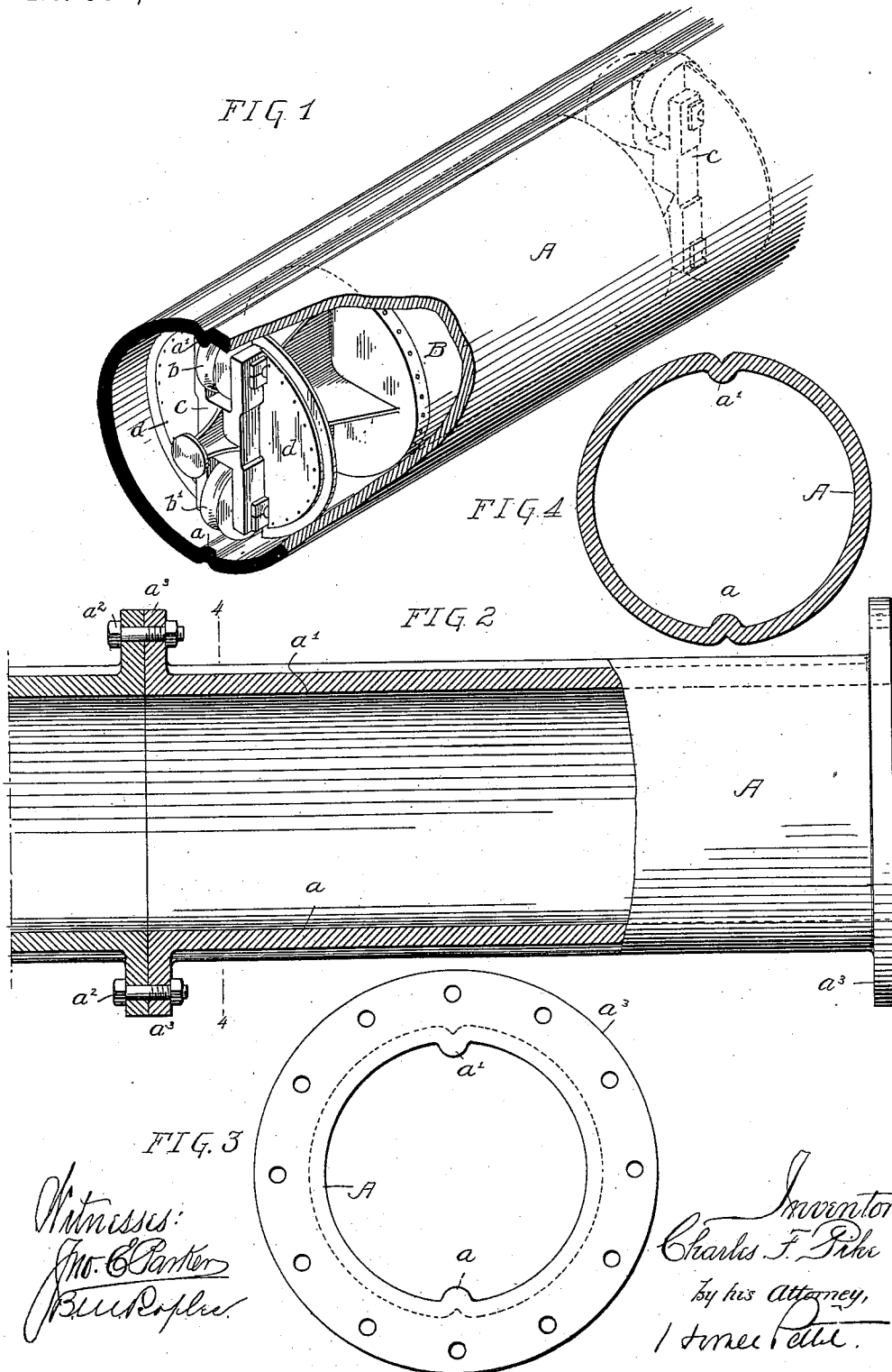


(No Model.)

C. F. PIKE.  
PNEUMATIC DESPATCH TUBE.

No. 595,890.

Patented Dec. 21, 1897.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## PNEUMATIC-DESPATCH TUBE.

SPECIFICATION forming part of Letters Patent No. 595,890, dated December 21, 1897.

Original application filed May 31, 1895, Serial No. 551,219. Divided and this application filed December 14, 1896. Serial  
No. 615,553. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES F. PIKE, a citizen of the United States, and a resident of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Pneumatic-Despatch Tubes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention has relation to the construction of pneumatic-despatch tubes, particularly of that class which have trackways provided for the carrier, and is a division of my application for Letters Patent for pneumatic-despatch tubes filed May 31, 1895, Serial No. 551,219.

The main object of my invention is to produce a pneumatic-despatch tube in which the disarrangement of the trackway will be practically impossible, the greatest possible area afforded for the occupancy of the car or carrier, and the greatest possible area provided in the tube for the wings or wind-diaphragms attached to the car, so that the greatest possible results may be obtained from a given amount of forced or exhausted air in propelling or driving the carrier.

My invention applies to that class of pneumatic-despatch tubes the carriers of which are of such a size or weight as to require for their more efficient propulsion antifriction carrying and guide wheels adapted to come into contact with the interior walls of the tube or tracks provided therein, so as to keep the carrier out of frictional contact with the inner walls of the tube.

