

(No Model.)

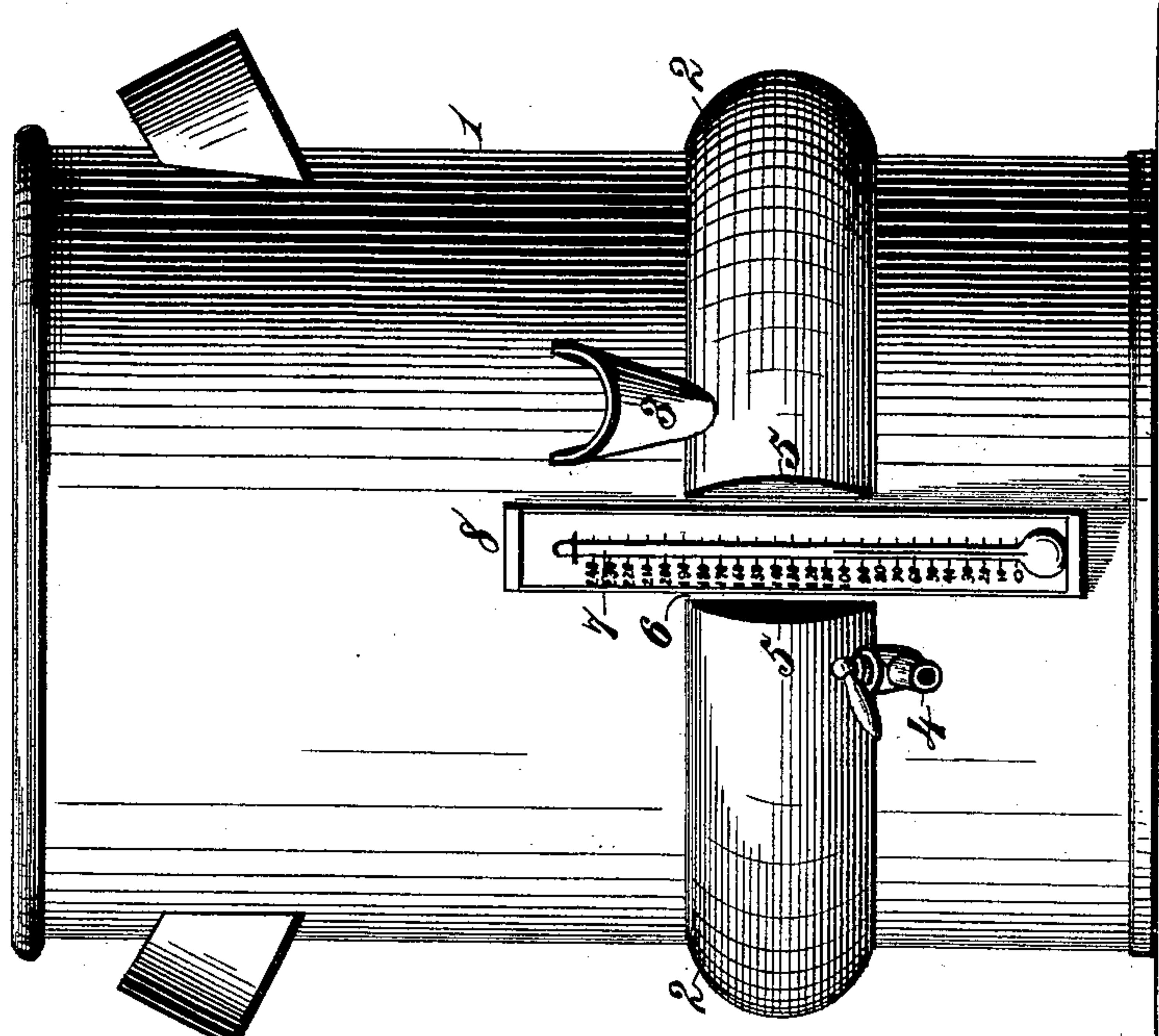
J. M. FLACK.

CHURN.

