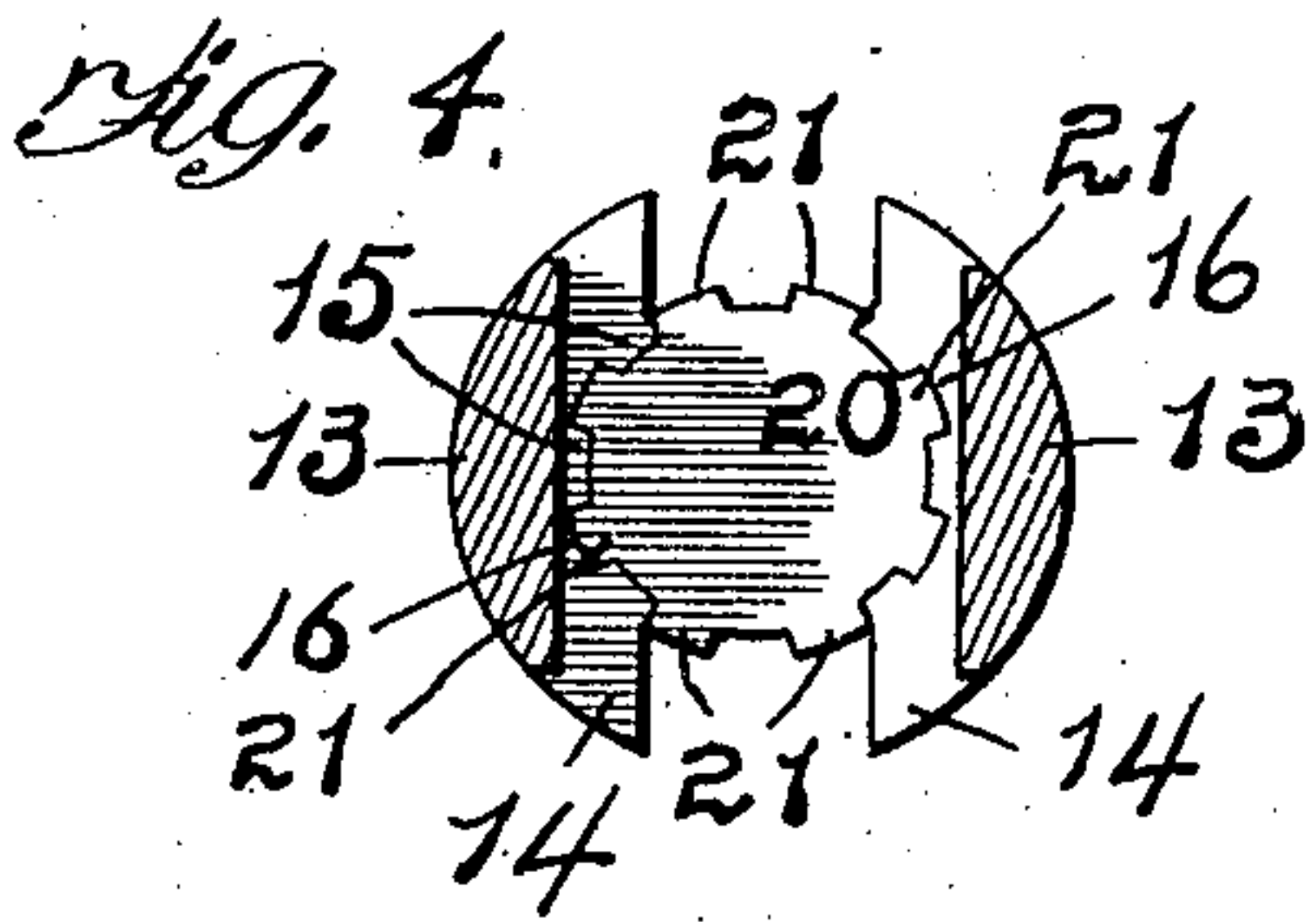
