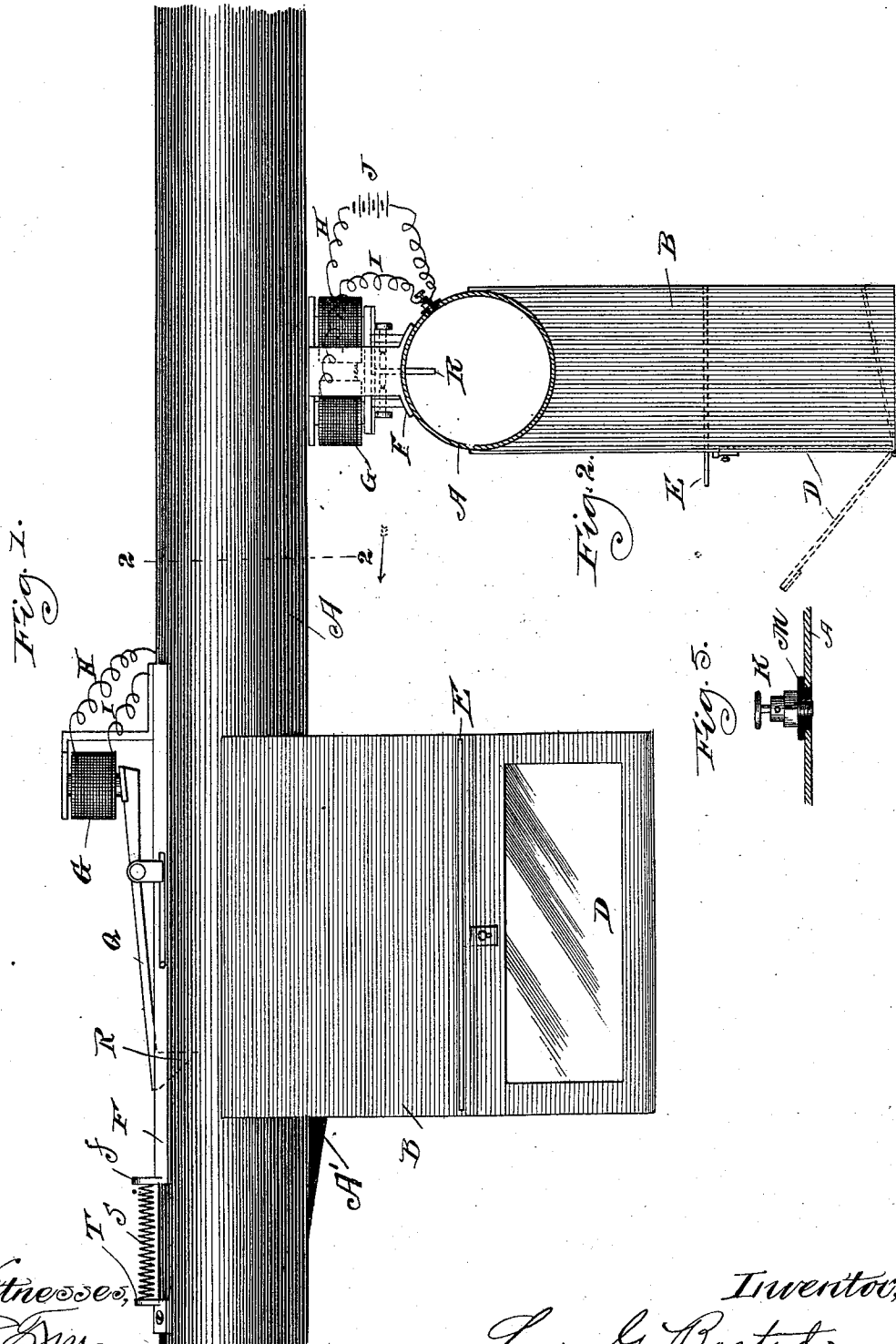


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PNEUMATIC DISPATCH TUBE.

No. 523,456.

Patented July 24, 1894.



