A. M. BATES.

BAG FILLING MACHINE.

APPLICATION FILED DEC. 18, 1911.

1,140,867.

Patented May 25, 1915.

3 SHEETS—SHEET 1.

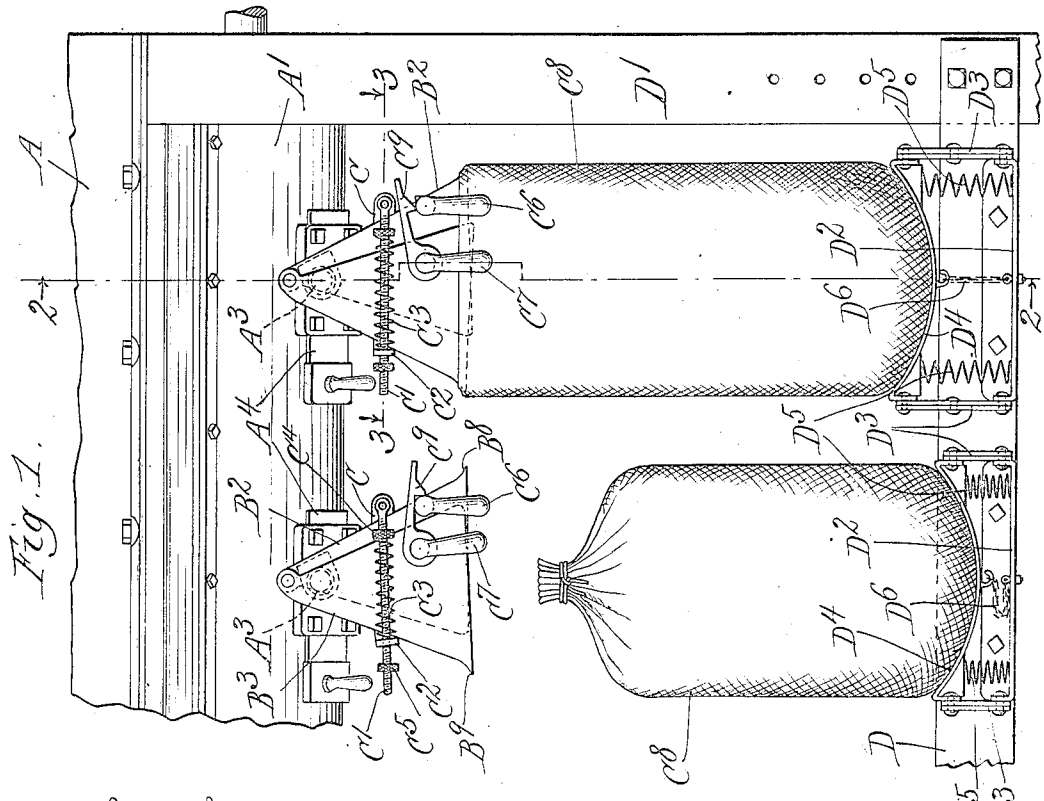


Fig. 1.

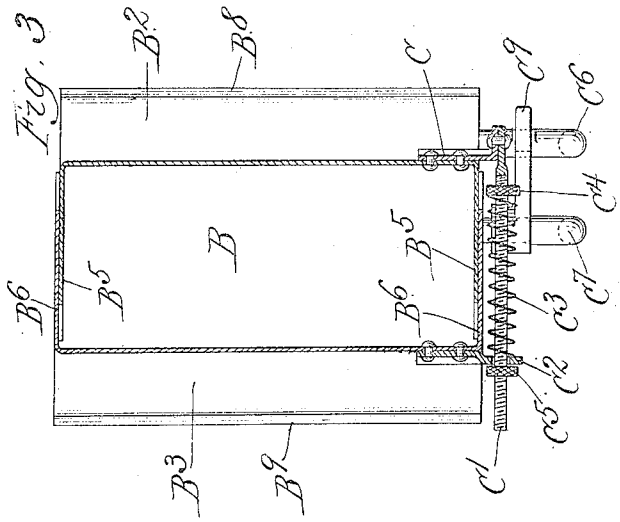


Fig. 3

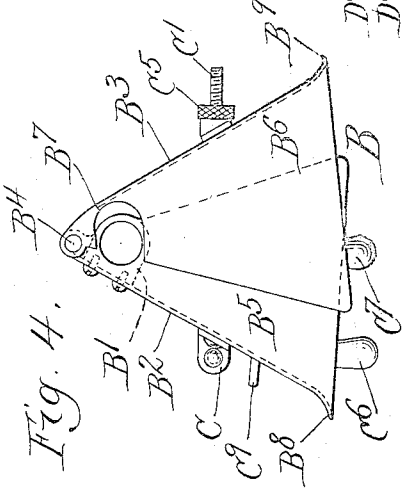


Fig. 4.

