Sept. 27, 1932. L. W. HASSENSALL 1,880,133

CARRIER

Filed Oct. 9, 1929 2 Sheets-Sheet 1

Fig. 1.

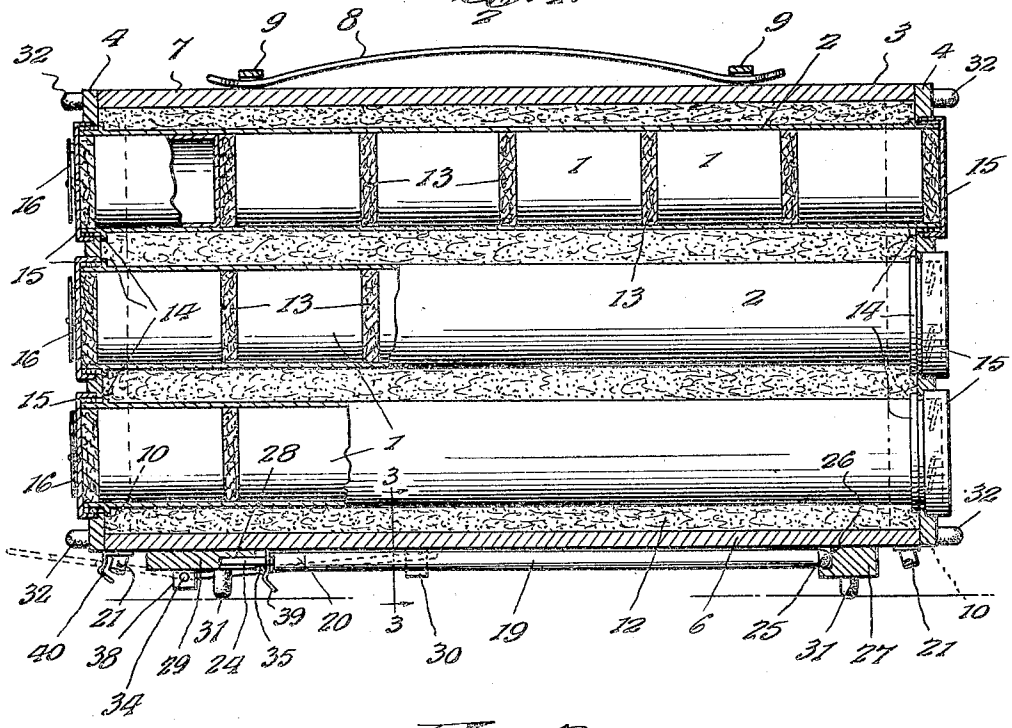


Fig. 2.

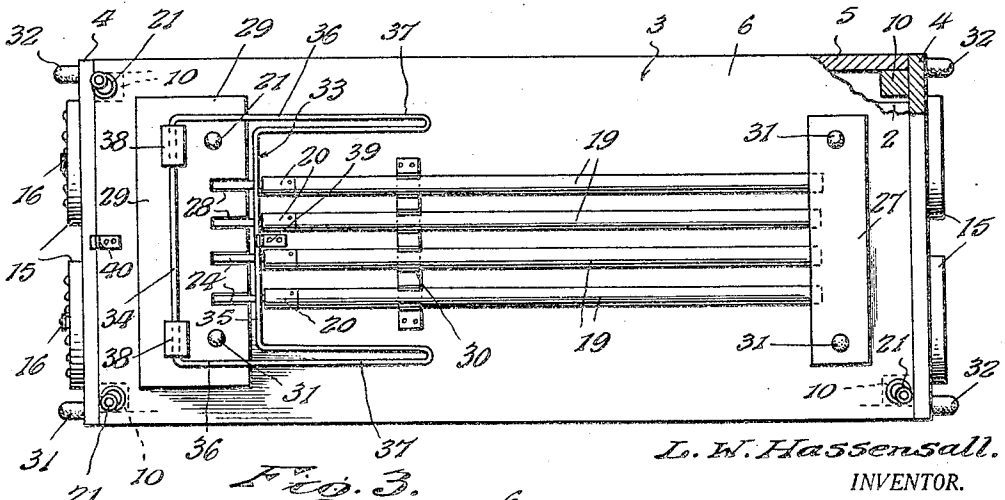
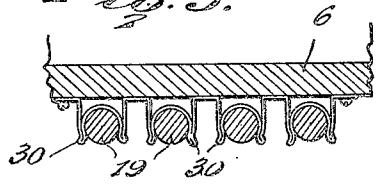


Fig. 3.



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Fig. 4.

