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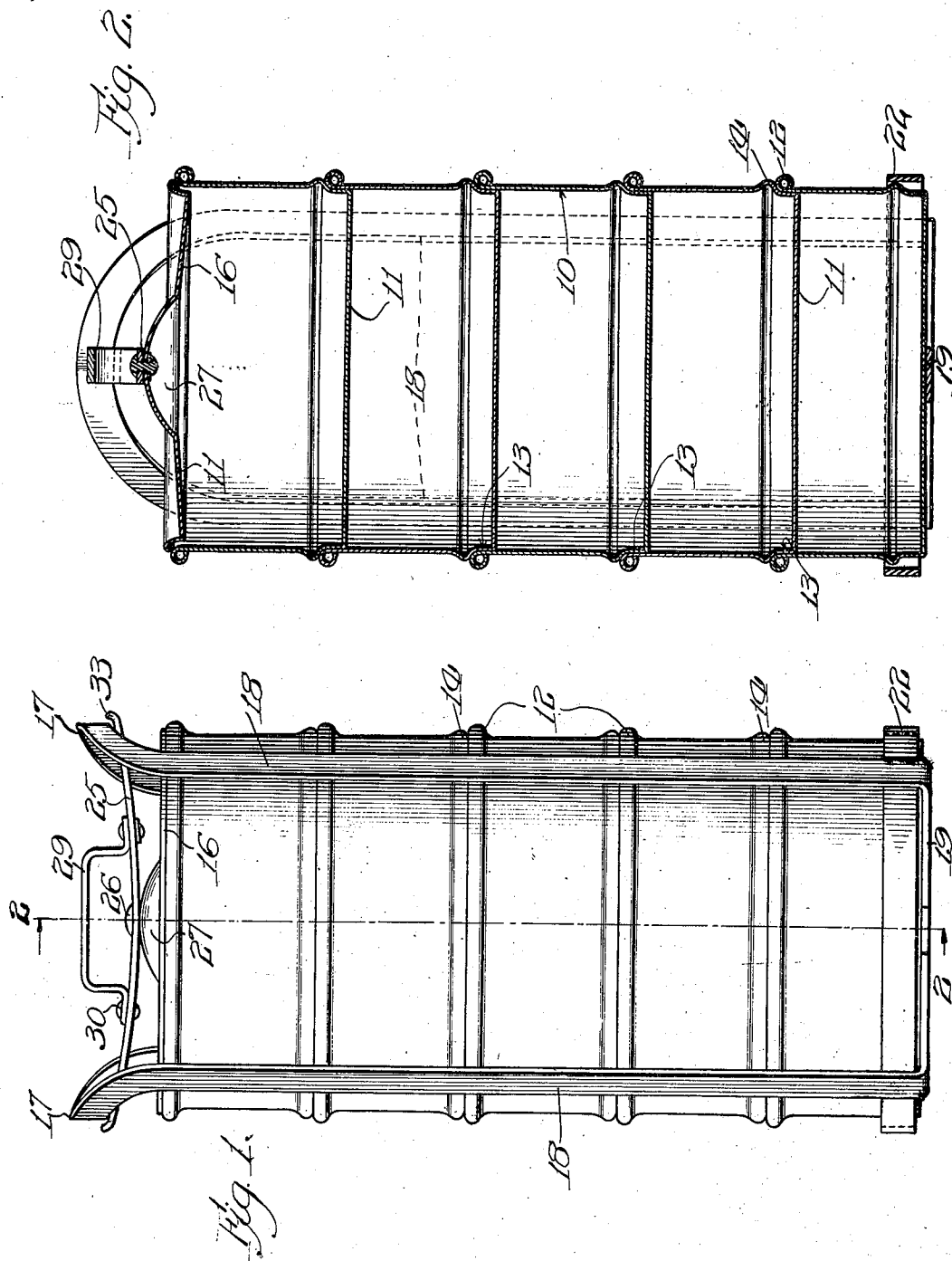
J. L. FATE

