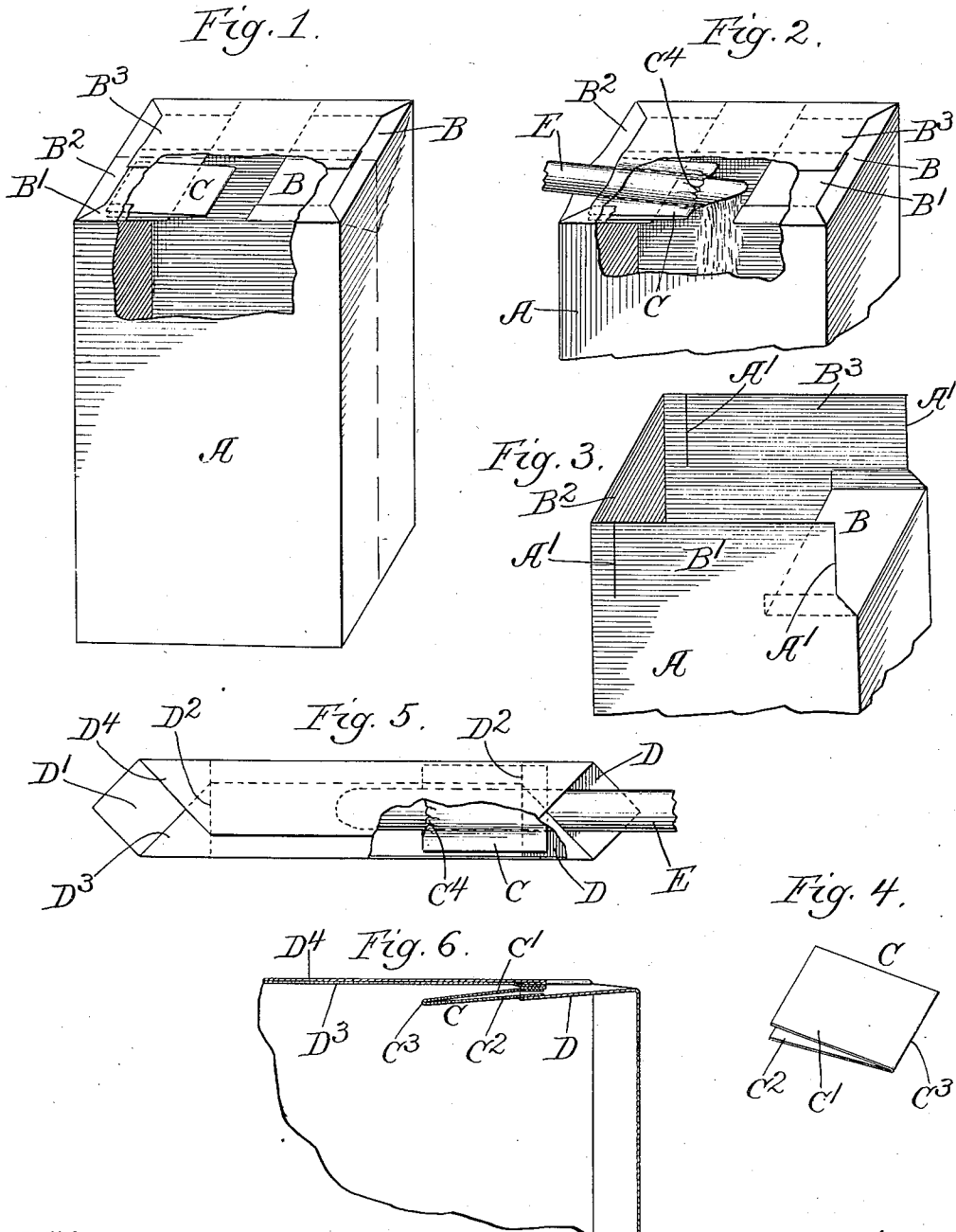


946,318.

Patented Jan. 11, 1910.



Witnesses.
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UNITED STATES PATENT OFFICE.

ADELMER M. BATES, OF CLEVELAND, OHIO, ASSIGNOR TO BATES VALVE BAG COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF WEST VIRGINIA.

VALVE-BAG.

946,318.

Specification of Letters Patent.

Patented Jan. 11, 1910.

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To all whom it may concern:

Be it known that I, ADELMER M. BATES, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Valve-Bags, of which the following is a specification.

My invention relates to valve bags and has for its object to provide new and improved constructions in devices of that character.

The invention contemplates a receptacle of any desired material, shape or size which is designed to be filled through a relatively narrow filling opening, this opening being controlled by a valve.

I have taken for purposes of illustration merely, two species of bags to which the inventions of this application may be applied. It will be clear, however, that they are susceptible of application to receptacles of other sorts.

The bag of my invention may be said to consist generally of a bag body, an end closure, and a valve or filling duct. My invention relates particularly to the latter element of the bag.

The invention is illustrated in the accompanying drawings wherein—

Figure 1 is a perspective view of a bag with parts broken away for purposes of illustration; Fig. 2, a like view of the same bag with a filling tube inserted through the valve or filling duct; Fig. 3, a perspective view of the end closure partially made; Fig. 4, a detail of one form of valve piece; Fig. 5, a plan view of another form of bag; Fig. 6, a longitudinal section through the bag of Fig. 5.

