

(No Model.)

I. ROBBINS.

APPARATUS FOR DIVIDING MEDICINAL OR OTHER POWDERS.

No. 370,351.

Patented Sept. 20, 1887.

Fig. 1.

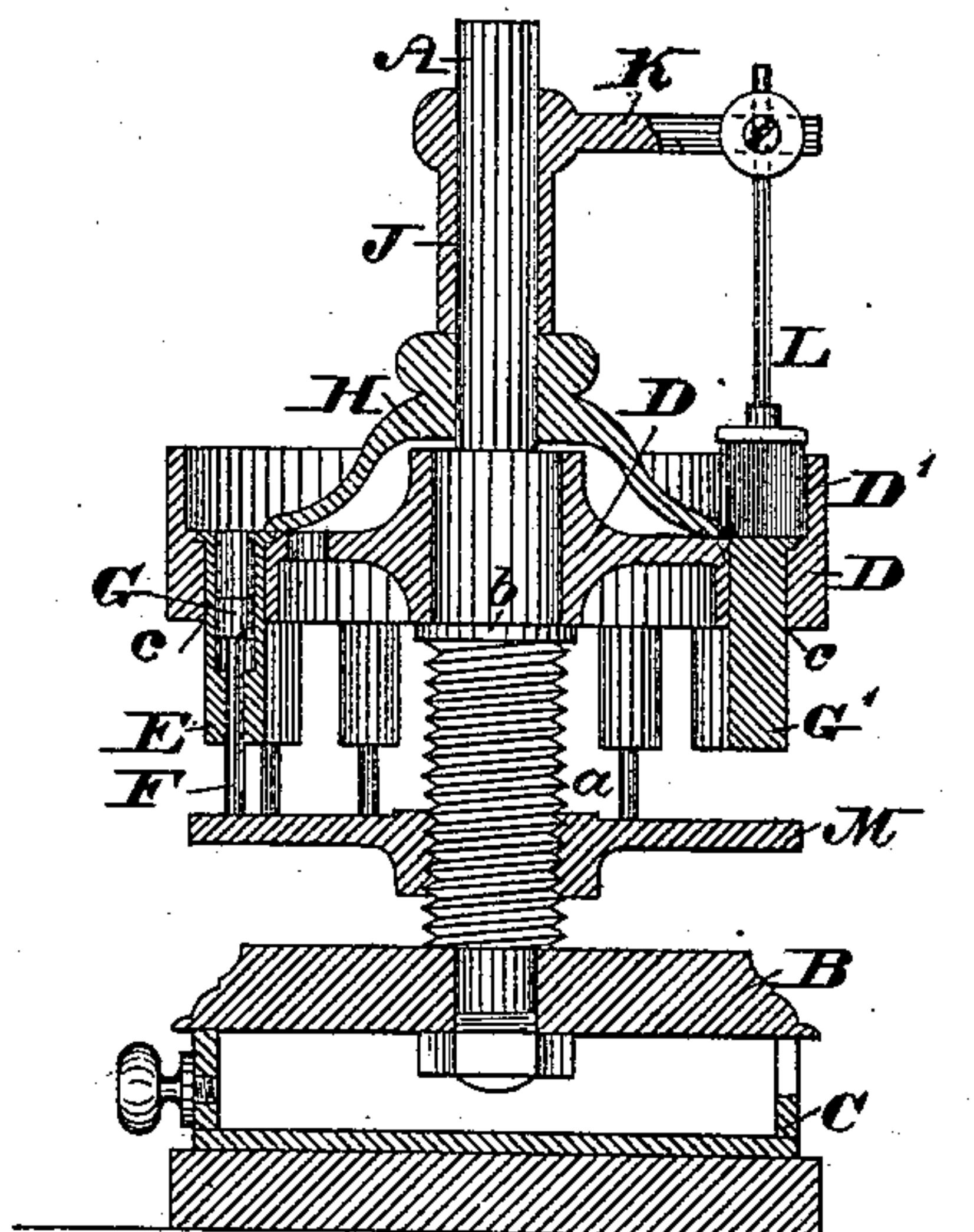


Fig. 2.

