

Nov. 17, 1959

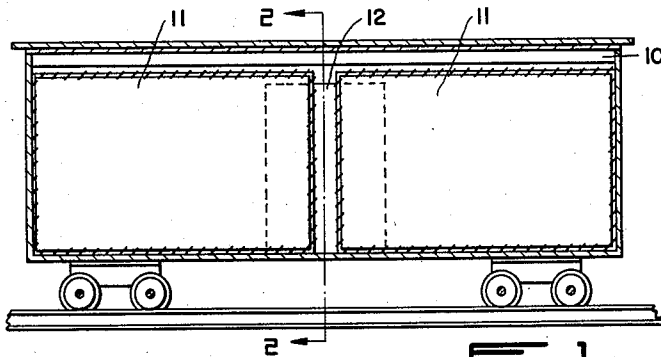
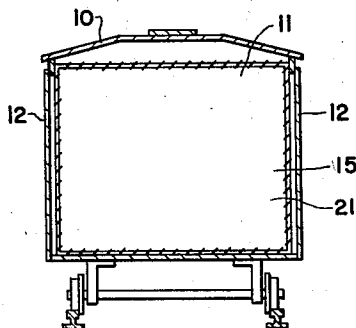
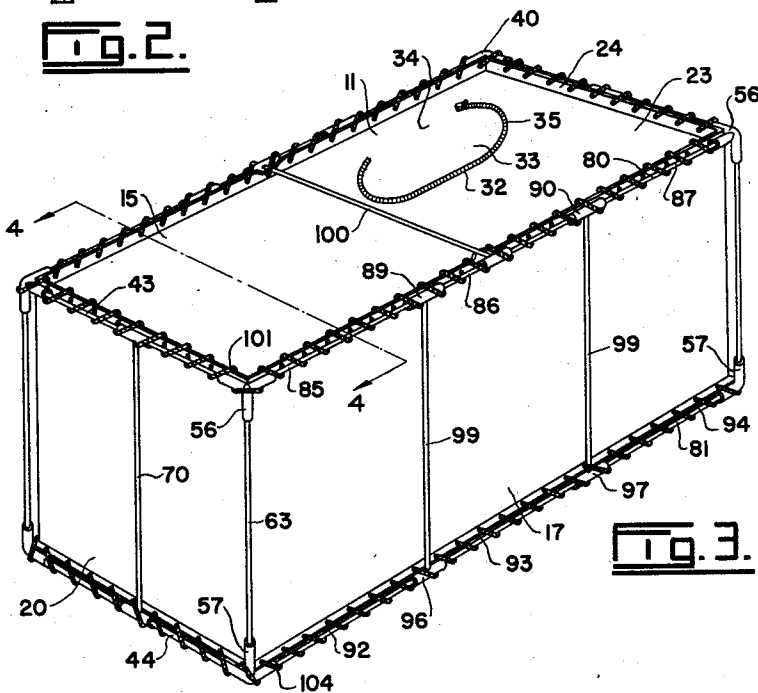
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2,913,029

BULK TRANSPORTING AND STORING CONTAINERS

Filed July 12, 1954

5 Sheets-Sheet 1



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5 Sheets-Sheet 2

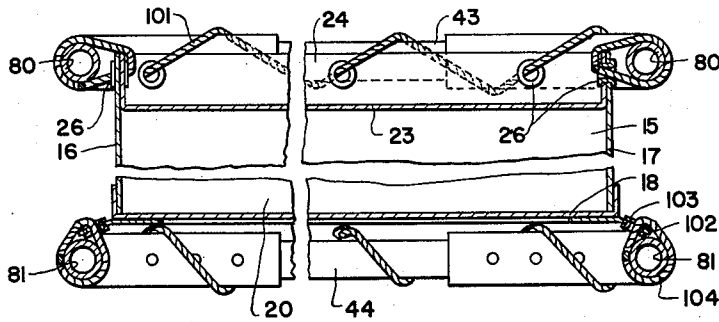


Fig. 4.

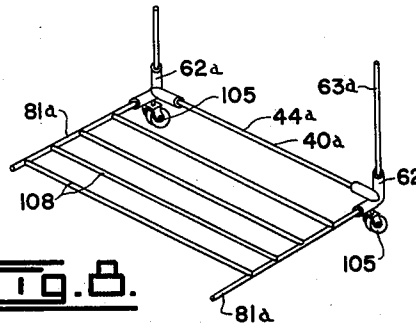


Fig. 8.

