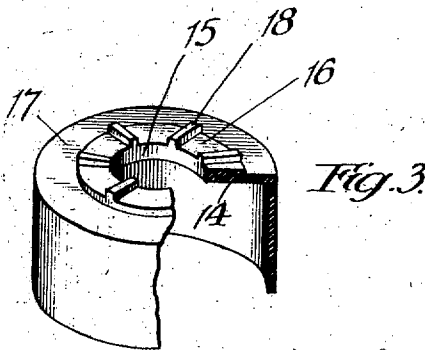
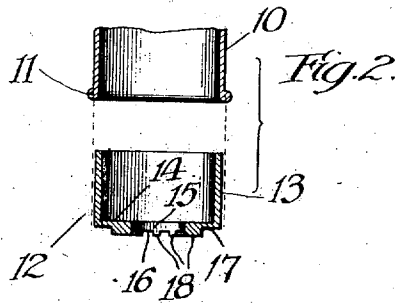
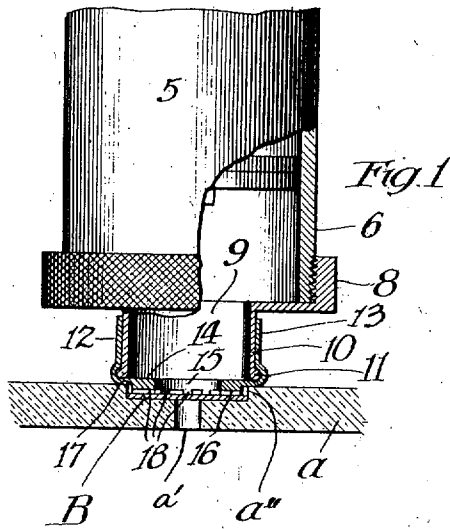


G. STAUNTON.
VACUUM PUMP.
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972,939.

Patented Oct. 18, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

GRAY STAUNTON, OF EVANSTON, ILLINOIS.

VACUUM-PUMP.

972,939.

Specification of Letters Patent.

Patented Oct. 18, 1910.

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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 an improved pump base and a sealing or packing member for connection with said pump base.

More specifically an object of my invention is to provide a pump for exhausting vacuum packages and the like, provided with a reducing base so that a pump of relatively large bore may present a relatively small area to be sealed, and providing an improved sealing structure for a pump base of the desired size, readily detachable from the base, simple, easy and cheap of manufacture and efficient as a packing.

Other and further objects of my invention will become apparent to those skilled in the art from the following description taken in conjunction with the accompanying drawing, in which;

Figure 1 is a side view partly in elevation and partly in section, of an embodiment of my invention; Fig. 2 is a sectional view showing the packing detached from the pump base, and; Fig. 3 is an enlarged detail with parts broken away, of the sealing thimble.

In said drawing 5 indicates in general a pump, whereof 6 is a cylinder or shell, screw threaded at its power end for reception of a threaded cap 8, having a central aperture 9 of smaller diameter than that of the cylinder, and having projecting therefrom the throat or barrel 10 of such desired smaller diameter, preferably provided at its outer extremity with an exterior bead 11.

The sealing packing, generally indicated at 12, is in the form of a centrally apertured rubber thimble or cap, providing a circular thin rubber side wall 13 of suitable length to afford good bearing surface, and a diaphragm or head 14, provided with a central aperture 15. The diaphragm or head 14 of the thimble may be of uniform thickness throughout, if desired, but for some purposes I preferably provide said diaphragm with a central thickened portion or exterior boss 16, leaving unobstructed a surrounding

annular plane portion 17, said boss 16 being provided with projections 18, preferably in the form of radial ribs. I prefer that the entire thimble structure should be made of good rubber and of a normal interior diameter somewhat less than the exterior diameter of the pump base to which it is to be applied, as shown at Fig. 2. In use the rubber thimble is forced on to the throat 10 of the pump base, as shown in Fig. 1, where it is retained primarily by its contractile effort, its thinness, however, making it sensitive to atmospheric pressure to cling to the throat and prevent leakage when a vacuum tendency is engendered in the pump, particularly through the provision of the rib 11 for its engagement. When forced upon a plane surface, the edges of the packing are compressed by the rim of the throat 11 and make sealing contact with the surface. The particular construction shown in Fig. 3 advantageously may be employed for sealing vacuum packages, wherein a valve is employed located in a recess in the top or cover of the package. Thus as shown in Fig. 1, *a* indicates the top of a receptacle to be sealed, provided with a vent opening *a'* communicating with a top recess *a''* in which is located the valve B, the boss 16 of the packing described being of such size as to fit within the recess *a''*, and the ribs 18 preventing the valve B from rising to close the orifice 15 in the packing, with each upstroke of the pump.

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 claims.

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

1. A vacuum-pump sealing member for operation in conjunction with the port and valve of a vacuum package, providing a central orifice and integral means for maintaining said valve in spaced relation to said orifice.

2. In a vacuum-pump sealing member, the combination, with the port and valve of a

vacuum package, of a boss surrounding a central orifice in said member and means, comprising projections on said boss, for preventing the closing of said orifice by said valve.

3. In a vacuum pump sealing member, the combination with a vacuum package providing a plane surface and a valved aperture therein, of a throat, an apertured thimble of rubber held thereover by its resilience comprising a part for coaction with the plane surface of the package, and a part for maintaining the valve of the package aperture spaced from the aperture in the thimble.

4. The combination of a pump providing an open mouthed throat and a bead surrounding the lower edge thereof, and an apertured thimble of resilient material retained on the throat by engagement over the bead thereof, said thimble comprising a side wall of shape to conform to the outer surface of the throat, a head extending across the mouth of the throat having an aperture

therein and projections on the head around said aperture.

5. In a vacuum pump sealing member for operation in conjunction with the port and valve of a vacuum package, a rubber thimble having in its head a central orifice, a boss surrounding said orifice, and radially disposed ribs around said orifice projecting from said boss, between which ribs air is admitted in its passage from the valve to the vacuum package.

6. A vacuum pump sealing member comprising a side portion, 13, an apertured diaphragm portion, 14, a boss member, 16, and projections, 18, substantially as and for the purpose described.

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.