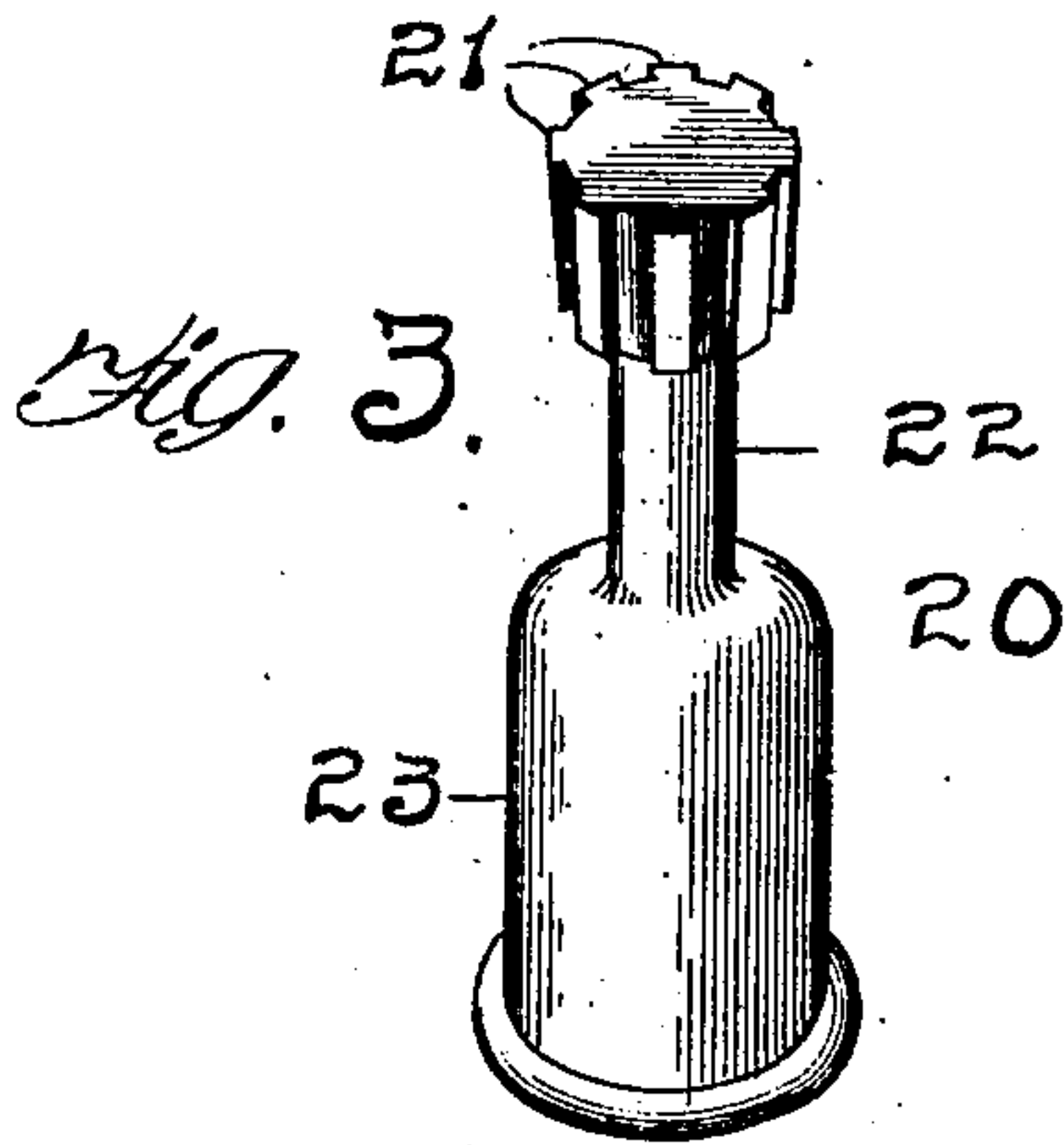
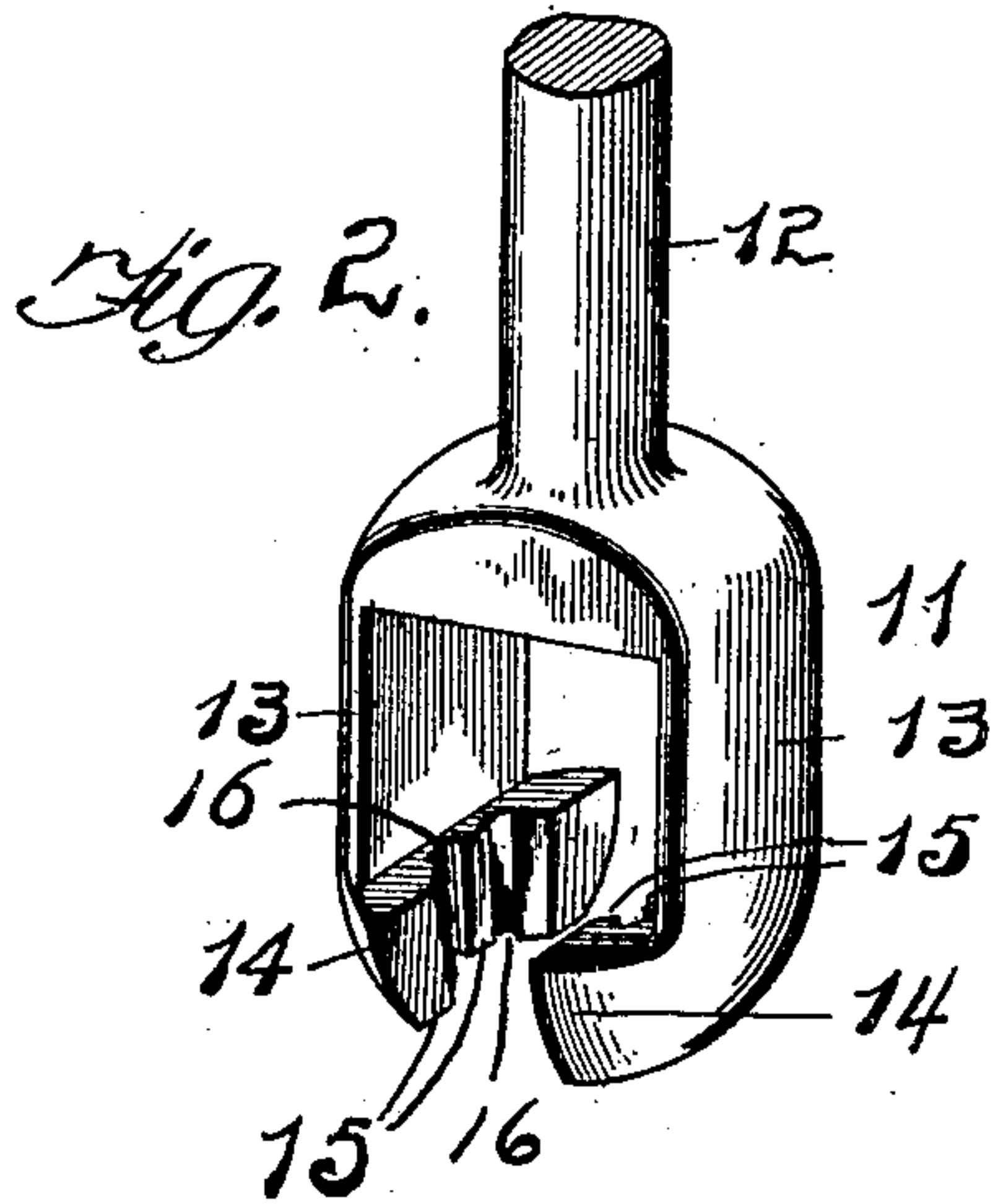