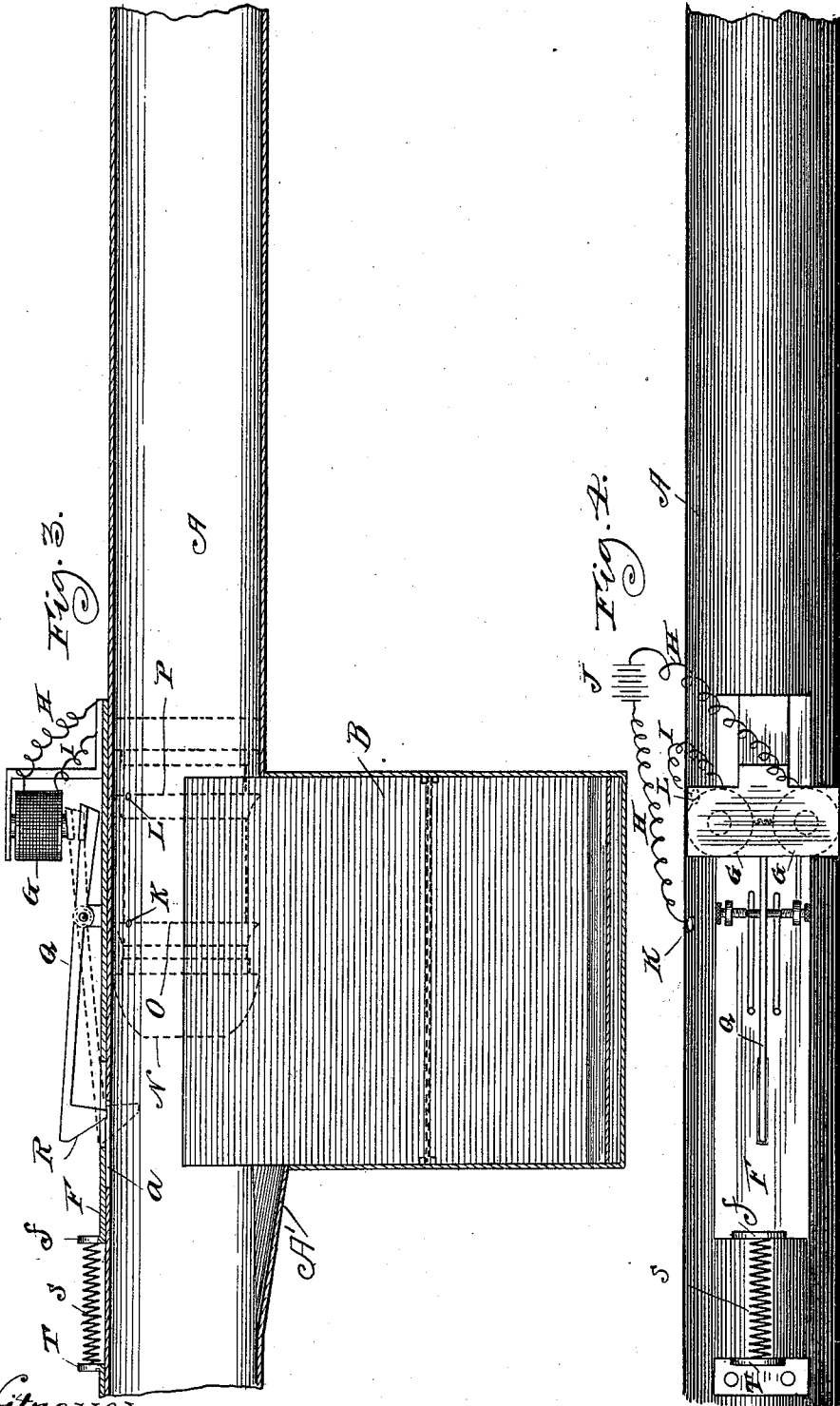
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# UNITED STATES PATENT OFFICE.

LOUIS G. BOSTEDO, OF CHICAGO, ILLINOIS.

## PNEUMATIC DISPATCH-TUBE.

SPECIFICATION forming part of Letters Patent No. 523,456, dated July 24, 1894.

Application filed May 16, 1892. Serial No. 433,138. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS G. BOSTEDO, of Chicago, Illinois, have invented certain new and useful Improvements in Pneumatic Dispatch-Tubes, of which the following is a specification.

My invention relates to an apparatus for transferring cash or parcels and delivering it or them at stations along the way, said apparatus comprising, in the preferred construction, a pneumatic tube provided with delivery receptacles communicating through suitable apertures with the tube, and means for arresting the carriers at the proper receptacles, said means being preferably actuated electrically and by contacts on the carriers themselves, the contacts of the several carriers being graduated so as to operate the arresting devices only at the proper stations.

In carrying out my invention I do not employ any switches or branches from the main tube, but said tube communicates freely with the body of a dependent receptacle through an aperture formed in the bottom of the tube itself and the momentum of the carrier is depended upon to carry it over said opening, except when the arresting devices are actuated so as to stop the carrier when it will fall by gravity into the receptacle. This actuating device comprises a normally open electric circuit having contacts included therein which contacts project within the tube chamber and are engaged by contacts on the carriers themselves spaced correspondingly with the contacts upon the tube, the contacts for the several carriers and the contacts upon the tubes of the several stations being differently arranged, whereby the arresting device for each station is actuated only by the carrier having the corresponding arrangement of contacts, and hence the automatic selection and discharge of the carriers at appropriate stations is secured.

