

D. C. HALL.

Churn.

No. 76,753.

Patented April 14, 1868.

Fig. 1

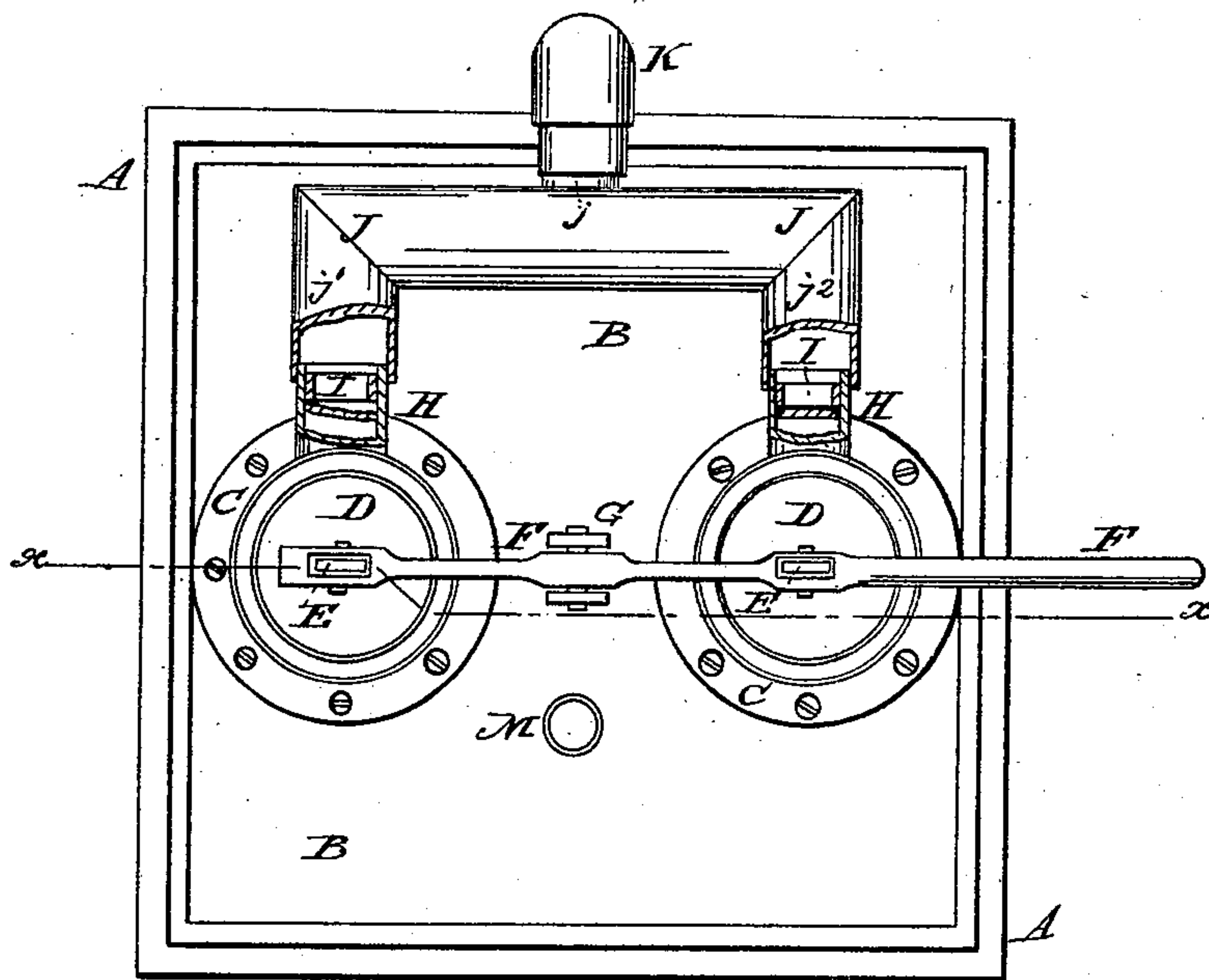
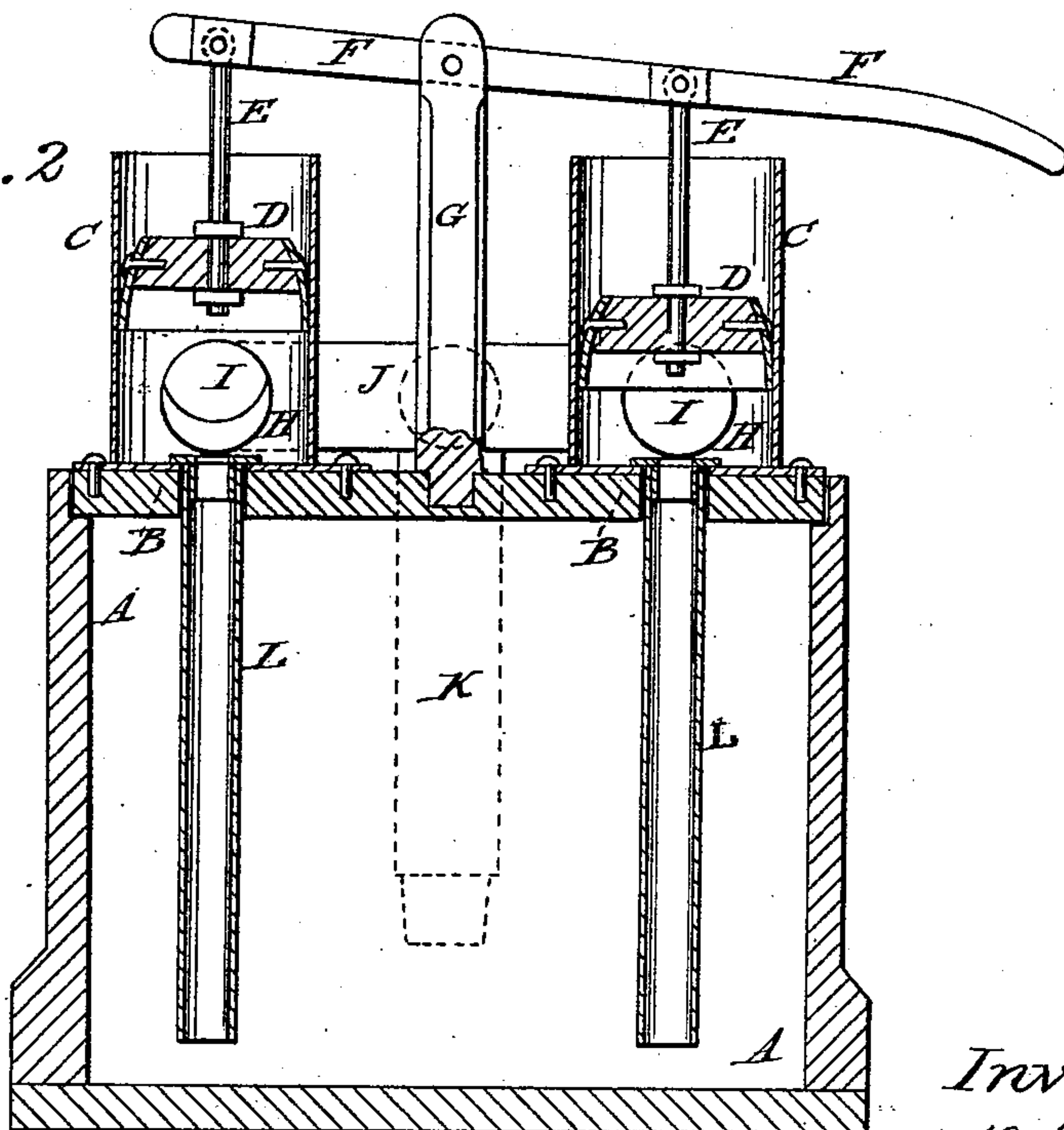


