

No. 713,379.

Patented Nov. 11, 1902.

H. E. BARTON.  
TUMBLING MACHINE.

(Application filed Jan. 23, 1902.)

(No Model.)

Fig. 1.

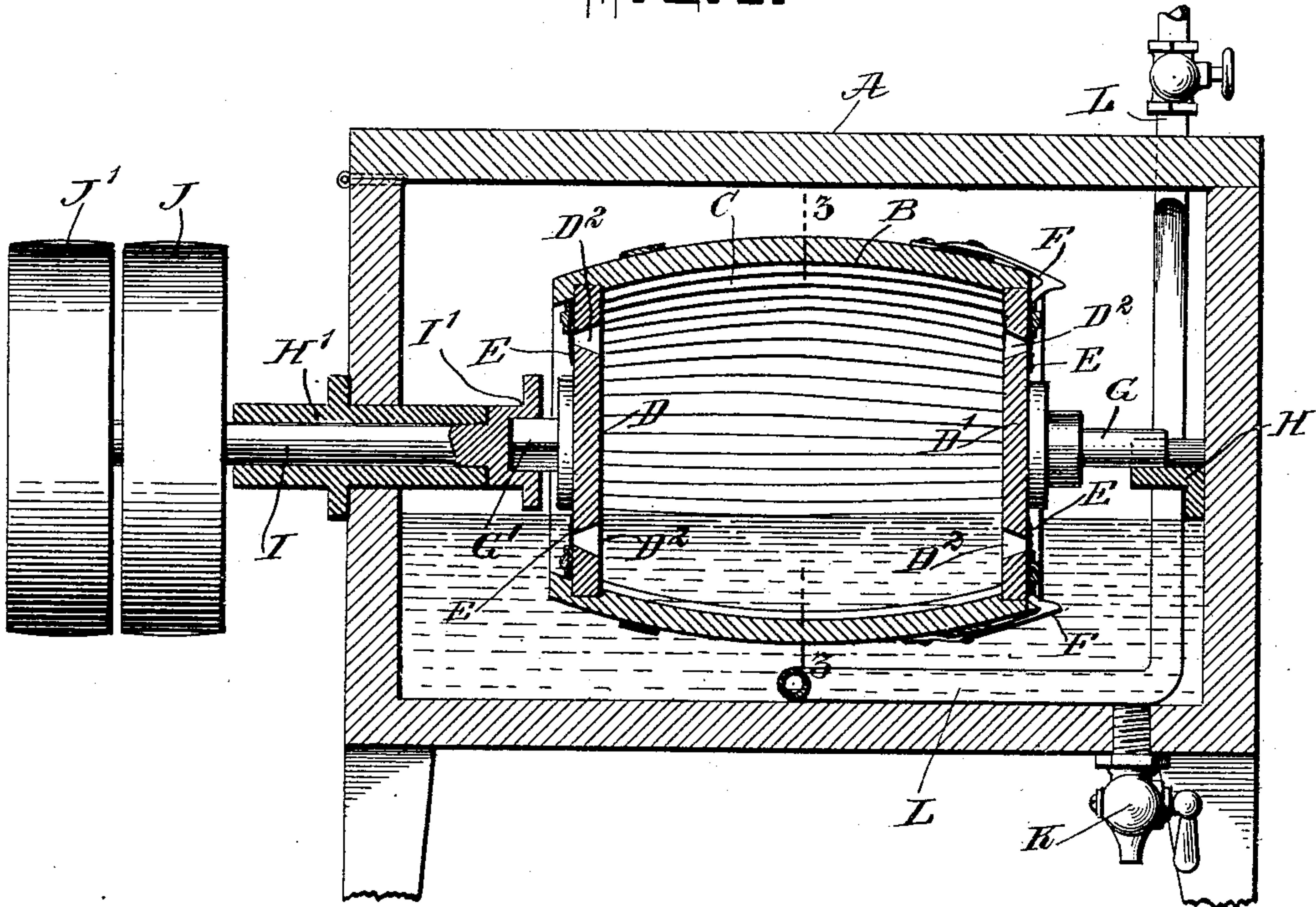


Fig. 3.

