

(No Model.)

S. S. JAMISON.
APPARATUS FOR REGULATING THE TEMPERATURE OF MILK OR
CREAM VATS.

No. 348,016.

Patented Aug. 24, 1886.

Fig. 1.

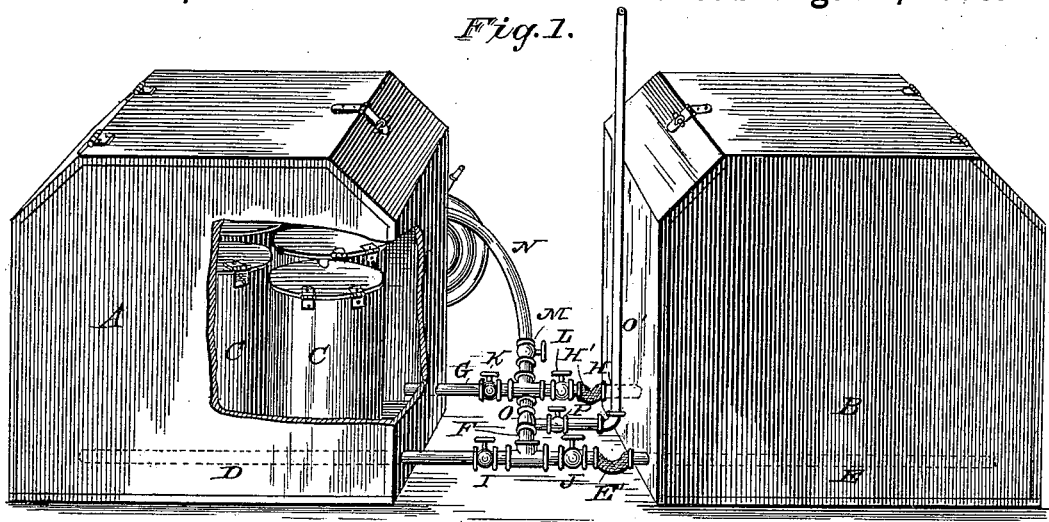
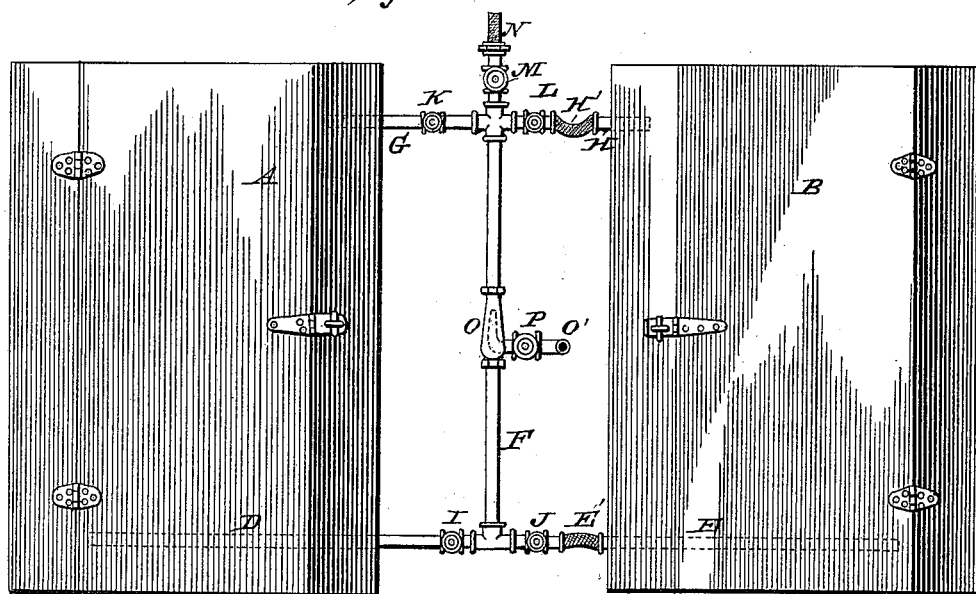


Fig. 2.



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APPARATUS FOR REGULATING THE TEMPERATURE OF MILK OR CREAM VATS.

SPECIFICATION forming part of Letters Patent No. 348,016, dated August 24, 1886.

Application filed May 21, 1886. Serial No. 202,932. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. JAMISON, of Saltsburg, in the county of Indiana and State of Pennsylvania, have invented a new and useful Improvement in Apparatus for Regulating the Temperature of Milk or Cream Vats, of which the following is a specification.

My invention consists in an improved apparatus for regulating the temperature of the water in milk-vats, by introducing steam, in the manner hereinafter described, into the pipes through which the water circulates, the apparatus being so constructed and arranged that the steam enters the water in the outer vats, mingled with the water which circulates through the pipes, so that the steam makes no noise when escaping from these pipes into the vats, while the circulation through the vats can be readily controlled, and the water, hot or cold, can be utilized for washing and cleansing milk-cans and other vessels, and for other purposes, all as will be hereinafter fully described and claimed.

Referring to the accompanying drawings, Figure 1 is a perspective view showing my improved apparatus in its operative position, and Fig. 2 is a top plan view thereof.

The same letters of reference indicate corresponding parts in all the figures.

