

No. 713,925.

Patented Nov. 18, 1902.

F. L. TAPSCOTT.

APPARATUS FOR LEVELING AND CLOSING THE COVERS OF CANS, JARS, &c.

(Application filed Feb. 3, 1900.)

(No Model.)

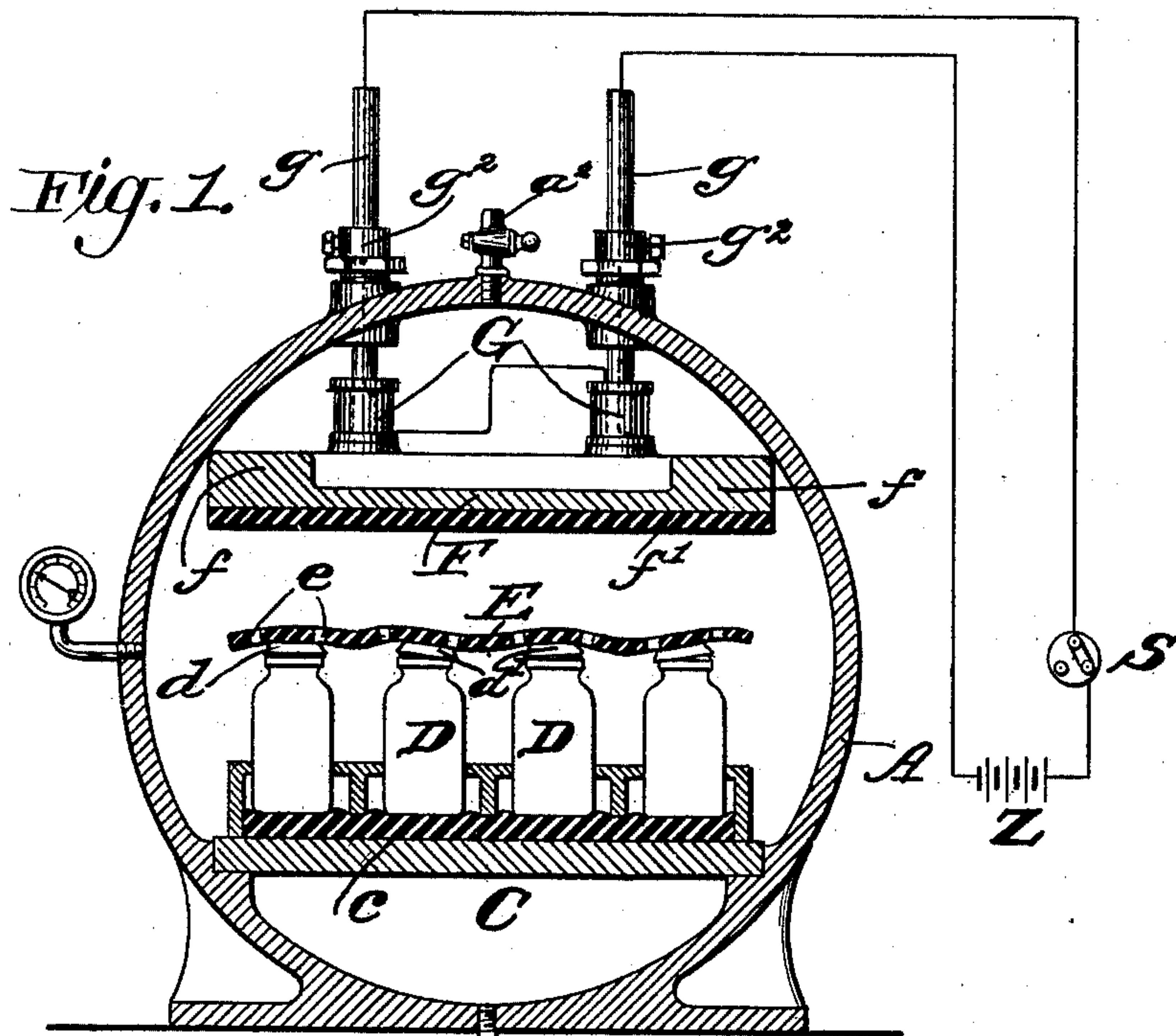


Fig. 2.

