

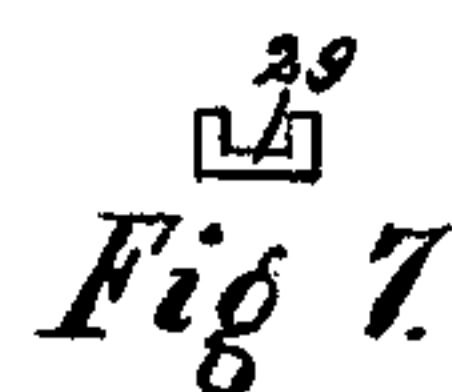
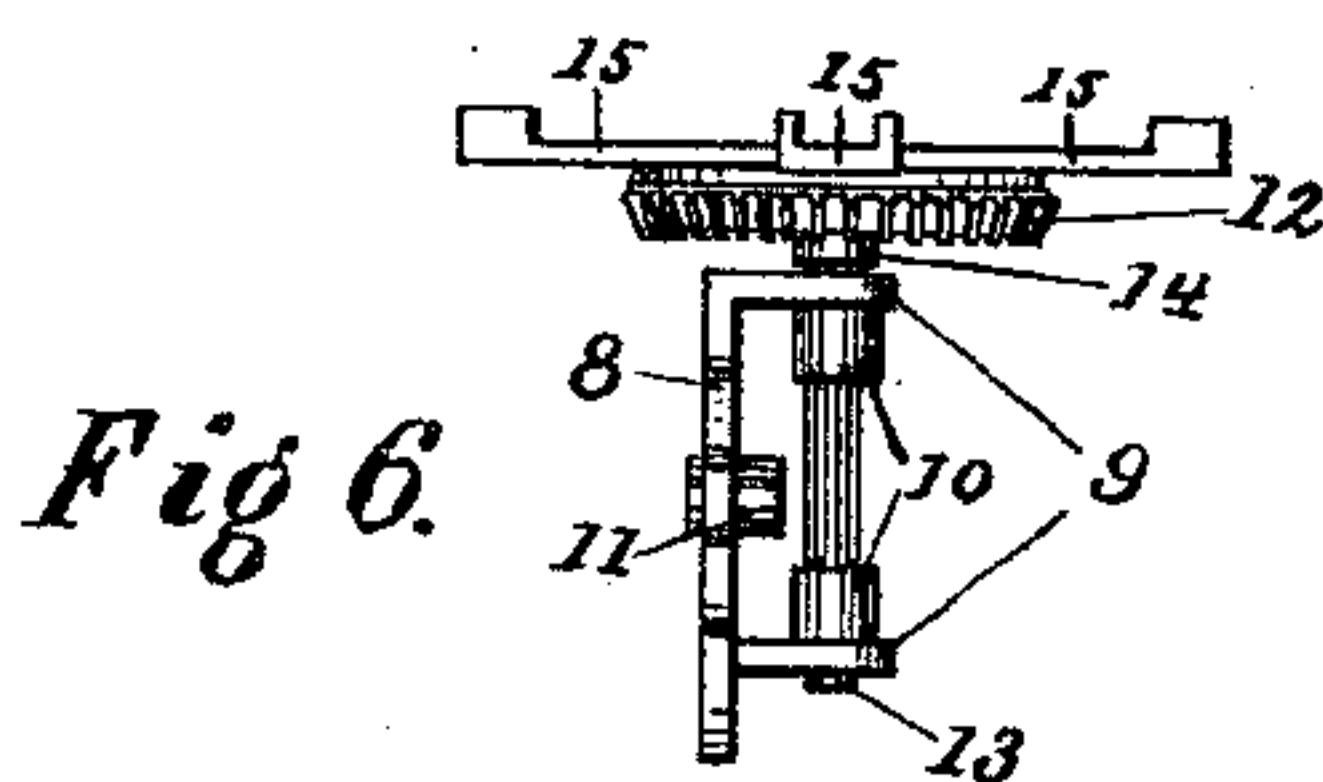
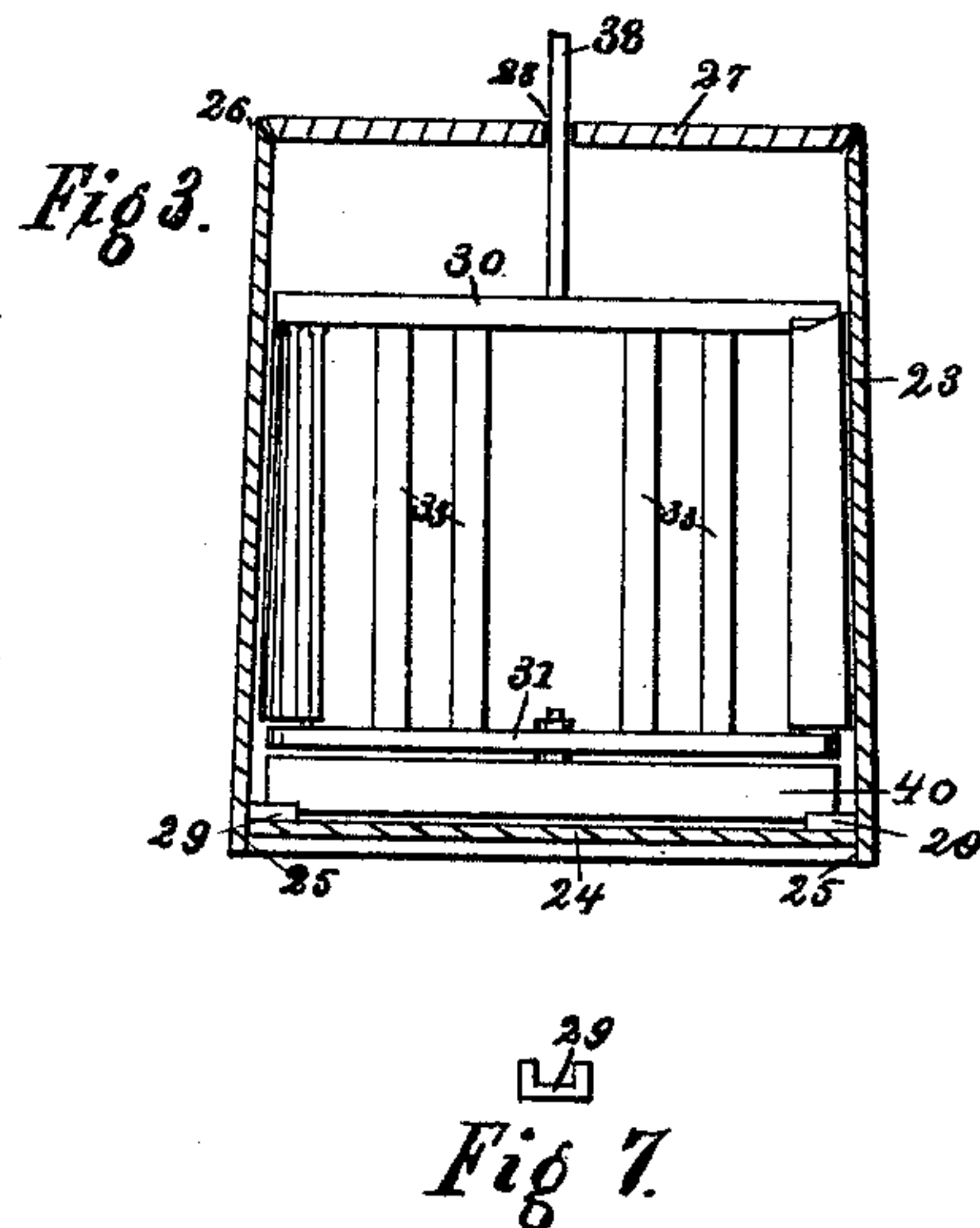