Referring to the several parts by letter, A and B represent the large outer wooden vats or tanks, which are usually employed in a creamery, and within these outer vats are set the tin milk-vats C C, in which the milk is contained, these tin vats being surrounded by water, which fills the outer vats to the requisite height.

In the lower portion of one end of each outer tank, A B, is inserted the inner portion of a suction-pipe, D E, that portion of the suction-pipe E immediately outside of the vat B being formed of a flexible rubber hose, B', which admits of the suction-pipe E being readily withdrawn from the vat B and inserted in another vat when required. The outer ends of the suction-pipes D E communicate with one end of a connecting-pipe, F, which communicates near its other end with two discharge-pipes, G and H, the discharge-pipe G discharging into the lower portion of the opposite end of the vat A from that end into which the suc-

tion-pipe D leads, while the discharge-pipe H discharges into the corresponding end of the second vat, B, that portion of the pipe H immediately outside of the vat B being formed of flexible rubber hose H', to admit of the removal of this discharge-pipe and its adjustment into another vat.

The outer ends of the suction and discharge pipes are provided, near the points where they communicate with the connecting-pipe F, with the controlling-valves I J K L, and that end of the connecting-pipe which I will denominate the "forward" end is provided with a similar valve, M, and has connected to it, immediately in advance of the said valve, the flexible hose N, for the purpose hereinafter specified.

In the central portion of the connecting-pipe F, I place my improved injector O, for which Letters Patent No. 121,376 were granted to me, bearing date of November 28, 1871, although I do not wish to confine myself to this specific form of injector, as any other suitable form of injector may be employed, and the steam-pipe O' of the injector, through which steam is introduced into the connecting-pipe F from the boiler, is provided with the valve P, which controls the entrance of steam into the connecting-pipe F.

The operation of my improved apparatus is as follows: The valve M at the forward end of the connecting-pipe F is normally closed, and the valves controlling the suction and discharge pipes having been opened, the water from the large outer vats, A B, will enter the said pipes and flow into the connecting-pipe F. In order to create a circulation and heat the water to the requisite temperature the valve P of the steam-pipe O' is opened to the desired extent, when the steam passing through the injector toward the forward end of the connecting-pipe F is thoroughly mingled by the injector with the water in the said pipe, and will force this water with which it is mingled out through the discharge-pipes into the forward ends of the vats, and thereby create a suction through the suction-pipes into the rear end of the connecting-pipe, and this operation continuing will cause a perfect circulation through the tanks or vats, the suction-pipes, the connecting-pipe, and the discharge-pipes, the water being heated by the steam to

any desired degree of heat. It will be seen that by thus mingling the steam with the water in the pipes before it escapes therefrom into the vats the steam will enter the vats without the slightest noise or disturbance.

It will be seen that by closing the cocks of the suction and discharge pipes of either one of the vats the circulation can be confined to one vat, while by closing the valve of the suction-pipe of one vat and closing the valve of the discharge-pipe of the other vat the water can be transferred from one vat to the other with great ease, the steam from the boiler acting as the motive power.

By opening one or both of the valves of the suction-pipes and closing the valves of the discharge-pipes, and also opening the valve M at the forward end of the connecting-pipe F, the apparatus will operate as a steam-pump to throw either hot or cold water through the flexible hose N to any part of the building, which is very convenient for cleaning the churns and other vessels around the creamery.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my improved apparatus will be readily understood. It will be seen that by its use a perfect circulation of the water at as high or low degree of temperature as desired is obtained, while the circulation can be confined to one vat, if desired, or water can be transferred from one vat to another, and the apparatus may be further employed, as described, as a steam-pump for many useful purposes. The steam escapes noiselessly and without the least disturbance, which is a very important point.

My improved apparatus is very simple in construction, and therefore not liable to get out of order in any way, while at the same time it is very efficient in its operation for the various purposes for which it is designed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the outer vat and the milk receptacles or vats seated therein, of the suction-pipe leading from one end of the said outer vat, the discharge-pipe leading into the other end of the said vat, the pipe connecting the outer ends of these two pipes, and the steam-pipe provided with the regulating-valve, and having the forwardly-inclined end arranged, as described, within the central portion of the connecting-pipe, as and for the purpose set forth.

2. The combination, with the outer vat and the milk receptacles or vats seated therein, of the suction-pipe leading from one end of the outer vat, and having the valve near its outer end, the discharge-pipe leading into the other end of the outer vat, and having the valve near its outer end, the pipe connecting the outer ends of these two pipes, and having the valve at its forward open end, and the steam-pipe provided with the regulating-valve, and having the forwardly-inclined end arranged, as described, within the central portion of the connecting-pipe, as and for the purpose set forth.

3. The combination, with the outer vats and the milk receptacles or vats seated therein, of the suction-pipes from one end of the said outer vats, and each having the valve near its outer end, the discharge-pipes leading into the forward ends of the outer vats, and having the valves near their outer ends, the pipe connecting the outer ends of the discharge-pipes and suction-pipes, and having at its forward end the valve and the flexible hose, and the steam-pipe provided with the regulating-valve, and having the forwardly-inclined end arranged, as described, within the central portion of the connecting-pipe, all constructed and arranged to operate in the manner and for the purpose herein set forth.

S. S. JAMISON.

Witnesses:

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