

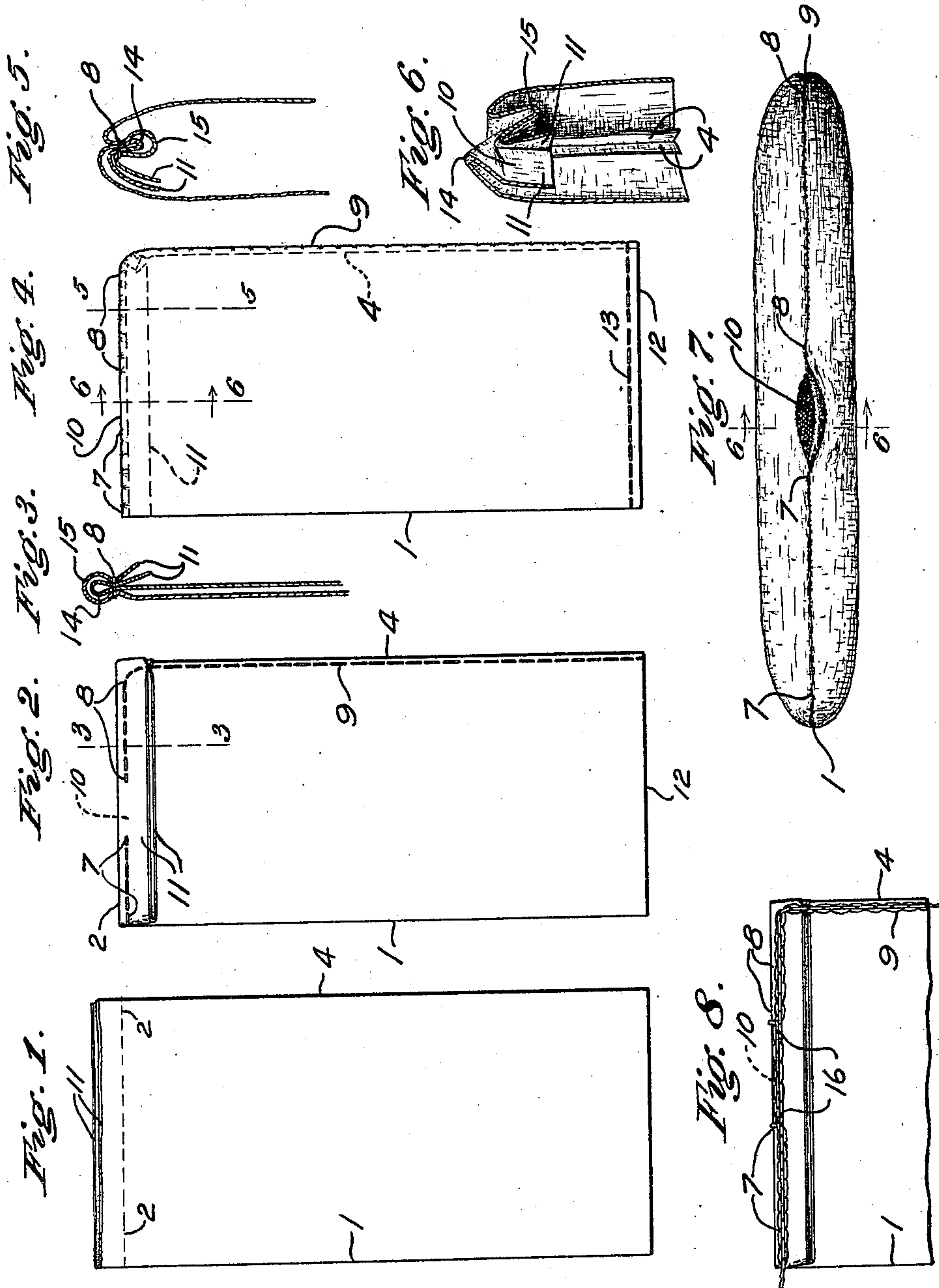
No. 684,029.

Patented Oct. 8, 1901.

I. C. WOODWARD.  
VALVE BAG.

(Application filed Apr. 18, 1901.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

IRVING C. WOODWARD, OF CHICAGO, ILLINOIS, ASSIGNOR TO ADELMER M. BATES, OF SAME PLACE.