Fig. 2



Witnesses:
W. C. Aslikette
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Inventor:
D. C. Hall
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United States Patent Office.

DON C. HALL, OF HANNIBAL, MISSOURI.

Letters Patent No. 76,753, dated April 14, 1868.

IMPROVEMENT IN ATMOSPHERIC CHURN.

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, DON C. HALL, of Hannibal, in the county of Marion, and State of Missouri, have invented a new and improved Atmospheric Churn; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Figure 1 is a top or plan view of my improved churn, part being broken away to show the construction.

Figure 2 is a vertical section of the same, taken through the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to furnish an improved atmospheric churn, simple in construction, easily operated, and which shall be so constructed that warm or cold air may be forced into the churn to bring and keep the contents of said churn at the proper temperature; and it consists in the construction and combination of the various parts, as hereinafter more fully described.

A is the body of the churn, which may be rectangular in form, as shown in the drawings, or which may be made of any other desired form. B is the cover of the churn, to the upper side of which are attached the lower ends of two hollow cylinders, C. D are pistons, working air-tight in the cylinders C, and the upper ends of the piston-rods E, of which are pivoted to the lever F, which is pivoted to the upper end of a standard, G, attached to the central part of a cover, B. One end of the lever F is extended so as to project beyond the side of the churn for convenience in operating it. In the lower part of the sides of the cylinders C are formed openings, in which are placed the supply-pipes H, through which the air is introduced into the cylinders C. The pipes H are provided with valves I, opening inward, as shown in fig. 1. J is a branched pipe, the ends *j* of which fit upon and are removably attached to the pipes H. To the central part, *j*², of the branched pipe J, is removably attached a flexible pipe or hose, K, which may be made of any desired length. In the cover B, in the bottom of the cylinders C, are formed holes or openings, in which are placed pipes L, which extend down nearly to the bottom of the churn A, as shown in fig. 2. The pipes L are removably secured in place, so that they may be readily detached for convenience in washing them. M is a short pipe or opening formed in the cover B, through which the air forced into the churn may again escape.

If desired, only one cylinder, C, may be used. In this case the hose or flexible pipe K may be attached directly to the supply-pipe H of the cylinder used.

In using the churn, the cream is placed in the churn A, the cover B placed upon it, and the lever F operated, which draws the air in through the hose K, and forces it through the pipes L nearly to the bottom of the churn, where it escapes, and, rising through the cream, escapes through the pipe M, throwing the cream, in its passage through it, into violent agitation, bringing the butter in a very short time. In case the cream requires to be warmed, the free end of the hose K should be placed near or over a stove or other heater, so that warm air may be forced into the churn; and should the cream require to be cooled, the free end of the hose K should be placed in such a position that cold air may be forced into said churn.

By this construction the churning is done and the temperature of the cream regulated by the same operation.

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

1. The combination of the removable pipes L, cylinders C, one or both, pistons D, lever F, and supply-pipes H, having valves I placed in them, with each other, and with the churn A B, substantially as herein shown and described, and for the purpose set forth.

2. The combination of the removable pipes L, cylinders C, supply-pipes H, having valves I placed within them, and flexible pipe or hose K, with each other, whether used with or without the interposition of the branched pipe J, substantially as herein shown and described, and for the purpose set forth.

DON C. HALL.

Witnesses:

O. P. BRINK,

L. A. HOFBAUER.