

F. E. CLARKSON.

Rotary Churns.

No. 138,229.

Patented April 29, 1873.

Fig. 6.

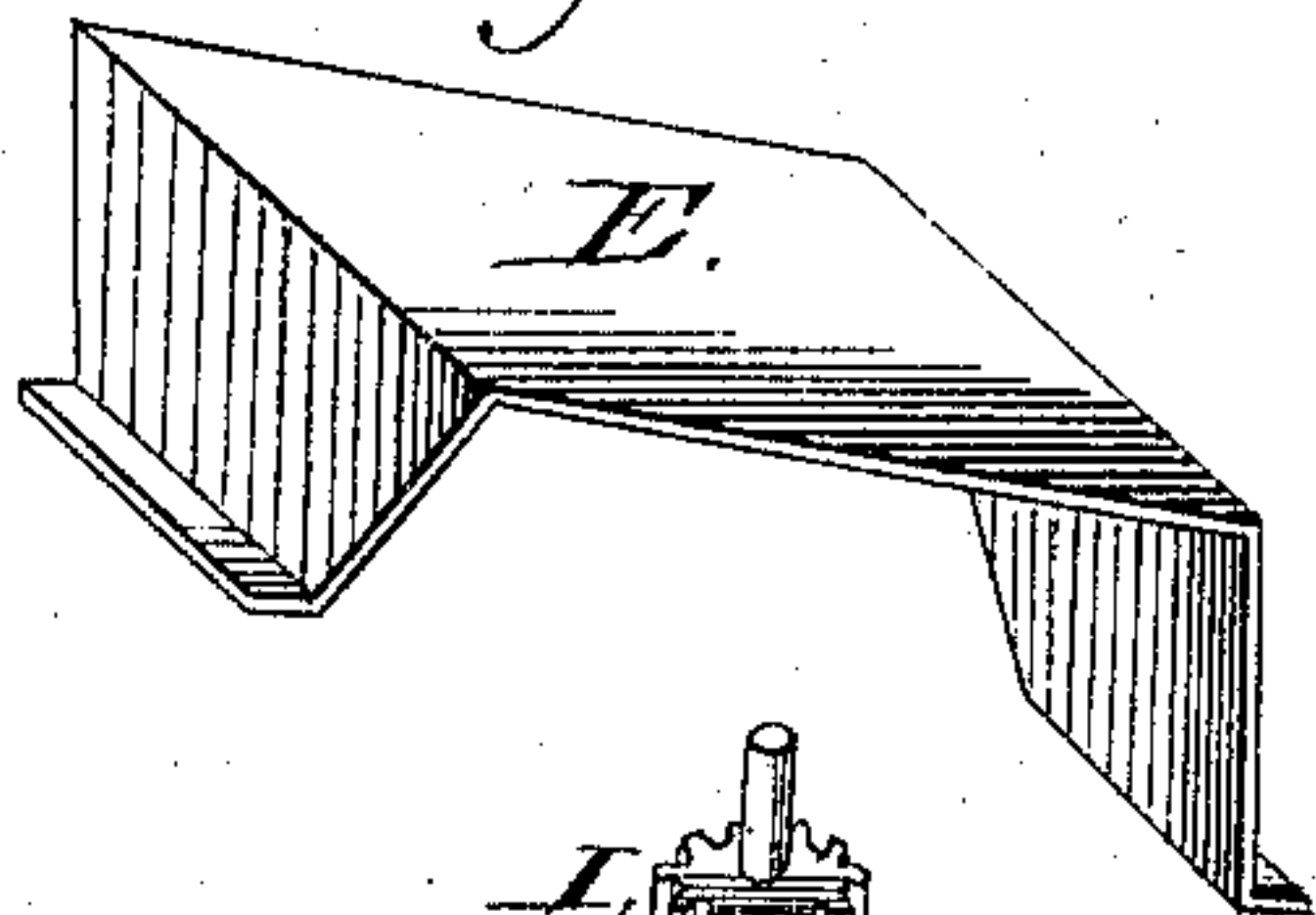


Fig. 7.