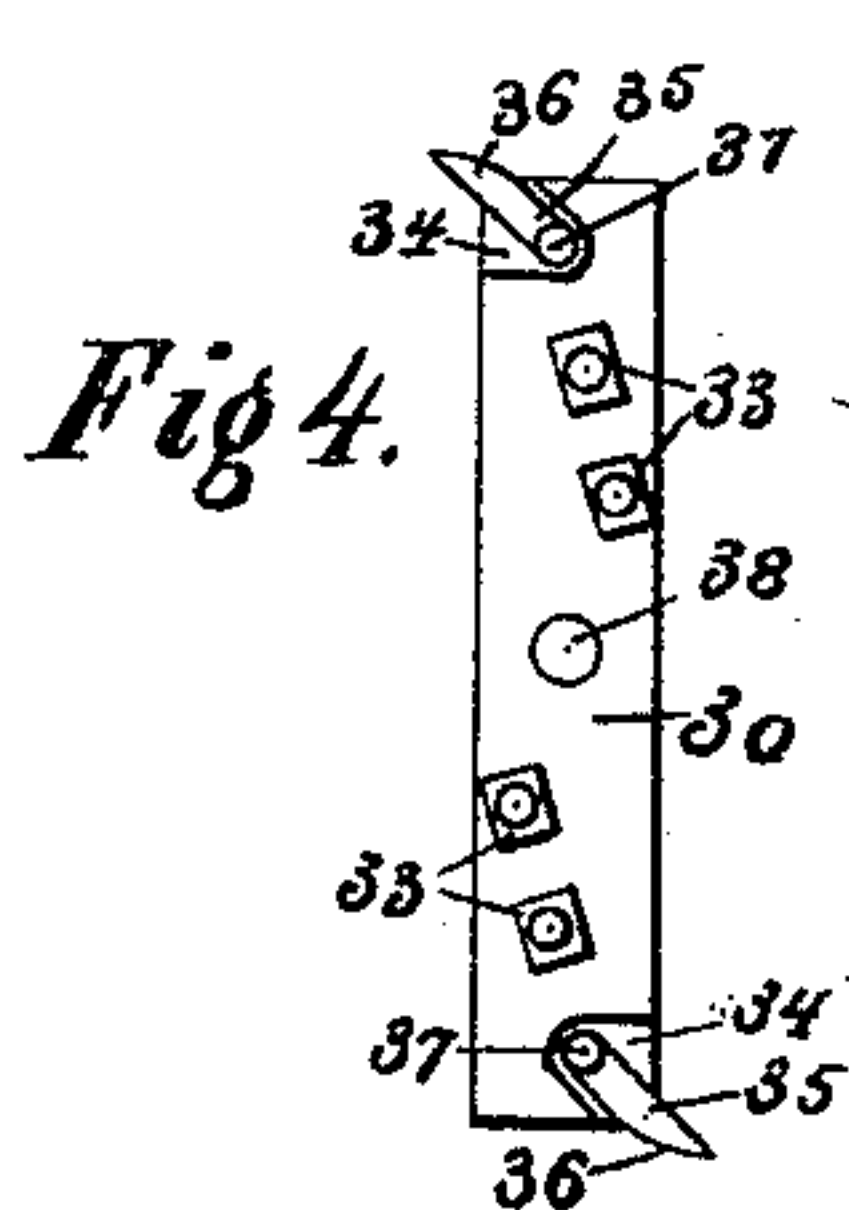
