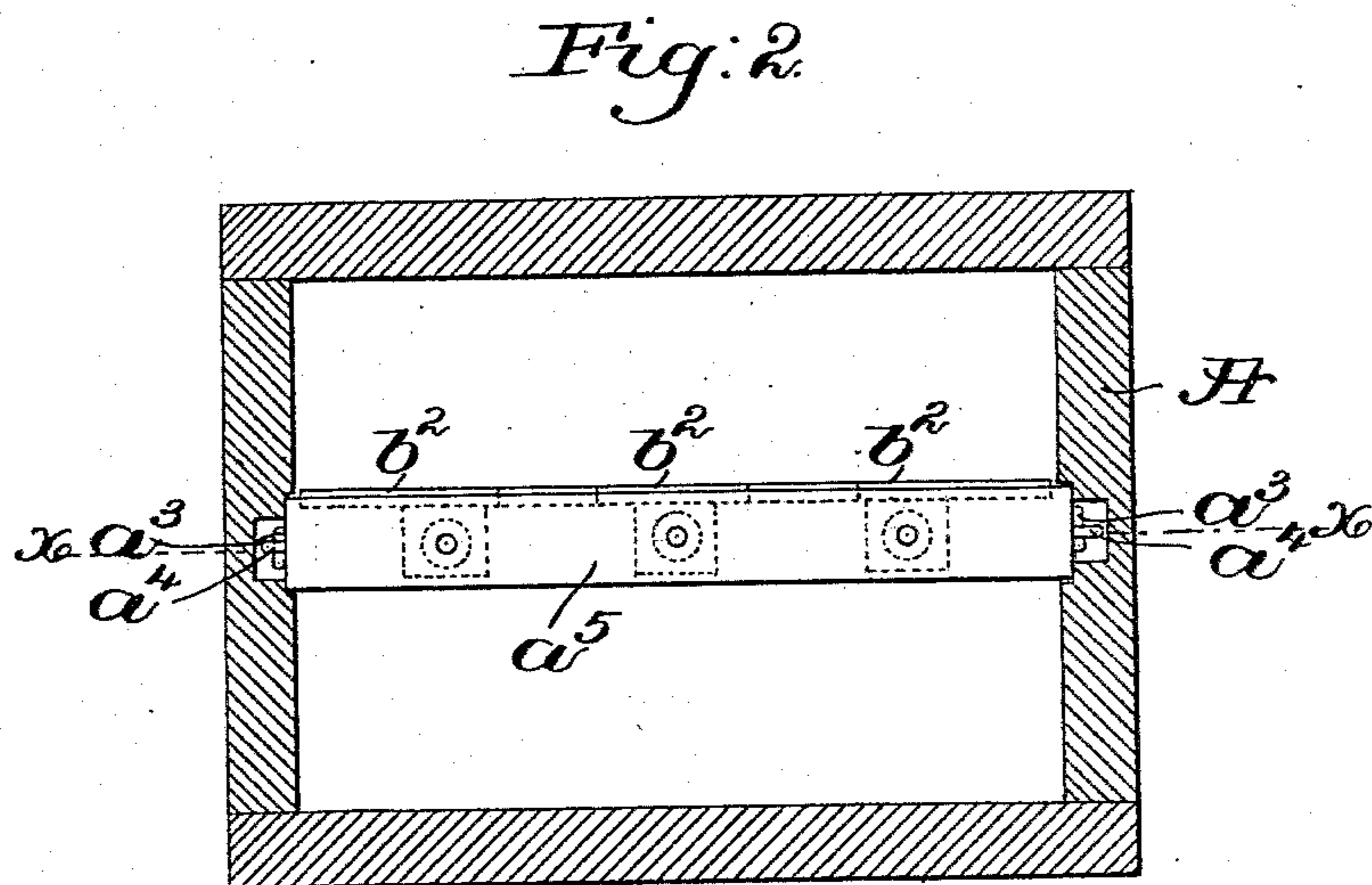
