A. G. KNAPP.

Lard Cooler.

No. 46,476. Patented Feb 21, 1865.

Fig. 1

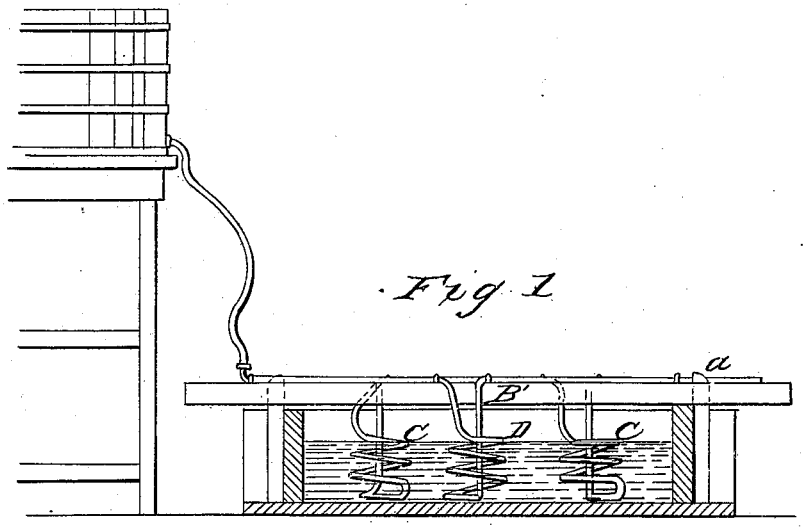
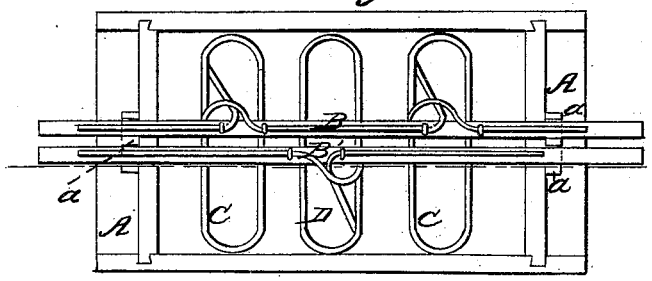


Fig. 2.



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UNITED STATES PATENT OFFICE.

ALEXANDER G. KNAPP, OF NEW YORK, N. Y.

IMPROVED APPARATUS FOR STIRRING AND COOLING.

Specification forming part of Letters Patent No. **46,476**, dated February 21, 1865.

To all whom it may concern:

Be it known that I, ALEXANDER G. KNAPP, of the city of New York, county and State of New York, have invented a new and Improved Apparatus for Stirring and Cooling Lard; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this apparatus. Fig. 2 is a plain or top view of the same.

My invention consists in the employment or use in machines for stirring lard of a dasher made of tubular metal rods having a serpentine form, and capable of having forced through them streams of cold water, for the purpose of cooling the lard, and so arranged that the operation of stirring the lard may be done in a more expeditious and effectual manner than by any device heretofore known for the same purpose.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A A represent the tank for holding the lard, which is constructed in the ordinary or any suitable manner.

B B′ are the two shafts mounted on the frame A, (as shown in Fig. 2,) and fitted to slide between guides *a a*. To these beams is imparted a reciprocating motion by steam or other power, so that while the beam B is sliding in one direction the beam B′ is moving in an opposite direction.

C C and D are the dashers, composed of metal tubing bent or coiled in a serpentine form, and this coil is pressed together in the form of an ellipse, so as to present a barrier transversely with the tank, thus presenting an ample resisting-surface for the agitation of the molten lard. As the beams B B′ are in motion, the dashers C C are moved in one direction, and the dasher D in an opposite direction, and their reciprocating motion through the lard effects a perfect agitation, which prevents a granulation of the lard, as would occur if it were not kept in constant motion while cooling.

The serpentine tubes permit the lard to flow freely between them, which effects a more general agitation than if the dashers were of a more solid construction, which would present a greater surface and tend more to move the lard in a mass rather than giving to it a rippling motion, which latter is insured by the to-and-fro motion of my serpentine dasher, thus more quickly cooling the lard.

In warm weather the operation of cooling lard is generally long and tedious, and much time is lost in this part of the operation of refining lard. With these dashers I provide a means for not only keeping the lard sufficiently agitated to prevent any liability of granulation, but also for cooling it in a quicker and more ready manner than by any means heretofore employed. Water cooled to a desired temperature may be forced through the tubes, keeping them constantly cool, and the peculiar construction of the dashers presents a very great cooling-surface to the lard, especially when in motion, so that a general hardening effect is produced upon the entire mass, for the reason that their line of motion extends the entire length and breadth of the tank.

Thus it will be seen that by my apparatus the lard is more thoroughly and uniformly stirred and made to cool in less time than by any mode heretofore employed, thereby saving both time and labor and producing a superior article.

I do not confine myself to the particular arrangement of the dashers as shown in the drawings, for it can be readily seen that they can be applied in various ways to effect the same purpose, as, for instance, they can be attached to arms radiating from a hub or shaft so that by imparting motion to the hub or shaft the dashers will be caused to revolve round in a circular tank, and thus stir and cool the lard, and they could also be attached to a short and a long set of arms moving in different directions, so as to create opposite or diverse currents in the molten lard.

I do not claim any of the devices described or claimed by W. J. Wilcox in a patent granted to him on the 20th day of January, 1863.

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

The employment or use, for the purpose of stirring and cooling lard, of the serpentine or spiral dashers C C and D, constructed substantially in the manner herein shown and described.

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