2 Sheets—Sheet 1.

H. F. KING.

Milk-Setting Apparatus.

No. 226,327. **Patented April 6, 1880.**

Fig. 1.

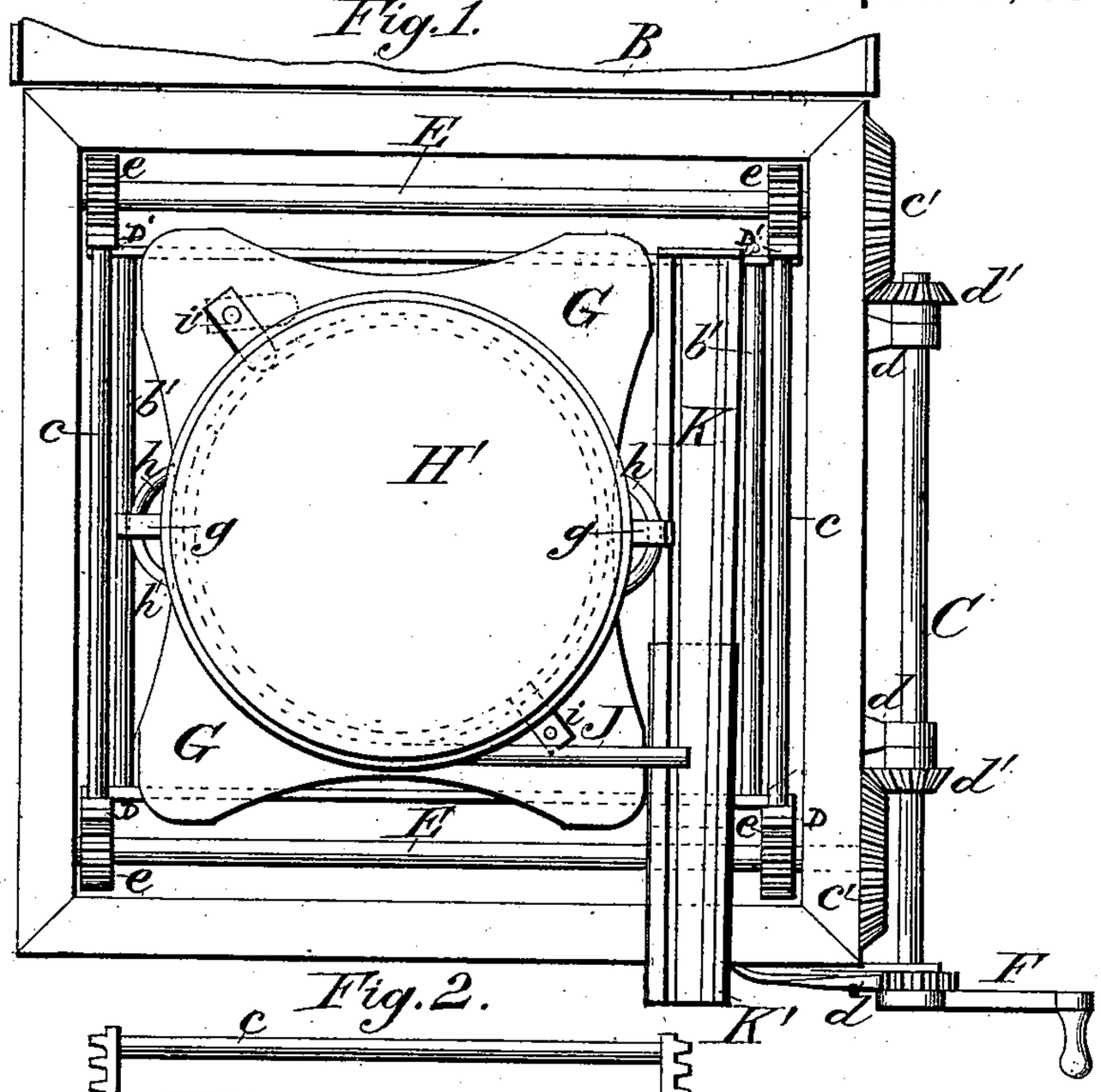
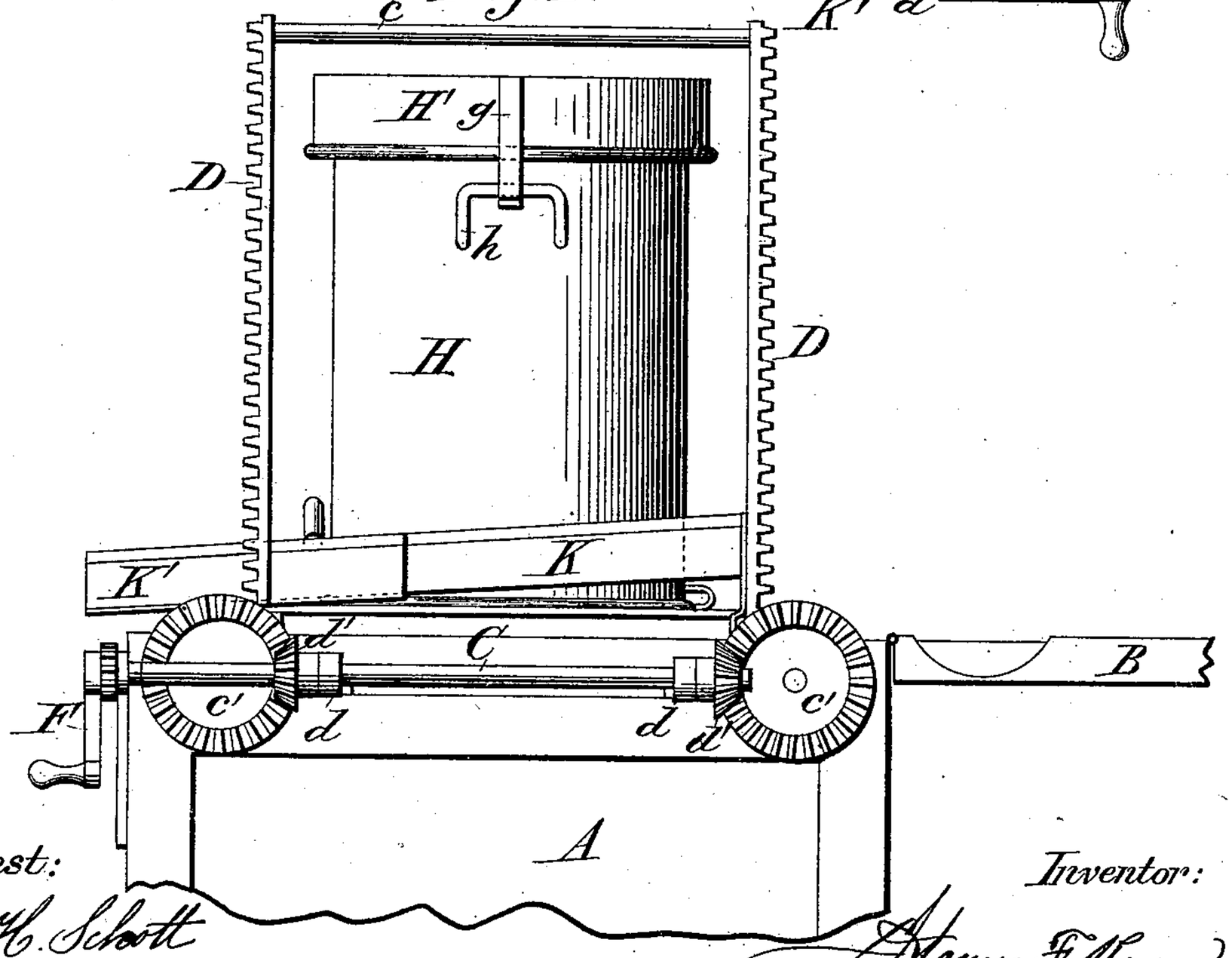