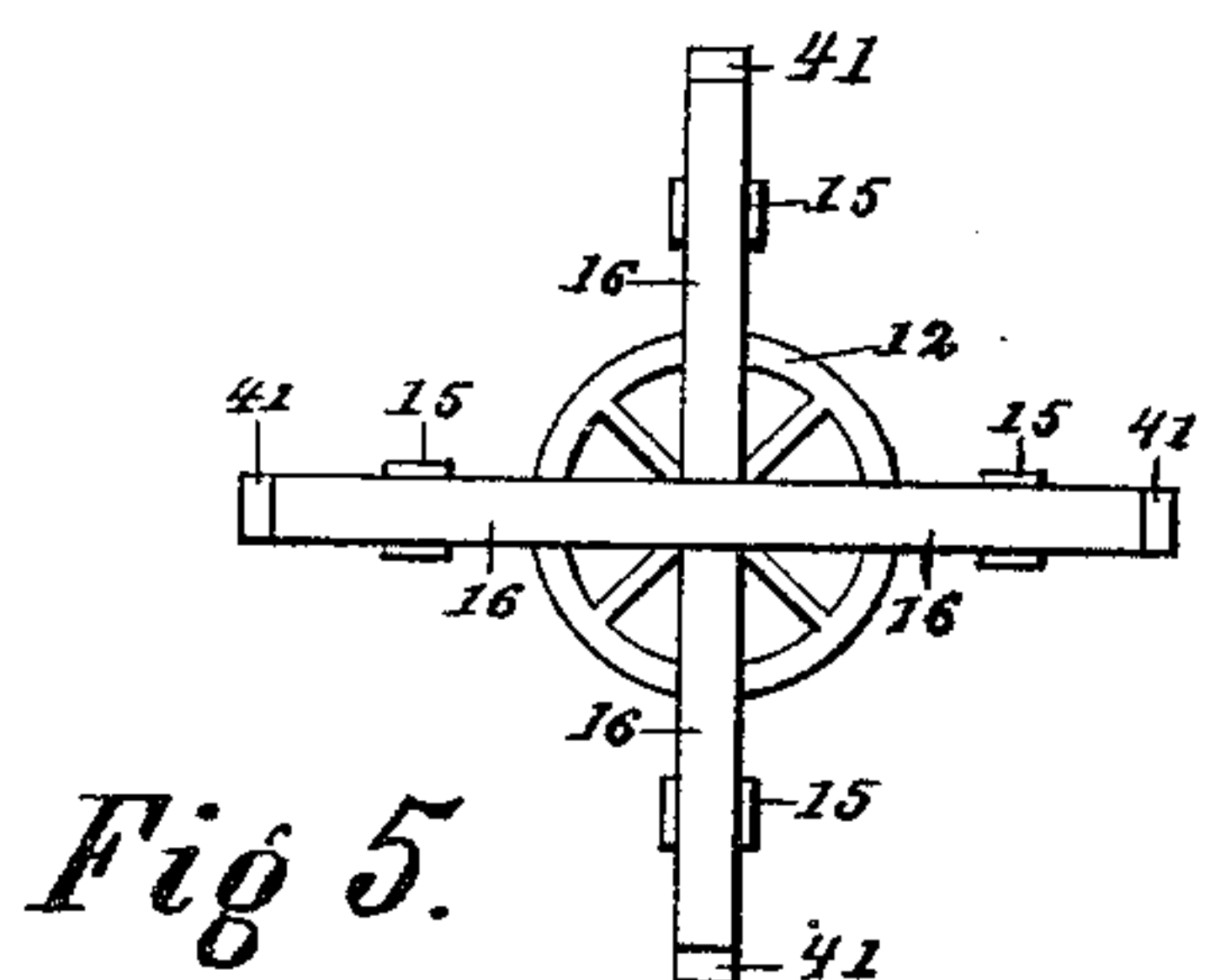
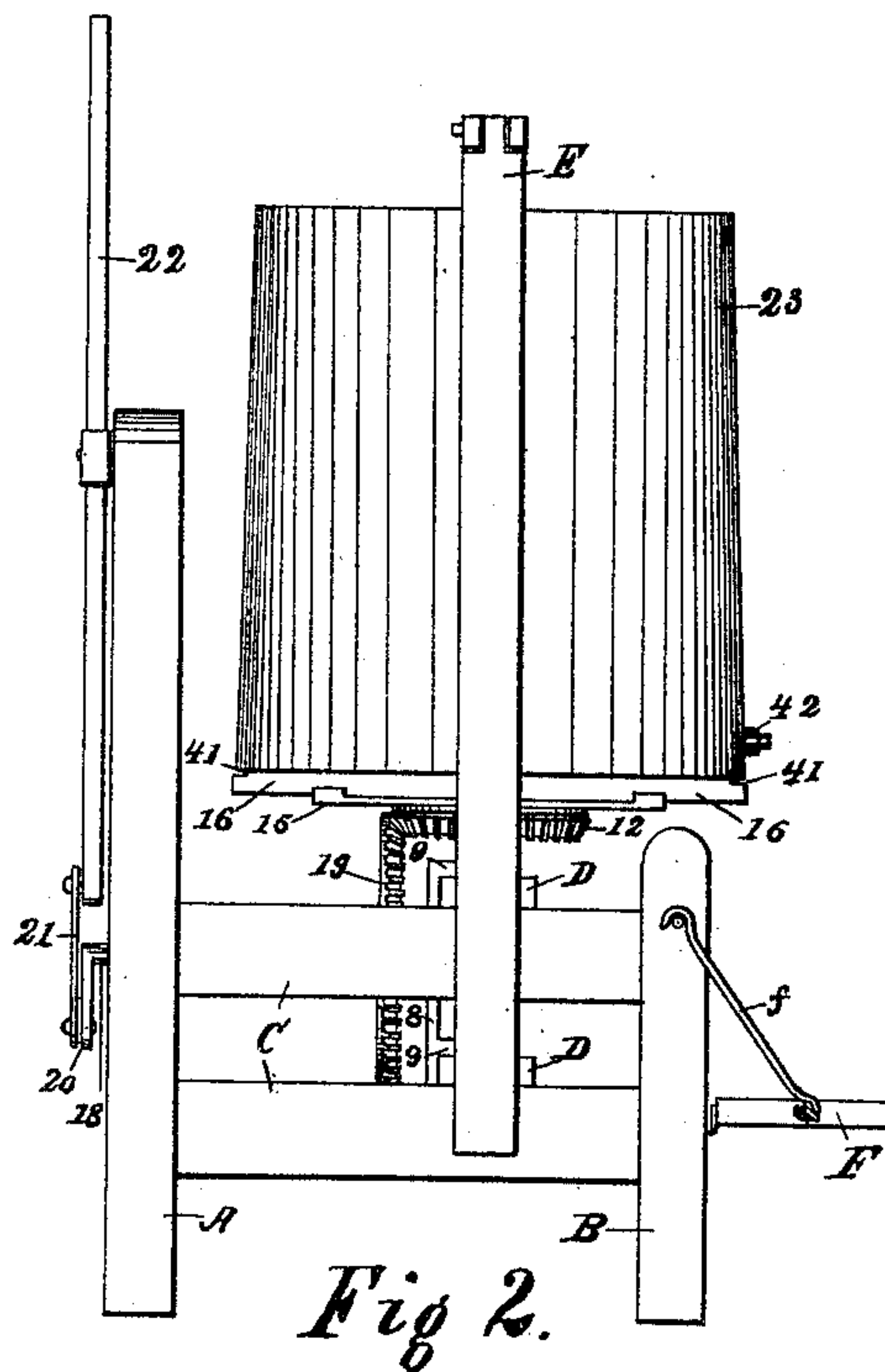