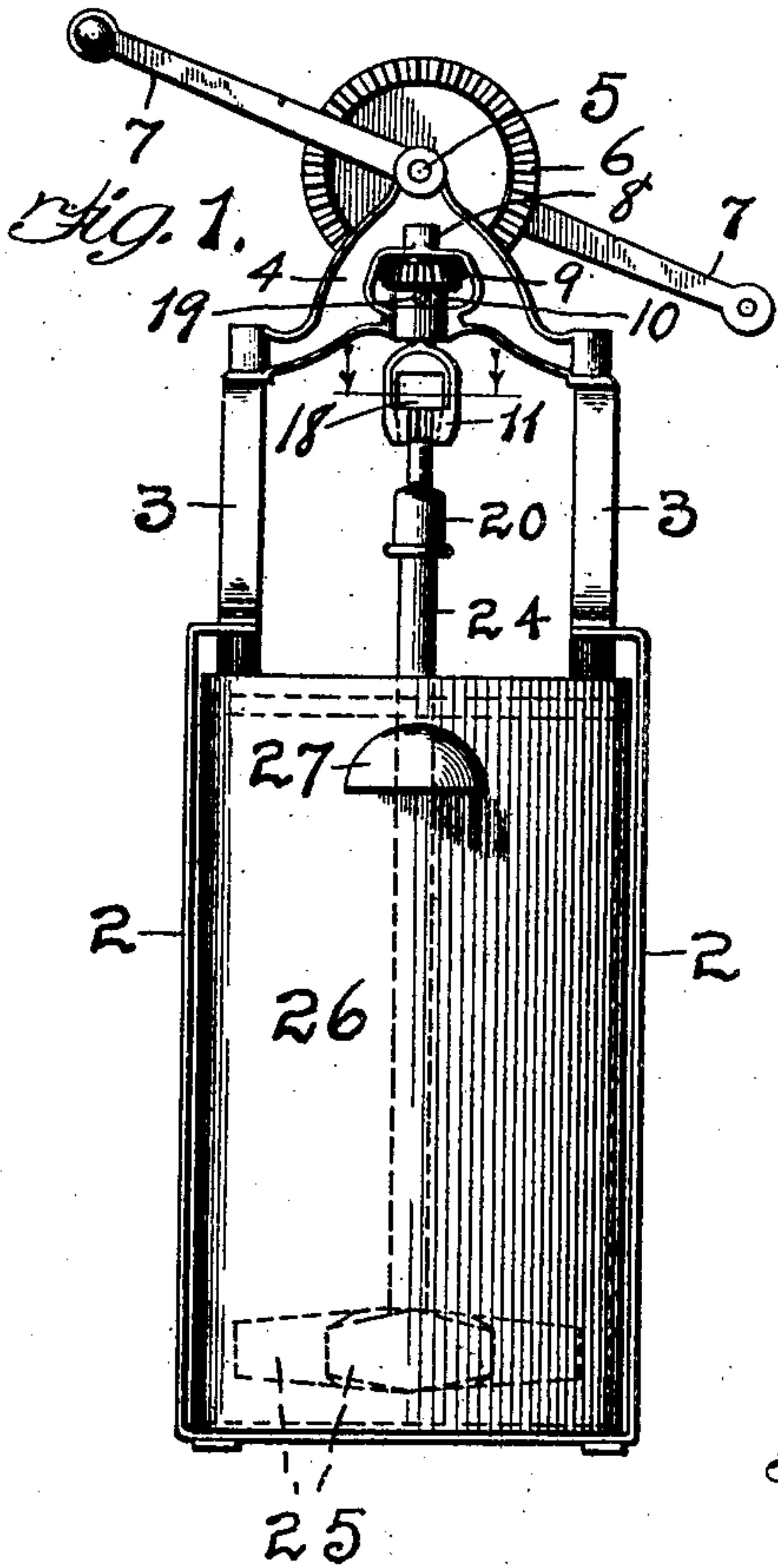


