L. HOFER.

CHURN.

APPLICATION FILED MAR. 5, 1910.

963,560. Patented July 5, 1910.

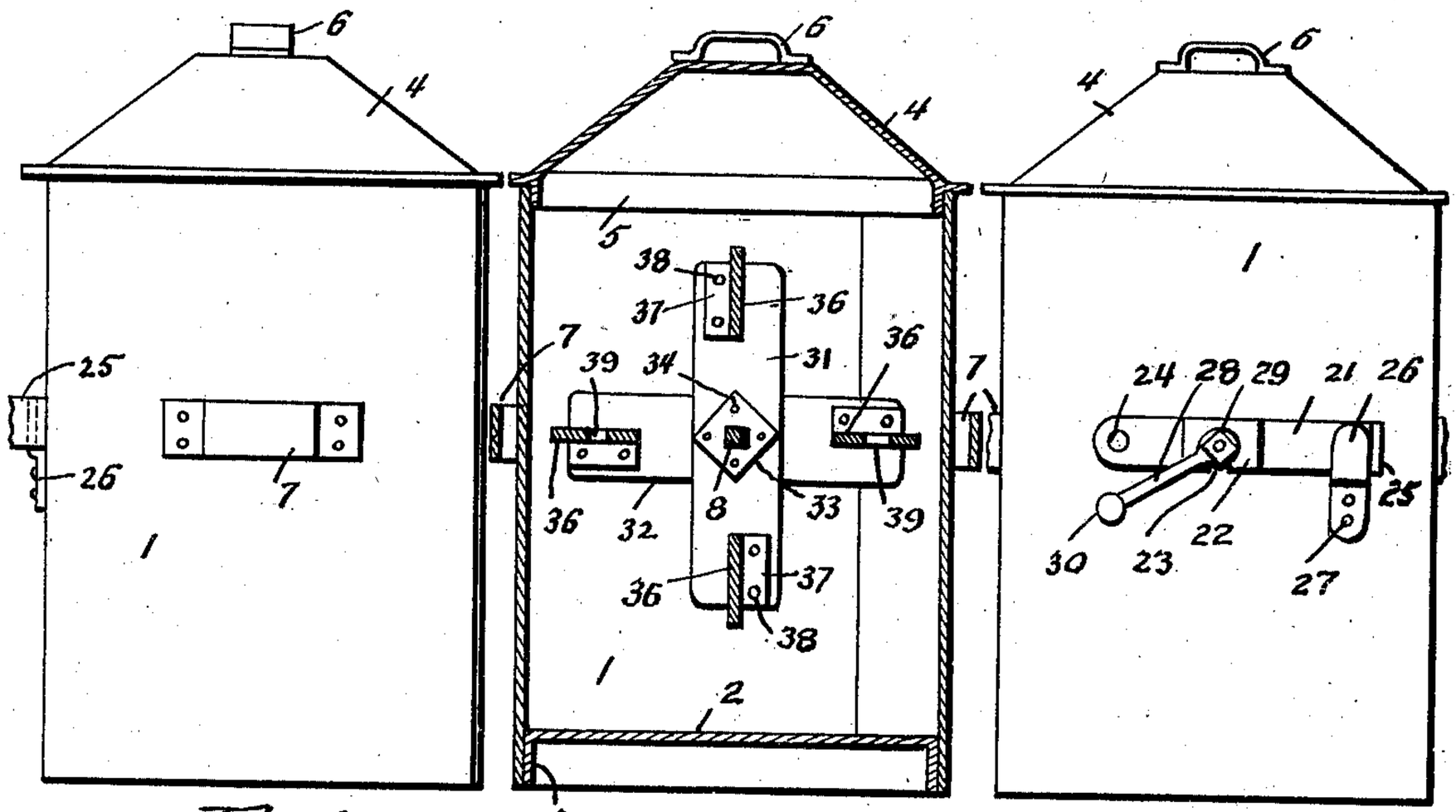

Fig. 1. Fig. 2.

Fig. 3.

