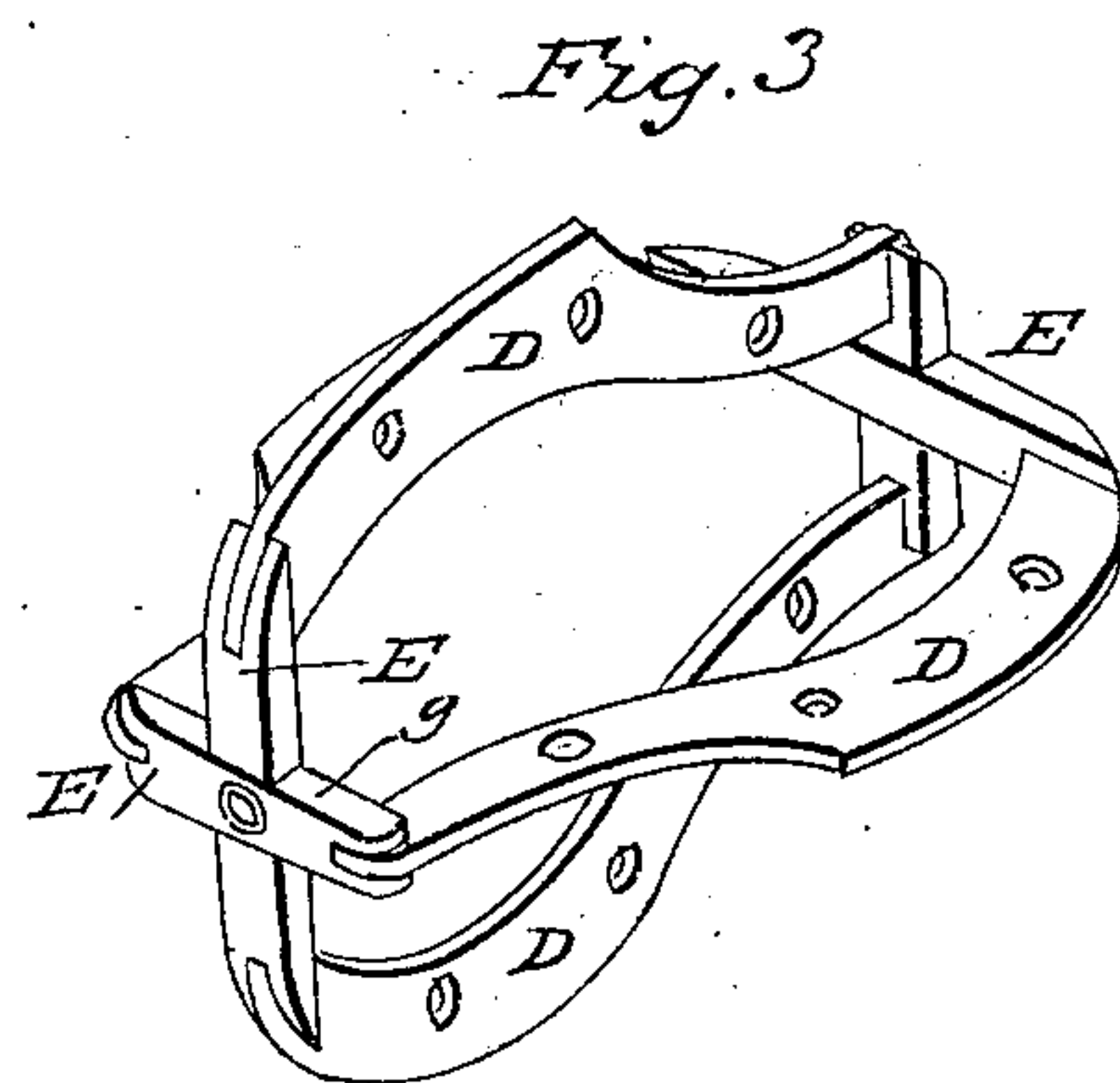
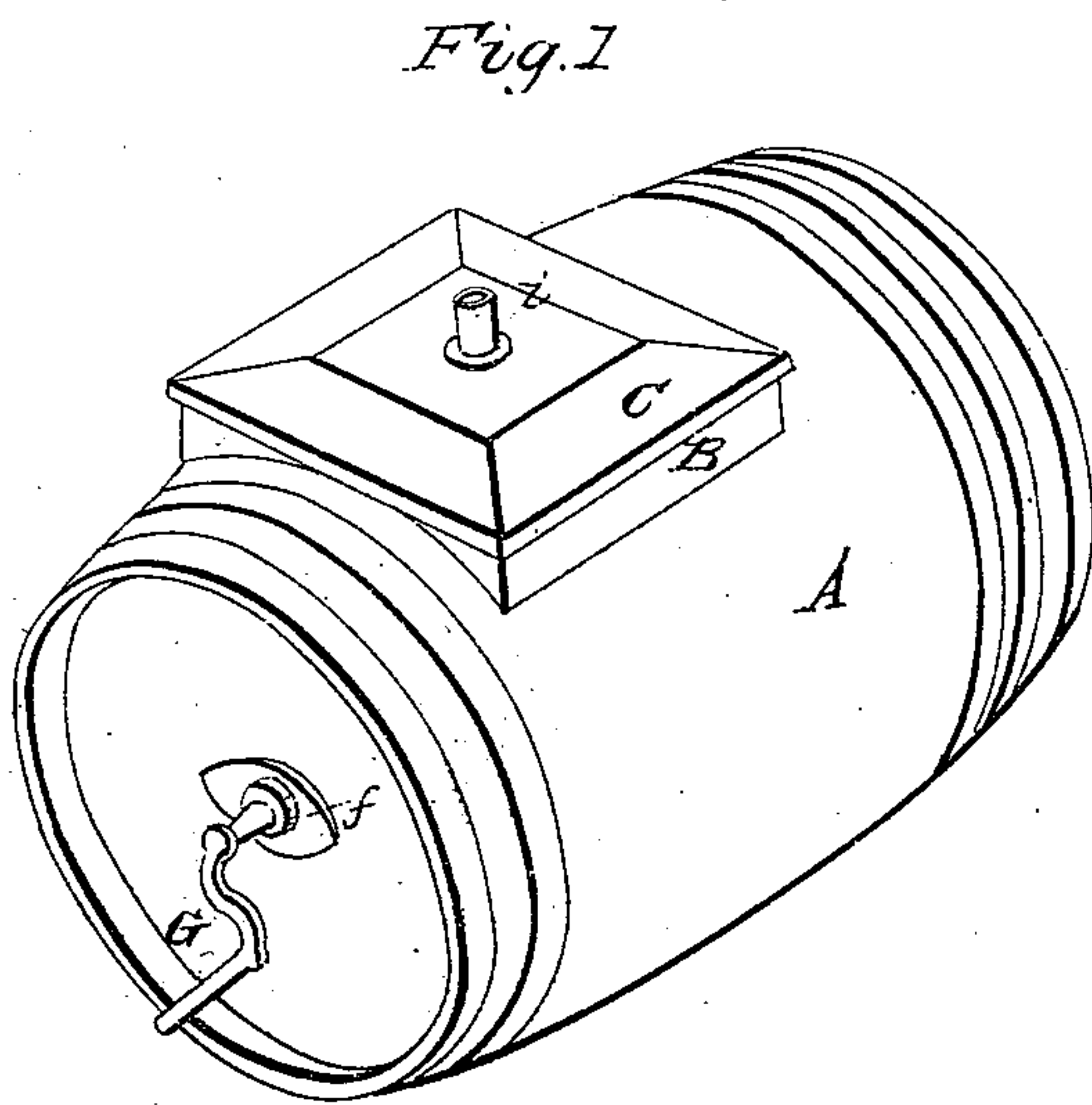