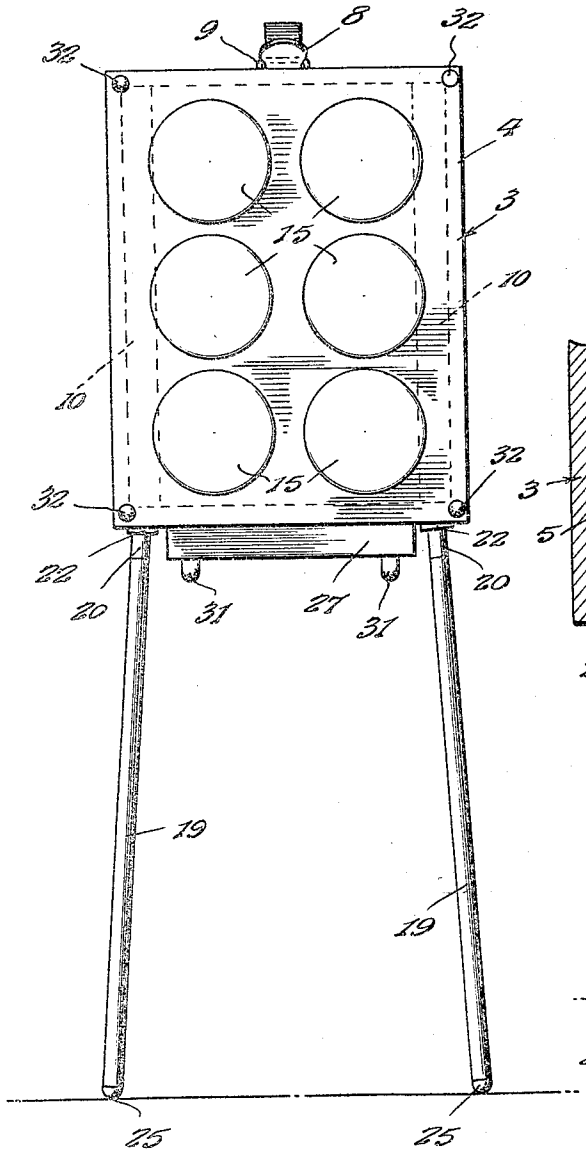


Fig. 7.

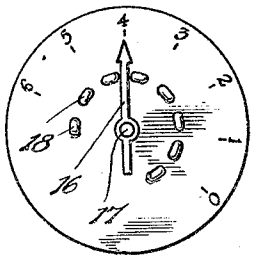


Fig. 5.

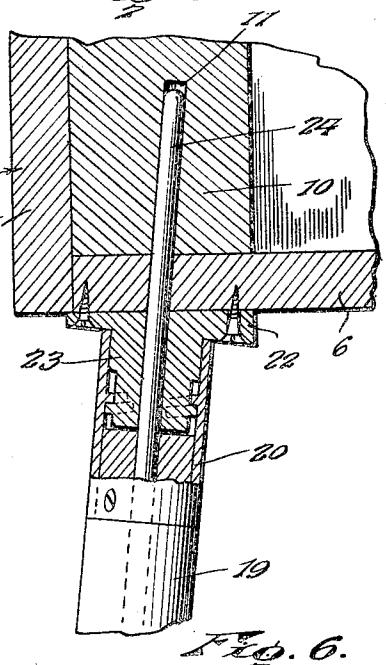
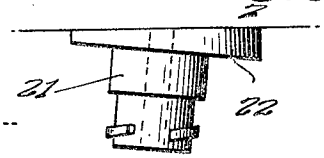


Fig. 6.



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Patented Sept. 27, 1932

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UNITED STATES PATENT OFFICE

LOUIS W. HASSENSALL, OF TOLEDO, OHIO

CARRIER

Application filed October 9, 1929. Serial No. 398,545.

This invention relates to special receptacles and more particularly to a carrier adapted to hold packages containing frozen carbonic acid gas and by means of which the packages may be easily transported from one place to another.

One object of the invention is to provide a carrier so constructed that a relatively large number of packages of frozen carbonic acid gas may be stored in the carrier for transportation from one place to another and further to so construct the carrier that packing of heat insulating material will be disposed about and between the packages of gas and thereby reduce waste due to evaporation of the gas to a minimum.

Another object of the invention is to provide a carrier of this type including a housing having tubes mounted therein to receive the packages of carbonic acid gas and so arranged that an empty container may be thrust into one end of a tube and by so doing force a filled container from the other end of the tube.

Another object of the invention is to provide the tubes with removable closures for their ends, a closure at one end of each tube being equipped with a dial adapted to be set whenever a filled container is removed therefrom and thereby indicate the number of filled containers in each tube.

Another object of the invention is to provide the carrier with improved supporting legs by means of which it may be supported in a convenient position for use and allow the legs to be disconnected from the housing or body portion of the carrier and stored under the same when not in use.

