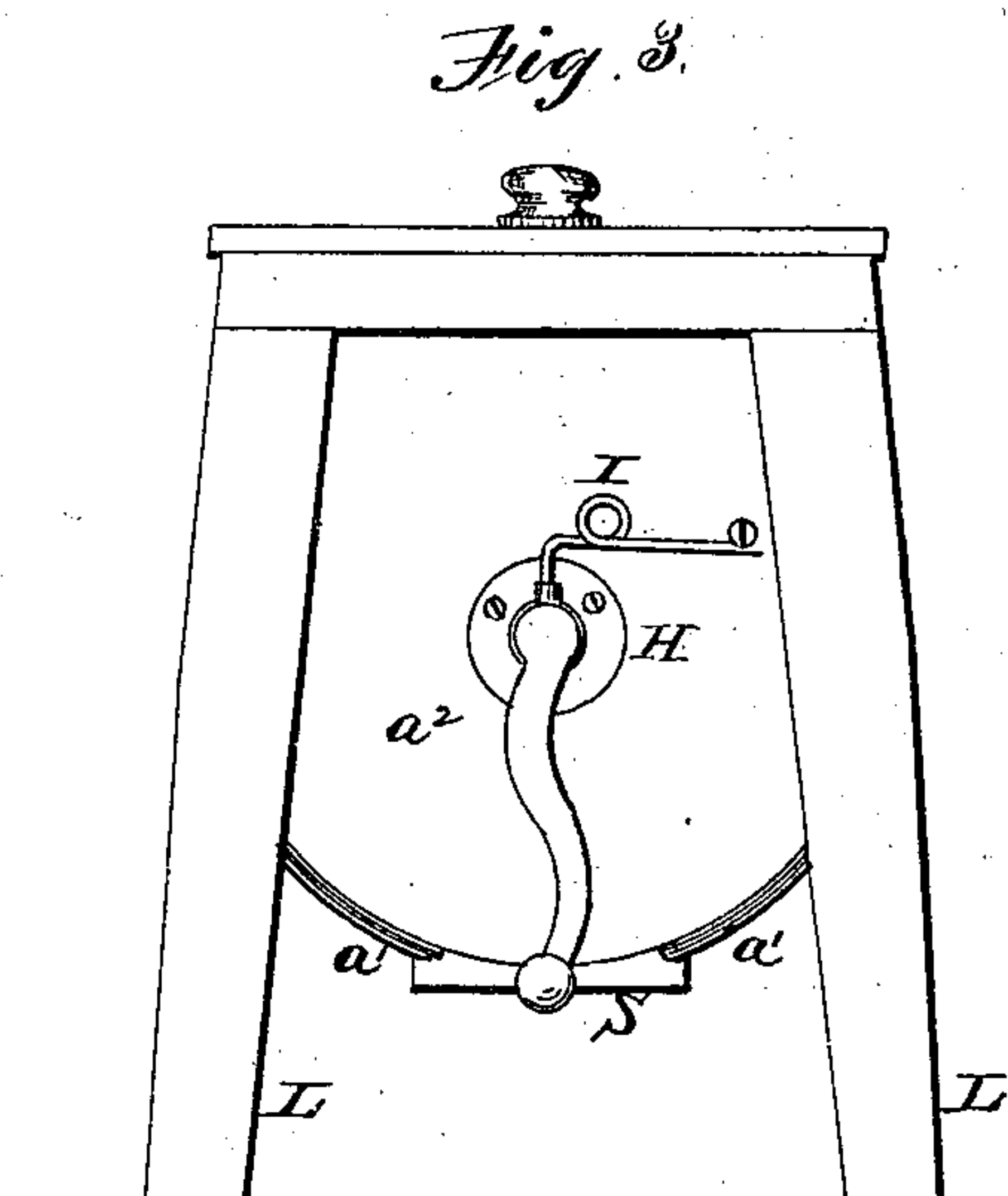