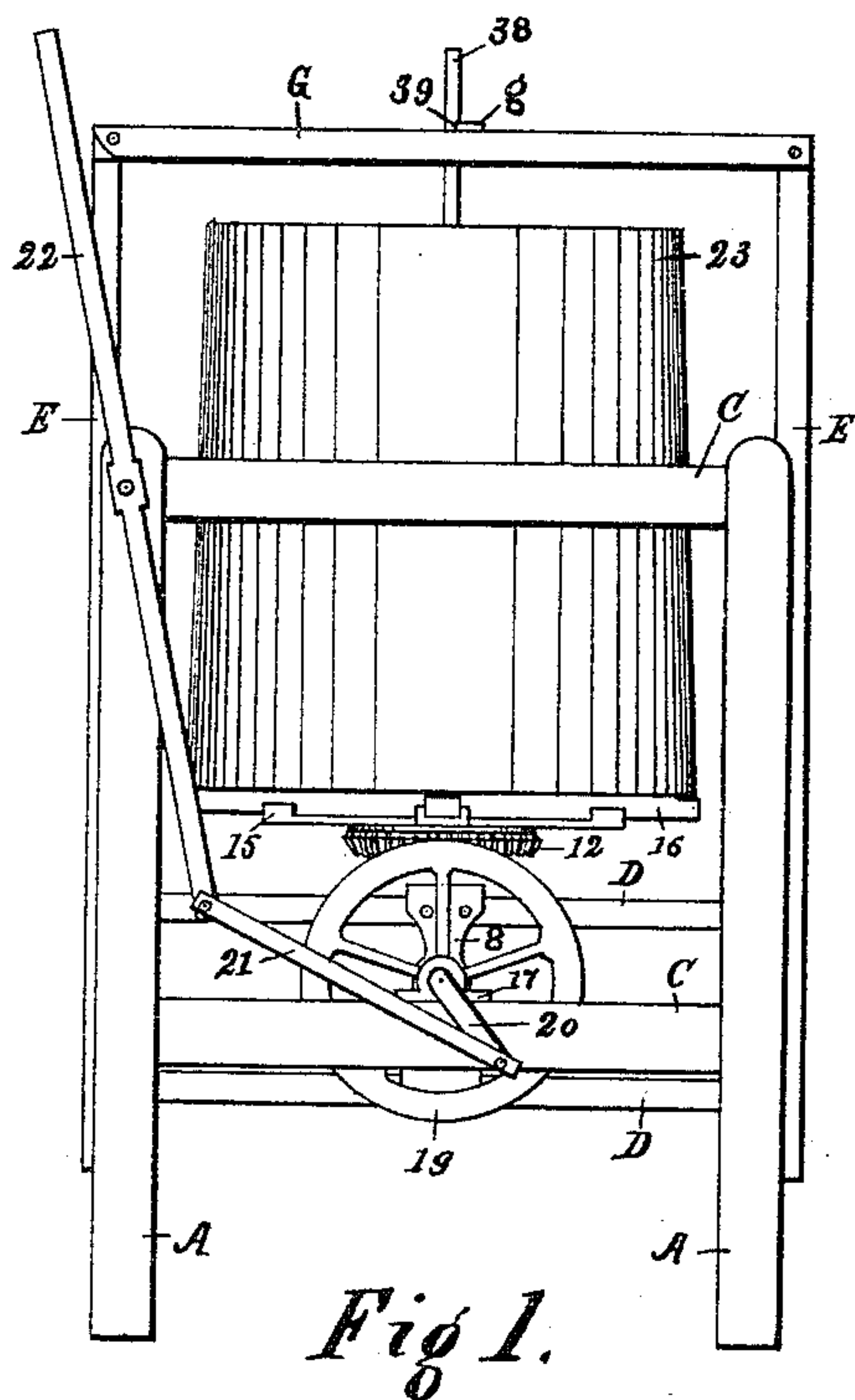
(No Model.)

