

No. 775,976.

PATENTED NOV. 29, 1904.

J. IVERSON.  
METHOD OF TURNING BAGS.  
APPLICATION FILED SEPT. 21, 1903.

NO MODEL.

Fig. 2.

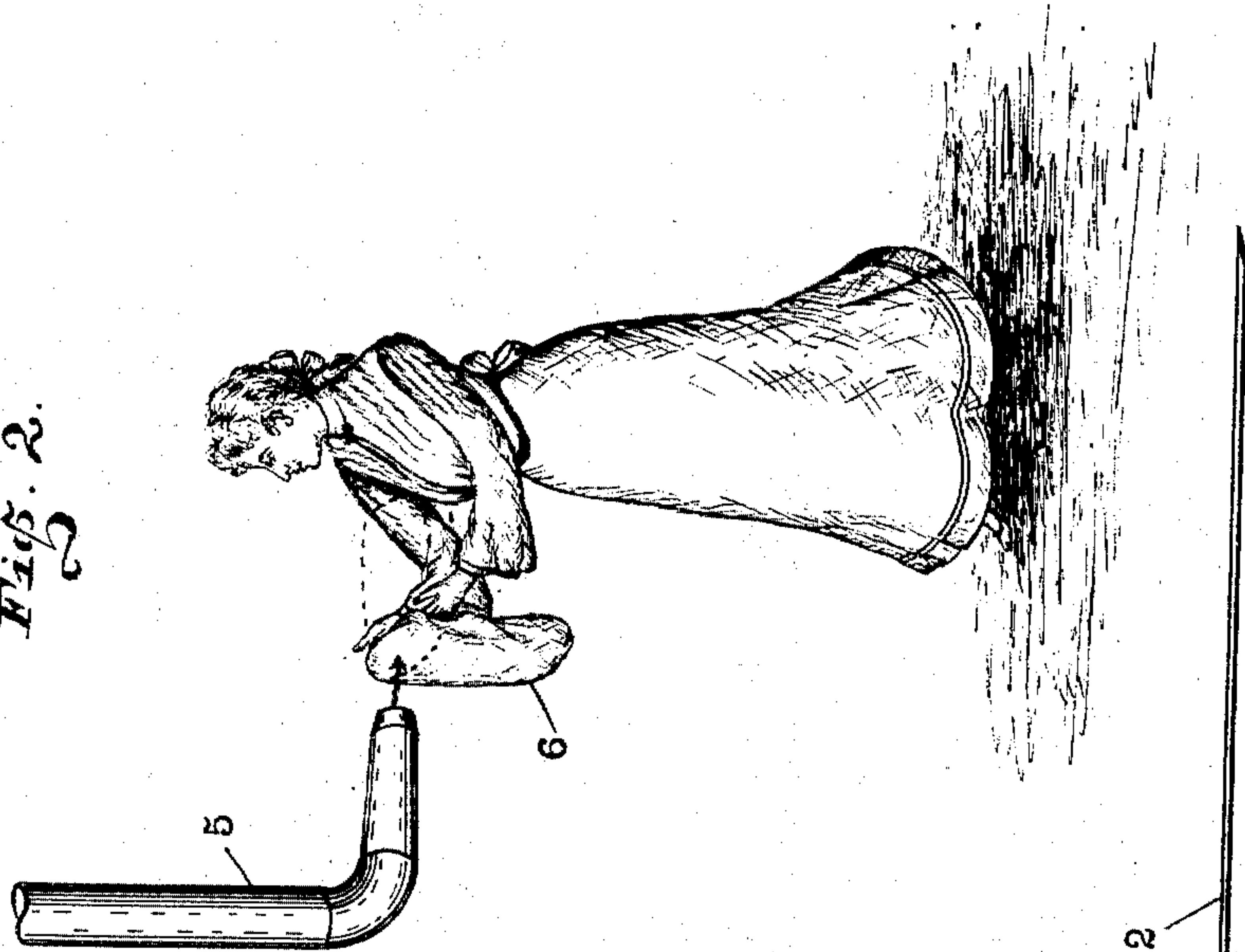
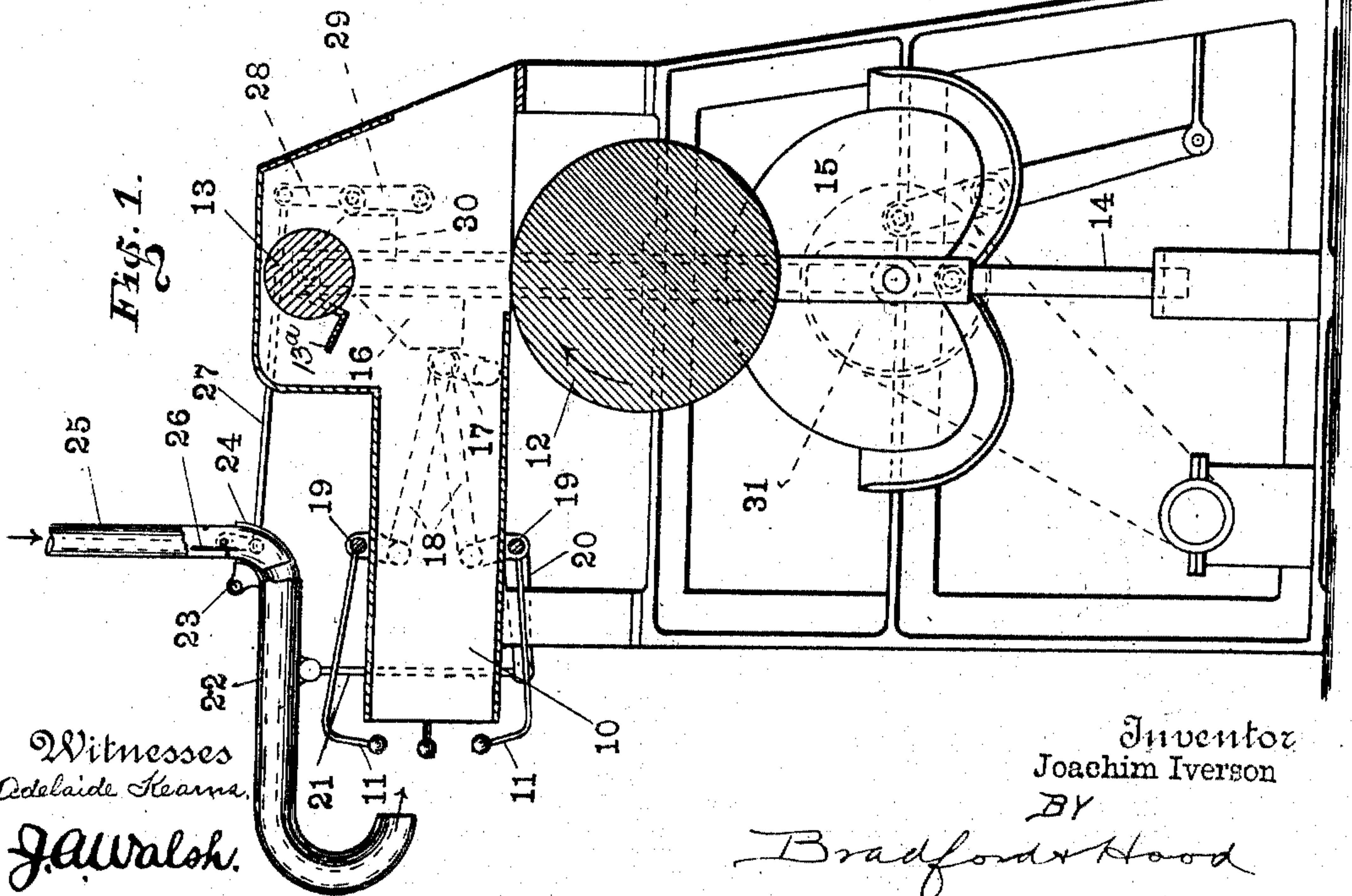