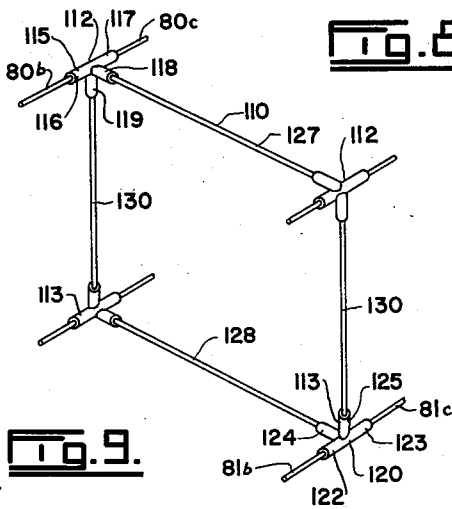


Fig. 9.

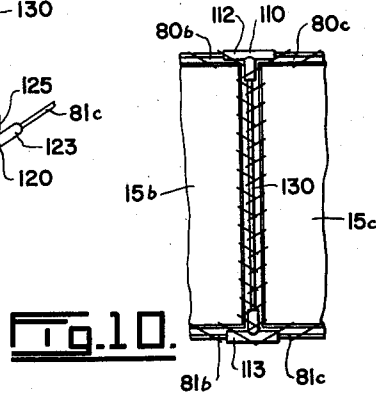


Fig. 10.

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5 Sheets-Sheet 3

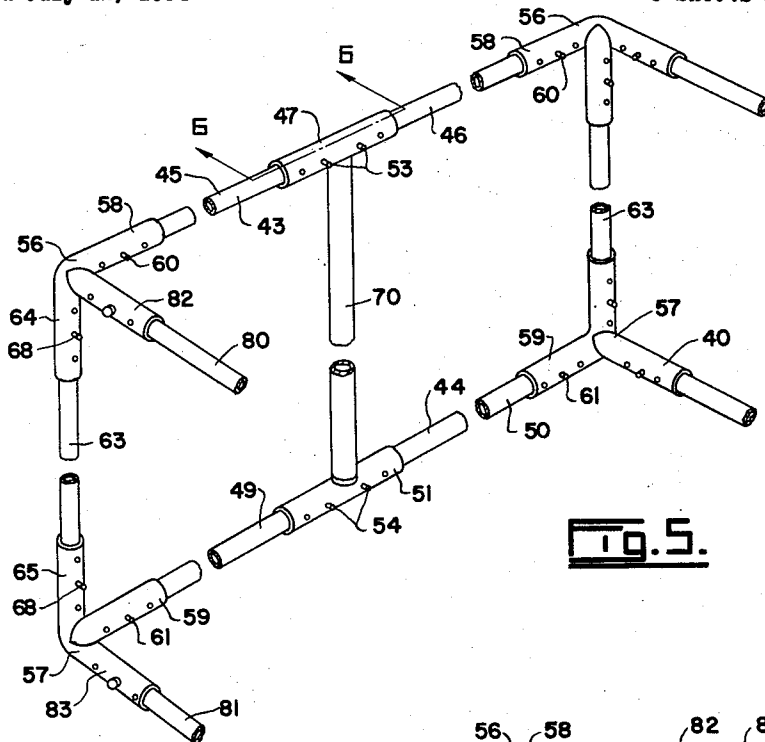


Fig. 5.

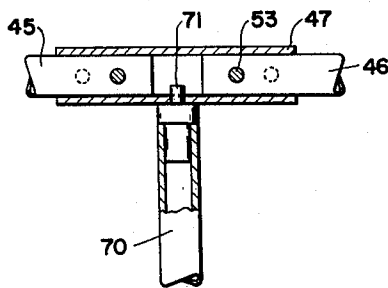


Fig. 6.

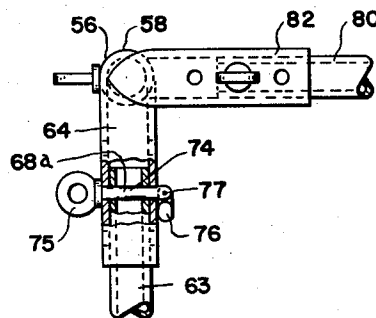


Fig. 7.

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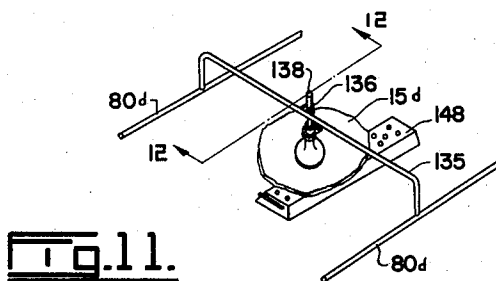


Fig. 11.

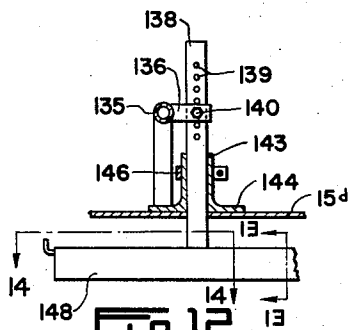


Fig. 12.

