W. H. BOWES.

APPARATUS FOR SORTING, POSTMARKING, AND CANCELING MAIL.

APPLICATION FILED SEPT. 7, 1918.

1,349,940.

Patented Aug. 17, 1920.

2 SHEETS—SHEET 1.

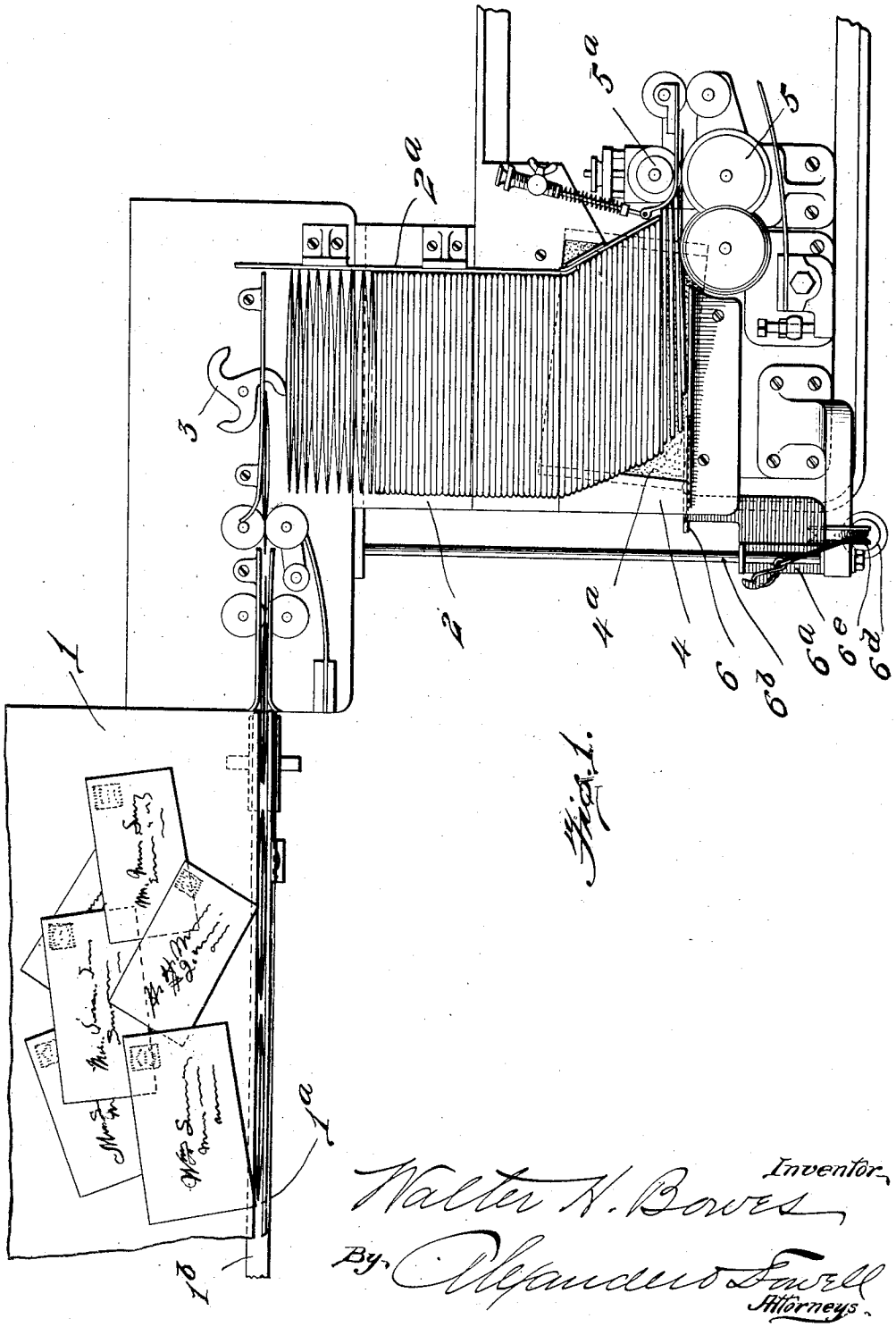


Fig. 1.

Inventor.

Walter H. Bowes

By Alexander & Dowell

Attorneys.

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2 SHEETS—SHEET 2.

Fig. 2.

