

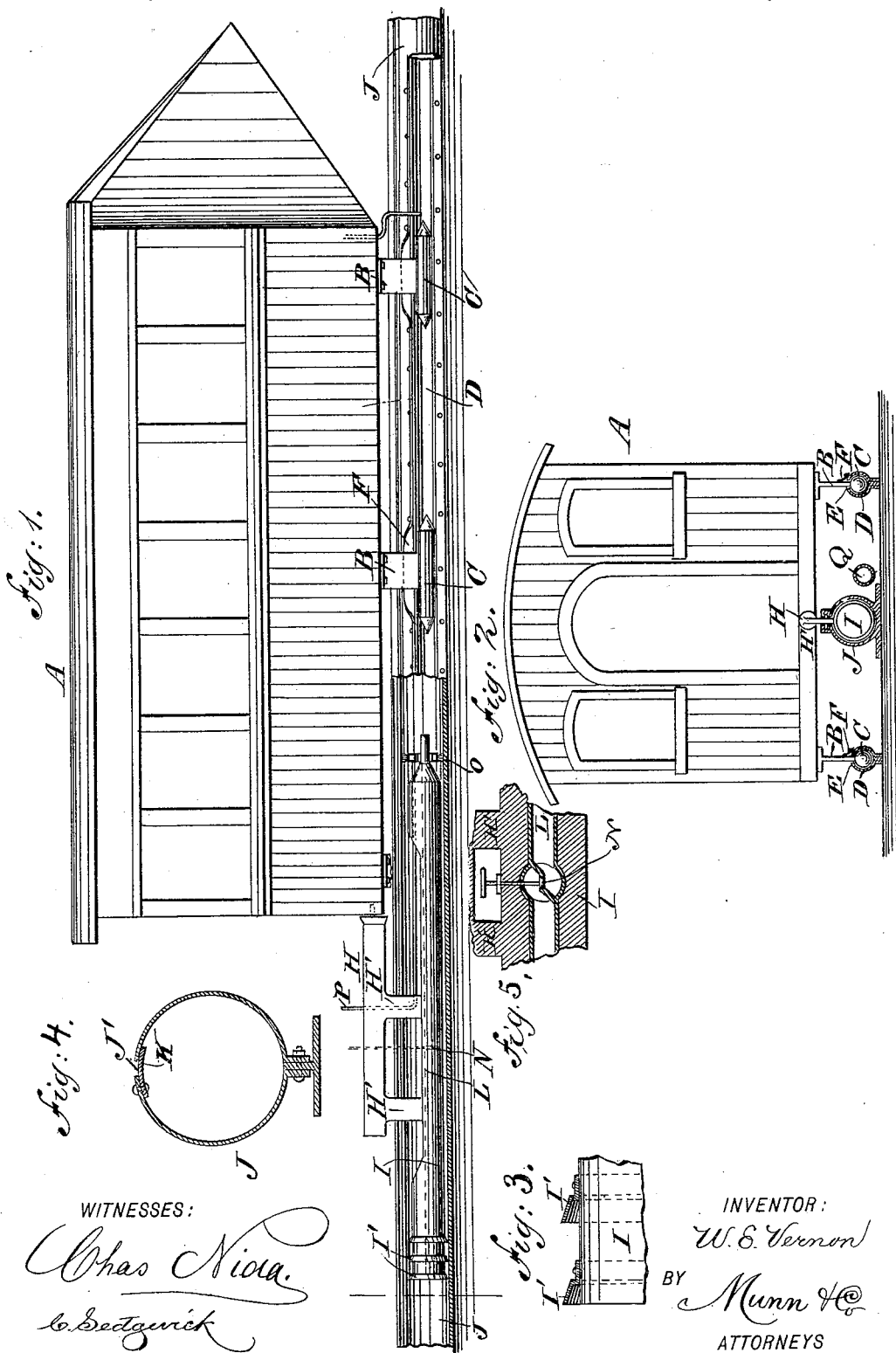
(No Model.)

2 Sheets—Sheet 1.

W. E. VERNON.
PNEUMATIC CONVEYER.

No. 489,348.

Patented Jan. 3, 1893.



WITNESSES:

