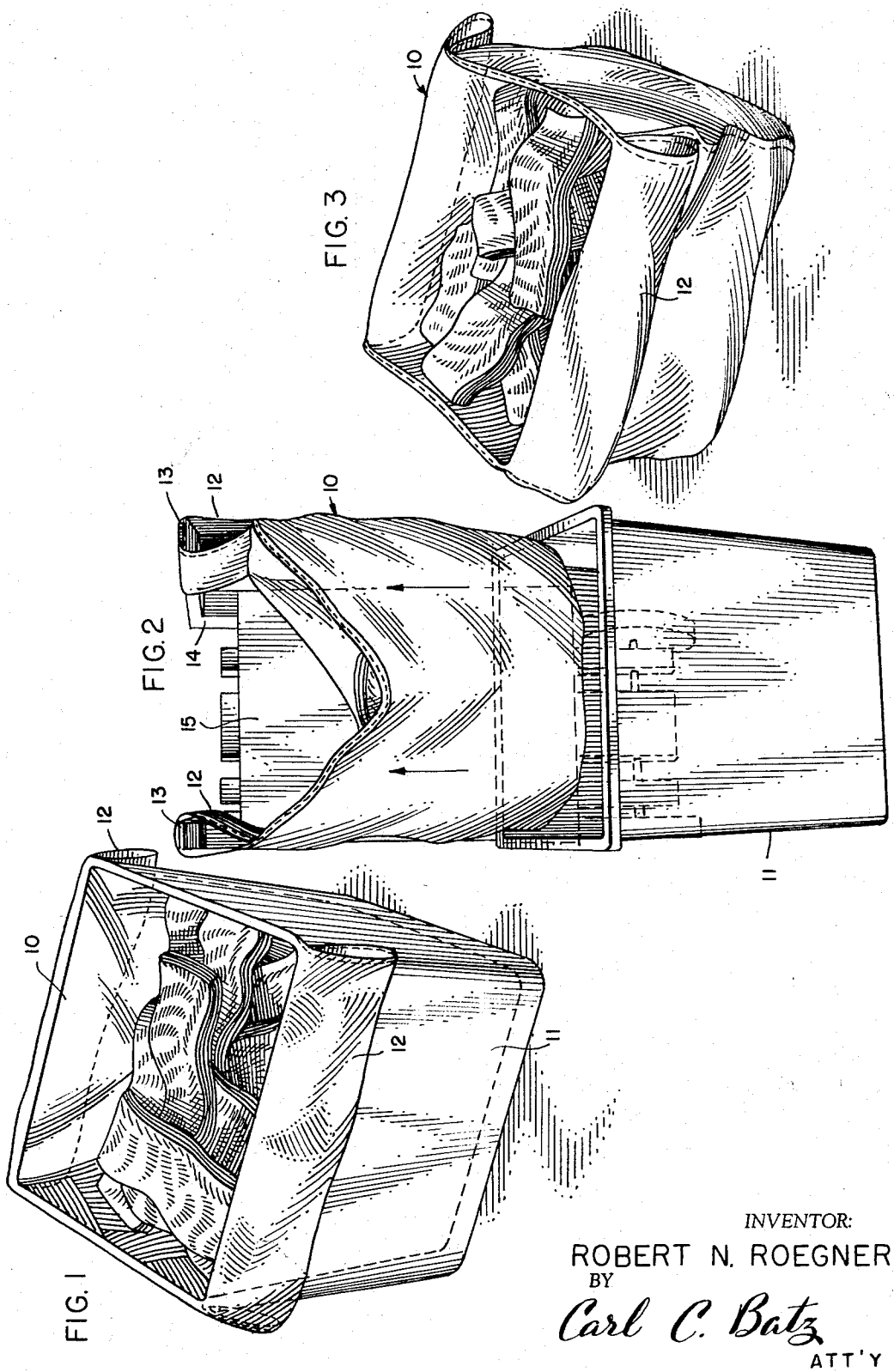
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TRANSPORTATION CONTAINERS AND METHOD

