BAG AND METHOD FOR INTRODUCING INSULATING FILLERS INTO SLEEPING BAGS AND THE LIKE

Dale L. Johnson, 1965 Dartmouth Ave., Boulder, Colo. 80302
Filed June 3, 1966, Ser. No. 555,207
6 Claims. (Cl. 229—62)

ABSTRACT OF THE DISCLOSURE

This invention relates to an elongate tubular bag closed at one end and folded back upon itself to form a cuff. The open end is filled with material and then closed with a removable closure that can be inserted into a receptacle, removed and the contents dispensed by turning the bag inside out. The invention also contemplates the method of packaging and discharging the contents of the bag.

During the past decade or so, down-filled wearing apparel, sleeping bags and other cold-weather equipment have become increasingly popular with campers, mountainiers, skiers and other outdoor enthusiasts. Several manufacturers specialize in this type of equipment but, unfortunately, it is quite expensive and, for this reason, beyond the means of many who would like to use it if it were more competitive with some of the less-sophisticated types of outdoor equipment and clothing. The labor involved in fabricating the various items of down-insulated equipment is, of course, a substantial factor in the relatively high cost thereof; accordingly, some of the manufacturers have introduced kits for the “do-it-yourself” hobbyist by means of which he can have the finest equipment at a cost equal to or less than that of the ordinary factory-made items. There have arisen, however, a number of problems in connection with these kits which have rendered them difficult to use, not the least of which is handling the down.

In addition to the pattern, cover material, rivets, thread, tape, zippers and other accessories needed to fabricate lightweight down-filled equipment, one needs anywhere from a few ounces of down for a pair of mittens up to over five pounds for a double sleeping bag. When one considers the fact that a single ounce of quality down containing a maximum of about 15% feathers occupies 500 cubic inches of space, it can be seen that even a few pounds can present quite a shipping problem. The answer is, of course, to package same in sturdy bags that can be highly compressed in the same way as the finished article.

The real problem arises when the user tries to transfer the down from the shipping container to the double-walled envelope he has made to receive same. Anyone who has ripped even a small hole in a down-filled pillow has some idea of the difficulty in handling goose down and if one multiplies this by a factor of ten to twenty times, he can begin to appreciate the problems encountered in filling a large sleeping bag. Obviously, one who ends up with a house full of feathers is not going to think very kindly toward the kit supplier.

It has now been found in accordance with the teaching of the present invention that these problems differ significantly in large measure, be eliminated through the use of a specially-designed bag that serves both as the shipping container for the down and the means for discharging same in a controlled fashion deep inside the double-walled envelope previously fabricated for this purpose. Specifically, the bag consists of a tube of closely-woven cloth or the like having one end permanently closed and the other end folded back on itself to form a “cuff” before being closed with a remotely-actuatable removable closure.

It is, therefore, the principal object of the present invention to provide a novel and improved method and apparatus for shipping down and discharging same into a confined space under controlled conditions.

A second object of the invention herein disclosed and claimed is the provision of a bag for the purpose aforementioned that is inexpensive and may be thrown away following removal of the contents.

Another object of the invention is the provision of a compressible shipping container for down and the like that can be compacted into a volume only a small fraction of its original size for shipment.

Still another object of the invention forming the subject matter hereof is to provide an apparatus by means of which down can be introduced into a confined space located deep within a compartment from an accessible position at the open end thereof.

An additional object is to provide a unique method for transferring down from the specially-designed container therefore to the double-walled item fabricated to receive same.

Further objects are the provision of a container for goose-down and similar insulating fillers that is compact, light-weight, rugged, versatile, easy to use and even somewhat decorative.

Other objects will be in part apparent and in part pointed out specifically hereinafter in connection with the description of the drawings that follows, and in which:

FIGURE 1 is a side elevation showing the tubular member with one end permanently closed and the other end open to receive the down;

FIGURE 2 is a view similar to FIGURE 1 except that the tube is shown partially-filled with down;

FIGURE 3 is a view much like FIGURE 2 except that the removable closure has been removed preparatory to discharging the contents through the open end;

FIGURE 4 is a view similar to FIGURE 3 revealing the finished package ready for shipment wherein the open end has been folded back upon itself to form a “cuff” and then sewn or otherwise closed with a remotely-actuatable removable closure;

FIGURE 5 is a view much like FIGURE 4 with the exception that the container is shown inserted inside the double-walled envelope that is to be filled with the contents of the bag;

FIGURE 6 shows the bag in the same state as in FIGURE 3 inserted within the envelope ready to be turned inside-out to discharge the contents; and

FIGURE 7 is a view much like FIGURE 4 but showing a modified closure adapted to “pop-off” upon the application of a longitudinal pressure in the remote end of the bag.

Referring now to the drawings for a detailed description of the present invention and, initially, to FIGURES 1 through 4, inclusive, for this purpose, reference numeral 10 has been employed to designate an elongate tubular member formed of some relatively inexpensive closely-woven cloth, sheet plastic or the like that can be folded and compressed when full of an insulating material without rupturing. One end of the tube is permanently closed as shown at 10 and as by stitching. Other equivalent means can, of course, be employed to permanently close the end of the tube such as, for example, with a “crimp-on” closure, heat-sealing in the case of a plastic tube, etc.

Next, referring to FIGURE 2, the tube is packed somewhat over half full with goose-down 12 or whatever other insulating material is to be inserted between the walls of the item of equipment being fabricated.
While the instant invention answers the greatest need in connection with handling feather-type insulating materials, it should be recognized that it is adaptable to other compressible insulating fillers like, for example, spun glass which, while it doesn't escape and float around to the extent feathers do, is still very difficult to handle with the bare hands.