1,451,146

RACK FOR STACKED CONTAINERS

Filed Apr. 12, 1919

3 sheets-sheet 1



Inventor:
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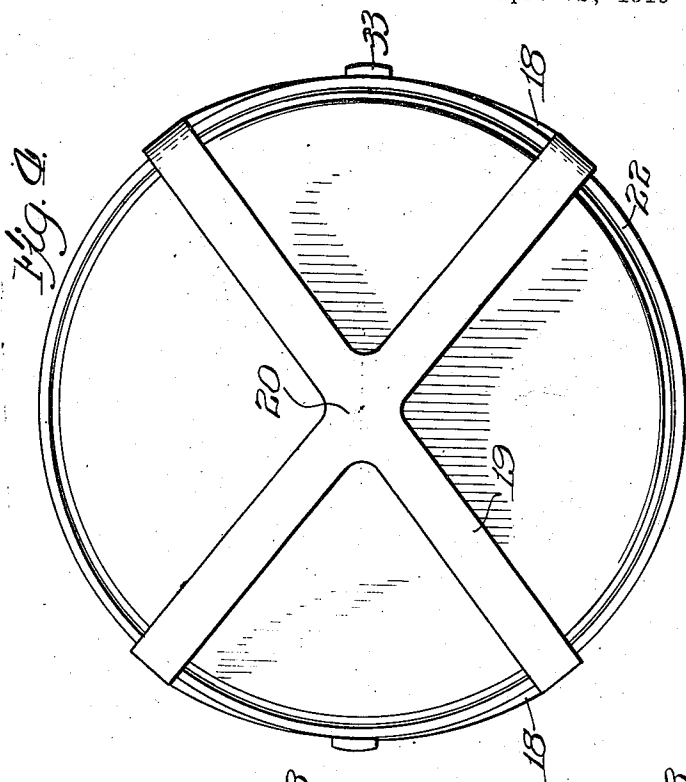
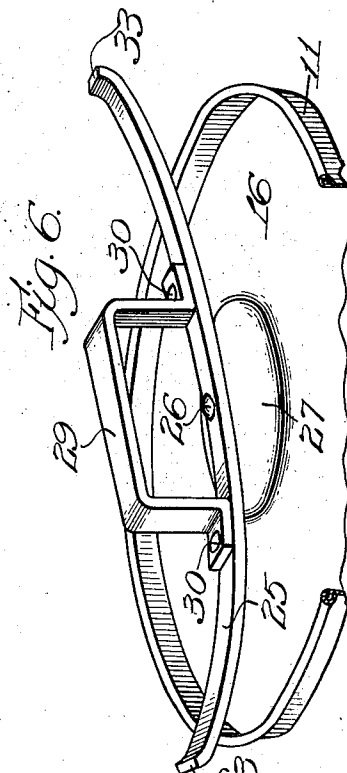
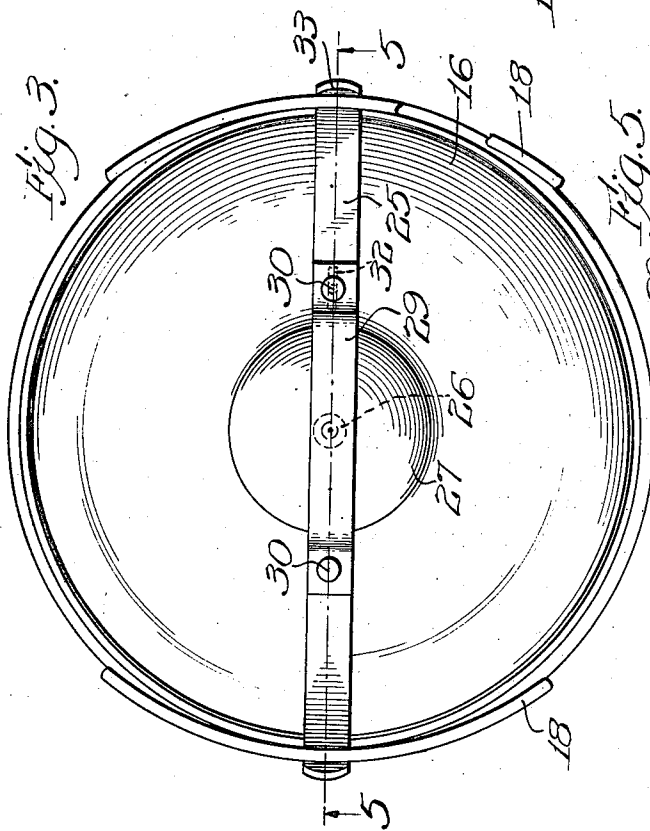
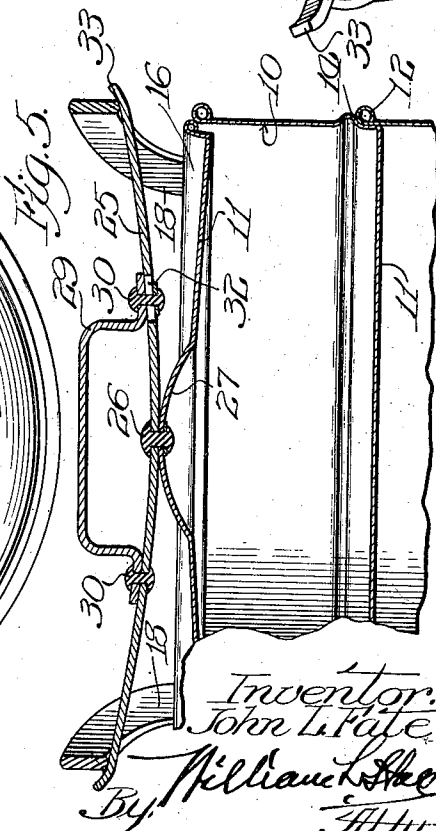
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RACK FOR STACKED CONTAINERS