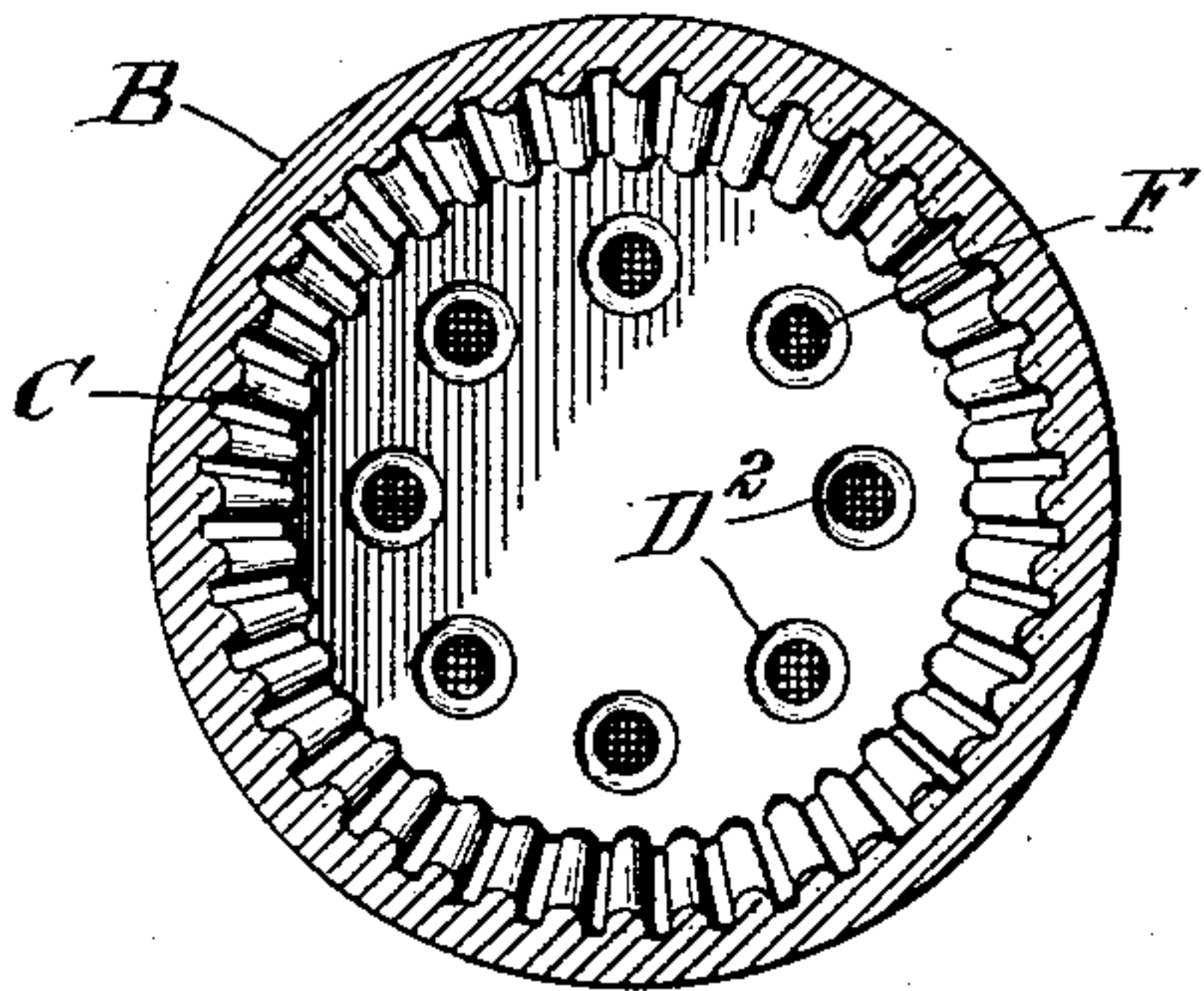