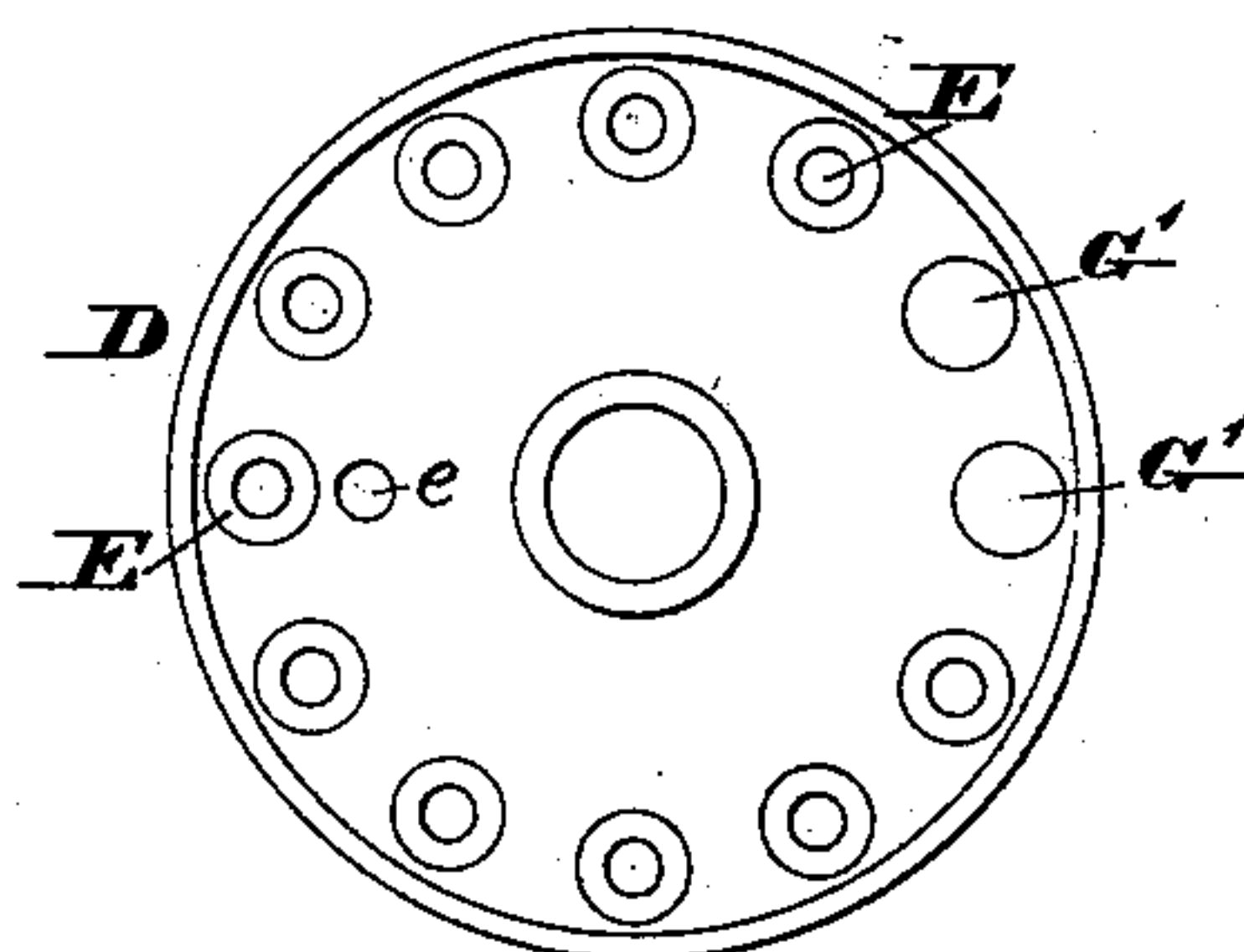
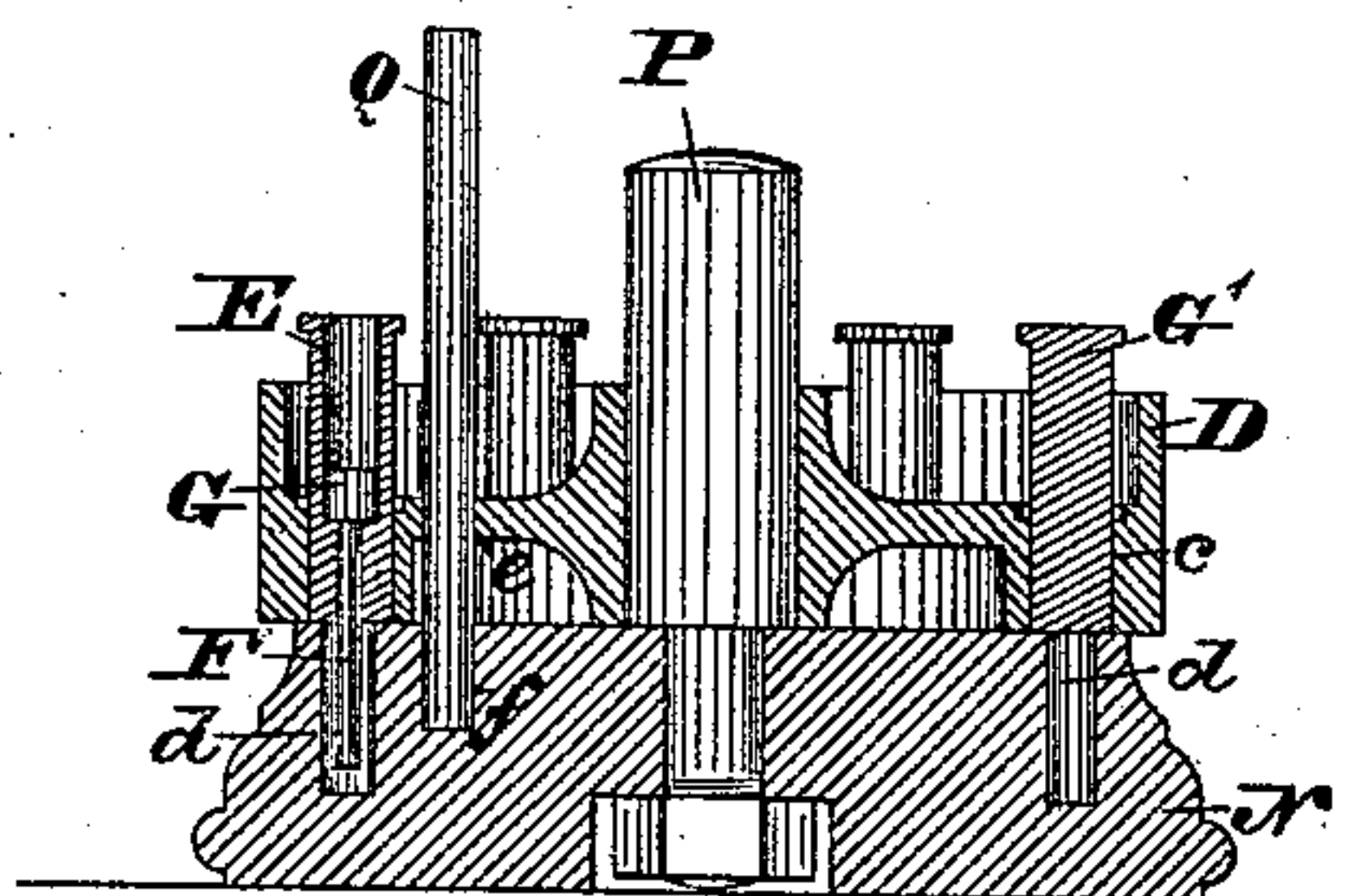


