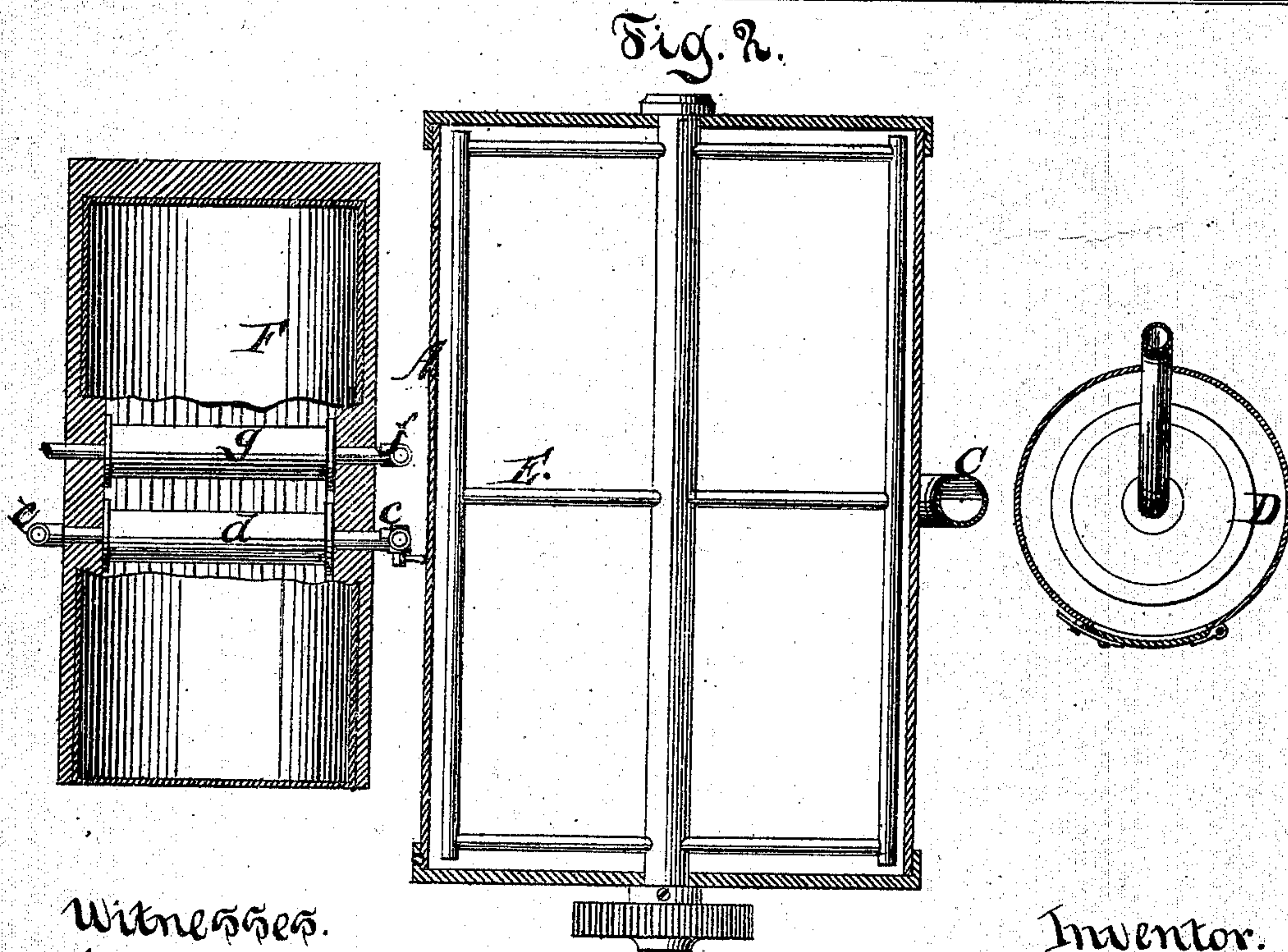
