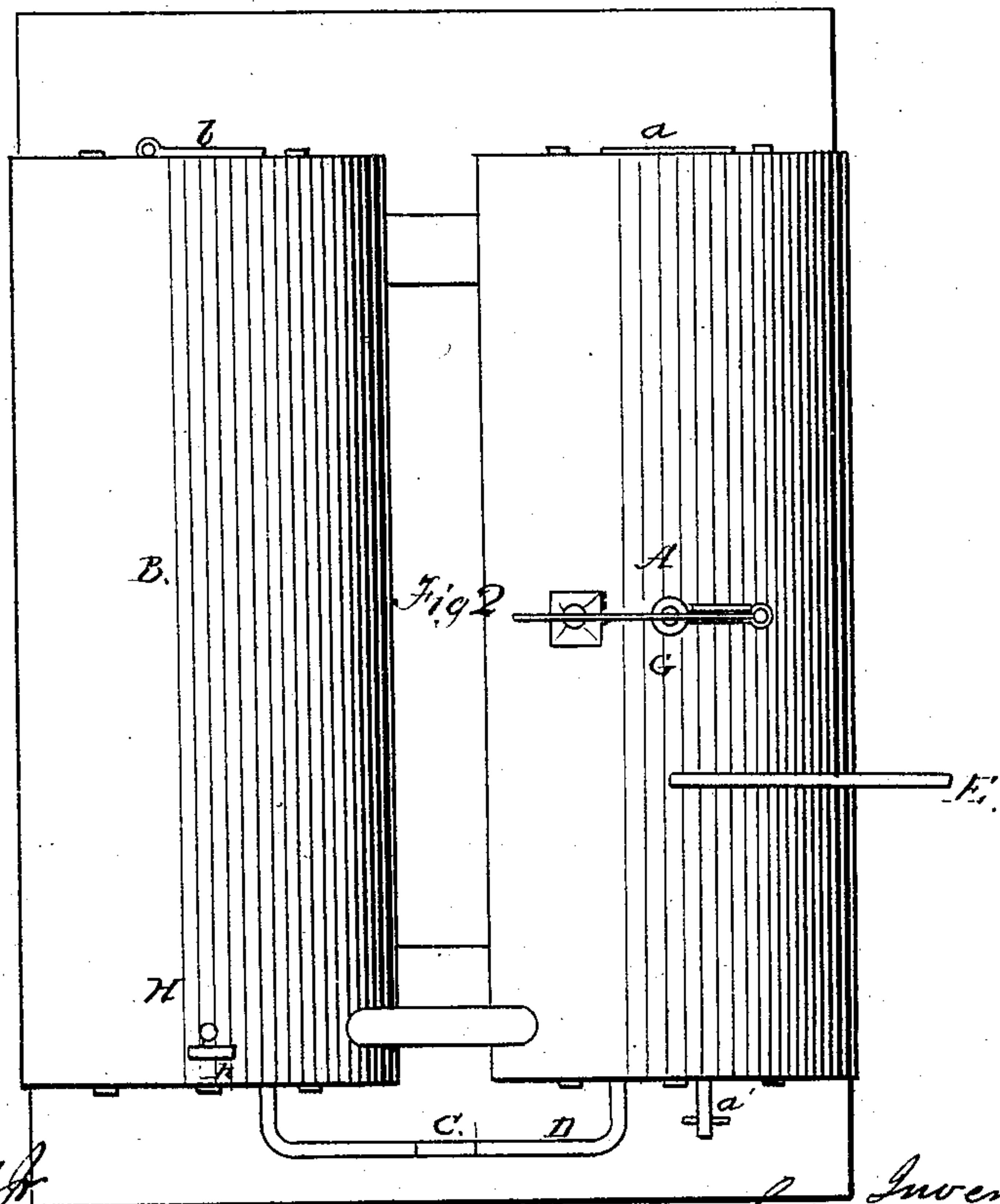