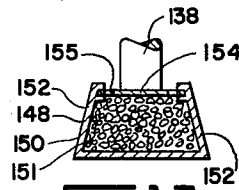


Fig. 13.

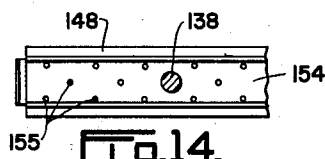


Fig. 14.

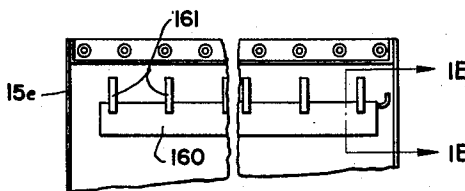


Fig. 15.

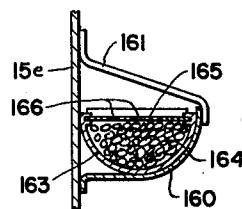


Fig. 16.

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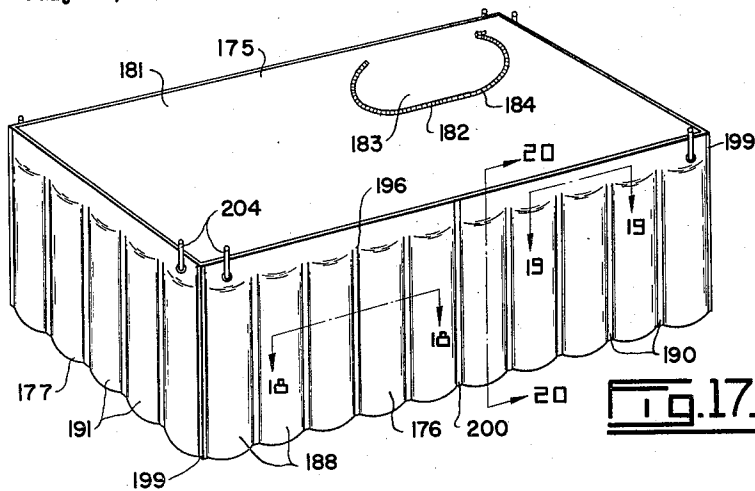
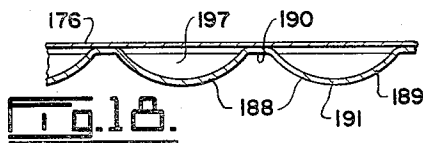
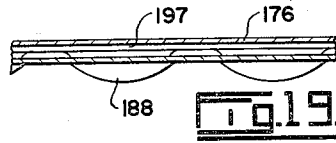
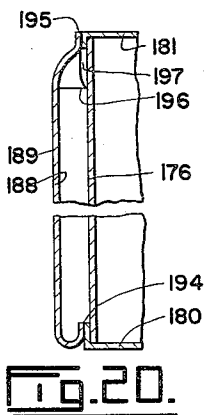
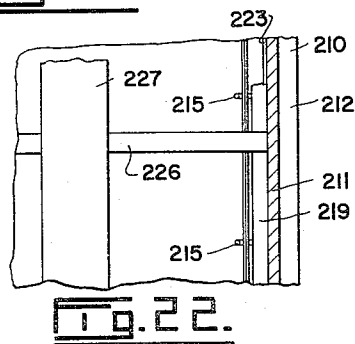
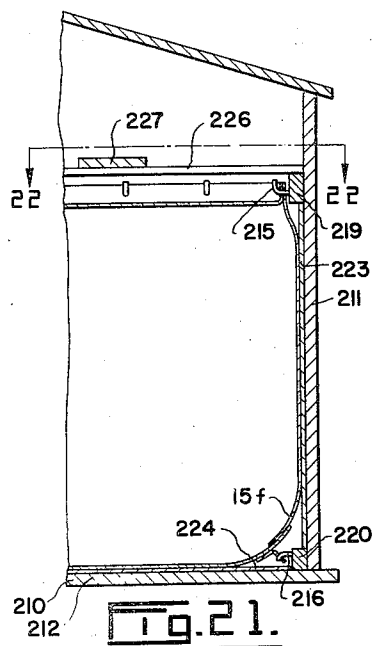
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5 Sheets-Sheet 5



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BULK TRANSPORTING AND STORING CONTAINERS

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Application July 12, 1954, Serial No. 442,820

2 Claims. (Cl. 150—1)

This invention relates to containers particularly for transporting and storing dry granular or powdery materials, such as sugar, flour, and the like, but which may be used for other materials if desired.

An object of the present invention is the provision of transporting or storing containers which may be pneumatically loaded and discharged.

Another object is the provision of transporting and storing containers which may be removably or permanently set up at any desired point or position, such as in freight cars or trucks, ship holds, aircraft, and storage quarters.

Another object is the provision of transporting and storing containers which are portable and which may be easily handled.