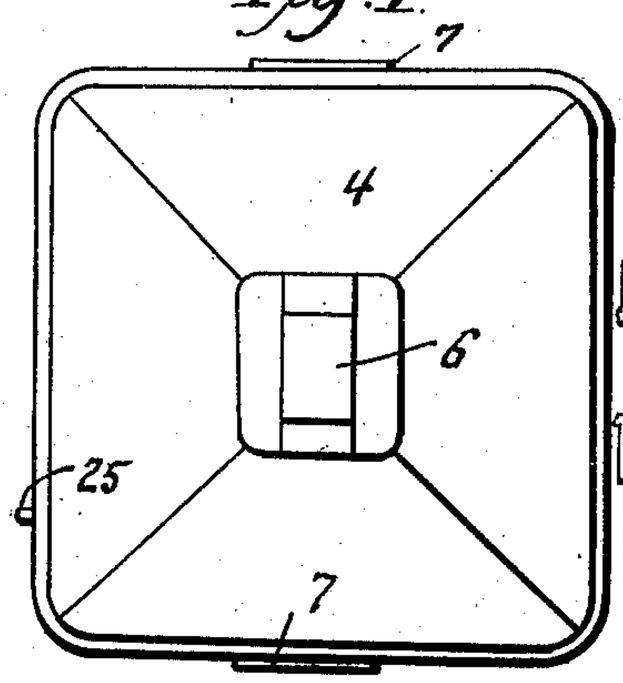

Fig. 4.

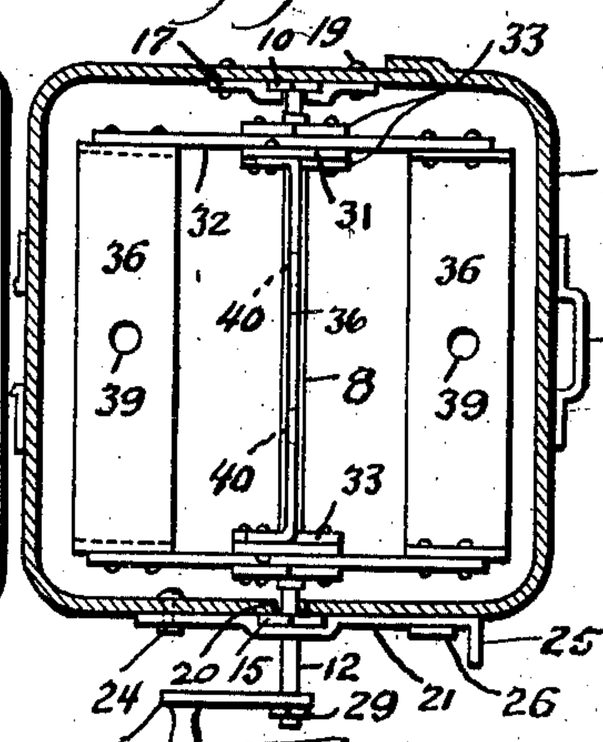

Fig. 5.

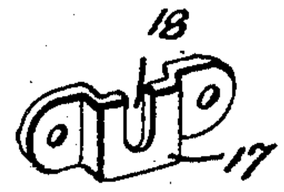

Fig. 6.

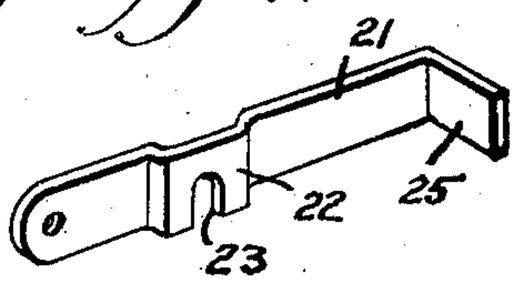

Fig. 7.

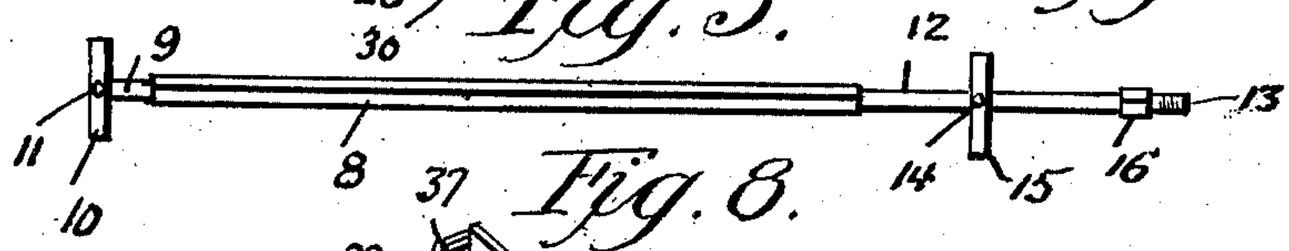

Fig. 8.