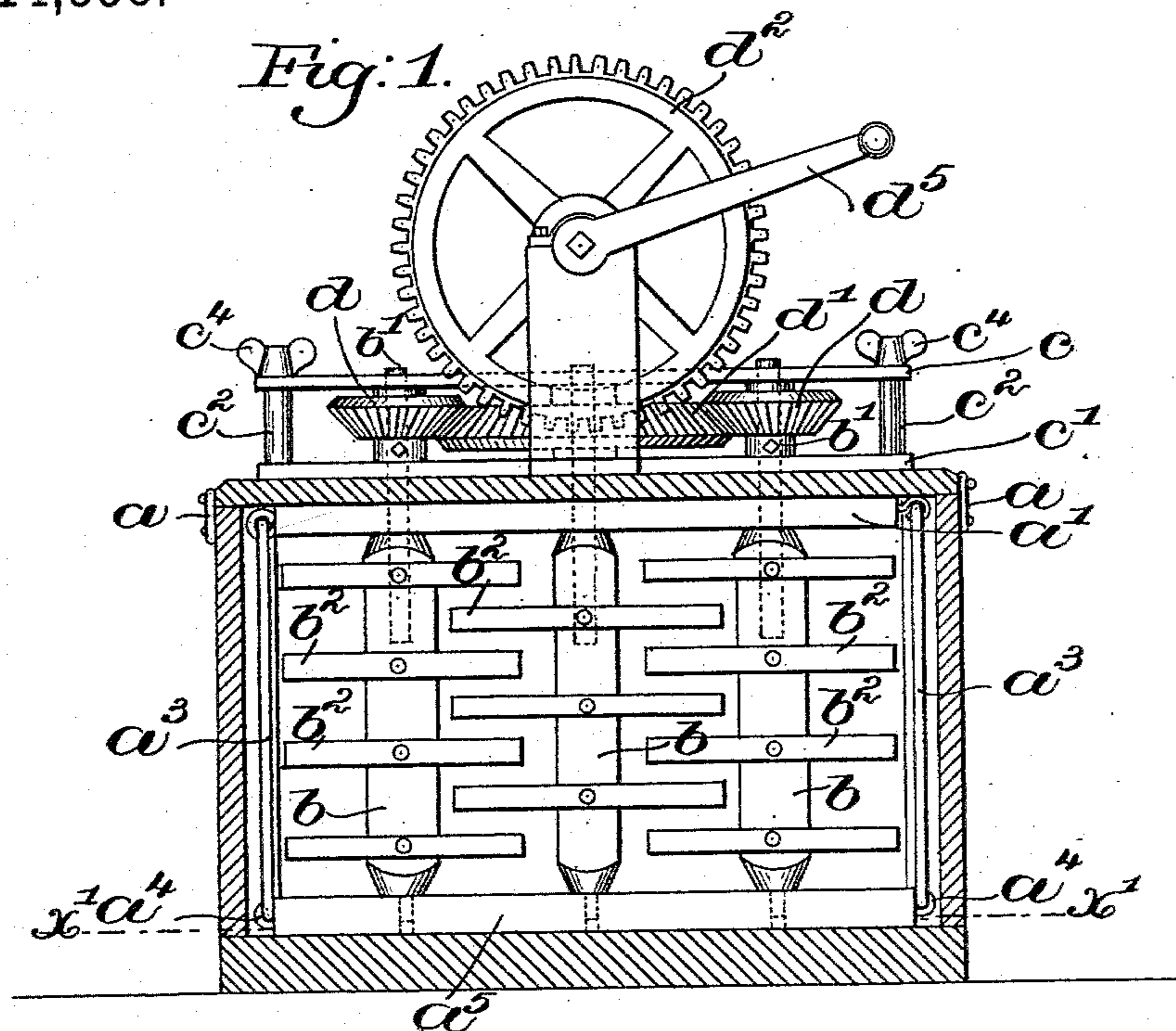


