Jan. 7, 1936. J. M. BAER 2,027,083

CONTAINER

Filed Feb. 1, 1935 4 Sheets-Sheet 1

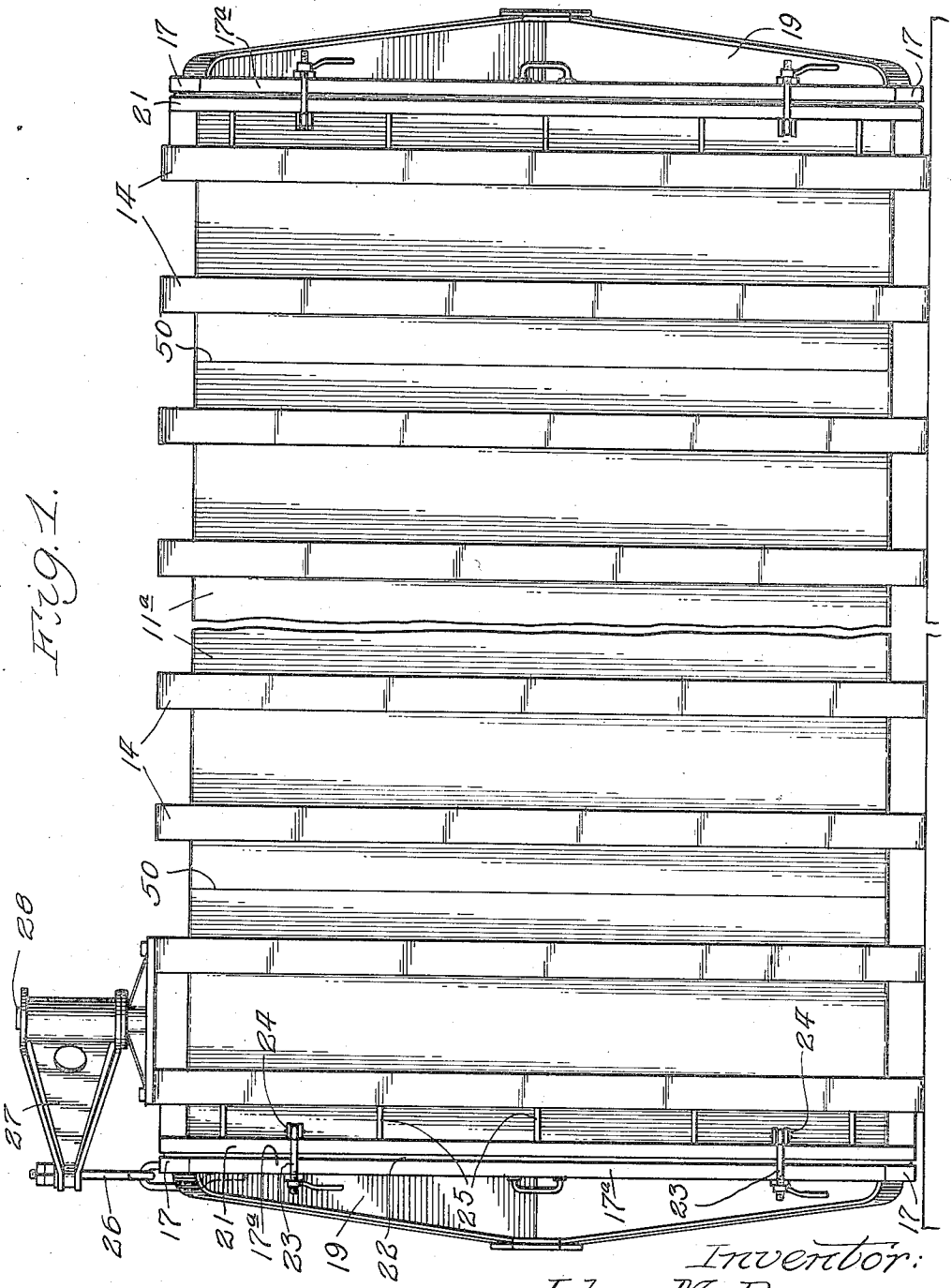


Fig. 1.