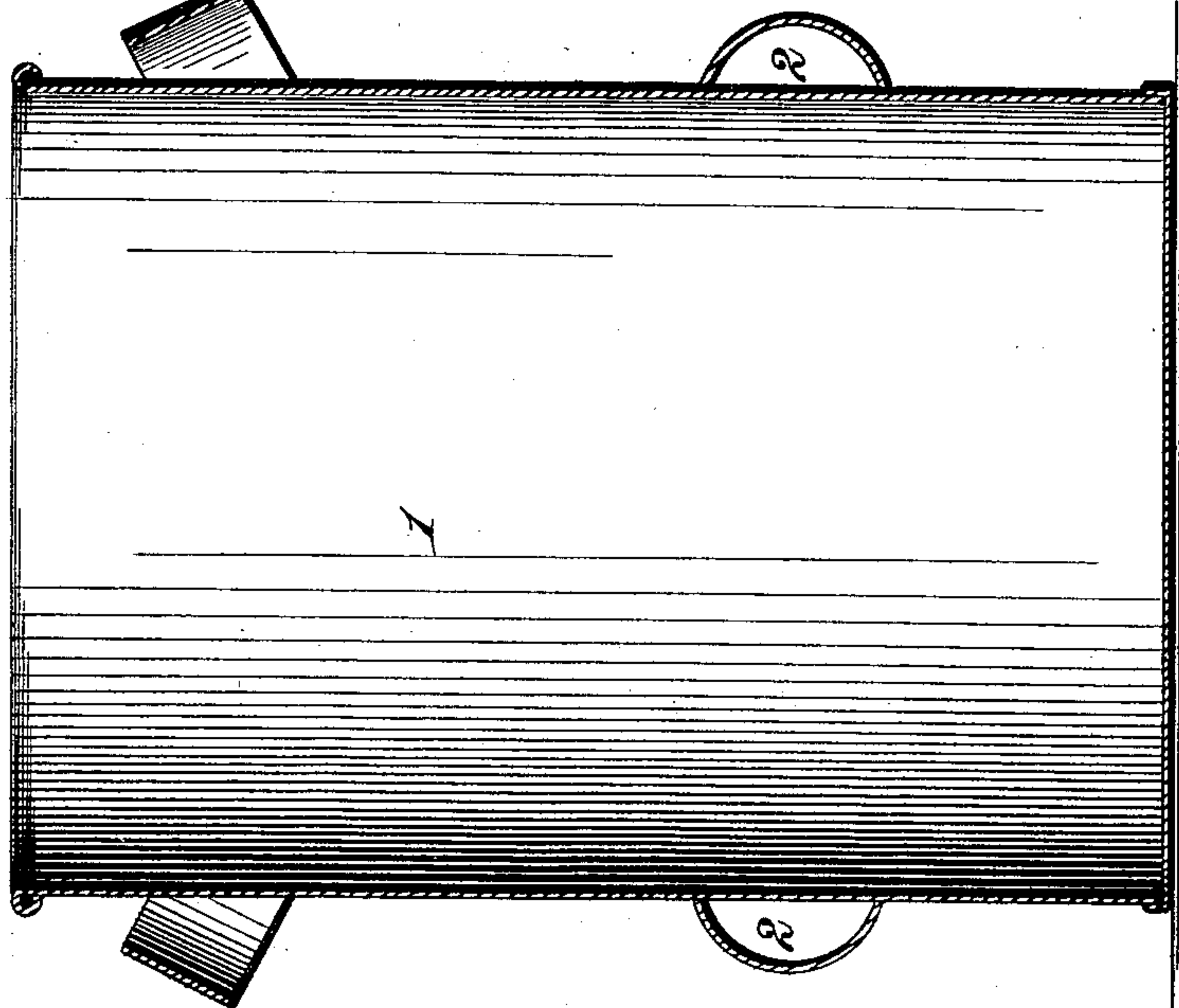
No. 386,393.

Patented July 17, 1888.