Witnesses.

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3 SHEETS—SHEET 2.

Fig. 2.

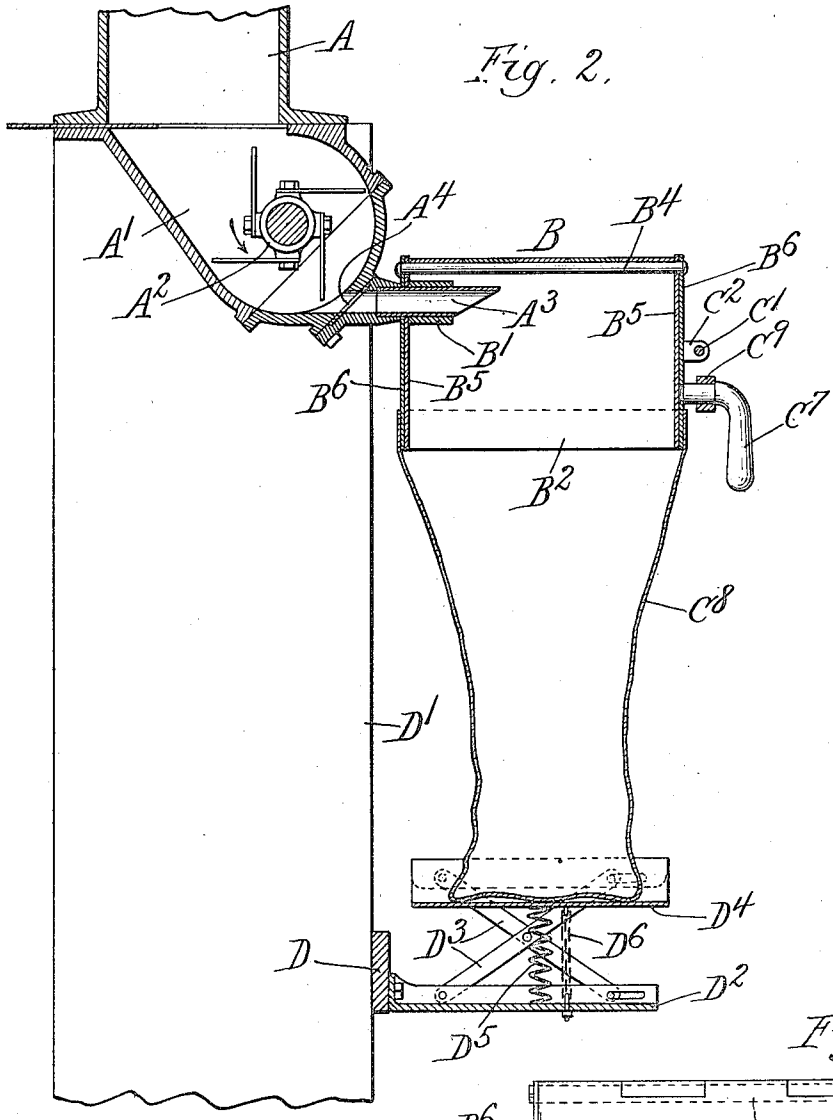
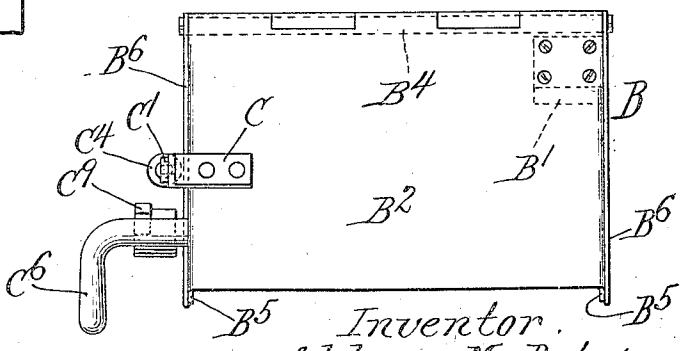


Fig. 5.