In my invention described in my application Serial No. 551,219, hereinbefore referred to, I accomplish like results and do away with all obstruction to the passage of the carrier in the interior of the tube. In this case, which is a division of Serial No. 551,219, I do away with all obstruction in the interior of the tube save two small integral trackways or inverted grooves having their walls depressed into the interior of the tube slightly within the lines of the interior walls of the tube, one of said trackways being adapted for the reception of

a grooved carrier-wheel and the other for a grooved guide-wheel, provided upon the carrier at its lower and upper parts, respectively.

A further object of my invention is to provide a construction which will reduce the cost to a minimum. In securing movable rails in position in the tubes where they are not integral it becomes necessary to employ rivets or bolts, which through the action of the rapidly-traveling carriers, especially when traveling on curves or grades, are liable to become loosened and the rails in consequence thereof disarranged, the carrier broken or wrecked, and the tube blocked, whereby the system is crippled and the use of it suspended during frequent periods of repair. It is clear that when the tube is buried it is very difficult to ascertain where the wreck has occurred and to get at the obstruction for purposes of repair when ascertained.

My invention consists in a pneumatic-despatch tube having a smooth bore and trackways therein comprising longitudinally-disposed integral ribs on the inner walls of the tube formed in the walls of the said tube, as hereinafter particularly described.

In the accompanying drawings, Figure 1 is a sectional perspective view of a portion of a tube constructed in accordance with my invention and showing a carrier in position therein. Fig. 2 is a partially-sectional elevation of two sections of the tube secured together. Fig. 3 is an end view of the tube. Fig. 4 is a cross-section of the tube on the line 4 4, Fig. 2.

The carrier which I prefer to employ in connection with my improved tube is constructed as shown, the carrier proper, B, being of any suitable size or configuration desired or such as the requirements of service demand, and is provided with an open or sliding door, such as is usual, and which is not illustrated in the drawings, as such construction is well known.

At each end of the carrier are brackets *c*, carrying upper and lower grooved wheels *b b'*, respectively, and to the brackets are secured wings or wind-diaphragms *d*, as shown. The form of carrier is, however, not important and forms no part of my present invention.

The integral trackways *a a'* are formed in the walls of the tube A in the lower and upper portions of the same, diametrically opposite each other in a vertical line, preferably as shown in Fig. 3, by forming the two trackways inwardly from the interior face of the tube in such a manner, preferably, that each trackway forms, as it were, in its connection with the integral walls of the tube a loop semicircular in cross-section, with the outer faces of each trackway rounded for the easy reception of the groove in the carrier-wheel *b'* and guide-wheel *b* of the carrier. It is clear, however, that this shape of the trackway in cross-section is not essential to my improvement in pneumatic-despatch tubes herein described. It is essential, however, that the trackways *a a'* shall be integral with the walls of the tube and shall be of such a construction that they shall be the sole means of supporting and guiding the carrier on its wheels and that the bore of the tube shall be otherwise clear and entirely unobstructed, so that the wings or wind-diaphragms *d* provided on the opposite ends of the carrier may be approximately equal, if desired, to the interior diameter of the tube, having only small niches or recesses cut in their outer edges on opposite sides of the area slightly greater than the area in section of the intruding portion of the trackways *a a'* for the reception of the same, respectively.

The trackways *a a'* of the respective sections of the tube accurately register with each other when united, and the said sections of tube are preferably secured together, as shown in Fig. 1, by bolts *a<sup>2</sup>*, passing through orifices provided in the flanges *a<sup>3</sup>* at the ends of the tube-sections.

I am aware that pneumatic-despatch tubes having removable rails adjusted upon sleepers in the tube for carrying the weight of the car provided therein with auxiliary guide-rails disposed at intervals around the inner circumference of the tube have heretofore been invented—such, for instance, as shown in United States Letters Patent to E. P. Need-

ham, No. 268,715, dated December 5, 1892. Such construction as described in Needham's patent materially differs from my invention and I do not claim the same. My invention resides in the construction herein described as an improvement in pneumatic-despatch tube systems involving all the features of merit herein particularly specified and pointed out.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A pneumatic-despatch tube, having a smooth bore and trackways consisting of longitudinally-disposed rails integral with the walls of the tube, protruding a short distance inwardly in the tube presenting a clearance in the bore of the tube for the passage of the carrier approximately equal to the area of the bore of the tube in cross-section.

2. A pneumatic-despatch tube having a smooth circular bore and trackways consisting of two longitudinally-disposed rails formed in the walls of the tube integral therewith, protruding a short distance inwardly in the tube, diametrically opposite each other in a vertical line, the bore of the said tube having a clearance for the passage of the carrier approximately equal to the area of the bore of the tube in section, substantially as described.

3. A pneumatic-despatch tube consisting of a carrier-chamber circular in cross-section, and trackways semicircular in cross-section formed in the walls of the tube opposite each other in a vertical line with said walls and protruding a short distance within the line of the bore of the tube the bore of the said tube being unobstructed for the passage of the carrier and its wind-diaphragms save by the said inwardly-projecting trackways, substantially as described.

In witness whereof I have hereunto set my hand this 11th day of December, A. D. 1896.

CHARLES F. PIKE.

Witnesses:

WM. A. PIKE,  
JNO. E. PARK.