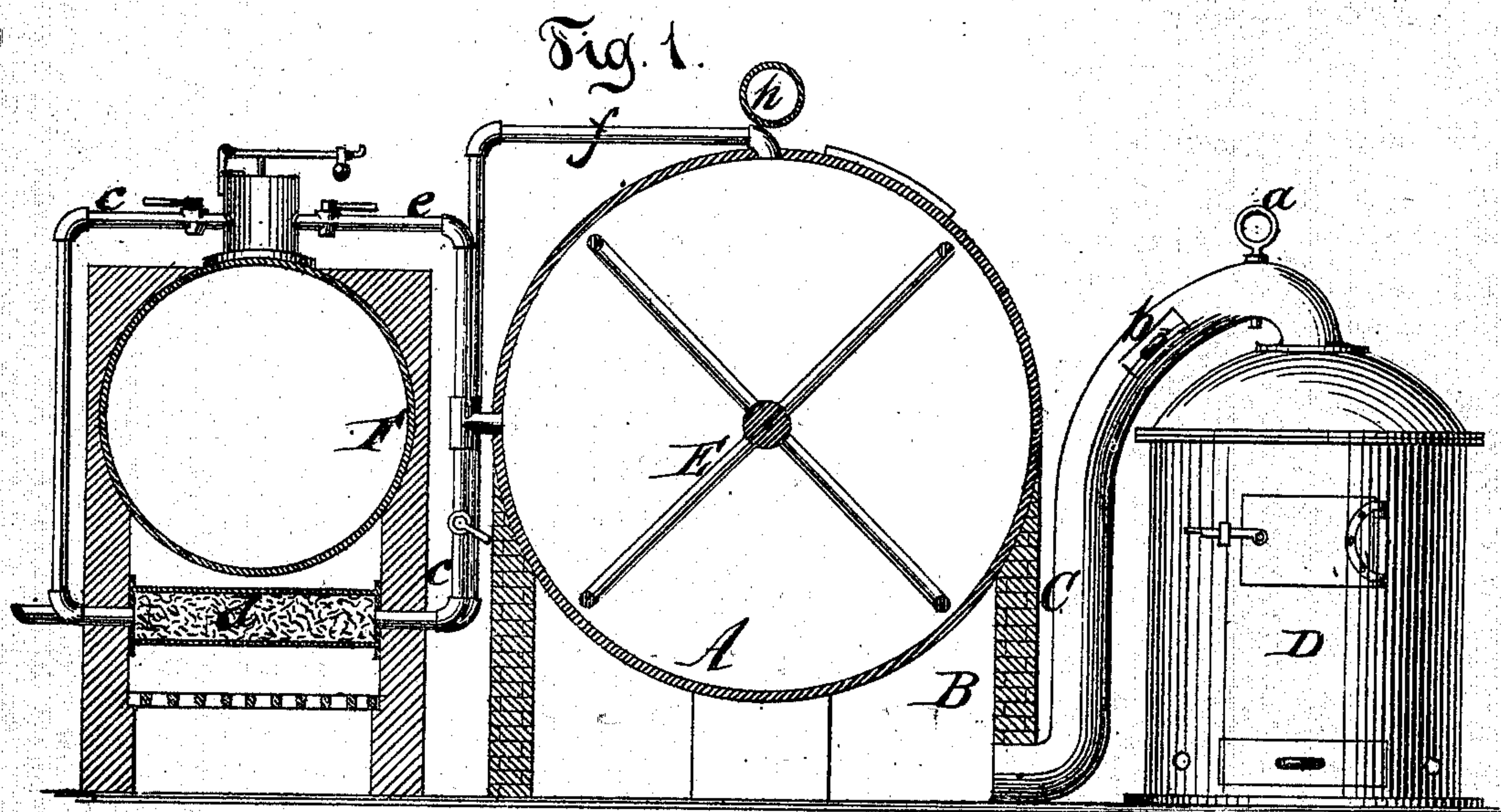