Fig. 2.



Attest:

H. H. Schott

A. R. Brown.

Inventor:

Henry F. King

per J. C. Dewey

atty

2 Sheets—Sheet 2.

H. F. KING.

Milk-Setting Apparatus.

No. 226,327. **Patented April 6, 1880.**

Fig. 3.

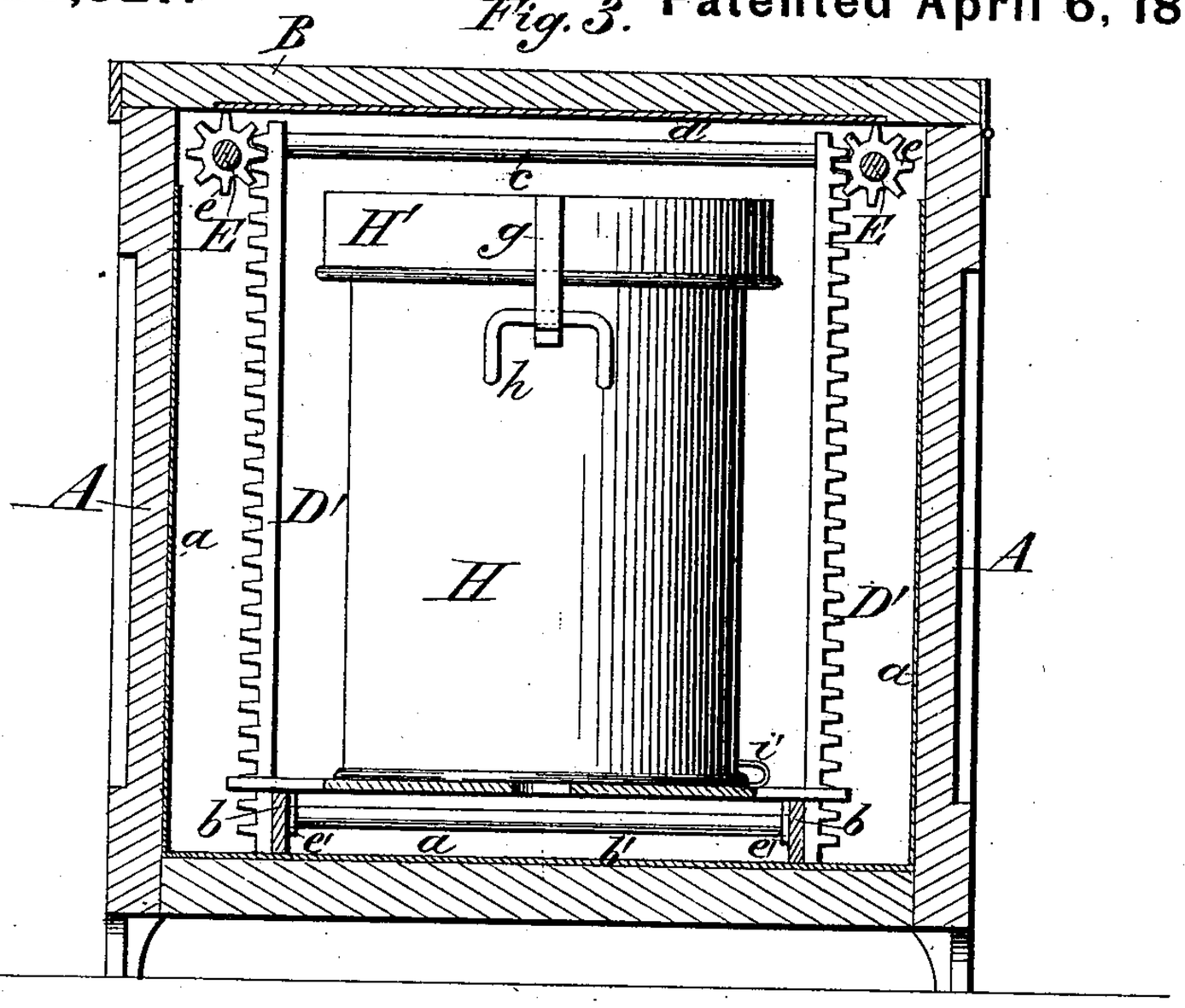


Fig. 4.