H. F. STOETERAU.

ROTARY CHURN.

No. 413,978.

Patented Oct. 29, 1889.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

HENRY F. STOETERAU, OF DAVENPORT, IOWA.

## ROTARY CHURN.

SPECIFICATION forming part of Letters Patent No. 413,978, dated October 29, 1889.

Application filed April 1, 1889. Serial No. 305,642. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY F. STOETERAU, a citizen of the United States, residing at Davenport, in the county of Scott and State of Iowa, have invented a new and useful Rotary Churn, of which the following is a specification.

My invention relates to rotary churns; and it consists in certain novel constructions and arrangements of parts, fully described hereinafter, and specifically pointed out in the claim.

Figure 1 is a front view of the churn and frame. Fig. 2 is a side view of the same. Fig. 3 is a view of a vertical section of the churn. Fig. 4 is a plan view of the upper section of the dasher, the lower transverse bar removed. Fig. 5 is a plan view of the top of the miter-pinion and radially-extended supports for the churn. Fig. 6 is a side view of the miter-pinion and its vertical shaft, together with the bracket; and Fig. 7 is a cross-section of the socket for holding the horizontal bar or lower section of churn-dasher.

Similar letters and figures refer to similar parts throughout the several views.

The frame consists of four posts, the two front or taller posts being designated by the letter A, and the two rear or shorter posts being designated by the letter B. Suitable cross-bars C are framed between the posts to construct the frame in a substantial manner. Centrally from side to side are framed the cross supporting-bars D D, one above the other. Standards E are attached to opposite sides of the frame, extending vertically above the frame. I hinge a shelf F to the rear posts B and sustain it in an operative position by the hook and eye f.

G is a cross-bar hinged to one end of the standard E, the other end slotted to permit the end of the other standard to enter such slot, where it is secured by a pin. Such cross-bar is also centrally provided with an aperture, and on its upper surface, next to said aperture, is a button g, secured by a pin.

8 is a bracket or hanger provided with the horizontal arms 9, vertically perforated through inward vertically-extending collars 10, and 11 is a horizontal inward-projecting collar, with a horizontal longitudinal perfora-

tion extending through such collar and also continued through the bracket.

