

No. 775,848.

PATENTED NOV. 22, 1904.

S. F. McCLANE.
CHURN.

APPLICATION FILED APR. 1, 1904.

NO MODEL.

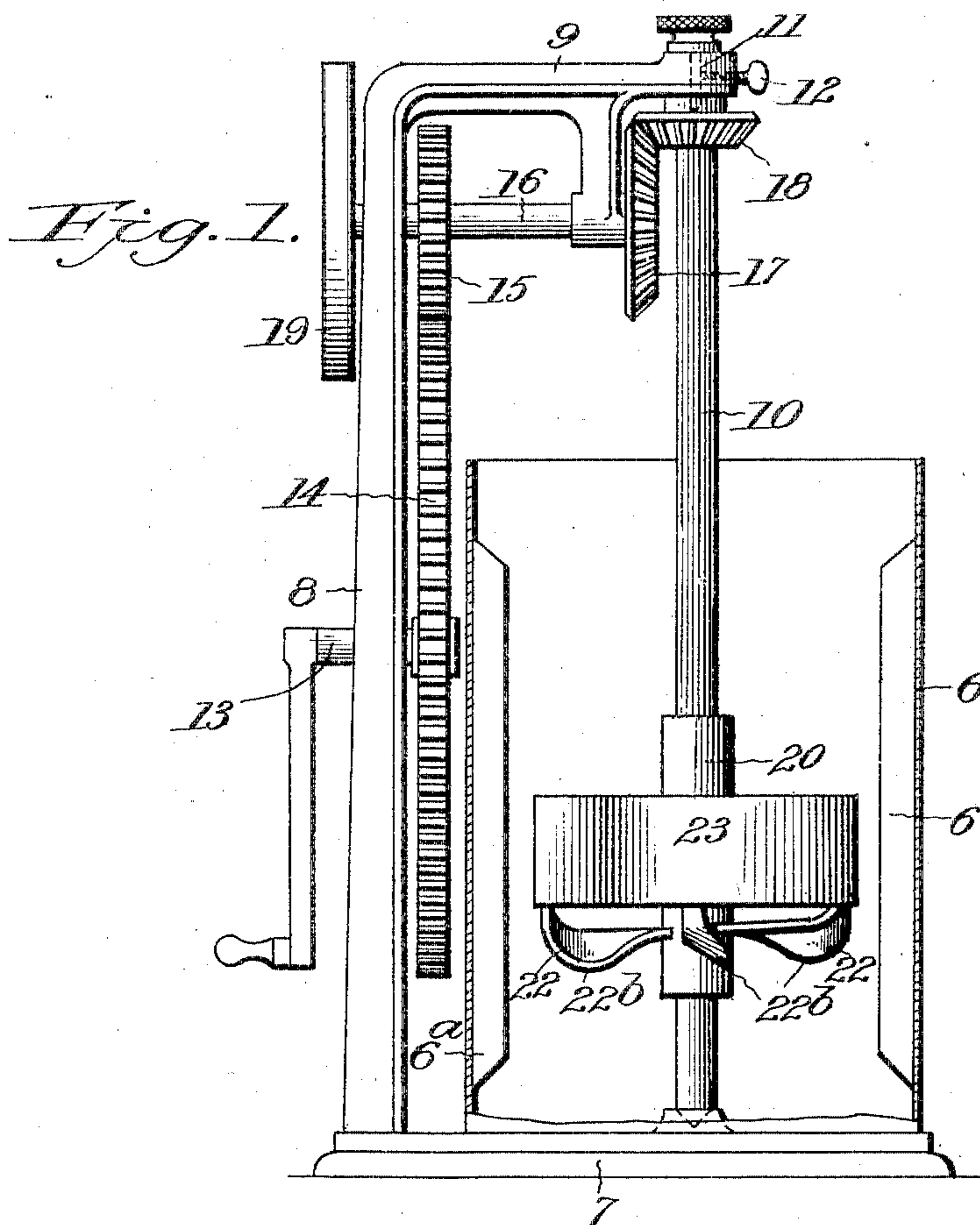


Fig. 2.