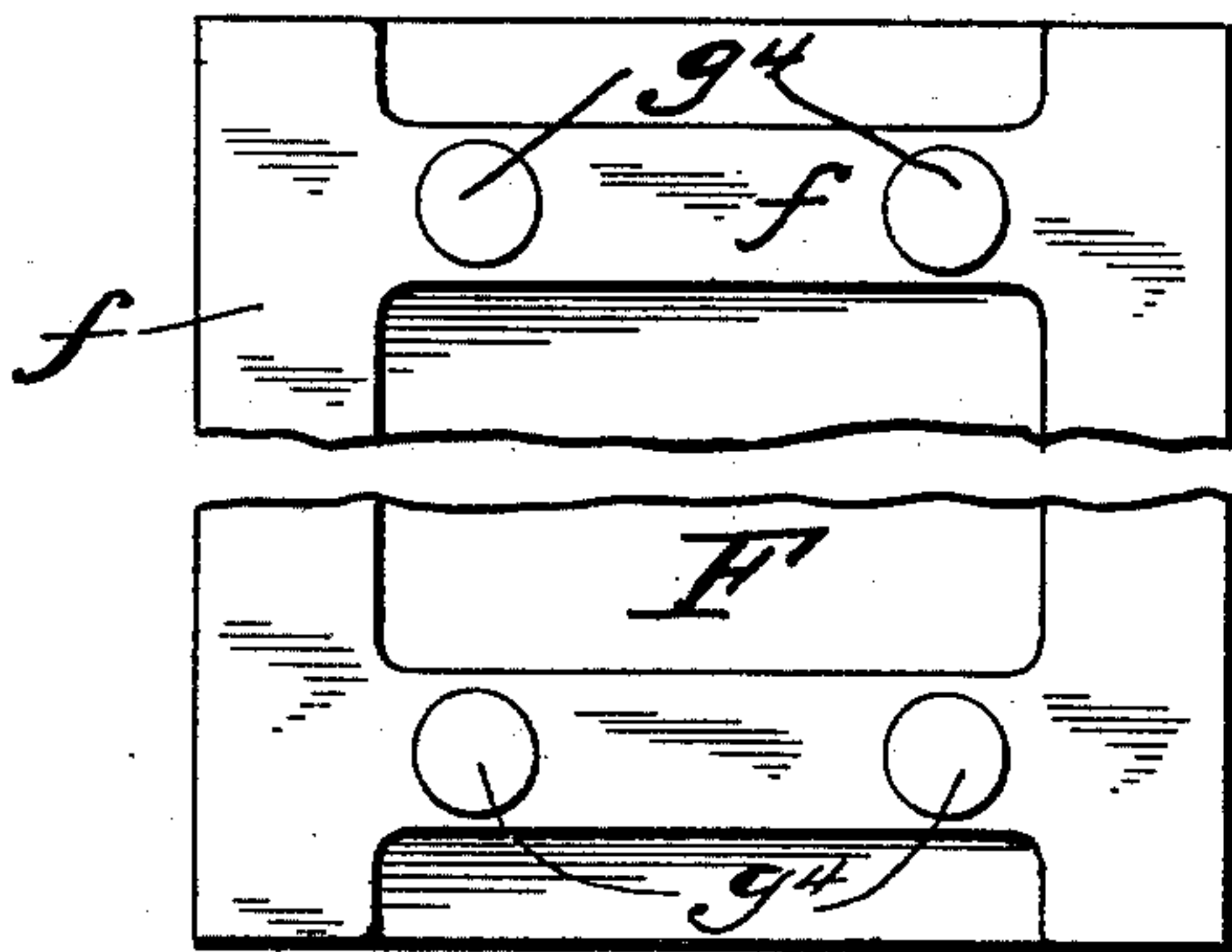
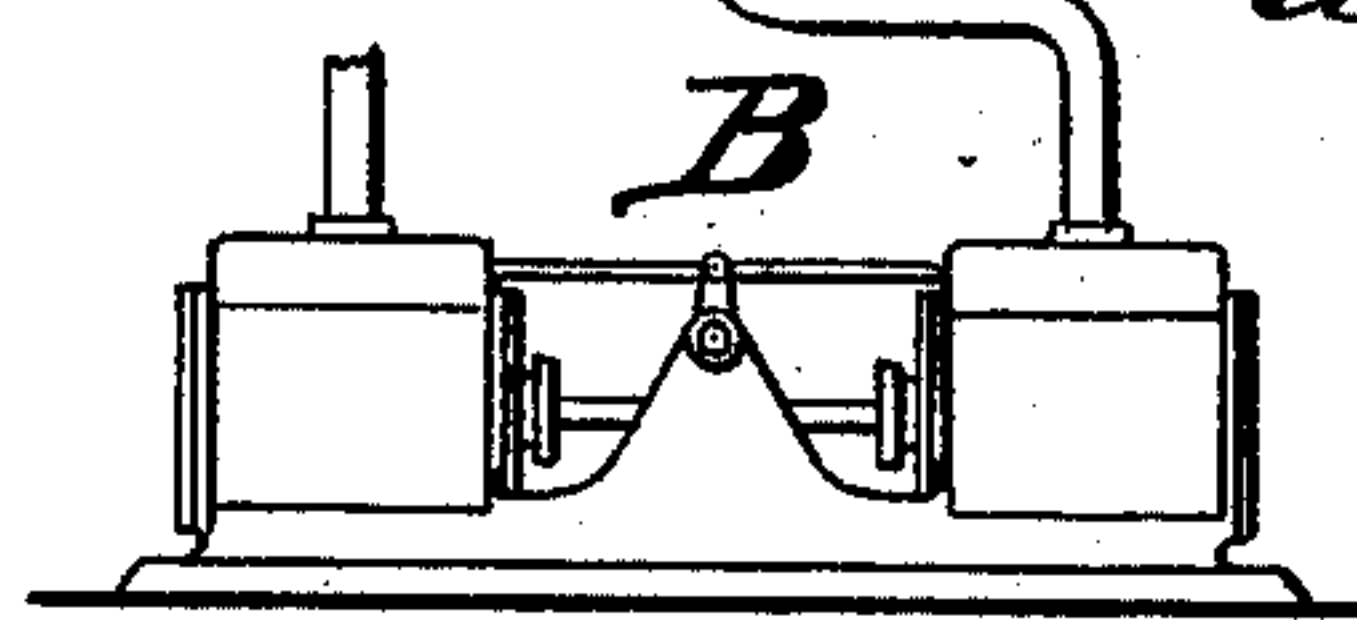
