March 2, 1926. 1,575,352

J. G. MACLAREN

DISTRIBUTING APPARATUS FOR DISPATCH SYSTEMS

Filed Dec. 12, 1921 3 Sheets-Sheet 1

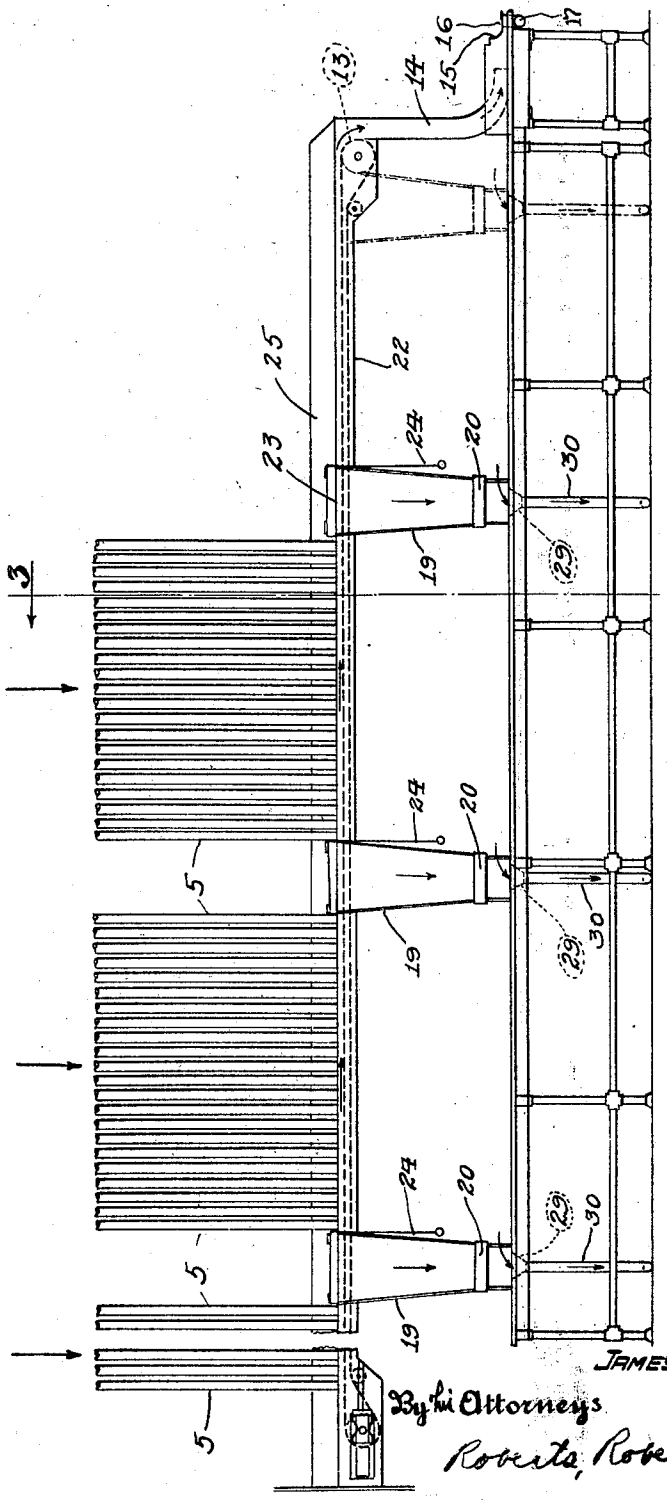


Fig. 1.

