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PNEUMATIC DISPATCH SYSTEM

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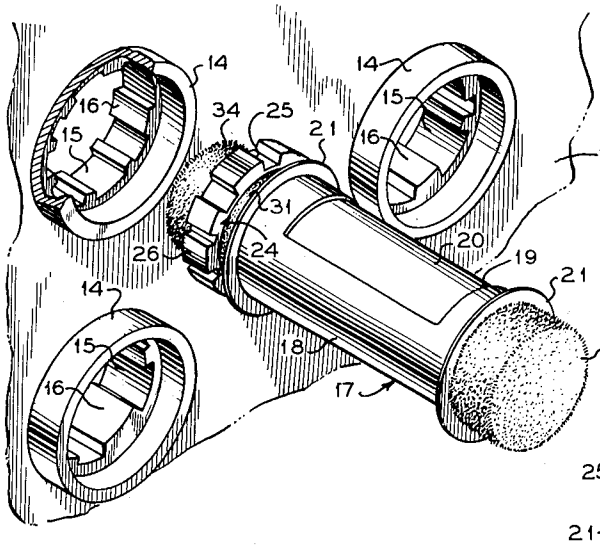
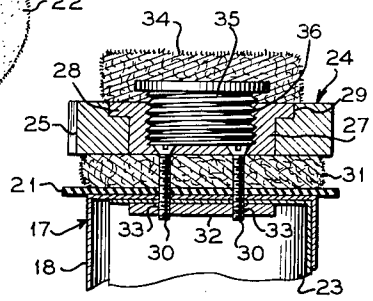


FIG. 1

FIG. 5



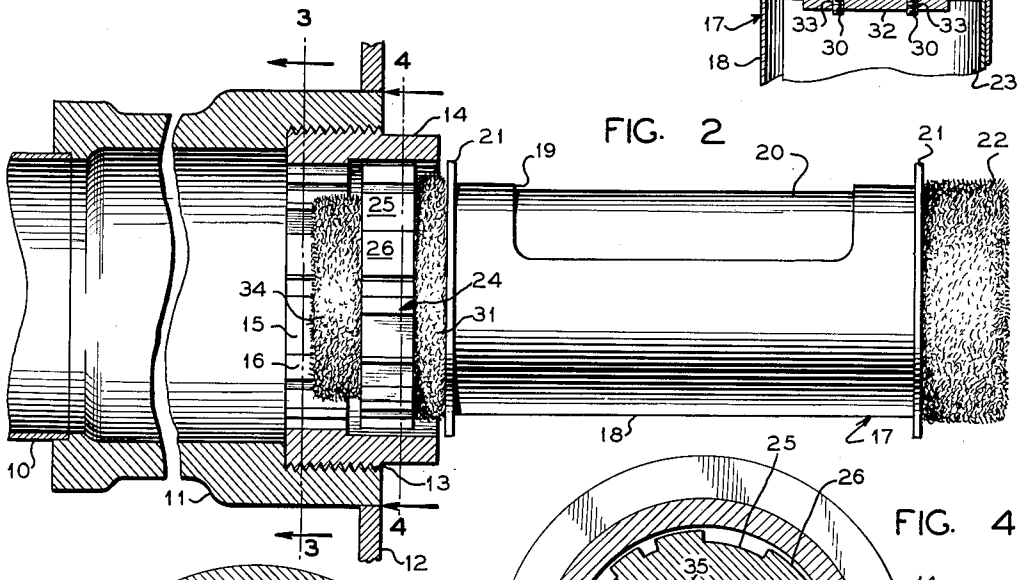
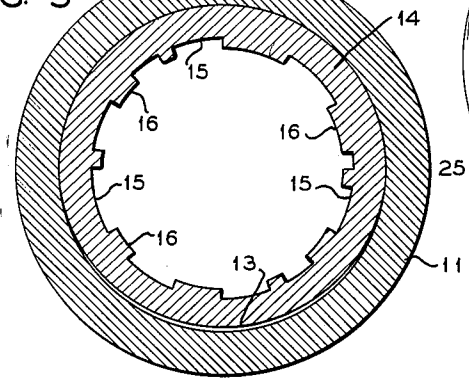