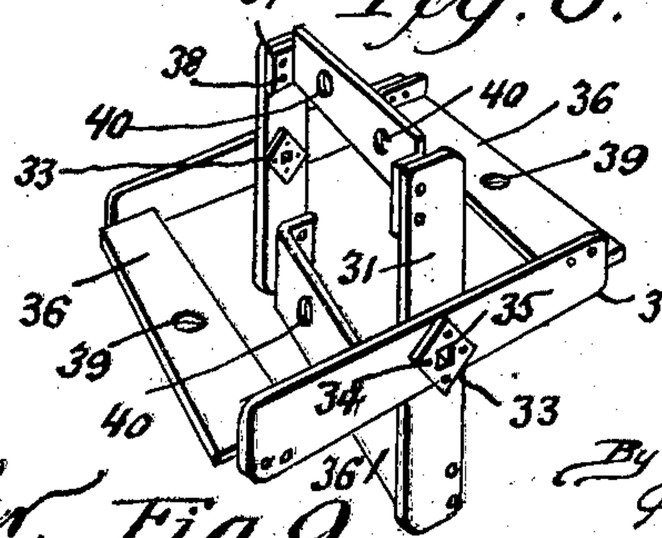

Fig. 9.

WITNESSES

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UNITED STATES PATENT OFFICE.

LOUIS HOFER, OF PITTSBURG, PENNSYLVANIA.

CHURN.

963,560.

Specification of Letters Patent. **Patented July 5, 1910.**

Application filed March 5, 1910. Serial No. 547,549.

To all whom it may concern:

Be it known that I, LOUIS HOFER, a subject of the Emperor of Austria-Hungary, residing at N. S. Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Churns, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to churns designed for the manufacture of butter, ice cream, and as a mixer or merger for ingredients.

The object of my invention is to provide a churn with a novel dasher or agitator that will thoroughly commingle and agitate the contents of the churn.

I attain the above object by a simple, inexpensive and durable churn adapted to be manually operated and constructed upon a small scale for household purposes, but it is in this connection that I do not care to limit my invention, as the churn may be made upon a very large scale and operated by a motor or other source of power.

My invention will be hereinafter considered in detail and then claimed, and reference will now be had to the drawing forming a part of this specification, wherein there is illustrated a preferred embodiment of the invention, but it is to be understood that the structural elements thereof can be changed and modified without departing from the scope of the invention.

In the drawings: Figure 1 is a side elevation of the churn. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a front elevation of the churn. Fig. 4 is a plan of the same. Fig. 5 is a horizontal sectional view of the churn. Fig. 6 is a perspective view of a detached bearing. Fig. 7 is a similar view of a detached locking lever. Fig. 8 is an enlarged detail view of a detached shaft, and Fig. 9 is a perspective view of a detached agitator or dasher.

In the accompanying drawings the reference numeral 1 denotes a receptacle preferably made of one piece of sheet metal having the vertical edges thereof soldered, brazed, or otherwise connected to form a rectangular structure. Secured in the bottom of this structure is a bottom plate 2 having depending flanges 3 adapted to be soldered or otherwise connected to the inner sides of the walls of the receptacle.

4 denotes a lid or cover adapted to fit upon the upper edges of said receptacle, said lid or cover having a depending flange 5 extending into the upper end of the receptacle, and furthermore, a handle 6 whereby the lid or cover can be easily handled.

7 denotes suitable handles secured to the outer sides of the receptacle intermediate the ends thereof whereby the receptacle can be easily moved and carried.

8 denotes a shaft rectangular in cross section for a greater part of its length, one end of the shaft being cylindrical, as at 9, and provided with a detachable circular head 10 adapted to be held upon the cylindrical portion 9 of the shaft by a set screw or other fastening means 11. The opposite end of the shaft is provided with a cylindrical portion 12 and the extreme end of the shaft is threaded, as at 13. Detachably mounted upon the cylindrical portion 12 by a set screw 14 is a circular head 15, this head being provided with an opening sufficiently large to clear the rectangular portion 16 of the shaft when mounting the head upon the cylindrical portion.

