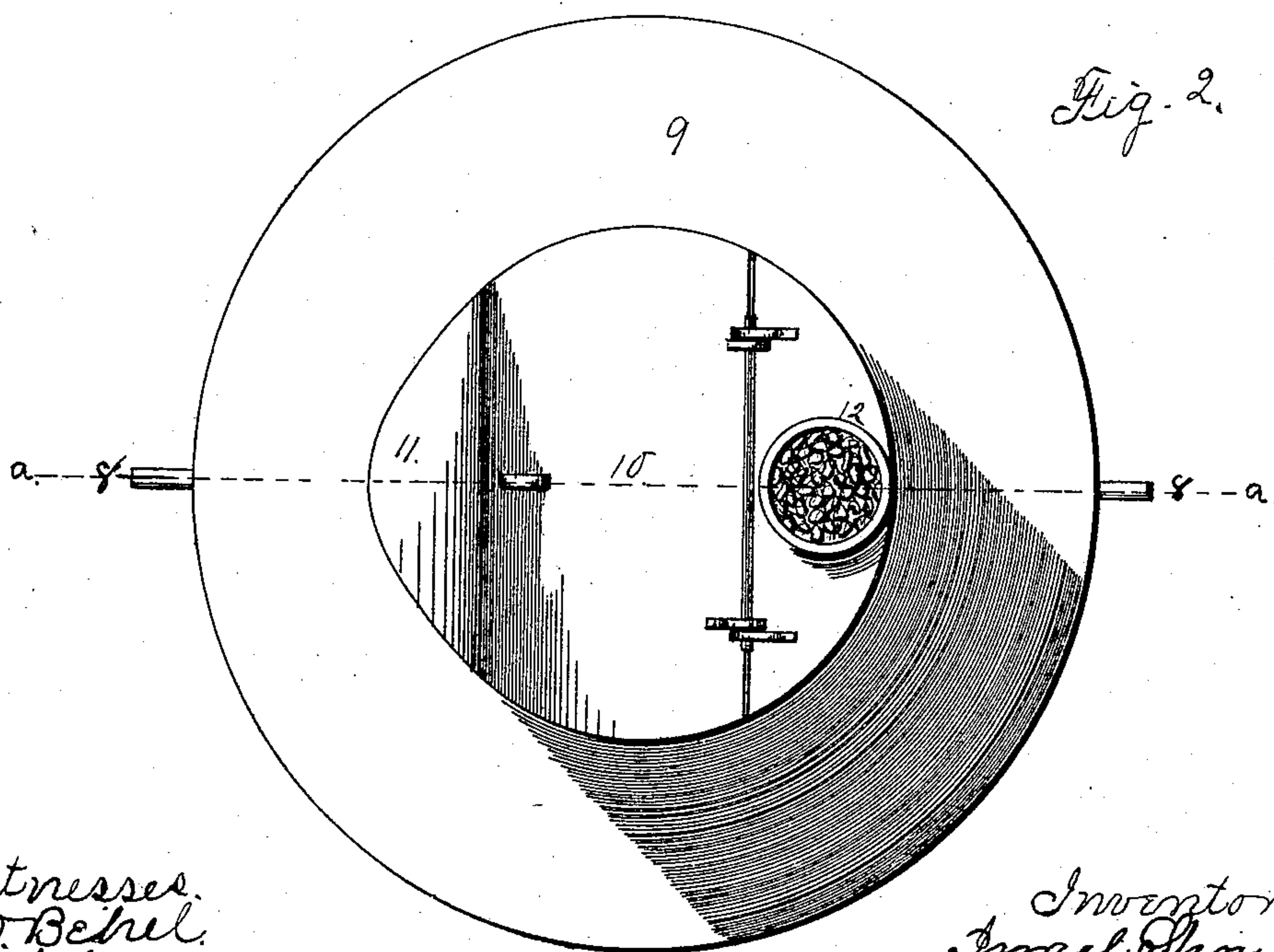