J. R. CASTLE.
SUSPENDED DASHER FOR CHURNS, &c.
APPLICATION FILED AUG. 10, 1908.

919,693.

Patented Apr. 27, 1909.



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UNITED STATES PATENT OFFICE.

JACOB R. CASTLE, OF ABINGDON, ILLINOIS.

SUSPENDED DASHER FOR CHURNS, &c.

No. 919,693.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed August 10, 1908. Serial No. 447,845.

To all whom it may concern:

Be it known that I, JACOB R. CASTLE, a citizen of the United States, and a resident of Abingdon, in the county of Knox and State of Illinois, have invented certain new and useful Improvements in Suspended Dashers for Churns, &c., of which the following is a specification.

The invention has relation to any device of the nature or character described, including churns, ice-cream freezers, egg-beaters, cream-whippers, washing machines, and all other machines which employ a rotary dasher or beater.

The principal object of the invention is to provide a novel means of suspending the dasher, whereby a perfect union or jointure of the actuating shaft and dasher is effected.

A further object is to provide a joint, one of the members of which is adapted to be locked from turning within the other by the mere act of placing it therein, but which may be instantly unlocked by merely raising the lower from the upper member.

A still further object is to furnish an internally channeled or grooved suspending-member, the channels and the ribs which provide them being conically disposed, and a conical-headed suspended member adapted for co-action therewith, whereby the weight of the suspended member effectively locks it from jumping upwardly and out of its socket, and this without extraneous means. In other words, the cone-shaped head will by its own gravity lock itself from displacement within the internally cone-shaped suspending-member so that some force is necessary to remove it therefrom.

Subsidiary objects will appear as the nature of the invention is more fully disclosed.

To the end of carrying out these objects the invention consists in the novel constructions and combinations hereinafter described and particularly pointed out in the claims hereto appended.

In order that the invention may be fully understood I will proceed to describe it in detail, reference being had to the accompanying drawings, in which:

Figure 1 is an elevation of a churn in which my improvements are shown as incorporated; Fig. 2, an enlarged perspective detail of the suspending member of my improvements, partly broken away; Fig. 3, a similar view of the suspended member; and Fig. 4, an enlarged sectional view, taken in the line, and

in the direction indicated by the arrows at the principal figure.

