

(No Model.)

E. B. BRAGG.

APPARATUS FOR TREATING LEATHER SCRAP.

No. 288,001.

Patented Nov. 6, 1883.

Fig. 2.

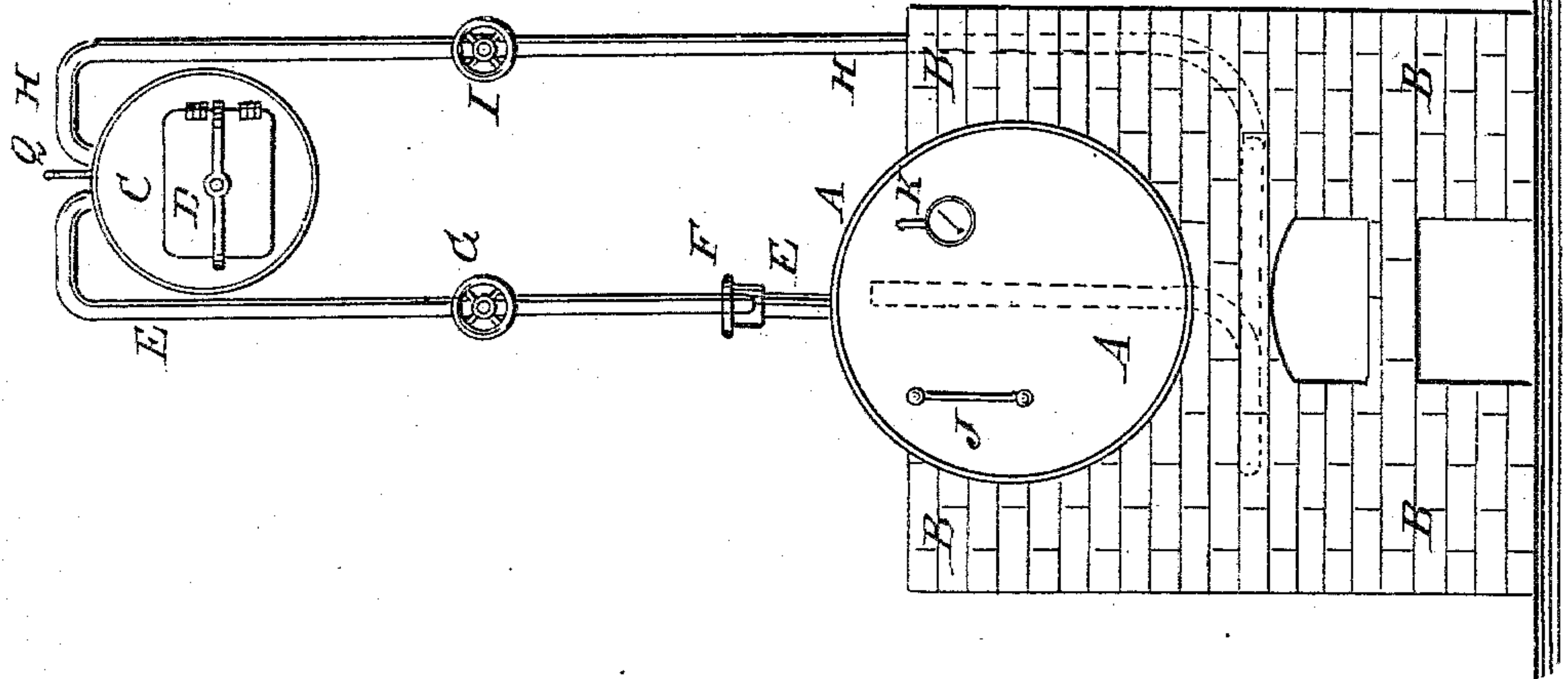
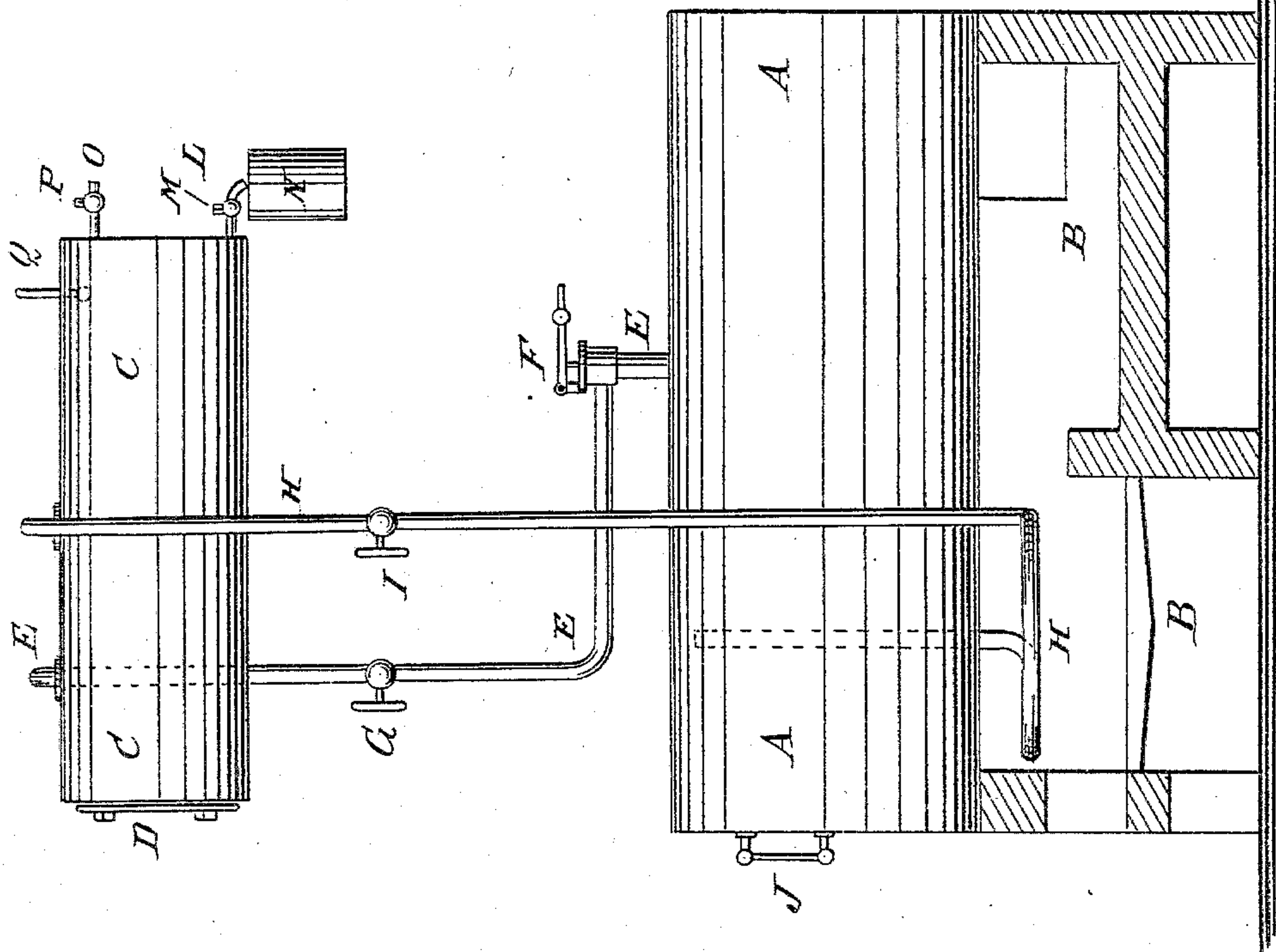


