T. N. BROWN.

CHURN.

APPLICATION FILED APR. 7, 1908.

904,935.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 1.

Fig. 1.

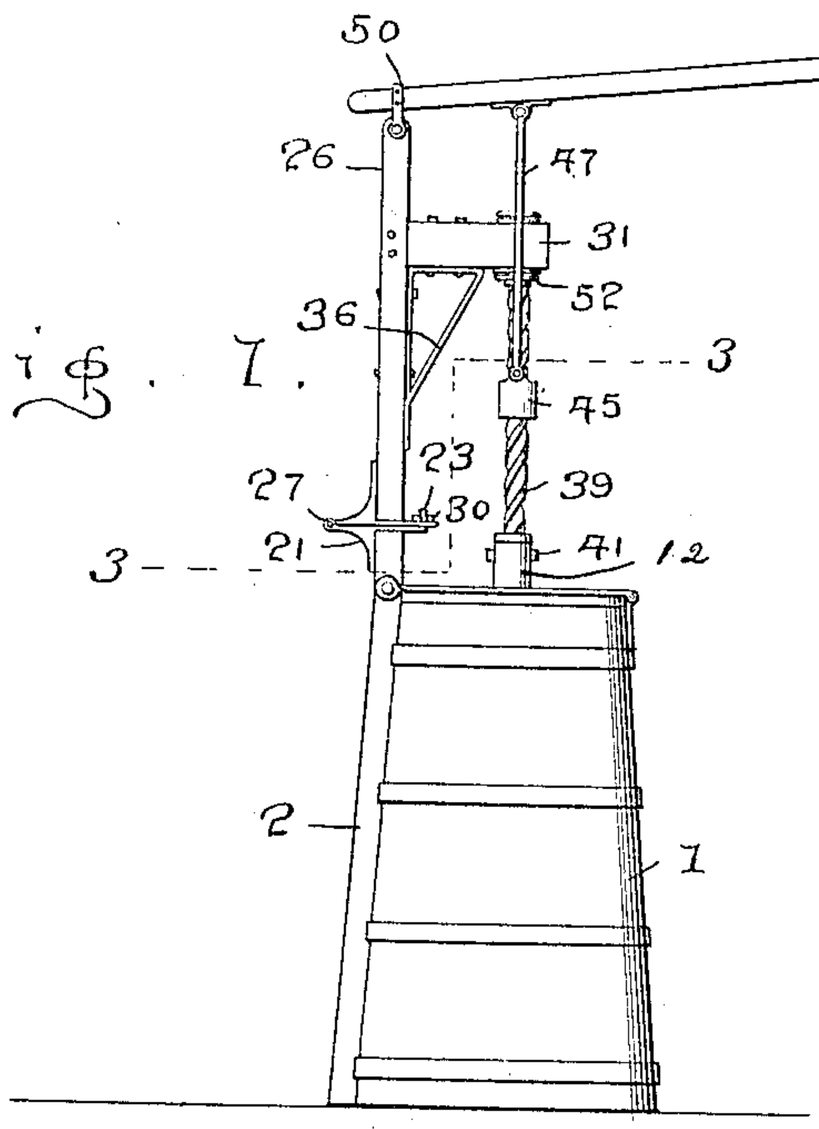


Fig. 4.

