

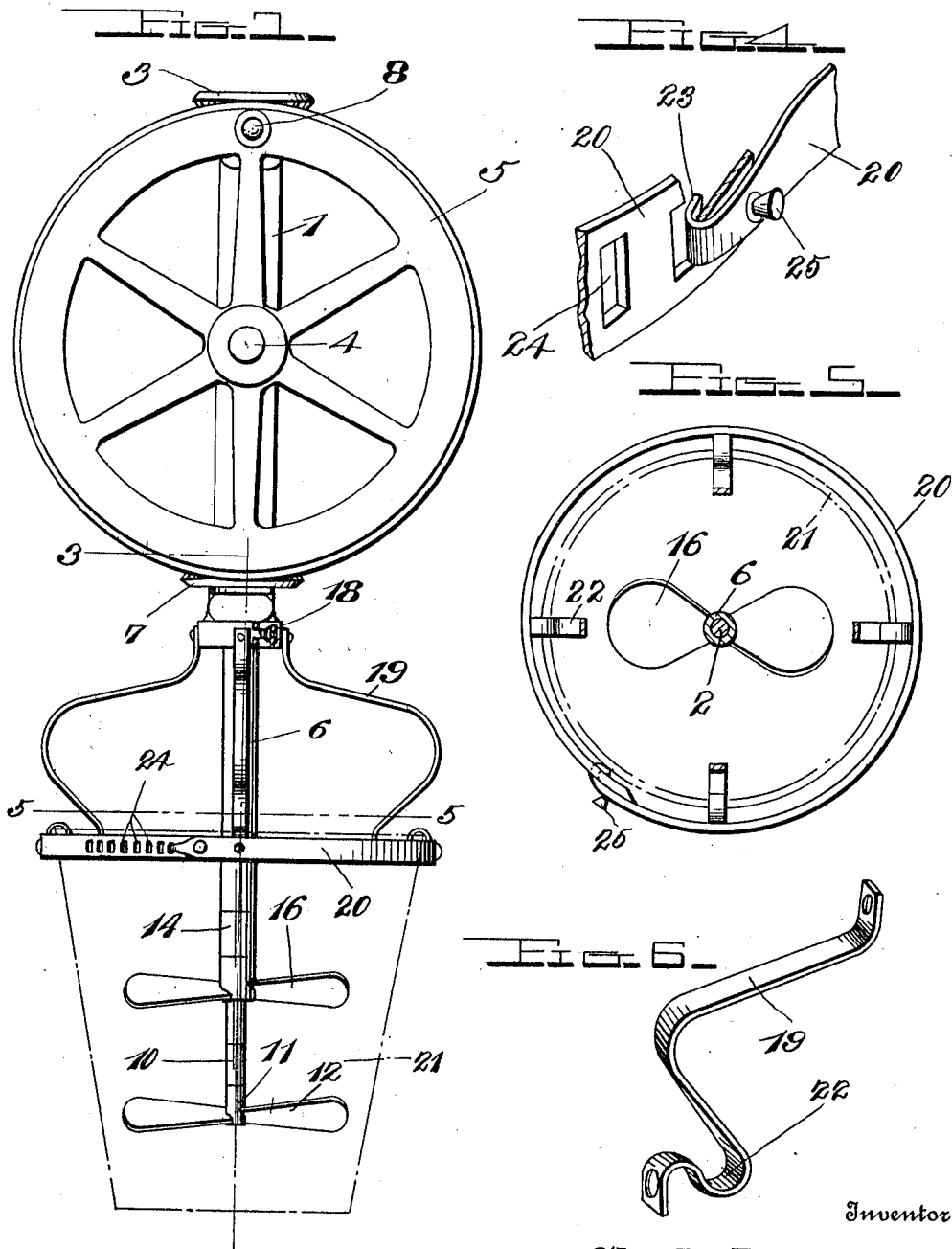
C. R. SIMMS.
CHURN.

APPLICATION FILED DEC. 16, 1911.

1,020,162.

Patented Mar. 12, 1912.