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Jan. 7, 1936. J. M. BAER 2,027,083

CONTAINER

Filed Feb. 1, 1935 4 Sheets-Sheet 2

Fig. 3.

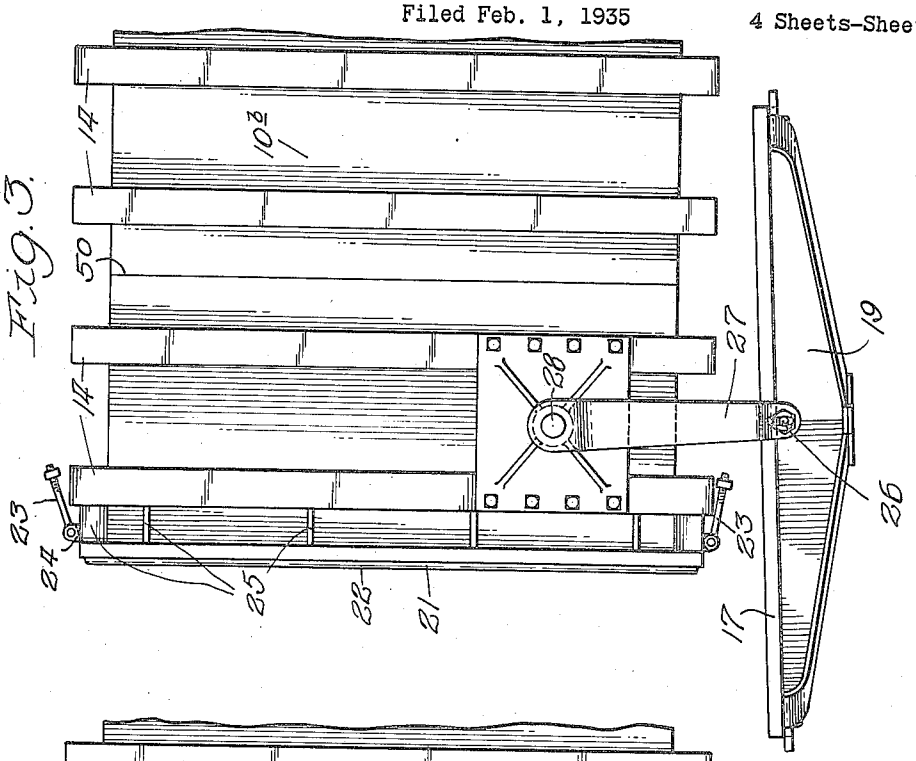


Fig. 2.

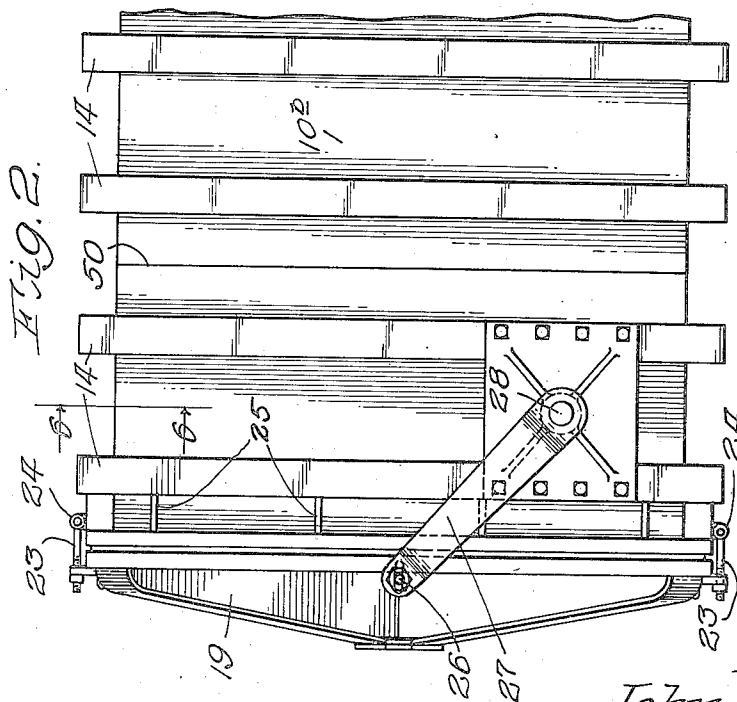


Fig. 10.