Fig. 3.



WITNESSES:

Th. Rolle'
Jas. F. Kelly.

INVENTOR:
Ira Robbins.
BY John A. Diederichs
ATTORNEY.

UNITED STATES PATENT OFFICE.

IRA ROBBINS, OF CAMDEN, NEW JERSEY, ASSIGNOR TO FREDERICK PAUL SHER, OF SAME PLACE.

APPARATUS FOR DIVIDING MEDICINAL OR OTHER POWDERS.

SPECIFICATION forming part of Letters Patent No. 370,351, dated September 20, 1887.

Application filed April 26, 1887. Serial No. 236,138. (No model.)

To all whom it may concern:

Be it known that I, IRA ROBBINS, a citizen of the United States, residing at Camden, in the county of Camden, State of New Jersey, have invented a new and useful Improvement in Apparatus for Dividing Medicinal and other Powders, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to an apparatus for dividing powders; and it consists of a cup rendered adjustable as to the size of the dose required.

It further consists of means for supporting said cup.

It further consists of means for preventing the cup from improperly leaving its support.

It also consists of means for properly filling the cup.

It also consists of means for conveniently removing the cup from its support.

Figure 1 represents a vertical section of an apparatus embodying my invention. Fig. 2 represents a top view of a portion thereof.

Fig. 3 represents a vertical section of another portion of the invention.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A represents a standard which is secured to and rises from a base, B, the latter having a drawer, C, for conveniently holding loose parts of the apparatus or other purposes. The standard is screw-threaded, as at *a*, and formed with a shoulder, *b*, above which latter the standard has a plain surface.

D represents a flanged head having a central opening, so as to be fitted on the standard and rested on the shoulder *b* thereof. In the head, near the periphery thereof, are openings *c*, in the present case twelve in number, the same extending vertically and receiving cups E, which have their upper ends flanged, whereby they may be suspended from the head within said openings *c*. The base of each cup E is perforated, and through the same is passed the stem F of a piston, G, it being evident that the piston may rise and fall in the cup.

On the standard, above the head D, is placed an annular plate, H, which is made of metal

or other material, so as to be sufficiently heavy, and of such diameter or size that its periphery rests on the inner edges of the upper ends of the cups E, whereby the latter are prevented from improperly rising from the head D.