Filed Apr. 12, 1919

3 sheets-sheet 2



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RACK FOR STACKED CONTAINERS

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Fig. 7

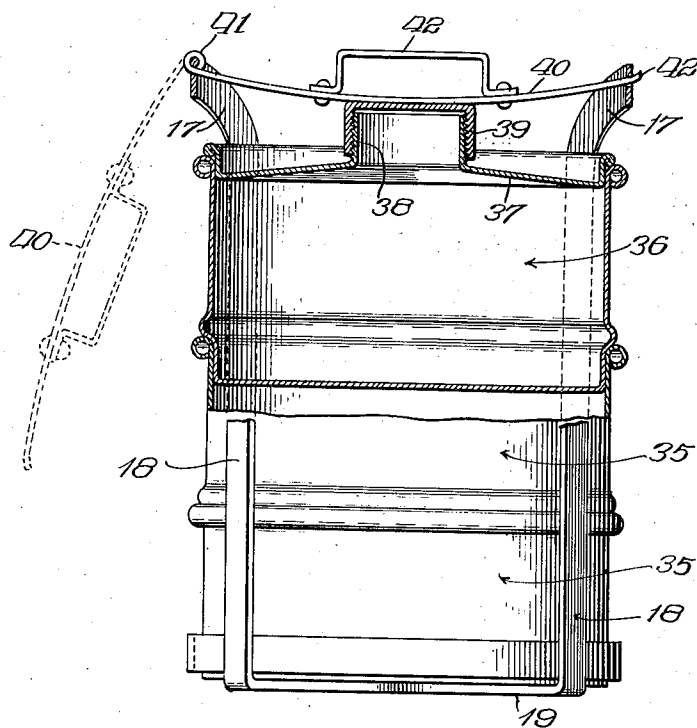
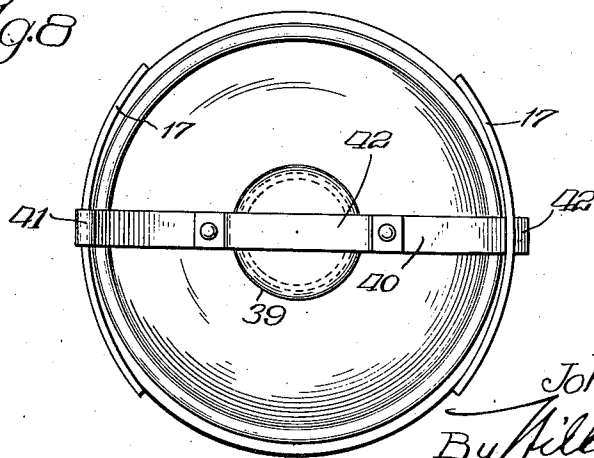


Fig. 8



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UNITED STATES PATENT OFFICE.

JOHN L. FATE, OF CHICAGO, ILLINOIS; DAISY L. FATE, EXECUTRIX OF SAID JOHN L. FATE, DECEASED, ASSIGNOR, BY MESNE ASSIGNMENTS, TO C. ROY GLEASON, OF CHICAGO, ILLINOIS.

RACK FOR STACKED CONTAINERS.

Application filed April 12, 1919. Serial No. 289,709.