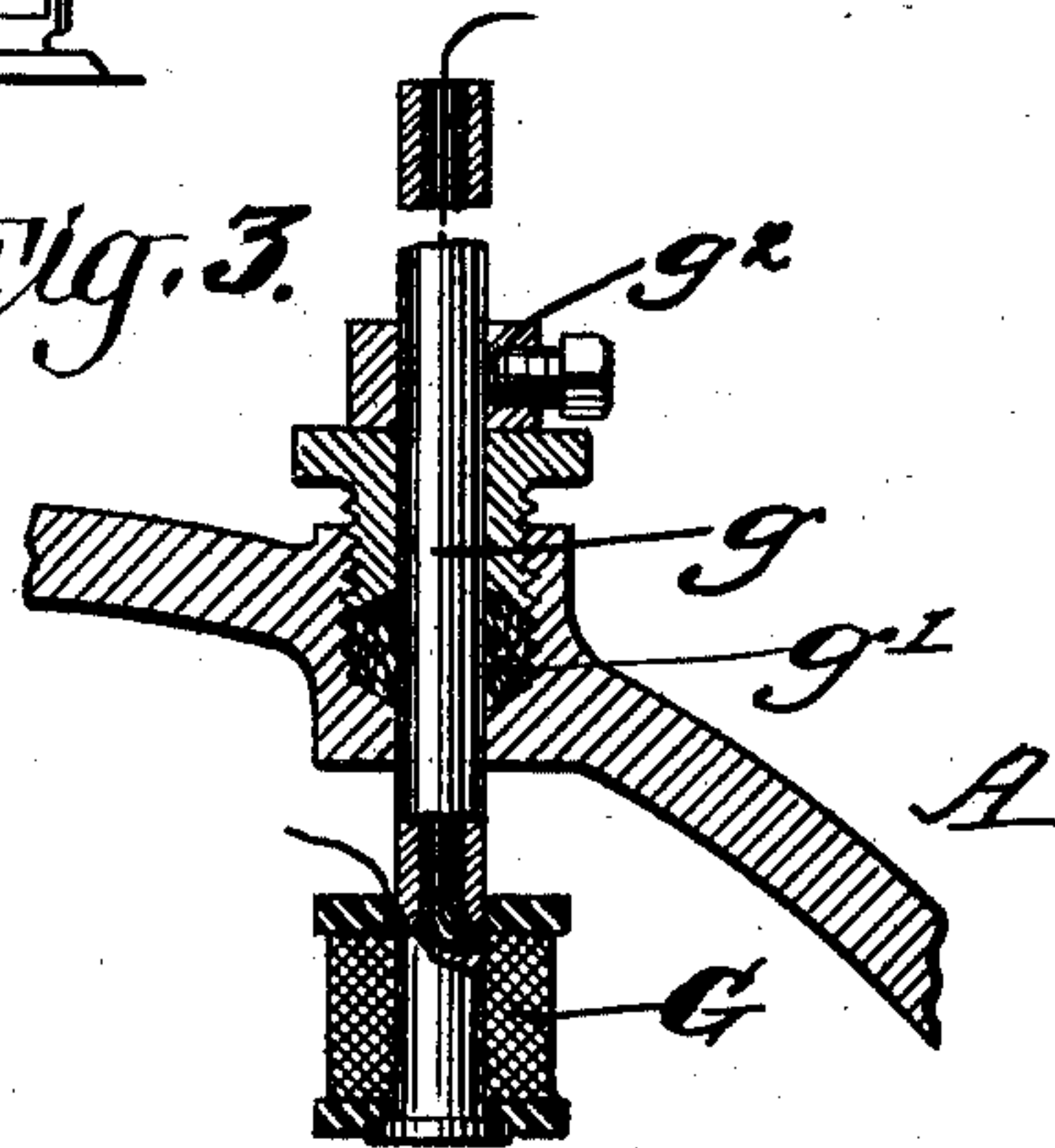