A further object is the provision of transporting and storing containers which are designed to collapse into very small bundles when they are not needed, are easy to assemble and disassemble, and can be adjusted to different sizes.

A further object is the provision of transporting and storing containers which may be used with or without external bulk heading.

A still further object is the provision of a container including a bag held in shape and supported by a framework, said bag being reversible for cleaning purposes.

Still another object is the provision of containers of the type described including means for controlling the moisture content of the material therein.

Yet another object is the provision of a flexible or foldable bag capable of acting as a transporting and storing container which is very light in weight and yet may be self-supporting or used with a suitable framework.

One of the big advantages of this equipment is that it can be made in self contained units of a given size and these later adjusted to fit into spaces of various sizes. Though the container bag may be folded into a small bundle, and turned inside out for cleaning purposes or repairs, granular or powdery material may be directed therein and removed therefrom by pneumatic equipment without interfering with the intake of the latter.

A bulk transporting and storing container made according to this invention includes a flexible bag which is usually formed of moisture-proof material, supporting means attached to the bag for supporting the latter and holding it in shape, and an entrance formed in the bag through which the materials may be directed into and removed from the latter. In one form of the invention, the supporting means is in the form of a framework, and it is preferable that this framework may be made extensible in all directions, that is, laterally, longitudinally and vertically, and that it be made collapsible. In another form, the bag has a substantially vertical peripheral wall, and the supporting means is in the form of a plurality of elongated vertical air pockets formed on this wall throughout the length thereof. In this case, means is provided for directing air under pressure into and out of the pockets.

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Examples of this invention are illustrated in the accompanying drawings, in which,

Figure 1 is a diagrammatic longitudinal section through a railroad freight car having two transporting and storing containers therein,

Figure 2 is a cross section taken on the line 2—2 of Figure 1,

Figure 3 is a perspective view of one form of transport and storing container,

Figure 4 is an enlarged vertical section taken substantially on the line 4—4 of Figure 3,

Figure 5 is an enlarged perspective view of one end of the framework of this container,

Figure 6 is an enlarged vertical fragmentary section taken substantially on the line 6—6 of Figure 5.

Figure 7 is an enlarged fragmentary detail of a corner of the framework showing one form of pin for holding the members together,

Figure 8 is a perspective view of the bottom of one end of an alternative form of framework,

Figure 9 is a perspective view of an adapter for connecting two frameworks together,

Figure 10 illustrates the adapter of Figure 9 in use,

Figure 11 is a perspective view of a portion of the top of a framework showing a container for holding a moisture-absorbing material,

Figure 12 is an enlarged vertical section taken substantially on the line 12—12 of Figure 11,

Figure 13 is a fragmentary vertical section taken on the line 13—13 of Figure 12,

Figure 14 is a horizontal fragmentary section taken on the line 14—14 of Figure 12,

Figure 15 is a vertical section through a container bag showing another form of receptacle for moisture-absorbing material,

Figure 16 is a fragmentary vertical section taken on the line 16—16 of Figure 15,

Figure 17 is a perspective view of an alternative form of transporting and storing container,

Figure 18 is an enlarged horizontal fragmentary section taken on the line 18—18 of Figure 17,

Figure 19 is another enlarged section taken on the line 19—19 of Figure 17,

Figure 20 is an enlarged vertical section taken on the line 20—20 of Figure 17,

Figure 21 is a vertical cross section through a freight car illustrating another form of container in which the car forms part of the framework thereof, and

Figure 22 is a fragmentary horizontal section taken on the line 22—22 of Figure 21.

Referring to Figures 1 and 2 of the drawings, 10 is a railroad freight car having two transporting containers 11 set up therein. These containers are not intended to be portable, and they are usually set up in the car and left there, although there is no reason why they cannot be collapsed and removed therefrom. In this example, there is a container at each end of the car, and each container extends from its end to a point near the middle of the car. It will be noted that in Figure 2, the container shown therein extends from one side wall to the other of the car. The numeral 12 represents the usual side doors of the car.

Figure 3 is a perspective view of a container 11. This container includes a large flexible bag 15 which in this example is rectangular in cross section. The bag may be formed of any suitable moisture-proof and fire and vermin-resistant material, such as vinyl or polyethylene plastic, fiber glass, nylon, or the like. The actual construction of the bag is not important, as long as it is capable of keeping moisture in or out.

Bag 15 is formed with side walls 16 and 17 fixedly secured at the lower edges thereof to a bottom 18. The

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side walls are connected to or integral with end walls 20 and 21. The side and end walls form a substantially vertical peripheral wall for the bag. The bag also has a flat top or cover 23 which preferably is permanently connected to the side and end walls. In this example, the cover is provided with an upwardly projecting peripheral flange 24 extending around the edges thereof. The cover is of such size that it fits down within the side and end walls of the bag with its flange bearing against said walls at the upper edges thereof, as clearly shown in Figures 3 and 4. Aligned holes are formed in the upper edges of the side and end walls of the bag in the cover flange 24, and these may be reinforced by metal eyelets to form grommets 26. The flange of the cover is secured to the bag walls in any suitable way in order to provide a moisture-proof seal therebetween. A suitable adhesive may be used for this purpose, or if the bag and cover are formed of plastic material, they may be heat-sealed together.