*Fig. 2.*



*Fig. 1.*



*Witnesses.*  
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*Dennis S. Sully.*

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*James M. Flack.*  
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*Atty.*

# UNITED STATES PATENT OFFICE.

JAMES M. FLACK, OF SHELBY, NORTH CAROLINA.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 386,393, dated July 17, 1888.

Application filed February 7, 1888. Serial No. 263,229. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES M. FLACK, a citizen of the United States, residing at Shelby, in the county of Cleveland and State of North Carolina, have invented new and useful Improvements in Churns, of which the following is a specification.

This invention relates to those churns which are inclosed by a water-jacket containing a thermometer and provided at the top of the churn-body with a water-inlet and at the bottom of said body with a water-outlet, for the purpose of heating or cooling the milk by hot or cold water poured into the water-jacket, the temperature of the milk in the churn being indicated by the thermometer.

The objects of my invention are to simplify the construction and reduce the cost of manufacture, to provide a novel structure for the purpose mentioned, and to avoid inclosing the entire churn-body in a water-jacket, and thereby reduce the bulk of the churn. These objects I accomplish by the novel construction of parts, hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a central vertical section taken in the line of the axis of the churn, illustrating my invention; and Fig. 2 is a front elevation of the same.

In the said drawings, the reference-numeral 1 designates the body of the churn, which is of any suitable form and material.

The numeral 2 indicates a chamber semicircular in cross-section and extending horizontally around the churn-body as a closed trough. This annular chamber or closed trough has two closed ends, 5, arranged directly opposite each other and separated by an intervening vertical channel or space, 6, one of said end portions carrying on its upper side a lip-funnel, 3, and the opposite end portion carrying on its lower side an outlet pipe or nozzle, 4. The chamber 2 is formed of a strip of metal bent into semicircular form transversely from end to end, and its longitudinal edges are soldered to the external surface of the vertical wall of the churn-body entirely around the same, except as to the intervening space between the closed ends 5, hereinbefore men-

tioned. This construction provides ample means for holding the hot or cold water, while it can be applied to any metal churn-body, and it is by far less bulky, more simple, and much less expensive than a water-jacket entirely surrounding the sides and bottom of a churn-body.

The walls of the churn-body or vessel being metal, I find that the annular semicircular chamber 2, constructed and applied horizontally to the body about midway between the top and bottom of the latter, meets all conditions required, as the metal of the churn-body conducts heat or cold from the liquid in the chamber to the milk. A thermometer, 7, is arranged in the vertical channel or space 6 between the opposite closed ends of the annular chamber, and has direct contact with the surface of the churn-body, for indicating the contents of the churn by the usual thermometric column. By this construction I avoid recessing and cutting away the metal of the water-chamber to place a thermometer against the churn-body. By means of the chamber 2, composed of the metal bent as described and soldered along its horizontal edges to the external surface of the churn-body, I provide an annular trough-like receptacle, by which a continuous stream of water may be caused to pass around the churn in a horizontal line, the stream entering at the inlet-lip funnel 3 and escaping at the outlet-nozzle 4, and by passing hot or cold water through such trough the temperature of the contents of the churn may be raised or lowered accordingly. The chamber or trough is entirely closed at the top and bottom, except of course as to the inlet and outlet.

I do not broadly claim a water-jacket about a milk or similar vessel having an inlet and an outlet, as in Letters Patent Nos. 168,123 and 137,369, as such of itself is not new with me.

What I claim is—

A metallic churn-body having the semicircular closed trough 2, provided with closed ends and extending horizontally around it and composed of a strip of metal bent transversely into semicircular form and soldered along its upper and lower horizontal edges to the ver-



tical wall of the churn about midway between  
its top and bottom, said closed ends of the  
trough being arranged directly opposite each  
other and separated by an intervening chan-  
5 nel containing a thermometer supported by  
the wall of the churn, one end portion of the  
trough carrying directly on its upper side an  
inlet and the opposite end portion carrying

directly on its lower side an outlet, substan-  
tially as shown and described. 10

In testimony whereof I affix my signature in  
presence of two witnesses.

JAMES M. FLACK.

Witnesses:

E. RIVIERES,  
M. N. HAMRICK.