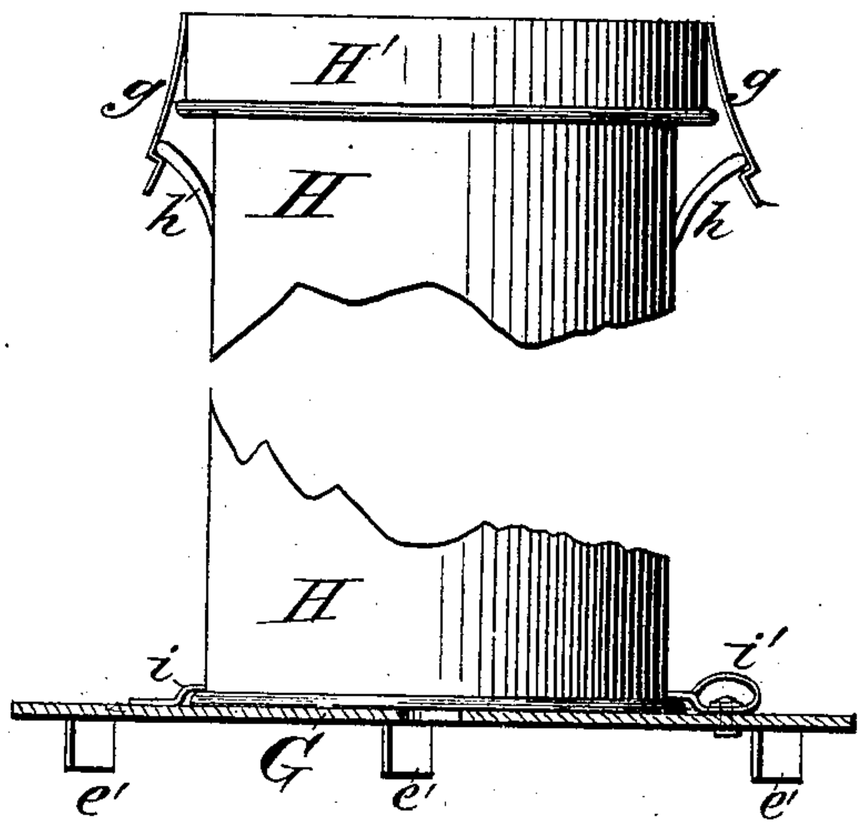
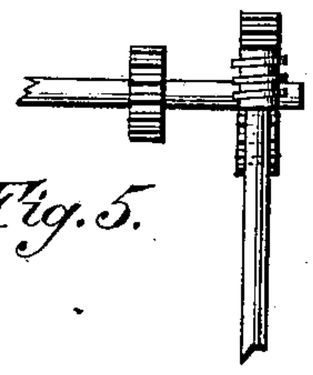


Fig. 5.



Attest:
F. H. Schott.
A. R. Brun

Inventor:
Henry F. King
per F. H. Tasker
atty

UNITED STATES PATENT OFFICE.

HENRY F. KING, OF BELLOWS FALLS, VERMONT.

MILK-SETTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 226,327, dated April 6, 1880.

Application filed January 17, 1880.

To all whom it may concern:

Be it known that I, HENRY F. KING, a citizen of the United States, residing at Bellows Falls, in the county of Windham and State of Vermont, have invented certain new and useful Improvements in Milk-Setting Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to improvements in that class of tank-receptacles for milk-cans employed to hold the milk during the separation of the cream therefrom, and in which the can is submerged in water of such temperature as may be needed to bring the milk to the proper point for the ready separation of its oleaginous particles and to retain it at that temperature until the separation is completed, the object being to construct the receptacle in such a manner that the can may be readily lowered into it or raised therefrom when desired.

The invention consists, essentially, in providing the tank-receptacle with a movable platform, upon which the milk-can is placed, and devices for raising and lowering the same, and in certain details of construction that will be hereinafter fully described, and then specifically pointed out in the claims.

In the drawings, Figure 1 is a plan of the can and receptacle, the cover being turned back to show the internal arrangement. Fig. 2 is a side view, showing the platform and can raised above the receptacle. Fig. 3 is a vertical section through the receptacle, showing the relative position of the can and elevating apparatus when the can is lowered into the receptacle. Fig. 4 is a side view of a part of the can and section of the platform, showing the method of connecting them as well as the means used for retaining the cover in place upon the can. Fig. 5 shows a modification of the gearing for the hoisting apparatus.

