

W. J. PEELLE.
VACUUM JAR CLOSURE.
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982,860.

Patented Jan. 31, 1911.

Fig. 1.

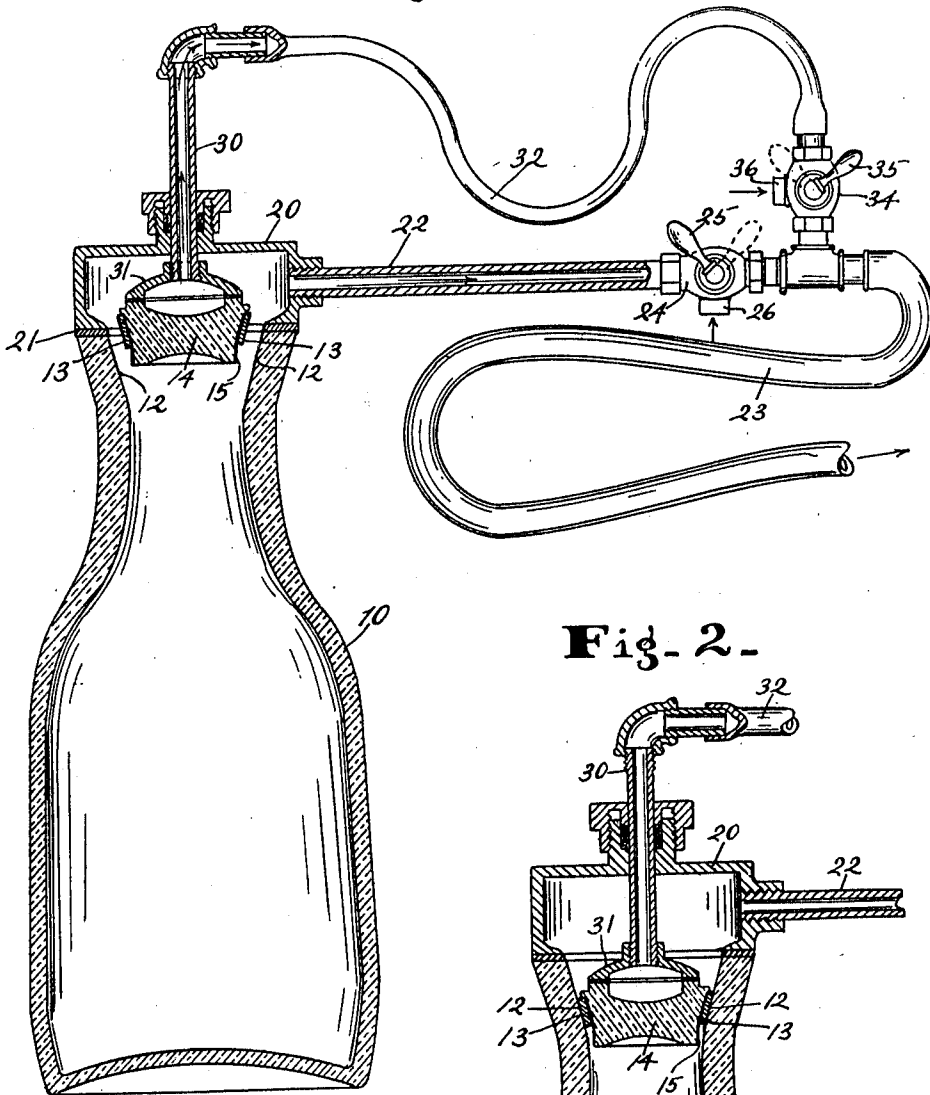
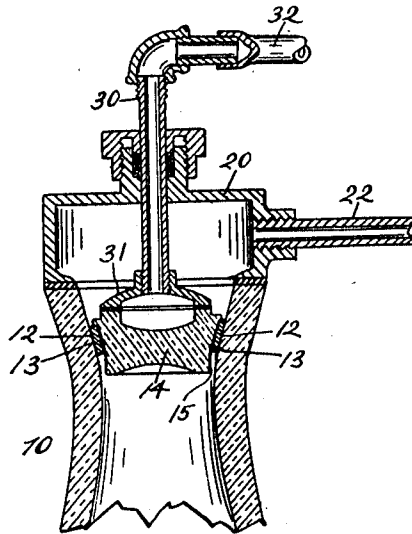


Fig. 2.



WITNESSES:
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UNITED STATES PATENT OFFICE.

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VACUUM JAR-CLOSURE.

982,860.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed April 22, 1909. Serial No. 431,445.

To all whom it may concern:

Be it known that I, WILLIS J. PEELE, of Summitville, county of Madison, and State of Indiana, have invented a certain new and useful Vacuum Jar-Closure; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

The object of this invention is to provide an improved means for vacuum sealing fruit jars and like jars and bottles, that is simple in character, easy to manipulate and economical.

The chief feature of the invention consists in providing a jar or bottle with a cap having an inclined gasket and the jar or bottle having an inclined gasket seat, so that the cap can wedge down tightly in place under the influence of external air pressure after partial exhaustion of the air from the interior of the jar; and in the second place, in providing a suction cap flexibly connected with some air exhausting means that is adapted to be readily placed or laid upon the mouth or neck of the jar or bottle for exhausting the air from the jar or bottle. There is also suction means movably associated with said suction cap and forming a part thereof that engages and supports the cap while the air is being exhausted from the bottle and permits the seating of the cap before the suction head is removed from the jar or bottle.

With this arrangement jars and bottles can be sealed almost as rapidly as the suction head can be placed upon and removed therefrom.