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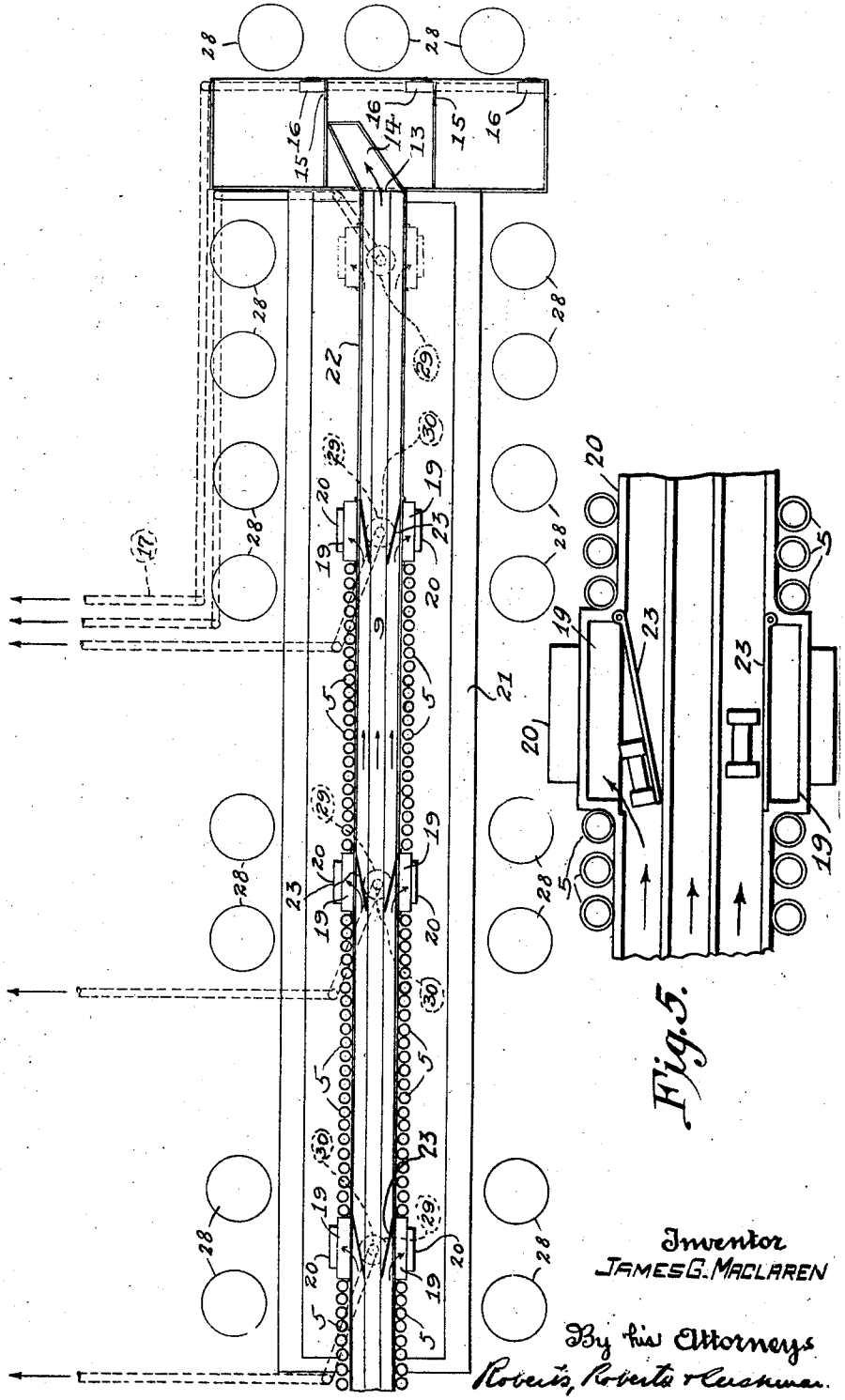


Fig. 2.

Fig. 5.

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Fig. 4.

