No. 696,031. Patented Mar. 25, 1902.

W. H. FREDERICKS.

CANNING DEVICE.

(Application filed July 2, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

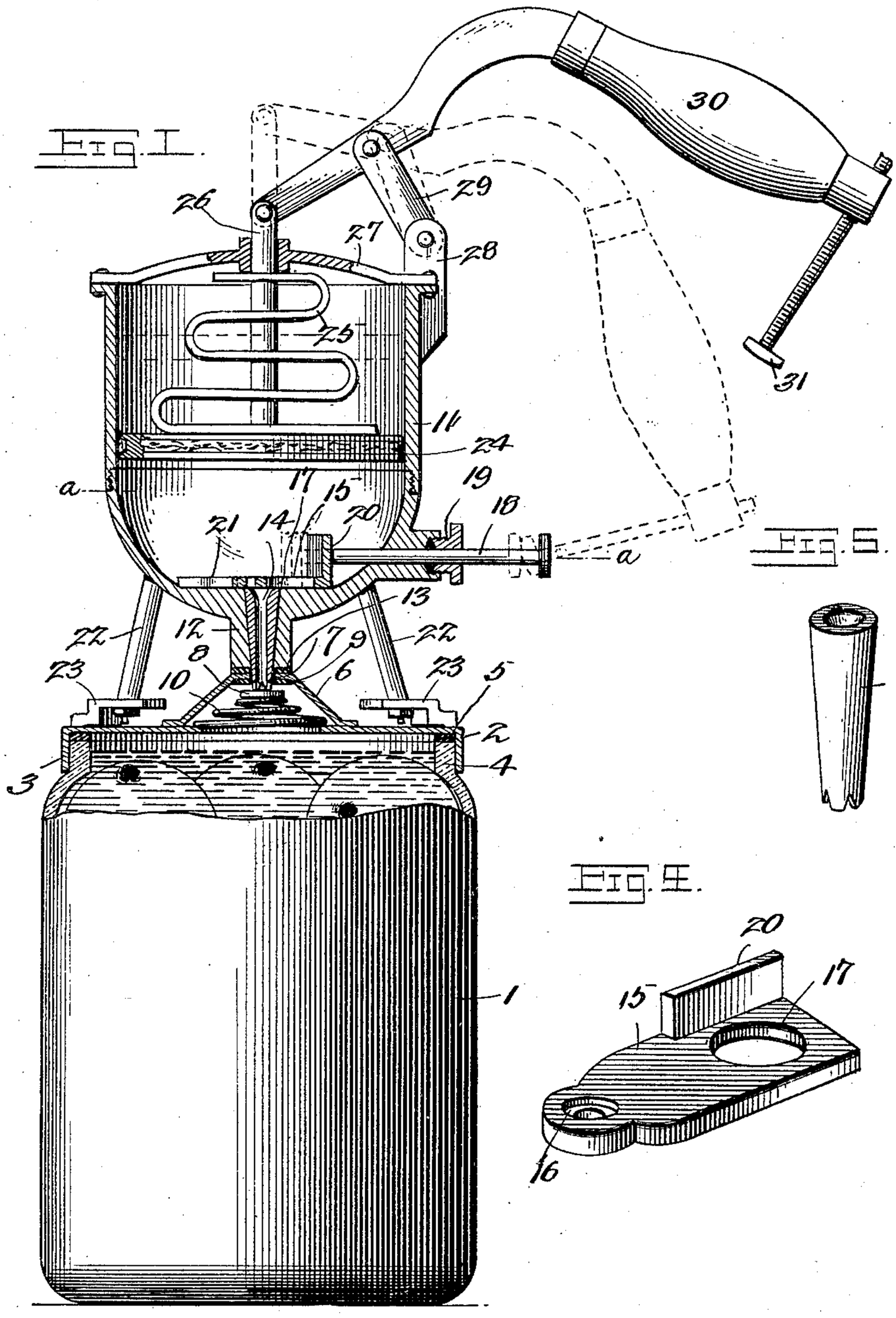

Fig. 5.

Fig. 4.

Witnesses
F. E. Allen.
J. W. Garner

W. H. Fredericks Inventor.
by C. A. Snow & Co.
Attorneys

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Fig. 2.