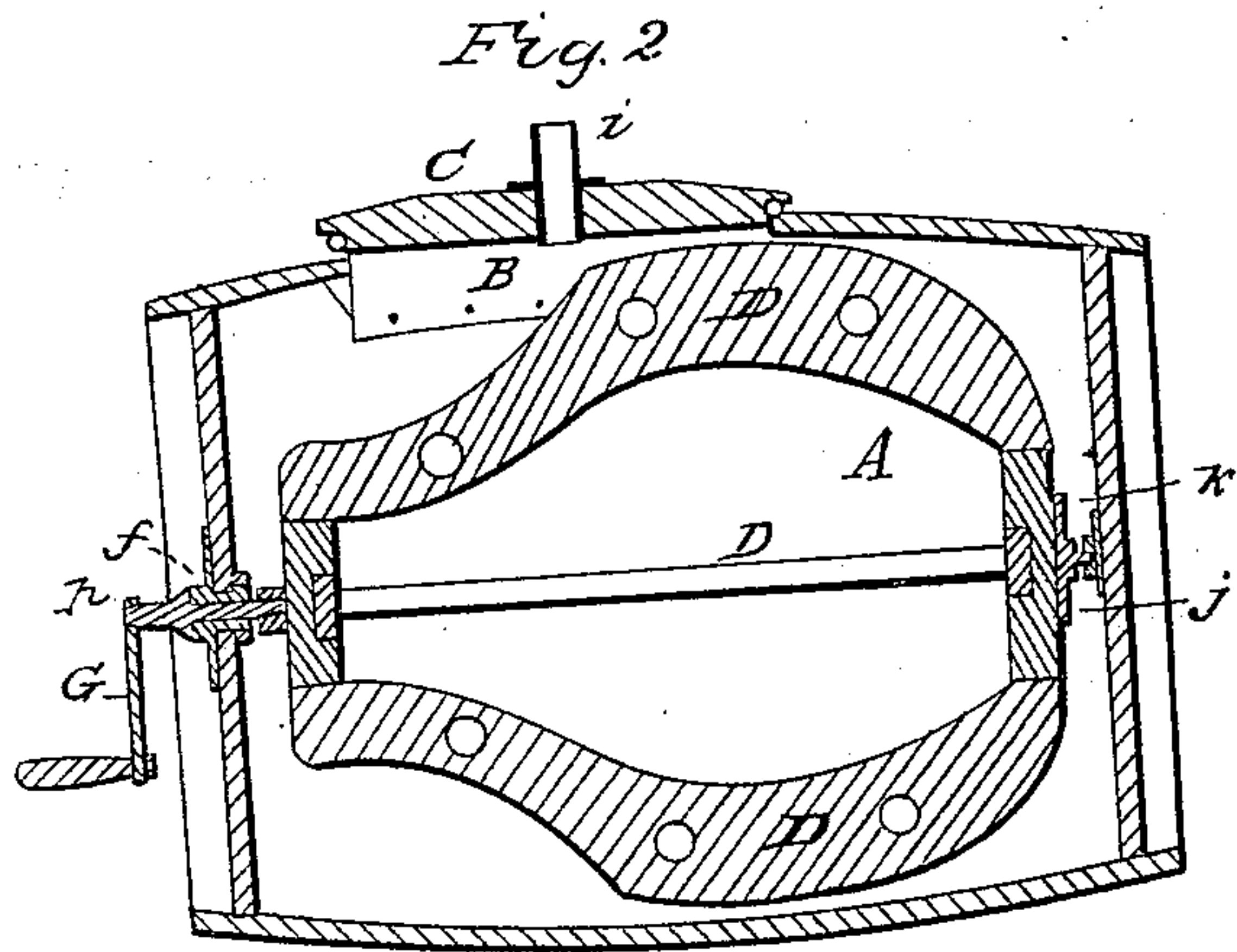


