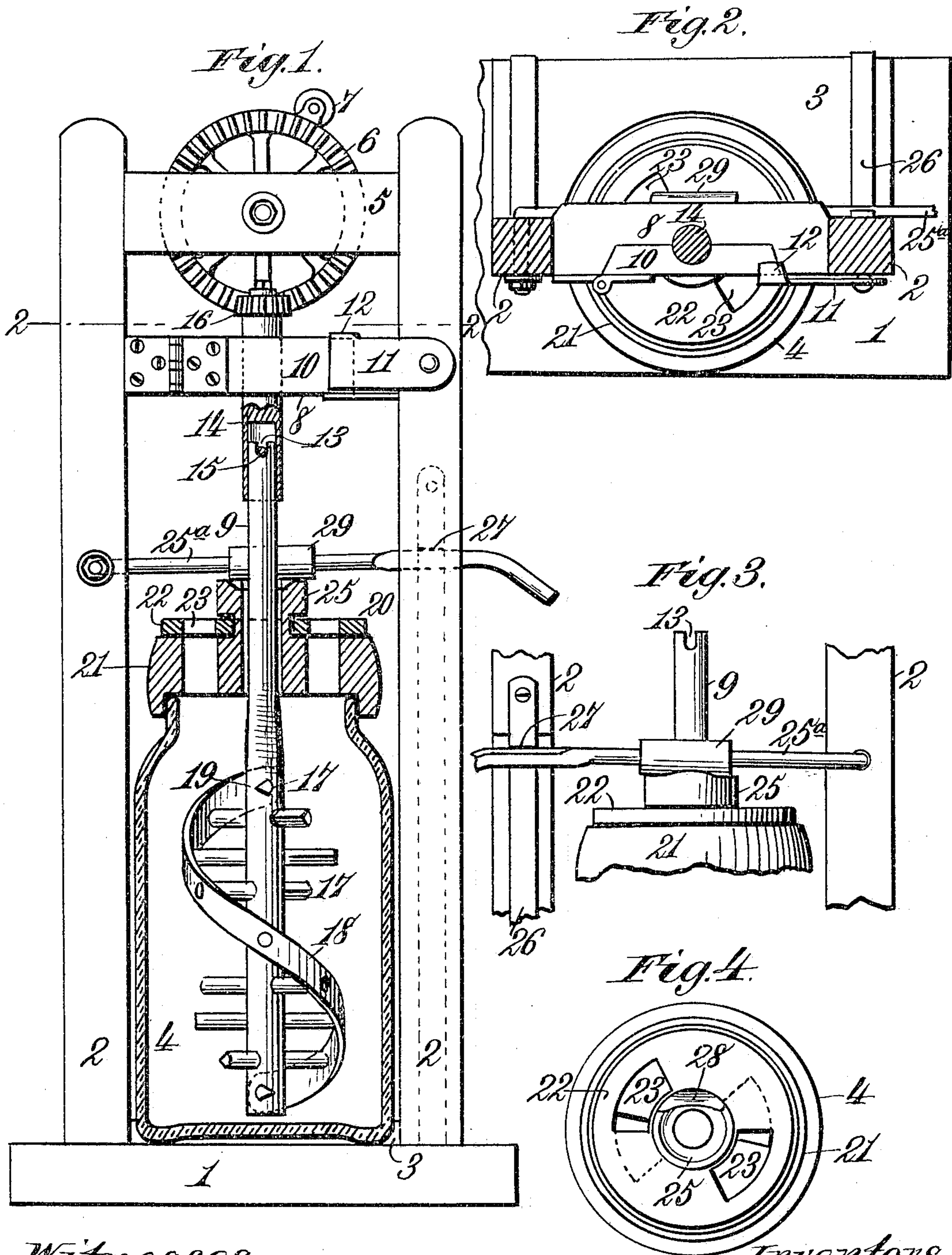


H. H. & S. L. HUNTER.  
CHURN.

APPLICATION FILED DEC. 1, 1904.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HENRY H. HUNTER AND STEWART L. HUNTER, OF BERKELEY SPRINGS,  
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## CHURN.

SPECIFICATION forming part of Letters Patent No. 787,180, dated April 11, 1905.

Application filed December 1, 1904. Serial No. 235,094.

*To all whom it may concern:*

Be it known that we, HENRY H. HUNTER and STEWART L. HUNTER, citizens of the United States, residing at Berkeley Springs, in the county of Morgan and State of West Virginia, have invented new and useful Improvements in Churns, of which the following is a specification.

This invention relates to certain new and useful improvements in churns, and has for its general object to provide a churn which shall be simple in construction and easy in operation and one which may be economically manufactured.

Further objects of the invention relate to details of construction and to combinations and operations of parts, as will more clearly appear from the description to follow, and particularly in the claims appended hereto.

In order that the invention may be clearly understood, we have illustrated the same in the accompanying drawings, in which—

Figure 1 is a sectional elevation. Fig. 2 is a sectional plan view taken on the line 2 2 of Fig. 1. Fig. 3 is a rear elevation of a part of the frame, and Fig. 4 is a plan view of the closure.