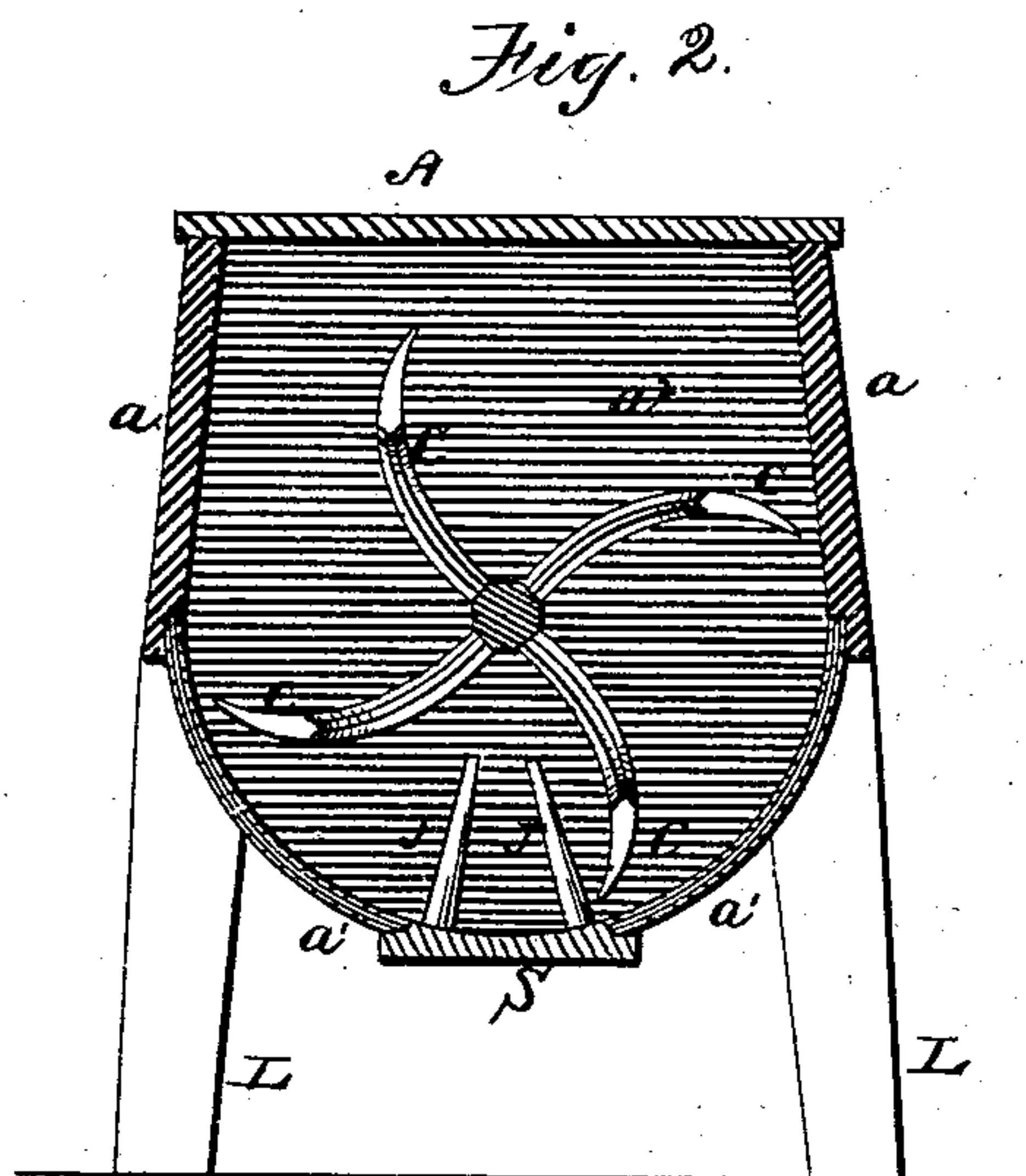