To all whom it may concern:

Be it known that I, JOHN L. FATE, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Racks for Stacked Containers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

The present invention relates to a novel structure by which separate vessels or containers arranged in the form of a stack may be supported in a frame or rack of such construction and arrangement as to support the separate containers in a stack in such a way that the frame and stack may be handled as a unit, so as to thereby facilitate carrying the containers from place to place and also placing them within and removing them from a vessel such as vacuum containers, as will hereinafter appear.

The rack not only supports the individual containers in stack formation, but may be also associated with means to clamp the containers one on the other in such manner that all of the individual containers, except the top one may constitute tops or covers for the other containers; and the top individual container may have a specially formed cover that is clamped in place through means cooperating with the rack. The clamping means may take such form as to serve conveniently, in addition to its clamping function, as a bail or handle by which the rack and contained stacked individual containers may be carried from place to place.

While the structure herein shown may be adapted for use in carrying food or liquid trays or containers in hospitals, mess rooms, or other places without placing the structure in an enclosing vessel, it has been more especially adapted for use in so-called vacuum cans or fireless cookers so constructed as to prevent interchange of heat between the commodity in the container and the surrounding atmosphere whereby the temperature of such commodity, either hot or cold, may be maintained over a long period of time. For instance, in one use of such devices, the product may be brought to a cooking temperature and then placed in the in-

sulated containers and stacked and locked in the rack and thereafter placed in the vessel and the cooking allowed to continue until the product is ready to serve.

The construction herein shown has been found to be a very practical one for distributing food from a central galley or kitchen of a camp to several outlying mess rooms, either cooked or partially cooked and placed in the individual containers, being thereafter stacked in the rack and placed in the insulated enclosure to be later leisurely distributed to the mess rooms. The structure is, however, adapted for other storage and distributing uses.

Among the objects of the invention is to provide an exceedingly simple and efficient structure for thus stacking the individual containers so as to close them and handle the stacks as units to be thereafter distributed from place to place and the invention consists in the combination and arrangement of the parts shown in the drawings and described in the specification, and is pointed out in the appended claims.

In the drawings:

Figure 1 is a side elevation of a rack and contained stack of individual containers embodying my invention.

Figure 2 is a section on the line 2—2 of Figure 1.

Figures 3 and 4 are top and bottom plan views, respectively, thereof.

Figure 5 is a sectional detail on the line 5—5 of Figure 3.

Figure 6 is a perspective view of the cover for the upper individual container and the clamping means for effecting a clamping pressure to hold the stack of individual containers in place in the rack.

Figure 7 is a partial side elevation and partial section showing a modification of the invention.

Figure 8 is a plan view of the latter construction.

As shown in the drawings, 10 designates a plurality of individual containers for the food or other product. They are provided with bottom walls 11 and are open at their tops. Preferably, and as herein shown, they are cylindrical and the upper edges of the walls around the tops of the containers are rolled outwardly to form rims 12 which may if desired, be reinforced by contained wire-

The bottoms of the containers are restricted or reduced in diameter at 13 so as to fit into the open tops of the subjacent containers and said containers are provided just above their reduced or restricted portions 13 with outwardly spun beads 14 which constitute stops that limit the insertion of an upper container into a subjacent container. Thus it will be seen that the bottoms of certain of the containers constitute the top walls or covers for other containers. The said containers are interchangeable and are arranged in a stack in a manner shown in Figures 1 and 2, and the topmost container is closed by a cover or lid 16, which is shaped to fit within the opened end of the topmost container.

The rack or frame by which the containers are held in stacked formation comprises, as herein shown, two continuous metal straps or bars. Each of said metal straps or bars is bent into general U-shaped formation with the closed portions 17 extending a distance above the cover or lid 16 of the topmost individual container and bent laterally outward, as herein shown. The vertical members 18 of the straps lie alongside the stack and in engagement with the rims 12. At the bottom of the stack the said strap members are turned inwardly to form bottom supporting members 19, which, as shown in Figure 4, meet at the center of the bottommost individual container at 20 and are there welded or otherwise permanently secured together. As constructed, the rack or frame embraces, therefore, four upright members 18, with the members of each pair terminating in a loop 17 above the stack, and four radial members 19 arranged below the bottommost individual container of the stack and supporting the same. Preferably and as herein shown, the four upright members are further reinforced or strengthened by a ring 22 which encircles the upright members near the bottom of the stack and may be riveted, brazed, or otherwise attached thereto.

