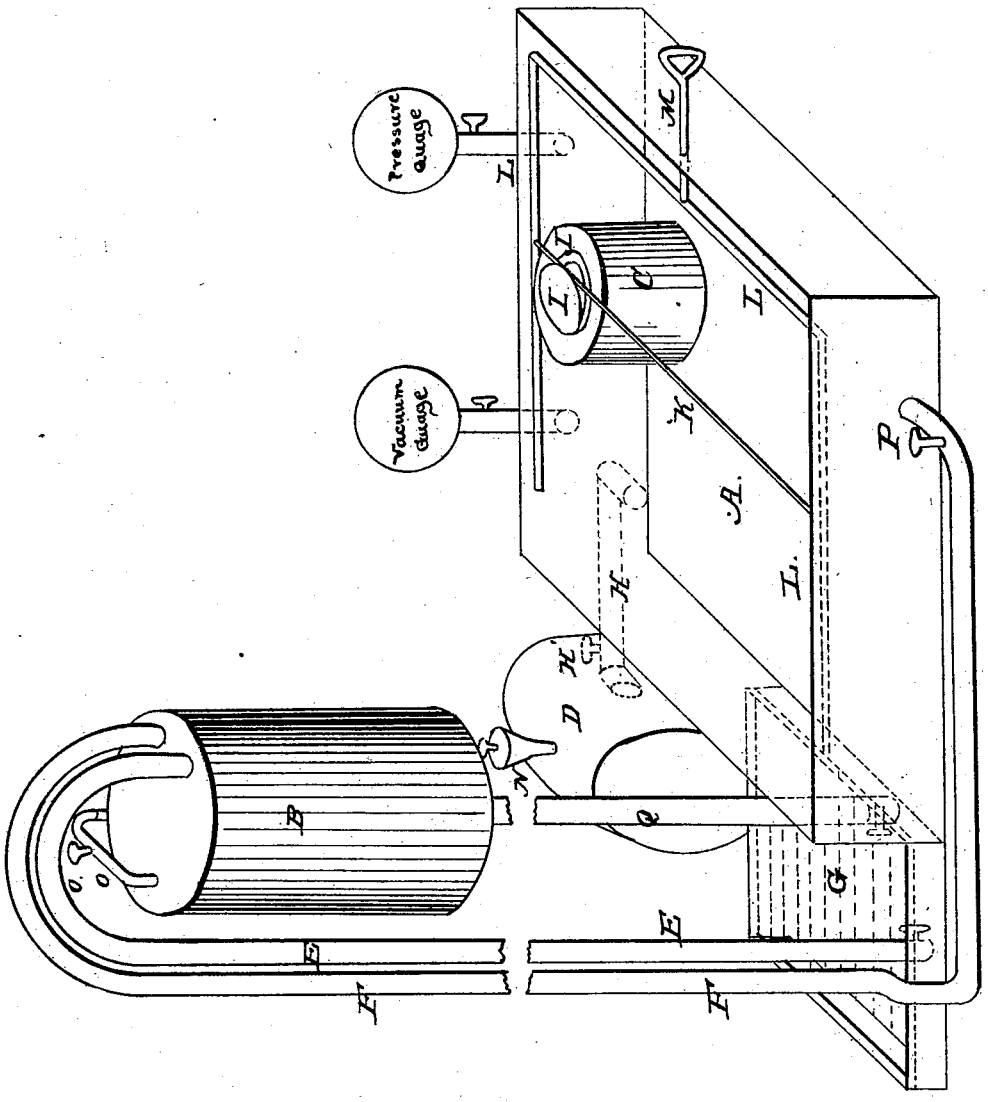
F. STABLER.

Apparatus for Packing Animal and Vegetable Substances.

No. 53,355. Patented March 20, 1866.



WITNESSES
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FRANCIS STABLER, OF BALTIMORE, MARYLAND.

IMPROVED APPARATUS FOR PACKING ANIMAL AND VEGETABLE SUBSTANCES.

Specification forming part of Letters Patent No. **53,355**, dated March 20, 1866.

To all whom it may concern:

Be it known that I, FRANCIS STABLER, of the city of Baltimore, in the State of Maryland, have invented a new and useful Machine for Packing Animal or Vegetable Substances suitable for food and already wholly or partially desiccated in carbonic-acid gas or other gas that will not support combustion in air-tight vessels, and that the following is a true and exact description of my said invention.

I have already obtained Letters Patent of the United States, being reissue No. 2,162, dated on the 30th day of January, 1866, for a process for preserving animal or vegetable substances suitable for food, by wholly or partially desiccating them and surrounding them when inclosed in air-tight cases with carbonic-acid gas or other gas that will not support combustion or promote decomposition, and which process requires the introduction of the gas into the can containing the article to be preserved, and in the specification of my said patent I have described one way in which the said gas may be introduced, and stated there may be many others. The mode now about to be described is a new and useful improvement on that described in the said specification, and constitutes a machine or combination of parts operating together to produce the desired result.

