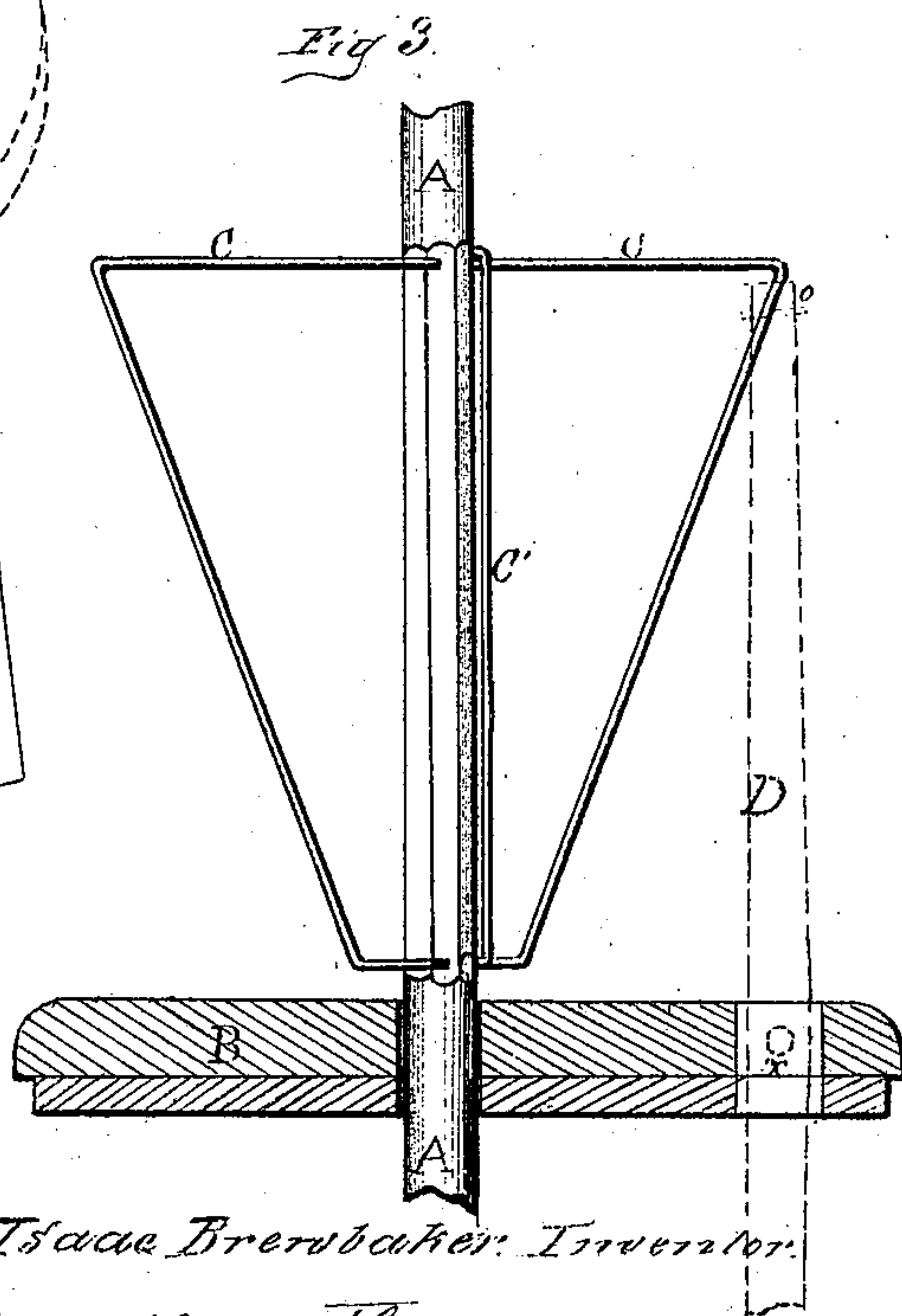
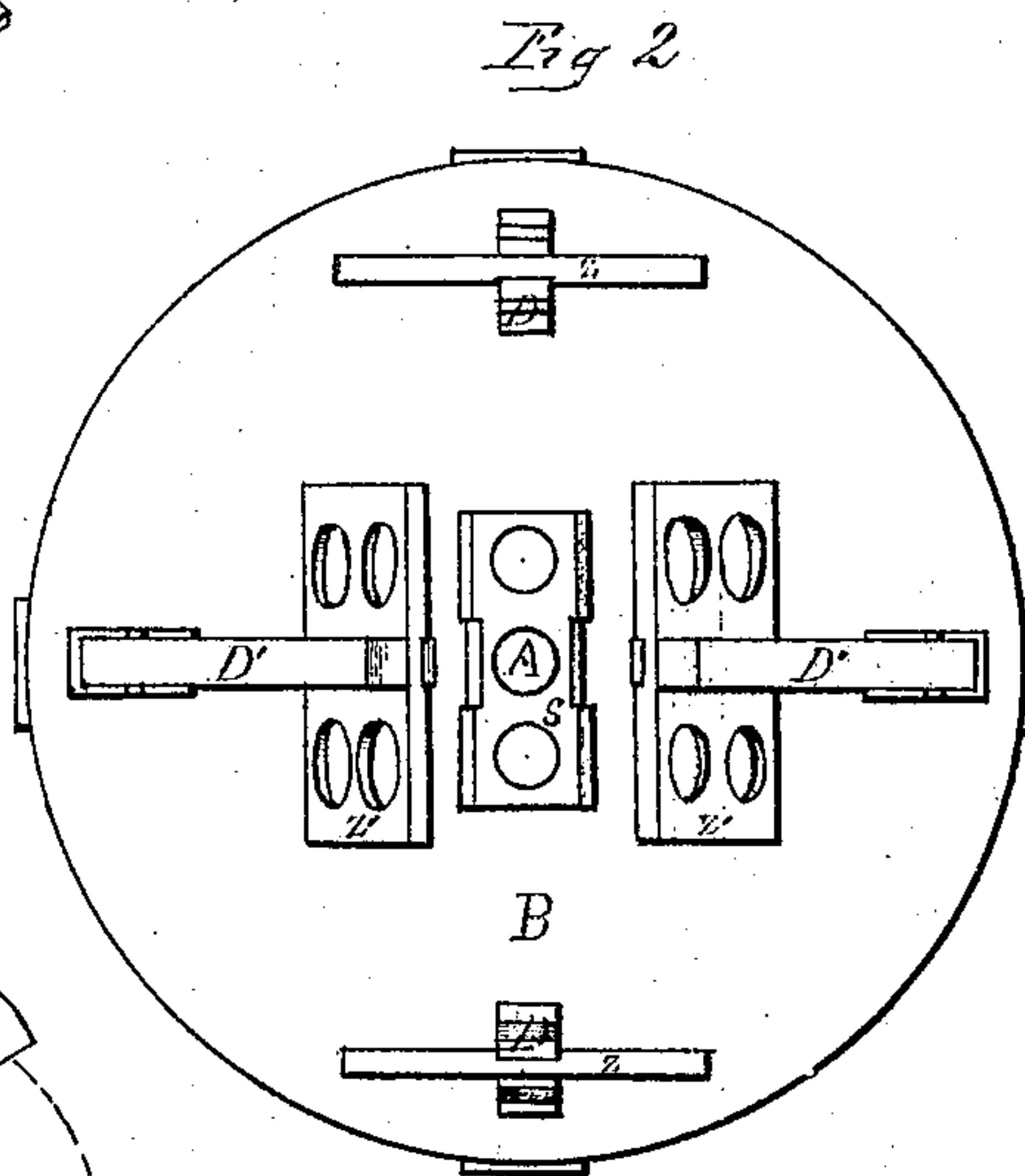