FIG. 2

FIG. 3



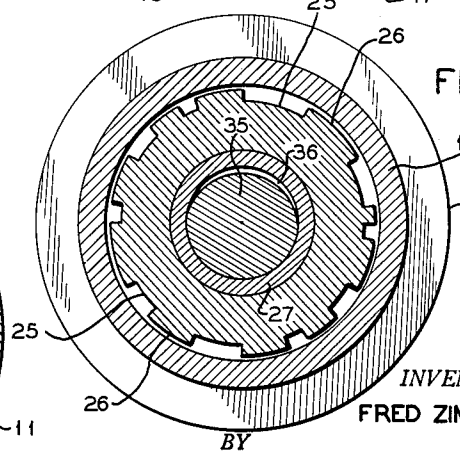


FIG. 4

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PNEUMATIC DISPATCH SYSTEM

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4 Claims. (Cl. 243—18)

This invention relates to communication and communication systems and more particularly to a pneumatic dispatch system designed and used to eliminate errors in routing of carriers which transport papers, money and the like.

In department stores and other places of business, money, sales slips and the like are commonly transported from various sales departments to a central cashier's room where change is made and returned to the sales department and obviously it is imperative that the proper change be returned to the department which transmitted the original sales slip and money to the cashier.

In the pneumatic dispatch systems previously employed for this purpose a tubular carrier is provided in which the sales slip and money is deposited, the opening in the carrier closed and the same inserted in a tube through which the same is transported by pneumatic pressure to a central cashier's room. Obviously the carrier must be returned to the proper department and heretofore this has been accomplished by providing each department with carriers to which has been applied an identifying number. It therefore becomes incumbent upon the dispatcher in the cashier's room to insert the carrier in the tube corresponding with the number appearing on the carrier. Obviously the human element enters into this matter and errors frequently occur with a resulting loss in time of personnel and also frequently resulting in irritated and lost customers.

It is therefore an object of this invention to provide a pneumatic dispatch system in which means is provided for preventing insertion of the carrier in any but the correct tube thereby eliminating all errors of routing by the dispatcher.

It is a further object of the invention to provide a pneumatic dispatch system in which the tubes at the inward end in the cashier's room and carriers are modified to permit insertion of the carriers only in the appropriate tube.

A still further object of the invention is the provision of means whereby a conventional pneumatic dispatch system may be conveniently and economically modified to eliminate all errors of routing by the dispatcher.

Further objects and advantages of the invention will be apparent from the following description taken in conjunction with the accompanying drawings, wherein:

Fig. 1 is a view in perpective showing the pneumatic tube outlets at the dispatcher's station and a carrier in position to be inserted in one of the tubes;

Fig. 2, an elevational view with parts in section for greater clarity and showing a carrier partially inserted in the tube and a structure by which errors in routing are eliminated;

Fig. 3, a sectional view on the line 3—3 of Fig. 2;

Fig. 4, a sectional view on the line 4—4 of Fig. 2; and

Fig. 5, a fragmentary sectional view showing the construction of a carrier at one end thereof.

With continued reference to the drawing there is shown

a tube 10 which forms part of a pneumatic dispatch system, this tube being secured to an inlet fitting 11 which in turn is mounted in a wall 12 adjacent a dispatcher's station usually in the cashier's room of a department store or other place of business. Normally a great number of tubes 10 terminate at the wall 12 adjacent a dispatcher's station and unless means is provided to insure that the proper tube is utilized errors in routing are likely to occur.

In accordance with the instant invention each inlet fitting 11 is provided with internal screw threads 13 adjacent the outlet end thereof and received in these screw threads 13 is a collar 14 which as best shown in Fig. 3 is provided internally thereof with a series of grooves 15 and lands 16. Grooves 15 and lands 16 may be of different widths as shown and the purpose of this will presently appear. Obviously collars 14 having differently arranged grooves and lands 15 and 16 may be installed in the various fittings 11 since the screw threads 13 permit the easy removal and insertion of collars 14 and therefore any desired characteristics ofthe grooves and lands 15 and 16 may be ulitized.

Money, sales slips or other papers may be conveniently transported in the pneumatic dispatch system of this invention in a carrier 17 having a generally cylindrical tubular body 18 provided with an opening 19 and a closure 20. Adjacent each end of the tubular body 18 is a washer 21 of resilient material such as rubber or the like and these washers are designed to contact the internal surface of tube 10 and seal against the passage of fluid pressure thereby causing the carrier 17 to be transported through the tube 10 by the action of such pneumatic or fluid pressure. The right hand end of the carrier 17 as shown in Fig. 2 is provided with a resilient cushion 22 which may be formed of felt or the like and is designed to absorb the shock occasioned by the carrier 17 being projected from the tube 10 into a basket or other receptacle after completion of its journey through the system. The closure 20 forms part of a telescoping inner casing 23 and the closure 20 is normally actuated by rotating the end of the carrier 17 having the cushioning element 22 thereon, with relation to the tubular member 18 thus opening or closing the opening 20 as the case may be.

