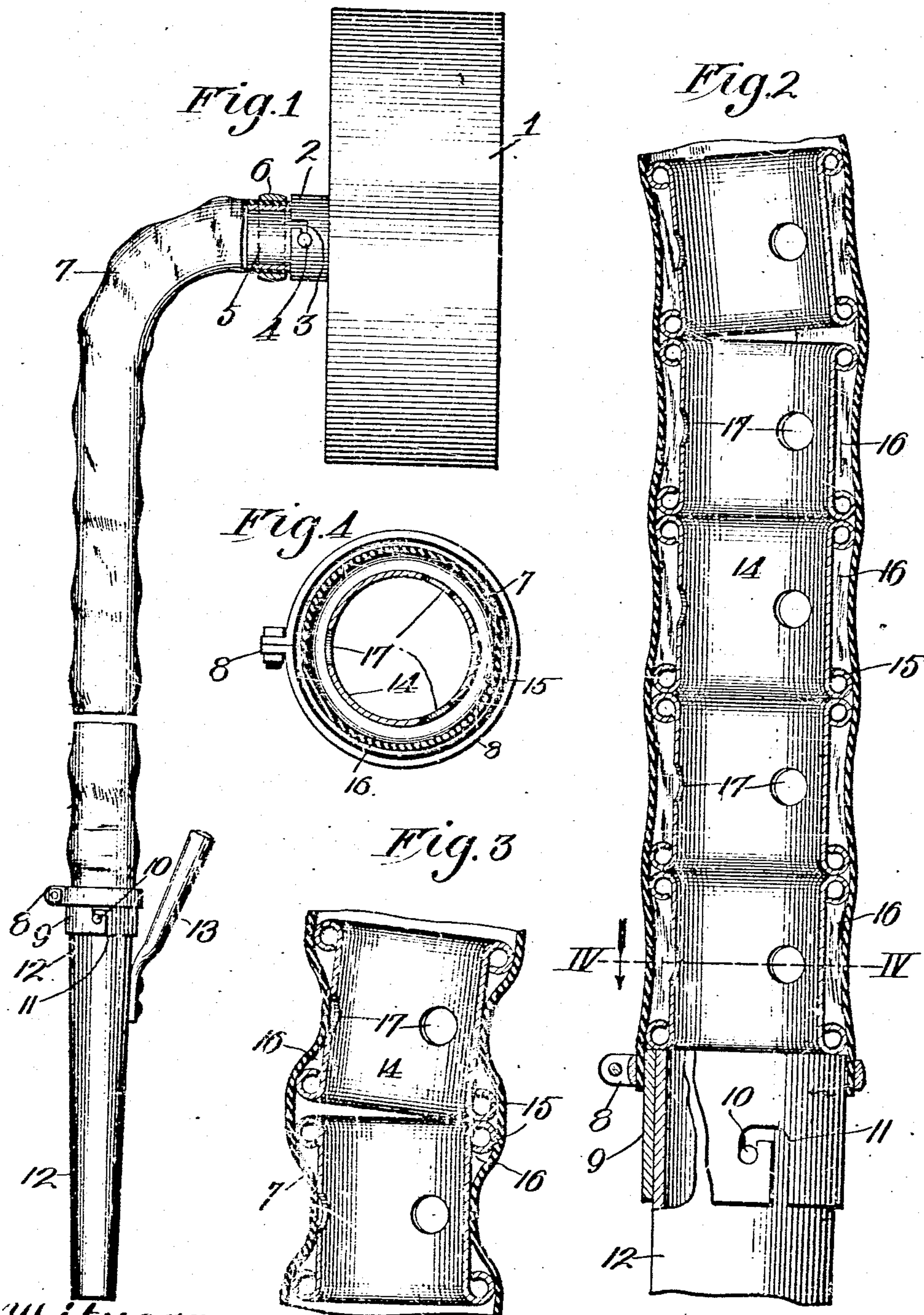


J. & W. L. HERVEY.
PNEUMATIC CONVEYER.
APPLICATION FILED AUG. 9, 1907.

907,692.

Patented Dec. 22, 1908.



Witnesses:
Frank R. Gore
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UNITED STATES PATENT OFFICE.

JOHN HERVEY, OF KANSAS CITY, MISSOURI, AND WILLIAM L. HERVEY, OF POARCH, OKLAHOMA, ASSIGNORS TO THE KING COTTON PICKER CO., OF KANSAS CITY, MISSOURI, A CORPORATION OF MISSOURI.

PNEUMATIC CONVEYER.

No. 907,692.

Specification of Letters Patent.

Patented Dec. 22, 1908.

Application filed August 9, 1907. Serial No. 387,928.