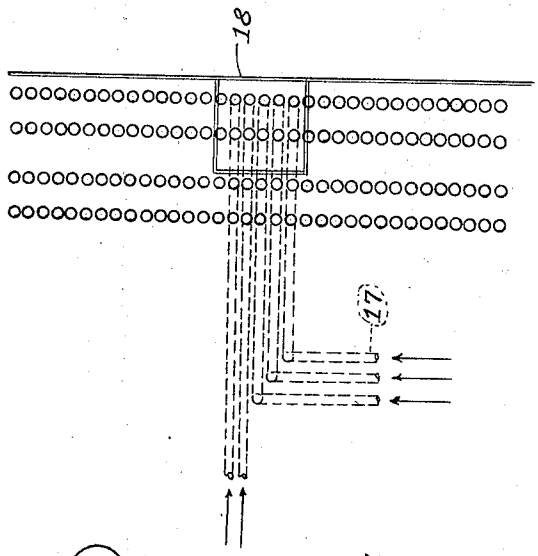
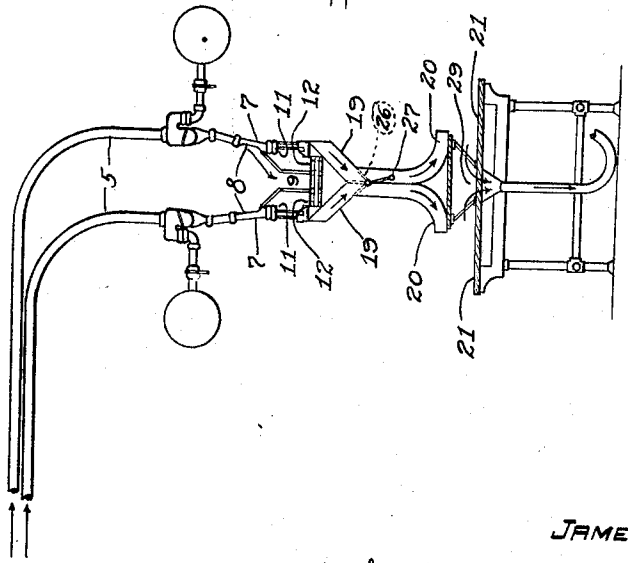


Fig. 3.



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Patented Mar. 2, 1926. 1,575,352

UNITED STATES PATENT OFFICE.

JAMES G. MACLAREN, OF MAMARONECK, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE LAMSON COMPANY, A CORPORATION OF MASSACHUSETTS.

DISTRIBUTING APPARATUS FOR DISPATCH SYSTEMS.

Application filed December 12, 1921. Serial No. 521,769.

To all whom it may concern:

Be it known that I, JAMES G. MACLAREN, a citizen of the United States, residing at Mamaroneck, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Distributing Apparatus for Dispatch Systems, of which the following is a specification.

This invention relates to conveying and distributing apparatus for dispatch systems.

One of the objects of the invention is to increase the flexibility and range of operation of the central station apparatus used in conjunction with pneumatic dispatch systems such as are employed in department stores for segregating and separately treating the cash and the credit transactions that originate at the customers' stations distributed throughout the building.

Another object is to so utilize a conveyor belt that a single strand or stretch of the belt suffices to deliver all the arriving carriers at the central station to the respective operators whose duties are to take care of the cash and the credit transactions.

Still another object of the invention is to provide a central station installation in which a minimum amount of floor space is employed, in which the carriers are safeguarded and protected, and in which a high degree of efficiency in operation is obtained.

I have found that by providing a central and two laterally disposed runways along the upper stretch of a horizontally moving belt conveyor mounted in an out-of-the-way position above the heads of the operators, it is possible to convey cash carriers deposited by sorting devices in the laterally disposed runways and to distribute the cash carriers to one or more or all of a series of operators' stations arranged in pairs in oppositely disposed relation along both sides of a table or desk placed beneath the belt. Means are provided within the control of the individual operators for preventing the delivery of carriers at any given station at will and for causing the cash carriers from both outside runways to be deposited in either one or both of the oppositely disposed stations of any given set or pair.

In the drawing in which a preferred embodiment of the invention is illustrated,

Figure 1 is a view in side elevation and largely diagrammatic of apparatus embodying the invention.

Figure 2 is a plan view of the device shown in Figure 1.