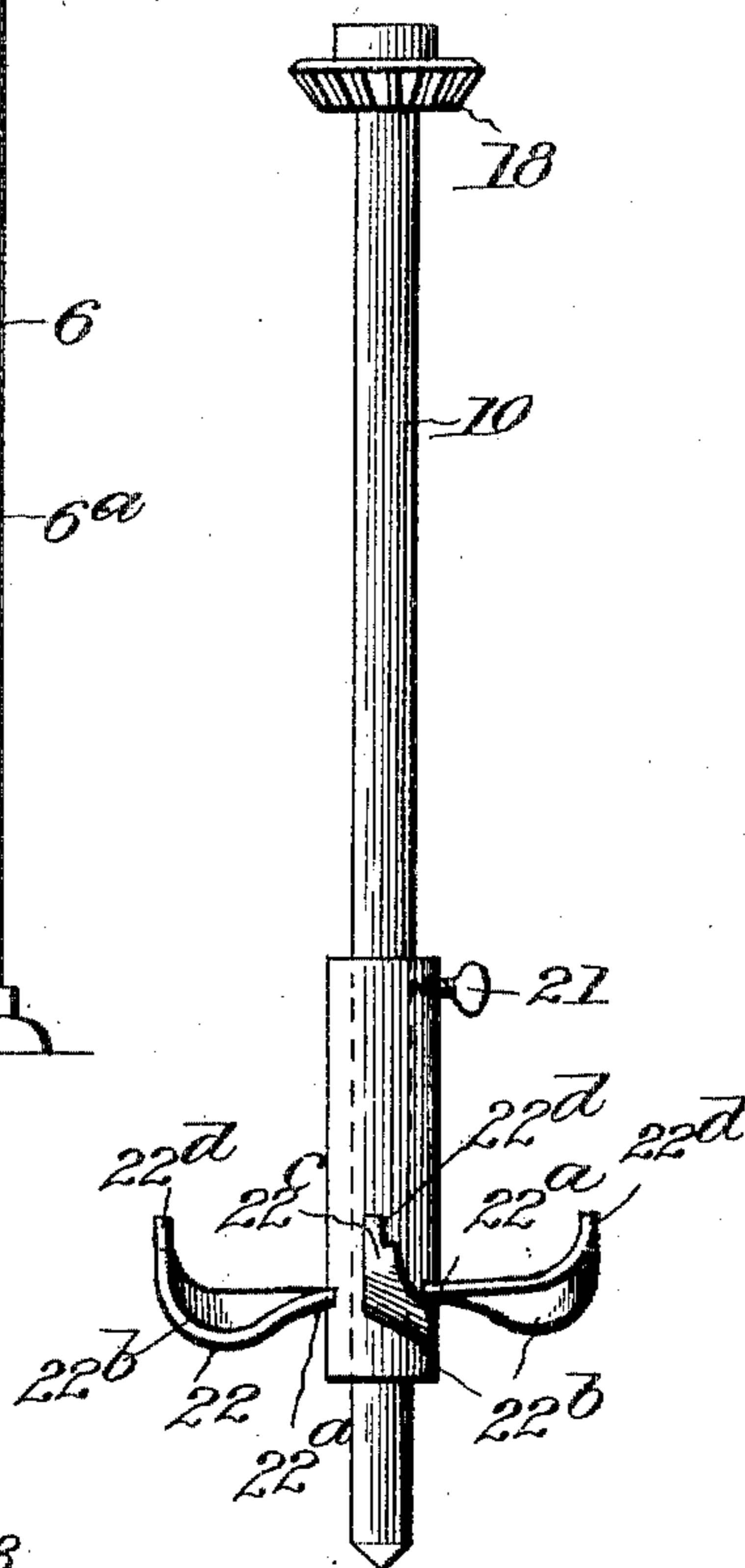