To all whom it may concern:

Be it known that we, JOHN HERVEY and WILLIAM L. HERVEY, citizens of the United States, residing, respectively, at Kansas City, Jackson county, Missouri, and Poarch, Roger Mills county, Oklahoma, have invented certain new and useful Improvements in Pneumatic Conveyers, of which the following is a specification.

This invention relates to pneumatic conveyers, and more especially to tubes for such machines through which a suctional action is established for the purpose of picking the cotton and conducting it to the desired point, and our object is to produce a cotton picking tube which will perform its function efficiently and reliably, and which is perfectly flexible but cannot collapse in action, and which furthermore is of simple, durable and cheap construction.

To this end the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed; and in order that it may be fully understood reference is to be had to the accompanying drawing, in which:—

Figure 1, is a side view, partly broken away, of a cotton picking tube embodying our invention, and also shows a receptacle, such as a fan casing, into which the tube discharges, and a mouth-piece which forms a rigid prolongation of the free end of the tube. Fig. 2, is an enlarged central vertical section of a portion of the tube and also shows a portion of the mouth-piece. Fig. 3, is a central longitudinal section of a portion of the tube at a bending point thereof and with the elastic part in the position it occupies when the suctional action takes place. Fig. 4, is a horizontal section taken on the line IV—IV of Fig. 2.

In the said drawings, 1 indicates any suitable receptacle, such as a fan casing, provided with a collar 2, having a bayonet-slot 3 to receive the pin 4 projecting outwardly from a tube 5, secured by an encircling clamp or collar 6 of any suitable type, to and within a flexible or elastic tube 7, the opposite end of said tube being likewise secured by an encircling clamp or collar 8 upon a sleeve 9 having an outwardly projecting pin 10 for engagement with a bayonet-slot 11 of a mouth-piece 12, said mouth-piece forming a rigid extension for the tube for convenience in accurately directing or handling the tube, said

mouth-piece in practice being adapted to be placed opposite the open side of a boll of cotton to insure the latter passing directly into the mouth-piece when a suctional action is set up through the tube through any suitable suction or blower apparatus, not shown. The mouth-piece is provided with a handle 13 for the convenience of the person who will handle and direct the tube in the picking operation.

For the purpose of holding the tube expanded without regard to whether it is straight or bent, a metallic lining is provided, the same consisting by preference of a series of short tubes 14 turned back at their ends to form external beads or enlargements 15, the tubes being longitudinally alined with the juxtaposed beads in contact with each other.

When the tube is straight the beads will be in contact all around but when the tube is bent as shown in the upper part of Fig. 2 and in Fig. 3, the tubes at opposite sides of the bend assume angular positions with relation to each other and therefore touch for a distance proportionate to such angles, that is to say, if the tube is only slightly bent the area of contact between the lining tubes will be greater than if the bend of the tube is more abrupt, as will be readily understood.

The lining tubes and their beads are of such proportion that they stretch tube 7 sufficiently to provide an annular space 16 around each lining tube between the beaded ends thereof, and establishing communication between said spaces and the interior of the lining tubes are perforations 17 in the latter.

When the suctional action is in progress the elastic tube collapses between the beads of each lining tube and against said tubes so as to bridge and close such perforations, as shown in Fig. 3. By providing for the collapse of the elastic tube at opposite sides of each pair of abutting lining tubes, such elastic tube is placed under heavy tension opposite the joints between the tubes and when the latter assume the angular relation described they increase such tension by stretching the elastic tube at the points between them, the tension being such that the suctional action will not affect such stretched portion. This guards against the possibility of tube 7 being drawn or sucked into the space between the ends of the lining tubes

and pinched between the latter when the next bending action straightens the tube at such point. It will thus be seen that the suctional tube is free to bend in any direction and yet maintain a smooth passageway of substantially uniform diameter for its full length.

From the above description it will be apparent that we have produced a tube of the character described possessing the features of advantage enumerated, and we wish it to be understood that we do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

Having described the invention what we claim as new and desire to secure by Letters Patent, is:—

1. A cotton picking tube, comprising an

elastic tube and a plurality of short tubes fitting together endwise within said tube and provided with one or more perforations.

2. A cotton picking tube, comprising an elastic tube and a plurality of short tubes fitting together endwise within said tube, provided with one or more perforations and with external enlargements at their ends.

In testimony whereof we affix our signatures, in the presence of two witnesses.

JOHN HERVEY.

WILLIAM L. HERVEY.

Witnesses to the signature of John Hervey:

H. C. RODGERS,

G. Y. THORPE.

Witnesses to the signature of William L. Hervey:

U. N. WALDROP,

J. B. BRITTON.