

C. A. DOUGLAS.

MILK-COOLER.

No. 173,717.

Patented Feb. 22, 1876.

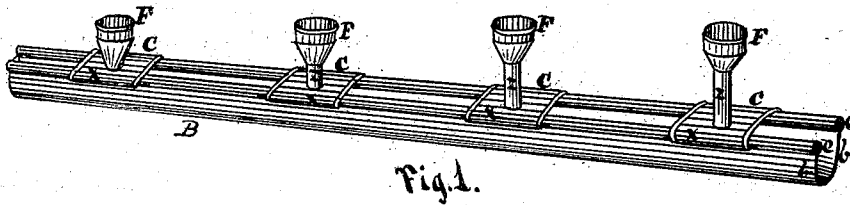


Fig. 1.

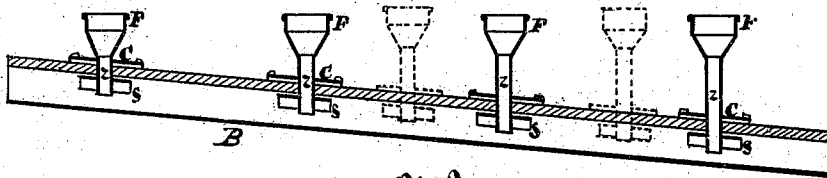


Fig. 2.

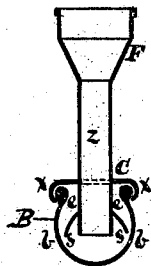


Fig. 3.

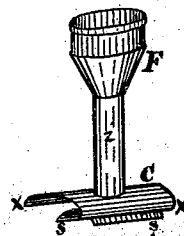


Fig. 4.

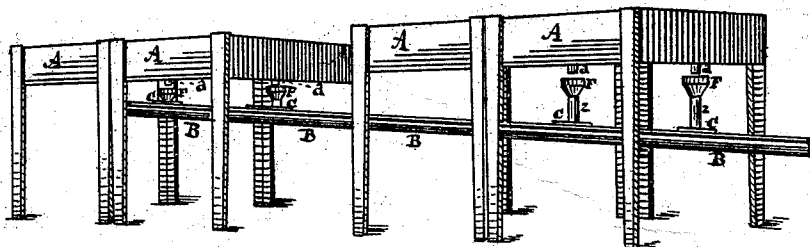


Fig. 5.

Witnesses. { *Chas. J. Durkin*
Lewis Leamer

Charles A. Douglas
his Attorney
Alex. S. White
Inventor.

UNITED STATES PATENT OFFICE.

CHARLES A. DOUGLAS, OF FRANKLIN, NEW YORK.

IMPROVEMENT IN MILK-COOLERS.

Specification forming part of Letters Patent No. **173,717**, dated February 22, 1876; application filed January 3, 1876.

To all whom it may concern:

Be it known that I, CHARLES A. DOUGLAS, of the town of Franklin, county of Delaware, State of New York, have invented certain Improvements in Milk-Conductors for Milk-Coolers; and I do hereby declare that the following is a description thereof, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a perspective view of the milk-conductor and its adjuncts when detached from the milk-cooler. Fig. 2 is a sectional elevation of the same. Fig. 3 is a cross-sectional view. Fig. 4 is a perspective view of the funnel and its adjuncts, for operation with the discharge end of the draft-pipe of a milk-pan and the conductor. Fig. 5 is a perspective view of a set of milk-coolers, with the milk-conductor and its adjuncts properly arranged for operation.

My invention relates to conductors and their adjuncts for operation with milk-coolers employing sets or series of pans; and consists of the combinations and arrangements of several parts, hereinafter described, the object of the improvements being to render the several funnels adjustable to any desired point over the conductor, for operation with the several draft-pipes of milk-coolers, and to prevent the liquid being discharged from the funnels from splashing or boiling over the edges of the conductor, and permit the simultaneous discharge of several pipes into the same conductor without the several streams producing any excessive agitation when uniting in a common current.

To enable others skilled in the art to make and use my invention, I will proceed to describe it in reference to the drawings and the letters of reference marked thereon, the same letters indicating similar parts.