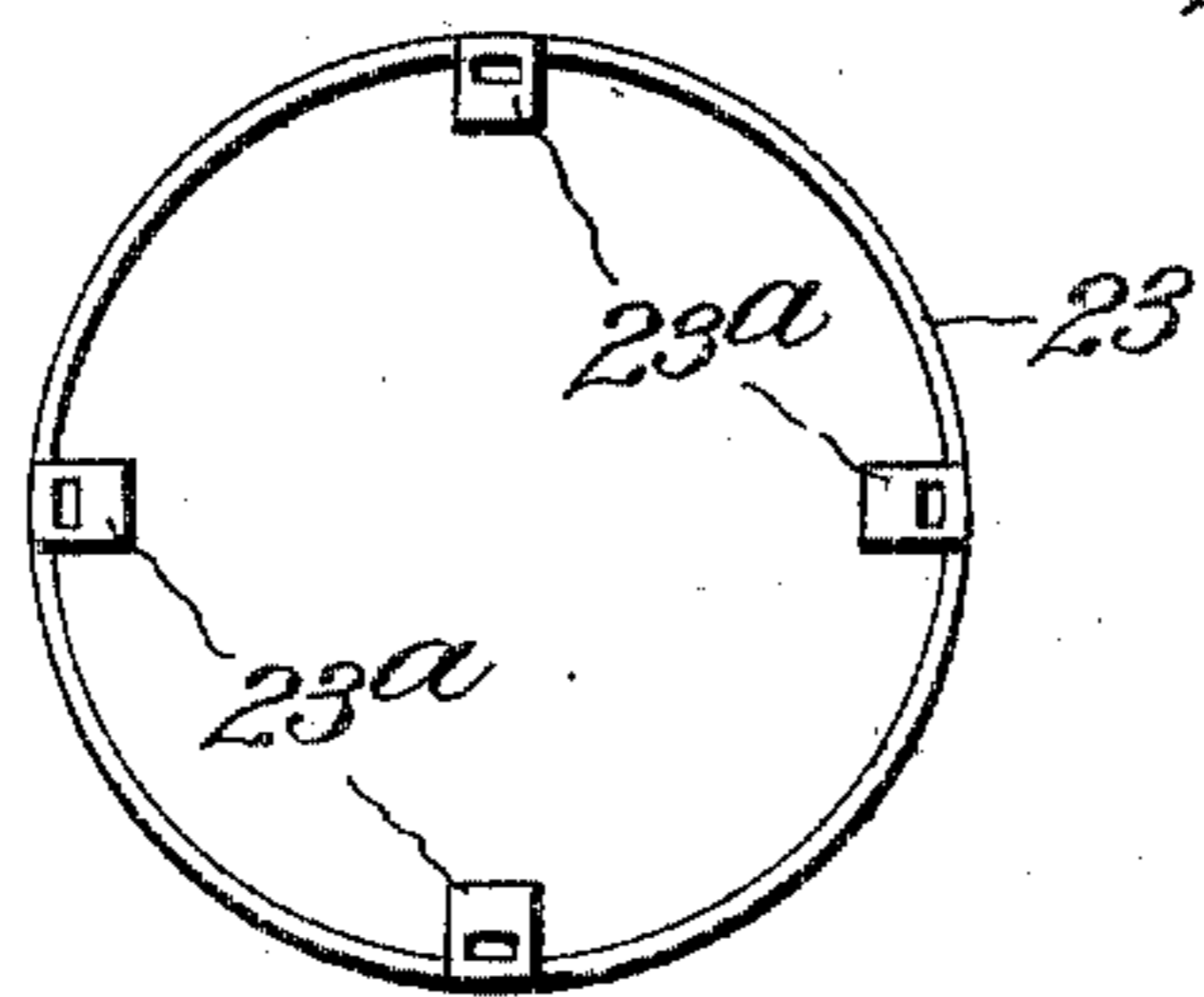