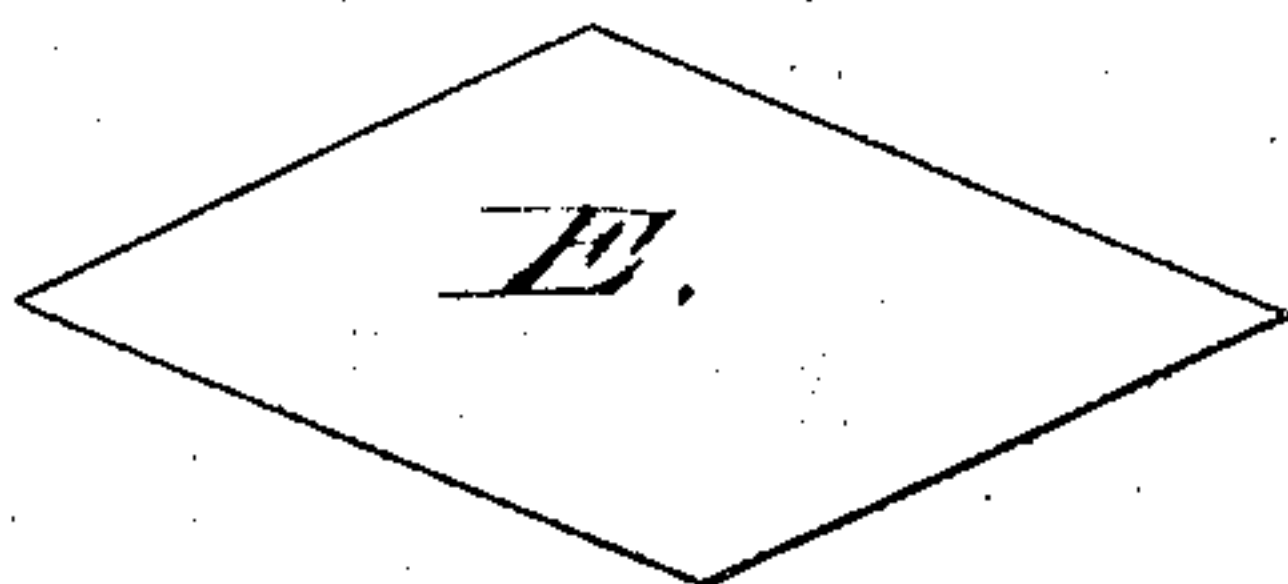


Fig. 5.

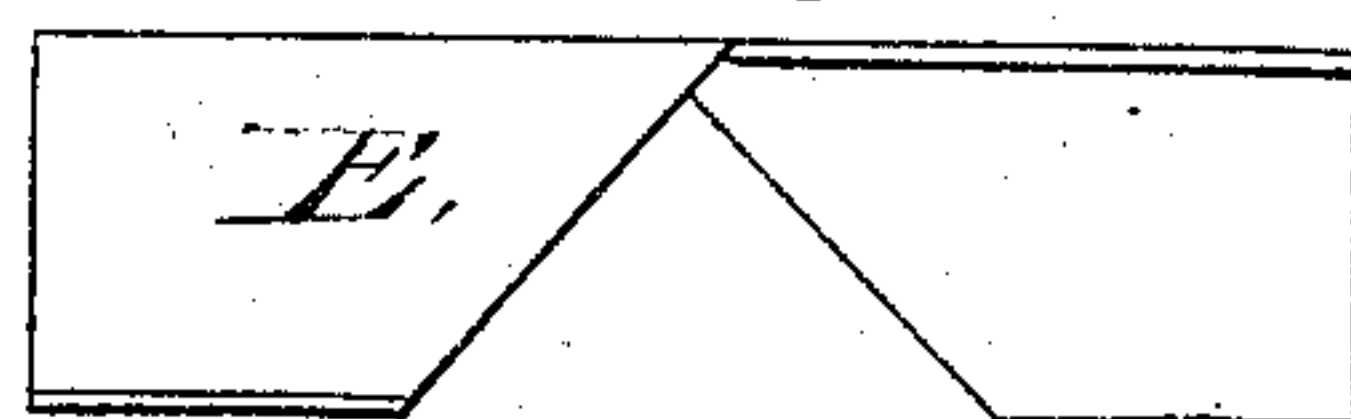


Fig. 3.