Once the envelope is packed with the insulating material, the un-packed open end 14 is turned back toward the closed end 10 as in FIGURE 3 to form a cuff 16 that extends a substantial distance thereafter. As will be seen presently, the method of discharging the insulating material from the container is such that cuff 16 need not extend all the way back to the closed end 12. Cuff 16 preferably terminates in a position readily accessible through the opening 18 in the double-walled envelope (FIGURES 5 and 6) where it can be grasped or otherwise held while the remainder of the bag is turned inside-out to discharge the contents into the confined space 20.

The final step in preparing the bag of insulating material for shipment is to close the newly-formed open end 22 of the sleeve with a remotely-actuatable removable closure 24 shown in FIGURE 4. The specific type of closure 24 shown in FIGURES 4 and 5 comprises removable stitching with one or more of the threads 26 forming the sewing line back along the bag to a position near the permanently-closed end thereof where they can be grasped by the user and pulled to open the bag. The well-known "chain stitch" could be used for this purpose as well as any one of a number of other easily-removable stitches.

Directing the attention briefly to FIGURE 7, another type of closure 24n has been shown which could be used as a substitute for stitch 24. Closure 24n comprises a small piece of bendable plastic having a central opening 28 adapted to receive the "gathered" end 22 of the envelope and a slit 30 leading from the opening to the peripheral margin. This is the same type of closure frequently employed on many bread wrappers and flexible packages for other articles. When the end 22 is twisted and the closure 24n attached thereto, a secure fastening is produced that will easily withstand the rigors of shipment. At each time, however, as one wishes to discharge the insulating material 12 into the double-walled compartment 20 therefor, it is only necessary to "untwist" the gathered end 22 and carefully replace closure 24n such that the contents 12 of the bag are compressed theragain, said closure will pop-off of its own accord. In the particular form shown in FIGURE 7, lanyard 32 tapered or otherwise fastened to the bag as at 34 keeps said closure fastened to the latter so that both may be withdrawn together. Otherwise, the closure would be left in the open compartment where it could, conceivably, rip the material or at least cause the user some discomfort if he were to lay on it.

Once the bag is complete and filled with the insulating material as shown in FIGURES 4 and 7, it is ready for shipment. Many such bags can be compressed and packed in a relatively small carton for shipment to the user along with such other materials as he may require for his project.

Finally, with reference to FIGURES 5 and 6, the method of introducing the insulating material thus packed will now be described. The end 22 containing the removable closure 24 is inserted deep between the double-walls 36 and 38 that cooperate to define one of the down compartments 20. Then, with one hand holding the edge of cuff 14 inside the open end of the compartment, the user pulls threads 26 to remove stitching 24 and re-open end 22; whereupon, while still holding onto cuff 14, he presses inwardly on closed end 10 so as to force the insulating material 12 out the open end and into said compartment. When this operation is complete, the bag will be inside-out or nearly so and all of the down or other insulating material will be neatly deposited deep within the compartment. The required number of bags of insulating material are similarly discharged into the compartment before closing same by stitching together its open end. If one were to use the closure 24m of FIGURE 7, sufficient pressure exerted on closed end 10 would release the closure from the gathered end and, simultaneously, begin discharging the contents.

Having thus described the several useful and novel features of the instant apparatus and method of using same, it will be apparent that the many worthwhile objects for which it was designed have been achieved. Although but two specific embodiments of the invention have been disclosed, I realize that certain changes and modifications therein may well occur to those skilled in the art within the broad teaching hereof; hence, it is my intention that the scope of protection afforded hereby shall be limited only insofar as said limitations are specifically set forth in the appended claims.

What is claimed is:

1. A bag for packaging light-weight insulating materials and the like and discharging same into a compartment therefor which comprises: an elongate flexible generally tubular member having a closed end and an open end adapted to receive the material to be packaged, means attached to the tubular member adjacent the open end thereof adapted upon actuation to fold same back upon itself and turn said tubular member inside-out, and means comprising a frangible closure securing the open end with the material in place within said tubular member.

2. The bag as set forth in claim 1 in which: the means attached to the tubular member adjacent the open end thereof for turning same inside-out comprises an integrally-formed cuff extending from said open end back a substantial distance on the outside toward the closed end.

3. The bag as set forth in claim 1 in which: the frangible closure comprises removable stitching.

4. The bag as set forth in claim 1 in which: the frangible closure comprises a bendable clip adapted to hold the open end closed in gathered relation.

5. The method of packaging light-weight insulating materials and discharging same into a receiving compartment therefor which comprises the steps of: filling a flexible bag at least part way full of insulating material through the open end thereof, closing the open end to confine the material therein, inserting the open end while still closed into the receiving compartment, re-sealing the open end to open position from a remote location, and turning the bag inside-out to discharge the contents thereof while holding said open end.

6. The method of packaging light-weight insulating materials and discharging same into a receiving compartment therefor which comprises the steps of: filling a flexible bag part full of insulating material through the open end thereof, folding the bag back upon itself to form a cuff extending on the outside a substantial distance toward the closed end, closing the open end with a frangible closure, inserting the end containing said frangible closure into the receiving compartment, removing the frangible closure and turning the bag inside-out to discharge the contents through the open end thereof while holding the cuff.

References Cited

UNITED STATES PATENTS

2,460,963 2/1949 Young 229—62 X 70
2,653,744 9/1953 Behr 206—56
2,691,981 10/1954 Jones 206—56
2,691,982 10/1954 Jones 206—56

DAVID M. ROCKENEK, Primary Examiner.