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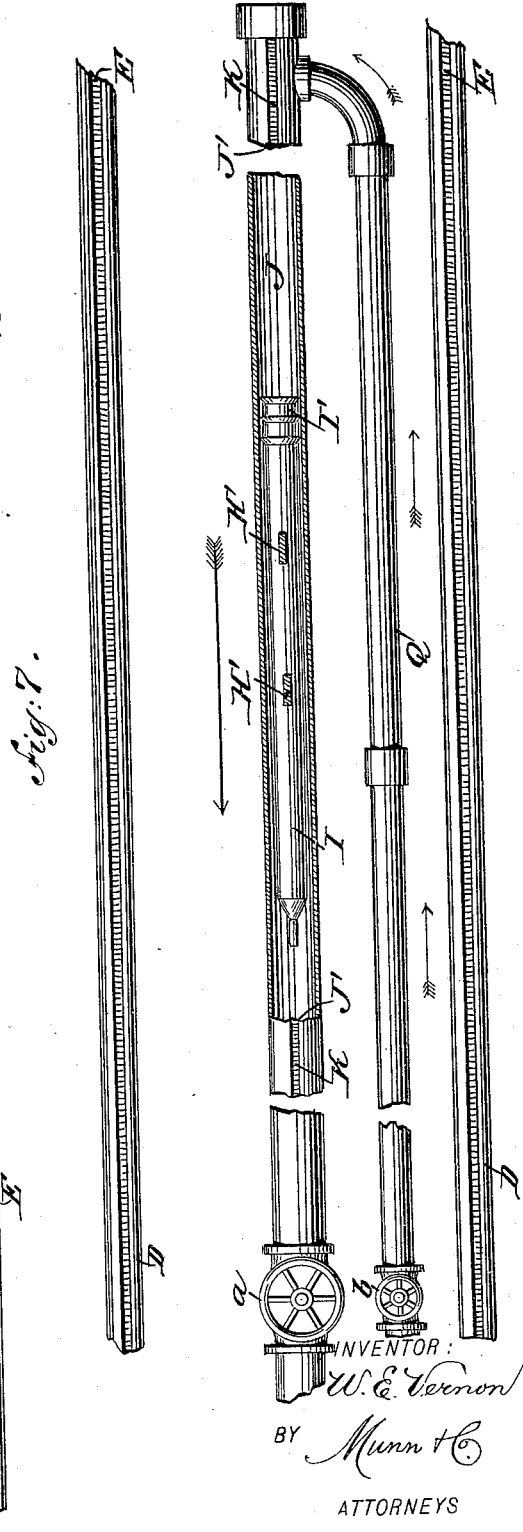
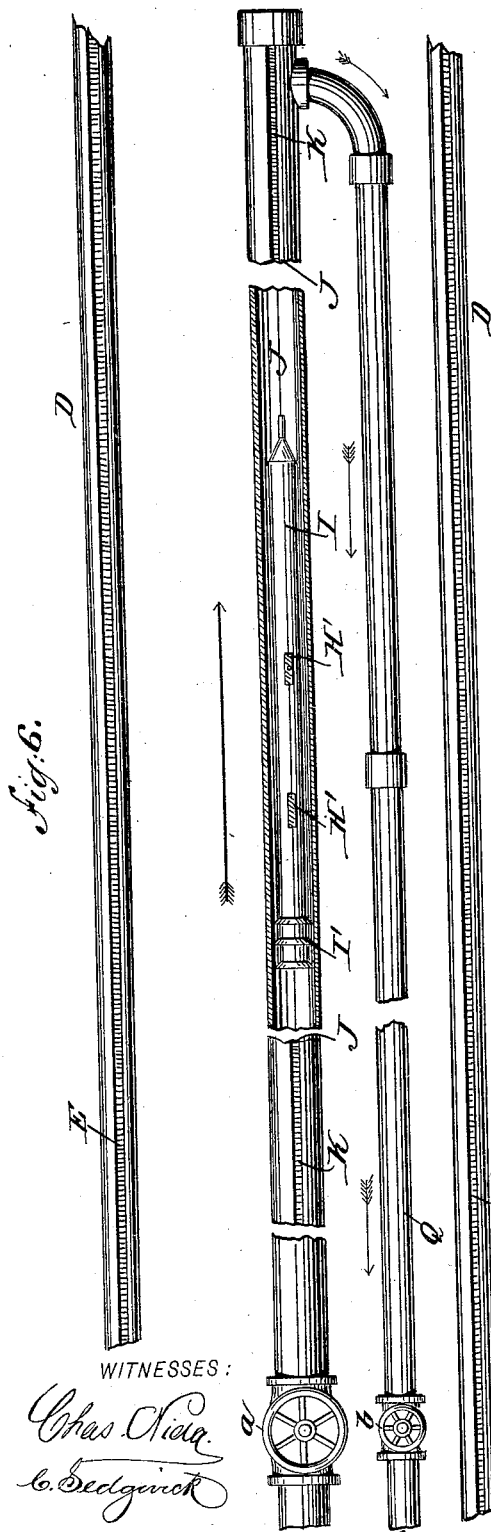
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2 Sheets—Sheet 2.

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No. 489,348.

Patented Jan. 3, 1893.



UNITED STATES PATENT OFFICE.

WILLIAM E. VERNON, OF SIPE SPRINGS, ASSIGNOR TO HIMSELF, AND GEORGE VERNON, JOHN N. FARMER, AND JOSEPH E. MURPHY, OF COMANCHE, TEXAS.

PNEUMATIC CONVEYER.

SPECIFICATION forming part of Letters Patent No. 489,348, dated January 3, 1893.

Application filed May 4, 1891. Serial No. 391,451. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. VERNON, of Sipe Springs, in the county of Comanche and State of Texas, have invented a new and Improved Pneumatic Conveyer, of which the following is a full, clear, and exact description.