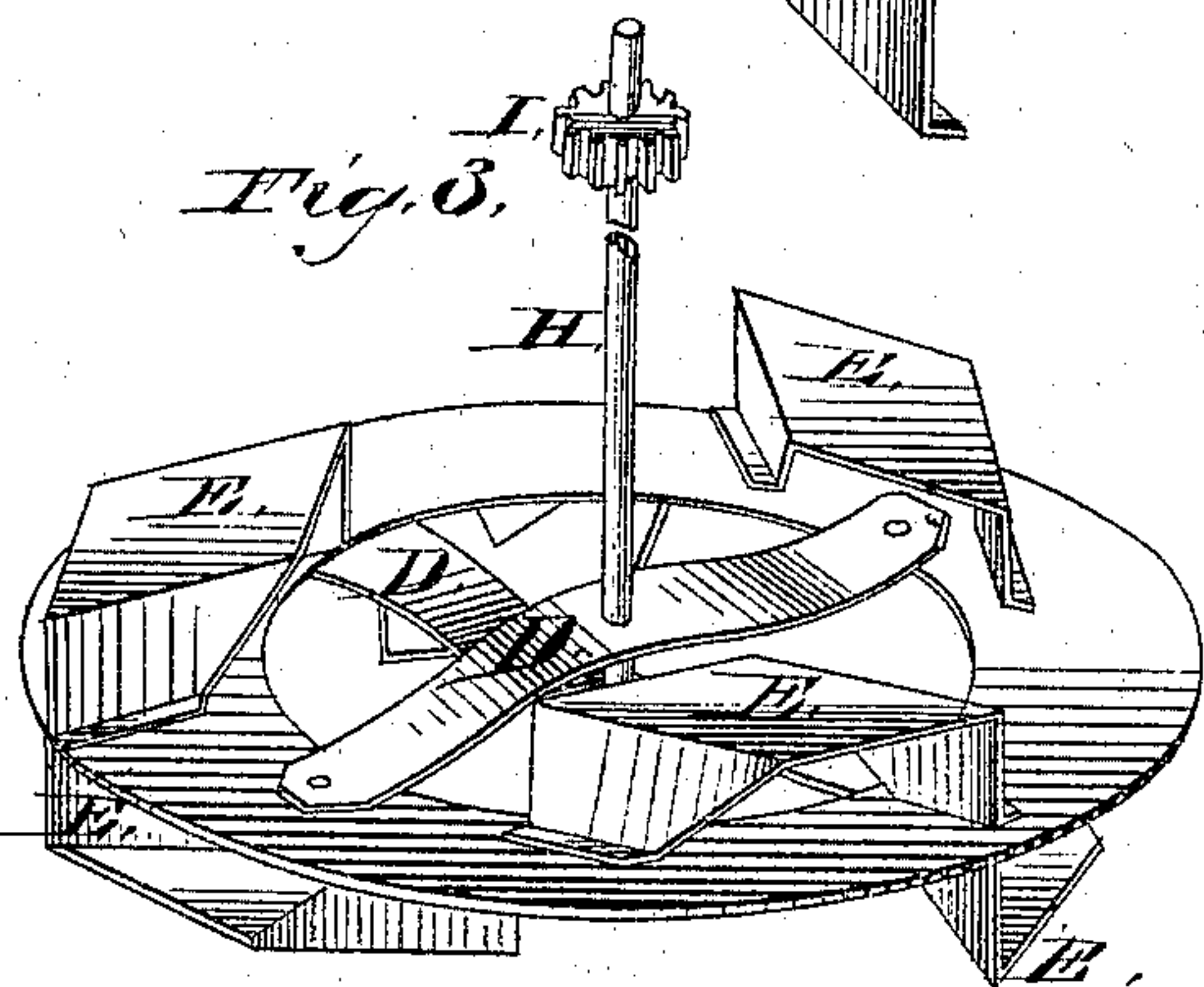


Fig. 4.