(No Model.)

J. A. GRANT.
CHURN.

No. 514,358.

Patented Feb. 6, 1894.



Witnesses:
Louis W. Lowell
Edward F. Allen.

Inventor
Joseph A. Grant,
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UNITED STATES PATENT OFFICE.

JOSEPH A. GRANT, OF DYER BROOK, ASSIGNOR OF TWO-THIRDS TO JOHN B. GRANT AND MILLEN R. GRANT, OF MERRILL PLANTATION, MAINE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 514,358, dated February 6, 1894.

Application filed May 9, 1893. Serial No. 473,516. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. GRANT, of Dyer Brook, county of Aroostook, State of Maine, have invented an Improvement in Churns, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to provide an improved churn, the invention having especial reference to the adaptability of the churn for quick and thorough work, and also to the removal of certain of the parts to facilitate cleaning.

In the drawings Figure 1 represents, in vertical section, a churn embodying this invention, the section being taken on the line x, x , Fig. 2, and Fig. 2 represents a horizontal section taken on the dotted line x', x' , Fig. 1, looking up.

Referring to the drawings, the bucket or receiver A, preferably of wood, is suitably shaped and constructed to sustain the various parts, the same in practice being mounted upon legs or a stand of proper form, not shown.

A' is the cover for the receiver, the same being shown as secured thereto by end hooks a which may be readily thrown back to permit the cover to be removed. The cover A', at its under side, is provided with a block a' the ends of which are provided, as shown, with eyes a^2 to which are attached the links a^3 having their lower ends hooked to engage eyes a^4 in the lower block a^5 , said block a^5 being supported by the links a^3 , as shown in Fig. 1.

The dasher blocks b are arranged between the blocks a', a^5 , and are journaled therein, as shown, the upper journals b' of the said dasher blocks being extended vertically through the cover, as shown, for a purpose to be hereinafter described. The blades b^2 on the several blocks are off-set from each other, so that during rotation the blades of one block pass between the blades of the blocks at either side.

Upon the top of the cover A' are arranged two preferably metallic frame plates c, c' separated by posts c^2 , the journals b' of the dasher blocks having their bearings in these plates. The two outer journals b' are provided be-

tween the plates c, c' , with bevel pinions d in mesh with and driven by a larger bevel gear d' fast on the journal of the middle dasher block, the bevel gear d' being in turn in mesh with and driven by the bevel gear d^2 fast on a shaft d^3 journaled in suitable uprights d^4 mounted upon the cover, the said shaft d^3 being provided with a handle d^5 by means of which the driving gear d^2 may be rotated and thereby cause rotation of the dasher blocks with their blades within the receiver. It will be seen that the middle dasher block with its blades will be rotated in one direction, while the outside dasher blocks and blades will be rotated in an opposite direction, the result being a thorough agitation or stirring of the fluid within the receiver.

The lower bearing block a^5 may be readily removed by unhooking the links a^3 for cleaning the bearings, &c., and the upper frame plate c , preferably secured to the posts c^2 by means of thumb nuts c^4 , may, by removal of such nuts, be as readily removed to permit removal of the gears and cleaning of the other bearings, so that all parts and bearings are easily accessible to be kept clean and pure.

The links a^3 with the eyes a^2, a^4 , are preferably located in grooves a^x in the end of the receiver, as shown best in Fig. 2, to thereby hold the lower block a^5 with the dashers firmly in proper position.

When the cover is removed the lower block a^5 with the dashers is removed with it leaving the receiver perfectly free.

The gears are so proportioned, as shown, to give the best possible relative motion to the several dasher blocks, and the entire construction is simple and inexpensive to manufacture.

I claim—

1. In a churn, the combination with a receiver, a cover therefor, and dashers having bearings in and removable with said cover, of a frame composed of the two separable plates c, c' , thumb screws connecting the same, whereby said plates may be readily taken apart for cleaning, and bevel gears arranged between and having their bearings in said plates and connected with and to rotate said dashers, substantially as described.

2. In a churn, the combination of the following instrumentalities, viz;—a receiver, a cover, a bearing block arranged below said cover and hooked links connecting the same
5 with said cover; grooves in the inner sides of said receiver to receive and hold said links when the cover is placed in position; the rotatable dashers arranged between and having their bearings in said cover and said bearing-
10 block; the driving gear, its supports, and a handle to rotate the same; the plates *c, c'*, the

gear wheels between the same connected with and to rotate the said dashers and driven by the said driving wheel, all to operate, substantially as described. 15

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

JOSEPH A. GRANT.

Witnesses:

A. B. SMART,
K. MCKAY.