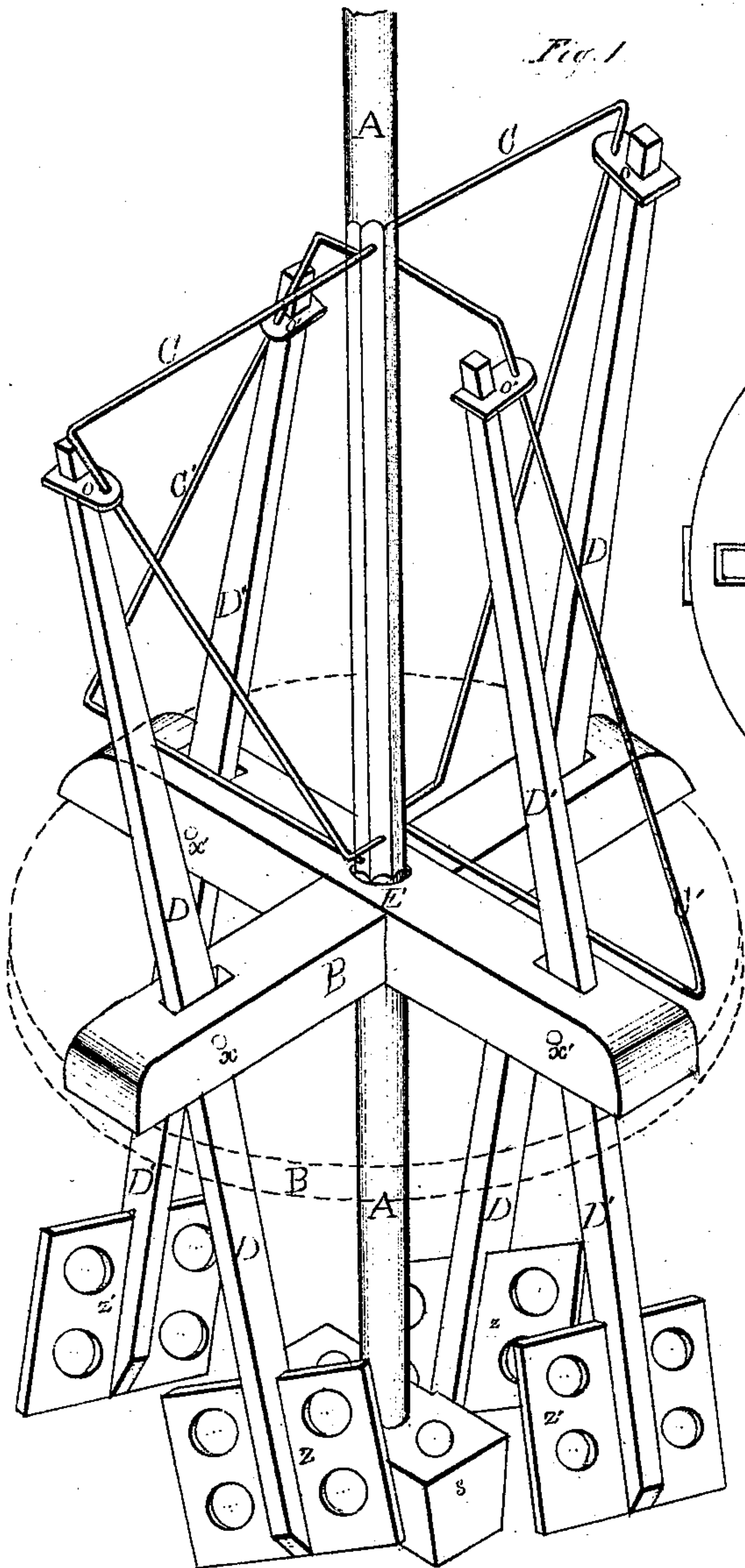


