(No Model.)

H. C. KELLY.

STATION FOR PNEUMATIC TUBE SYSTEMS.

No. 513,236. Patented Jan. 23, 1894.

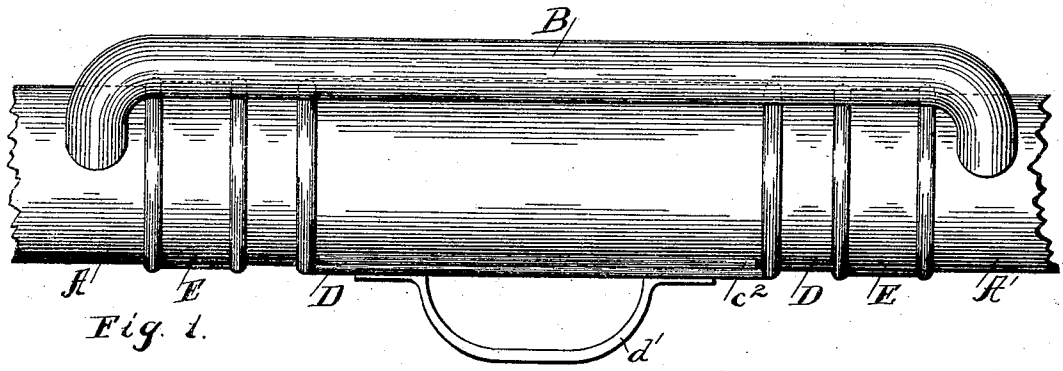

Fig. 1.

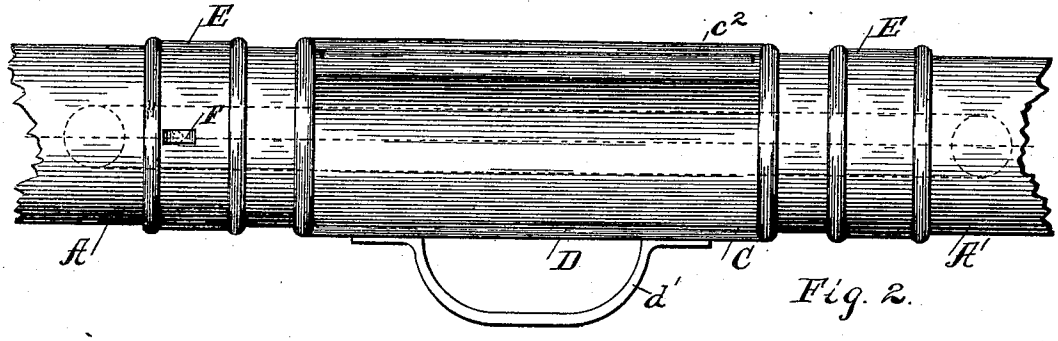

Fig. 2.

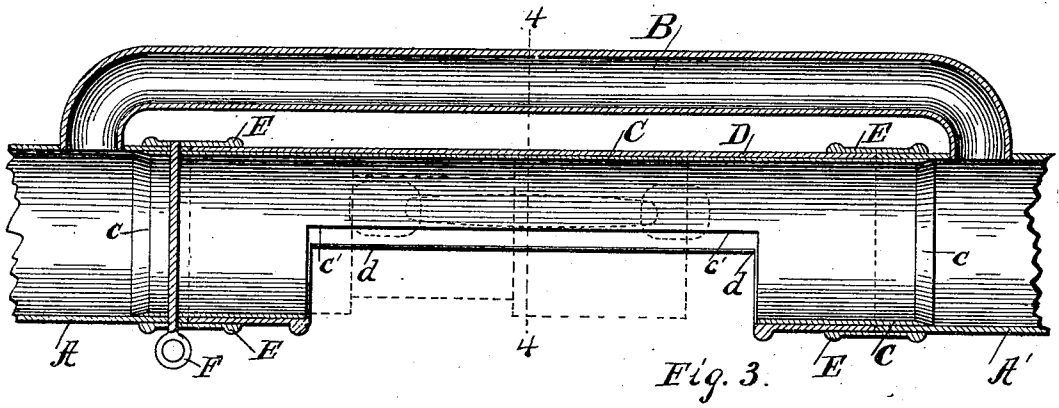

Fig. 3.

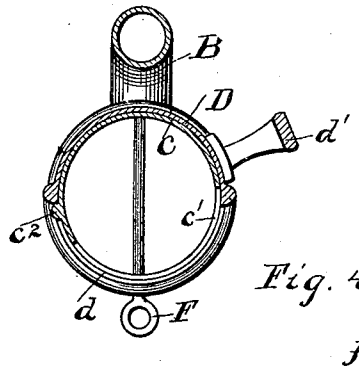

Fig. 4

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STATION FOR PNEUMATIC-TUBE SYSTEMS.

SPECIFICATION forming part of Letters Patent No. 513,236, dated January 23, 1894.

Application filed September 13, 1892. Serial No. 445,753. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. KELLEY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Stations for Pneumatic-Tube Systems, which are fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a construction embodying my invention, showing the tube closed. Fig. 2 is an elevation of the same structure viewed from the opposite side and showing the tube open. Fig. 3 is a central longitudinal sectional view, taken on the line 3—3 of Fig. 2. Fig. 4 is a plan section, taken on the line 4—4 of Fig. 3.