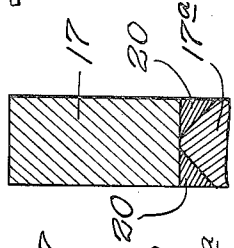
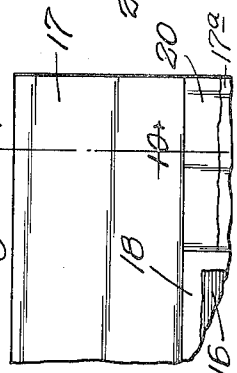


Fig. 9.



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Jan. 7, 1936. J. M. BAER 2,027,083

CONTAINER

Filed Feb. 1, 1935 4 Sheets-Sheet 3

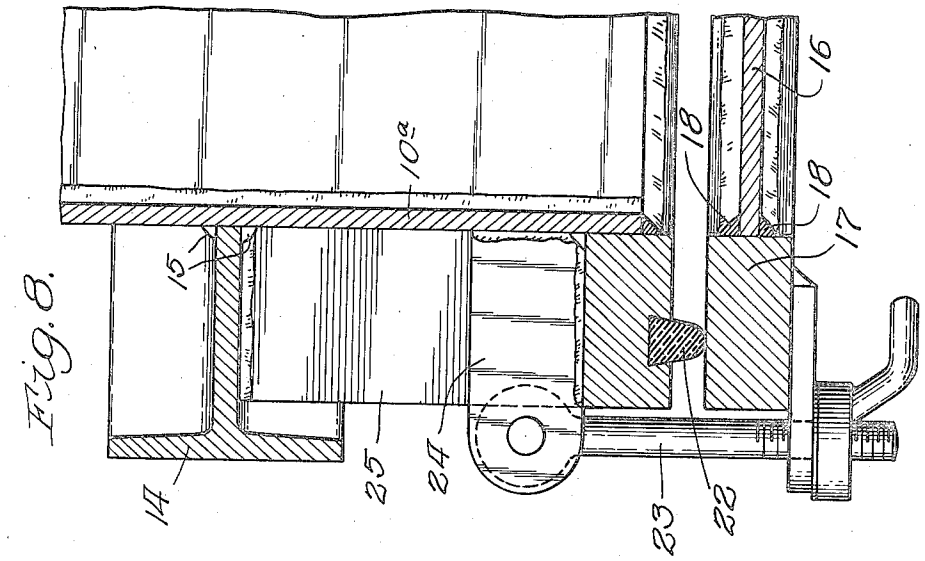


Fig. 8.