I. Brewbaker,

Churn.

No. 102,084.

Patented Apr. 19. 1870.



Witnesses.
Jos. J. R. Plant
Denis Linn

Isaac Brewbaker, Inventor.
by Geo. & Geo.
His Attorney.

United States Patent Office.

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Letters Patent No. 102,084, dated April 19, 1870.

IMPROVEMENT IN CHURN-DASHER.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern :

Be it known that I, ISAAC BREWBAKER, of Fincastle, in the county of Botetourt, State of Virginia, have invented a new and useful Improvement in Churn-Dashers, of which the following is a full and correct specification, reference being had to the accompanying drawings.

Nature and Objects of the Invention.

My invention relates to providing an ordinary vertical barrel churn with a shaft or piston, passing vertically downward through the center of the top or cover, and having a perforated dasher placed on its lower extremity. This shaft or rod is provided with guides, in the present instance four being used, of similar proportions and of such length as that, when the lower horizontal portions come in contact with the parts of the churn-cover adjacent to the aperture through which the shaft passes, the dashers or paddles on the lower parts of the arms will be prevented from coming in contact with the shaft-dasher or with each other when the shaft is raised. Two of these guides project at right angles from and on opposite sides of the shaft to a distance from the vertical axis thereof equal to the semi-diameter of the churn-cover, from which point they incline downward and toward the shaft in the plane of that side of the shaft to which the guide is attached, to a proper distance, where they are bent horizontally toward and jointed at right angles to the shaft. The other two guides are similarly constructed, but are placed in a reverse position to the first mentioned.

The device is provided with arms, corresponding in proportions and of the same number as the guides. The horizontal axis of such arms is in the same plane as that of the shaft. They pass vertically downward through apertures in the churn-cover, in which they are secured by journals or pivots, upon which they swing. The lower ends are furnished with vertical perforated paddles or dashers, the upper with plates projecting at right angles from the vertical axis of the arm and on the side of the arm corresponding with the side of the shaft to which the guide is attached. This plate is provided with an aperture near its extremity, through which the guide works, the aperture being in the same plane as the vertical plane of the guide it receives.