Witnesses.
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3 SHEETS—SHEET 3.

Fig. 7.

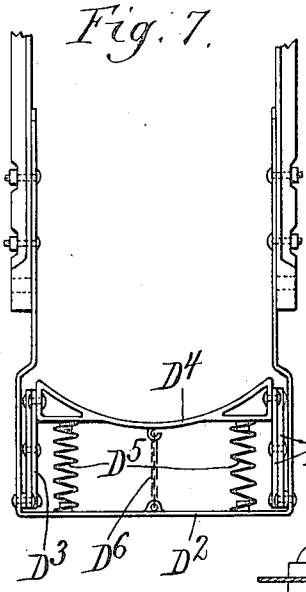


Fig. 6.

Witnesses.
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UNITED STATES PATENT OFFICE.

ADELMER M. BATES, OF CHICAGO, ILLINOIS, ASSIGNOR TO BATES VALVE BAG COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF WEST VIRGINIA.

BAG-FILLING MACHINE.

1,140,867 Specification of Letters Patent. Patented May 25, 1915.

Application filed December 18, 1911. Serial No. 666,599.

To all whom it may concern:

Be it known that I, ADELMER M. BATES, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Bag-Filling Machines, of which the following is a specification.

My invention relates to improvements in bag filling machines and is illustrated diagrammatically in one form in the accompanying drawings, wherein—

Figure 1 is a part elevation; Fig. 2, a section along the line 2—2 of Fig. 1; Fig. 3, a section along the line 3—3 of Fig. 1; Fig. 4, is a rear elevation of the hood removed from the filling machine. Fig. 5, a detailed side elevation. Fig. 6 is a cross section of a modified form of the bag filling machine. Fig. 7 is a front elevation of the bag supporting means.

Like parts are indicated by like letters throughout the several figures.

The feeding spout A discharges into the propeller pocket A^1 in which rotates the usual propeller A^2 discharging by means of a tangential feeding tube A^3 controlled by the shutter A^4.

The two part cap B formed by the aprons B^2 and B^3 is supported on the feeding tube A^3 by the sleeve B^1 which is mounted rigidly upon the apron B^2. The apron B^3 is pivotally mounted at the top on the rod B^4 which also is pivotally mounted in the apron B^2. The aprons B^2, B^3 are provided with the overlapping or inwardly bent portions B^5, B^6. The overlapping portion B^6 of the apron B^3 is slotted at B^7 in opposition to the sleeve B^1. The lower edges of the aprons B^2, B^3 are outwardly bent into a substantially horizontal plane as indicated at B^8, B^9.

The lug C rigidly mounted on the apron B^2 carries the rod C^1 pivotally mounted thereon. The lug C^2 rigidly mounted on the apron B^3 furnishes a sliding bearing for the rod C^1. The spiral spring C^3 is adapted to be compressed between the lug C^2 and the nut C^4 on the rod. The nut C^5 interposed between the end of the rod C^1 and the lug C^2 limits the inward travel of the rod through the lug C^2. The handles C^6, C^7 rigidly connected to the aprons B^2, B^3 are adjacent one to the other and furnish a hand hold for the operator whereby the aprons may be rotated one upon the other and operated to release the bag C^8 which is supported on the horizontally disposed portions of the aprons. The catch C^9 carried by and rotatable on the handle C^7, engages the handle C^6 and is adapted to hold the aprons back against the pressure of the spring until another bag has been placed upon them.

The platform D on which the bag is supported while being filled is adjustably mounted on the frame D^1 and carries the fixed base D^2 from which rises the lazytong structure D^3 carrying the bag holding member D^4. The springs D^5 interposed between the base D^2 and the bag holding member D^4, tend to raise the bag and extend the lazytong structure. The chain D^6 limits the upward movement of the bag holding platform.

It will be evident that while I have shown in my drawings an operative device, still many changes might be made in size, shape and arrangement of parts without departing materially from the spirit of my invention and I wish therefore, that my drawings be regarded as in a sense diagrammatic.