## VALVE-BAG.

SPECIFICATION forming part of Letters Patent No. 684,029, dated October 8, 1901.

Application filed April 18, 1901. Serial No. 56,439. (No model.)

*To all whom it may concern:*

Be it known that I, IRVING C. WOODWARD, a citizen of the United States of America, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Valve-Bags, of which the following is a specification.

My invention relates to the class of bags, sacks, and other flexible receptacles known as "valve-bags," in which an internal flap serves as a closure for the mouth of the bag or sack.

The main objects of my present invention are, first, to provide an improved valve in bags of this class having a normally tortuous filling-aperture and having the parts of the valve suitably arranged for positively closing said filling-aperture through the pressure thereon of the contents of the bag, and, second, to provide an improved arrangement of parts which will facilitate the manufacture of bags of this class. I accomplish these objects by the device shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the blank for forming the bag, showing the material folded upon itself and illustrating the first step in the construction of a bag formed according to my invention. Fig. 2 is an elevation illustrating the next step, in which the blank is folded again upon the line 2 2 of Fig. 1 and sewed through the four thicknesses along the fold 2 and through both of the side edges of the material, which are laid upon each other, but not connected in Fig. 1. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a side elevation of the completed bag. Fig. 5 is a section on the line 5 5 of Fig. 4. Fig. 6 is a section on the line 6 6 of Fig. 4 with the valve partly open. Fig. 7 is a top plan of the finished bag with the valve partly open. Fig. 8 is the same view as Fig. 2, showing a modified form of stitching and a cord reinforcing the valve-flaps at the filling-aperture.

The bag shown is formed of a sheet of textile fabric, which is folded upon itself at the crease 1, with the side edges of said sheet substantially registering with each other. The doubled sheet is then folded upon itself along the line 2 2 substantially at right an-

gles to the side edges 1 and 4. The material of the bag is now sewed through four thicknesses along the fold 2 by means of the seams 7 and 8. The side edges 4 are secured together by means of the seam 9, which may be a continuation of the seam 8. The material of the bag is not connected between the inner end of the seams 7 and 8, and therefore provides for a valve-opening or filling-aperture 10. The valve-flaps 11 are disposed outside of the bag until secured by means of the seams 7 and 8 in the position shown in Fig. 2. Up to this stage of manufacture the material of the bag is wrong side out. It is now turned right side out through the end at 12. After the material is thus turned right side out the flaps 11 will be disposed within the bag, as shown in Figs. 4 and 5. The hitherto open end of the bag is now closed by means of the seam 13 along the edge 12. In its normal position the fold 14 at the valve will be within the fold 14, as illustrated in Fig. 5, and will be permanently held in said position by means of the stitches 7 and 8, except at the valve-opening. The disposition of the flaps 11 and their folds 14 and 15, it will be seen, provides a normally tortuous filling-aperture.

The bag may be sewed by means of a chain-stitch in the form shown in Fig. 8. In making this form the material of the bag will be pushed out of the path of the needle at the filling-aperture 10 while the machine continues operation and forms the cord or section of chaining 16, which is a continuation of the seams 7 and 8, but is not sewed through the folds of the bag. Said cord 16 reinforces one of the folds at the filling-aperture. When the bag is full and resting with the valve end at the bottom, the cord 16 strengthens the valve against leakage and aids in pressing the valve-flaps together.

The operation of my device is as follows: The valve will be filled through the valve-opening 10 by spreading apart the material of the bag immediately at said opening, and thus pulling the fold 14 out of the fold 15 at said opening, as illustrated in Fig. 6. After the bag has been filled the same will be turned over, so that the end having the valve will become the bottom of the bag. The ma-



terial with which the bag has been filled will now force the valve-flaps 11 toward one side of the bag beyond the position shown in Fig. 5 and against the adjoining wall of the bag.

