

July 17, 1928.

W. K. CROMWELL, JR

1,677,583

COAL BAG

Filed Nov. 13, 1926

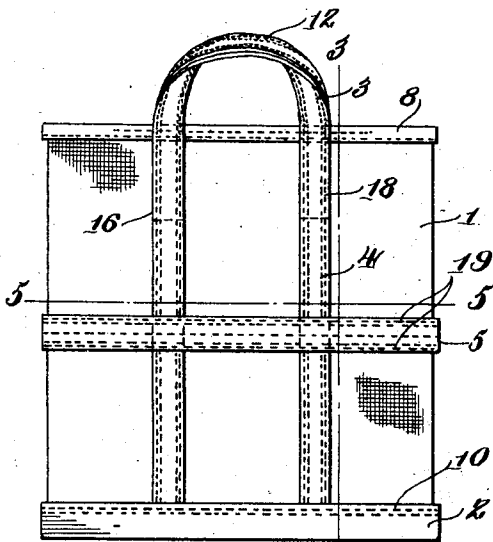


Fig. 1.

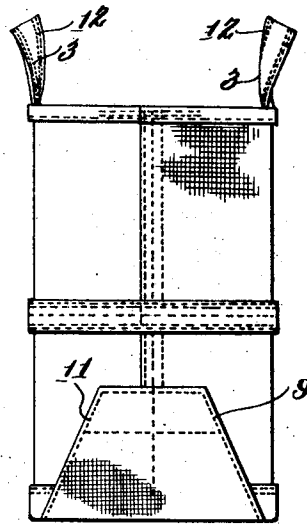


Fig. 2.

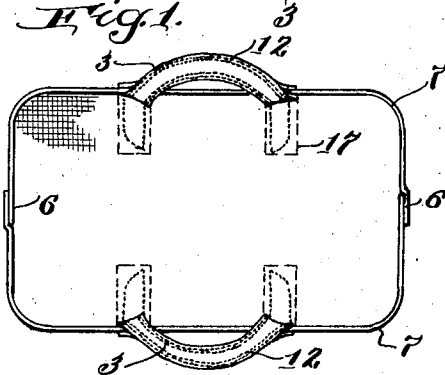


Fig. 4.

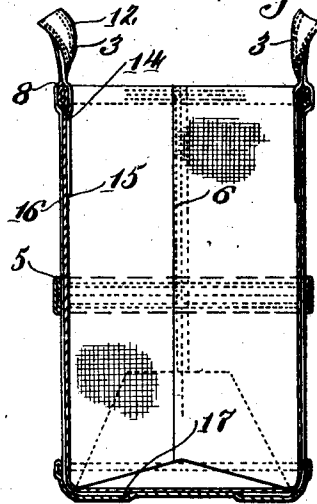


Fig. 3.

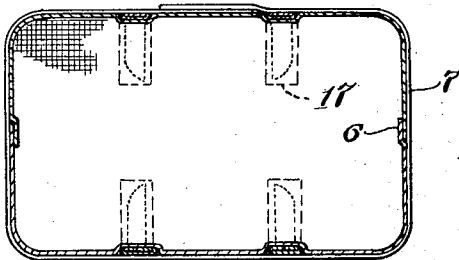


Fig. 5.

WITNESSES
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UNITED STATES PATENT OFFICE.

WILLIAM KENNEDY CROMWELL, JR., OF LAKE ROLAND, MARYLAND, ASSIGNOR TO
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MARYLAND.

COAL BAG.

Application filed November 13, 1926. Serial No. 148,191.

In the use of coal bags the canvas or duck of which the bags are constructed is subjected to the most destructive stresses which this fabric must sustain in the various industries to which it is applied. Such bags are ordinarily reinforced at the top by the hem or otherwise, and at the bottom by a reinforcing member covering the closed end of the bag.

The lateral pressure of the coal is transmitted to the side walls of the bag in accordance with laws practically the same as those covering fluid pressure, i. e., the pressure at any particular point or unit of area is the product of the weight of a unit volume of coal multiplied by the depth of that particular point below the surface of the load. The lateral stresses are, therefore, greatest at the bottom but the sides are so well supported at the bottom that the bag tends to spread laterally at the middle and ordinarily fails by yielding of a seam or of the body of the fabric at this point.

The present invention relates to the provision of reinforcing means whereby the central section of the bag is greatly strengthened and the tendency of this section to yield being overcome, the life of the bag is considerably extended.

The improvement resides in the provision of reinforcing means attached to the fabric forming the walls of the bag and extending in the direction of the most harmful stresses to which the bag most frequently yields and by which it is destroyed.

