces 16, by which the furnace may be transported. These stay-pieces are maintained in place by tie bolts or rods 17, extending transversely through the furnace and further sustaining supporting-bars 18, arranged upon the inner faces of the side walls of the furnace symmetrical with the stay-bars 15, the bars 18 being provided upon their upper edges with spaced notches or seats 19, which receive the ends of transversely-disposed grate-bars 20.

Disposed within the furnace above the grate, and preferably directly beneath the top 6, is a shield or cut-off 21, composed of perforated sheet metal, bent to display in cross-section the form of an inverted **V**, said shield being sustained for a rocking motion by a pivotal rod 22, extending longitudinally through the furnace at the transverse center of the latter and having bearings in the end walls 3 and 4. This rod is provided at its forward end with a ring or other suitable handle 23, by which the rod may be manipulated for rocking the shield.

24 indicates a tray or receptacle, preferably rectangular in form, as herein shown. This tray is seated upon the top 6 within the flange 9 and has its bottom 25 provided with perforations 26 coincident in size and arrangement with the perforations 7. The tray is of a length somewhat less than the distance between the end walls of the flange, this difference in length being equal to the diameter of one of the perforations 7 or 26, whereby the tray will have a movement sufficient to bring said perforations into or out of register, thus providing for regulating the size of or wholly closing the openings 7.

In practice fuel is placed upon the grate-

bars and lighted and the tray 24 filled with soil to be treated, the tray being moved to regulate the size of the openings or passages 7 26, through which the heat and flame from the fuel passes and acts upon the soil, which is thus dried, heated, and receives a deposit of carbon and other products from the fuel, while at the same time any seeds of weeds, grass, or the like which the soil may contain or, in fact, other matter which will be injurious to the young plants is wholly destroyed, and the soil is perfectly prepared for use in seeding young plants. After the soil has been sufficiently treated it is sifted through the perforations 7 26 and passes downward through the furnace for discharge through the open bottom of the latter. During its passage through the furnace the material is deflected and directed by the shield 21 outward toward the sides of the furnace, and should the soil during its passage between said parts become packed or choked between the furnace-walls and shield the latter may be oscillated on its pivot to loosen and insure proper downward feeding of the soil.

From the foregoing it will be seen that I produce a device of simple construction which is admirably adapted for the attainment of the ends in view and one which is particularly efficacious for treating the soil during rainy seasons when the ground is so wet as to render burning of the soil under ordinary methods impracticable. In attaining these ends it is to be understood that I do not limit myself to the precise details herein set forth, inasmuch as minor changes may be made therein without departing from the spirit of the invention.

Having thus described my invention, what I claim is—

1. In a furnace of the type described, the combination with a grate, of a receptacle disposed above the same and having a perforated bottom, and a deflector pivotally sustained between the receptacle and grate.

2. In a furnace of the type described, the combination with a grate, of a receptacle disposed above the same and having a perforated bottom, and a perforated deflector pivotally sustained between the receptacle and grate, the walls of said deflector in cross-section being arranged to diverge downwardly.

3. In a furnace of the type described having a perforated top, the combination with a grate, of a receptacle disposed above the perforated top and having a perforated bottom, one of said parts being movable for bringing the perforations into and out of register, and a deflector situated between the receptacle and grate.

4. In a furnace of the type described having a perforated top, the combination with a grate, of a receptacle disposed above the perforated top and having a perforated bottom, said receptacle being movable for bringing the perforations into and out of register, and a deflector situated between the receptacle and grate.

5. In a furnace of the type described having a perforated top and an upstanding flange surrounding the latter, the combination with a grate, of a deflector situated between the perforated top and grate, and a perforated member coöperating with the top to regulate the size of its perforations.

6. In a furnace of the type described having a perforated top and an upstanding flange surrounding the latter, the combination with a grate, of a deflector situated between the perforated top and grate, and a movable perforated member coöperating with the top to regulate the size of its perforations.

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

ALBERT P. WARREN.

Witnesses:
FRANK GORDON,
F. M. BEACHNY.