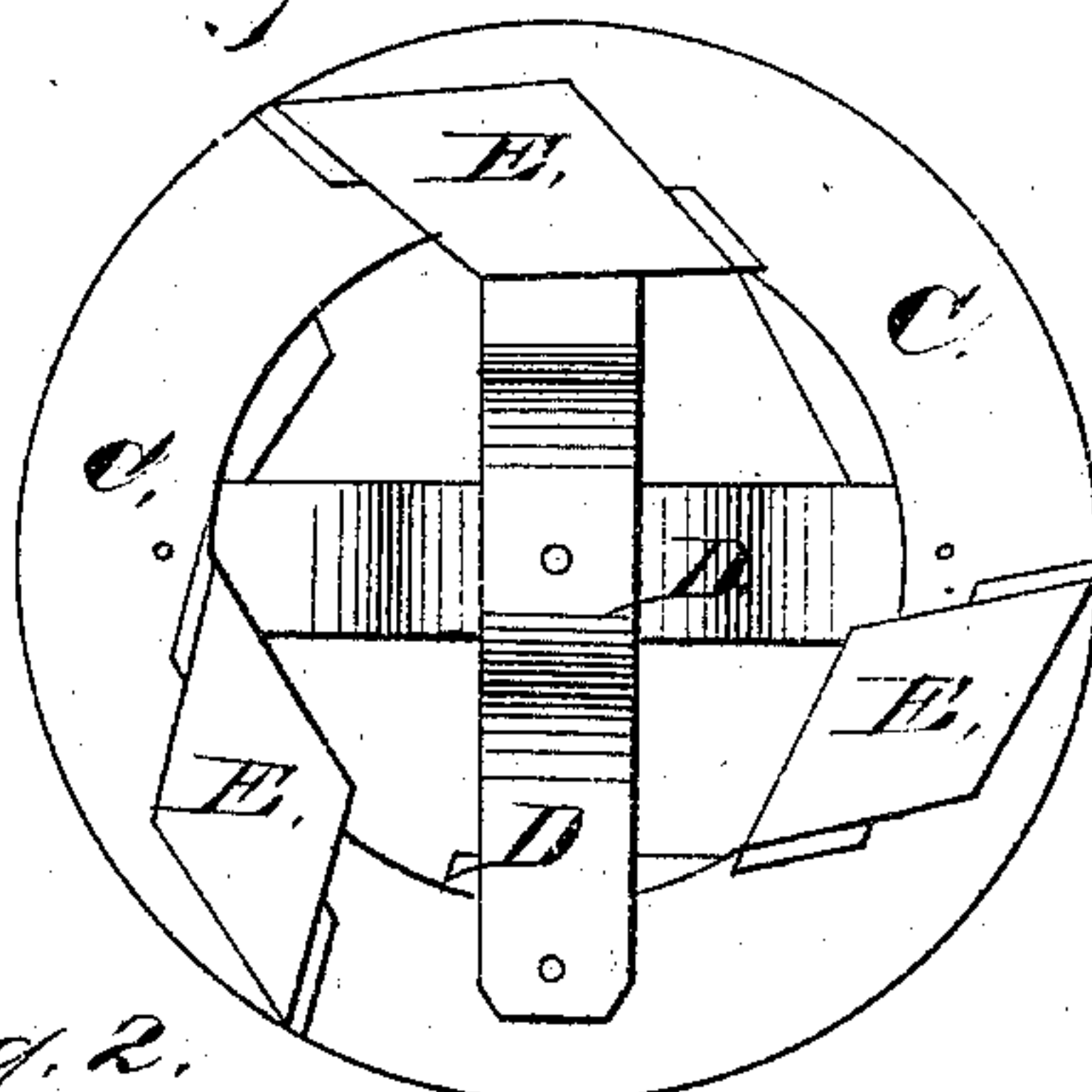


Fig. 1.

