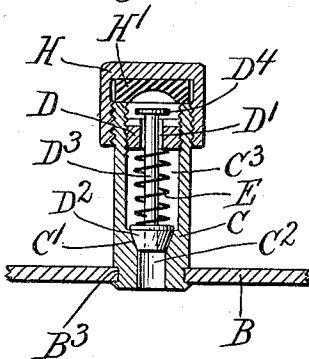
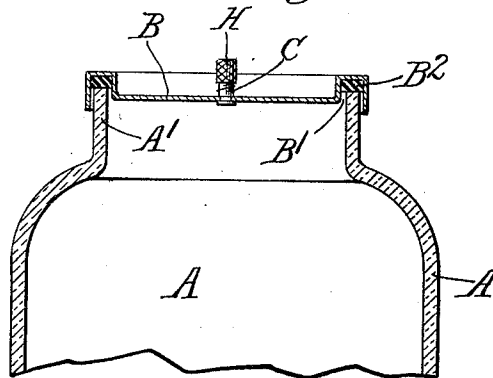
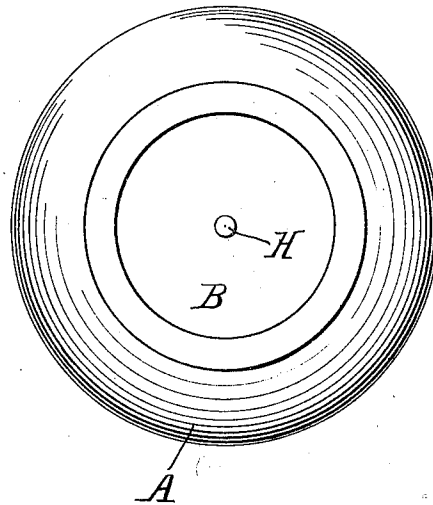
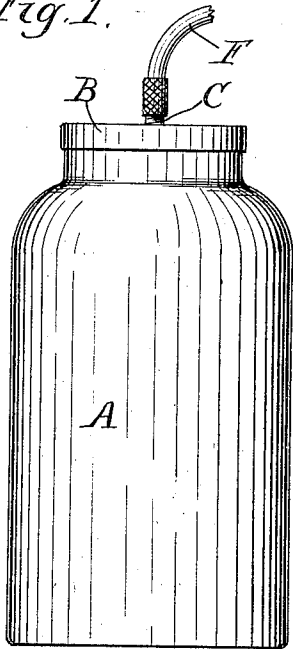


APPLICATION FILED OCT. 4, 1909.

Patented Oct. 10, 1911.



Inventors,
Ernest C. Lay,
Oliver P. M. Squires,
by *Charles H. Hays*
Attorneys.

UNITED STATES PATENT OFFICE.

ERNEST C. LAY AND OLIVER P. M. SQUIRES, OF LAPORTE, INDIANA.

VACUUM-SEAL.

1,005,721.

Specification of Letters Patent.

Patented Oct. 10, 1911.

Application filed October 4, 1909. Serial No. 520,907.

To all whom it may concern:

Be it known that we, ERNEST C. LAY and OLIVER P. M. SQUIRES, citizens of the United States, residing at Laporte, in the county of Laporte and State of Indiana, have invented a certain new and useful Improvement in Vacuum-Seals, of which the following is a specification.

Our invention relates to improvements in vacuum seals and has for its object to provide a vacuum sealing means for jars and other receptacles wherein the seal may be repeatedly broken without destroying the cover.

Our device is illustrated in the accompanying drawings, wherein—

Figure 1 shows an elevation; Fig. 2 a plan view of the device; Fig. 3 a section through the device; and Fig. 4 a detailed section.

Like parts are indicated by like letters in all the figures.

The jar A having the wall A¹, is provided with the cover B which has the annular recess B¹ about its circumference adapted to engage the upper edge of the wall A¹ of the jar, and which contains any suitable packing material B².

The valve cylinder C, threaded externally and internally for a portion of its length, is provided with the valve seat C¹ and the air passages C² and C³ and is inserted in the cover B through the hole B³. The screw plug D engages the internal threads in the cylinder C and has the hole D¹ therethrough. The valve D² is rigidly attached to the rod D³ which passes through the hole D⁴ and has at its upper end the stop D⁴ larger than the hole D¹. The spring E interposed between the plug D and valve D² acts to seat the valve D². The flexible tube F leads from the cylinder C to any suitable vacuum pump not shown. The cap H provided with any suitable packing H¹ acts as an auxiliary cap to protect the valve.

We have shown an operative device, but it will be evident that numerous changes may be made without departing materially from the spirit of our invention, so we do not wish to be considered as confining ourselves to the particular device illustrated in the drawings.

The use and operation of our invention are as follows: A jar is filled with any ma-

terial which is to be preserved by the vacuum process and any description of cover is then placed upon the jar, the upper edge of the jar engaging the cover. Between the two is preferably interposed any suitable packing. The valve cylinder is then connected with any pumping means through suitable piping. The pump is started and exhausts the air from the jar. The air passes out through the air passages and the valve seat lifts the valve against the action of the spring until such time as the vacuum has reached a sufficient degree of intensity. The pump is then disconnected and the pressure of the atmosphere will seat the valve. The differential pressure on the two sides of the cover will tend to maintain the cover firmly seated upon the jar and prevent the ingress of air or other foreign substances. When it is desired to remove the contents of the jar the cap is removed from the valve cylinder and the plug screwed up, exerting tension upon the rod and lifting the valve from the seat. This allows the air to enter the jar through the valve and as soon as the pressure on both sides of the cover becomes equalized the cover may be easily removed. It will be evident that by this arrangement the contents of the jar may be removed without destroying the cover and in this manner the same cover may be repeatedly used.

We claim:

1. A vacuum seal comprising a cylinder, a valve seat, a valve member, and a valve rod, means for positively releasing said valve including a laterally extended head upon the valve stem, and a collar screw threaded in the cylinder.

2. A vacuum seal comprising a cylinder, a valve seat, a valve member, and a valve rod, means for positively releasing said valve comprising a laterally extended head upon the valve stem, a collar screw threaded within the cylinder, and means for rotating said collar to bring it into engagement with the head on the valve stem to lift the valve from its seat.

ERNEST C. LAY.
OLIVER P. M. SQUIRES.

Witnesses:

H. W. WORDEN,
BESSIE FOLANT.