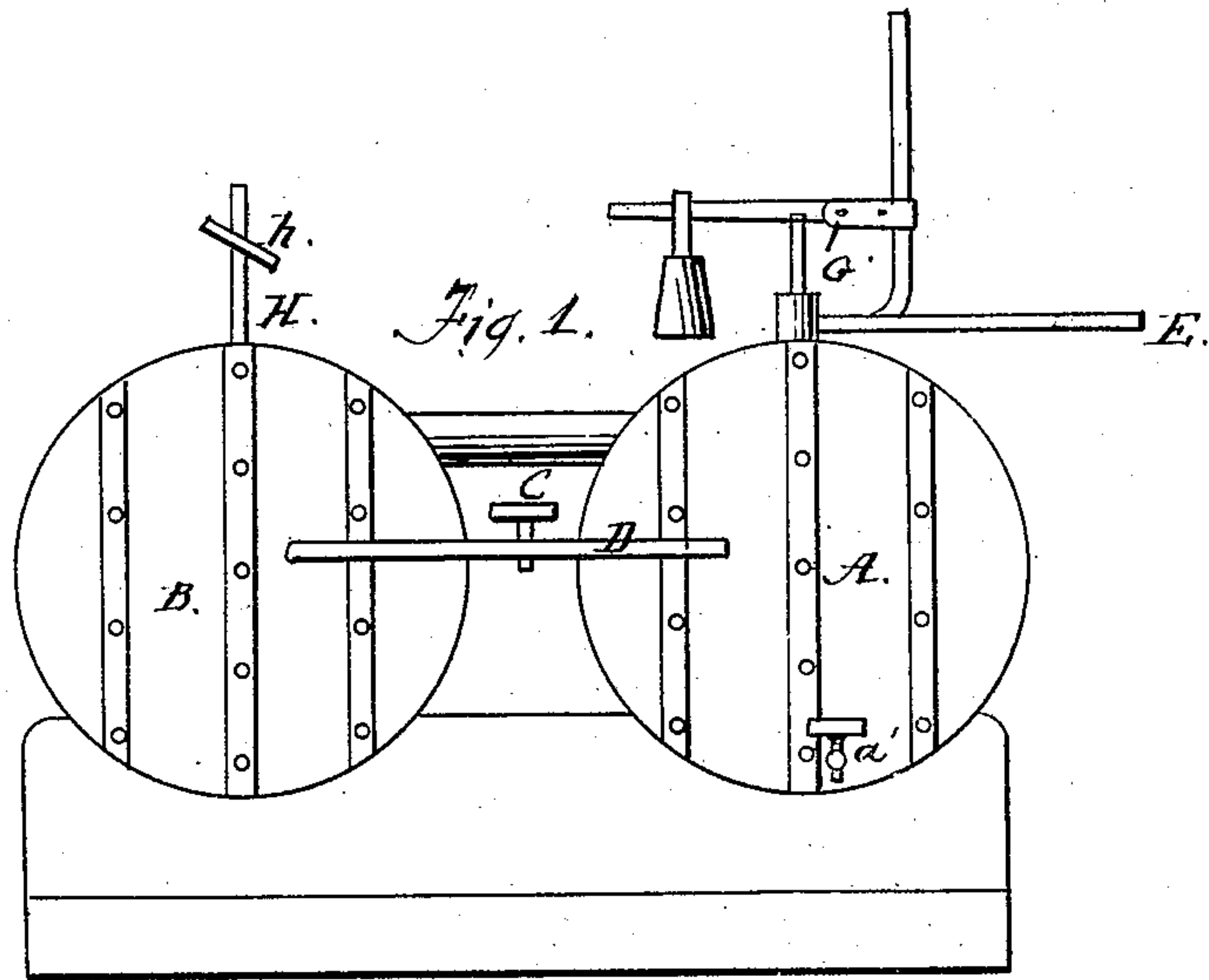