2 SHEETS—SHEET 1.



Witnesses
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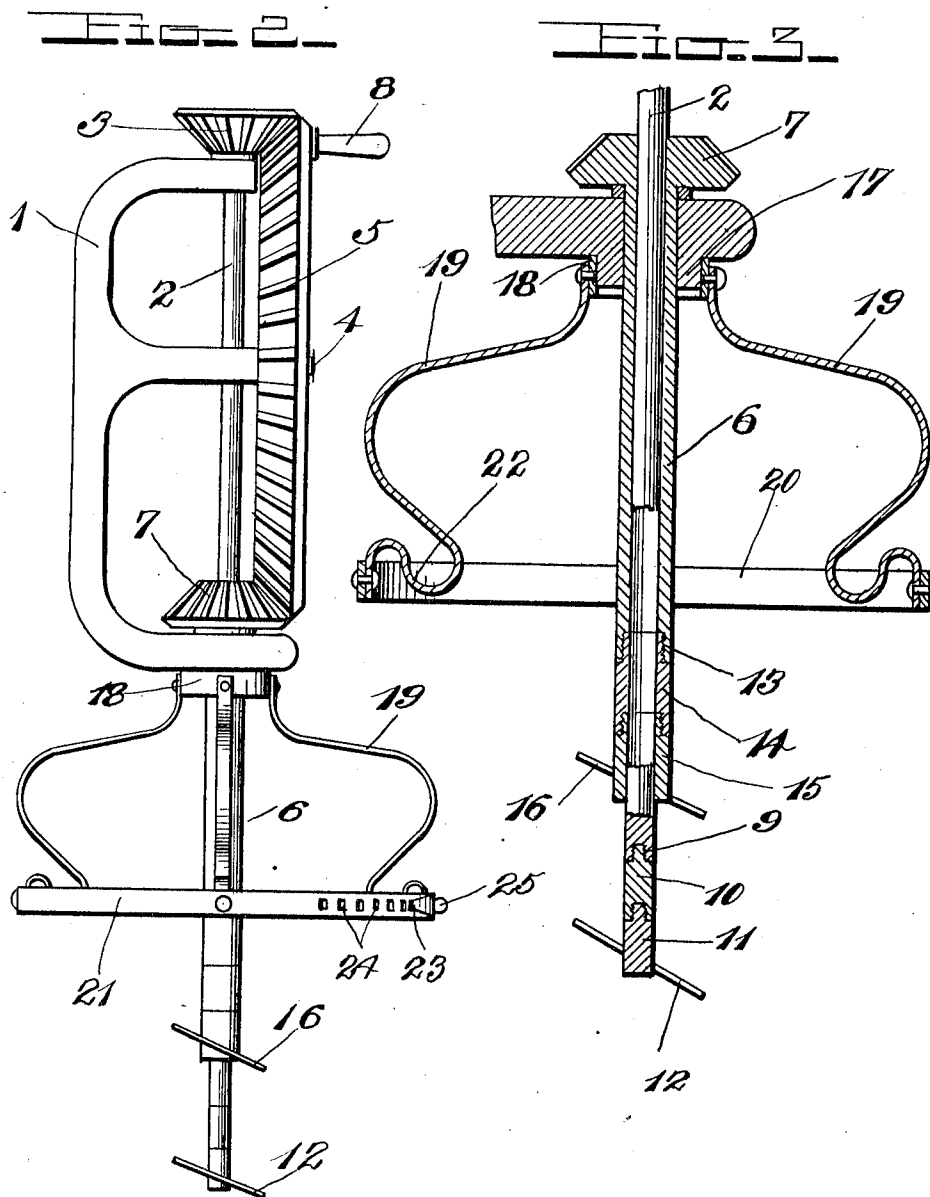
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Inventor

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UNITED STATES PATENT OFFICE.

CLAUDE R. SIMMS, OF PIERCE, COLORADO.

CHURN.

1,020,162.

Specification of Letters Patent.

Patented Mar. 12, 1912.

Application filed December 16, 1911. Serial No. 666,121.

To all whom it may concern:

Be it known that I, CLAUDE R. SIMMS, a citizen of the United States, residing at Pierce, in the county of Weld and State of Colorado, have invented certain new and useful Improvements in Churns, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in churns and more particularly to the class of churns provided with rotary dashers, and the primary object of the invention resides in providing an improved means for securing the churn operating mechanism to receptacles of various sizes.