The full nature of the invention will be understood from the accompanying drawings and the following description and claims:

In the drawings Figure 1 is a central vertical section through a jar, cap, suction head and associated parts, showing the same while the air is being exhausted from the jar. Fig. 2 is a similar section of the upper part of the jar, cap and suction head with the cap seated just prior to the removal of the suction head.

There is shown in the drawings a jar 10 having a flaring mouth so as to provide an inclined or flaring seat 12 for the gasket 13 of the cap 14. The surface of the cap 14, on which the gasket fits, is tapering, the

object being to so form said cap and the seat therefor in the mouth of the bottle that the cap will, when seated, wedge in place tightly under the influence of external air pressure.

During the manipulation of the device it is desirable that the gasket be placed on the cap and remain there so as not to fall off. In order to prevent the gasket from falling off the cap during such manipulation, the cap is provided with an extension 15 at its lower end of the same external diameter as the lower inclined portion of the cap on which the gasket fits. The cap can be readily molded of glass when provided with this sort of extension, and such extension will successfully hold the gasket on the cap.

The air is exhausted from the bottle or jar by the following means: A hollow main suction head 20 is provided with a central opening in the underside, and the lower surface having secured to it a rubber gasket 21 or like material and arranged to fit upon the top of the mouth of the bottle or jar, so that when air is being exhausted from said suction head there will be substantially an air tight fit with the mouth of the jar or some portion of the upper part of the jar, so that no appreciable quantity of air from the outside can enter the suction head. Since the suction head is hollow, it does not interfere with the cap 14 or its movement within the suction head.

A rigid pipe 22 extends laterally from the suction head so as to form a handle therefor, as well as to provide a connection with the exhaust air tube 23 that runs to some suitable exhaust pump or exhausting means. At the outer end of said pipe 22 there is a valve casing 24 having a two-way valve 25 and an air inlet 26. When the valve is in one position it closes the air inlet and opens the communication with the suction tube 23 and when in the other position it closes the suction tube and opens the air inlet.

The top of the suction head is centrally apertured for the pipe 30 extending through it so as to be vertically movable with reference to the suction head. Said tube 30 has on its lower end an inner suction head 31 that is adapted to engage the top of the cap and lift the cap when air is exhausted through the tube 30. Said tube 30 is connected by a tube 32 with the exhaust tube 23, but there is an intermediate valve casing 34 with a two-way valve 35 and an air

inlet opening 36, the same as the other valve casing 24 and valve 25 and for the same purpose.

The operation of the device is as follows:

5 The rubber gasket is placed on the cap and the cap placed loosely in the mouth of the bottle. Then the main suction head 20 is put in place upon the mouth of the bottle and the tube 30 pushed down so that the
10 small suction head 31 thereon will engage the cap. The valves 25 and 35 are then opened and the tube 30 lifted somewhat as shown in Fig. 1. The tube 30 will hold the cap out of the neck of the jar while the air
15 is being exhausted from the jar through the tube 22. When the air is exhausted, the tube 30 is pushed down again into the position shown in Fig. 2, and the valve 25 is operated to stop the exhaust of air from the
20 main suction head and admit air thereto from the outside through the tubes 22. The pressure of the air coming into the main suction head tightens the cap in its seat and holds it there. Then valve 35 is oper-
25 ated to stop suction through tube 32 and admit air thereto for releasing the hold of the inner suction head on the cap. This finishes the operation and the vacuum sealing device is removed. The entire process
30 is quickly performed so that the jars can be very rapidly sealed.

What I claim as my invention and desire to secure by Letters Patent is:

1. A suction means for sealing jars, bot-
35 tles and the like which includes a hollow suction head adapted to be placed in air tight engagement with the upper part of a jar and surrounding the cap of the jar, means for exhausting air from said suction
40 head, and jar, and pneumatic means for lifting and holding the cap elevated during such exhaust.

2. A suction means for sealing jars, bot-
45 tles and the like which includes a hollow suction head adapted to be placed in air tight engagement with the upper part of the jar and surrounding the cap of the jar and leave space enough therein for the vertical movement of the cap of the jar, means

for exhausting air from said suction head, 50
and a suction tube movable through the top of said suction head for holding the cap out of the mouth of the jar while the air is being exhausted from the jar and for seat-
55 ing the cap.

3. A suction means for sealing jars, bot-
tles and the like which includes a hollow suction head adapted to be placed in air tight engagement with the upper part of a jar, means for exhausting air from said suc- 60
tion head, a suction tube vertically movable through the top of said suction head and provided on its lower end with a suction head to engage the cap of the jar, and means for exhausting air through said suc- 65
tion tube.

4. A suction means for sealing jars, bot-
tles and the like which includes a main hol- low suction head adapted to be placed in air-tight engagement with the upper part 70
of a jar, a suction tube vertically movable through the top of said main suction head and provided on its lower end with an inner suction head to engage the cap of the jar, and single means for exhausting air from 75
said main suction head and said cap lifting means.

5. A suction means for sealing jars, bot-
tles and the like which includes a hollow main suction head adapted to be placed in 80
air-tight engagement with the upper part of a jar, a suction tube vertically movable through the top of said main suction head and provided on its lower end with an inner suction head to engage the cap of the jar, 85
a single means for exhausting air from said main suction head and said cap lifting means, and separate valves for controlling the main suction head and said cap lifting means. 90

In witness whereof, I have hereunto affixed my signature in the presence of the witnesses herein named.

WILLIS J. PEELLE.

Witnesses:

G. H. BOINK,
O. M. McLAUGHLIN.