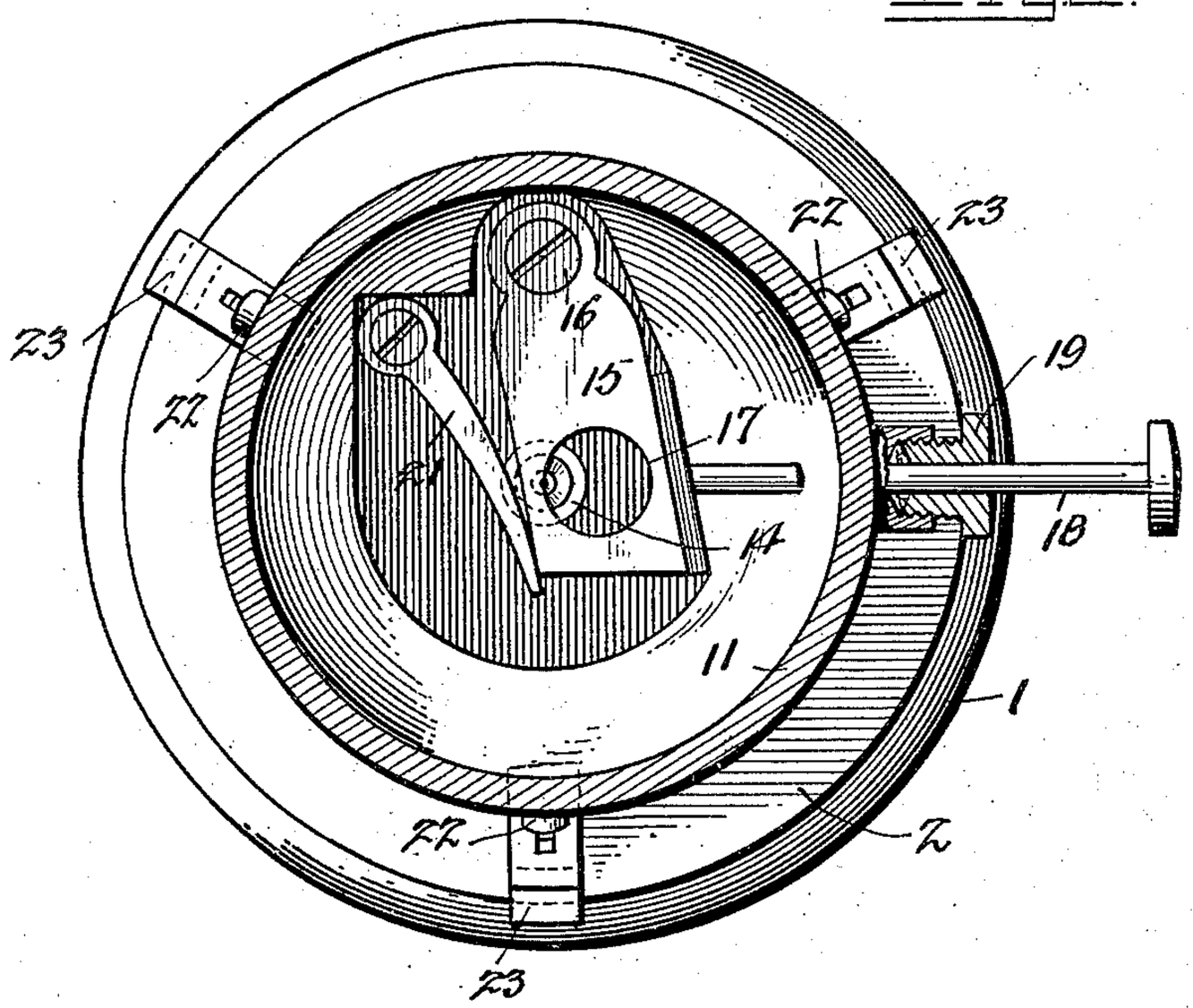
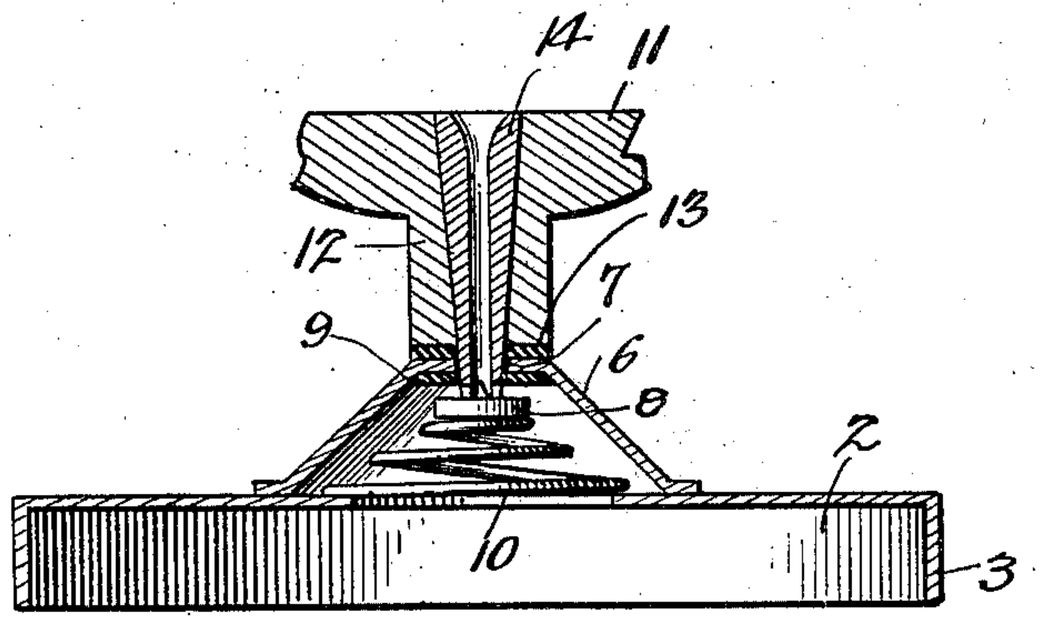