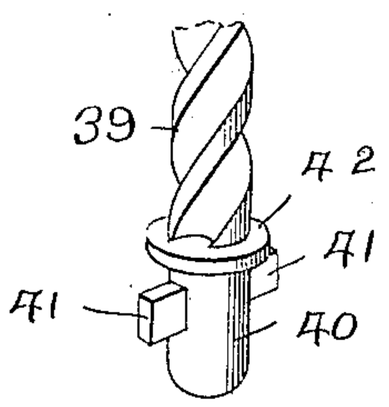
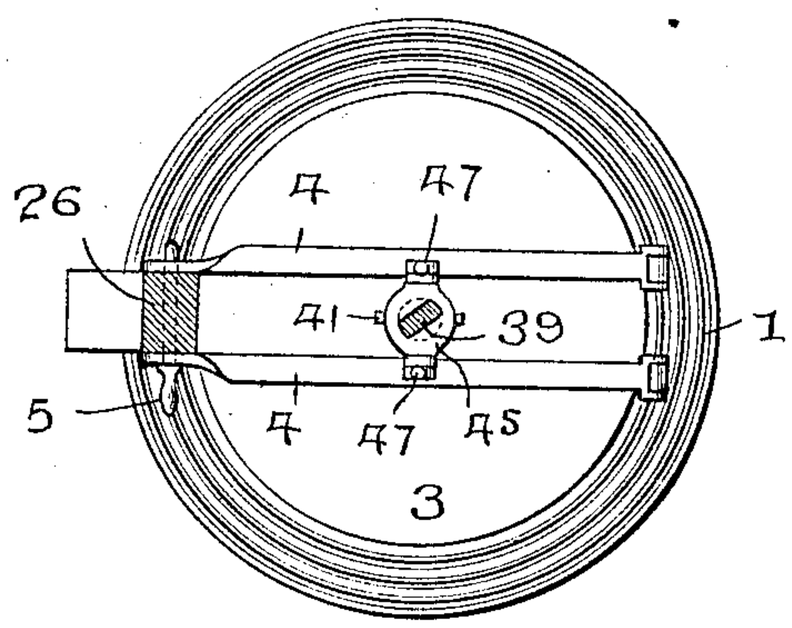


Fig. 5.

Fig. 3.



WITNESSES:

Thos. W. Riley

E. F. Mill

INVENTOR

T. N. Brown

BY

W. J. FitzGerald & Co.

Attorneys

T. N. BROWN.

CHURN.

APPLICATION FILED APR. 7, 1908.

904,935.

Patented Nov. 24, 1908.