A further object of the invention resides in providing a metallic split band suspended from the churn operating mechanism by spring arms, which band is adapted to encircle the upper portion of a receptacle, and a still further object resides in providing means for the securing of the ends of the band together, whereby said band may be used in connection with receptacles of various sizes.

A still further object of the invention resides in providing a churn provided with a pair of dasher shafts, one extending through the other and adapted for rotation in opposite directions, and another object resides in providing means for the adjustment of said shafts to a greater or lesser length.

Still another object resides in providing a device which is extremely simple and durable in construction, inexpensive to manufacture, and one which is very efficient and useful in operation.

With these and other objects in view, my invention consists in the novel features of construction, combination and arrangement of parts as will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings forming a part of this application, Figure 1 is a front elevation of the device set up for operation, the receptacle being shown in dotted lines. Fig. 2 is a side elevation of the same. Fig. 3 is a vertical section therethrough as seen on line 3—3, Fig. 1. Fig. 4 is a fragmentary detail perspective view of the band member showing the engagement of the one end to the other. Fig. 5 is a horizontal section as seen on line 5—5,

Fig. 1, and, Fig. 6 is a perspective view of one of the spring arms to which the band is secured.

In carrying out my invention, I shall refer to the drawings in which similar reference characters designate corresponding parts throughout the several views and in which—

1 indicates a supporting or brace member of yoke-like design, through the arms of which extends vertically, a rotatable shaft 2, said shaft having mounted on its upper end above the upper arm of the member 1, a bevel gear 3, and rotatably mounted on a stub shaft 4 which is carried on the end of the central arm of the member 1, is an enlarged bevel gear 5, the teeth of which mesh with said bevel gear 3. A tubular shaft 6 extends through the lower arm of the member 1, the same receiving therethrough, the shaft 2, and said tubular shaft 6 has formed on the upper end thereof, an additional bevel gear 7, the teeth of which are disposed at angles opposed to the teeth of the bevel gear 3 so as to mesh with the teeth of the bevel gear 5 at a point diametrically opposite that at which the other gear meshes therewith. In order to readily rotate the gear 5, I provide a handle member 8 thereon, and it will be seen that as said gear 5 is rotated in either one direction or the other, the bevel gears 3 and 7 will be rotated in opposite directions to correspondingly rotate the shafts 2 and 6 in opposite directions.

The lower end of the shaft 2 is provided with a threaded socket 9 which receives the threaded shank of a shaft section 10, and this section 10 is also provided at its opposite end with a threaded socket to receive a similar threaded shank of an additional section 11, said latter section being provided with a dasher 12. Through the provision of these shaft sections at the lower end of the shaft 2, it will be appreciated that said shaft may be lengthened or shortened, as desired, and while I have shown but two removable sections, it will be understood that as many sections may be provided as desired. The shaft 6 likewise has its lower end internally threaded, as shown at 13, to receive the externally threaded shank portion of a tubular shaft section 14, said latter section being also similarly threaded to receive an additional shaft section 15, which section 15 is pro-

vided with a dasher 16. This shaft, too, may be provided with as many sections as desired, even though but two are shown in the drawings, it being understood that as
 5 many may be provided as are found necessary.

The lower arm of the supporting member 1 is provided on its under face with a circular dependent portion 17, and to this portion
 10 is adapted to be secured, my improved means for securing the body of the churn to a receptacle. To this end, I provide an adjustable clamping ring or collar 18 which is adapted to be secured or clamped to the
 15 portion 17, to which collar are secured, the inner ends of a plurality of irregularly bent spring arms 19, and the lower ends of said spring arms 19 have secured thereto, a split band or the like 20 which is adapted to be
 20 clamped about a receptacle 21 shown in dotted lines in Fig. 1 of the drawings. The tendency of the spring arms 19 will be to draw the band 20 closely about the receptacle so that in order to be placed about the recep-
 25 tacle, the upper end of which is of unusually large diameter, said spring arms must be forced outwardly, and in order to provide means whereby this band 20 may be readily applied to the upper portion of the
 30 receptacle, the lower portions of said spring arms 19 are bent to form a double or compound curve, as shown at 22, thereby providing a channel-way or the like between one curve of the spring arms and the band
 35 proper. This channel-way referred to is adapted to receive therein, the upper peripheral edge of the receptacle to which the device is applied, so that the band 20 will fit on the outer periphery thereof, while the
 40 one curved portion of the double curve 22 will contact with the inner periphery of said receptacle, thereby aiding in the clamping of the device in position, as shown particularly in Fig. 5.