A suitable entrance is provided for the bag 15 near the top thereof, and this entrance is preferably large enough to permit the bag to be turned inside out for cleaning or repair purposes. In Figure 3, the entrance is formed in the cover 23 and is in the form of a large hole 32 having a flap 33 of the same size and shape. This flap is connected to the cover along an edge 34, while the remainder of the flap is removably connected to the cover by suitable means, such as a zipper 35. If desired, an air hole with a similar flap may be provided in the cover, although this is not absolutely necessary if the hole 32 is made large enough. If another hole is provided, it may have a suitable air filter in it to remove particles from air leaving or entering the bag during the loading and unloading thereof.

Supporting means is provided for the bag, and in Figures 1 to 4 it is in the form of a suitable framework 40. This framework is substantially the same size and shape as the bag. While the framework may be set up inside the bag, it is preferable to mount it outside the latter, as shown. It is also desirable to make this framework adjustable and collapsible. The framework is preferably formed of tubular stock which may be aluminum or an aluminum alloy, in order to make it as light as possible.

The framework includes side members extending longitudinally of the bag along the top and bottom of the side walls 16 and 17 thereof, end members extending along the top and bottom of the end walls 20 and 21, and vertical corner members located at the four corners of the bag. Some or all of these members may be made in sections so that the lengths of the respective members may be adjusted. Each end of the framework may comprise upper and lower transverse members 43 and 44, said upper member being divided into sections 45 and 46 connected together by a sleeve 47, while the lower member may be in the form of sections 49 and 50 connected together by a sleeve 51. Suitable pins 53 and 54 may respectively connect the upper member sections 45 and 46 to sleeve 47 and the lower member sections 49 and 50 to sleeve 51. These pins extend through aligned holes in the members and sleeves. The outer ends of the upper and lower transverse members 43 and 44 adjustably fit into tubular corner pieces 56 and 57 having inwardly extending sockets 58 and 59 for receiving said ends. Pins 60 and 61 extending through aligned holes in the corner sockets and the transverse members hold the same together. Vertical corner members 63 removably fit into vertically-disposed sockets 64 and 65 of the corner pieces 56 and 57 at each side of the framework. These corner members are removably held in position by pins 68 at the opposite ends thereof. If desired, one or more vertical braces may be provided between the upper and lower transverse members 43 and 44. In this example, there is one vertical brace member 70 located substantially midway between the corner members 63 at the opposite ends of the transverse members. The brace member 70 is provided with pins 71 projecting from its opposite ends which

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are adapted to extend into holes in the sleeves 47 and 51, as shown in Figures 5 and 6.

The pins used in this framework may be of any desired type, such as cotter pins or the like. One form of pin is illustrated in Figure 7 which shows the corner pieces 56. A pin 68a has a shank 74 with a loop 75 at one end and a drop head 76 at its opposite end pivotally connected thereto by a pivot pin 77. The head 76 is lined up with the shank, and then it and the shank are moved through aligned holes in the corner member 63 and the corner piece socket 64. Then the pin is turned until the pivot 77 lies in a horizontal plane, at which time the head 76 drops downwardly out of line with the pin shank so that the pin is held in position.

Upper and lower side members 80 and 81 extend respectively between the upper corner piece 56 and the lower corner pieces 57, at opposite ends of the framework. The side members fit into sockets 82 and 83 in the upper and lower corner pieces, respectively, and are removably connected thereto in the same manner as the upper and lower transverse end pieces are connected to their sockets. In this example, the upper member 80 is formed in three sections, 85, 86 and 87, removably connected together by sleeves 89 and 90, while the lower member 81 is also formed in sections 92, 93 and 94 removably connected together by sleeves 96 and 97. If desired, one or more vertical braces 99 may be provided. Two of these braces are shown in Figure 3, and they are connected to the sleeves of the upper and lower side members 80 and 81 in the same manner as the end braces 70 are connected to sleeves 47 and 51. In addition to this, one or more cross brace members 100 may extend between the upper side members 80. These brace members may also be connected to the sleeves of the upper side members in the same manner as vertical braces 99.