A is the receptacle, of rectangular shape, and preferably formed of wood as being a good non-conductor of heat. This receptacle is provided with a water-tight metallic lining, *a*, forming a water-tank, in which the can may be submerged, and a hinged cover, B, which may also be supplied with a metallic or other water-proof lining, *a'*, so as to prevent its being warped by the expansion caused by vapors rising from the fluid below it.

Within this rectangular receptacle is placed a movable frame, the corners of which are formed of the pairs of vertical racks D D and D' D', united at their lower ends by the cross-bars *b b* and rods *b' b'*, while the upper ends of each pair of racks are connected by the rods *c c*.

Revolving in brackets *d d*, attached to one side of the receptacle, is a shaft, C, carrying the bevel-gears *d' d'*, which engage with bevel-gears *c' c'*, secured upon the outer ends of the shafts E E, which revolve in suitable bearings in the sides of the receptacle. These shafts E are each provided with two spur-pinions, *e e*, which engage with the vertical racks D and D'.

It will therefore be apparent that by revolving the crank F, attached to one end of the shaft C, the frame within the receptacle may be raised and lowered at will.

A movable platform, G, provided with downwardly-projecting lugs *e'*, which assist in retaining it in position, is placed upon the bars *b b* at the bottom of the frame. Upon this platform the milk-can H is placed, and secured by the clasps *i i'*, one of which is stationary and the other capable of revolving about a pivot, so that by turning the clasp *i'* the can may be disconnected from the platform.

The cover H' of the can is of that class termed "water-sealing covers," the rims of which are made deep and of greater diameter than the cans, so as to leave an annular space between them, into which the water enters, but is prevented from entering the can, when the latter is submerged, by the inclosed air which fills the annular space between the cover and can.

In order to prevent the lifting of the cover by the air as it is forced up into the recess between the can and cover, the latter is provided with spring-hooks *g g*, which hook over the handles *h h*, and thus retain the cover in its proper position upon the can.

Attached to one side of the can by a turning joint is the pipe or faucet J, which, when in an upright position, prevents the flow of milk or cream therefrom, but when turned down to one side allows the contents of the can to be drawn down to any desired level, as the milk will continue to flow from the end of the pipe J until the level of that in the can has been brought down to that of the most elevated part of the pipe.

It will therefore be apparent that if the end of the pipe is placed at such a height as to leave room for the cream in the bottom of the can below the level of the end of the pipe, the milk will all flow off, leaving the cream within the can, until it is withdrawn by a further depression of the end of the pipe J. As this pipe, when the can is raised, comes within the frame, it becomes necessary to provide some means for carrying the milk outside of the frame and receptacle. This is accomplished by using the extension-spout K K′, the part K′ of which slides over the other, so that it may be extended to come outside the receptacle, or shortened up, so as to descend within it when the can and frame are lowered.

The operation of the apparatus will be readily understood from the foregoing description, the principal point being the use of suitable mechanism attached to the receptacle for raising the can from the water-tank or lowering it thereon, thus avoiding the difficulty of making a water-tight joint about a pipe passing through the side or bottom of the tank and connecting with the can, as has heretofore been the practice.

Milk treated in this apparatus is found to produce a very large amount of cream, which, being fully protected from the air, does not become oxidized, but remains perfectly sweet and limpid, rendering it much more suitable for food than cream which, by contact with the air, has become thick and heavy.

Having thus described my invention, I claim as new and desire to secure by Letters Patent the following:

1. The combination, with the water-receptacle A and platform G, adapted to slide in and out of said receptacle, of the milk-can H, provided with the pipe J, attached to the can by a turning joint, and spout K, having the sliding extension K′, substantially as described, and for the purpose set forth.

2. In a tank-receptacle for milk-cans, the combination of the crank-shaft C, with its bevel-gears, shafts E E, provided with bevel-gears and spur-pinions, rack-bars D and D′, platform G, and can H, all arranged substantially as and for the purpose specified.

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

HENRY F. KING.

Witnesses:
A. J. HOLLEY,
J. H. WILLIAMS, Jr.