Referring now to the drawings, 1 indicates a base, upon which are supported uprights 2 and a recessed chock-block 3, the latter being for the purpose of positioning the churning vessel 4 on the base 1. Toward their upper ends the uprights 2 are connected by a cross-bar 5, on which is journaled at one side a drive-gear 6, provided with a crank-handle 7. At some distance below the cross-bar 5 we provide a longitudinal bearing 8 for receiving and centering the shaft 9 of the dasher. The shaft may be inserted in the bearing 8 through the medium of a hinged member 10 thereof, and a lock-plate 11, pivoted on one of the uprights 2, is provided for holding the hinged member closed when the shaft has been fixed in position in its bearing. A clip 12 on the lock-plate engages over the hinged member to prevent the lock-plate from falling out of engagement therewith.

The shaft 9 is formed in two separable parts. The lower part of the shaft or that part car-

rying the dasher is provided in its upper end with a slot 13, and the upper part 14 is in the form of a sleeve fitting over the end of the lower portion of the shaft and is provided with a bar 15, extending across the same, which is designed to engage in the slot 13 to prevent relative movement between the two parts of the shaft. On the upper end of the part 14 is mounted a gear-wheel 16, which is adapted to mesh with the drive-gear 6. The dasher is formed by a series of horizontally-disposed blades mounted in and extended through apertures formed throughout the length of the lower portion of the shaft 9 and so disposed as to impart a spiral formation to the blades 17. One outer end of each of these blades is fixedly secured to a strip 18, which in operation is designed to work in close proximity to the wall of the vessel 4. The portions of the blades 17 on the opposite side of the shaft to that at which their opposite ends are respectively connected to the strip 18 are provided with knife-edges on their forward or working sides, as indicated at 19. The closure for the vessel 4, which is indicated generally by the numeral 20, comprises a cap 21, which is adapted to be removably fitted over the upper end of the vessel 4 and provided on its upper side with two or more elongated apertures. Rotatably mounted on the cap is a disk 22, which is provided with apertures 23, adapted to be brought into and out of alinement with the corresponding apertures in the cap 21. The disk is held in position through the medium of a collar 25, having a hub secured to the cap 21, which hub provides a bearing for the disk 22, as will be understood.

The manner in which the parts are assembled in position for use is clearly shown by Fig. 1, and in Fig. 3 we show a lever 25, pivoted on one of the uprights 2 at one end and frictionally engaging one of two metal braces 26, provided for each of the uprights 2 at its outer end, said lever being adapted to be brought down into engagement with the collar 25 to firmly hold the churning vessel in position and the lever being adapted to spring under a shoulder 27, formed on the brace 26



for holding the parts in their clamped position. For the better securing of the vessel in the manner just described the collar 25 is provided on its upper face on one side with a  
 5 groove 28, and the lever 25<sup>a</sup> may be provided with a piece of rubber tubing 29 for engaging in the groove 28, although both the said groove and said rubber tubing may be dispensed with. Said groove is desirable, how-  
 10 ever, as tending to prevent rotation of the churn as the butter begins to form. To remove the churning vessel with its shaft from the frame of the machine, the lock-plate 11 is lifted and the hinged member 10 opened, when  
 15 the vessel with its shaft may be removed from the frame. To remove the dasher from the vessel, the upper portion or sleeve 14 of the shaft is pulled off. The closure 20 is then removed and the dasher lifted out of the vessel.  
 20 The churning vessel 4 is preferably made of some kind of crockeryware, and in order to permit the operator to see when the cream has been sufficiently churned the disk 22 may be turned to bring its apertures and those in the  
 25 cap 21 into alinement, when either by looking through the apertures or by inserting a suitable implement the desired examination of the contents of the vessel may be made. All of the parts of the dasher within the vessel 4 are  
 30 of wood, as we find that metal has a tendency to make the butter blue. The spiral strip 18 of the dasher of course operates to constantly free the inner side of the vessel from adhering particles of butter, while the blades 17 in  
 35 conjunction with said strip also afford the necessary churning operation. The knife-edges

19 permit the portions of the blade so constructed to readily cut through the butter while balancing the action of the shaft sufficiently to permit easy movement and beating  
 40 or churning the cream and diminish the resistance to the turning of the shaft.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a churn, in combination with a churning vessel, a cap adapted to fit over the same and provided with apertures, a disk rotatably mounted on said cap and provided with apertures adapted to be brought into and out of  
 50 alinement with the apertures in the cap, a collar secured to said cap and located above said disk, a lever adapted to engage said collar, a dasher in said vessel, and means for rotating said dasher.

2. In a churn, in combination with a churning vessel, a shaft extending into the same, means for rotating said shaft, and a dasher mounted on said shaft comprising a series of spirally-arranged transverse blades each of  
 60 which is mounted at one end in a strip and having their opposite end portions provided with knife-edges on one side.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

HENRY H. HUNTER.  
 STEWART L. HUNTER.

Witnesses:

M. S. HARMISON, Jr.,  
 J. D. DEFREES.