The object of the invention is to provide new and useful improvements for insuring rapid and convenient traveling, transportation of mails, packages, freight, &c.

The invention consists of certain parts and details and combinations of the same, as will be hereinafter described and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of the improvement with parts in section; Fig. 2 is a transverse section of the same; Fig. 3 is an enlarged sectional side elevation of one end of the pusher; Fig. 4 is a cross section of a modified form of the pneumatic tube. Fig. 5 is a detail view showing the tube and its valve, in the plunger. Fig. 6 is a plan view of the track tubes, the pneumatic tube and the plunger, the arms of the plunger being in section; and Fig. 7 is a similar view showing the plunger in a reverse position.

The car A is provided on its underside with hangers B, supporting cylindrically-shaped runners C fitting into tubes D arranged parallel and forming the track of the transportation or conveying mechanism. The brackets B pass through slots E formed in the top of the tubes D, the said slots being ordinarily closed by flaps F made of a suitable material and arranged on the outside, as shown in Figs. 1 and 2. The brackets B in their forward movement push the flaps F aside for the time being, the flaps again closing the slots E after the brackets have passed. The car A is adapted to be engaged at its rear end at or near the middle by one end of a pusher H provided with downwardly-extending arms H' carrying a plunger I mounted to slide in a tube J arranged between the track tubes D. The tube J is connected at one end with a suitable air

compressor, so that air is forced into the tube against the plunger I, so as to propel the same forward. The plunger I is preferably made in jointed sections to readily follow the curves in the tube J. As the plunger I carries the pusher H engaging the car A, the latter is propelled forward with the said pusher and the plunger I. The arms H' of the pusher H pass through a slot J' in the top of the tube J, the said slot being ordinarily closed by a valve K of flexible material secured on the inside of the tube by one longitudinal edge and extending over the slot of the tube as shown most clearly in Fig. 4. The arms H' when moving forward push the valve K temporarily to one side, said valve again closing the slot J', as soon as the arms H' have passed.

In order to insure a tight fitting of the plunger I in the tube J, the rear end of the said plunger I is provided with packing I', as plainly illustrated in Fig. 3. Through the center of the plunger I extends a tube L reaching to the front end of the said plunger, the said tube being adapted to be opened and closed by a valve N, under the control of the operator having charge of the car. When the valve N is opened compressed air from the rear of the plunger I can be admitted to the front of the latter, so as to propel a plunger I on the next car ahead, and to admit of the first car being held up or stopped.

On the front projecting end of the tube L is held a brush O connected with a pipe P leading to an oil supply (not shown) so that oil is passed to the said brush O, and distributed by the latter in the tube J to keep the said tube and the plunger I lubricated. A similar lubricating device may be connected with each runner C to reduce friction to a minimum. As the tube J may be connected only at one end with an air supply, then a return movement of the car A can be had by an additional pipe Q extending alongside of the tube J, and connected with the latter at the end having no station as shown in Figs. 6 and 7, the pipes J and Q being provided with valves *a b* respectively as also shown in said figures. The pusher H as well as the plunger I, are then reversed at the end of the trip, the valve *a* in pipe J is then closed and valve *b*

in pipe Q opened to allow the compressed air from the station to pass through the pipe Q instead of through the tube J. The air from the pipe Q passes into the farther end of the tube J to act on the plunger I so that the car A is propelled in an opposite direction, that is, back to the station.

In order to reduce the resistance of the car A, the latter is pointed at its front end, as is plainly shown in Fig. 1. This pointed end may be made detachable if desired, so that it may be placed on either end of the car. When the car however is reversed or turned around on a turning section, the pointed end may be permanently secured to the car.

Owing to the special construction of all the tubes, oil or other suitable lubricant may be very freely used without any waste or rendering it impure. Tanks or reservoirs are placed under the tubes D and J at convenient places for the reception of all surplus oil which can be used over and over again. It is understood that the weight and motion of the car by the plunger I and runners C uniformly distribute the lubricant in the tubes.

Having thus fully described my invention, I claim as new, and desire to secure by Letters Patent,—

1. The combination with slotted track tubes, and a car provided with hangers having cy-

lindrical runners fitting in the tubes, of a longitudinally slotted pneumatic tube, a valve of flexible material for closing the slot of the tube a plunger in the tube and a horizontal pusher provided with arms projecting through the slot of the tube and secured to the plunger, substantially as described.

2. The combination, with a pneumatic tube formed with a slot and valves for closing the same, of a plunger fitted to slide in the said tube, a lubricating device held on the said plunger and engaging the interior surface of the said tube, and a pipe for supplying the lubricant to the said lubricating device, substantially as shown and described.

3. The combination, with a pneumatic tube formed with a slot and valves for closing the same, of a plunger held to slide in the said tube, a pusher secured on the said plunger and adapted to engage the car, and a return pipe connected with a source of compressed air supplying the compressed air to the said pneumatic tube, the said supply pipe being adapted to connect with the farther end of the said pneumatic tube, substantially as shown and described.

WILLIAM E. VERNON.

Witnesses:

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