Figure 3 is a view in vertical transverse section of the device shown in Figure 1.

Figure 4 is a diagrammatic plan view of a dispatcher's station forming part of the apparatus, and Fig. 5 is a fragmentary plan view to larger scale illustrating a switch or diverter device forming an element of the mechanism.

Referring to the drawings for a more detailed description of the invention the delivery ends of three groups of incoming pneumatic dispatch tubes are represented at 5 in Figure 1. In Figure 3 the tubes 5 are shown provided with sorting devices 7 operating to discharge credit carriers through the lateral outlet 8 in to the central runway 9 of the conveyor belt 10, and to deliver cash carriers through the lower ports 11 into laterally disposed runways 12 bearing a flanking relation to the centrally disposed runway 9 referred to.

Preferably in practice the credit carriers are conveyed to the extremity 13 of the belt conveyor where they are deposited in a delivery chute 14 for delivery at a credit authorizer's station 15, where the credit account of the customer is consulted and reported on. The carriers are returned from the authorizer's station through suitable sending inlets 16 and conveyor tubes 17 to a dispatcher's station 18 from which they are relayed to the individual customer's station from which the carriers were originally dispatched.

It will be seen that the incoming tubes 5 are arranged in groups for convenience in handling the carriers. At the terminus of each group of tubes the laterally disposed runways 12 of the belt conveyor are provided with delivery chutes 19 which lead downwardly and inwardly to deposit cash carriers in the open receptacles 20 within easy reach of the cash handling operators stationed along the opposite sides of the desk or table 21, which is placed at a convenient height beneath the belt conveyor housing 22 in a parallel relation thereto.

In the arrangement described it will be seen that in the normal course of operation the carriers from each group of tubes 5 con-

veyed along the outer runways 12 of the conveyor belt will drop from the lateral edges of the belt into the receiving ends of the adjacent chutes 19 placed near the last tube in the group considered in relation to the direction of travel of the conveyor belt. By this method of operation each chute 19 receives all the cash carriers delivered to the corresponding runway 12 by one of the six groups of incoming tubes shown in the drawing. As each chute 19 delivers carriers to a receiving receptacle 20, each operator will accordingly be supplied with the carriers received through an incoming group of twenty-one tubes as illustrated.

In order to take care of operating conditions wherein less than the maximum number of operators is required, means are provided for preventing the delivery of cash carriers into one or more of the chutes 19 in the series. This is accomplished by the provision of hinged closure members 23 which may be operated by means of a depending cord 24 or the like to be moved into a gap in the side wall 25 of the conveyor housing 22 coincident with the open end of the chute 19. The closing of the gap in the housing wall 25 results in preventing the discharge of carriers into the adjacent chute so that the carriers from the particular group of tubes are carried forward by the belt and are delivered into the chute pertaining to the next group of incoming tubes in advance, unless this chute also is closed to the admission of carriers. It will thus be seen that the carriers from more than one group of tubes may be delivered at the station of a single operator when the condition of the work so requires.

A still greater factor of flexibility in operation is obtained by means provided for causing the carriers arriving through oppositely disposed chutes 19 to be delivered to either one of the receiving receptacles 20 or to be divided between the oppositely disposed receptacles 20 at the will of the operators. The means referred to takes the form of a gate or switch 26 which through the operating handle 27 may be swung to an intermediate position to cause each receptacle 20 to be supplied by the corresponding runway 19, or to a position closing the passage to either receptacle 20 and causing the carriers from both runways 12 to be delivered to the oppositely disposed receptacle 20. It will thus be seen that not only can all of the tubes 5 on one side of the belt be made to deliver to one operator but all of the tubes on both sides of the belt can be delivered to a station at either side of the operator's table at will.

The cash carriers having had their contents treated by the operators at the stations 28 along the table 21, are placed in the sending inlets 29 for delivery through tubes 30 to the dispatching desk 18 already referred to, for transmission to the customers' stations or other points of original dispatch.

