June 22, 1926. 1,589,453

N. P. BACH

AIR SEATED VALVE FOR VACUUM CHAMBERS

Filed June 30, 1923 2 Sheets-Sheet 1

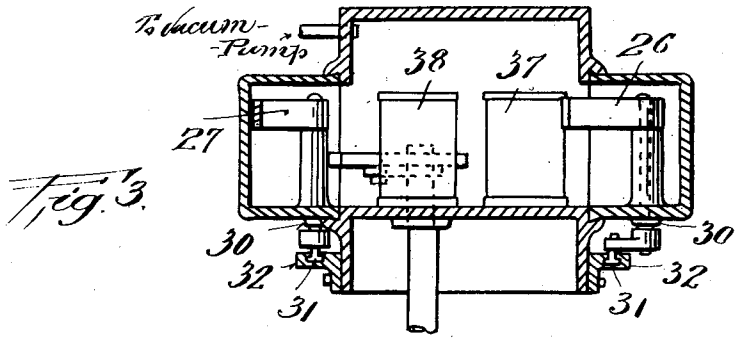


Fig. 3.

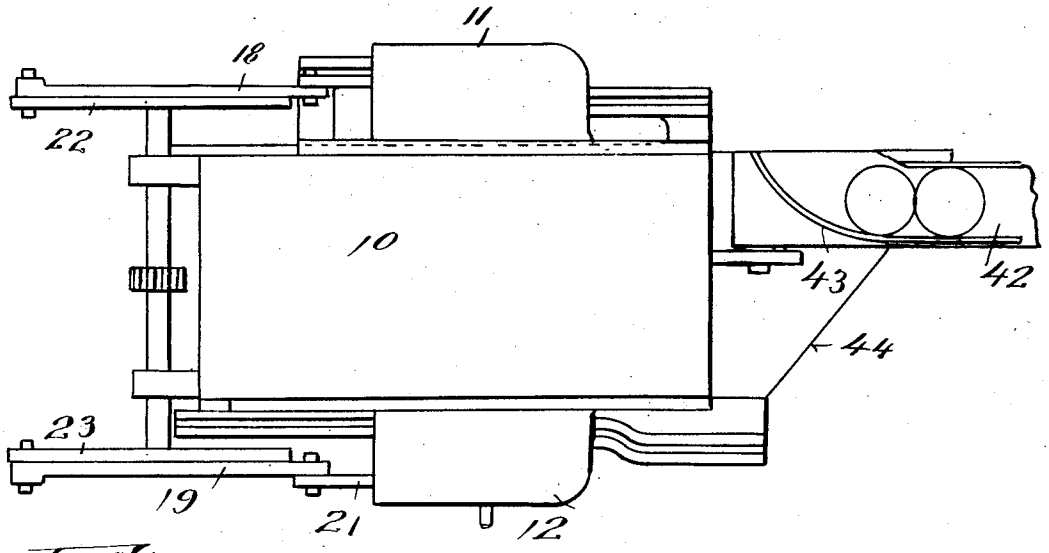


Fig. 1.

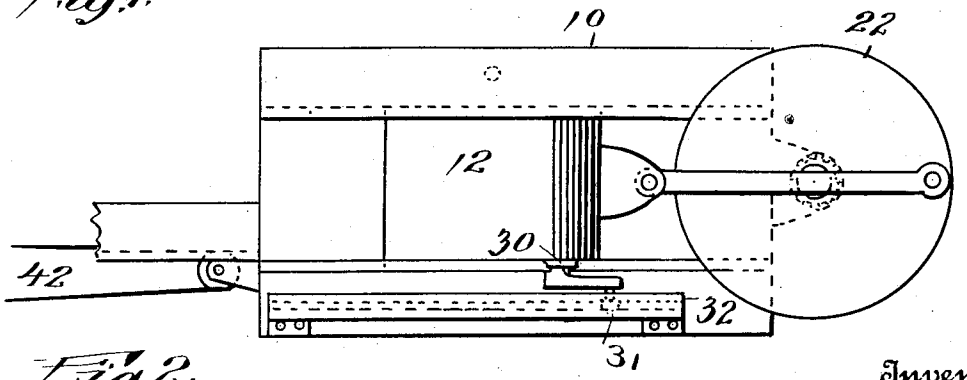


Fig. 2.

