Feb. 27, 1923. 1,446,693

F. CHURCHILL

MAIL DISTRIBUTING SYSTEM

Filed Dec. 13, 1921

FIG. 1

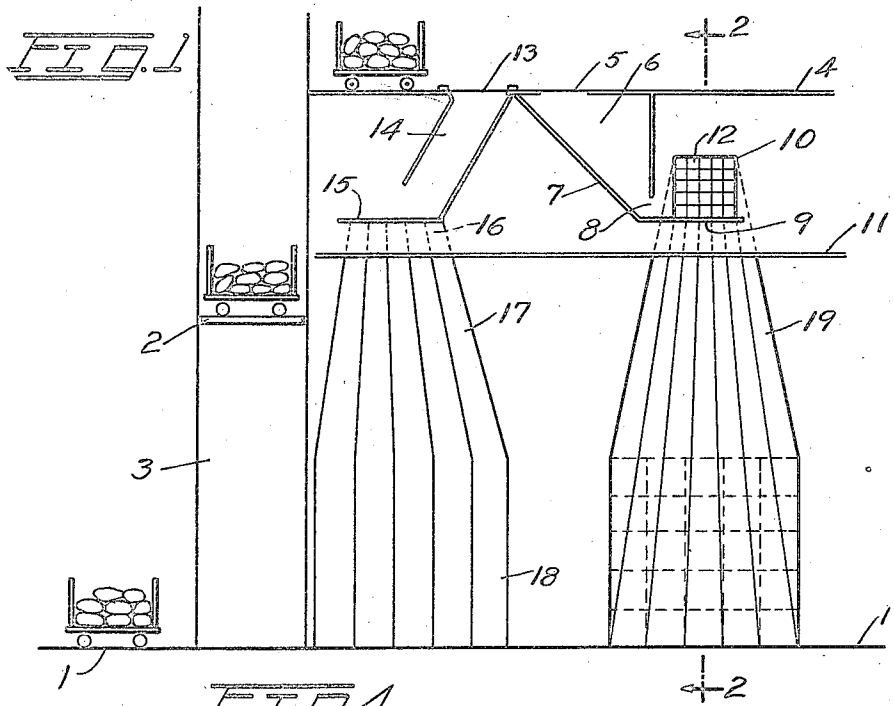


FIG. 4

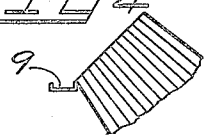


FIG. 3

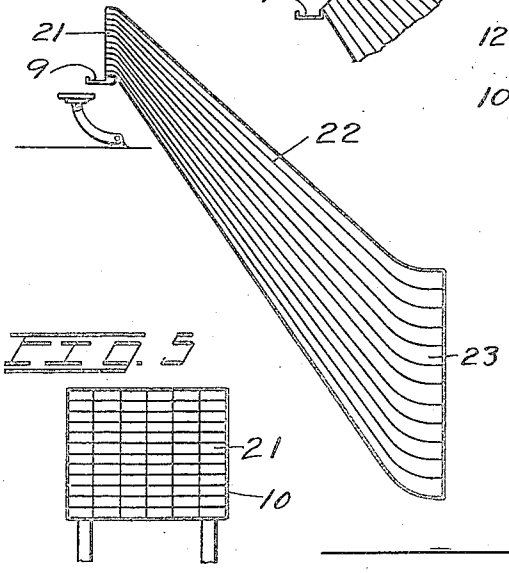


FIG. 2

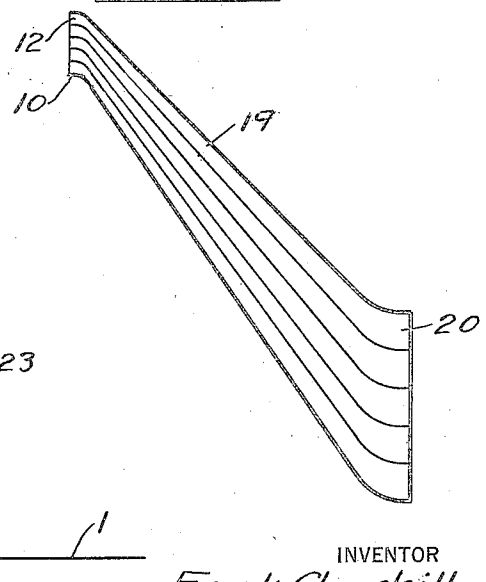


FIG. 5

1

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UNITED STATES PATENT OFFICE.

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MAIL-DISTRIBUTING SYSTEM.

Application filed December 13, 1921. Serial No. 522,097.

To all whom it may concern:

Be it known that I, FRANK CHURCHILL, a citizen of the United States, residing at Seattle, county of King, and State of Washington, have invented a new and useful Mail-Distributing System; and I do hereby declare that the following is a full, clear, and exact specification, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention is a device for facilitating the distribution of mail in the post office by eliminating the continuous handling of it and concentrating the sorting to one section by making the boxes into which the mail is placed very small at the point where it is placed into them and having chutes going from these boxes to larger bins thru which the mail will travel by gravity.

The object of the invention is to provide a case or cases with very small openings with chutes leading from them to larger bins from which the mail may be taken by the carrier or others, to be used in place of the large cases with large openings, which necessitate the distributing of the mail by tossing or throwing it.

Another object of the invention is to provide an elevator which will elevate the mail trucks to a higher floor level so that the bags may be taken from the trucks and dumped thru a hole in the floor into a storage bin from where the mail will be fed by gravity to the sorting table in front of the cases from which it will travel by gravity thru enlarging chutes to large bins on the main floor, which arrangement will facilitate the handling of mail as it will eliminate the dumping of the mail into the lobby, the loading of it onto trucks which haul it to the workroom and deposit it on the floor in front of the primary table, the dumping of it onto the primary table, the replacing of it into bags which are dragged to the main office cases or station racks and the lifting of it again to dump it onto the tables for a final distribution to the carriers.