Fig. 3.



Witnesses
F. E. Alden.
J. W. Garner

W. H. Fredericks, Inventor
by C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM HENRY FREDERICKS, OF PORTLAND, OREGON.

CANNING DEVICE.

SPECIFICATION forming part of Letters Patent No. 696,031, dated March 25, 1902.

Application filed July 2, 1901. Serial No. 66,892. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY FREDERICKS, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented a new and useful Canning Device, of which the following is a specification.

My invention is an improved canning device for simultaneously exhausting the air from and for hermetically sealing by external atmospheric pressure a can, jar, or the like vessel in which food or other products may be preserved or "canned;" and it consists in the peculiar construction and combination of devices hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a vertical sectional view of an improved canning device constructed in accordance with my invention, showing the same in operative position on a jar. Fig. 2 is a transverse horizontal sectional view of the same, taken on a plane indicated by the line *a a* of Fig. 1. Fig. 3 is a detail sectional view of the connection between the exhausting-cylinder and the cover of the can or jar. Fig. 4 is a detail perspective view of the releaser. Fig. 5 is a similar view of the plunger-connector.

The jar, can, or other vessel 1 used in connection with my improved canning device may be made of glass, metal, or any other suitable material and may be of any suitable size and shape. The same is provided with a cover 2, which is removable therefrom and has a flange 3 to fit around the neck 4 of the jar or can. A rubber packing-ring 5 is employed between the said cover and the mouth of the vessel to effect an air-tight joint between them. The said cover has a cap 6 of reduced diameter on its upper side, which cap has an opening 7. A valve 8 is employed to close the said opening and a rubber or other suitable packing-disk 9 is employed to effect an air-tight joint between the said valve and the top of the said cap. A spring 10, which is here shown as a coiled spring, but which may be of any suitable form, is employed to normally close the opening 7 by the said valve 8. I do not limit myself in this particular, as the cover may within the scope of my invention be provided with any suitable form of spring-pressed valve to close the vent-opening of the cover.

The barrel or cylinder 11 of the air-exhausting device is provided on its lower side with a stud 12, adapted to fit on the cap of the cover, and preferably a rubber or other suitable packing-disk 13 is employed to effect an air-tight joint between the said stud and the said cap. Said stud has a central vertical bore, which tapers downwardly, and in the said downwardly-tapering bore is placed a correspondingly-tapered plunger-connector 14, the lower end of which is adapted when the air-exhausting device is placed on the cover of the jar or can to fit in and pass through the vent-opening 7 and depress the said valve 8 to establish communication between the said jar or vessel 1 and the said barrel or cylinder 11, as shown in Fig. 1 and in Fig. 3. When thus disposed, a releaser 15, which may be either of the form here shown or of any other suitable form, bears upon the upper end of the said plunger-connector and locks the same in place. The said releaser is preferably pivoted in the bottom of the barrel 11, as at 16. As here shown, the releaser is provided with a clearance-opening 17, which when the same registers with the upper end of the plunger-connector when the releaser is moved to the position required to release the plunger-connector permits vertical upward movement of the plunger-connector by the spring-pressed valve 8. A rod 18 passes through a packing-box 19 in one side of the barrel 11, and its inner end bears against one side of the releaser, as at 20. A spring 21, in the form of my invention here shown, bears against the opposite side of the releaser, and said spring normally presses the releaser into and retains the same in position to lock the plunger-connector against vertical movement.