Inventor
Nils P. Bach

By his Attorneys Darby & Darby

June 22, 1926. 1,589,453

N. P. BACH

AIR SEATED VALVE FOR VACUUM CHAMBERS

Filed June 30, 1923 2 Sheets-Sheet 2

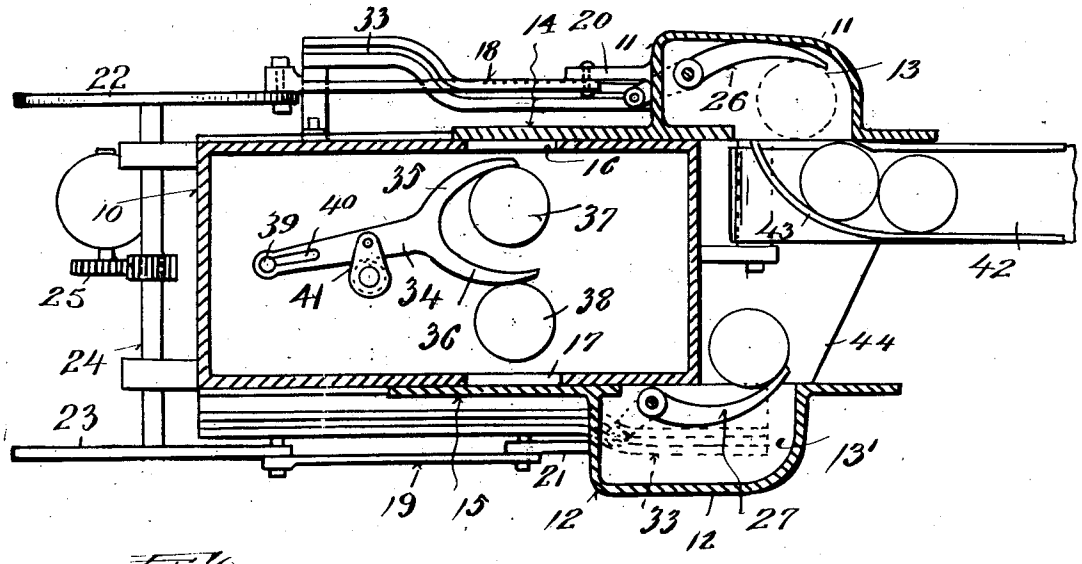
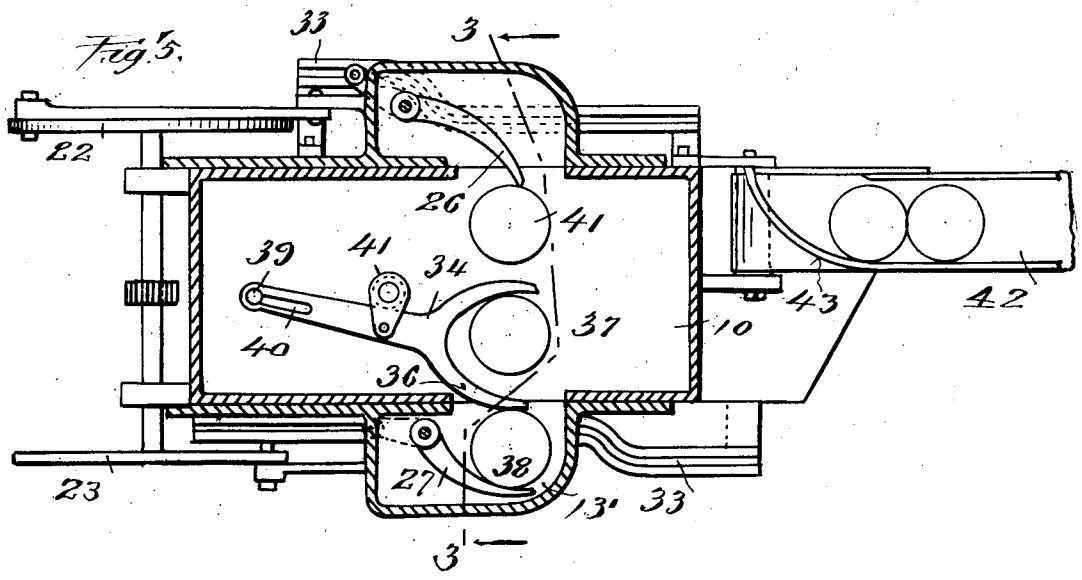


Fig. 4.