The flexible bag 15 is located within the frame work 40 just described. Suitable means, such as a rope or lacing 101 is provided for securing the bag to the framework. The rope is threaded through grommets 26 and 27 around the upper edges of the bag and is wound around the upper end and side members 43 and 80, see Figures 3 and 4. The bottom of the bag may be provided with a flange 102 projecting outwardly from the edges thereof, said flange having a plurality of grommets 103 therein through which a rope or lacing 104 is threaded, said rope or lacing being wound around the lower end and side members 44 and 81, as shown in Figure 3. Instead of continuous ropes 101 and 104, an individual rope or a suitable clip may be provided at each grommet. When the bag is fully extended, the framework 40 is drawn out to its maximum size. However, with the adjustments described above, the framework may be contracted considerably, in which case there would be an excess of bag, but the frame would still hold it generally in its proper shape. This allows the framework and bag to be adjusted to spaces of different sizes so that full advantage may be taken of all the space available.

When it is desired to use the transporting and storing container described so far, the cover flap 33 is opened and the material to be transported or stored is blown into or otherwise placed in the bag 15. As this bag is held in shape by the framework 40, there is no danger of any waste space resulting from portions of the bag folding over other portions thereof. When the bag is full or nearly full, the flap 33 is closed and secured in this position by means of zipper 35. As the hole 32 is relatively big, air can escape from the bag during the filling operation through this hole. The various members of the framework hold the sides of the bag from bulging out too far under the load of its contents. Furthermore, the bag being flexible, will bulge out into the spaces between the frame members so that there is very little loss of storage or transporting space as a result of the framework. With this container, the bottom of the bag 15 rests on the floor of the freight car or storage

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space. However, if desired, suitable cross members may be removably connected to the lower side members 81. These members may be similar to the vertical brace members 70 and connected to the side members in the same manner as said brace members are connected to the upper and lower transverse members. In this case, the bottom of the bag would rest upon the bottom supporting members.

If the container is to be used in a confined storage space, such as a freight car, as shown in Figures 1 and 2, the vertical brace members may be omitted since the side and end walls of the car would prevent the bag from bulging too far out of the frame. With this arrangement shown in Figure 1, vertical braces may be employed in the adjacent ends of the frames of the two containers 11. On the other hand, the bag end may be made strong enough to withstand the strain without these vertical brace members.

When it is desired to discharge the contents of the container, flap 33 is opened and a suitable suction spout lowered, not shown, into the bag 15 through hole 32. The suction equipment can remove all the granular or powdery material in the bag without interference from the latter since it is held in its proper shape at all times by the framework. It is a very simple matter to move the intake of the suction equipment throughout the bag. If it is desired to clean the bag after it has been used, the ropes 98 and 101 may be unlaced to release the bag from the framework. After this is done, the bag may be turned inside out through the relatively large hole 32.

The bag 15 may be made of transparent or translucent material in order that the level of the material contained therein may be easily seen from the outside of the bag. However, vertical strips of transparent or translucent material may be sewn in the side and/or end walls of the bag in order that the level of the material inside the latter may be seen.

If it desired to store the container or to ship it in empty condition, it is a very simple matter to take the framework 40 apart and to fold the bag 15 into a neat bundle. The various parts of the framework and the bag will then take up very little space.

The framework described above makes the container self supporting both internally and externally so that it does not require any outside support, such as bulk heading. The container may be made small enough so that it is portable in its erected state, or it may be made on a large scale for storing large quantities of material, in which case, it would not be portable, excepting in the collapsed state. The framework may be expanded or contracted to different sizes to suit the space available. As the framework and bag are very light compared to the size of the unit, this container may be conveniently used for shipping by air. The framework prevents the bag from collapsing when material is being sucked out of it. If by any chance the pneumatic discharge equipment breaks down or if there is no such equipment at a point where the contents of the container are to be removed, said contents may be removed manually or mechanically through the large hole 32 in the cover of the bag.

Figure 8 illustrates a framework 40a which may be moved about on casters, wheels or rollers. This framework is constructed in the same manner as the previously-described framework 40. Lower side members 81a fit into the corner pieces 62a at their opposite ends. A lower cross member 44a and vertical corner members 63a also fit into these corner pieces. The corner pieces 62a are provided with casters 105, and since there are similar corner pieces at the opposite end of the framework, casters are also provided at said opposite end. In this case, it is desirable to support the bottom of the flexible bag, not shown, which is carried by this framework above the ground or floor upon which the casters

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rest. This may be accomplished by providing a plurality of cross supporting members 108 extending between and secured to the opposite lower side members 81a. This provides a platform for the bottom of the bag.