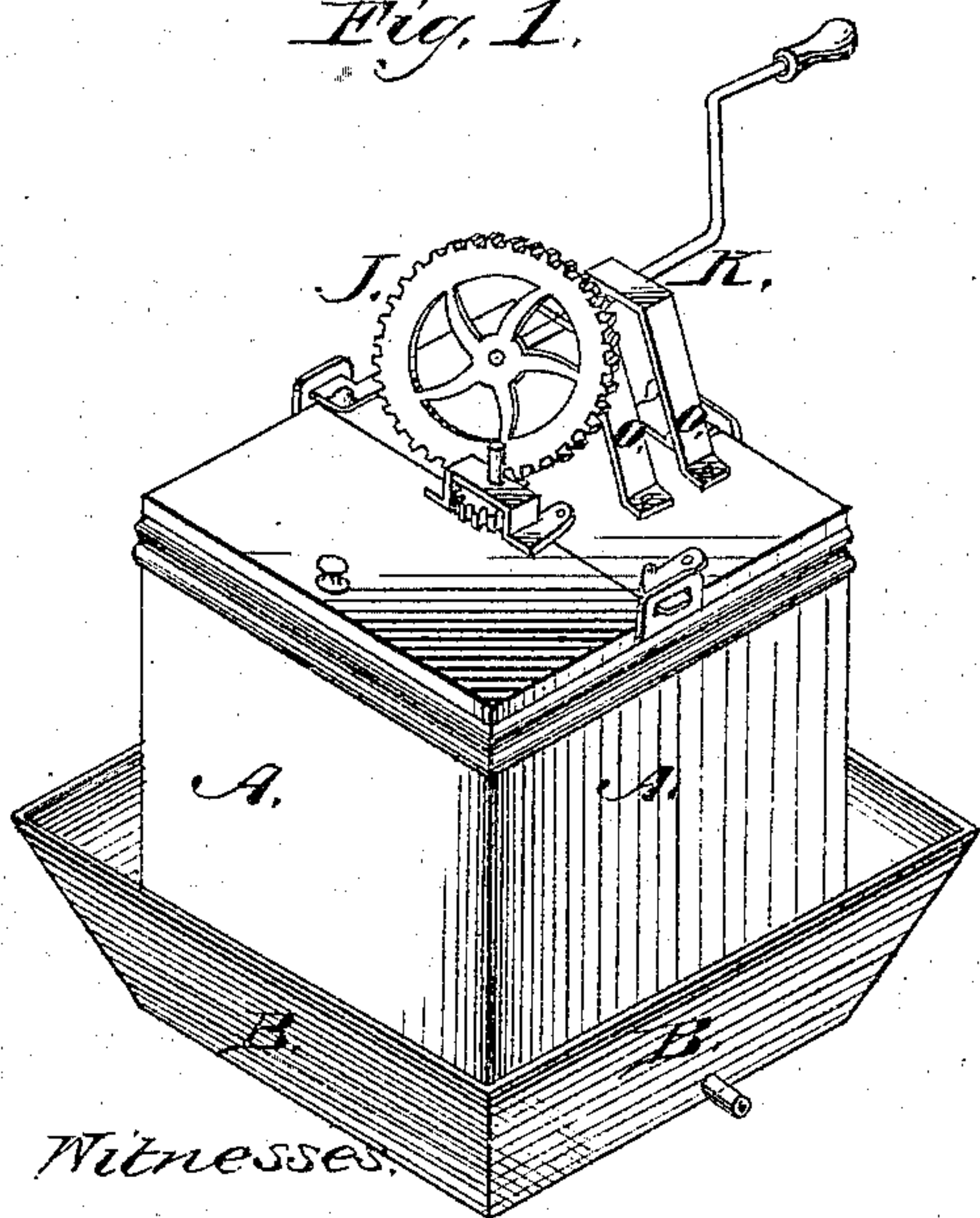