The opposite end of the carrier 17 from the cushioning element 22 is provided with a ring 24 having grooves 25 and lands 26 formed in the external surface thereof, these grooves and lands being designed to mate with the corresponding grooves and lands 15 and 16 of the collar 14. The ring 24 may be conveniently held in place on the end of carrier 17 by a cup-shaped clamping member 27 having an annular shoulder 28 received in an annular groove 29 in the ring 24. The clamping member 27 is secured in position on the end of carrier 17 by screw threaded fastening means or the like 30 which project through a cushioning element 31 of felt or other suitable material and into the interior of carrier 17 where they engage a member 32 provided with screw threaded apertures 33 for receiving fastening elements 30. It will thus be seen that by removal of the screw threaded fastening elements 30 the clamping member 27 and the ring 24 may be removed and replaced by another ring having different characteristics or different widths of grooves and lands 25 and 26.

A suitable cushioning element may be provided on this end of the carrier 17 and providing a felt or like pad 34 in which is secured or imbedded a screw threaded plug 35 which may be received in a screw threaded recess 36 within the clamping member 27.

In practice a number of carriers 17, all having the same arrangement of grooves and lands 25 and 26 would be provided to a particular sales department and other sales departments would be provided with carriers having dif-

ferent arrangements of grooves and lands. Likewise the collar **14** would be provided with an arrangement of grooves and lands **15** and **16** which corresponded to the carrier utilized by the sales department at which that particular tube **10** terminated. Consequently it is only necessary for the dispatcher to insert the carrier **17** in the proper tube which is determined by the mating grooves and lands in order to have this carrier returned to the proper department. Obviously any errors of routing are eliminated since it is impossible to insert the carrier **17** in the wrong tube.

The above invention obviously provides a convenient and economical solution to errors of routing by a dispatcher utilizing pneumatic dispatch systems of this type and any desired change in routing may be easily accomplished by merely changing the collars **14** and the rings **24** on the carriers **17**. The number of combinations of grooves and lands in the collars **14** and rings **24** is practically infinite and therefore almost any number of tubes **10** can be accommodated.

It will be obvious to those skilled in the art that various changes may be made in the invention without departing from the spirit and scope thereof and therefore the invention is not limited by that which is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. A dispatch system comprising circular tubes, a hollow fitting removably mounted on the inlet end of said tubes, said fitting being circular on its inner surface with a portion of substantially the same internal diameter as said tubes, a portion of said fitting being provided with lands and grooves with the lands projecting inwardly of the said same diameter and the said portion of said fitting having the same internal diameter as said tube being located outwardly of said land and grooved portion.

2. A fitting for use on tubular conveyors for selectively receiving carriers comprising a collar having a substantially smooth bore extending inwardly from one end thereof, said bore being approximately the same diameter as the inside diameter of the tube with which it is used, lands and grooves provided on the inner periphery of the collar adjacent the other end of the collar with the grooves

being of a depth no greater than the inside diameter of said bore and tube and the lands projecting inwardly beyond the inner periphery of said bore, and means for securing said collar to the inlet end of a tubular conveyor with the smooth bore thereof extending outwardly from the tube.

3. A fitting for use on tubular conveyors for selectively receiving carriers comprising a hollow receiver for a dispatch carrier having a substantially smooth surface on the lower inner periphery thereof extending inwardly from one end thereof, said surface being shaped approximately the same as the corresponding surface of the tube with which it is used, lands and grooves provided on the inner periphery of the receiver adjacent the other end of the receiver with the grooves being of a depth no greater than to correspond to the surface of said receiver and tube and the lands projecting inwardly beyond the inner periphery of said surface and means for securing said receiver to the inlet end of a tubular conveyor with the smooth surface thereof extending outwardly from the tube to receive the end of a dispatch carrier.

4. A dispatch carrier comprising a hollow message receiving body portion, selection ring means on one end of said body portion having a generally circular outer perimeter with lands and grooves on said perimeter, the lands projecting outwardly of said body portion, the bottom of said groves being within the perimeter of the lands projecting outwardly, a clamping member for securing said selection ring on one end of said carrier, whereby the selection ring may be rotated relative to the carrier and means for fixing the selection ring and the clamping ring in fixed position relative to the hollow body.

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