Fig. 5.



Inventor
Nils P. Bach

By his Attorneys
Darby & Darby

Patented June 22, 1926. 1,589,453

UNITED STATES PATENT OFFICE.

NEILS P. BACH, OF MILLBURN, NEW JERSEY, ASSIGNOR TO THERMOKEPT CORPORATION, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

AIR-SEATED VALVE FOR VACUUM CHAMBERS.

Application filed June 30, 1923. Serial No. 648,854.

This invention relates to pressure seated valves which are continuously operative without breaking the vacuum in a vacuum or treating chamber, while containers are fed into said chamber, on the one hand, and are as continuously removed therefrom on the other.

A further object of my invention includes means whereby containers are continuously and automatically moved into, and out of, a vacuum chamber without interruption of the proper degree of vacuumization to properly treat commodities in said containers.

A further object embraces means whereby containers are fed into and removed from a constantly vacuumized chamber while said feeding and removing means are pressure seated by reason of the greater atmospheric pressure without said chamber.

Another object includes the provision of a continuously operative treating chamber wherein containers are vaccumized and treated, and which mechanism is comparatively simple in construction, and efficient in operation.

Other objects will appear hereinafter, and I attain these objects by the mechanism illustrated in the accompanying illustrative drawing, in which—

Fig. 1 is a plan view of a construction embodying the principles of my invention;

Fig. 2 is a side elevation thereof;

Fig. 3 is a view taken on lines 3—3 of Fig. 5; and

Figs. 4 and 5 are sectional views respectively showing the slide valves, as well as the can moving mechanism in their extreme positions.

Like numerals refer to similar parts throughout the several views.

In the art of vacuumizing and sealing articles of food, or other commodities, in their permanent containers, it is essential that means be provided whereby said containers are continuously supplied to said chamber, and as continuously removed therefrom, without interruption of the required degree of vacuumization.

To this end I have invented the combination of elements and arrangement of parts whereby the desired results are effected in an expeditious manner. I have shown in the accompanying drawing an illustrative mechanism which is suitable for effecting said desired results in an efficient and expeditious manner. It is to be understood, however, that the mechanism herein shown and described is to be taken in an illustrative and not in a limiting sense, as it is apparent to those versed in the art that various modifications of construction are possible, which would fall wholly within the spirit and scope of my invention as herein set forth and claimed.

In carrying out the principles of my invention, I provide a suitable chamber 10 wherein a proper degree of vacuumization may be maintained by the usual and known means, as a high power vacuum pump, which is not herein shown and which forms no part of my present invention. This chamber is provided with means for being supplied with containers and for continuously passing said containers therethrough without interruption of vacuumization. To this end I provide what I will call air seated slide valves 11 and 12 respectively for supplying and removing containers in a continuous chain. These valves are substantially alike in construction and operation and comprise a can receiving or can discharging pocket 13 and 13′, and a port closing shoe 14 and 15 for closing the respective ports 16 and 17 of the vacuum chamber 10. These slide valves are reciprocated by any suitable means, as a link 18 or 19, connecting the pocket arm 20 or 21 to a suitable motive power, as a pulley 22 or 23, supported on a common journal 24, and which may be driven from a suitable source of power as an electric motor 25 or the like.

