T. ROBERTS.

HERMETIC SEALING DEVICE.

No. 169,480. Patented Nov. 2, 1875.

Fig. 1

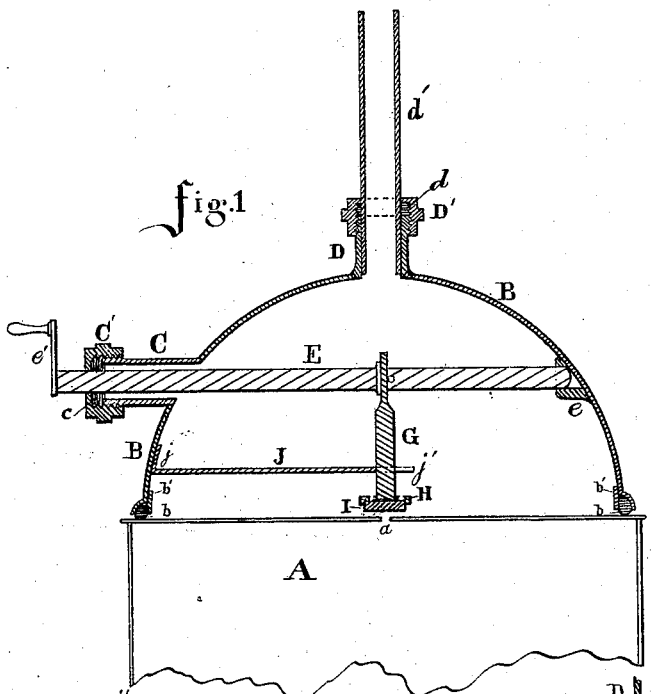


Fig. 2.

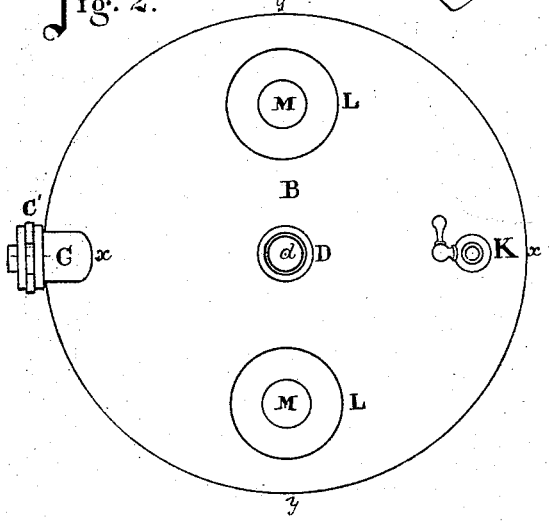
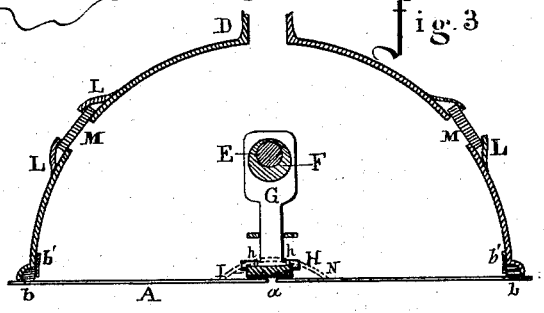


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS ROBERTS, OF BALTIMORE, MARYLAND, ASSIGNOR OF ONE-HALF HIS RIGHT TO ABEL S. DUNGAN, OF SAME PLACE.

IMPROVEMENT IN HERMETIC-SEALING DEVICES.

Specification forming part of Letters Patent No. **169,489**, dated November 2, 1875; application filed September 14, 1875.

To all whom it may concern:

Be it known that I, THOMAS ROBERTS, of Baltimore, in the county of Baltimore and State of Maryland, have invented certain new and useful Improvements in Packing Fruits, Vegetables, Meats, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Figure 1 is a transverse vertical section of the device on *x x* of Fig. 2. Fig. 2 is a plan view of the outside. Fig. 3 is a transverse vertical section on *y y* of Fig. 2.

This invention relates to improvements in packing fruits, vegetables, fish, meats, &c., in their natural state; and consists in the means of securing the orifice in the can or vessel used for packing, to render the same air-tight after the air has been drawn out of it, and while in a state of vacuum, preparatory to placing a more permanent covering to resist the accidents of transportation, as will be more fully hereinafter explained.