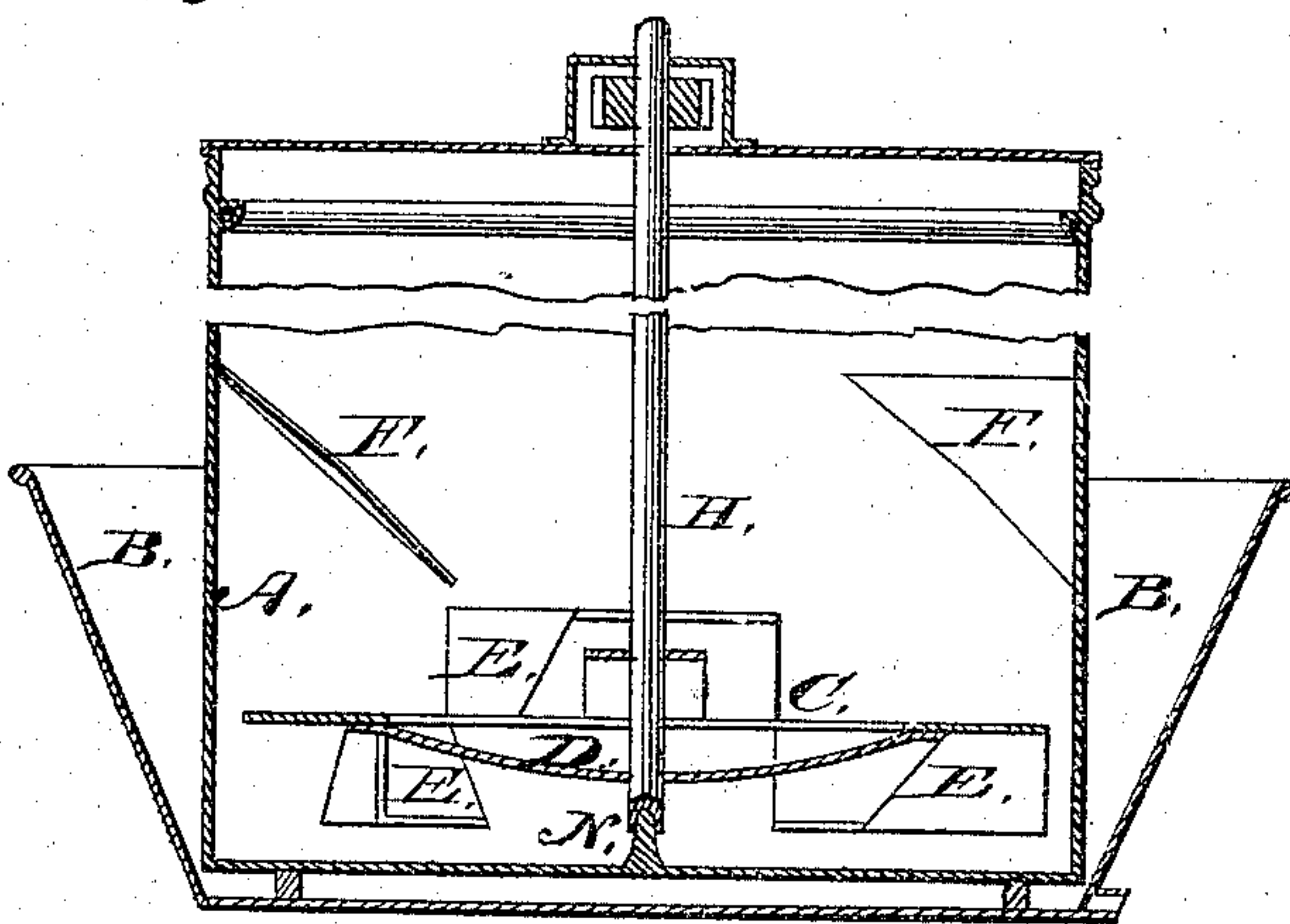