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INVENTOR:
ROBERT N. ROEGNER
BY
Carl C. Batz
ATT'Y

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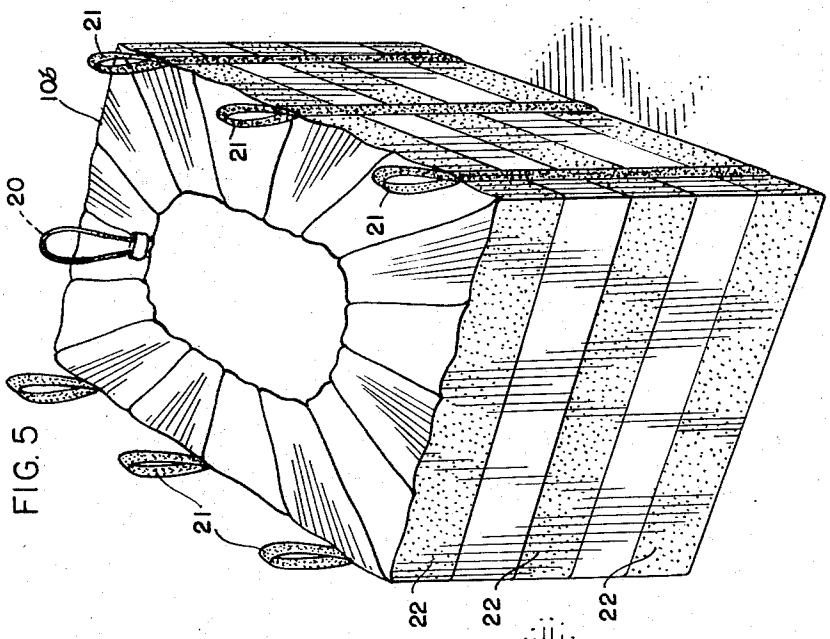


FIG. 5

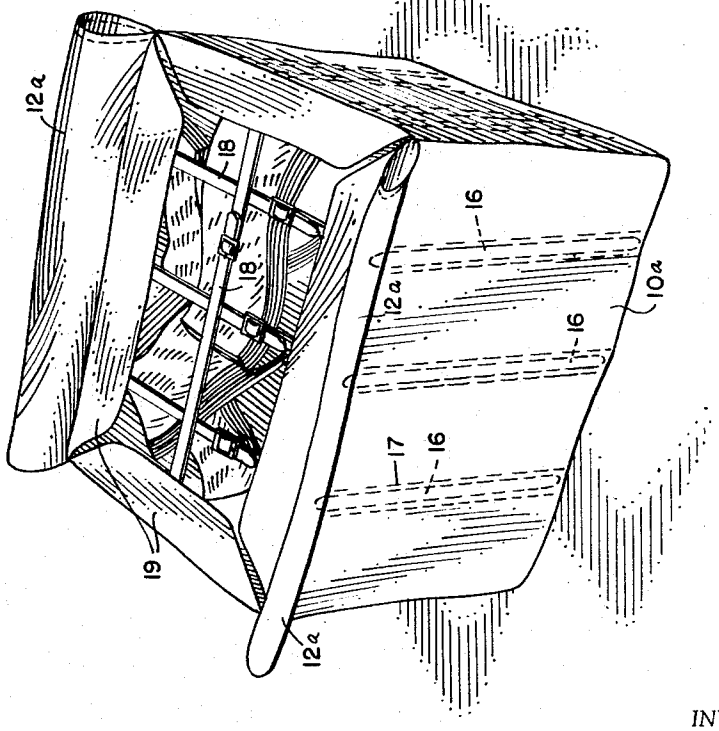


FIG. 4

INVENTOR:
ROBERT N. ROEGNER
BY
Carl C. Batz
ATT'Y

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TRANSPORTATION CONTAINERS AND METHOD

Robert N. Roegner, Blue Island, Ill., assignor to Armour and Company, Chicago, Ill., a corporation of Delaware

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This invention relates to transportation containers and method, and more particularly to a method and means for transporting articles, such as unwrapped hams, picnics, bellies, and other types of articles, with a substantial saving in time and labor, while also providing an effective segregation on the basis of quality and weight.