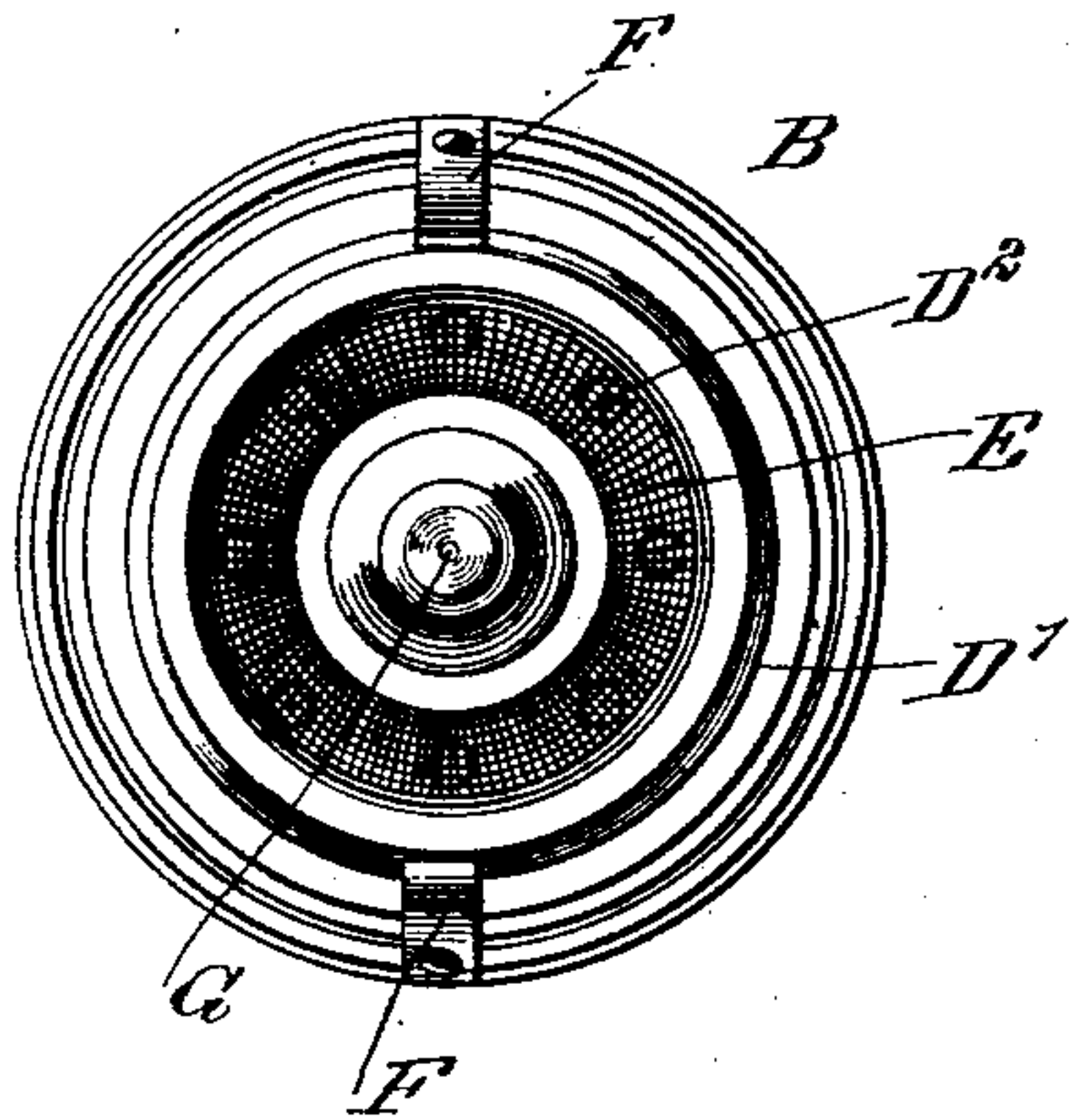