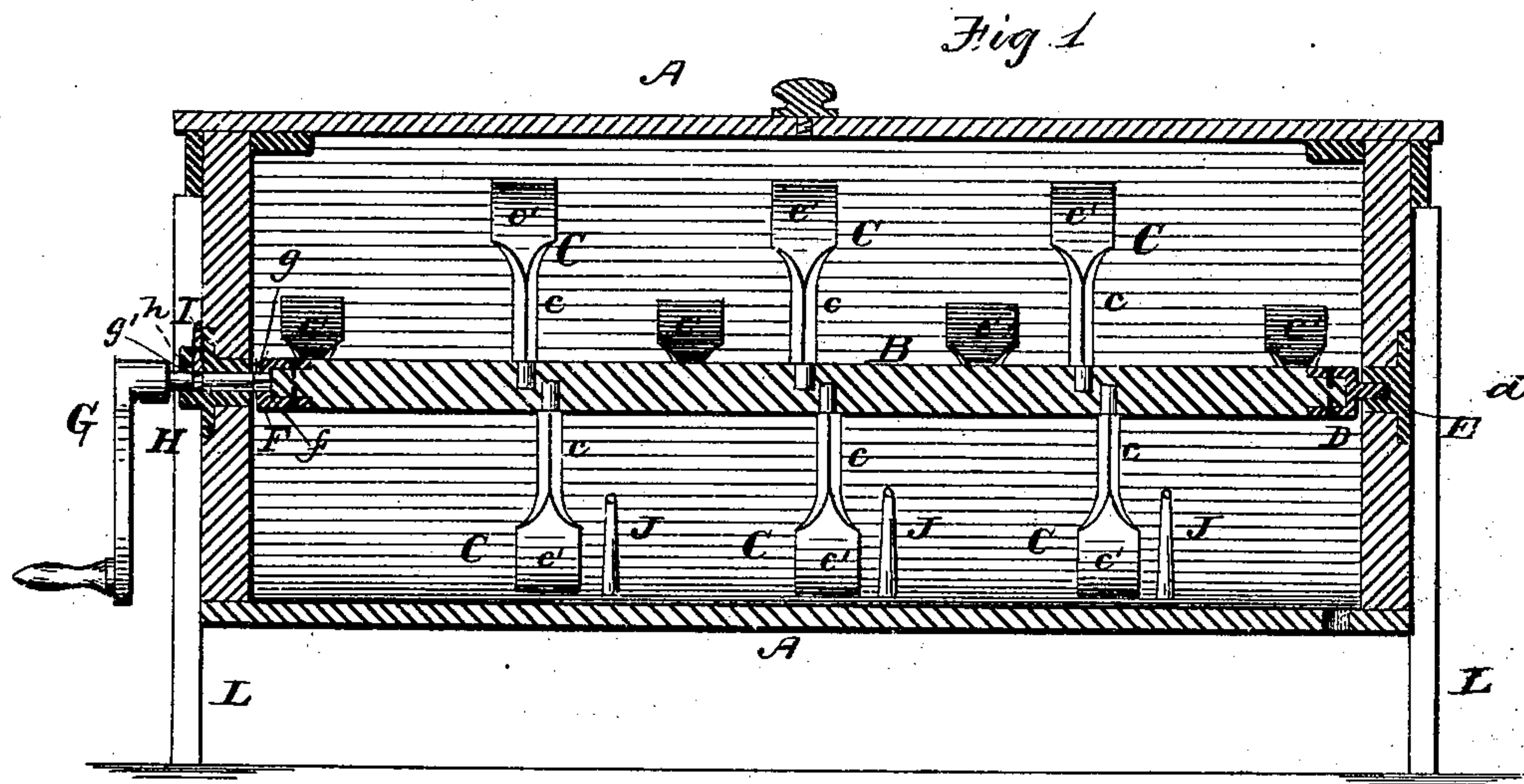


