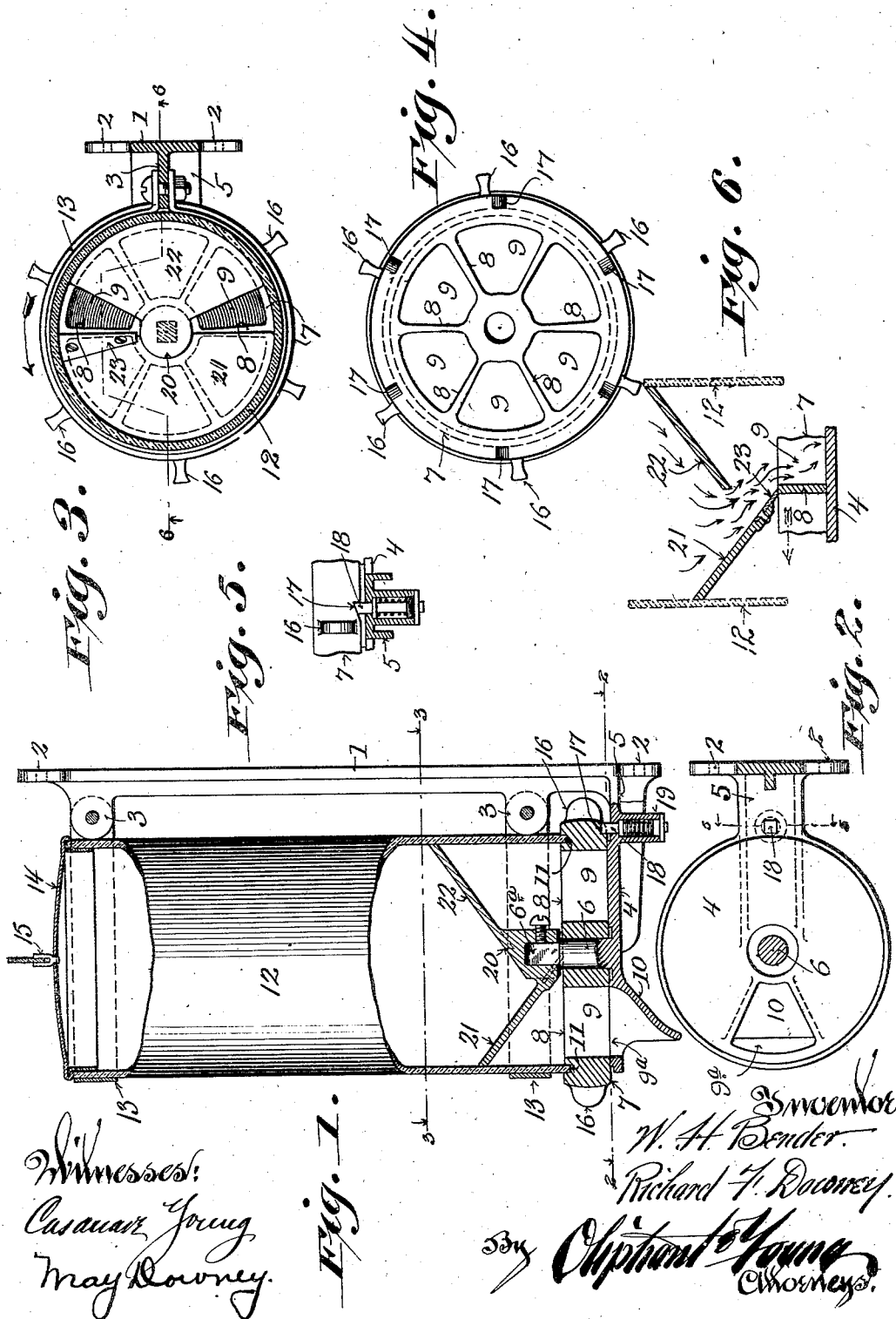


W. H. BENDER & R. F. DOWNEY.
MEASURING VESSEL.
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Patented Mar. 21, 1911.