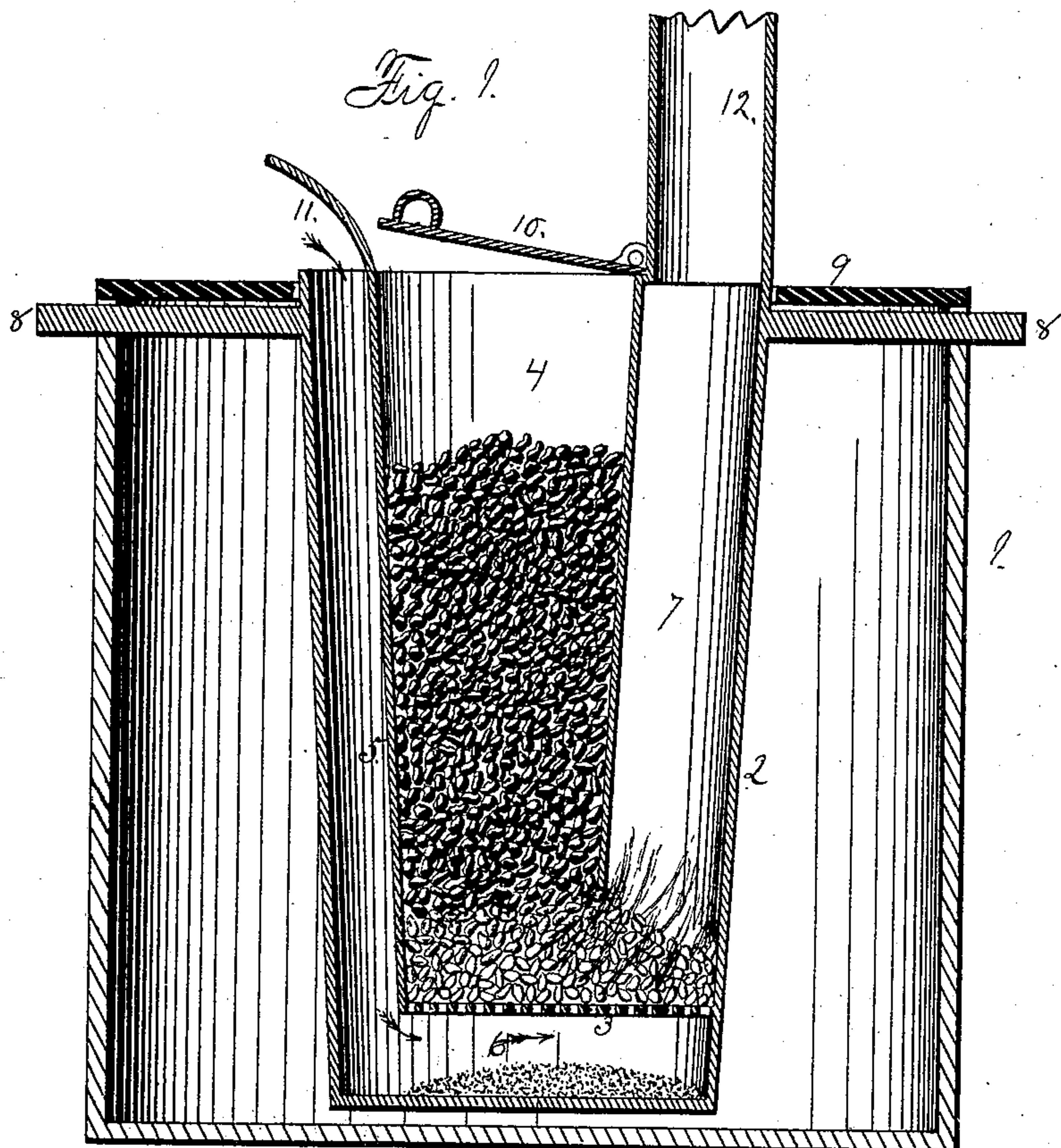