Fig. 1.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR TREATING LEATHER-SCRAP.

SPECIFICATION forming part of Letters Patent No. 288,001, dated November 6, 1883.

Application filed March 6, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EVERETT BURT BRAGG, of the city, county, and State of New York, have invented a new and Improved Apparatus for Treating Leather-Scrap, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of my improvement, the furnace being shown in section. Fig. 2 is a front elevation of the same.

The object of this invention is to make leather-scrap available for fertilizing purposes.

The invention consists in an apparatus for treating leather-scrap constructed with a steam-cylinder connected with a boiler by a direct pipe and a superheating-pipe, and provided with a door, a waste-pipe and receiver, a steam-discharge pipe, and a thermometer, whereby leather-scrap may be made available for fertilizing purposes, as will be hereinafter fully described.

A represents an ordinary steam-boiler capable of sustaining a pressure of two hundred and twenty-five pounds to the square inch, and which is set in a furnace, B, in the ordinary manner.

C is a steam-cylinder of corresponding strength, and provided at one end with a door, D, for the insertion and removal of the leather-scrap. The door D should be packed or otherwise constructed to close steam-tight.

E is a steam-pipe, one end of which is connected with the steam-space of the boiler A, and its other end is connected with the upper part of the cylinder C. The pipe E is provided with a safety-valve, F, and with a valve, G, for regulating and shutting off the steam as may be required.

With the steam-space of the boiler A is also connected the end of a pipe, H, a part of which enters and is coiled in the fire-chamber of the furnace B, or in a separate fire provided for that purpose. The other end of the pipe H is connected with the upper part of the cylinder C. The pipe H is provided with a valve, I, for regulating and shutting off steam, as may

be required, and is intended for use in regulating and controlling the temperature of the contents of the cylinder C. The boiler A is provided with a water-gage, J, and a steam-gage, K, in the ordinary manner.

With the lower part of the rear end of the cylinder C is connected a waste-pipe, L, provided with a valve, M, and leading into a receiver, N, for the condensed steam and the oil from the said cylinder.

With the upper part of the rear end of the cylinder C is connected a pipe, O, provided with a valve, P, for the discharge of steam, to keep up a circulation of steam through the apparatus. The cylinder C is provided with a thermometer, Q, to show the temperature.

In using the apparatus leather-scrap without any previous treatment is placed in the cylinder C, and the door D is closed. Steam is then gradually introduced into the cylinder C through the pipe E until the contents of the said cylinder C are raised to a temperature of from 130° to 140° centigrade, which temperature is maintained for about fifteen minutes. The valve M is then opened, and the water of condensation and the oil extracted from the scrap are blown out through the pipe L into the receiver N. The valve M is then closed and the valve I is opened to admit steam through the pipe H until the contents of the cylinder C have been raised to a temperature of from 180° to 200° centigrade, which temperature is maintained for about an hour. This temperature is required for producing the best results; but an inferior product can be obtained by using a lower temperature. The inflow of steam is then cut off, and the water of condensation is blown off through the waste-pipe L into the receiver N. The door D is then opened, and the contents of the cylinder C are removed and taken to a drier, and when dry and ground are ready for market. As the water in the receiver N cools, the oil in the said receiver solidifies, and can be skimmed off or otherwise removed. The water of condensation is then evaporated, and the residuum is taken to the drier, and is dried and ground with the mass taken from the cylinder C. By this process the leather-scrap is reduced to such a condition that when brought into contact with acid-



ulated fertilizers the gelatinous or nitrogenous portion becomes at once putrescible, and the nitrogen therein contained becomes available as plant-food.

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

1. An apparatus for treating leather-scrap, constructed substantially as herein shown and described, and consisting of the boiler A, the  
10 cylinder C, the pipe E, and the superheating-pipe H, the said cylinder being provided with a door, D, a waste-pipe and receiver, L N, a

steam-discharge pipe, O, and a thermometer, Q, as set forth.

2. The combination, with a steam-tight cyl- 15  
inder and a steam-boiler, of the pipe E, having a safety-valve, F, and a regulating-valve, G, whereby the inside of cylinder may be raised to and held at the desired temperature, as described.

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Witnesses:

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