In the drawings, A A represent a set or series of milk-coolers, made with any of the usual forms of construction practiced by the trade, and consisting of an outer vessel for holding water, and an inner vessel for holding milk, properly supported by a suitable framework, as shown in Fig. 5. *a a* are each a discharge or draft pipe, leading, severally, from the milk and water vessels, for the discharge of the fluids to the conductor.

The said devices, with their arrangements of parts shown, form no part of this invention, though the improvements in this invention are intended to operate with the same.

B is a conductor, made of any suitable material, and, preferably, of sheet metal, as tin or zinc, and with a trough-like form, as shown in Figs. 1 and 3, with its upper side open in its entire length, as shown in Fig. 1. The upper margin-edges *c c* of the sides *b b* of said conductor is made with a flange or lateral extending rims, *e e*, which serve as supporting-ways for supporting the funnels, and locking devices holding the same where placed. The said conductor is made with a length sufficient to operate with a set or series of pans, as they may be arranged in their aggregate extension, so that one conductor may operate with the discharge-pipes *a a* of the several pans, to convey the liquids to be drawn off simultaneously through the same conduct to one common receptacle. F F are each a funnel for conveying the liquids discharged from pipes *a a* to the conductor B. C C are each a chair for the support of the said funnels. The lateral edges of said chairs are each provided with lips *x x*, which are intended to engage with the flange-rims *e e* of the conductor to retain the said chairs in place. Each chair supports its funnel from the tube portion *z* of said funnel, and is capable, with the funnel, to be moved from any one point over the conductor to any other, as circumstances might require. The lower end of the tube *z* of the funnel is made to project below the lower side of the chair, and is provided with the hood *s*, which hood, when the funnel and chair are in place with the conductor, will be intermediate between the bottom of the conductor and upper open side of the same. The discharge ends project slightly below the lower surface of the hood for the discharge of the liquid at a point nigh the bottom of the conductor. Each funnel of a set, operating with the discharge-pipes of the milk-coolers and the conductor, is made with a different length in the tube portion *z* above the chair, the shortest length of funnel-tube being at the upper or more elevated end of the conductor, and the longest at the lower end of the same, while those of lengths between the longest and

shortest are placed intermediate between the ends, in such a manner as to throw the upper ends of the several funnels of a set on the same horizontal plane, while the conductor is itself inclined, as shown in Figs. 2 and 5.

By the improvements in this invention the conductor, with its adjunctive parts, may be readily applied for use with a set of several milk-coolers, when placed closely together for economizing room, or when set separated, to permit persons passing between, where the room will admit of so doing.

As each funnel may be adjusted to any desired point on the conductor, as shown by full and dotted lines in Fig. 2, by moving the chairs carrying the funnels, the locking-lips of the chair, operating with the flange-rim of the conductor, will hold the funnels securely in place where set, and the hood, at near the discharge end of the funnel, and within the channel of the conductor, prevents the liquids drawn from the milk-cooler from splashing over the edges of the conductor, or an excessive ebullition of the liquid in the conductor, which would otherwise be had, while at the same time the liquid discharged from the upper funnels in the incline set of the conductor is permitted to flow over the lowermost hoods of the several funnels on the lower incline of the conductor, without any material disturbance of the several streams when united in a single current.

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

1. The combination, with funnel F, supported from the open side of conductor B, of the hood *s*, intermediate between the bottom and the open upper side of said conductor, substantially as and for the purpose set forth.

2. The conductor B, made open on its upper side, and with rim-flanges *e e*, funnel F, and chair C, provided with locking-lips *x x*, when combined for operation substantially as set forth.

3. The funnel F, provided with hood *s*, and supported by the adjustable chair C, having locking-lips *e e*, in combination with conductor B, provided with rim-flanges *x x* at the margin-edges of its open side, substantially as and for the purpose set forth.

4. The combination of an open-upper-side conductor, B, funnels F F, of varying lengths, adjustable chairs C C, locking with said conductor, and supporting said funnels, and hoods *s s*, all adapted for operations with the several draft-pipes *a a* of a set of milk-coolers, substantially as and for the purpose set forth.

CHAS. A. DOUGLAS.

Witnesses:

AMOS DOUGLAS,
CHAS. NOBLE.