(No Model.)

I. SHOUDY, Jr.
AGRICULTURAL BOILER.

No. 407,498.

Patented July 23, 1889.



Witnesses:
A. O. Behel.
E. Behel.

Inventor:
Israel Shoudy, Jr.
Per Jacob Behel

UNITED STATES PATENT OFFICE.

ISRAEL SHOUDY, JR., OF PAW PAW, ILLINOIS.

AGRICULTURAL BOILER.

SPECIFICATION forming part of Letters Patent No. 407,498, dated July 23, 1889.

Application filed January 30, 1888. Serial No. 262,362. (No model.)

To all whom it may concern:

Be it known that I, ISRAEL SHOUDY, Jr., a citizen of the United States, residing at Paw Paw, in the county of Lee and State of Illinois, have invented certain new and useful Improvements in Agricultural Boilers, of which the following is a specification.

The object of this invention is to construct a furnace which is adapted to be placed within a receptacle containing the substance to be heated, steamed, or cooked, said furnace being adapted to contain or hold a supply of fuel to be fed to the fire-chamber as consumed. To this end I have designed and constructed the apparatus represented in the accompanying drawings, in which—

Figure 1 is a vertical central section on dotted line *a*, Fig. 2. Fig. 2 is a plan view of an apparatus embodying my invention.

In the figures, 1 represents a receptacle to contain the substance to be heated, which is preferably of cylindrical or tub form with open end. The furnace, having an outer casing 2 in which is formed a fire-grate 3, from which rises a fuel-reservoir 4, centrally located within the outer casing of the furnace, is of such construction that the fuel contained within the reservoir rests upon the fire-grate 3. An air-flue 5 is formed on one side of the fuel-reservoir and extends laterally under the fire-grate 3, forming an ash-receptacle 6. A smoke-flue 7 is formed on the side of the fuel-reservoir opposite to the air-flue and communicates with the fire-chamber of the furnace on one side thereof. This furnace is provided at its upper end with arms 8, projecting on opposite sides to enter grooves in the upper end of the receptacle 1, provided for their reception, by means of which the furnace is suspended within the receptacle. A lid or cover 9 is employed to close the open end of the receptacle outside of the furnace. The furnace, or rather the fuel-reservoir thereof, is provided with a lid or cover 10 to close the opening of the fuel-receptacle. The air-flue is provided with a curved air-directing wing 11, which when its

concave face is turned against the moving current of air will direct the air down the air-flue to increase the draft. The smoke-flue 7 is provided with an extension 12, rising above the lid of reservoir.

In use the substance to be heated is placed within the receptacle 1. The furnace is then suspended within the receptacle in contact with the substance to be heated and the lid is put in place on the receptacle. Fire is then kindled on the fire-grate, and the air to support combustion is admitted through the air-flue 5 to the fire under the fire-grate in the direction indicated by the arrows, and the products of combustion will rise through the smoke-flue 7. Fuel is then placed within the reservoir 4 and the lid closed thereon. From this arrangement it will be seen that two opposite sides of the furnace are separated from the substance to be heated by the single outer wall of the furnace, and that the outer wall of the smoke-flue is in the same manner separated from the contents of the receptacle, thus exposing a large heating-surface to the contents of the receptacle. By this construction and arrangement I am enabled to supply the furnace with a quantity of fuel sufficient to maintain a fire within the furnace to keep said furnace at a heat to maintain the required temperature in the contents of the receptacle for several days when required without the care or supervision of an attendant.

I claim as my invention—

In an agricultural boiler, the combination of an outer receptacle to contain the substance to be heated and a furnace within the receptacle, said furnace consisting of a fire-chamber, a fire-grate, a reservoir to contain a supply of fuel, an air-flue communicating with the fire-chamber to support combustion, and a smoke-flue to the fire-chamber, substantially as set forth.

ISRAEL SHOUDY, JR.

Witnesses:

CYRUS F. MILLER,
A. O. BEHEL.