

G. STAUNTON.
VACUUM PUMP.
APPLICATION FILED JUNE 20, 1908.

Patented Dec. 17, 1912.

1,047,585.

Fig. 1.

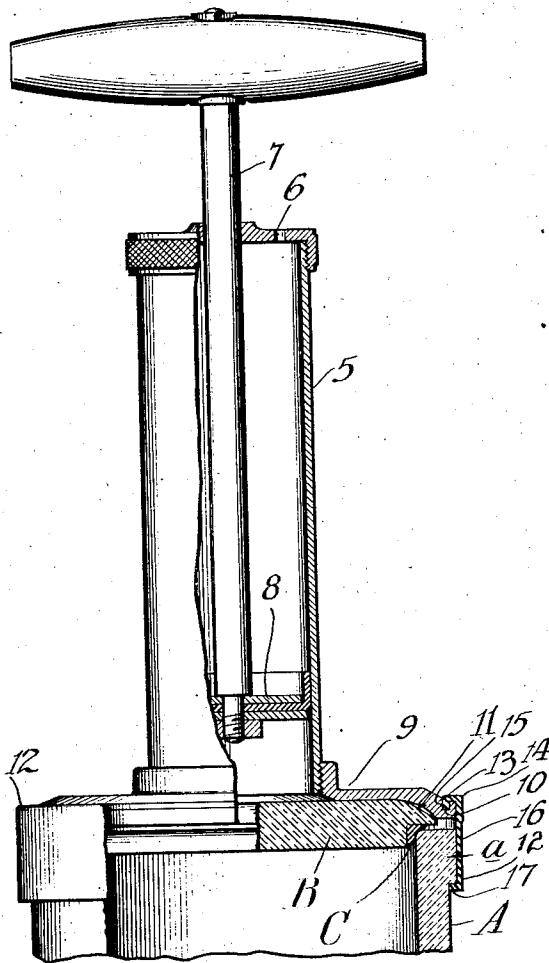
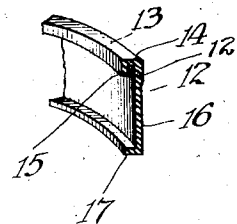


Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

GRAY STAUNTON, OF EVANSTON, ILLINOIS.

VACUUM-PUMP.

1,047,585.

Specification of Letters Patent.

Patented Dec. 17, 1912.

Application filed June 20, 1908. Serial No. 439,494.

To all whom it may concern:

Be it known that I, GRAY STAUNTON, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Vacuum-Pumps, of which the following is a specification.

My invention relates to vacuum pumps, and has for its general object to provide a vacuum pump adapted for use in sealing vacuum packages, such as fruit glasses, jars and the like.

More specifically a salient object of my invention is to provide a pump provided with a sealing part for effecting sealing connection between a base extension of the pump and the receptacle to be sealed with which it coacts, such sealing action being largely occasioned, and maintained, by the exhausting operation of the pump.

A further specific object of my invention is to provide a pump having a wide base and a detachable sealing ring, exteriorly connected to said base for contact with the sides of the receptacle.

In the drawing, wherein I have illustrated an embodiment of my invention; Figure 1 is a side view partly in section and partly in elevation of an exhaust pump embodying my invention, and associated for operation with a vacuum package; Fig. 2 is a detail of the sealing ring construction.

In said drawing 5 indicates a pump cylinder provided with the usual apertured head 6 at its upper end affording a guide for a stem 7 carrying a piston 8 of any usual or preferred construction, said cylinder having its lower end exteriorly screw threaded to receive a plate 9 of size and configuration approximately conforming with the top of a receptacle with which the pump is to coact. Preferably the plate 9 is provided adjacent its edge with a groove 10, and its under surface is recessed as at 11, so that said plate may receive and position within its recess a cover member of the vacuum package. The sealing ring, generally indicated at 12, is preferably thickened at its top as at 12' and provides integral means for attachment to the plate 9, preferably in the form of an inwardly and downwardly turned bead 13 of which the top portion 14 is practically horizontal and the edge 15 downturned. Below the bead 13 the rubber ring extends down in an annular web 16,

a suitable distance, and preferably at its lower edge has formed on its inner surface a rib 17, for a purpose to be described. The particular construction shown may of course be varied to suit the requirements of special uses, the devices as herein shown being especially adapted for application to a vacuum package consisting of a receptacle or jar A, having an exterior top bead or flange a, and provided with a cover B, having a sealing ring C, the cover being arranged to extend above the upper rim of the receptacle A to be received and positioned in the recess 11 of the pump base.

The sealing ring is fitted upon the plate 9, with its down-turned edge 15 engaging the groove 10 of said plate, and the web 16 of the ring is stretched over the receptacle so that its lower bead at 17 engages under the flange a of the receptacle. Now as the exhaust pump is operated it rarefies the air within the confines of the receptacle, the pump, and the connecting base, so that the exterior pressure forces the flexible rubber web closely into contact with the exterior side walls of the receptacle, and assists the tension and the frictional tendency of the rubber in effecting perfect sealing contact between the rubber and the exterior of the receptacle. At the same time the pump base is left free by the flexibility and elasticity of the rubber for some movement, so that should the thickness of the cover of the receptacle require that the pump should lift somewhat in order to permit the cover of the receptacle to rise and give egress to the air within the receptacle, the pump may move to an accommodating degree without disturbing the sealing connections of the exterior ring with the receptacle.

While I have herein described in some detail a particular embodiment of my invention, it will be apparent to those skilled in the art that numerous changes in the specific details of construction might be made without departure from its spirit and scope, and I do not desire to be understood as limiting my invention to the details of construction shown further than as specified in the claim.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

In a device of the character described, in combination with a vessel to be sealed, pro-

vided with an imperforate top having a packing intermediate of the top and vessel, of a pump barrel, having a circular base plate, extending outwardly from said barrel and overlying said top, and an overlying, yielding sealing-ring attached to the pump for temporarily bridging the joint between said base plate and the surface of said vessel, whereby said top is permitted to act as a

check-valve in the process of sealing said vessel.

In testimony whereof I hereunto set my hand in the presence of two witnesses.

GRAY STAUNTON.

In the presence of—

GEO. T. MAY, Jr.,

MARY F. ALLEN.