What I claim is:

1. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, a conveyor belt adapted to receive carriers delivered from the several tubes, an operators' table below the level of the belt, stations at each side of the table, and means for delivering carriers from said belt to a station at either side of the table at the will of the operators.

2. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, a conveyor belt arranged to receive carriers delivered by the several tubes, an operators' table below the horizontal plane of the belt, stations at each side of the table, and means for delivering carriers from the belt to a station at either side or at both sides of the table at the will of the operators.

3. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, sorting devices for separating two classes of carriers conveyed by said tubes, a conveyor belt arranged to receive all carriers delivered by said tubes, means providing longitudinal runways upon the belt for each class of carriers, an operators' table below the level of the belt, stations on opposite sides of the table, and means for delivering carriers from one of said runways to either one of said stations.

4. In carrier dispatch distributing apparatus, a plurality of delivery dispatch tubes, sorting devices for separating two classes of carriers conveyed by said tubes, a conveyor belt arranged to receive all carriers delivered by said tubes, means providing runways extending longitudinally of the belt for each class of carriers, an operators' table below the level of the belt, stations on opposite sides of the table, and means for delivering carriers from one of said runways to either one or both of said stations.

5. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, sorting devices for separating two classes of carriers conveyed by said tubes, a conveyor belt arranged to receive carriers of both classes delivered by said tubes, means providing runways extending longitudinally of the belt for each class of carriers, an operators' table beneath the belt, a plurality of operators' stations along one side of the table, a plurality of operators' stations along the other side of the table, and means for causing all carriers of one class delivered by said tubes to be delivered to the stations at a selected side of the table to the exclusion of the stations on the other side.

6. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes,

sorting devices for separating two classes of carriers conveyed by said tubes, a conveyor belt arranged to receive all carriers of both classes delivered by said tubes, means providing runways extending longitudinally of the belt for each class of carriers, an operators' table beneath the belt, a plurality of operators' stations along one side of the table, a plurality of operators' stations along the other side of the table, and means for causing all carriers of one class delivered at will by said tubes to be delivered to the stations on either side of the table or alternatively for causing a portion of the carriers of said latter class to be delivered to stations at both sides of the table.

7. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, sorting devices for separating two classes of carriers conveyed by said tubes, a conveyor belt to receive all carriers of both classes delivered by said tube, means defining runways extending longitudinally of the belt, runways for each class of carriers, an operators' table beneath the belt, a plurality of operators' stations along one side of the table, a plurality of operators' stations along the other side of the table, and means for causing the carriers delivered by the tubes to be delivered to one or more of the stations along one side of the table to the exclusion of the stations on the other side.

8. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, sorting devices for separating two classes of carriers conveyed by said tubes, a conveyor belt arranged to receive all carriers delivered by said tubes, means defining runways upon the belt for each class of carriers, an operator's table beneath the belt, a plurality of operators' stations along one side of the table, a plurality of operators' stations along the other side of the table, and means for causing the carriers to be delivered to one or more of the stations on one or both sides of the table.

9. In carrier distributing apparatus, a plurality of incoming delivery tubes, a carrier receiving conveyor belt arranged to receive all carriers delivered by the several tubes, an operators' table, operators' stations located along each side of the table, and means for delivering carriers from the belt to stations at each side of the table.

10. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, a conveyor belt adapted to receive carriers delivered by all of said tubes, a plurality of sets of operators' stations, and means for delivering carriers from said belt to one or more of said sets of stations and for preventing the delivery of carriers from the belt to the remaining sets of stations.

11. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, a conveyor belt arranged to receive carriers delivered by all of said tubes, a plurality of sets of operators' stations, and means for delivering carriers from said belt to one or more stations in one or more of said sets of stations.

12. In carrier dispatch distributing apparatus, a plurality of incoming delivery tubes, a conveyor arranged to receive carriers from said tubes, means for separating carriers delivered by said tubes into two classes, said conveyor being adapted to convey said carriers in their separated condition, a double line of operators' stations, means for conveying one of said classes of carriers from said conveyor belt to one or more stations in each of said lines of stations, a station for the other class of carriers, and means for delivering said other class of carriers to said last-named station.