On the standard, above the plate H, is fitted a sleeve, J, having an arm, K, to which is secured a brush, L, the head of which is located between the periphery of the plate H and the rim or flange D' of the head D.

M represents a follower which has a threaded opening in its center and is fitted to the threaded portion *a* of the standard A, it being located below the head D and adapted to support the pistons G, whose stems F rest on said follower.

Referring to Fig. 3, N represents a base having a stem, P, secured to and rising therefrom, and a series of openings, *d*, which latter are adapted to register with the openings *c* of the head D, and of such diameter as to receive the stems F of the pistons without permitting the cups E to enter the same. A pin, Q, is secured to the base N in the opening therein, so as to pass through an opening, *e*, in the head D, for causing the openings *c d* to register.

The operation is as follows: The sleeve J, with the brush L, and weight-plate H are removed, and the follower M is now or subsequently raised or lowered, so as to vertically adjust the pistons G, and thus regulate the depth of the cups E relatively to the required size, dose, or charge of the powders, said cups E being in the openings *c* and the stems F of the pistons resting on the follower M, as will be seen in Fig. 1. The plate H and sleeve J, with the brush L, are now reapplied and a quantity of powder is placed on the head D, the flange or rim D' thereof forming a chamber to receive the powder. The brush L is now rotated with the sleeve J, whereby the powder is swept into the cups, and the latter are thus properly filled and contain uniform doses or charges. In some cases a predetermined quantity of powder is placed in the chamber or trough of the head D and the same brushed into the cups, so as to divide the powder into given quantities. Should the depth of the cups be insufficient to receive all of the

powder, the follower is lowered, so as to increase said depth, thus accommodating the cups to the full amount of powder to be divided. Should it be desired to make a dozen
 5 powders, every opening *c* is occupied by a cup *E*. Where a less number is required, blanks *G'* are employed, the same being solid or closed and occupying the openings *c* similarly to the cups *E*, but are incapable of receiving powder. The brush *L* and plate *H* are now removed, and the head is also displaced from the standard *A* and then fitted on the standard *P*. The stems *F* of the pistons *G* drop into the openings *d* of the base *N*; but the cups *E* strike the
 5 base and are thus raised, so that they may be grasped at the top and conveniently removed from the head, after which they are overturned and the dose thus discharged, the powders then being put up in papers or otherwise, as
 0 required. The head may afterward be restored to the standard *A* and the other operations repeated as desired.

The brush *L* is vertically adjustable on the arm *K* for evident purposes.

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

1. An apparatus for dividing medicinal and other powders, consisting of a base with standard, the latter having a shoulder, a head resting on said shoulder and having openings therein, cups resting in the openings in said head, and a second base with standard, said parts being combined as described.

5 2. In an apparatus for the purpose named, the combination of a base with a standard having a screw-threaded part and a shoulder with a head having openings therein, cups adapted to rest in said openings in the head and having openings in their base, pistons within said cups, and shafts passing through the openings in the base of the said cups, a follower working on said screw-threaded portion of standard and sustaining said piston-
 5 shafts, substantially as described.

3. An apparatus for dividing medicines, having a head loosely mounted on a standard and with openings therein, cups resting in said openings, and a brush secured to said standard and adapted to be brought in contact
 50 with the mouth of said openings, substantially as and for the purpose set forth.

4. A head carrying a cup, a standard supporting said head, and a weight-plate fitted to said standard, resting on said cup, the parts
 55 being combined and operating substantially as described.

5. The combination, with the head *D*, having openings *c*, of the cups *E* and blanks *G'*, substantially as and for the purpose set forth. 60

6. In an apparatus for the purpose named, the base *N*, having openings *d*, and standard *P*, in combination with head *D*, having openings *c*, and the cups *E*, resting in said openings, substantially as described. 65

7. The head with opening *c* and a cup with a piston and stem, in combination with the base *N*, having opening *d*, receiving said stem, whereby the cup may be raised.

8. The head *D*, with openings *c*, in combination with the cups *E*, with opening in the base, the piston *G*, with stem *F*, and the base *N*, with openings *d*, the said openings *d* being of less diameter than the cups *E* and of greater diameter than the stems *F*, substantially as
 75 and for the purpose set forth.

9. The head *D*, with openings *c* and *e*, in combination with the base *N*, having openings *d* *f*, and the pin *Q*, substantially as described. 80

10. The standard *A*, in combination with head *D*, having a flanged rim and openings *c*, the rotatable sleeve *J*, carrying a brush adapted to operate within the flanged rim of head *D* and at top of opening *c*, substantially as and
 85 for the purpose set forth.

IRA ROBBINS.

Witnesses:

JOHN A. WIEDERSHEIM,
 A. P. JENNINGS.