Within pockets 13 or 13′ are found the can moving fingers 26 and 27 which are operated through a suitable stuffing box connection 30 by means of a knuckle 31, sliding in a guide 32. As shown best in Figs. 4 and 5, the guide 32 is provided with a deflection 33, one at either end, for moving the proper finger (26 or 27) to feed a container into, say port 16, or out of the pocket 13′ for passing the container through the treating chamber 10. Within said chamber any suitable mechanism for properly handling the containers may be provided. As an illustration I have shown a two pronged fork 34, having can moving prongs 35 and 36 for moving cans 37 and 38 from the receiving side to the discharge side of the treating chamber. Fork 34 is mounted on a pivot both of which 39 represents the head and on

which the fork moves eccentrically on a slot 40 and said pivot by means of a bell crank arm 41. This motion will permit the forks to withdraw when the can (38) is positioned in the ejector pocket 13', and to move towards the receiving port 16 to there be thrust forward to engage a new can (41) which has in the meantime been moved into position by the feed finger 26. The containers are supplied to the feed pocket valve 13 by any suitable means as by a conveyor 42 and guide rail 43. The containers may be similarly removed after treatment or they may be permitted to slide down an incline 44, for packing or for other purposes. It is an understood fact that the containers may be sealed within the vacuum chambers, if desired, or they may be merely vacuumized and passed on for sealing as may be desired. As the sealing feature forms no part of my present invention I have not shown or described a sealing mechanism operating within, or without the vacuumizing chamber.

Having now described my invention, what I claim as new and useful, of my own invention and desire to secure by Letters Patent is:

1. In a vacuum treatment apparatus, a vacuum chamber in combination with oscillating air seated valve for supplying commodities to said chamber.

2. In a vacuum treatment apparatus, a vacuum chamber in combination with a plurality of oscillating valves for continuously causing containers to be fed into and removed from said vacuum chamber, while a substantially constant vacuum is maintained in said chamber.

3. In a vacuum treatment apparatus, a stationary vacuum chamber in combination with oscillating air seated valves, disposed oppositely on the outside surface of said chamber for supplying and removing commodities to and from said chamber.

4. In a vacuum treatment apparatus, a stationary vacuum chamber having a receiving port and a discharge port oppositely disposed, and air seated reciprocative valves controlling said ports.

5. In a vacuum treatment apparatus, a vacuum chamber having a port, a slidable valve fitting over said port and held in sealed relation by the greater external pressure.

6. In a vacuum treatment apparatus, a vacuum chamber having a port, a slidable valve fitting over said port and held in sealed relation by the greater external pressure, and means to operate said valve for admitting or removing containers to said chamber in a continuous stream and without interruption of vacuumization.

7. In a vacuum treatment apparatus, the combination of a vacuum chamber having ports, of slide valves without said chamber to cover said ports, said valves being provided with pockets to receive containers and means in said pockets for ejecting said containers.

8. In a vacuum treatment apparatus, the combination of a vacuum chamber having ports, of slide valves to cover said ports, said valves being provided with pockets to receive containers, an ejector finger for said pockets, a guide rail on said chamber, a slide connection between said finger and said guide rail for operating said finger at predetermined positions.

9. In a vacuum treatment apparatus, the combination of a vacuum chamber having ports, of slide valves to cover said ports, said valves being provided with pockets, fingers in said pockets, and means within said chamber for moving said containers through said chamber in substantially straight lines.

10. In a vacuum treatment apparatus, the combination of a vacuum chamber having ports, of slide valves to cover said ports, said valves being provided with pockets to receive containers, an ejector finger for said pockets, a plurality of parallel guide rails in said chamber adjacent said ports and means connecting said fingers, and said guide rails for causing said fingers to eject said container.

11. An air seated valve for moving containers into or out of vacuum chambers without breaking the vacuum maintained therein, which comprises a port cover plate to slide over and cover a port in said chamber, a pocket in said valve and means for reciprocating said valve to move containers into, or out of said vacuum chamber.

12. An air seated valve for moving containers into or out of vacuum chambers without breaking the vacuum maintained therein, which comprises a port cover plate having a container receiving pocket, an ejector finger in said pocket, said port plate being constantly pressure seated by atmospheric pressure, and means for moving said valve to supply said chamber with containers to be treated without interruption of vacuumization.

In testimony whereof I have hereunto set my hand on this 22nd day of June, A. D. 1923.

NEILS P. BACH.