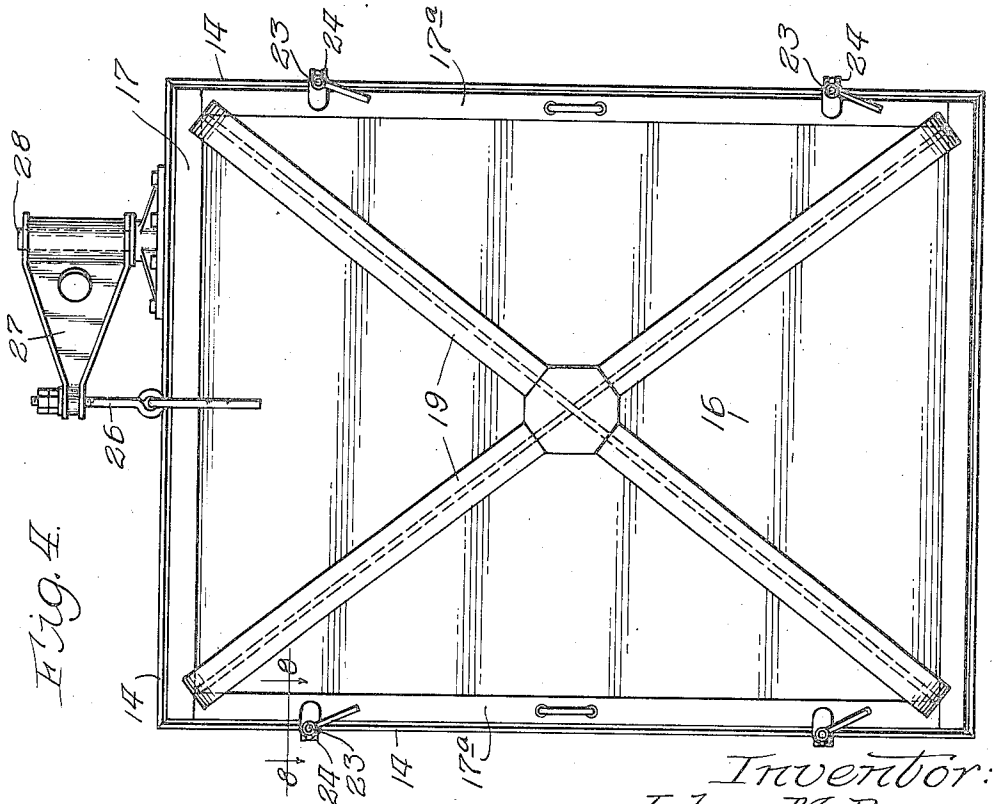


Fig. 4.

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Jan. 7, 1936. J. M. BAER 2,027,083

CONTAINER

Filed Feb. 1, 1935 4 Sheets-Sheet 4

Fig. 7.

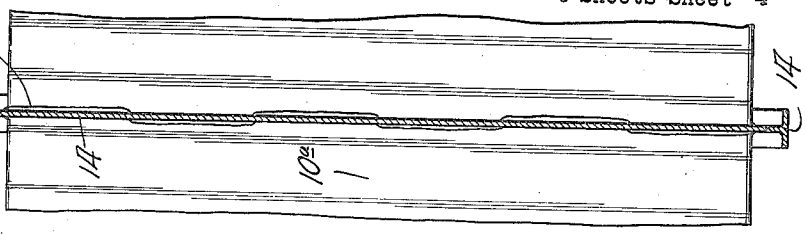


Fig. 6.

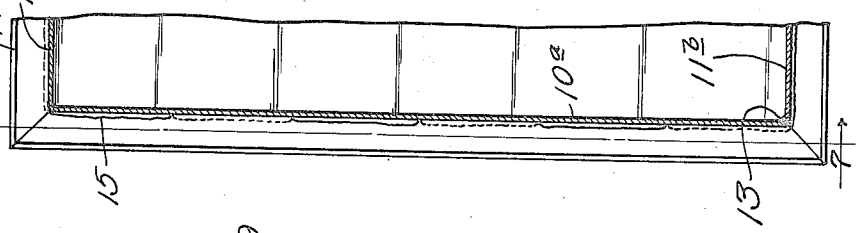
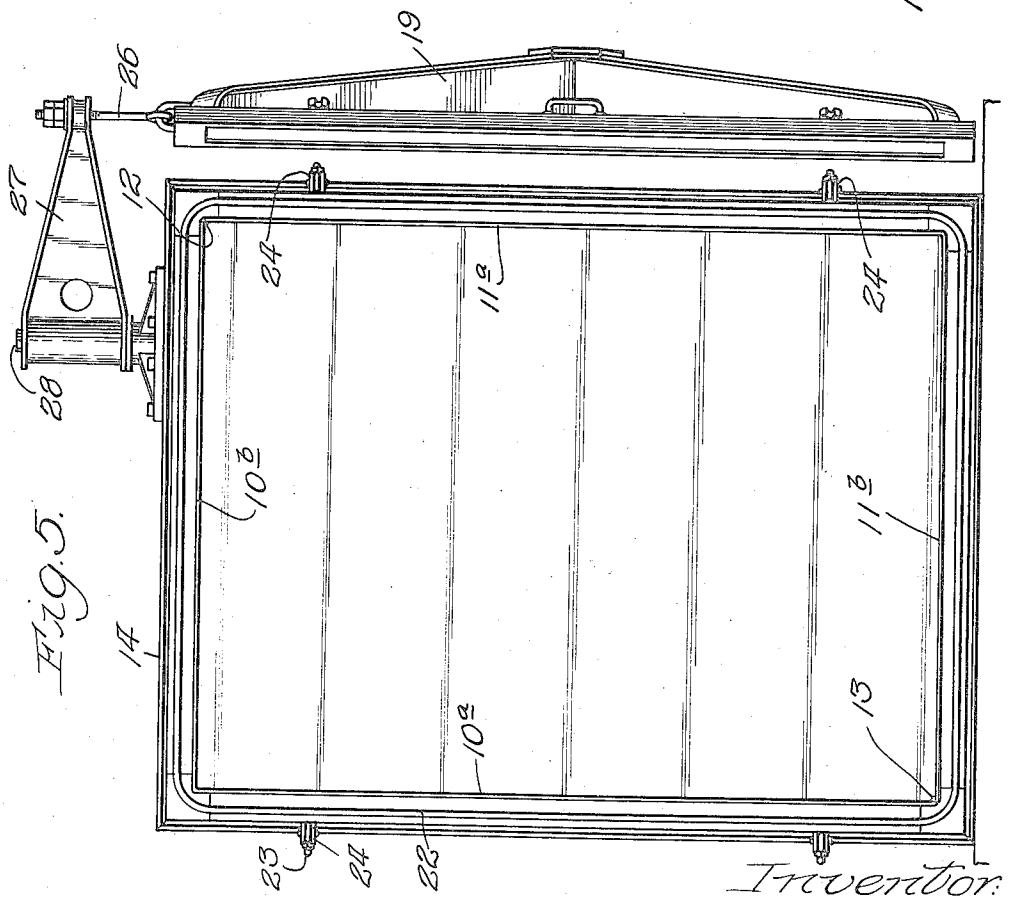