It may sometimes be helpful or necessary to connect two or more of the container units together in end to end relationship in order to save space. The adjacent ends of two frameworks may be connected together, and an adapter has been provided for this purpose. The ordinary ends of the two frameworks are removed and adapter 110 substituted therefor, see Figures 9 and 10. This adapter includes two upper corner pieces 112 and two lower corner pieces 113. Each of the upper pieces includes a tube 115 forming two oppositely-extending horizontal sockets 116 and 117 for receiving the upper side members 80b and 80c respectively of the two frameworks. Each corner piece is provided with a lateral socket 118 projecting inwardly therefrom substantially midway between the ends of tube 115, and with a vertical socket 119 near the lateral socket and extending substantially at right angles thereto. Similarly, each lower corner piece 113 includes a tube 120 forming horizontal sockets 122 and 123, a lateral socket 124, and a vertical socket 125. Sockets 122 and 123 are adapted to receive the ends of the lower side members 81b and 81c of the two frameworks. Upper and lower transverse members 127 and 128 fit into the transverse sockets of the upper and lower corner pieces, respectively, while vertical supporting members 130 fit into the vertical sleeves of said corner pieces at opposite sides of the framework. The adapter 110 actually eliminates the necessity of one of the ends of the two frameworks to be joined together.

Figure 10 shows flexible bags 15b and 15c laced at their adjacent ends to the adapter 110. It is obvious that any number of bags may be supported in a row with these adapters between the adjacent ends thereof. The bags will form individual compartments for the material or materials to be shipped or stored.

It may be desirable to control the moisture content of the material carried by this container during shipment or storage. In this case, means may be provided for holding a moisture absorbing material, such as silica gel, in the bag. Figures 11 to 14 illustrate one form of apparatus for doing this. In Figure 11, the upper side members 80d of a framework carry a transverse support 135. A loop 136 is carried by this support and a vertical rod 138 slidably extends through this loop, said rod having a plurality of holes 139 therethrough. A pin 140 extends through holes in the sides of the loop and through one of the holes 139 to support this rod. The rod extends downwardly through the top or cover of a flexible bag 15d. As it is desirable to provide a moisture proof joint for this purpose, a neck 143 formed of flexible material, may be provided having a flange 144 at its lower end, which is sewn, glued or otherwise secured to the bag top or cover. Rod 138 extends upwardly through this neck 143, and a clamp 146 extending around the neck may be tightened to secure the latter to the rod.

A container 148 is carried by the lower end of rod 138. This container may extend lengthwise through the entire bag near the top thereof, or it may extend through any portion of it. The container 148 has an elongated main body 150 for holding moisture-absorbing material 151. The sides 152 of the container may slope inwardly from the bottom towards the top thereof in order to prevent any accumulated moisture from slopping out through the container top. A cover 154 is slidably mounted on the top of the container and has holes 155 therein.

The position of container 148 in the bag may be adjusted vertically by loosening clamp 146 and withdrawing pin 140 from loop 136 in order to permit the rod 138 to be raised or lowered.

Figures 15 and 16 illustrate a bag 15e having an alternative form of moisture controlling apparatus. In this

case, the bag is provided with one or more elongated open-topped pockets 160 formed of flexible material secured to and extending along a wall thereof near its top. A plurality of straps 161 extend from the outer side of the pocket to the adjacent bag side in order to hold the pocket in position. An elongated container 163 is removably fitted in this pocket and holds the moisture controlling material 164. This container is provided with a removable top 165 having holes 166 therein. In either of the alternatives illustrated, in Figures 11 to 16, moisture absorbing material is kept in the flexible bag of the transporting and storing container in order to protect the contents of the latter from moisture.

Figures 17 to 20 illustrate a shipping and storing container which may be used with or without the framework described above. For most purposes, a framework will not be required, but in some cases, such as in a freight car, a light framework of any suitable design may be used in order to support the weight of a man or men above the container when it is being filled or emptied, or during the setting up or taking down of the container in the car.

This container includes a flexible bag 175 formed of light and usually moisture-proof, fireproof and vermin-proof material. It is preferable to form the bag with side and end walls 176 and 177 which combine to form a substantially vertical peripheral wall around the bag. The bag also has a bottom 180 and a top or cover 181 with at least one entrance or opening 182 in the latter. Said entrance may be of any desired size and shape, and is provided with a suitable closure, such as a flap, 183, which is held in the closed position by a zipper 184.

Pneumatic supporting means is provided for this bag, and it is preferably in the form of a plurality of vertical pockets attached to the inner or outer surface of the peripheral wall and extending throughout the length thereof. These pockets may be formed in any desired manner. In the illustrated example, a plurality of vertical pockets 188 are formed along the outer surface of the peripheral wall by a layer of suitable flexible and air impervious material 189 which extends around the wall. This material is secured to the wall along a plurality of spaced vertical strips 190 in any desired manner, such as by sewing, gluing, heat treatment or the like. The pockets are formed by substantially semi-circular loops 191 of the material between the strips 190, see Figure 18. The lower edge of the material 189 is secured to the lower edge of the peripheral wall at 194, see Figure 20. The upper edge of this material is secured to the upper edge of the wall at 195, but the vertical strips 190 terminate below this upper edge at 196. This results in a tube 197 which is formed by this material and extends horizontally around the top of the peripheral wall of the bag. This tube forms a passage into which the upper ends of the pockets 188 open. Suitable means is provided through which air under pressure may be directed through this passage into the pockets and out of the latter. It is also advantageous to divide the pockets into groups so that if one of them is punctured, only the pockets of its group will be deflated. For example, the material 189 may be secured to the container wall from the top to the bottom thereof at each of the corners, as indicated at 199, and at least one point 200 in each of the side walls. With this arrangement, the pockets at each end of the bag form a group, and those on each side wall are divided into at least two groups, two being shown in Figure 17. A filler tube 204 is provided for each group of pockets, each of said tubes communicating with the tube or passage 197 of the group and has a valve, not shown, arrangement therein.