13. In carrier distributing apparatus, a plurality of incoming delivery tubes, a carrier receiving conveyor belt aranged to receive carriers from the tubes, an operators' table, operators' stations located along each side of the table, and means for delivering carriers from the belt to one or more stations at each side of the table.

14. In carrier distributing apparatus, a plurality of incoming delivery tubes, a carrier receiving conveyor belt arranged to receive carriers from the tubes, longitudinally extending separators dividing the belt into a plurality of ways, an operators' table, operator's stations located along each side of the table, and means for delivering carriers from one of said ways to one or more stations at one side of the table and from another of said ways to one or more stations at the other side of the table.

15. In carrier distributing apparatus, a plurality of incoming delivery tubes, a carrier receiving conveyor belt arranged to receive carriers from the tubes, longitudinally extending separators dividing the belt into two outer and an intermediate way, means for causing the dispatch tubes to deliver one class of carriers into the intermediate way and another class of carriers into the outer ways, an operators' table, operators' stations located along each side of the table, means for delivering carriers from one of said outer ways to one or more stations at one side of the table, means for delivering carriers from the other outer way to one or more stations at the other side of the table, and a separate station for receiving carriers from the intermediate way.

16. A carrier distributing apparatus comprising three parallel runways, means for delivering carriers of one class into the middle runway, means for delivering carriers of another class, some into one outer runway and some into the other, means for moving the carriers longitudinally of the re-

spective runways, means for diverting carriers from the outer runways and for delivering such diverted carriers to an operator station, and means for receiving the carriers moving in the middle runway.

17. A carrier distributing apparatus comprising three parallel runways, means for delivering carriers of one class into the middle runway, means for delivering carriers of another class, some into one outer runway and some into the other, means for moving the carriers longitudinally of the respective runways, a pair of operators' stations, means for delivering carriers from the outer runways respectively to the respective stations, and means for receiving the carriers from the middle runway.

18. A carrier distributing apparatus comprising three parallel runways, means for delivering carriers of one class into the middle runway, means for delivering carriers of another class, some into one outer runway and some into the other, means for moving the carriers longitudinally of the respective runways, means for diverting carriers from the outer runways, operators' stations, means for determining delivery of such diverted carriers all to the same operator's station, or alternatively, a part to one station and a part to another station, and means for receiving carriers from the middle runway.

19. A carrier distributing apparatus comprising a plurality of groups of delivery tubes, means for separating carriers delivered by each of said tubes into two classes, three runways arranged to receive carriers from the several groups of tubes, the separator means delivering all of the carriers of one class from each group into the middle runway and the carriers of the other class, some into one outer runway and some into the other, means for moving the carriers along the respective runways, at least one operator's station corresponding to each group of tubes, and means for diverting carriers from the outer runways and for delivering them at the operator station.

20. A carrier distributing apparatus comprising a plurality of groups of delivery tubes, means for separating carriers delivered by each of said tubes into two classes, three runways arranged to receive carriers from the several groups of tubes, the separator means delivering all of the carriers of one class from each group into the middle runway and the carriers of the other class, some into one outer runway and some into the other, means for moving the carriers along the respective runways, operators' stations at opposite sides of and below the level of the runway, and means for delivering carriers from the outer runways respectively to the respective stations.

21. A carrier distributing apparatus comprising a plurality of groups of delivery tubes, means for separating carriers delivered by each of said tubes into two classes, three runways arranged to receive carriers from the several groups of tubes, the separator means delivering all of the carriers of one class from each group into the middle runway and the carriers of the other class, some into one outer runway and some into the other, means for moving the carriers along the respective runways, a pair of spaced operators' stations corresponding to each group of tubes, and means for diverting carriers from the outer runways and for delivering such diverted carriers to one or more of the stations of any selected pair of stations at will.

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