E. SPAIN.

Churn.

No. 5,585.

Patented May 16, 1848.



UNITED STATES PATENT OFFICE.

EDWARD SPAIN, OF PHILADELPHIA, PENNSYLVANIA.

CHURN.

Specification of Letters Patent No. 5,585, dated May 16, 1848.

To all whom it may concern:

Be it known that I, EDWARD SPAIN, of the city and county of Philadelphia and State of Pennsylvania, have invented a new and Improved Barrel-Churn; and I do hereby declare the following to be a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1, is a perspective view; Fig. 2, a longitudinal vertical section; and Fig. 3, a perspective view of the dasher of the churn detached.

The nature of my invention consists in giving such a peculiar formation to the exterior surface of the dasher, that it can be placed whole, within the churn, or removed from the same, through a square aperture in the side, near one end of the churn; the peculiar form of the dasher also, imparting as it is operated, a compound reciprocating and rotary motion to the cream, thereby more thoroughly and effectually agitating the same, and preventing the cream when it becomes thick, from revolving with the dasher.

Similar letters indicate corresponding parts in all the figures.

A, is the barrel of the churn.

B, is the metallic lining and support to the aperture for the reception of the dasher. The support B, is composed of sheet metal; its lower edge is turned under the ends and sides of the staves surrounding the aperture, and is secured to the same; and its upper edge is stiffened and supported by a strong wire, by which means the perfect contour of the churn about the aperture, is preserved.

C, is a cover shutting into, and perfectly fitting the aperture support B.

i, is a tube inserted through, and rising above the cover C, for the purpose of allowing the gas to escape from the churn, and permitting fresh air to enter the same. The dasher is composed of four beating wings D, D, D, D, united to two long, and two short, transverse bars E, E, E, E: the ends of the dasher are composed of a long and a short bar united right angularly at their centers; making four radial arms,—two long, and two short. The beating wings are broader at one end than at the other, and are curved and rounded off, as repre-

sented in Fig. 2. The broad ends of the beating wings are united to the long arms, and their narrow ends to the short arms;—thus bringing the long arms at one end of the dasher, opposite to the short arms at the other end of the same, as represented in Figs. 2, and 3.

j, is a bearing box secured to one end of the barrel A, for receiving the pivot k, on one end of the dasher.

g is a nut secured to the end of the dasher opposite to the pivot k;

f, is a bearing tube secured in the center of the barrel head opposite to the bearing box j. The axle h, of the operating crank G, passes through the tube f, and is screwed into the nut g. The dasher is removed from the churn by unscrewing the operating axle from the same, and elevating the dasher on to its pivot end by passing the broad ends of the beating wings at its opposite end, diagonally into the square aperture in the barrel; when it can readily be lifted out.

The operation of the dashers on the cream is as follows: The alternating action of the broad ends of the beating wings at each end of the dasher, imparts to the cream a reciprocating motion from end to end of the churn, combined with the rotary motion; thereby thoroughly acting upon every part of the same, preventing the cream, when it becomes thick, from revolving with the dasher, and greatly reducing the time and labor usually required in the production of butter. After churning, the dasher is removed to be cleaned, and the churn is then clear of all impediment in the way of removing the butter, and of giving the churn a thorough cleaning.

Having thus fully described the construction and operation of my improved barrel churn; what I claim therein as new and desire to secure by Letters Patent is—

The giving the dasher the form herein represented and described, which, while it imparts, a compound reciprocating and rotating motion to the cream as it is operated upon thereby, also enables a large sized dasher to be passed whole through a comparatively small sized square aperture in the side of the barrel, as herein set forth.

EDWARD SPAIN.

Witnesses:

C. F. PROUTY,

D. O. PROUTY.