2 SHEETS—SHEET 2.

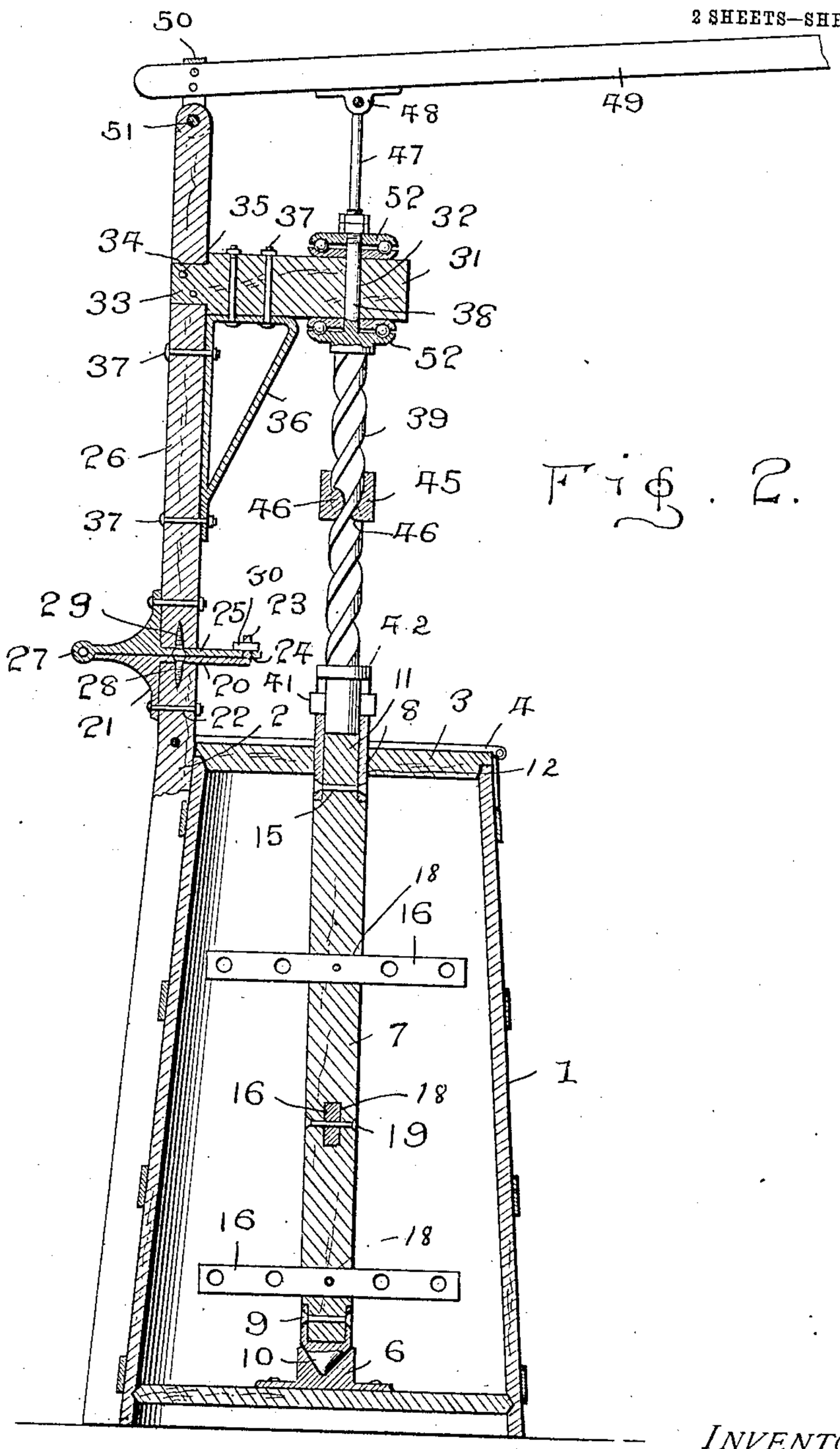


Fig. 2.

WITNESSES:

Thos. Percy

E. F. Isell

INVENTOR

T. N. Brown

BY

W. J. FitzGerald & Co

Attorneys

UNITED STATES PATENT OFFICE.

THOMAS N. BROWN, OF JACKSON, MONTANA.

CHURN.

No. 904,935. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed April 7, 1908. Serial No. 425,590.

To all whom it may concern:

Be it known that I, THOMAS N. BROWN, a citizen of the United States, residing at Jackson, in the county of Beaverhead and State of Montana, have invented certain new and useful Improvements in Churns; 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.

My invention relates to new and useful improvements in churns and has relation more particularly to the operating mechanism thereof.

It is an object of the invention to provide a novel device of this character, whereby an alternating rotary motion is imparted to the dasher.

It is also an object of the invention to provide a novel device of this character wherein the operating mechanism can be readily coupled with the dasher.

The invention also has for an object to provide a novel device of this kind, wherein the operating mechanism can be readily moved or swung with relation to the churn in order that the device may be conveniently stored away.

Furthermore, it is an object of the invention to provide a novel device of this character, which will be simple in construction, efficient in practice and comparatively inexpensive to manufacture.

With the above objects in view, the invention consists of the details of construction and in the novel arrangement and combination of parts to be hereinafter referred to.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of the specification, wherein like characters of reference denote corresponding parts in the several views and in which,

Figure 1 is a view in side elevation of the invention. Fig. 2 is a view in section illustrating various details of the invention. Fig. 3 is a sectional view taken on line 3—3, Fig. 1. Fig. 4 is a fragmentary sectional view illustrating a portion of coupling means for uniting the operating means with a dasher, and, Fig. 5 is a fragmentary, sectional view of the upper end of the dasher, illustrating the further coupling.

In the drawings, 1 denotes a churn body which may be of any desired or preferred form. Secured to the churn exteriorly thereof, is a standard 2, which terminates a slight distance above the upper end of the churn.

The upper or open end of the churn is provided with a suitable cover 3, which may be secured to the churn as desired, but preferably by two straps 4 pivoted to the churn at a point opposed to the standard and being of such length as to overlap the standard 2, said standard and overlapping portions of the straps being engaged by a pin 5. This arrangement effectually holds the cover against displacement, as is thought to be fully shown in Figs. 2 and 3.

Approximately centrally of the bottom of the churn is immovably fixed a socket 6, in which rests an end of a dasher or dasher shaft 7. The upper end of this dasher projects through an opening 8 in the churn cover 3, said opening being positioned above the socket. The dasher 7 is formed of wood and has secured to the lower end, by a bolt 9, a metallic point 10, which projects within the socket 6, the advantage of which is believed to be apparent. The upper end portion 11 of the dasher is reduced in diameter and this reduced portion is embraced by a metallic collar 12, which projects above the end of the dasher 7 to form a recess or pocket 13. This collar is provided with opposed longitudinal recesses 14, in its free end, for a purpose which will be hereinafter set forth.