The barrel is provided with supporting-legs 22, which have radially-adjustable feet 23, that are adapted to bear against the outer side of and to rest upon the cover 2. Said feet being radially adjustable, my improved canning device may be operated on covers 2 of various sizes, and hence the same may be employed in connection with cans or jars which vary in size.

In the barrel or cylinder 11 is closely fitted a piston 24. The same is normally depressed by a spring 25, which may be of any suitable form and is provided with a rod 26, which is here shown as guided in an opening in a cover 27, with which the cylinder or barrel 11 is provided. Said cylinder or barrel is further provided with an ear 28, to which is pivotally connected a link 29. A handle-lever 30 is pivotally connected to the said link and to the piston-rod 26 and is provided at its outer end with an adjustable tappet 31, here shown as a screw, which when the handle-lever is depressed engages the outer end of the rod 18 and moves the releaser 15 inwardly against the tension of the spring 21.

The operation of my invention will be readily understood.

My improved canning device being disposed on the cover 2 of a jar or can which has been filled with fruit or other product to be preserved, the plunger-connector by depressing the valve 8 establishes connection between the said jar or can and the barrel 11. The handle-lever 30 is then depressed, causing the piston 24 to rise in the barrel and to exhaust the air from the upper end of the jar or can, and thereby create a vacuum in the latter under the cover 2. As the handle-lever 30 reaches the lower limit of its stroke the adjustable tappet 31 thereof engages the rod 18, moves the latter inwardly, thereby causes the releaser 15 to be moved against the tension of the spring 21 and the opening 17 of said releaser to register with the upper end of the plunger-connector. Thereupon the spring 10 acts to close the valve 8 against the under side of the cap 6, hence closing the opening 7. The external atmospheric pressure effectually secures the cover 2 on the can or jar, and the operation of sealing the latter is hence effected simultaneously with the creation of a vacuum therein.

While I have here shown the cover 2 as having a flange 3 to fit around the neck of vessel 1, said neck and said cover may be otherwise constructed, and I do not limit myself in this particular. The packing-ring 5 may be composed of any suitable material and may be of any approved form.

The barrel or cylinder is herein shown as made in two sections secured together; but this also may be modified.

Having thus described my invention, I claim—

1. A canning device of the class described, comprising a barrel, a piston therein, a lever connected to the piston to operate the latter, a plunger-connector, a releaser, and means actuated by the lever to operate said releaser, substantially as described.

2. In combination with a jar having a cover provided with a vent, and a spring-pressed valve to close said vent, an air-exhausting mechanism having a connector to open said valve and establish communication between said air-exhauster and said can or jar and to release said valve when the air has been exhausted from said can or jar, substantially as described.

3. A canning device of the class described, comprising a barrel, a plunger-connector to establish communication between the same and the interior of a can or jar, a piston in said barrel, means to operate said piston, a releaser to lock and disengage said plunger-connector and means to operate said releaser, substantially as described.

4. In a canning device of the class described, the combination of a barrel, a plunger therein, a lever to operate said plunger, a tubular longitudinally-movable plunger-connector in an opening with which said barrel is provided, a pivoted releaser, having an opening to clear and release said plunger-connector, a spring to engage said releaser with said plunger-connector, and means, actuated by said lever to disengage said releaser from said plunger-connector, substantially as described.

5. In combination with a vessel having a valved vent, an air-exhausting device to create a vacuum in said vessel, said device having means to open said valve while the air is being exhausted from said vessel and means to close said valve when a vacuum has been created in said vessel, substantially as described.

6. In combination with a vessel having a vent and a spring-pressed valve to close said vent, an air-exhauster, and a connection, between said air-exhauster and said vent, said connection including means to open said valve against the tension of its spring, while a vacuum is being formed in said vessel, and to release said valve to close said vent, before disconnecting said air-exhauster from said vessel, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM HENRY FREDERICKS.

Witnesses:
ELLIS JENNINGS,
E. J. MENDENHALL.