5 This will effectually close the valve-opening 10. The seams 7 and 8 will tend to hold the valve-flaps 11 normally in the position shown in Fig. 5, except when same are separated during the operation of filling the bag. The fact  
10 that said seams tend to hold the valve-flaps 11 normally in the position shown in Fig. 5 prevents said flaps from lying toward opposite sides of the bag, and thus insures the closing of the filling-aperture or valve-open-  
15 ing after the bag is filled. The pressure of the material with which the bag is filled will tend to draw the fold 14 into its normal position in the fold 15, and thus doubly insure the closing of the filling-aperture.

20 It will be understood that some of the details of the construction shown may be altered without departing from the spirit of my invention. I therefore do not confine myself to such details, except as hereinafter limited  
25 in the claims.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. As an article of manufacture, a bag or sack having its side walls folded inwardly at  
30 one end to form a pair of valve-flaps, said flaps being together folded back upon themselves within the bag and toward said end and secured together in such doubly-folded position at each side of an intervening space  
35 and for a considerable distance inward of their side edges, whereby a normally tortuous passage through said end of the bag is provided between the flaps at said space, the connected parts of the flaps at each side of  
40 said space being adapted to lie normally together and toward one wall of the bag and providing a suitable face on each side of said space adapted by pressure thereon of the contents of the bag to urge the intervening  
45 parts of the flaps into the closed position.

2. As an article of manufacture, a bag or sack having its side walls folded inwardly at one end, to form a pair of valve-flaps, said flaps being together folded back upon them-  
50 selves toward said end and secured in such doubly-folded position by a pair of seams each extending from one of the side edges of said flaps substantially parallel with said end of the bag and terminating a considerable  
55 distance apart to provide a filling-aperture between their inner ends.

3. As an article of manufacture a bag or sack having its side walls folded inwardly at one end and substantially at right angles to  
60 the side edges of said walls; said inwardly-folded parts forming a pair of valve-flaps extending entirely across said end, and being together folded back upon themselves within the bag and secured in such doubly-folded  
65 position by a pair of seams each extending from one of the side edges of said flaps along said end of the bag and terminating a con-

siderable distance apart to provide a filling-aperture between their inner ends.

4. As an article of manufacture, a bag or sack having a filling-aperture at one end and of less width than said end, a pair of valve-flaps extending inwardly on opposite sides of said filling-aperture, said flaps being of considerably greater width than said filling-  
75 aperture, and being together folded back upon themselves within the bag and secured in such doubly-folded position at each side of the filling-aperture, whereby a normally tortuous passage is provided between the flaps  
80 from said filling-aperture, said flaps providing a bearing-face wider than said passage and adapted by pressure thereon of the contents of the bag, to urge the folds of said flaps into normal position.

5. As an article of manufacture, a bag or sack having its side walls folded inwardly at one end to form a pair of valve-flaps, said flaps being together folded back upon them-  
90 selves within the bag and toward said end, and secured together in such doubly-folded position by a seam at each side of an intervening space, said flaps being separable at said space to form a filling-aperture, and the inner ends of said seams being connected by  
95 a cord lying along one of the flaps, and adapted to aid in holding same toward the other flap.

6. As a new article of manufacture, a valve-bag comprising sides sewed together in the  
100 usual manner, except at one end, flaps extending across said end and turned over on the side, stitching across said end and through the four thicknesses of the cloth but interrupted at some point so as to leave a circuitous passage between the flaps through the  
105 interruption of the stitching and into the bag.

7. As a new article of manufacture, a valve-bag comprising sides sewed together in the  
110 usual manner, except at one end, flaps extending across said end and turned over on the side, stitching across said end through the four thicknesses of the cloth but interrupted at some point so as to leave a circuitous passage between the flaps through the  
115 interruption of the stitching and into the bag, said flaps turned so as to fall inside of the completed bag.

8. As a new article of manufacture, a valve-bag having its side walls folded inwardly at  
120 one end to form valve-flaps and secured together by seams across the end and interrupted at some point between the corners, so as to leave a filling-opening between said flaps, the arrangement of said flaps being  
125 such as to provide a circuitous or tortuous passage-way between them from outside the bag to the inside of the bag.

Signed at Chicago this 13th day of April, 1901.

IRVING C. WOODWARD.

Witnesses:

WM. R. RUMMLER,  
EUGENE A. RUMMLER.