J. N. B. BOND.

Apparatus for Treating Offal.

No. 139,759.

Patented June 10, 1873.



Witnesses.  
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# UNITED STATES PATENT OFFICE.

JOSEPH N. B. BOND, OF NEW YORK, N. Y.

## IMPROVEMENT IN APPARATUS FOR TREATING OFFAL.

Specification forming part of Letters Patent No. **139,759**, dated June 10, 1873; application filed May 24, 1873.

*To all whom it may concern:*

Be it known that I, JOSEPH N. B. BOND, of the city, county, and State of New York, have invented a new and Improved Apparatus for Treating Offal; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 represents a sectional side view of this invention. Fig. 2 is a sectional plan of the same.

Similar letters indicate corresponding parts.

This invention consists in the combination of a furnace, a steam-boiler, and a drum, the furnace being so arranged that the heated gases or air escaping from the same serve to heat the drum, while in the bridge-wall behind the grate, under the steam-boiler, is situated a retort, through which passes a pipe which leads from the steam-dome of the boiler to the drum, said dome being also connected with the drum, by means of a second steam-pipe, in such a manner that scraps of lard or meat or other offal placed into the drum can be heated by the gases or heated air from the furnace, and also by superheated or wet steam injected from the steam-boiler, and thereby said scraps are rapidly reduced to a condition fit for fertilizing purposes. The drum contains an agitator, with cutting-blades, to promote the reduction of the scraps. With said drum is also combined a cold-water pipe, which serves to cool the same off at the proper intervals, so that it can be readily emptied and recharged without much loss of time.

In the drawing, the letter A designates a drum, which is placed upon a chamber, B, that communicates, by means of a pipe, C, with a furnace, D. This furnace may be so constructed that the heated gases or products of combustion are carried through the pipe C into the chamber B, or said furnace may be arranged as a hot-air furnace, in which case the heated air is conducted through the pipe C into the chamber B. In the pipe C is a damper, *a*, and a gate, *b*, serves to admit

the cold external air, so that by closing the damper and opening the gate cold air is made to pass into the chambers B. In the drum A is an agitator, E, which is, by preference, provided with cutting-blades, and to which a revolving motion is imparted by gear-wheels, or other equivalent means. On the side of said drum is situated a steam-boiler, F, and from the steam-dome of the boiler extends a pipe, *c*, into the drum A. This pipe passes through a retort, *d*, which is situated in the bridge-wall behind the grate, under the steam-boiler, so that the steam which passes through the pipe *c* will be superheated before it reaches the drum A. A second pipe, *e*, leads from the steam-dome of the boiler directly to the drum, so that either wet or superheated steam can be injected into said drum. A pipe, *f*, which extends from the drum, serves to carry off the gases which are disengaged from the scraps, and this pipe passes through a retort, *g*, situated behind the retort *d* under the steam-boiler, so that said gases are permitted to escape. Over the drum A is situated a pipe, *h*, which communicates with a reservoir containing cold water, and which is perforated so that when the same is opened a large quantity of water is spread over the drum, and thereby said drum can be rapidly cooled.

The scraps of lard or meat, or other offal, are introduced into the drum A, and, by the combined action of the agitator and of the heat applied to the exterior of the drum, said scraps are rapidly reduced. This operation is facilitated by the introduction of superheated steam into the drum, since this steam absorbs and carries off the moisture through the escape-pipe *f*. The temperature of the drum A can be regulated by the cold-air gate *b* and by the wet-steam pipe *e*. When the charge of the drum has been sufficiently reduced, the drum can be rapidly cooled by means of the cold-water pipe *h*, the reduced charge can be readily removed, and the drum can be re-charged without much loss of time.

By this apparatus scraps of lard or other offal can be rapidly reduced to a condition rendering the same fit for fertilizing purposes,



and the material being discharged from the drum can be readily packed up into barrels or other packages ready for the market.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a drum, A, containing an agitator, E, with a heating-chamber, B, and furnace D communicating with said heating-chamber by means of a pipe, C, containing a cold-air gate, *b*, substantially as shown and described.

2. The combination of a drum, A, containing an agitator, E, with a steam-boiler, F, communicating with the drum by a superheated

steam-pipe, *c*, and a wet-steam pipe, *e*, substantially as set forth.

3. The combination of a drum, A, containing an agitator, E, with a furnace, D, and with a cold-water pipe, *f*, substantially as and for the purpose described.

4. The combination of a drum, A, containing an agitator, E, with a heating-chamber, B, a steam-boiler, F, and a cold-water pipe, *f*, substantially as set forth.

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Witnesses:

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