Fig. 1.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## METHOD OF TURNING BAGS.

SPECIFICATION forming part of Letters Patent No. 775,976, dated November 29, 1904.

Application filed September 21, 1903. Serial No. 174,041. (No model.)

*To all whom it may concern:*

Be it known that I, JOACHIM IVERSON, a subject of the King of Sweden and Norway, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Methods of Turning Bags, of which the following is a specification.

It has heretofore been proposed to turn bags pneumatically by means of an apparatus consisting of an open-ended casing over which the mouth of the bag was distended and a suction device by means of which the air within the casing might be rarefied, thus causing the external pressure to act upon the walls of the bag to force the same through the distended mouth and into the casing, thereby turning the bag. In the use of an apparatus of this kind the turning pressure acts upon the bag-walls from all directions equally, and there is therefore a tendency to crumple the bag and hold the walls together as they are being blown through the distended bag-mouth.

My present invention relates to an improved process of turning bags pneumatically, which process consists in holding the mouth of the bag open and distended and subjecting the outer side of one wall of said bag to the action of a blast of air of confined cross-section, which blast is directed upon a single point of one bag-wall and in such direction that the blast will pass along a line which leads toward and through the distended bag-mouth from the position of the closed end of the unturned bag.

This process may be carried out either by the mechanism shown in Figure 1, which is a central vertical section of an apparatus largely automatic in its operation, or by means such as is shown in Fig. 2.

In Fig. 2 of the drawings is shown a blast-tube 5, which is led from any suitable means for producing a blast, (not shown,) such as a storage-tank of compressed air, a fan, a positive pressure-blower, &c. This spout is provided with a suitable discharge end by means of which the blast is somewhat confined as to cross-section, and the operator, standing as

shown, opens and distends the mouth of the bag 6 and then places the bag in such position with relation to the blast as shown, in which the mouth is turned away from the blast and the blast will strike the outer surface of one wall of the bag, and the direction of the blast shall be therefrom through the distended mouth of the bag, whereby the blast will act somewhat like a stick, over the end of which the wall of the bag will be drawn as it passes through the distended mouth of the bag.

The machine shown in Fig. 1 consists of an air chute or casing 10, at the mouth of which are arranged suitable bag opening and supporting fingers 11, over which the mouth of the bag is to be placed. At the rear or discharge end of the casing 10 is a roller 12, which is continuously rotated in the direction indicated by the arrow by any suitable means. Arranged above roller 12 is a coacting roller 13, which is journaled on the upper ends of sliding arms 14, which may be moved up and down by means of a cam 15, so that roller 13 may be moved from and toward roller 12 for a purpose which will appear. The arms 14 carry a cam 16, adapted to engage an arm 17, connected by links 18 with shafts 19, each of which carries one of the mouth-opening arms 11. One of the shafts 19 is provided with an arm 20, connected by a link 21 with a blast-spout 22, hinged at 23. Spout 22 at its discharge end is arranged to direct a blast of air into the receiving end of casing 10, and at its rear end said support is provided with an elbow 24, into which is sleeved the lower end of a suitable supply blast-pipe 25, the arrangement being such that the spout 22 may be swung upon its pivot without disconnecting it from tube 25. Mounted in pipe 25 is a suitable valve 26, which is arranged to be automatically operated by a link 27 and an arm 28, the arm 28 carrying a roller 29, which is engaged intermittently by a cam 30, carried by arms 14. The shaft which carries cam 15 also carries a cam 31, which is adapted to operate a suitable delivering-fly 32 in a well-known manner.



In operation the normal position of the parts is that in which roller 13 is down against roller 12. Fingers 11 are thrown inward toward the medial line of the receiving end of casing 10, and spout 22 is thrown upward away from said receiving end. With the parts in these positions the operator places the mouth of a bag over fingers 11, and a rotation of the cam 15 by its shaft throws roller 13 up to the position shown in the drawings, spreads fingers 11, drops spout 22 to the position shown, where it may deliver a blast of air onto the bag and into the casing 10, and opens valve 26, so as to allow such blast of air to pass through pipe 22, the several movements taking place in the order named. The blast of air coming from spout 22 strikes one side of the bag and simultaneously turns and delivers the same into casing 10, whereupon roller 13 begins to move toward roller 12 and valve 26 is closed. The further movement of roller 13 downward withdraws cam 16 from arm 17, so that fingers 11 return to normal position, spout 22 is thrown away from casing 10, and the bag is grasped between the two rollers 12 and 13 at or near the closed end or bottom and by them delivered to the fly 32, whereupon the operation is repeated.

The particular automatic mechanism for withdrawing the tube 22 from operative position and for opening and closing the valve for controlling the blast, while illustrated herein, forms no part of my own invention, said mechanism being the invention described and claimed by me in a companion applica-

tion, Serial No. 170,040, filed September 21, 1903.

The guard 13<sup>a</sup> is located in front of the roller 13 and parallel therewith and serves to guide the rear end of the turned bag to pass between the rollers 12 and 13.

I claim as my invention—

1. That method of turning bags pneumatically, which consists in subjecting one wall of the bag to a blast of air which passes in a direction leading from the point of application through the open bag-mouth.

2. That method of turning bags pneumatically, which consists in distending the mouth of the bag and subjecting one wall of said bag to the action of a blast of air which passes therefrom in a direction leading through the distended bag-mouth.

3. The method of turning bags pneumatically which consists in opening and distending the mouth of the bag to be turned so that a single thickness of the bag-wall is presented to the impact of the air-blast, the mouth being turned in a direction away from the outlet of the air-blast, and subjecting the outer side of the wall of the bag nearest to the air-blast outlet to the impact of a blast of air.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 10th day of September, A. D. 1903.

JOACHIM IVERSON. [L. s.]

Witnesses:

C. A. TRIPP,  
ADAM J. JOHNSTON.