In the mode described in the specification aforesaid I treated each can or case—say, of oysters or peaches—separately, relying on the superior specific gravity of the gas when introduced into the bottom of the can to flow in, expelling from it the atmospheric air, a mode which answered the purpose, but was slow and inconvenient when compared with that which I have since invented.

My invention consists of three parts—first, a box or receptacle, in which I place a number of cans filled with the article to be preserved and ready to receive the gas; second, a cylinder filled with water and used in the way to be described to create a partial vacuum in the receptacle, and, third, a vessel in which the gas is generated to be used in the case or receptacle containing the cans, the three to be connected by pipes and corks, so as to be operated as herein described.

First. In the accompanying drawings, A represents the receptacle, made as large as required for a given number of cans, with a top capable of being closed, so as to make the receptacle air-tight. This top is not shown in the drawing, nor is there any contrivance shown for closing it, the modes of doing which are various. In the top there must be an air-opening capable of being closed at pleasure by a suitable cock. F is a pipe, connecting the receptacle A with the water-cylinder B when the cock P is opened.

Second. B is a cylinder, filled with water from a hydrant or otherwise. O is the hydrant-connection with a cock, o', to cut off the water-supply when required. Q is a pipe communicating with a water-vessel, G, below the cylinder B, with a cock below the water-surface, to be used as presently explained. E is an open pipe, connecting the top of the cylinder B with the water-vessel G.

Third. D is a vessel in which the gas intended to be used is generated, and is connected with the receptacle by the pipe H with the cock H′.

This being the machine, the following is the arrangement when carbonic-acid gas is used to operate it: The cans—say, of oysters—to be charged with gas are to be placed in the receptacle with their lids propped up, as presently to be described, and the air-tight top of the receptacle put on with its air-opening closed. The cocks P and H′ are also closed. The cylinder B is then filled with water from the hydrant or otherwise, the cock Q′ being first closed. When the cylinder B is full, the water runs over into the water-vessel G through the pipe E. The supply of water to B is then cut off, and the generator D, being charged with gas, the operation of charging the cans begins by opening the cocks Q′ and P, when the water, descending from B into the water-vessel G, a vacuum is produced in the receptacle, the extent of which is shown by the vacuum-gage, whose cock has been left open, while the cock of the pressure-gage has remained closed. The cock P is now closed and the cock H′ opened, when the gas flows into the receptacle, filling all the cans whose tops have been left open, as described. The pressure is shown by the pressure-gage, whose cock was open when the gas was admitted. Inasmuch as the vacuum is never a perfect one and some air remains in the receptacle, the cock in the top or cover of the receptacle is now opened that it may escape, which it does, being lighter than

the gas. The cock is then closed, as well as the other cocks connected with the receptacle, which is now an air-tight vessel containing cans filled with oysters in an atmosphere of gas. The lids are then dropped in a way now to be explained.

Around the orifice of each can is a circular groove or circular projection, and the lid of the can has a lip which fits into this groove or over the projection. The cans, being arranged in rows on the receptacle, a frame is so placed that while one side of the lid rests in the groove the opposite rests on a bar of the frame, which last is movable from without by a rod passing through a proper stuffing-box.

In the drawing a single can, C, is shown with the left edge of the lid I resting on the groove J, while the opposite edge rests on the bar K of the frame L. It will be seen, of course, that if the rod M is pulled the lid drops at once into the groove J. An air-tight joint is not formed hereby, but the gas is retained in the can sufficiently for all purposes, and until the cans being lifted out in the trays in which they are set are hermetically closed by soldering.

With a view to make the drawing more intelligible, I have not crowded it with all the cans or with the trays in which they are set, or with the whole of the frame for letting fall the lids or its supports, for these are mere mechanical arrangements which are understood at once when the object is explained.

Sometimes oysters are packed in square boxes which fill the trays closely, and when there is little or no waste of gas. Where the cans are round I have the trays so arranged that blocks of wood of suitable shape fill the spaces between them, so as to economize the gas.

I have described a water-cylinder as a means for producing the vacuum of the simplest kind; but an air-pump may be used instead, when it would be the second element above described.

As already said, while I have described carbonic-acid gas as the agent used by me, any other gas may be used which will not support combustion.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination of a receptacle, in which a vacuum, as above described, may be produced containing cases of animal or vegetable food from which the atmospheric air is to to be abstracted, and carbonic-acid or other gas incapable of supporting combustion put in its place, with a water-cylinder, or any other means of producing a vacuum in the receptacle, and a gas-generator, the whole operated substantially as described.

2. The combination of a receptacle, substantially as described, for the purposes described, with a gas-generator, where the gas is forced into the receptacle.

3. The combination of a vacuum receptacle containing the cans of food to be preserved, with a frame supporting in part the lids of the cans, and the rod operated from the outside to drop the lids, substantially as described.

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Witnesses:

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