The invention is illustrated in the accompanying drawings, wherein

Figure 1 is a longitudinal sectional view through the improved carrier,

Fig. 2 is a bottom plan view of the improved carrier,

Fig. 3 is a fragmentary sectional view taken on the line 3—3 of Fig. 1,

Fig. 4 is a view in end elevation showing the carrier supported in position for use,

Fig. 5 is an enlarged fragmentary sectional view taken through a corner portion of the housing and one of the supporting legs,

Fig. 6 is an enlarged view in elevation of one of the lugs to which the supporting legs are connected, and

Fig. 7 is an enlarged view looking at the outer face of one of the caps equipped with a dial to indicate the number of filled containers in a tube.

The improved carrier is intended for use in transporting packages 1 containing frozen carbonic acid gas from a place of manufacture to places where the gas is to be used in water coolers or for any other purpose desired, and from an inspection of Figures 1 and 4 it will be seen that the packages are stored in tubes 2 which extend longitudinally through a housing 3 with their ends received in alined openings formed in the end walls 4 of the housing. The housing may be of wood or any other material desired and is formed with the end walls 4 through which the ends of the tubes project, side walls 5, a bottom 6 and top 7 to which a handle 8 is secured, as shown at 9, so that the carrier may be easily lifted. Posts 10 are provided at the corners of the housing and the bottom and lower end portions of the posts are bored to form sockets 11 which extend upwardly at an incline, as shown in Figure 5. During construction of the body, a packing 12 of heat insulating material is placed therein closely about and between the tubes in order to shield the packages of frozen carbonic acid gas and prevent rapid evaporation of the gas and when the packages of gas are placed in the tubes disks 13 also formed of insulating material are placed between the packages and in the open ends of the tubes. Therefore, the packages of gas will be well insulated and rapid evaporation of the gas prevented. The tubes are to remain stationary in the housing and in order to prevent them from sliding longitudinally, there has been provided rings or collars 14 which are fixed upon the tubes near their ends and bear against the inner faces of the end walls 4 about the openings in these walls through which the tubes project. The projecting outer ends of the tubes are formed with threads which may be con-

tinuous or interrupted, as shown in Figure 1, and in order to close the ends of the tubes, threaded caps 15 are provided which engage the threads of the tubes. Therefore, the caps may be very easily applied or removed and when in place they will prevent the containers or packages 1 and disks 13 from moving longitudinally through the tubes. It should be noted that the outer portions of the openings through which the tubes project are enlarged in diameter thereby allowing the caps to be easily applied with portions extending partially through the end walls so that a tight closure will be formed. If so desired, gaskets may be set into the enlarged outer end portions of the openings about the tubes for engagement by the edges of the caps when in place. In order to permit the person carrying the device to ascertain how many filled containers or packages are in each tube, the caps at one end of the housing are equipped with pointers 16. One of these pointers is applied to each cap at the said end of the housing, and by referring to Figures 1 and 7 it will be seen that each pointer is rotatably mounted by means of a pin 17 so that it may be swung about the pin and extend towards a desired numeral provided upon the cap. Projections 18 are provided upon the cap over which the pointer must be forced in order to move from one numeral to another and, therefore, there will be no danger of the pointer accidentally swinging about its pivot pin to the wrong numeral. By this arrangement an operator after removing an empty container from a water cooler and removing the caps from the ends of one tube can place the empty container against the insulating disk at one end of the tube and thrust the container into the tube. In doing so a filled container and the insulating disk at the other end of the tube will be forced outwardly. The insulating disk will be placed in the tube against the empty container or package and the caps then replaced. The pointer carried by one of the caps will be moved to indicate one less filled container in the tube either before or after the cap carrying the same is set in place. It will be obvious that the empty containers will always be thrust into the tubes from the same end and, therefore, whenever an empty container is thrust into a tube, a filled container will be projected from its other end. It will, therefore, be seen that the carrier for the packages of frozen carbonic acid gas is so constructed that a large number of packages may be easily transported from one place to another and filled packages or containers moved out of the tubes as empty containers are thrust into the same.

In order to support the housing in an elevated position so that empty containers may be easily thrust into the tubes and filled containers removed therefrom, there has been provided supporting legs 19. These legs are preferably formed of wood and are of sufficient length to support the housing at the desired elevation above a floor, as shown in Figure 4. A sleeve 20 is fixed to the upper end of each leg and formed with internal interrupted threads for engagement with companion threads on fittings 21 secured at the corners of the bottom 6 beneath the lower ends of the posts 10. From an inspection of Figures 5 and 6, it will be seen that the attaching portion 22 of each fitting is of a wedge-shape formation and tapers towards a corner of the housing. The upper faces of the attaching portions extend parallel to the under face of the bottom 6 and, therefore, the shanks 23 of the fittings are disposed at an incline. Each fitting is bored axially of its shank and since the bores of the fittings register with the sockets 11 pins 24 carried by the legs may pass through the fittings and into the sockets of the posts when the legs are applied. Therefore, the legs may be securely but releasably fixed to the housing and when in place the legs will extend in diverging relation to each other, as shown in Figure 4, and serve to firmly support the housing without danger of the housing easily turning over. Pads 25 formed of rubber or other suitable material are preferably applied to the lower ends of the legs to prevent them from slipping or marring a highly polished floor.