Fig. 2.



Witnesses.

Inventor.

James A. Locke,
Minis R. Locke

Frank Eugene Clarkson.

UNITED STATES PATENT OFFICE.

FRANK E. CLARKSON, OF HIGHLAND, KANSAS, ASSIGNOR OF TWO-THIRDS HIS RIGHT TO JOHN JACOB STRADER, OF JERSEYVILLE, AND GEORGE FRANCIS NELSON, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN ROTARY CHURNS.

Specification forming part of Letters Patent No. **138,229**, dated April 29, 1873; application filed October 2, 1872.

To all whom it may concern:

Be it known that I, FRANK EUGENE CLARKSON, of Highland, in the county of Doniphan and State of Kansas, have invented certain Improvements in a Churn, of which the following is a specification:

The nature and object of my invention consist in constructing the interior of a churn in such a way that when motion is given to the circular dash-wheel the cream is thrown from the center to the circumference and from the circumference to the center at the same time.

Figure 1 is a perspective elevation of the complete churn. Fig. 2 is a vertical sectional view of the interior of the churn. Fig. 3 is a perspective view of the dash-wheel. Fig. 4 is a view of the bottom of the dash-wheel. Figs. 5, 6, and 7 are views of the cams attached to the upper and under surface of the dash-wheel.

Similar letters used in following description refer to similar parts in the different figures.

A is the body of the churn. B is the reservoir. C is the dash-wheel. D D are cross-trees of the dash-wheel, two in number, one above and the other underneath, crossing each other at right angles. E E E are cams placed on upper and under surfaces of the dash-wheel C. F F are projections in corners of the churn, inclining obliquely downward. H is the shaft passing through the dash-wheel. I is small cog-wheel on upper end of shaft H. J is the driving-wheel. K is the crank-shaft. O O are bearings supporting the crank-shaft K. N is the pivot in the center of the bottom of churn, on which shaft H turns. The churn A, Fig. 1, is located in reservoir B, the latter being filled with warm or cold water, as may be desired, to temper the cream in the churn. The dash-wheel C, Fig. 3, is made of metal or wood, of rim form, attached to shaft H by means of cross-trees D D. The cams E E E are located at equal distances apart, on upper and under surfaces of dash-wheel C, and those above are located alternately with reference to those beneath, and all are of staple form, those below being also at reverse angles with those on top. These cams are also located obliquely with reference to the radiuses of the

dash-wheel, and are thus of diamond-shape tops.

The operation of my invention is as follows: A sufficient quantity of cream being placed in the churn, the dash-wheel is made to revolve, and its revolution, in connection with that of the cross-trees D D, gives the cream a centrifugal motion, which motion is intercepted by the cams E E E, and thus the cream is additionally agitated in its outward course, and thrown against the oblique projections properly located on the inside of the churn, above the dash-wheel, which in turn change the course of the cream and throw it back again to the center. The cams located on the under surface of the dash-wheel, and at reverse angles to those on top of the dash-wheel, constantly throw the cream to the center of the churn. Thus a compound motion is constantly kept up, and a thorough and complete agitation of the entire body of the cream maintained at the same time. When it is desired to gather the butter the motion is reversed, when the particles of butter collect in the center.

The different parts of the churn are made of wood or metal, as circumstances or convenience may require.

I am aware that the horizontal circular dasher, with adjustable lugs, has been used before, but the staple form of lug as herein shown is believed to be new. As the churning of butter is a mechanical operation, any construction of floats, dashers, or any arrangement of the parts of a churn which come in contact with the cream that will cause the greatest amount of agitation of the cream, will most speedily accomplish the object desired.

I claim as follows:

The combination and arrangement of the circular dasher C, staple-shaped lugs E E E, and projections F F, substantially as shown and described.

FRANK EUGENE CLARKSON.

Witnesses:

JAMES A. LOCKE,
MORRIS R. LOCKE.