Fig. 3.



WITNESSES:

C. M. Walker.
Geo. E. Tew

INVENTOR

Samuel F. McClane
BY
Messrs. Stevens & Co.
Attorneys

UNITED STATES PATENT OFFICE.

SAMUEL F. McCLANE, OF OWATONNA, MINNESOTA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 775,848, dated November 22, 1904.

Application filed April 1, 1904. Serial No. 201,141. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL F. McCLANE, a citizen of the United States, residing at Owatonna, in the county of Steele and State of Minnesota, have invented new and useful Improvements in Churns, of which the following is a specification.

This invention relates particularly to churns or butter-extractors of that type having a rotary dasher set upon a vertical shaft, and it is characterized particularly by improvement with respect to the dasher and a removable rim or ring carried at the outer ends of the blades of the dasher, the general operation being such that the cream is forced by the dasher to circulate up one side of the rim and down the other, thus insuring a complete agitation and separation.

In the accompanying drawings, Figure 1 is a vertical sectional elevation of the churn. Fig. 2 is a side elevation of the dasher and its shaft. Fig. 3 is a bottom plan view of the removable rim which is carried by the dasher-blades.

Referring specifically to the drawings, 6 indicates a can which sits on a base 7, from which projects a vertical standard 8 beside the can, and this standard has at the top an arm 9, which hangs over the can. This arm carries the gearing and also supports the dasher-shaft 10, the lower end of which finds a bearing in the bottom of the can and the other end of which has a pivot bearing upon a pin 11, which fits through a hole in the end of the overhanging arm and is held in place by a set-screw 12. By removing the pin 11 the shaft 10 and dasher can be swung out and lifted from the can.

The operating crank-shaft is indicated at 13, carried in a bearing in the intermediate portion of the standard 8 and having a spur-wheel 14 in mesh with a spur-pinion 15 on a horizontal shaft 16, which is provided at its

inner end with a bevel-gear 17, meshing with bevel-gear 18 on the shaft 10. The shaft 16 also carries at its outer end a fly-wheel 19.

The dasher comprises a sleeve 20, fixed to the shaft 10 by set-screws 21, whereby it may be set at any height desired, and projecting from this sleeve are blades 22, preferably four in number. These blades have a narrow portion 22^a near the sleeve, enlarging to a wide portion 22^b at about the middle and decreasing in width at the end, as at 22^c, terminating finally in upwardly-projecting lugs 22^d at the outer ends. The blades are gradually inclined transversely of their longitudinal axis to effect the agitation of the cream when the dasher is rotated. At 23 a ring or rim is indicated which has at the lower end sockets 23^a, which fit over the lugs 22^d. The rim may be lifted from the blades if and when desired. When in place, it is carried by the blades and rotates therewith.

The advantage of having the rim removable from the dasher is that it is easier cleaned after churning and is not so liable to be broken; but if broken it can be replaced without providing an entirely new dasher. Furthermore, an advantage of operation is obtained. When the butter begins to gather, it is desirable that the rim be removed, at which time it is simply necessary to slip the rim off of the dasher and shaft, after which by turning the crank a few times the butter is gathered at the top. This is advantageous because if the rim is fastened to the dasher the butter falls over the outside thereof and is apt to be broken or dispersed and also makes the machine turn very hard. By permitting the rim to be removed when the butter begins to gather it can be gathered properly and quickly. The shape of the blades shown has also been found by experiment to be most advantageous for the operation desired. The sides of the can have vertical baffle-strips 6^a thereon to

agitate the cream and throw the same toward the dasher.

What I claim as new, and desire to secure by Letters Patent, is—

- 5 1. In a churn, a rotary dasher comprising a plurality of blades, and a removable ring carried on the outer ends of the blades.
2. In a churn, a rotary dasher comprising a plurality of blades having upwardly-pro-
10 jecting lugs at the outer ends, and a remov-

able ring having at the lower edge sockets in which the lugs fit.

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

SAMUEL F. McCLANE.

Witnesses:

F. F. HANSON,

L. D. WOMELDORF