In the accompanying drawings, Figure 1 is a side elevation of a section of the dispatch tube at a delivery station showing the receptacle and electrical apparatus in side elevation, the point of the arrester showing in dotted lines. Fig. 2 is a transverse section on the line 2—2 of Fig. 1 looking in the direction of the arrow. Fig. 3 is a longitudinal sectional elevation through the dispatch tube and re-

ceptacle. Fig. 4 is a plan view of the same; and Fig. 5 is a detail of one of the contacts for the dispatch tube.

In the drawings, A represents the dispatch tube which may be of usual construction and which has as many stations as desired each provided with a receptacle B which is box-like in form and fitted to the tube, the latter having an opening in its bottom and its bottom wall preferably inclined, as at A', at the side of the receptacle opposite that which the carriers approach, so that any slight deflection of the carrier under the action of gravity will not cause it to engage the opposite edge of the opening.

The receptacle B is provided with a door D and may have the slide valve E to prevent the escape of the motor fluid when the door is opened for the removal of the parcel.

Mounted to slide upon the dispatch tube in any convenient way, and as shown upon the base plate F, is the electro-magnet G included within an electric circuit formed by the wires H, I, which include also a source of electricity, for example, the battery J.

K, L are contact points arranged upon the tube A and spaced at any pre-determined distance apart. These contact points comprise the binding screws as shown in Fig. 5, the ends of these screws projecting into the tube chamber but insulated therefrom by the block M.

N represents the carrier which may be of usual construction, except that it has the brushes O, P thereon which are preferably annular in form and adapted to hug closely to the walls of the dispatch tube. The brushes of the several carriers will be arranged a distance apart in each case corresponding to the distance between the contact points K, L so that when the carrier, as N, having brush contacts O, P thereon, has reached the station represented in the drawings said brush contacts will register with the contacts K, L of the tube, and an electrical circuit will be closed through the source of electricity, the wires H, I and the magnet G, thus energizing the latter.

Q represents an armature pivoted on the sliding plate F and having a hooked end R which projects through a slot in said base plate F and through a slot  $\alpha$  in the tube A

whenever the magnet is energized and attracts the heel of the armature. The rocking of the armature upon its pivot causes the hooked end to engage the carrier, thus bringing it to rest, whereupon it will be acted upon by gravity and will drop through the aperture in the bottom of the tube into the receptacle, from whence it may be removed through the hinged door.

The delicate construction of the electrical apparatus will render it expedient to provide for a slight longitudinal movement of the base plate, which movement may be resisted and the shock cushioned by the spring S having one end abutting upon a stud T on the dispatch tube and the other upon the up-turned end *f* of the base plate F.

The receptacles B being located at any convenient point along the way may each be duplicates of that shown and the arrangement of the contacts may be varied so that the carrier will only operate the arresting devices at the proper station.

A slight loss of motor fluid occurs through the slot in which the hooked end of the armature passes. This may be obviated by enlarging the receptacle so as to make it inclose the arresting device and the form of the receptacle may be otherwise varied.

The chief merit of the system above described, so far as the receptacles are concerned, consists in the simplicity of the apparatus.

I am aware that pivoted switches and other shunting devices have been employed, but so far as I am aware the simple combination of an arresting device with a receptacle open at the top to receive the carrier has not been before made, and while the automatic selective devices for operating the arresters is preferable, my receptacles may be employed where the arresting devices are operated from the dispatch end of the tube or from a central station or office and by other than electrical means.

Some of the structural features are also new and valuable. The mounting of the electric apparatus so as to yield or move longitudi-

nally until the impact of the carrier has been gradually overcome is a very desirable feature in the construction and operation of the apparatus.

Without limiting myself to details of construction, I claim—

1. In a dispatch tube system of the class described, the combination with a dispatch tube having an uncovered aperture in its wall over which the carriers are projected by their own momentum when not arrested, of a receptacle in open communication with the tube through said aperture, and a suitable device for arresting over the aperture such of the carriers as are intended for discharge at the receptacle and whereby said carriers are discharged into the receptacle by gravity, substantially as described.

2. In a pneumatic dispatch tube system, the combination with a dispatch tube constructed without switches or branches and having a discharge aperture in its wall, a receptacle communicating with the dispatch tube through said aperture and over which aperture the carriers are projected by their momentum when not arrested, means for arresting such of the carriers as are intended for discharge at the receptacle, said arresting means being mounted to slide upon the discharge tube, and a spring to cushion the shock or impact of the carrier upon the arresting device, substantially as described.

3. In a pneumatic dispatch tube system, the combination with a dispatch tube constructed without switches or branches and having a discharge aperture in its wall, a receptacle communicating with the dispatch tube through said aperture and over which aperture the carriers are projected by their momentum when not arrested and suitable devices for arresting such of the carriers as are intended for discharge at the receptacle, substantially as described.

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