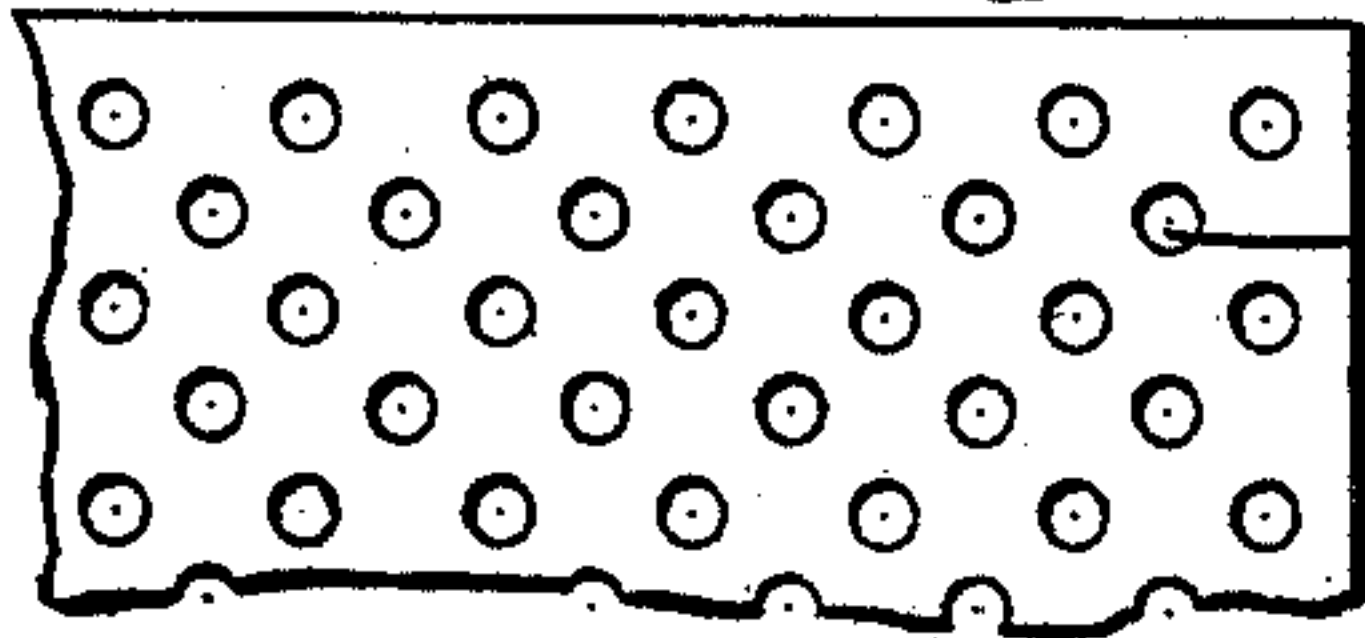
Fig. 3.