It will be appreciated in what manner the band may be spread, in view of the tension of the spring arms 19, to be applied to receptacles of various diameters, and in order to retain the band clamped about the recep-
 50 tacle, the one end thereof is provided with a hook portion 23 which is adapted to engage a series of slots or the like 24 formed in the band adjacent the opposite end thereof. This hook member may be engaged with
 55 any of said slots as is found necessary in order to securely clamp the band on the receptacle, and in order to aid the application of the hook member and the slots and also for the ready removal thereof, a finger piece
 60 or the like 25 is provided on the end of the band 20 in connection with this hook portion.

In operation, the device, after having the parts properly set up, is adapted to be ap-
 65 plied to any receptacle by merely applying

the band 20 about the outer periphery of said receptacle so that the upper peripheral edge of the same will be disposed in the channel formed between said band and the
 70 outer portion of the compound curve 22 at the ends of the spring arms 19. It will be appreciated that the tension of the spring arms 19 will draw the band to such a diameter as might require some further enlarge-
 75 ment so that this band may be spread to the proper size by merely spreading the arms 19 outwardly, and under these conditions, it will be seen that the band, when merely applied, will have a clamping effect upon the
 80 receptacle. In order, however, to secure the band to the receptacle so that the device, itself, will be properly supported above the same and be prevented from upsetting, the hook portion 23 at the one end of the band is
 85 engaged with one of the slots 24, thus tightly clamping the device to the receptacle. It will also be appreciated that previous to the application of the receptacle, or at any time after the same is applied, the shafts 2 and 6
 90 may be lengthened or shortened, as is found necessary by the addition or subtraction of the separable shaft sections shown at the lower ends of said shafts. When properly
 95 applied, the device may be readily operated by turning upon the handle 8 which will cause the shafts 2 and 6 to be rotated in opposite directions, thereby thoroughly agitating the matter in the receptacle, and this
 100 may be continued until the churning is thought to be sufficient by the operator.

From the foregoing, it will be seen that I have provided a simple, inexpensive and efficient means for carrying out the objects of the invention, and while I have particularly described the elements which are most
 105 well adapted to perform the functions set forth, it is obvious that various changes in form, proportion and in the minor details of construction may be resorted to without departing from the spirit or sacrificing any
 110 of the principles of the invention.

Having thus described my invention, what I claim is:—

1. In a churn of the class described, the combination with a supporting member, a
 115 pair of telescoping dasher shafts rotatably carried thereon and means to rotate said shafts; of a plurality of outwardly bent and irregularly curved spring arms, means to
 120 removably and simultaneously mount the inner ends of said arms on said supporting member, a clamping band secured to the outer ends of said spring arms, and means to adjustably secure said band on a recep-
 125 tacle.

2. In a churn of the class described, the combination with a supporting member, and a dasher shaft carried thereon; of means to mount said supporting member on a recep-
 130 tacle, comprising a collar clamped to said

supporting member, a plurality of irregularly bent spring arms depending therefrom, a split band secured to the free ends of said spring arms, said band being provided with a plurality of slots contiguous with one end thereof and a portion formed on the other end of the same adapted to engage said slots to clamp the band on the outer periphery of a receptacle.

3. In a churn of the class described, the combination with a supporting member, and a dasher shaft carried thereon; of means to mount the supporting member on a receptacle comprising a clamping collar applied to said supporting member, a plurality of bent spring arms depending therefrom, a split band secured to the free ends of said spring arms, said spring arms being curved compoundly contiguous with their free ends to form channel-ways between the band and portions of the springs, said channel-ways being adapted to receive the upper edges of a receptacle, and means to clamp said band on the outer periphery of a receptacle.

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

CLAUDE R. SIMMS.

Witnesses:

GEO. H. BARNES,

HORACE H. BARNES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."