This invention relates to receiving and sending stations for pneumatic tube systems and has for its objects, among other things, to provide a station so constructed and arranged that the arrest of the carrier within the main tube shall not materially affect the air pressure or exhaust throughout the remaining portions of the tube, the pressure being removed from the carrier so as to facilitate its insertion into and removal from the tube.

The invention has for a further object the production of a simple and efficient construction whereby access may be readily had to the interior of the tube for the insertion or removal of the carrier.

The invention also has for its object to provide means whereby the carrier may be readily arrested at any desired station.

To these ends the invention consists in certain novel features which I will now proceed to describe and will then particularly point out in the appended claims.

In the drawings, A represents one section of the main line tube, and A′, a second and adjacent section thereof, between which sections the receiving and sending station, constructed in the manner hereinafter described, is located.

B represents a by-pass connecting the main line tube sections A and A′ and passing around the receiving and sending station and serving to connect the two tube sections in the manner hereinafter described.

C indicates a connecting tube adapted to fit within and form a continuation of the tube sections A and A′, its respective ends being inserted and secured in the ends of the said tube sections in any suitable manner. The edges of the tube C are beveled off, as shown at *c*, so as to prevent the carrier from catching at these points. The tube C is cut away centrally for about one-half of its circumference, as shown at *c′*, so as to afford access to its interior.

D indicates a sleeve mounted and revoluble on the tube C upon which it fits snugly, its ends abutting closely against the ends of the tube sections A and A′, as clearly shown in Fig. 3. This sleeve is retained in position by means of annular bands or rings, E, secured respectively to the tube sections A and A′ and extending over the ends of the sleeve D, as shown in Fig. 3. The sleeve D is cut away in the same manner as is the tube C, as indicated at *d* in the drawings, so that when the two cut away spaces *d* and *c′* in the sleeve D and tube C are caused to coincide, access may be had to the interior of the tube C, while when the sleeve D is so turned that these cut away portions do not coincide the tube is entirely closed. The sleeve D is provided with a handle, *d′*, by means of which it may be moved and the tube C is provided with a stop, c^2 which serves to limit the movement of the sleeve D and arrest it in the proper position.

F is a pin extending transversely across the tube at one end of the station and serving to arrest the carrier at the station. As shown this pin is inserted through the band E, tube section A and inner tube C, and it may be made removable for the purposes hereinafter set forth.

The operation of the device is as follows: A continuous pressure or exhaust of air through the main line tube exists, and when a carrier is inserted in said tube it will be drawn through the same and into the station tube C where it will be arrested by the pin F. The carrier thus arrested blocks the tube completely, but the provision of the by-pass B serves to transmit the air pressure or exhaust uninterruptedly between the tube sections A and A′, thus preventing the arrest of the carrier from affecting the general operation of the system or offering an undue resistance to the pressure or exhaust apparatus.

The revoluble sleeve D may be so turned by means of its handle d' as to cause its opening d to coincide with the opening c' in the tube C, whereupon access may be had to the interior of said tube to permit the carrier to be removed and this removal is facilitated by reason of the fact that the by-pass B relieves the pressure on the carrier. The pin F forms a simple and effective means for arresting the carrier and serves, when inserted in the tube, to arrest the carrier at the station where it is inserted. It will be understood of course that in the system, to which my improvement is applied, there will be used, as an auxiliary to the pneumatic system, some system of signaling devices whereby any station on the line may be notified before a carrier is started for that station, so that the attendant at the station so notified may insert the pin F and thus arrest the carrier at the proper station. At other times the pin will be withdrawn from the tube, thus leaving it unobstructed for the passage of carriers to other stations. It will also be understood that my device is intended to be applied more particularly to systems of that character in which two tubes are employed for conveying the carriers in the two opposite directions, the same being what is known as a duplicate tube system.

It will be seen that one of the chief advantages of the construction noted is that it may be applied at any point along the main line tubes without interfering with the operation of the same and thus rendering it possible to establish, at any time, and at a comparatively slight cost, a station at any desired point without affecting the efficiency of the system. It will also be seen that the device may be used without the pin as a means for giving access to the interior of a pneumatic tube at any desired point for the purpose of inserting a carrier, or for other purposes, without materially interfering with the action of the system.

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

1. In a pneumatic tube system, the combination, with a main line tube, having a cut away portion, of a similarly cut away sleeve mounted and revoluble on the main line tube, and a by-pass connecting those portions of the main line tube which lie beyond the cut away portion in each direction, substantially as described.

2. In a pneumatic tube system, the combination, with a main line tube, having a cut away portion, of a similarly cutaway sleeve mounted and revoluble on the main line tube, means for arresting the carrier, and a by-pass connecting those portions of the main line tube which lie beyond the cut away portion in each direction, substantially as described.

3. The combination, with a main line tube, having a cut away portion, of a similarly cut away sleeve mounted and revoluble on the main line tube, a removable pin for arresting the carrier, and a by-pass connecting those portions of the main line tube which lie beyond the cut away portion in both directions, substantially as described.

4. The combination, with an interrupted main line tube, and a by-pass connecting the two portions thereof, of a tube section having its ends inserted in the ends of the main line tube, forming a continuation thereof and cut away as described, a similarly cut away sleeve mounted on said tube section, revoluble thereon, and having its ends abutting against the ends of the main line tube, and bands secured to the main line tube and extending over the ends of the sleeve, substantially as described.

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