A is a part of the can or vessel in which the material is to be packed. B is a dome-shaped exhaust-vessel or receiver, inside of which are placed the devices for closing the orifice in the can or vessel, which will be described hereafter. C is a tube, forming a part of the shell B, placed horizontally on the side thereof, having its outer end screw-threaded for the reception of a packing screw-cap, C′, of the ordinary construction. D is a similar tube on the top of the dome B, with its packing-cap D′, in which is the packing *d*, surrounding the outlet-tube *d′*. In tube C is a shaft, E, having its inner end bearing in a support, *e*, and its outer end bearing upon the packing material *c* in the screw-cap C′, to make an air-tight joint at that place. On this shaft E is an eccentric or cam, F, so arranged that the rotation of the shaft E, which is moved by the crank-handle *e′*, will cause the strap G to move vertically. On the end of G is a hollow cap, H, which is to receive a disk of india-rubber, I, in which it will adhere with sufficient tenacity only to bear its own weight. In the top of cap H are small holes, through which the air can be admitted when required. J is a flat bar, fastened to the inside of the shell B at *j* in any convenient manner, and being forked at the inner end at *j′*, to receive the stem of strap G and guide it in its vertical movements. Strap G is held in its position on the shaft E by a collar on one side and a pin on the other. In the dome-shell is a tube controlled by a pet-cock, K, for the purpose of admitting air to the interior, as will be explained hereafter. L L are cap-pieces, which are to be fastened to the dome, to confine the glass plates M M and make them air-tight, holes being left in the dome so that light can be admitted to the interior. The purpose of this arrangement is for the operator to observe that the disk I has been truly placed on the can before admitting the pressure of the atmosphere by looking through one of the glasses M. The lower edge of the dome is made hollow, for the reception of an india-rubber or other similar elastic ring, which is shown in the sections, Figs. 1 and 2, at *b b*. The function of this ring is to make an air-tight joint around the dome upon the can or other vessel.

To operate this device, the tube *d* in the top of the dome is to be connected with any exhausting apparatus, either by steam vacuum or direct-acting air-pump, so that the air in the filled can may be withdrawn, when the dome B is placed on the can over the hole *a*. The air being all exhausted, the operator will then turn the handle *e′*, whereby the stem G will move downward and place the disk I upon the hole. The pressure of the outward atmosphere will force the dome down, so that the ring *b* will form a tight joint all around the can. When the operator, by observation through the glass *m*, is satisfied that the disk I is truly located on the hole *a*, he will immediately turn the handle of pet-cock K, whereby the outer air is admitted, and instantly a pressure is created upon the disk I through the small holes *h h* in the cap H, so that it will be retained upon the surface of the can over the hole *a*, when the air shall have been admitted to the interior of the dome, so that it can be removed and another can substituted

for it. There may be very many methods of placing the disk I over the hole when the dome is exhausted of air.

I have shown the best method of accomplishing the result. One way for effecting this may be by a plunger working vertically from the top of the dome, having a sharp point to retain the disk I sufficiently to overcome its own weight, and thus, by forcing the plunger down to a bearing and afterward admitting the air, the disk would be retained by pressure. Another method would be to place the shaft E on one side of a middle line, and on it have an arm extending outwardly, and on it the cap for holding the disk I; then, by turning the handle of the shaft, the arm would carry downward the disk I and deposit it over the hole *a*.

These and all other methods would be but modifications for placing the disk truly over the orifice, for the purpose of closing it while in a state of vacuum, without varying from the spirit of my invention.

Having described the manner of placing the disk over the orifice, it now remains to describe the process of protecting it from accidents, and this may be effected in various ways; but I prefer to solder over the disk a hollow plate of metal, as shown in dotted lines at *n*, Fig. 3. In practice this plate will be flatter than shown in the drawing, and will be but little above the surface of the head of the can.

I am aware that it is not new to seal cans for fruit or other materials in a vacuum. I do not, therefore, claim doing so, broadly; but,

Having described the invention, what I claim is—

The combination of the dome B, crank E, eccentric F, and strap G, with its cap H, substantially as and for the purpose described.

In testimony that I claim the foregoing as my own invention, I affix my signature in presence of two witnesses.

THOMAS ROBERTS.

Witnesses:
A. S. DUNGAN,
WILLIAM H. ROBERTS.