The collar 12 is held against movement independently of the dasher 7, by a bolt 15, which passes through both the collar and the dasher. The dasher is further provided intermediate its length and in that portion positioned within the churn, with dasher blades 16 arranged angularly one with relation to the other and perforated as shown in Fig. 2.

The manner of securing the dasher blades to the dasher forms no essential feature of the present invention but should be, preferably, as illustrated, wherein the blades pass through suitable openings 18 in the dasher and are held against displacement by bolts 19 passing through both the dasher and dasher blades. Resting on the upper end of the standard 2 is a hinge member 20, which projects to either side of the standard 2. The outer portion of the member is provided

with a depending flange 21, which is secured to the standard by a bolt or other fastening means 22.

The inner end of the member is provided with an extending lug 23, which is intended to pass through an opening 24 in an extended portion of a second hinge member 25 secured to the lower end of a bar 26. The second hinge member 25 is of approximately the same structure as the hinge member 21 and said hinge members 21 and 25 are pivotally held one to the other by the pintle 27. The hinge members 21 and 25 are further held in position by means of the screws 28 and 29, respectively.

It is thought that it will be apparent from the structure just set forth, that the bar 26 can be swung above the standard 2 and be held in such position through the medium of the hinge members just referred to. In order, however, to hold said bar against accidental displacement, the lug 23 is engaged by a clamping member, such member 30 being a nut or other device.

Projecting from the bar 26 at a point below its upper or free end, is an arm 31 provided with an opening 32, which is in alinement with the sockets 6 when the bar 26 is in operative position. This arm 31 may be secured to the bar 26 in any manner, but it has been found best to extend a reduced end portion 33 through an opening 34 in the bar and pass through said bar 26 and reduced end portion 33, bolts 35. The bar is further held in position and reinforced by a metallic bracket 36 secured to the arm 31 and the bar 36 by the bolts 37.

Through the opening 32 of the arm 31 is passed the end portion 38, circular in cross section, of a spiral 39. The opposite end of the spiral terminates in a second portion 40, circular in cross section, which is adapted to fit within the pocket 13 hereinbefore referred to and projecting laterally from this portion 40, are lugs 41, which pass through the recesses 14 of the collar 8.

In practice it has been found best that the portion 40 be of less length than the depth of the pocket 13 and in order to limit the longitudinal movement of the portion 40, within the pocket, a flange 42 is provided, the function of which being obvious. The spiral 39 is to be rotated and it will be readily seen that by this form of coupling, the dasher 7 will be rotated simultaneously with the spiral.

The spiral 39 has movably mounted thereon, the block 45 provided with inwardly extending lugs 46 to engage the grooves of the spiral and to rotate the spiral in alternate directions when the block is reciprocated thereon. While the block may be reciprocated in any desired manner, it is preferred that the free ends of a U-shaped link 47 be fitted at one end to opposite sides of the block, while the opposite end or bend be pivotally held by a bracket 48 secured to an operating lever 49. The lever 49 freely engages the free end portion of the bar 26 through the medium of a U-shaped bracket 50, which straddles the end of the lever 26 and is engaged by the pivot pin 51.

From the foregoing description, it is thought apparent that by an oscillation of the lever 59, which causes a reciprocation of the block 45, an alternate rotation of the dasher 7 will be accomplished.

In order that the friction caused by the rotation of the spiral may be reduced to a minimum, ball bearings 52 are provided, as is clearly disclosed in Fig. 2.

What I claim is:

In combination with a churn and its dasher, a standard secured to the churn, a hinge member secured to the upper end of the standard projecting to either side thereof, a bar, a second hinge member secured to the lower end of the bar pivotally engaging the hinge member on the standard, said second hinge member extending to either side of the bar, said second hinge member having a perforation in one of its extended portions, a lug on the first hinge member passing through the perforations on the second hinge member, a locking means engaging the lug, and an operating mechanism carried by the bar engaging the dasher.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS N. BROWN.

Witnesses:

JOHN MARRIOTT,

FRANK H. DUNBAR.