Witnesses:
Casimir Young
May Downey.

Fig. 1.

W. H. Bender.
Richard F. Downey.
By *Clifton & Young*
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM H. BENDER AND RICHARD F. DOWNEY, OF MILWAUKEE, WISCONSIN.

MEASURING VESSEL.

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To all whom it may concern:

Be it known that we, WILLIAM H. BENDER and RICHARD F. DOWNEY, both citizens of the United States, and residents of Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented certain new and useful Improvements in Measuring Vessels; and we do hereby declare that the following is a full, clear, and exact description thereof.

Our invention refers more particularly to measuring vessels for culinary purposes, its object being to provide a simple, economical and effective automatic measuring and delivering appliance in connection with a hopper, each movement of which will cause a predetermined quantity of the hopper contents to be discharged. Thus an accurate quantity of ingredient is quickly obtained without relying upon the judgment of the operator, which is frequently the case when haste is a factor. The appliance thus insures economy and uniformity in the proportions of food products used and also serves as a check against waste due to carelessness prevailing in kitchens where the services of employees are required, the invention being particularly designed for dispensing small quantities of tea or analogous articles for individual consumption.

With the above objects in view said invention consists in various structural features and combination of parts as set forth hereinafter with reference to the accompanying illustrations and subsequently claimed.

In the drawings Figure 1 represents a side elevation with parts broken away and in section of a vessel embodying the features of our invention; Fig. 2, a sectional plan view of the same, as indicated by line 2—2 of Fig. 1; Fig. 3, a cross-section of the same as indicated by line 3—3 of Fig. 1; Fig. 4, a detail inverted plan view of a spider containing a series of pockets, the spider being the movable feed member employed in connection with the hopper; Fig. 5, a detail fragmental sectional view of a spring-controlled locking dog that is provided for engaging the notches in the periphery of the spider, a portion of which latter is shown in connection therewith, the section being indicated by line 5—5 of Fig. 2, and Fig. 6, a detail sectional elevation of the measuring apparatus, the section being indicated by line 6—6 of Fig. 3.

Referring by characters to the drawings, 1 represents the base of a bracket having apertured feet 2 for attachment to a wall or other vertical support, the base being also provided with upper and lower ears 3, that extend from a longitudinal rib. The bracket is also formed with a circular bed-plate 4 that projects from the bottom portion of the base 1 and at a right-angle thereto, the bed-plate being connected to said base-plate by a neck 5 that is suitably ribbed for strength. A centrally disposed stud 6 extends from the bed-plate upon which is mounted a circular spider 7 having radial ribs 8 that form division walls of open end V-shaped pockets 9 of predetermined capacity. The lower face of the spider is in ground-fit engagement with the upper face of the bed-plate, which latter is provided with a V-shaped discharge aperture 9^a that corresponds in dimensions with the spider pockets 9, the same being adapted to register therewith incidental to a partial step-by-step rotary movement of said spider. The discharge aperture 9^a has projecting therefrom a spout 10 that is preferably cast integral with the bed-plate. The upper face of the spider has a circular groove 11 therein, into which is fitted the bottom edge of an open ended cylinder 12, the cylinder being preferably composed of vitreous material and is held in non-rotary engagement with the bracket-base 1 by means of band-clips 13 having apertured ends that straddle the bracket ears 3. A slip-cover 14 is fitted to the mouth of the cylinder, being preferably provided with a bifurcated gripping lug 15 that serves also as a holder for display cards indicating the brand of material which is carried in the cylinder or hopper.

The spider 7 is arranged to be rotated by hand and, with this in view, is provided with a series of radially disposed gripping lugs 16, the number of which corresponds to the number of pockets therein, the spider being also provided upon its lower face with a corresponding number of ratchet tooth indentures 17, which indentures are adapted to be engaged by a spring-controlled plunger dog 18 that projects through and is housed in a barrel 19 forming part of the bracket neck 5.