Like numerals indicate like parts in the different figures of the drawings, referring to which, 2 indicates a U-shaped bar bent to form a frame which supports standards 3 above which is mounted a bracket 4, at the upper end of which is a bearing for a shaft 5 on which is mounted a bevel-gear wheel 6 and crank-arms 7. The bracket is provided also with bearings for a vertical shaft 8 which carries a bevel pinion 9 in gear with the wheel 6 and which shaft and pinion are actuated thereby. A hub 10 extends from the pinion 9 and is provided with a socket for a purpose presently described. The parts hereinbefore briefly described are those of a well known construction of churn, and need no fuller description.

11 indicates the suspending member of my improvements, and comprises a shaft 12 having a head composed of laterally extended depending sides 13 providing a transverse slot 18, and inwardly directed flanges 14, the confronting faces of which are semi-circularly cut-away and provided with a series of ribs 15 alternated by channels 16, the diameter of the vertical opening being greatest at its upper portion. The shaft 12 is adapted to be fitted snugly into the hub hereinbefore described in the bevel-pinion, and to be secured therein by a pin 19. The means for attachment of the suspending member to the actuating means is, however, immaterial.

The suspended or dasher-supporting member 20 has a truncated-cone-shaped head provided with a series of longitudinal ribs 21 which fit into the corresponding channels or notches 16 of the member 11. A constricted connector 22 depending from the cone is integral with a socketed portion 23 into which is fitted and secured the dasher-shaft 24 which actuates the dasher 25, both of which may be of any preferred and suitable construction. The can 26 is provided with suitable handles 27 in an ordinary manner.

To assemble the device, it being presumed that the member 11 has been secured in place to be actuated by the bevel-gear mechanism, the operator will pass the connector between the confronting faces of the flanges 14, the head passing freely into the transverse slot 18, until it reaches a position midway thereof. By then releasing it the member 20 will drop to the position shown

best at Fig. 4, the ribs of each member interlocking with the channels of the other. The tapered form of each will not only effectually lock them by gravity, but will prevent the member 20 from falling. It will be evident that by thus suspending the dasher I do away not only with the usual bearing at the bottom of the cream-can, but also with the difficulty of positioning the dasher-shaft thereon when the can is filled and the bearing obscured from view.

The advantages of the invention will be apparent and the operation will be understood from the foregoing description, it being particularly noted that various changes may be made in the details of construction without departing materially from the general idea involved.

Having thus described the construction and operation of the invention, and having set forth its uses, purposes and advantages, I claim as new and desire to secure by Letters Patent the following, to wit:—

1. A device of the character described comprising a suspending member and a member adapted to be suspended thereby, the former including confronting ribbed flanges having alternating grooves, and the latter including a conical ribbed head adapted to co-act with said flanges.

2. A device of the character described comprising a suspending member provided with a transverse slot and including spaced, channeled flange-portions, and a suspended member including a conical ribbed head adapted to be suspended thereby.

3. A device of the character described comprising a suspending member provided with a transverse slot and including spaced, channeled, semicircularly cut-away portions, and a suspended member including a conical ribbed head adapted to co-act with and be suspended by said first named member.

4. A device of the character described comprising a suspending member provided with a transverse slot and including inwardly directed channeled flanges, the confronting

faces of which are conically disposed and semicircularly cut-away, and a suspended member including a conical ribbed head adapted to engage said confronting faces, the suspended member including means whereby a dasher may be sustained.

5. The combination, in a device of the character described, of a suspending member provided with a transverse slot and including inwardly directed spaced flanges at its lower portion, the confronting faces of which flanges are conically disposed and cut away and channeled substantially as described, and a suspended member including a conical ribbed head adapted to engage said confronting faces, a constricted shank adapted to pass between said flanges, and means whereby a dasher may be sustained, said shank, head and dasher-sustaining means being integral.

6. In a device of the character described, and in combination, a suspending and a suspended member, the first comprising a shaft including a head composed of laterally depending sides providing a transverse slot through said head, and including also inwardly directed flanges, the confronting faces of which flanges are semi-circularly cut away and provided with a series of conically arranged ribs, whereby a series of conically arranged channels is provided; and the second comprising an inverted truncated cone-shaped head provided with a longitudinal series of ribs whereby a series of conically arranged channels is provided, the channels of the first recited member adapted to receive the ribs of the other, and the channels of the second recited member to receive the ribs of the first recited one, and the suspended member to be locked within the suspending member by its own gravity.

In witness whereof I have hereunto set my hand this 28th day of July, 1908.

JACOB R. CASTLE.

In presence of—

J. W. BOSTON,

H. M. RICHARDS.