17 denotes a bearing having a slot 18 with one end thereof open, said bearing being riveted or otherwise secured, as at 19, to the inner side of the rear wall of the receptacle 1. The bearing is adapted to receive the circular head 10 of the shaft 8. The front wall of the receptacle 1 is provided with an opening 20 through which the cylindrical portion 12 of the shaft 8 is adapted to extend, and the head 15 is mounted upon the shaft whereby it will engage the outer side of the front wall of the receptacle 1. The shaft is held in place by a locking lever 21 having an off-set portion 22 provided with a slot 23. The locking lever 21 is pivotally connected to the front wall of the receptacle, as at 24, and the slot 23 is adapted to provide clearance for the cylindrical portion 12 of the shaft while the off-set portion 22 provides clearance for the head 15. The outer end of the locking lever 21 is bent to form a handle 25 and is adapted to engage in a bracket 26 secured to the front wall of the receptacle 1, as at 27.

28 denotes a crank mounted upon the rectangular portion 16 of the shaft and retained thereon by a nut 29 said crank having a handle 30 whereby the shaft 8 can be easily rotated.

The dasher or agitator comprises cross arms 31 and 32, the inner sides of the arms 31 and the outer sides of the arms 32 being

provided with face plates 33 and extending through said face plates and the arms are rivets, bolts, or other fastening means 34 adapted to hold the arms 31 and 32 in assembled position. The arms and plates are provided with longitudinally-alining rectangular openings 35 to receive the rectangular shaft 8. The outer ends of the arms 31 and 32 are connected by transverse blades 36, the blades having the ends thereof flanged, as at 37, and riveted or otherwise secured to the outer ends of the arms 31 and 32, as at 38, with the outer edges of the blades protruding beyond the ends of the arms. Two oppositely disposed blades are provided with openings 39 intermediate the ends thereof while the other blades are provided with a plurality of openings 40. These openings are adapted to facilitate the commingling and agitation of the contents of the receptacle when the dasher or agitator is revolved within the receptacle.

The opening 20 of the front wall of the receptacle is of a sufficient size to allow the rectangular portion of the shaft 8 to enter the receptacle and with the dasher or agitator held within the receptacle, the shaft can be extended through the openings 35, the head 10 placed upon the end of the shaft and then seated in the bearing 17. Since the cylindrical portion 12 of the shaft is of a less diameter than the opening 20, the shaft can be moved sufficiently to allow the head 10 to be placed upon the end of the shaft and then in the bearing. The head 15 can then be clamped in position, the locking lever 21 closed and the crank 28 placed upon the end of the shaft. The churn is then in condition to be used. The arms 31 and 32 and the blades 36 can be made of light and durable wood while the remaining parts of the churn are preferably made of metal.

What I claim, is:

1. A churn comprising a receptacle, a lid therefor, a bearing connected to the inner face of one of the walls of said receptacle, a shaft journaled in said bearing and extending through the opposite wall of said receptacle, means carried by the projecting end of the shaft for rotating it, two pairs of flat cross arms, the arms of each pair being fixedly secured together and mounted upon and rotating with said shaft, transverse blades having flanged ends seated against and secured to the inner face of the cross arms at the ends thereof, said blades arranged in pairs and oppositely-disposed with respect to each other, the blades of one pair provided with a plurality of openings and the blades of the other pair with a single opening, and a locking lever arranged exteriorly of the receptacle and engaging the shaft.

2. A churn comprising a receptacle, a lid therefor, a bearing connected to the inner face of one of the walls of said receptacle, a shaft journaled in said bearing and extending through the opposite wall of said receptacle, means carried by the projecting end of the shaft for rotating it, two pairs of flat cross arms, the arms of each pair being fixedly secured together and mounted upon and rotating with said shaft, transverse blades having flanged ends seated against and secured to the inner face of the cross arms at the ends thereof, said blades arranged in pairs and oppositely-disposed with respect to each other, the blades of one pair each having a centrally-disposed opening and the blades of the other pair each having a pair of openings and with the openings arranged at each side of the transverse center of the blade.

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

LOUIS HOFER.

Witnesses:
KARL H. BUTLER,
JOHN L. STEPHANY.