Referring now to the means for effecting a clamping action on the stack of individual containers for the purpose of holding the containers firmly as a stack and in the rack or frame, this construction is made as follows:

25 designates a clamping bar which extends diametrically across the cover 16 of the upper individual container. It is curved downwardly between its ends and is attached, as by means of a rivet 26, to a convex centrally raised portion 27 of the lid, the said clamping bar 25 is made of such length as to extend between and engage under the closed portions of the loop 17. The clamping bar is so fashioned that in springing the ends thereof under the loop 17, said bar is somewhat straightened beyond its normal shape so that when in place, as best shown in

Figures 1 and 5, downward clamping pressure is effected through the bar and the upstanding convex central portion of the cover 17. This pressure serves, not only to hold the cover 16 on its associated container 10, but also serves to transmit pressure throughout the stack to hold the individual containers with their beads 14 pressed firmly against the rims 12 so as to insure closure of the individual containers against the entrance of air. Preferably and as herein shown, a hand piece 29 is attached centrally to the clamping bar 25 to afford means by which the frame and enclosed stack may be handled. Said handpiece is attached to the clamping bars by rivets 30 which extend through terminals of the hand piece that lie parallel to the clamping bar. Preferably and as herein shown, the hand piece is fixed to the clamping bar by means which permits movement of the hand piece relatively to the bar. For this purpose one of the openings in the bar through which the associated attaching rivet 30 extends is elongated to form a slot 32. This arrangement permits a greater freedom of flexure of the clamping bar than if the hand piece were fixedly connected at both ends to the clamping bar.

Preferably, the clamping bar 25 is provided at its ends with short upturned hooks 33 to afford a better interlocking connection between the ends of the clamping bar and the loops 17 than would be otherwise provided.

In order to release the clamping bar from the hooks, one of the loops 17 may be forced laterally outward, which can be readily done because the uprights 18 are unattached to the stack of individual containers and are free to flex at the junction therebetween and the radial bottom members 19. Thereafter, the cover 16 may be lifted and the other end of the clamping bar readily removed from its associated loop 17.

It will be noted that when the individual containers are stacked and are clamped down on each other in the frame or rack, the entire structure may be readily carried from place to place by the hand piece 29 and that the clamping pressure of the bar 25 serves to effectively close the individual containers.

The construction shown in Figures 7 and 8 embraces a less number of containers than shown in the other figures, and is designed for use in handling foods and liquids in the same stack. As therein shown, 35, 35 designate lower containers for food contents and 36 designates an upper container which is adapted to contain a liquid such as coffee. It is provided with a cover 37 formed with an outlet 38 which is closed by a screw cap 39. The rack, embracing strips 18 and the bottom members 19, is similar to the construction before described, and the con-

5 tainers are nested in each other. As shown in said Figures 7 and 8, the clamping bar 40 is hinged at 41 to the upper edge of one of the closed loops 17 of the upright members or strips and is adapted to engage at its other end 42 under the other looped shaped handle 17. It bears intermediate its ends on the closing cap 39 of the cover or the container 36. With this construction it will be
10 seen that when the end 42 of the clamping bar is released from the adjacent loop shaped handle 17 said bar may be swung to the position indicated in dotted lines in Figure 7 to permit either the cap 39 to be
15 removed from the cover 37 or the cover 37 to be removed from the container 36. Said clamping bar is provided with a handle 42 by which the stack of containers in the rack may be carried.

20 I claim as my invention,

1. A rack for a stack of individual containers comprising a bottom support, consisting of crossed members, upstanding members rising therefrom, and clamping
25 means coacting with said upstanding members to effect clamping pressure on the upper container of a stack of individual containers contained in the rack and resting on said support, said upstanding members being ar-

ranged in pairs with the members of each pair formed to provide a loop and the clamping means comprising a cross bar extending between and movably locked to said loops and adapted to bear between its ends upon the upper container of a stack within
35 said rack.

2. The combination with a stack of individual containers, each having a closed bottom and open at its top, with the bottoms of certain of the containers beaded and reduced
40 below their beads to enter other containers, and a cover for closing the topmost container, of a rack comprising a bottom support extending across and beneath the bottom-most container, and side upstanding
45 members to contain said stack of containers, with the upper ends of said upstanding members extending above the topmost container to form loops, and a clamping bar bearing on the cover of the topmost con-
50 tainer with its ends co-operating with the said loops.

In witness whereof, I claim the foregoing as my invention, I hereunto append my signature at Chicago, Illinois, this 9th day of
55 April, 1919.

JOHN L. FATE.