Like letters of reference indicate like parts in all the drawings.

The bag shown in Figs. 1 and 2 consists of a bag body A which is here shown to be four sided. The bag will preferably be closed at both ends before being sent to the user. The closure at the upper end I have shown as of the "satchel bottom" type, that is, the sides of the bag are folded down upon each other. In Fig. 3 I have shown this closure partially made. It will be seen here that the bag is a four sided tube. This tube is slit on the lines A¹ so as to divide the end of the blank into four flaps B, B¹, B², B³. The flaps B, B² are folded down first and afterward the flaps B¹, B³ are folded down

upon them in the manner indicated in Figs. 1 and 2. It will be understood, of course, that I have chosen this form of end closure merely for purposes of illustration and that any other style of construction might be adopted. The other end of the bag may be closed in this or in any other desired manner. When the end of the blank has thus been folded over to close the bag, it will be understood that the elements of the closure will be secured together in any desired manner. If the bag is of paper or other suitable fabric, the superimposed elements of the end closure may be pasted together.

The bag is to be filled through a relatively narrow valve or filling duct and this I prefer to associate with the end closure. For example, in the bag of Figs. 1 to 3 inclusive this valve or duct is located at the corner of the end closure between the inner flap B² and the superimposed outer flap B¹. This valve or duct, designated generally by the letter C, comprises preferably an upper element C¹ and a lower element C² joined along the inner margin C³. As here shown, these elements may be one piece of fabric folded and turned back upon itself. A valve of this character serves several purposes. It may be made of sufficient length to extend for a considerable distance beyond the folds of the closure making, therefore, a long safe valve. When the elements of the closure are secured together by pasting it would be possible to make a valve by simply omitting the paste from the surfaces of the superimposed elements of the closure at one place, but in such case it is somewhat difficult to confine the opening to its proper extent. The paste is apt to be misapplied or to run so as to clog or partially close the opening. In the double valve of my invention, the superimposed elements of the closure may be pasted over their whole extent and then the valve piece may be inserted between such folds, the paste, of course, adhering to the upper and lower elements of the valve. In this manner a clean valve of definite size may be constructed. Moreover, the closure may be made on machines of the usual type. As has been said, the upper and lower elements of the valve are preferably joined together along their inner margin. The duct or valve is, therefore, normally closed or obstructed, the fold C³ lying opposite the

aperture through which the filling tube is extended. The valve piece in this case is made of some perforable material such as paper. When the bag is to be filled, the filling tube is pushed through the material at the fold, which makes a ragged perforation at this point as indicated at C⁴, Fig. 2. When the bag has been filled, the valve, it will be understood, will be closed by the material within which packs against its inner wall. The ragged edges of the perforation will tend to still further hinder the escape of the material through the filling opening.

In Fig. 5 I have shown a bag having a diamond folded end closure. This closure is made by first folding the material on diagonal lines to form the flaps D, D¹, the extent of these flaps being indicated by the dotted lines D², then folding over the material to form the side flaps D³, D⁴. The valve C will then be inserted between the folds of the closure. The filling tube E will then be inserted between the folds of the valve piece and will puncture the same as shown at C⁴.

Referring to the ordinary form of my invention and practically speaking the invention comprises a tube or pocket open at its outer end, projecting into the bag and closed at its inner end. The filling tube is forced through the tube or pocket, tears open or penetrates the inner end, and when withdrawn the walls of the pocket form the valve.

Broadly speaking, the invention comprises a valve tube inwardly projecting into the bag and a closure for such valve tube so that it is initially closed and the closure being capable of perforation or removal to introduce the filling tube.

By an initially closed filling duct or passageway I mean a duct or way which is normally closed in the sense that it requires a rupturing or violent displacement of some part of the structure to make such duct or way open. The distinction is between a duct or way which is free and one which is obstructed.

I claim:

1. In a valve bag, the combination of a bag body, with a valve having an inwardly extending initially closed filling duct.

2. In a valve bag, the combination of a bag body, with a valve having an inwardly

extending filling passage way initially closed by the material of said valve.

3. In a valve bag, the combination of a bag body having a filling opening, with an interior valve comprising material turned back upon itself to form an initially closed filling duct.

4. In a valve bag, the combination of a bag body having a filling opening, with an interior valve composed of material folded at the inner margin of the valve so as to initially close said valve.

5. In a valve bag, the combination of a bag body with a valve comprising superimposed valve elements joined together along their inner common edges to initially close the filling opening.

6. A bag having a filling opening in combination with a body of perforable material arranged within the bag and in opposition to said opening.

7. A bag having a filling opening in combination with a folded body of perforable material extending inwardly from said opening.

8. A bag having a filling opening in combination with a folded body of perforable material extending inwardly from said opening, the fold of said body arranged in opposition to said opening.

9. In a bag, the combination of a bag body, with a closure folded and pasted, and a valve located between the folds of the closure comprising valve elements lying one upon the other and connected at their inner edges to initially close the opening.

10. In a bag, the combination of a bag body, with a folded closure, and a valve at the corner of said closure and located between the folds thereof comprising a body of material folded over at the inner extremity of said valve.

11. In a bag the combination of a bag body with an inwardly projecting pocket closed at its inner end and adapted to receive the filling tube.

12. The combination of a bag body with an inwardly projecting filling duct initially closed at its inner end.

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