WITNESSES:

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Fig. 4.



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APPARATUS FOR LEVELING AND CLOSING THE COVERS OF CANS, JARS, &c.

SPECIFICATION forming part of Letters Patent No. 713,925, dated November 18, 1902.

Application filed February 3, 1900. Serial No. 3,897. (No model.)

To all whom it may concern:

Be it known that I, FRANK L. TAPSCOTT, a citizen of the United States, residing in the borough of Brooklyn, city and State of New York, have invented certain new and useful Improvements in Apparatus for Leveling and Closing the Covers of Cans, Jars, &c, of which the following is a specification.

My invention relates to apparatus for leveling and closing the covers of cans, jars, &c. I will describe such an apparatus embodying my invention and then point out the novel features thereof in the claims.

In the accompanying drawings, Figure 1 is a view, partly in vertical section, of an apparatus for leveling and closing the covers of cans, jars, &c., embodying my invention. Fig. 2 is a top view of a part of the apparatus. Fig. 3 is a detail sectional view. Fig. 4 is a detail view of a portion of a flexible blanket embodied in the apparatus.

Similar letters of reference designate corresponding parts in all of the figures.

A represents a suitable retort, which is provided with an air-tight door, (not shown,) and B represents a pump connected by a pipe a with the retort, by means of which air is exhausted from the retort and the cans, jars, or other receptacles contained within the retort.

C represents a support for cans, jars, &c., D. The support C may be of any desired form and may be supported within the retort in any desired manner. As here shown, it is in the form of a tray with recesses for separately holding the cans or jars. The support is also provided with an elastic or yielding covering c , on which the bottoms of the cans or jars rest. The main purpose of this covering c is to permit of the cans or jars being leveled and also to permit of the cans or jars yielding when the covers of the cans or jars are to be seated.

Each can, jar, or other receptacle is provided with a cover d , which is loosely placed on its jar before the jar is placed in the retort. This is to enable the air within the jar being exhausted therefrom by the pump B. During the exhaustion of air from the retort and the cans or jars the covers are prevented from being displaced by a suitable blanket E, which rests on the covers. This blanket

also serves in a measure to level the covers d should any of them be tilted, as indicated on the jar d' , Fig. 1. The blanket E may be of any material. It is preferably flexible. In the drawings it is shown as being of rubber. It may also have perforations or openings e . The openings are preferable in the blanket, as they permit the air to more easily escape from under it. The blanket being flexible or pliable permits of different portions being raised without affecting any other portion of the blanket. This is advantageous in that it permits of a proper vacuum being obtained in each jar.

F represents a platform located within the retort. It is adapted to be dropped from a position above the jars onto the jars and is for the purpose of leveling the covers on the jars and forcing them to their seats. This platform is preferably brought into use after the vacuum has been formed and before air is admitted through the pipe a^2 to hold the covers on the jars. The platform F drops or falls onto the covers d by gravity. To insure its falling in a horizontal position, most of its weight is distributed about the edge of the platform, as indicated by the elevated portions f . The platform may also be provided with an elastic cushion f' on its under face, which is for the purpose of breaking the shock of the fall of the platform onto the jars.

The platform may be suspended within the retort above the cans or jars by any desired means, and it may be caused to fall from its suspended position by any desired means. In the drawings I have shown the platform as being suspended by means of a number of electromagnets G, the armatures for which magnets consist of metallic plates g^4 , carried by the platform. These magnets are carried by vertically-movable rods g , which rods extend through packed glands g' , provided in the wall of the retort. The rods g are hollow for a portion of their length to permit of the windings of the magnets being brought outside of the retort. The rods are also provided with adjustable collars g^2 . These collars are for the purpose of regulating the length of the rods within the casing according to the elevations desired for the platform. The different elevations for the platform are

necessary, owing to the different heights of jars which are placed in the retort. The magnets are connected in series, and included in their circuit are a battery Z and a switch S.

5 The operation of the apparatus will be readily understood. The cans, jars, or other articles on which the covers are to be sealed are placed within the retort, the covers being loose thereon. The flexible blanket is then
10 placed on the covers and the platform raised and held in its elevated position by the electromagnets, the magnets being energized by the current from the battery with the switch in its closed position. The retort is then
15 sealed and the pump operated to exhaust the air therefrom and from the cans, jars, or other similar article. After a proper vacuum has been obtained the magnets are deenergized by opening the switch. This permits
20 the platform to drop, and by its fall onto the covers it levels them and forces them to a perfect seat on the cans or jars. Air is then admitted, which securely holds the covers onto the cans or jars.