Fig. 5.



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Patented Jan. 7, 1936 2,027,083

UNITED STATES PATENT OFFICE

2,027,083

CONTAINER

John M. Baer, Chicago, Ill., assignor to The Guardite Corporation, Chicago, Ill., a corporation of Illinois

Application February 1, 1935, Serial No. 4,564

1 Claim. (Cl. 220—1)

This invention relates to improvements in containers and, more especially, a container adapted for fumigating purposes.

In the fumigation of vegetable products with a mixture of vapors from volatile immiscible liquids, it is necessary or desirable to provide a container or tank in which the products can be placed. This container must be capable of withstanding pressure, both negative and positive. For example, in fumigating with a mixture of carbon dioxide gas or other inert gas such as hydrogen, or the like, together with a minor proportion of toxic gas such as ethylene oxide, methyl formate, or the like, it may be necessary or desirable to evacuate the container or fumigator to a pressure of ½" of mercury absolute or less, and then admit the fumigating gases and bring the gas pressure in the fumigator up to 15 to 20" of mercury absolute.

The products to be fumigated are frequently carried in sacks, bags, and other containers, which can conveniently be loaded on trucks, carts, and the like. In placing the products in the container or fumigator, time is saved if the bags and the like can remain on the trucks and the latter be wheeled into the container and wheeled out after completion of the fumigating process. One of the features of my invention is the making of a container or fumigator rectangular in shape to permit easy delivery and removal of trucks with products loaded thereon. With a rectangular-shaped container, a smooth floor is provided to accommodate the truck which may be on rails or not, and the vertical side walls and flat top conform more closely to the loaded truck than a cylindrical or spherical container would. Besides this, by making a rectangular container, the trucks can be loaded with products that will substantially fill the container and thus result in more economical use of the fumigating gases.

Another feature of my invention is the provision of a rectangular-shaped container with smooth inner walls, all the bracing being placed on the outside thereof. This permits a more economical use of the space inside of the container and also facilitates the entry and removal of goods therefrom.

Another feature of my invention is the provision of such a container with means for opening the entire end, or ends, thereof to greatly facilitate loading and fumigation thereof. To this end, I have shown a door which will entirely close one end or permit the same to be entirely opened. Means are provided for hanging or suspending this door so that it can be swung entirely clear of the end, thus giving free and unobstructed access to the interior of the container.

Other features and advantages of my invention will appear more fully as I proceed with my specification.