When the carrier is being transported from one place to another, the legs are stored against its bottom, as shown in Figures 1 and 2, with their lower ends engaged in seats or pockets 26 formed in a strip 27 extending transversely of the bottom adjacent one end thereof. The pins 24 at the upper ends of the legs are received in seats or grooves 28 formed in a strip 29 secured against the bottom adjacent its other end, and in order to retain the legs in place, there has been provided a series of resilient clips 30 formed from a strip of sheet metal bent, as shown in Figure 3. By referring to this figure, it will be seen that, when the supporting legs are engaged in the seats 26 and moved toward the bottom of the housing to engage the pins in the seats 28, the legs will be engaged between the arms of the clips and retained in place against the bottom of the receptacles but at the same time allowed to be easily released when they are to be used. Individual clips may be employed in place of a series of clips if so desired. When the device is being transported from one place to another and is set down upon a pavement which may be wet, it is desired to prevent the carrier and legs from becoming soiled by contact with the pavement, and in order to do so, pads 31 are provided carried by the strips 27 and 29 and similar pads 32 project from the end walls in order to allow the

housing to be set on end at the place of production and the tubes easily filled with packages of frozen carbonic acid gas without the caps becoming bent or soiled. In order to more securely retain the legs in engagement with the bottom of the housing, there has been provided a yoke 33 consisting of light rod metal or thick wire. This yoke is formed with cross bars 34 and 35 and end bars 36 which are extended and bent back upon themselves to form arms 37. The cross bar 34 is rotatably engaged in bearings 38 carried by the strip 29 to pivotally mount the yoke and the cross bar 35 is spaced from the cross bar 34 at such a distance that when the yoke is swung to the position shown in Figures 1 and 2 the cross bar 35 will bear against the pins 24 between the strip 29 and ends of the sleeves 20. A clip 39 is provided to engage the cross bar 35 and releasably retain the yoke in a leg securing position and a similar clip 40 is provided between the strip 29 and adjacent end of the bottom to engage the cross bar 35 when the yoke is swung outwardly to an extended position, as indicated by dotted lines in Figure 1. When the yoke is in its extended position, it will not only be held out of the way but will also provide arms which project from an end of the housing and may rest upon a floor in order to tilt the housing and prevent the legs applied at this end from being bent or broken while the supporting legs at the other end of the housing are being set in place. I have thus provided a carrier by means of which packages of frozen carbonic acid gas may be easily transported from one place to another and have further provided the carrier with legs which may be easily and quickly set in place to support the carrier in an elevated position and may be removed and stored against the bottom of the carrier where they will be out of the way.

Having thus described the invention, I claim:

1. A device of the character described comprising a housing having opposed walls formed with openings, tubes extending through said housing with their ends received in said openings, packing of heat insulating material in said housing about said tubes, discs of heat insulating material to fit snugly in said tubes between containers disposed therein, and removable closures for the ends of said tubes.

2. A device of the character described comprising a housing having opposed walls formed with openings, tubes extending through said housing with their ends received in said openings whereby containers may be thrust into one end of a tube and other containers forced out of the other end of the tube by containers thrust into its first-mentioned end, collars about said tubes spaced from the ends thereof and bearing against the faces of walls of said housing about the openings therein and preventing longitudinal movement of the tubes, and removable closures for the ends of said tubes.

3. A device of the character described comprising a housing having opposed walls formed with openings, tubes extending through said housing with their ends received in said openings whereby containers may be thrust into one end of a tube and other containers forced out of the other end of the tube by containers thrust into its first-mentioned end, the outer portions of the openings being of increased diameter, and caps removably engaged about the ends of said tubes and extending into the enlarged outer end portions of said openings.

4. A device of the character described comprising a housing having opposed walls formed with openings, tubes extending through said housing with their ends received in said openings whereby containers may be thrust into one end of a tube and other containers forced out of the other end of the tube by containers thrust into its first-mentioned end, the outer portions of the openings being of increased diameter, and caps removably engaged about the ends of said tubes and extending into the enlarged outer end portions of said openings, the caps and ends of the tubes being formed with interengaging threads.

In testimony whereof I affix my signature.

LOUIS W. HASSENSALL.