Another object of the invention is to concentrate the openings into which mail is distributed by making the openings smaller and having chutes carry the mail from these openings by gravity to larger bins which will make it much easier for the distributor and lessen the possibility of error, as, under the present system for distributing paper mail, the cases are so large that it is necessary for the distributor to toss the mail to some of the openings and even though he may have intended to throw it into the right opening, it is possible for him to make a miss-throw.

And still another object of the invention is to provide a case with small openings in it having chutes leading from these openings to larger bins which may be made in sections so that any number of them may be placed around a single operator and also which may be arranged so that another operator may take the mail from the bins and re-distribute it to other cases or sets of cases, which will in turn convey it thru chutes by gravity to other larger bins.

With these ends in view, the invention embodies an elevator installed in the post office of sufficient size to carry a mail truck, a bin located below a floor several stories above the main floor having a sloping bottom and cases with small openings in them having chutes leading from the openings to larger bins.

Other features and advantages of the invention will appear from the following description taken in connection with the drawings, wherein—

Figure 1 is a part section showing the entire system.

Figure 2 is a diagrammatic section on line 2—2 of Figure 1.

Figure 3 is a similar section showing smaller openings for letter cases.

Figure 4 is a part of a similar section showing the openings built on an angle instead of vertical.

Figure 5 is a front elevation of the letter case shown in section in Figure 3.

In the drawings I have shown my system as it would be used for distributing paper mail in Figure 1 where it would be brought in on the main floor 1 on a mail truck and hauled onto the platform 2 of an elevator 3 which would carry it up to the dumping floor 4. At this floor the contents of the sacks will be dumped into the opening 5 thru which the mail will pass into the bin 6 which has a sloping bottom 7 and from this it will slide by gravity thru the opening 8 and on to the board 9 in front of the case 10. The operator standing upon the floor 11 picks up the mail from the board 9 and distributes it into the openings 12

of the case 10. It will be understood that this case may be made as large as desired or in several sections arranged around a point where the operator may stand or the entire case may be constructed in the form of a semi-circle or circle with the chute feeding into the center of it. In the floor 4 I have also shown another opening 13 opening into a bin 14 which would chute mail onto a table or board 15 from where it may be distributed into large openings 16 from where it will pass thru chutes 17 to larger bins 18 on the main floor 1. This arrangement may be used for parcel-post packages which may be picked out of the mail as it is dumped into the opening 5.

From the openings 12 in the case 10 the mail will pass down chutes 19 to bins 20 from where it may be taken by the carriers or others, or in large post offices it may be taken from the bins 20 and re-distributed to an additional set of cases 10.

In Figures 3 and 5 I have shown an alternate arrangement of the openings in the case 10 which would be arranged in small oblong openings 21 which would be a little larger than the size of a letter and these would be connected to the chutes 22 which would convey the letters to the bins 23 from where they would be taken by the carrier or if necessary may be redistributed to additional cases.

In Figure 4 I have shown another alternate arrangement in which the case 10 is set on a slant instead of in a vertical position which would make it easier for a person sitting on a stool in front of it to reach the upper opening and it will also be understood that this case may be placed in a horizontal position if desired.

It will be understood that other changes may be made without departing from the spirit of the invention. One of which changes may be in the use of a different type of elevator for elevating the mail as an endless belt or chain may be used to convey the sacks or mail to the bins. Another may be in the shape of the bins or in the shape of the openings to the bins which may be so constructed that only mail of certain sizes will be admitted to the bin. And still another change may be in the shape of the case 10 which may have any number of openings in it or may be higher or wider or circular or may have individual chutes coming from the openings in it which chutes may be curved or straight as may be necessary to reach the bins which may be located at any convenient positions and these bins may be constructed as desired with or without doors or partitions to check the mail.

The construction will be readily understood from the foregoing description. To use the device the bags of mail when coming into the post office are loaded on trucks in the usual manner and instead of being dumped into the lobby from the trucks, lifted and dumped upon the primary tables, sorted and placed into bags, again lifted to trucks or dragged to the main office cases and again lifted and dumped upon the tables for final distribution, it is placed upon an elevator, elevated to a higher floor where the bags are dumped from the trucks into bins which have sloping bottoms so that it will slide down to boards in front of cases and it is then picked up and placed in openings in the cases from where it passes by gravity down chutes to bins on the main floor; by using small openings in the cases and enlarging the chutes to the bins it is possible to concentrate a very large number of cases at one point which will make it possible for one operator to distribute a large quantity of mail over a very large district. By this system, a very small quantity of men can do the work of the entire force now employed in the distributing rooms and the work will be much easier for each man as it would be possible for him to do all of the work by standing in one position or if desired he may use a stool and do practically all of it sitting in one position. This is especially true with the letter case as these openings may be very small while the bins may be large enough to accommodate any quantity of mail and during the rush season the mail may be stored in them instead of taking it out and storing it on the carriers' desks.

Having thus fully described the invention what I claim is new and desire to secure by Letters Patent is:—

In a mail distributing system of the type described the combination of a platform elevator, adapted to carry a truck of mail sacks, with a platform upon which the truck may be rolled and in which are a series of small openings for mail and a series of large openings for parcel post packages so that the sacks may be opened on this platform and the contents dumped into either series of openings; separate bins below the openings; a second platform below the bins; and individual sections of chutes leading from positions in front of the openings of the bin to larger individual bins below from which the mail may be taken by carriers.

FRANK CHURCHILL.