25 What I claim as my invention is—

1. In an apparatus for leveling and seating covers on cans, jars, and similar articles, the combination of means for exhausting air from said cans or jars, a flexible blanket placed on
30 the covers to prevent them from being displaced while air is being exhausted from the cans or jars, and a gravity-operated platform for leveling and forcing the covers to their seats on the cans or jars.

35 2. In an apparatus for leveling and seating covers on cans, jars, and similar articles, the combination of means for exhausting air from said cans or jars, means placed on the covers to prevent them from being displaced while
40 air is being exhausted from the cans or jars, and a gravity-operated adjustable platform for leveling and forcing the covers to their seats on the cans or jars.

45 3. In an apparatus for leveling and seating covers on cans, jars, and similar articles, the combination of means for exhausting air from them, means provided on the covers for preventing them from being displaced, a gravity-operated platform for leveling and forcing
50 the covers to their seats after the air has been exhausted from the cans or jars, and means for suspending said platform above the covers and permitting it to fall.

55 4. In an apparatus for leveling and seating covers on cans, jars, and similar articles, means for exhausting air from them, means provided on the covers for preventing them from being displaced, a gravity-operated and adjustable platform for leveling and forcing
60 the covers to their seats after the air has been exhausted from the cans or jars, and means for suspending said platform above the covers and permitting it to fall.

65 5. In an apparatus for leveling and seating covers on cans, jars, and similar articles, means for exhausting air from them, means

provided on the covers for preventing them from being displaced, a gravity-operated platform for leveling and forcing the covers to their seats after the air has been exhausted
70 from the cans or jars, and means for suspending said platform above the covers and permitting it to fall, said means comprising electromagnets and plates carried by the platform which serve as armatures for said magnets. 75

6. In an apparatus for leveling and seating covers on cans, jars, and similar articles, means for exhausting air from them, means provided on the covers for preventing them from being displaced, a gravity-operated plat-
80 form for leveling and forcing the covers to their seats after the air has been exhausted from the cans or jars, and means for suspending said platform above the covers and permitting it to fall, said means comprising ver- 85
tically-adjustable rods, electromagnets carried by said rods, and plates carried by said platform which serve as armatures for said electromagnets.

7. In an apparatus for leveling and seating
90 covers on cans, jars, and similar articles, the combination of a support for the cans or jars, having an elastic covering on which the cans or jars rest, means for exhausting air from the cans or jars, and a device including flexi- 95
ble means for leveling and forcing the covers to their seats on the cans or jars after the air has been exhausted from the cans or jars.

8. In an apparatus for leveling and seating covers on cans, jars, and similar articles, the
100 combination of a support for the cans or jars, having an elastic covering on which the cans or jars rest, means for exhausting air from the cans or jars, means for preventing the covers from being displaced while the air is
105 being exhausted from the cans or jars, and a device including flexible means for leveling and forcing the covers to their seats on the cans or jars after the air has been exhausted from the cans or jars. 110

9. In an apparatus for treating food prod-
115 ucts, the combination of a tank within which the cans or jars are placed with their covers loosely supported, means for exhausting air from the said tank and cans or jars, a flexible
blanket located on the covers of said cans or jars to prevent displacement thereof while air is being exhausted from the tank and cans or jars, and means for admitting air to the tank
120 after a substantial vacuum has been obtained in the tank, whereby the covers will be forced onto the heads of the cans or jars and be held thereon by air-pressure, substantially as described.

10. In an apparatus for treating food prod-
125 ucts, the combination of a tank within which the cans or jars are placed with their covers loosely supported, means for exhausting air from the said tanks and cans or jars, a rubber
blanket located on the covers of said cans or
130 jars to prevent displacement thereof while air is being exhausted from the tank and cans or

jars, and means for admitting air to the tank
after a substantial vacuum has been obtained
in the tank, whereby the covers will be forced
onto the heads of the cans or jars and be held
5 thereon by air-pressure, substantially as de-
scribed.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

FRANK L. TAPSCOTT.

Witnesses:

GEO. E. CRUSE,
DONALD CAMPBELL.