While the invention is applicable to the handling and transporting of a great variety of articles, the method and equipment will be described herein, for the purpose of illustration, in connection with the handling and transportation of such products as hams, picnics, bellies, and like meat products.

In the present practice of handling meat products, it is customary to have metal or plastic containers adjacent to the grading table, and the product is tossed into each container on the basis of quality and weight. Thereafter, the containers are conveyed to a truck or a railway car and the contents of the containers are deposited onto racks and behind barriers in the vehicle. With such practice, it is difficult to keep the products effectively segregated on the basis of the initial grading as to quality and weight, and at the same time considerable labor and time are involved in the process of such handling, transportation, and unloading.

An object of the present invention is to provide a method and means of overcoming the above-described disadvantages and to provide for the carrying through of the initial segregation as to quality and weight, etc., to a final destination, while at the same time obviating the use of repeated handling in such process. A further object is to provide containers of unique construction which may be handled by a lift truck so as to transport large quantities of the product at the same time and at much reduced cost. Other specific objects and advantages will appear as the specification proceeds.

The invention is illustrated, in an illustrative embodiment, by the accompanying drawings, in which:

FIGURE 1 is a perspective view of a container supported within a rigid case and embodying my invention; FIG. 2, a perspective view of the container having its lifting sleeves engaged by the tines of a lift fork and showing the removal of the container from the rigid case; FIG. 3, a perspective view of the filled container after its deposit upon a transportation truck or other vehicle; FIG. 4, a perspective view of a modified form of container; and FIG. 5, a perspective view of another modified form of container which may be employed in the practice of my invention.

In the illustration given in FIGS. 1 to 3 inclusive, a flexible container **10** is supported as a liner in a rigid case **11**. The case **11** may be the metal-type container heretofore employed for receiving meat products, or it may be formed of any other suitable material. The container **10** may be formed of nylon or any other suitable plastic or fabric material which is sturdy and effective for carrying articles which are to be transported. The container may have the usual four sides and may be rectangular, square, or of any other desired shape. Attached to sides of the container are lift sleeves **12** which are substantially parallel in location and, as shown in FIG. 1, the sleeves extend over the sides of the rigid vessel **11** and aid in supporting the bag evenly upon the case **11**. The sleeves are of a size adapted to receive the metal tines **13** of a lift truck **14**, the lift fork being also preferably provided with a

polished metal or stainless steel guard plate **15**, as illustrated best in FIG. 2. Since a power lift truck **14** equipped with means for raising and lowering the forks or tines **13** and for transporting the bag to a desired destination is well known, a detailed description of the truck is believed to be unnecessary.

In the practice of my invention, the container **10** after being filled with the meat products, etc., is lifted by the tines **13** of the lift truck, and in so doing it is found that the articles shift within the flexible container and form a bottom base which tends to maintain the filled container when deposited upon a vehicle surface, as illustrated in FIG. 3, in an extended position, with the lift sleeves **12** in parallel position so that they may be engaged by the tines of a lift truck when the container has been carried by a truck or railway car to the final destination. It is found also that in the case of meats where the products are carried in a refrigerator car, plastic containers, such as nylon, are relatively rigid and tend to support the sleeves **12** in the parallel position illustrated in FIG. 3.

The sleeves should be large enough to receive tines or forks. In the case of tines, a sleeve 4″ in diameter may be satisfactory. In the case of forks, the sleeves may have a diameter up to 20″ The lift members **13** may vary in size and thus require sleeves of greater or lesser diameter.

