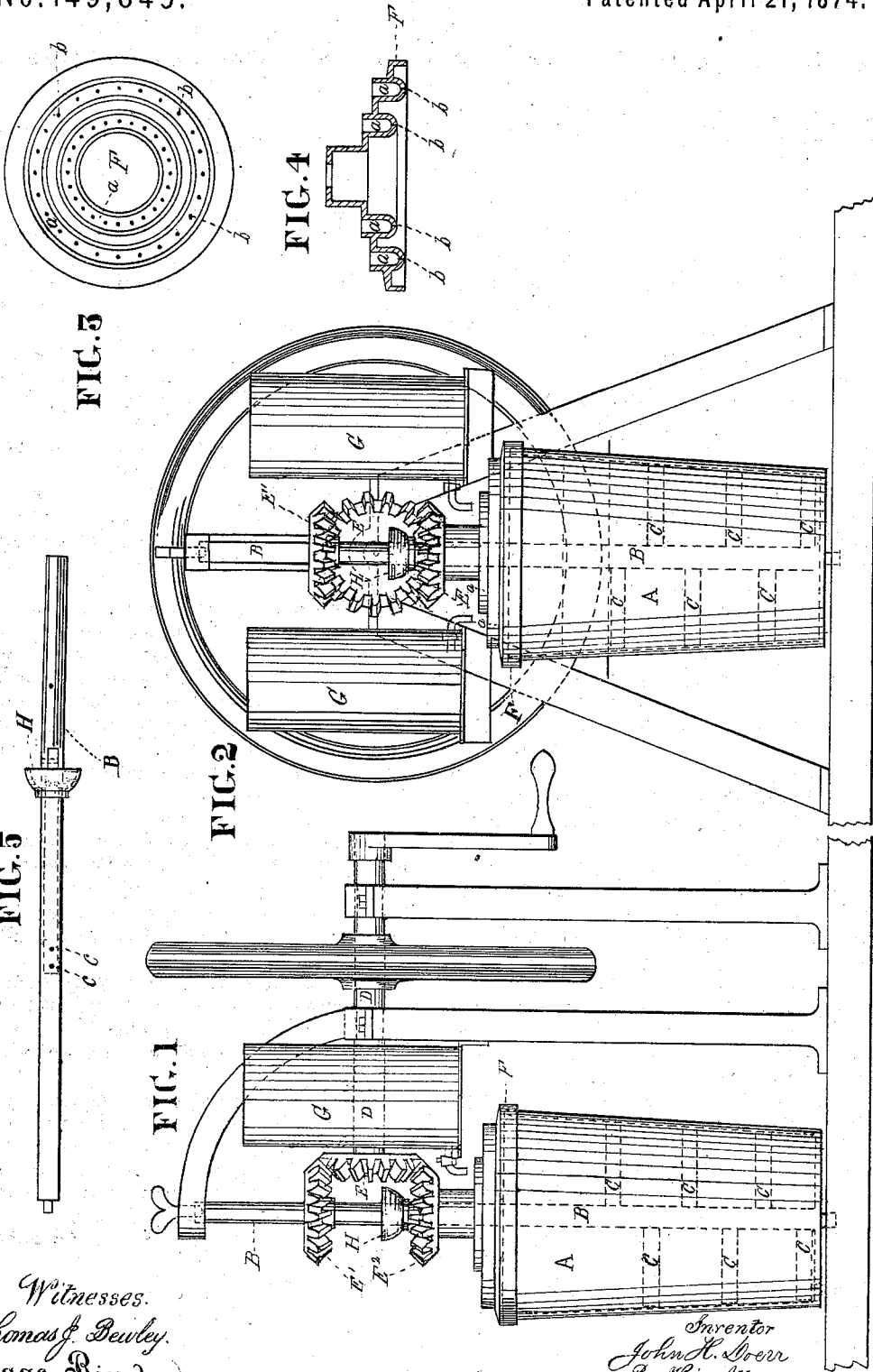


J. H. DOERR.

Apparatus for Mixing Medical Compounds, &c.

No. 149,845.

Patented April 21, 1874.



Witnesses.
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JOHN H. DOERR, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN APPARATUS FOR MIXING MEDICAL COMPOUNDS, &c.

Specification forming part of Letters Patent No. **149,845**, dated April 21, 1874; application filed February 23, 1874

To all whom it may concern:

Be it known that I, JOHN H. DOERR, of the city and county of Philadelphia, in the State of Pennsylvania, have invented a Machine for Manufacturing Medical Compounds, &c., of which the following is a specification:

My invention in the first place relates to the cover of a mixing machine with annular perforated grooves which receive ingredients to be mixed, (from vessels above the machine,) which pass through the perforations into a tub which revolves with the cover. In the second place the invention relates to a hollow perforated shaft with stirrers which revolve in said tub in an opposite direction to the motion of the latter. The hollow shaft is provided with a cup from which one or more ingredients are supplied, the same passing through the perforations and mixing with the ingredients which pass into the tub through the perforated annular grooves of the tub-cover. The motion of the tub and its cover, and the reverse motion of the shaft and its stirrers, are given by any suitable means.

In the accompanying drawings, Figure 1 is a side elevation of my improved machine. Fig. 2 is a front view of the same. Fig. 3 is a top view of the cover F. Fig. 4 is a cross-section of the same. Fig. 5 is a side view of the hollow perforated shaft B.

Like letters of reference in all the figures indicate the same parts.

A is the tub in which the ingredients are mixed. It is provided with a central shaft, B, having stirrers C. The tub is revolved in one direction and the central shaft in the opposite direction by means of the horizontal shaft D, having a miter or bevel wheel, E, and wheels E¹ and E² on the central shaft and cover respectively. But as this arrangement is not a part of my invention, a particular description thereof is not given. F is the cover of the tub A, and revolves with it. As it revolves different ingredients are fed from jars or other vessels G into the annular grooves *a* of the cover and pass through perforations *b* into the tub. Other kinds of ingredients for forming the com-

pound, or the same kinds as pass through the perforated grooves of the cover, are fed from the cup H of the central shaft B above mentioned, passing down the hollow of the shaft and through its perforations C into the tub. The shaft is shown in detail in Fig. 5. As the tub and cover are revolved rapidly in one direction and the central hollow shaft in the contrary direction, the ingredients are considerably mixed by being whirled around and thrown together, so as to require less work for the stirrers C, which complete the thorough mixing, so as to form a homogeneous compound.

I have shown but two annular perforated grooves in the cover F, but any convenient number may be used.

The machine may be used for making various compounds other than medicines.

The perforated cover may be used without the perforated hollow shaft, and the latter may be used without the perforated cover; but the two together are preferable, as the ingredients being thereby considerably mixed by being thrown together, dispense with much of the work of the stirrers.

I claim as my invention—

1. The perforated grooved cover F, in combination with the jars G, or other reservoirs, and the tub A, for the distribution into the tub A of the ingredients to be compounded during the motion of the stirrers C C, substantially as described.

2. The perforated shaft B, having a cup, H, in combination with the tub A and stirrers C for distributing the ingredients into the tub while the shaft is in motion, substantially as described.

3. The combination of the perforated shaft B and perforated grooved cover F with the tub A for distributing the materials into the tub while the machine is in motion, and the mixing of the same so as to form a homogeneous compound, substantially as described.

JOHN H. DOERR.

Witnesses:

THOMAS J. BEWLEY,
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