12 is a miter-pinion having its teeth on its lower face attached to a vertical shaft 13, provided with a shoulder 14 next to said pinion. Four radial brackets (designated by the figures 15) are attached to the top surface of said pinion, forming a seat for the four radial churn-support bars 16. The horizontal bars 9 of said bracket 8 are seated centrally in the frame on the bars D D, and the bracket secured thereto by screws or bolts. A journal-box 17 is attached to the upper surface of one of the cross-bars C, in line with the perforation through collar 11. The bars D D are perforated to receive the collars 10 and permit the vertical shaft 13 of the pinion to pass through the same. A shaft 18 has near its inner end attached to it a miter gear-wheel 19, with teeth on its inner face, such shaft on the inner side of said wheel having its bearing in the perforation through collar 11, its outer bearing being in journal-box 17, and outside thereof having attached a crank 20. Miter gear-wheel 19 meshes and engages with pinion 12. The link 21 is at one end attached by a pin to the end of crank 20, and its opposite end attached to the lower end of the handle 22, also by a pin. Said handle is attached to the front surface of one of the posts E of the frame also by a pin. Moving the handle forward and backward causes, through the mechanism described, the radial churn-support bars 16 to rotate. The handle may be moved to a horizontal position on a line with cross-bar C, and the end of such handle and crank connected by the link, and the machine operated by moving the handle up and down, commonly called a "pump motion."

One of the important features of my invention is the ease with which it may be operated.

The churn 23 is cylindrical and constructed of staves of wood hooped, having a bottom 24 and a chine 25. The top of the churn, on its inner surface, is beveled, as at 26, to accommodate and support the cover 27, which is made in two halves and centrally cut out to leave a small hole or perforation 28. Upon the inner bottom surface of the churn are at-



tached adjacent to the sides and in a line the two sockets 29.

The dasher is constructed in two sections, the upper section consisting of two transverse bars 30 and 31, connected by four vertical posts 33. On the under side of transverse bar 30, at diagonal corners, are cut out acute-angled slots 34, with vertical perforations at the vertex of said angles. The wings 35 are rounded at their outer end and side surface, as at 36, and have pins 37 at their inner sides extending from the ends of the wings, which enter the perforations at the vertex of said angles. Similar pins 37 are at the opposite ends of said wings, which enter perforations in the upper surface of transverse bar 31. A vertical shaft 38 is attached in the upper surface of transverse bar 30, which is provided with the button-groove 39. The lower section of the dasher is a transverse bar 40, centrally attached to the lower surface of transverse bar 31 by a pin, so it may rotate.

When the dasher is inserted within the interior of the churn, the ends of transverse bar 40 are seated in the sockets 29 and the shaft 38 protrudes upward through the perforation 28 of the churn-cover 27. Each of the radial churn-support bars 16 are notched near their outer ends, as at 41, into which notches the chine 25 of the churn-body snugly fits, thus holding and supporting the same. The cross-bar G is thrown over to the opposite standard, the vertical shaft 38 extending through the perforation therein, and the button *g* is turned so as to enter the groove 39 in said shaft, and the cross-bar is secured to the standard by the pin.

In one side of the churn, near the bottom, is inserted a small tube 42, for the purpose of withdrawing the fluid from the churn into a pail supported on the shelf F, and which tube may be closed with a cork.

In operation the lower section of the dasher

40 rotates with the churn, while the upper section remains stationary. The churn should be rotated in the direction which causes the fluid to move against the inner surface of the wings 35, which throws the rounded surface of the wings against the interior surface of the side of the tub, compelling such fluid to pass between the two wings and against the posts 33.

A dasher constructed as described is removable from the churn, leaving the bottom and sides of the churn free to be cleaned, and the two sections of the dasher allowing of separation may thus be more effectually cleaned.

I do not claim, broadly, a dasher which may be held stationary within the interior of a rotating churn, nor mechanism for rotating such churn, nor a transverse bar across the bottom of the churn rotating therewith; but

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

In a rotary churn and frame, with mechanism for rotating the churn-body, the combination of socket-pieces attached to the inner bottom surface of the churn-body, the transverse bar 40, adapted to be held in said socket-pieces, the horizontal transverse bar 31, centrally pivoted to the upper surface of bar 40, the horizontal transverse bar 30, having angled slots, located within the interior of the churn-body and above bar 31, the vertical posts 33, connecting bars 30 and 31, the vertical wings 35, pivotally connected to said bars 30 and 31, the central vertical shaft 38, attached to the bar 30 and extending above the churn-body, the cross-bar G of the frame horizontally above the churn-cover, and means for attaching said shaft to said cross-bar, substantially as described.

HENRY F. STOETERAU.

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