In the modification illustrated in FIG. 4, further means for assuring that the container will maintain the sleeves **12*a*** in parallel position are provided by the use of flexible metal, plastic, or other rigid material stays **16** which may be inserted within vertical pockets **17** in the sides of the container **10*a***. Also, if it is desired to maintain the container in its original dimensions after filling, straps **18** may be employed, as illustrated best in FIG. 4. Further, top flaps **19** may also be provided, as illustrated in FIG. 4.

In the modification illustrated in FIG. 5, a pouch type of container **10*b*** is employed, and this container after being filled may be closed by the use of draw strings **20**. Such a container **10*b*** is also preferably provided with sleeves in the form of aligned loops **21**, as illustrated in FIG. 5. By the term "sleeve" is meant any form of tubular or loop type support carried by the bag and adapted to be engaged by the tines of a lift truck and by which the bag may be carried. Any suitable means for closing the duffel-type bag or container may be employed.

In the structure shown in FIG. 5, the bag **10*b*** may be reinforced by horizontal plastic bands **22** held in place by the lower extensions of loops **21** as shown in spaced-apart relation. By way of example, a nylon bag having a width of 40″, a length of 48″, and a height of 30″ may be reinforced with three 6″ nylon straps indicated by the numeral **22** in FIG. 5, such straps lending strength and rigidity to the bag structure while at the same time permitting ready closing of the top portion of the bag by the drawing of the rope or loop **20**.

OPERATION

In the operation of the containers illustrated, the bags or containers are filled either while the containers are supported within rigid cases **11** or are reinforced with stays **16**, the lifting sleeves being maintained in parallel relation so that they may be engaged by the tines or lift forks **13** of the lift truck **14**. After engagement with the lift fork, the filled container is lifted to settle the contents and the bag then deposited upon the transportation vehicle. When the vehicle reaches its destination, the tines of another lift fork are brought into engagement with the sleeves, and the articles thus carried to their final destination and placed in a permanent receiving container for further processing or in a cooler for storage.

By way of specific examples, the following may be set out:

A nylon bag having the dimensions of 48" x 40" x 30" was employed as a reusable container or liner, as illustrated in FIGS. 1 to 3. The bag was equipped with lifting sleeves 48" long and approximately 4" in diameter. The capacity was 33.3 cubic feet with an 1,800 lb. to 2,000 lb. capacity, depending on the type of product handled. The total weight of the container was approximately 8 lbs. The lift truck was provided with a fork attachment having two 48" polished metal tines equipped with a polished metal or stainless steel guard plate, together with hangers for attaching it to standard fork truck backing plates.

The nylon bag was placed inside of the metal container 48" x 40" x 30" deep, such a container being of the type now used in packing houses. The metal container lined with the nylon bag was positioned at the grading table to receive products such as bellies, picnics, unwrapped hams, etc. Several metal or plastic containers and bags are employed and the product was tossed into each bag according to the predetermined quality and weight grade. A full bag-load was then scaled and transported to the loading dock. For transporting, the fork truck inserted the tines into the nylon bag sleeves and lifted the bag from the metal case or basket. The load was then transported into the car or truck, and after depositing the same upon the truck the fork lift truck backed away, thereby removing the tines from the nylon bag. Upon arrival of the vehicle at the destination, a fork truck with similar tine attachments entered the car or truck and inserted the tines in the bag sleeves, lifting the load from the floor and transporting the load into the receiving unit's permanent container.

While in the foregoing specification I have set forth certain steps and structure in considerable detail for the purpose of illustrating embodiments of the invention, it will be understood that such detail or details may be varied widely by those skilled in the art without departing from the spirit of my invention.

I claim:

A shipping container structure including a flexible bag means and rigid exterior case, said bag means having four sides, a bottom and top portion, said top portion being open and having extensions of two opposite sides forming parallel lifting sleeves across said sides, said exterior case in substantially conforming shape to said bag to support said bag, and to support said sleeves in a parallel position to allow the entry of the members of a lifting means into said sleeves for removing said flexible container from said case for transporting a group of articles contained therein.

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FRANKLIN T. GARRETT, *Primary Examiner.*

M. L. MINSK, *Assistant Examiner.*