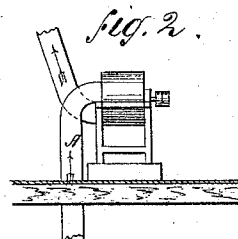
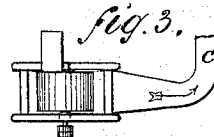
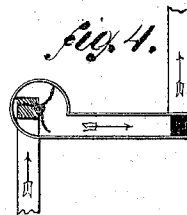
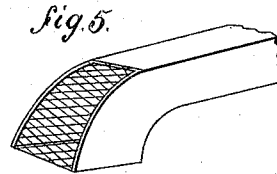
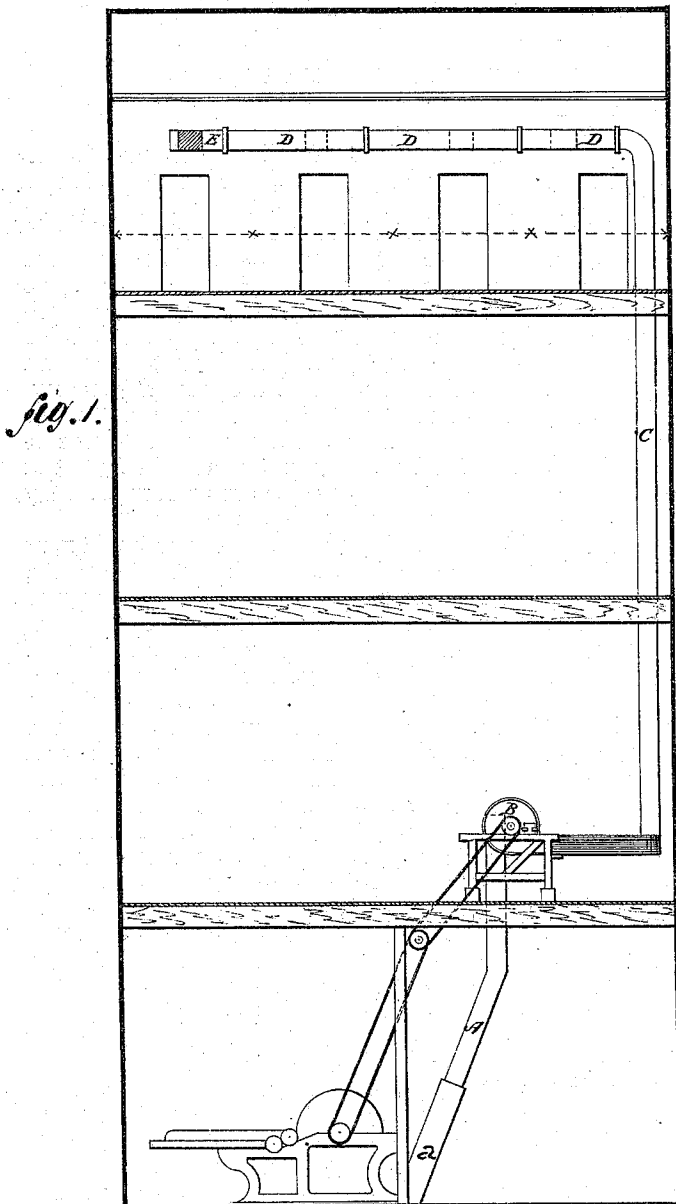


JOHN PENMAN.

Improvement in Pneumatic Wool Elevator.

No. 124,851.

Patented March 19, 1872.



Witnesses:

Victor Hagmann
T. B. Ellsworth

Inventor:

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UNITED STATES PATENT OFFICE.

JOHN PENMAN, OF PARIS, CANADA.

IMPROVEMENT IN PNEUMATIC WOOL-ELEVATORS.

Specification forming part of Letters Patent No. 124,851, dated March 19, 1872.

To all whom it may concern:

Be it known that I, JOHN PENMAN, of the town of Paris, in the county of Brant, Province of Ontario, Dominion of Canada, have invented an Improved Pneumatic Wool-Elevator; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a side view of the elevator, showing the tube through which the wool, cotton, or other fiber passes from the picker in the basement of a building to the first, second, or other floors of the same; and Figs. 2, 3, 4, and 5 represent the details of construction of the blower and tubes.