C. DOTY.
 APPARATUS FOR TANNING IN VACUO AND FOR OTHER PURPOSES.
 No. 75,391. Patented Mar. 10, 1868.



Witnesses;
 Geo. P. Hentholt
 W. Randolph

Inventor;
 Charles Doty

United States Patent Office.

CHARLES DOTY, OF ST. LOUIS, MISSOURI.

Letters Patent No. 75,391, dated March 10, 1868.

IMPROVED APPARATUS FOR TANNING IN VACUO, AND FOR OTHER PURPOSES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, CHARLES DOTY, of St. Louis, in the county of St. Louis, and State of Missouri, have made certain new and useful Improvements in Apparatus for Tanning *in vacuo*, and for other like purposes; and I do hereby declare that the following is a full and clear description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The object of this invention is to form a vacuum in the receiver for the hides or other articles, by the condensation of steam, without allowing the steam to enter the said receiver, the contents of which would be injured by being immersed in a steam-bath.

The invention consists in the arrangement of two or more chambers, connected together by pipes, fitted with stop-cocks in a certain manner, as will be hereinafter more fully described. One or more of the cylinders is to be used as the receiver for the hides or other articles to be acted on, and a vacuum is to be created in the other cylinder by the condensation of steam therein, after which an equilibrium is to be restored between the cylinders by opening the cocks between them. After the equilibrium has thus been restored, the cocks between the cylinders are to be again closed, then a vacuum again created in the first cylinder, as before, after which again, equilibrium restored between the two, and so on until the partial vacuum created in the receiver shall be sufficient to answer the required purpose.

To enable those skilled in the art to make and use my improved apparatus, I will proceed to describe its construction and operation.

Figure 1 of the drawings is an end elevation of the improved apparatus.

Figure 2 is a plan of the same.

I employ two or more vessels, A B, of any convenient size or form, and constructed of any suitable material, but I prefer the form should be cylindrical, and the material sheet iron. One or more of the vessels A is to be used as a condenser, and one or more of the vessels B as the receiver, into which the articles to be acted on are to be placed. These vessels are to be connected together by the pipe D, in which there is to be a stop-cock, C. The vessel or vessels, A, are to be connected with a steam-boiler, (not shown,) by means of the pipe E, and should be provided with a safety-valve, G. The vessel or vessels B are to have one or more induction-pipes, H, provided with stop-cocks, *h*, for the introduction of air into the cylinders after there shall be no longer use for the vacuum therein. A man-hole door, *a*, should be placed in the back end of the vessel A, in the usual manner, and a door, *b*, large enough to permit the introduction of the articles to be acted on, is to be placed in one end of the vessel B. The vessel B should be provided with a vacuum-gauge in the usual manner.

The operation of the apparatus, thus constructed, is to be as follows: The cock C is to be closed, and the cock in the pipe E opened, so as to fill the vessel or vessels A with steam. After these vessels or condensers are thus filled with steam, the cock in the pipe E is to be closed, and a vacuum will then be formed in the said condensers, by the introduction of a jet of cold water, and the condensation of steam in the usual manner. A stop and waste-cock, *a'*, should be placed in the vessel A, for the purpose of drawing off the condensed water therefrom. After the vacuum is formed in A, in this manner, the cock C will be opened, and the air from B will then enter A, and an equilibrium will thus be restored in the two sets of vessels, and a partial vacuum will be produced in all of the vessels. After this a vacuum will be again produced in A, in the same manner as before, and then again the equilibrium will be restored as in the first operation, and so on until the proper vacuum is produced by the condensation process, and without the introduction of steam into the receiver B at all.

Having described my invention, what I claim is—

The vessels A and B, when coupled together with the pipe D, and otherwise provided with the cocks C, *a'*, and *h*, and doors *a* *b*, all arranged and operated substantially as herein shown and described.

Witnesses:

GEO. P. HERTHEL, Jr.,
M. RANDOLPH.

CHARLES DOTY.