The stud 6 terminates with a squared head 6^a for the reception of a square apertured hub 20, which hub carries a pair of oppositely inclined sectors 21, 22, the outer edges

of which fit snugly within the cylinder or hopper. The sector 21 extends in either direction from the center of the discharge aperture 9^a, its radial edges being juxtaposition to the upper face of the spider, which spider is rotated in the direction indicated by the arrow in Fig. 3. That radial edge of the sector which is inclined in the opposite direction, from the direction of rotation of the spider, is provided with a shear-plate 23, as best shown in Figs. 3 and 6, this shear-plate being adjusted to have frictional engagement with the spider ribs 8 by raising and lowering the hub 20 upon the stud head 6^a. The oppositely inclined sector is upon a slightly higher plane than its companion sector as shown, its radial edges being spaced apart from the radial edges of sector 21, whereby opposite feed throats between the radial edges of the sectors are formed. Thus these sectors, which are preferably made in one piece with the hub, constitute a non-rotatory false bottom for the hopper, between which false bottom and bed-plate 4 the spider is rotated. The said false bottom, being supported from the bed-plate, serves to sustain the load of material within the hopper, whereby said load is relieved from the hopper in order that the frictional engagement between the lower edges of the same and the spider may be reduced to a minimum.

From the foregoing description it will be seen that the vitreous hopper can readily be removed whereby all of the parts may be properly sterilized, and when it is desired to obtain a predetermined measured quantity of the article contained in said hopper, the operator imparts a partial rotation to the spider and incidental to registration of a spider pocket with the aperture 9^a of the bed-plate, the spring-controlled dog 18 will snap into one of the series of ratchet tooth indentures 17 with such force as to partially arrest further movement of the spider, the click of the pawl being audible. The contents of the pocket now in register with the discharge aperture will, by gravity, be now delivered to the operator and, should further of these charges or predetermined measured quantities be desired, the operation would be repeated.

With each partial movement of the spider it will be observed that two pockets are brought into registration with the opposite feed pockets of the false bottom, whereby the tea or other product is, by gravity, discharged therein, thus insuring the proper filling of said pockets.

When the filled pocket moves under the

shear-plate 23, it is apparent that material above the spider-face will be scraped off and should the material be slightly stringy and tend to choke at this point, the shear-plate would sever the particles, the shear-plate being shaped to a knife edge.

We claim:

1. A measuring vessel comprising a bracket having an apertured bed-plate extending therefrom, a spider having a series of pockets rotatably mounted upon the plate, a spring-controlled dog for engagement with the spider, whereby a pocket of the same is held in register with the bed-plate aperture, a hopper fitted to the upper face of the spider, securing means for the hopper connected to the bracket, and a non-rotatory sector disposed above the spider within said hopper, the sector being adapted to partially cover the aforesaid spider.

2. A measuring vessel comprising a bracket having an apertured bed-plate extending therefrom, a stud extending from the bed-plate, a spider having a series of pockets rotatably mounted upon the stud, teeth carried by the spider, a spring-controlled dog engageable with the teeth, a hopper having its lower edge in frictional engagement with the spider, an inclined sector rigidly secured to the bed-plate stud having a radial face in engagement with the upper face of said spider, and a securing means for the hopper in connection with the bracket.

3. A measuring vessel comprising a bracket having an apertured bed-plate and base-plate disposed at a right-angle thereto, a rigid stud extending from the base-plate and having a head, a spider rotatably mounted upon the stud, the spider being provided with a series of pockets and an upper annular groove, peripheral teeth carried by the spider, a spring-controlled dog engageable with the spider teeth, a hopper having its lower edge fitted in the spider groove, oppositely inclined sectors secured to the stud head within the hopper, one of the sectors being provided with a radial edge engageable with the upper face of the aforesaid spider, ears extending from the bracket base, and band-clips for the hopper secured to the bracket ears.

In testimony that we claim the foregoing we have hereunto set our hands at Milwaukee in the county of Milwaukee and State of Wisconsin in the presence of two witnesses.

WILLIAM H. BENDER.
RICHARD F. DOWNEY.

Witnesses:

MAY DOWNEY,
GEO. W. YOUNG.