By these appliances, when the shaft is raised, two of the arm-paddles or dashers are extended and two brought into close proximity with each other. A reverse motion expands the paddles last aforesaid, and brings the others in close proximity with the shaft-dasher. The operation of churning is performed by a repetition of these movements of the shaft.

It is obvious that the operation of the levers or arms

is dependent upon the construction and arrangement of the guides and plates.

The operation of churning can be performed by one or more of the appliances herein described.

The shaft is an essential part of the device. The shaft-dasher is supplementary. A head or projection, to prevent the exit of the shaft above the aperture in the churn-cover when the shaft is raised, will suffice.

Description of the Accompanying Drawings.

Figure 1 is a perspective view of the invention, the dotted lines showing the churn cover.

Figure 2 is a plan view of the under side of the churn-cover, the arms fore-shortened.

Figure 3 is a perspective view of shaft and guides, one-half of the churn-cover broken out, the dotted lines indicating the lever or arm.

General Description and Operation.

A is the shaft, provided at its lower extremity with the perforated dasher S, and passing vertically downward through the aperture E in the churn-cover B, which is secured in the mouth of the churn-barrel.

C C are guides affixed on opposite sides to the shaft A, wherefrom they project at right angles to a distance from the shaft equal to the semi-diameter of the cover B, and thence incline downward and toward the same side of the shaft to such point as that, when bent horizontally therefrom, and joined to the shaft A on the same side as above attached, the paddles D D, working on the guides C C, will not come in contact with the dasher S when the shaft A, is forced down until its progress is checked by the lower parts of C C, bent as aforesaid, coming in contact with the cover B.

The guides C' C' are arranged in reverse position to C C, but are joined to the shaft A in a similar manner on opposite sides. The guides are of like dimensions, and are affixed on opposite sides of the shaft, both above and below, in the same horizontal plane.

The arms D D are connected to the guides C C by the plates O O, which are provided with vertical perforations to receive the guides. At the points x x they are secured in a slot in the churn-cover B by the journals X X, upon which they swing. Their lower extremities are provided with perforated paddles Z Z placed vertically thereon.

The arms D' D' are similarly constructed and arranged, but are attached to the guides C' C', and move in a direction at right angles to that of the arms D D.

The churn-cover B is secured in or above the mouth of the churn-barrel, the guides C C C' C', and the upper portion of the shaft A, and the same part of the arms D D D' D' being above the top of the cover B; the shaft is now forced down; this brings the dasher S into the body of the churn-barrel, at the same time

expands the paddles Z Z, and retracts the paddles Z' Z', all acting simultaneously upon the contents of the churn-barrel.

When the downward progress of the shaft A is checked by the lower horizontal parts of the guides C C coming in contact with the churn-cover, a reverse motion is given to the shaft; this raises the dasher S, retracts the paddles Z Z, and expands the paddles Z' Z', all acting simultaneously upon the contents of the churn-barrel.

A repetition of the movements aforesaid agitates the milk or cream in such manner as to separate the oleaginous parts thereof from the caseous and serous matter, and produce butter.

The above mechanism may be used in the manufacture of ice-cream or other preparations, the production of which is effected by agitation.

Claims.

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

1. The guides C C C' C' in their relations to each other and in combination with the arms D D D' D', provided with the plates O O O' O' and paddles Z Z Z' Z' and shaft A, arranged and operated for the uses and purposes herein described and shown.

2. The guides C C, so arranged upon the shaft A

that when it is forced down the lower horizontal parts of the guides will operate to prevent the arms D D or paddles Z Z coming in contact with the dasher S, substantially as shown and described.

3. The guides C' C', so arranged upon the shaft A that when it is elevated the lower horizontal parts of the guides operate to prevent the arms D' D' or the paddles Z' Z' from coming in contact with each other, substantially as shown and described.

4. An arm, D, provided with a vertical paddle, Z, on its lower extremity, and swinging or vibrating in the plane of the horizontal axis of a shaft, A, upon a journal, X, at or about its longitudinal center of gravity, and connected at its upper extremity by a vertically-perforated plate, O, to and operated by an inclined guide, C, attached to a shaft, A, working in a directional aperture, E, all arranged so that the motion of the shaft causes the paddle to move in a direction at right angles to that of the motion of the shaft.

In testimony that I claim the foregoing improvement in churn-dashers, as above described, I have hereunto set my hand and seal this 24th day of February, 1870.

ISAAC BREWBAKER. [L. s.]

Witnesses:

A. BREWBAKER,
SAMUEL WIPES.