E. W. TROW.
Churn.

No. 206,508.

Patented July 30, 1878.



Witnesses;
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UNITED STATES PATENT OFFICE.

EZEKIEL W. TROW, OF NEWPORT, VERMONT.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. 206,508, dated July 30, 1878; application filed May 16, 1878.

To all whom it may concern:

Be it known that I, EZEKIEL W. TROW, of Newport, in the county of Orleans and State of Vermont, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of my invention; Fig. 2, a transverse section of the same, and Fig. 3 an end view.

Similar letters of reference in the several figures denote the same parts.

My invention relates to that class of churns in which rotary floats or dashers are employed within the churn-body to agitate the cream; and its novelty consists in the peculiar form of the rotary dashers, and in the combination therewith of stationary pegs or pins arranged alternately in two parallel rows and projecting from the inside of the churn-body, whereby the cream is more speedily converted into butter and the latter worked to its proper condition.

In the drawings, A represents the churn-body, having inclined sides a , a rounded bottom, a^1 , and heads or ends a^2 , the whole being mounted upon suitable supporting-legs L. The inclined sides are formed of straight pieces properly fastened to the heads, while the curved bottom is constructed in sections, each section consisting of one or more layers of thin wood or veneers bent to conform to the heads of the churn, and secured thereto by means of a longitudinal strip, S, provided with a rabbet in each edge, as shown in Fig. 2.

B is a shaft arranged longitudinally within the churn-body and carrying the rotary floats or dashers C. This shaft is provided at one end with a metal cap-piece, D, having a short boss or journal, d , which is adapted to enter a corresponding socket in a bearing-plate, E, let into the end of the churn-body. On the opposite end of the shaft there is another cap-piece, F, which is formed with a squared recess or socket, f , for the reception of the shank g of an operating-crank, G, mounted in a metal bearing-plate, H, let into the end or head of the body, as shown. To prevent the shank from working out of the bearing-plate H, an annular groove, g' , is made in it near its base, and a perforation is formed in the exterior boss h of the plate H, directly over said groove, for the reception of one end of a spring,

I, secured to the head, as shown. The end of the spring enters the groove in the shank, and prevents any longitudinal movement of the latter without at all interfering with its rotation. By raising the end of the spring, so as to clear the groove, the shank may be withdrawn from the socket at the end of the shaft, after which the shaft and its dashers may be entirely removed from the churn-body for the purpose of cleaning, &c.

The construction of the floats or dashers C and their operation in connection with the pegs or stops J in the bottom of the churn are as follows: Each blade is curved longitudinally, as shown in Fig. 2, and is constructed with a comparatively slender shank, c , rounded or angular in cross-section, and terminates in a broad blade-like end, c' . The upper or convex portion of these blades is shaped to correspond accurately with the curve of the bottom of the churn-body, so that when rotated they will travel as close as possible to the interior of the churn without actually scraping it.

The pins J are set radially to the shaft B, and are arranged alternately in two parallel rows in the strip S at the bottom of the churn. They are so spaced that at each complete revolution of the shaft two blades will pass, one after the other, between each two adjoining pegs. By this construction the dasher-blades are caused to sweep nearly the entire area of the curved bottom, and, operating in connection with the stationary pegs, effect a thorough agitation of the cream and a consequent rapid formation of butter. The pegs are indispensable, because, were they omitted, the butter, as it became thick, would be carried around with the blades, and not be properly worked. Their alternate arrangement is also preferable to an arrangement in a straight line, and greatly facilitates the working of the butter.

I claim as my invention—

The rotary dashers or floats C, curved longitudinally and having the broad blade-like ends, in combination with the curved churn-bottom and the stationary pegs or stops J, arranged alternately in parallel rows, substantially as described, for the purpose specified.

EZEKIEL W. TROW.

Witnesses:

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