The use and operation of my device are as follows: When it is desired to fill open mouthed bags with a machine such as mine, which is particularly adapted to the filling of valve bags, I mount the two aprons upon the filling tube. The operator will then grip the two handles on the aprons bringing them together against the pressure of the spring until the catch drops down and holds them in the contracted position. The open mouthed bag will then be placed over the lower ends of the aprons coming up comparatively high upon them as indicated in Fig. 2. The latch will then be released and the aprons will spread in response to the pressure of the spring, distending the mouth of the bag and holding it firmly upon the aprons. The machine will then be started and feed material into the interior of the apron, whence it falls into the bag. As the bag fills its weight compresses the springs in the lazytong structure and causes the sides of the bag to tighten, thus drawing it down upon the lower edge of the apron. When the bag is filled the operator will draw the two aprons back by grasping the two fixed

handles thereon, thus allowing the bag to slip off from the aprons and drop down so that its entire weight is supported at its base. In view of the fact that the springs at the bottom are not made sufficiently strong to support the entire weight of the bag, the bag will drop down, giving room for the operator to tie it as indicated in Fig. 1. It will be observed that thus the bag is supported both at the top and bottom, the springs being so designed that a portion of the hood will be carried by the aprons and a portion by the springs at the bottom.

In the drawings I have shown my device as applied to a machine specially adapted to filling valve bags, and I have used the term "filling tube." It will be understood, however, that my device need not be limited to a device practicable only for a valve bag filling machine, and the term "tube" need not in any sense be limited to a tube such as that adapted to enter and fill valve bags. It will be quite evident that this tube might be any kind of a tube, it might be inclined or even vertical instead of horizontal, it might be a tube designed particularly for the filling of open mouth bags, it might take any desired or necessary form or position or be made of any suitable material, and my cap or hood might be provided to conform to, but not in any sense depart from the spirit of my invention and claims.

I claim:

1. In a bag filling machine a filling tube and a collapsible bag supporting hood mounted thereon, said hood being made up of two sections pivoted one upon the other and entirely closed at the top, and yielding means for forcing said pivoted sections apart about their pivotal points to distend the mouth of the bag.

2. In a bag filling machine a horizontally disposed bag filling tube, means comprising a hood inclosing the discharge end of said tube for completely closing the open mouth of a bag and means for supporting a bag upon said hood.

3. In a bag filling machine a hood made up of a pair of aprons always inclined one to the other and pivoted together along one edge, a sleeve carried by one of said aprons and a bag filling tube upon which said sleeve is mounted.

4. In a bag filling machine a hood made up of a pair of aprons always inclined one to the other and pivoted together along one edge, a sleeve carried by one of said aprons and a bag filling tube upon which said sleeve is mounted, each of said aprons having inwardly bent end members, the members of one apron being in contact with and slidable upon the opposed members on the other.

5. In a bag filling machine a hood made up of a pair of aprons inclined one to the other and pivoted together along one edge, a sleeve carried by one of said aprons and a bag filling tube upon which said sleeve is mounted, each of said aprons having inwardly bent end members, the members of one apron being in contact with and slidable upon the opposed members on the other, said sleeve being mounted in one of said aprons, the opposed member being slotted to engage the sleeve.

6. In a bag filling machine a hood made up of a pair of aprons inclined one to the other and pivoted together along one edge, a sleeve carried by one of said aprons and a bag filling tube upon which said sleeve is mounted, each of said aprons having inwardly bent end members, the members of one apron being in contact with and slidable upon the opposed members on the other, handles fixed each upon one of the opposed pairs of sides and means for holding said handles together.

7. In a bag filling machine a filling tube and an entirely closed bag supporting two part cap carried thereby, said two parts in pivotal engagement one with the other and closed at their top.

8. In a bag filling machine a filling tube and a closed bag supporting two part cap carried thereby, said two parts in pivotal engagement one with the other near their upper ends, yielding means resisting the approach of said parts one to the other at their lower edges.

9. In a bag filling machine a filling tube and a closed bag supporting two part cap carried thereby, said two parts in pivotal engagement one with the other near their upper ends, yielding means resisting the approach of said parts one to the other at their lower edges, and means for locking said parts together.

10. In a bag filling machine comprising a horizontally disposed filling tube, a two part A-shaped hood mounted thereon, the two parts of said hood being pivoted one upon the other, said hood being open at the bottom and having means about said open bottom for engaging the open end of the bag yielding means for pressing the two pivoted hood parts outwardly to distend the bag.

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