In that form of device embodying the features of my invention shown in the accompanying drawings—

Figure 1 is a view in side elevation; Fig. 2 is a top plan view, showing the door closed; Fig. 3 is a similar view, showing the door open; Fig. 4 is a view in end elevation, showing the door closed; Fig. 5 is a similar view, showing the door open; Fig. 6 is a view taken as indicated by the line 6 of Fig. 2; Fig. 7 is a view taken as indicated by the line 7 of Fig. 6; Fig. 8 is a view taken as indicated by the line 8 of Fig. 4; Fig 9 is a fragmentary view of a corner of the door frame; and Fig. 10 is a view taken as indicated by the line 10 of Fig. 9.

As shown in the drawings, the tank or container is made of sheet metal with outside ribs or reinforcing. I prefer to use two or more sheets of metal in forming the sides, top and bottom. For example, one sheet may be bent in the middle to form all or a portion of one side and top and another sheet similarly bent to form all or a portion of the other side and bottom. The ends are closed by doors. The number of sheets employed will ordinarily depend upon the length of the tank. In the case of a short tank, both sides and top and bottom may be formed of two sheets of metal. In the case of a longer tank, there may be several pairs of sheets and, in such case, the adjacent edges of the sheets are suitably joined, as by welding. For example, a plurality of sheets of metal may be bent to form one side 10a and the top 10b of the tank and a plurality of sheets bent to form the other side 11a and the bottom 11b. The upper edge of 11a is welded to the edge of 10b at 12 and the lower edge of 10a is welded to the edge of 11b at 13. The edges of the adjacent sheets are joined, as by welding, as indicated by the seams 50.

Around the outside of the tank, that is, surrounding the sides, top and bottom, I provide rectangular frames 14, 14, here shown as ribs or stiffening members, which are T-shaped in cross-section. The inner edges of these ribs 14 are welded to the sheets 10a, 11a, 10b and 11b, as shown in Fig. 7. Instead of providing continuous welding on each side of the member 14, I have preferred to weld sections on opposite sides which are staggered, as indicated by 15, 15. See Fig. 7. By interrupting the welding in this manner and

staggering the same, the tendencies toward distortion are lessened or eliminated.

Each end of the container is adapted to be closed by a door. Since the construction of each of these doors is similar, I need describe but one in detail. As shown in Figs. 4, 8, 9 and 10, the door comprises a rectangular plate of sheet metal 16 surrounded by a frame 17, the edges of the sheet 16 being welded to the frame, as indicated by 18. Diagonal stiffening members are provided for the door, as indicated by 19. These are on the outside of the door and are T-shaped in cross-section. The edges of these members are welded or otherwise suitably fastened to the plate 16. Figs. 9 and 10 show the means for fastening the frame members 17. It will be seen that the vertical members, as indicated by 17a, have their upper and lower edges beveled and are welded to the ends of the horizontal members 17 by the welding 20.

Each end of the tank is provided with a door frame 21 carrying a sealing member or gasket 22 of rubber or the like against which the door frame 17 seats. For the purpose of drawing the door tightly against the sealing gasket 22, I provide the clamp member 23 hinged to lugs 24 carried back of the door frame 21. In order to give additional resistance against the pull of the clamp members 23, I provide braces 25 extending from the door frame 21 to the nearest rib 14. The ends of the members 25 are welded to the door frame and the rib 14.

For convenience in operating, one of the doors may be suspended by a bolt 26 from a swinging arm 27 pivotally attached to a post 28 on the top of the tank. This construction permits the door to be swung completely to one side, giving entirely free and unobstructed access to the interior of the container. Obviously, both doors may be so suspended, if so desired.

While I have shown and described certain embodiments of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, in the construction and arrangement may be made without departing from the spirit and scope of the invention as disclosed in the appended claim, in which it is my intention to claim all novelty inherent in my invention as broadly as permissible, in view of the prior art.

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

A pressure container, including; flat sheet metal sides, top, and bottom; external rectangular frame members fastened to said sheet metal sides, top, and bottom; a door frame at one end of the container; bracing members connecting said door frame to one of the external rectangular frame members; a sealing member carried by said door frame; a door adapted to seat against said sealing member; and means for closing the other end of the container.

JOHN M. BAER.