When the bag is placed at a suitable location, such as in the freight car 10, the pockets 188 thereof are inflated with air or other suitable gas under pressure through the tube or tubes 204. When this is done, the pockets become vertical columns which are roughly semicircular

in cross section and which provide support for the side and end walls of the bag from the tops to the bottoms thereof. These pockets when inflated actually form vertical stiffeners for keeping the bag in shape, when it is being filled or discharged. The layer of material 189 actually forms an outer wall for the bag which protects the inner wall thereof from abrasion, puncture, etc. and the inflated pockets act as buffers for the bag. If desired, the outer wall material may be coated with a heavy sealing compound similar to that used in aircraft fuel tanks. A bag formed in this manner will stand rigidly by itself and does not normally require any further support. However, a framework such as described above in a somewhat simplified form, may be provided if necessary. As previously stated, such a framework would be mainly for supporting the weight of men working above the bag.

Figures 21 and 22 show a shipping and storage container mounted in a freight car, and the latter forms part of the framework for keeping the bag of the container in shape during the filling and discharge thereof. Freight car 210 has the usual side walls 211 and floor 212. One side wall only is illustrated in Figures 21 and 22, it being understood that the opposite side wall and the parts associated therewith are the same as this one. A flexible bag 15f similar to the one shown in Figure 3 is set up in this car. Rows of upper and lower hooks 215 and 216 are positioned in the car spaced downwardly from the top thereof and near the floor thereof, respectively. These hooks may be mounted directly on the wall 211 or, as preferred, they may be secured to beams 219 and 220 which, in turn, are secured to the car wall or floor by any suitable means, such as nails. It will be understood that similar beams and hooks may be provided on the end walls, not shown, of the car. If desired, sheets of lining material 223 and 224 may be placed against the walls and floor of the car, as shown. These sheets may be formed of any suitable material, such as cardboard, either plain or corrugated.

In order to provide for men working at the top of the bag, a plurality of stringers 226 may rest on the upper edges of the beams 219 which are secured to the car side walls spaced a little below the tops thereof. A catwalk may be formed by one or more planks 227 on the stringers and extending longitudinally of the car.

The bag 15f is set up in the car 210 by placing the grommets at the bottom of the bag over the lower hooks 216 and the grommets 26, 27 at the top of the bag over hooks 215. When the bag is filled with material, such as flour, it will assume a shape somewhat like that illustrated in Figure 21. This bag has one or more entrances, not shown, through which the material may be directed therinto and removed therefrom. If such an equipment is used for this removal, the hooks of the framework formed by the car prevent the bag from collapsing at this time. The bag may be removed from the car merely by freeing it from the hooks thereof. The hooks may be left in the car or, if desired, the beams 219 and 220 may be removed after the bag has been taken out of the car.

What I claim as my invention is:

1. A bulk transporting and storing container which is light in weight, a complete unit on its own, may be collapsed into a very small bundle, and used an infinite number of times, comprising a flexible bag, said bag being substantially rectangular in cross section, a collapsible framework substantially the same size and shape as the bag outside and surrounding the latter; said framework comprising upper and lower longitudinal and transverse members adjustably fitting into sockets in corner pieces at opposite ends of the framework, and vertical corner members extending between and adjustably fitting into other sockets in said corner pieces to keep the upper transverse and longitudinal members spaced from the lower transverse and longitudinal members; means re-

movably securing the bag around the top and bottom thereof to the framework so that the latter holds the bag in shape during loading and discharge, an entrance for the bag, and means for closing said entrance.

2. A bulk transporting and storing container which is light in weight, a complete unit on its own, may be collapsed into a very small bundle, and used an infinite number of times, comprising a flexible bag, said bag being substantially rectangular in cross section, a collapsible framework substantially the same size and shape as the bag outside and surrounding the latter; said framework comprising upper and lower tubular longitudinal and transverse members removably and adjustably fitting into sockets in corner pieces at opposite ends of the framework, and vertical tubular corner members extending between and removably and adjustably fitting into other sockets in said corner pieces to keep the upper transverse and longitudinal members spaced from the lower transverse and longitudinal members; means removably securing the upper and lower corners of the bag to the upper

and lower transverse and longitudinal members of the framework, an entrance for the bag, and means for closing said entrance.

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