Similar letters of reference indicate the same parts.

The object of this invention is to improve the means for elevating or conveying wool, cotton, or other light fibrous substance from one floor to another in a factory or other building, and thereby to save a great part of the power which it has been necessary to use in running the machinery heretofore employed for a similar purpose, and also to render the elevating apparatus simpler, cheaper, and more effective and convenient. To this end I employ for the purpose a blast of air driven through a large tube by means of a fan-blower, the apparatus, when used in a woolen factory, being preferably arranged to take the wool from the picker, carry it through the tube by the force of the air-blast, and deposit it in bins in any part of the building where it is to be stored or used; and my invention consists, first, in constructing and arranging the fan-box and tubes in such a manner that the wool will not become entangled in the fan; and secondly, in the application of an elbow to the discharge end of the tube, so constructed that it will, when the blast has performed its functions, allow it to blow off in one direction while the wool is deposited in another, thereby preventing the blast at the end of the tube from interfering with the proper disposition of the wool in the bins or in piles upon the floors.

In the drawing, A is that part of the pneumatic tube situated below the fan-blower. B is the blower. C is that part of the tube situated above the blower. D D D are movable

joints or sections of tube, which may be attached, adjusted, or removed, as the situation of the bin or receptacle to be filled may require. E is the elbow to be affixed to the end of the tube for the purpose of delivering the wool properly into the bin and discharging the air-current in another direction; and *a* is a telescopic section of tube slipped upon the lower end of the part A, and closely fitting the mouth of the picker-machine for the purpose of receiving the wool therefrom and conveying it to the main tube. This section or mouth-piece is adapted to be slidden upon the tube A, out of the way, and fastened there as occasion may require in working the picker.

The tube A enters the side of the fan-box, as shown in Figs. 2, 3, and 4, the tube C entering said box on its convex rear side, as shown in Fig. 4, so as to be in the direct line of the blast from the fan. In the construction of fans of this class it has always been customary to admit the air at a central opening through the side of the box, in line with and around the end of the shaft. If I were to do this the wool would at once wind around the shaft and obstruct the machine, rendering it altogether useless. I therefore cause the tube A to discharge the wool into the fan-box on one side of the shaft, and preferably on the side opposite to the end of tube C, so that as soon as the wool enters the box the centrifugal force imparted to it throws it away from the shaft and holds it against the concave wall of the fan-box, and before it has any opportunity to wind around the shaft it reaches the open end of the tube C and escapes with the blast into it. At the end where the tube discharges the wool into the bins the blast, if projected from the tube in the same direction with the wool, would be productive of great inconvenience. I therefore provide the tube with a discharge-elbow, as above described, said elbow having an opening, *e*, in its under side through which the wool drops into the bin, and having another, *e'*, directly in line with the tube for the escape of the air-blast, the opening *e'* being covered with wire-gauze to deflect the wool down through its outlet without obstructing the escape of the air.

I am aware that a current of air forced through a tube by a fan, bellows, or other mechanical means, has heretofore been employed

for elevating water and flour, for driving cars through pneumatic-tubes, and for feeding grain to the lower end of a grain-elevator. I do not claim to have been the first to discover that such pneumatic force can be employed to overcome gravity, nor to be the first to apply the principle to the useful arts; but I do claim to have been the first who has applied the principle to the raising or conveying of light fibrous substances, such as cotton and wool, from one part of a manufactory to another; and while my invention does not consist in the principle of elevating such substance by air-currents, it does consist in the adaptation of the means to the end, as herein described. I therefore claim no elevating apparatus in which the tubes are not adapted to the reception and conveyance of wool and cotton in large quantities from

place to place, as required about factories and storehouses; but

I do specifically claim as my invention—

1. The pneumatic wool-elevator herein described, having the tube A C adapted to the conveyance of wool and other fibrous substances, and arranged with relation to the fan-box and fan-shaft substantially as described, for the purposes specified.

2. The curved elbow E, having the opening *e* out of line with the tube, and the opening *e'* covered with wire-gauze, and arranged in line with the tube when employed in combination with an air-blast elevator-tube, substantially as described, for the purposes specified.

Witnesses: JOHN PENMAN.

HENRY HART,
JAMES H. STOKES.