In the form of the invention shown the bag is provided with a circumferential strip of canvas sewed to the fabric of the bag and extending around it approximately half way between the top and bottom edges of the side walls. This strip preferably crosses and is secured to vertical straps sewed to and extending up and down the side walls. These straps may be integral with and serve as attaching means for the handles.

In the accompanying drawings I have illustrated a coal bag embodying the features of my invention in the preferred form.

In the drawings:

Figure 1 is a side elevation of the bag.

Figure 2 is what may be termed an end elevation looking at the bag from the right in Figure 1.

Figure 3 is a sectional elevation corre-

sponding to Figure 2 and taken on the line 3—3 in Figure 1.

Figure 4 is a top plan.

Figure 5 is a horizontal section on the line 5—5 in Figure 1.

Referring to the drawings by numerals, each of which is used to indicate the same or similar parts in the different figures, the bag as shown comprises tubular side walls 1, a bottom reinforce 2, handles 3, including upright reinforcing portions 4, the various features recited being shown in combination with the central lateral reinforcing strap 5.

The tubular section 1 is preferably closed at the bottom independently of the bottom reinforcing section 2 and to this end it is formed of a single strip or web of canvas 7 folded upon itself intermediately of its length and sewed together as to the meeting lateral edges by vertical seams 6, 6.

The reinforcing bottom section 2 is then applied horizontally to the closed bottom of the tube, the ends 9 of the bottom or bottom reinforce being given a miter fold, as shown, enclosing the corners of the tubular section, which are folded in in a well known manner to give a flat bottom bag. The bottom reinforce is sewed to the tubular section 1 by an edge seam or seams 10 extending circumferentially of the bag, and miter fold seams 11 following the edges of the miter folds. The top edge of the bag is reinforced in any suitable manner as by means of hem 8.

The handles 3 are formed of folded straps which are seamed longitudinally at 12 and are preferably double, the inside straps 14 overlying the inside of the bag and terminating at the lower ends of the straps at 15, well below the top of the bag. The outside straps 16 extend down the sides of the bag on the outside and are inserted between the tubular section 1 and the bottom reinforcing section 2, the bottom ends being shown at 17 in Figure 3. The inside and outside straps 14 and 16 are sewed to the tubular section 1 by vertical seams 18. The vertical straps 14 and 16 indicated collectively by reference character 4, with the seams 18 attaching them, reinforce the bag in a vertical direction. The hem or reinforce 8 at the top reinforces the top laterally and the reinforcing bottom section 2 most efficiently reinforces the bottom of the bag, but the bag as thus constructed yields and fails intermediately

due to the lateral pressure of the load, which closely resembles fluid pressure.

In the form of the bag illustrated the various reinforcing members 2, 4 and 8, are supplemented and connected and the tubular section 1 is further reinforced by the lateral reinforcing belt or strap 5, which in the preferred form of the invention, as shown, consists of a strip of flexible material, as duck, folded inwardly at the edges and sewed through and through in the direction of its length, the stitching also extending through the tubular member 1 and the vertical strap 4, the seams being indicated by reference character 19.

The stitching and strap, as aforesaid, constitute in connection with the other reinforcing members, a most efficient means for supporting the lateral stresses intermediately of the top and bottom reinforce, giving a bag of greatly increased life and load carrying capacity as compared to the previously known articles of this type.

I have thus described specifically and in detail a single embodiment of my invention in order that the nature and operation of the same may be clearly understood, however, the specific terms herein are used descriptively rather than in a limiting sense, the scope of the invention being defined in the claim.

What I claim as new and desire to secure by Letters Patent is:

A coal bag having side walls and a bottom consisting of a single strip of canvas folded about the center of its length, the two halves of each lateral edge being sewed together forming side seams, a rectangular reinforcing strip covering the bottom and giving the bottom a rectangular shape, the said rectangular strip being sewed to the bag as to two of its longitudinal edges, said edges forming the bottom corner edges of the bag extending in the direction of the length of the bottom, the ends of the reinforcing strip being each folded to a point which is sewed to the corresponding end wall of the bag at the bottom, covering the bottom ends of the side seams and making the ends of the bag square, handles formed of double strips of material, the strips extending vertically along the sides of the bag, one part of each double strip being on the inside and the other on the outside, a reinforcing strip encircling the top of the bag and sewed to the handle strips, a reinforcing strip sewed to the bag and encircling the bag intermediately and crossing and secured to the outside handle strips near the center.

Signed by me at Baltimore, Maryland, this 10th day of November, 1926.

WILLIAM KENNEDY CROMWELL, Jr.