(No Model.)

J. J. HOYT.

DEVICE FOR EXHAUSTING AIR FROM PRESERVING CASES.

No. 303,014. Patented Aug. 5, 1884.

Fig 2

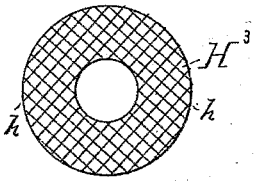

Fig 3

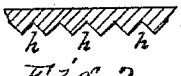

Fig 1

Witnesses—
Kirkley Clyde.
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Jonathan J. Hoyt,
By Albert M. Moore,
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UNITED STATES PATENT OFFICE.

JONATHAN J. HOYT, OF CHELMSFORD, MASSACHUSETTS, ASSIGNOR TO EDWARD F. RICHARDSON, OF SAME PLACE.

DEVICE FOR EXHAUSTING AIR FROM PRESERVING-CASES.

SPECIFICATION forming part of Letters Patent No. 303,014, dated August 5, 1884.

Application filed February 21, 1883. (No model.)

To all whom it may concern:

Be it known that I, JONATHAN J. HOYT, a citizen of the United States, residing at Chelmsford, in the county of Middlesex and Commonwealth of Massachusetts, have invented certain new and useful Improvements in Devices for Exhausting Air from Cases for Preserving Food, of which the following is a specification.

My invention consists in providing the chamber with an elastic cushion for the rising valve to strike against to prevent marring or breaking the valve or chamber; also in providing said elastic cushion with corrugations or channels, by which the air may pass between said cushion and the valve when the latter is raised.

In the accompanying drawings, Figure 1 is a vertical central section of a vessel or case, its cover, valve, the valve-chamber, cushion, and a pump-cylinder and piston; Fig. 2, a plan of the bottom of the cushion; Fig. 3, a vertical section of a part of the cushion.

A is a cylindrical glass case, provided near its top with an external screw, B. On the under side of the circular cover C, also of glass, is an annular groove, C′, in which is laid a gasket, C^2, between the cover and case. A sleeve-nut, D, having an internal flange, D′, at the top, engages with the screw B in the usual manner to compress the gasket C^2 and make an air-tight joint between the cover and case, or the joint between the cover and case may be made air-tight in any convenient manner. The cover C is provided with an upward projection, C^3, on the top of the same, and through this projection and the cover is a conical hole or valve-seat, C^4. In this valve-seat is placed the loose conical glass valve E, the valve and its seat being ground together to make an air-tight joint. The valve has a central many-sided opening, E′, in which is securely fastened a plug, E^2, of wood or other material, said plug being provided with a screw-thread, by means of which and a screw-pointed instrument the valve may be removed.

All of the above-named parts are described in another application for patent on improvements in cases for preserving food, made by me, and now pending, and I do not claim them herein, except in combination with parts hereinafter described.

The valve-chamber H is cylindrical, and large enough to allow the valve E to rise and fall freely within it when the air within said chamber above said valve is exhausted or rarefied by the action of a pump or other vacuum-producing device, and is short enough to prevent the valve from rising wholly above the projection, or from rising high enough to cant over, and thereby be prevented from falling back to its seat. This chamber H may be large enough to surround the projection C^3, or may rest upon the top of said projection, being made shorter in the latter case than in the former by the distance which the projection C^3 rises above the top of the cover C. In either case there should be an air-tight joint between the chamber and the cover when the chamber is in use. To effect this I use an annular elastic gasket, G, say of rubber, between the lower end of the chamber and the top of the cover. In order that the valve may not be broken or marred, and may not break or mar the chamber when the valve is suddenly lifted by the exhaustion of air from the case A, I use an annular elastic cushion, H^3, at the top of the chamber. This cushion is preferably of rubber, and is flat on its upper side, in order that it may be cemented to the top of the chamber, and thereby retained in place, and it is corrugated or channeled at *h*, on its lower side, as shown in Figs. 2 and 3, in order that when the valve is raised up against the cushion the air may pass between the valve and the cushion, and out at the central orifice in the upper part of the chamber.

Inasmuch as the valve sometimes sticks in its seat, and because it would be difficult in some cases to detect the action of the valve by the ear, especially where a jet of steam is used to exhaust the air, owing to the noise made by the operation of the air-exhausting devices, I make the chamber of glass, so that the operator can readily see whether the valve is operating properly. The chamber has on top a tubular upward projection, H^4, provided at the top with a screw-thread, H^5. A cylinder, H^6, also provided with a screw-thread which engages with the thread H^5, may be screwed to the top of the tube H^4, so as to form with said tube a continuous hollow cyl-

inder of uniform bore. Into this hollow cylinder a piston, I, may be fitted, such piston to be provided with one or more openings, I^2 I^2, supplied with upwardly-opening valves I′ I′. These valves, as shown in Fig. 1, are ordinary flap-valves. The piston is shown as being provided with a piston-rod, I^3, and cross-head I^4, of the usual form, and the upper end of the cylinder is closed around the piston-rod to guide it vertically, said closed ends having passages I^5, through which the air may pass from the cylinder when the piston is lifted. It will be seen that the cylinder, the piston and its rod, and the valve-chamber, with the valve E, form a pump the lower valve of which is really a part of the case. The thread H^5 on the tube also affords a means of connecting the chamber H with any of the well-known devices by means of which steam is used to produce a vaccum.

I claim as my invention—

1. A valve-chamber, H, provided with an elastic cushion, H^3, as and for the purpose specified.

2. A valve-chamber, H, provided with an annular elastic cushion, H^3, as and for the purpose specified.

3. A valve-chamber, H, provided with an elastic cushion, H^3, having a corrugated under surface, as and for the purpose specified.

JONATHAN J. HOYT.

Witnesses:

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