Fig. 2.



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# UNITED STATES PATENT OFFICE.

HARVEY EUGENE BARTON, OF ATTLEBORO, MASSACHUSETTS, ASSIGNOR TO  
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## TUMBLING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 713,379, dated November 11, 1902.

Application filed January 23, 1902. Serial No. 90,868. (No model.)

*To all whom it may concern:*

Be it known that I, HARVEY EUGENE BARTON, a citizen of the United States, and a resident of Attleboro, in the county of Bristol and State of Massachusetts, have invented a new and Improved Tumbling-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved tumbling-machine which is simple and durable in construction, very effective in operation, and more especially designed for treating jewelry—such as chains, parts thereof, and the like—to clean and polish the same in a very inexpensive and thorough manner.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a longitudinal sectional elevation of the improvement. Fig. 2 is an end elevation of the barrel, and Fig. 3 is a cross-section of the same on the line 3 3 of Fig. 1.

In a suitably-constructed tank A is mounted and revolves the tumbling barrel B, provided on the inside of its staves with longitudinally-extending ribs C to carry up the articles contained in the barrel as the latter is rotated and to then drop the articles back into the solution of a cleansing nature passing into the barrel from the tank A through openings D<sup>2</sup>, formed in the heads D and D' of the barrel B.

The openings D<sup>2</sup> are preferably in the shape of a frustum of a cone and are covered at the outside by suitable screen-rings E to prevent the articles contained in the barrel from passing out of the same, with the solution surging in and out of the said openings D<sup>2</sup>, and the head D is preferably fixed, while the head D' is removably held on the barrel to allow of inserting or removing the articles to be treated. Spring-clips F serve to normally hold the head D' in position on the end of the barrel.

The head D' is provided with a trunnion G,

mounted to turn in a half-bearing H, secured to one end of the tank A, and the other head D is provided with a polygonal offset G', fitting into a correspondingly-shaped head I', attached to one end of a shaft I, mounted to turn in a bearing H', secured to the other end of the tank A directly opposite the bearing H. On the outer end of the shaft I are secured the fast and loose pulleys J and J', connected by belt with other machinery for imparting a rotary motion to the said shaft I and by the head I' and offset G' to the barrel B.

The device is used as follows: The tank A is filled with a cleansing solution, as indicated in Fig. 1, and the jewelry to be treated is placed in the barrel B at the time the latter is removed from the tank and the head D' has been opened. When the jewelry has been placed in position in the barrel, then the head D' is moved in place, and then the barrel is engaged by its offset G' with the head I', and the trunnion G is dropped into the bearing H. A rotary motion is now given to the barrel, as above described, so that the jewelry is carried around on the ribs C to a certain height and then dropped back into the solution, which passes into the barrel from the tank A through the openings D<sup>2</sup>.

By the arrangement described the jewelry is completely agitated and the several parts rubbed against each other in the solution and on the ribs C, so that any sharp projections, solder, acid, or the like, are quickly and thoroughly removed from the articles, and the removed impurities are forced by the surging solution through the openings D<sup>2</sup> into the tank A to settle in the bottom thereof.

It is understood that the meshes in the screens E are sufficiently large to allow the impurities to pass through, but do not allow the jewelry articles to pass out of, the barrel.

By the arrangement described a large quantity of jewelry can be successfully treated in a comparatively short time, it being understood that after the operation is completed the rotation of the shaft I is stopped, and then the barrel B, with the clean jewelry, is lifted out of the tank, the solution contained in the barrel flowing through the openings back into the tank. The barrel-head D' is then opened and the clean jewelry is re-



moved, and other jewelry to be treated is placed in the barrel, and then the above-described operation is repeated.

The solution and the impurities in the tank  
5 can be drawn off therefrom whenever desired  
by a suitable draw-off cock K. (Shown in  
Fig. 1.) The solution in the tank is prefer-  
ably heated by the use of a steam-pipe L,  
connected with a boiler and extending into  
10 the tank A and beneath the barrel B.

By the use of this machine many articles,  
such as watch-chain swivels and the like, are  
finished to such a degree that the usual sub-  
sequent process of burnishing can be entirely  
15 dispensed with. It will also be noticed that  
by the constant agitation of the articles un-  
der treatment it requires but a short time to  
remove extraneous matter.

Having thus described my invention, I  
20 claim as new and desire to secure by Letters  
Patent—

1. A tumbling-machine, comprising a tank  
for containing a cleansing solution, and a  
tumbling barrel mounted to revolve in the  
25 tank, said barrel having one of its heads re-  
movable and provided with longitudinal ribs  
on its inner surface and with screen-covered  
openings in its head, as set forth.

2. A tumbling-machine, comprising a tank  
30 for containing a cleansing solution, and a  
tumbling barrel mounted to revolve in the

tank, said barrel tapering from its center to-  
ward each end, having one of its heads re-  
movable, and provided with a screen-covered  
opening in its heads and with longitudinal 35  
half-round ribs on its inner surface, as set  
forth.

3. A tumbling-machine comprising a tank  
for containing a cleansing solution, a revo-  
luble tumbling barrel formed at the inner 40  
faces of the staves with ribs, and provided in  
its heads with screened openings, one of the  
heads being removable, and means for rotat-  
ing the barrel, the latter having a removable  
connection with the said means, as set forth. 45

4. A tumbling-machine, comprising a tank  
for containing a cleansing liquid, and a revo-  
luble tumbling barrel removably mounted in  
the tank, said barrel having a removable  
head and provided with openings for the cir- 50  
culation of the liquid in the tank, and with  
means on the inner surface for raising the  
articles and then dropping them into the so-  
lution, as set forth.

In testimony whereof I have signed my 55  
name to this specification in the presence of  
two subscribing witnesses.

HARVEY EUGENE BARTON.

Witnesses:

FRANK H. DICKINSON,  
ALBERT E. FIELDS.