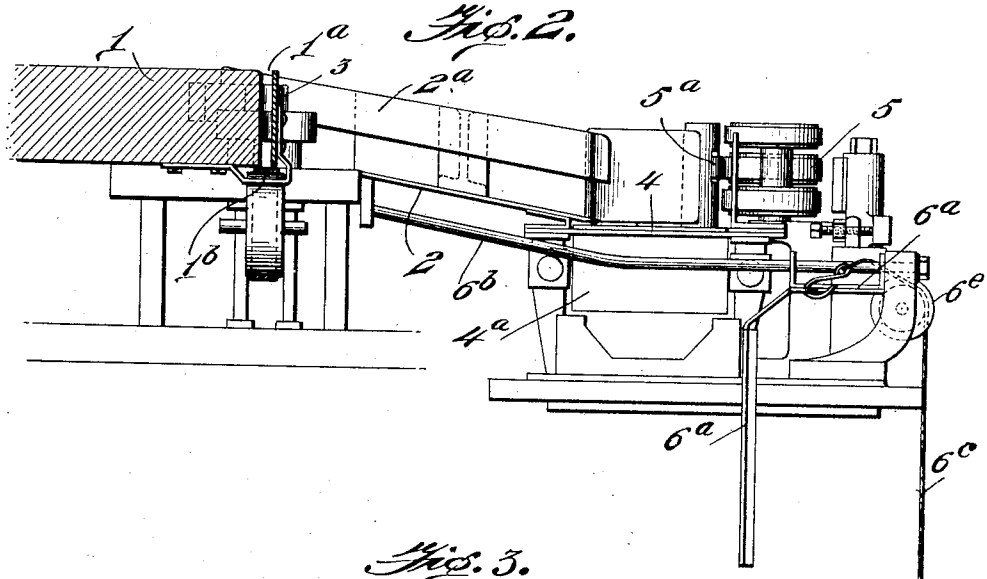
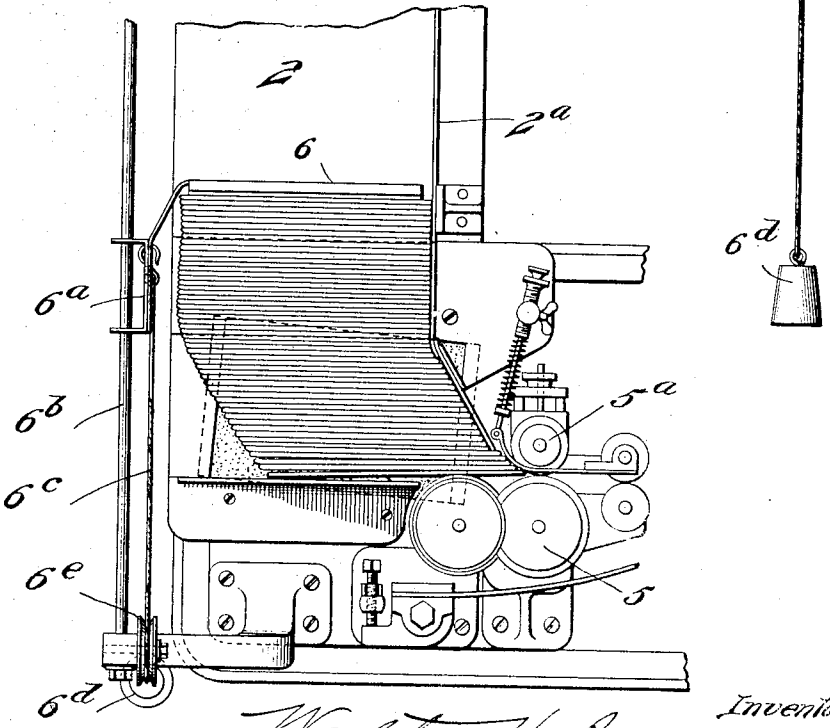


Fig. 3.



Inventor

Walter H. Bowes

By. Alexander Fawell

Attorneys.

UNITED STATES PATENT OFFICE.

WALTER H. BOWES, OF GREENWICH, CONNECTICUT.

APPARATUS FOR SORTING, POSTMARKING, AND CANCELING MAIL.

1,349,940. Specification of Letters Patent. Patented Aug. 17, 1920.

Application filed September 7, 1918. Serial No. 253,065.

To all whom it may concern:

Be it known that I, WALTER H. BOWES, a subject of the King of Great Britain, residing at Greenwich, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Apparatus for Sorting, Postmarking, and Canceling Mail; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form part of this specification.

This invention is a novel apparatus for facilitating the postmarking and cancellation of stamps on mail matter.

In post offices handling large quantities of letter mail the letters are usually placed in bulk on a sorting table, which is provided at one side with a plurality of longitudinal channels into which the letters are inserted edgewise by hand, the short letters being placed in one channel, and long letters in another, and the letters are discharged from said channels by suitable means, such as belts or conveyers into receivers wherein they are arranged or stacked side by side, preparatory to canceling same, the letters are customarily removed by hand from the receivers and placed on the feed tables of automatic machines, which successively separate the letters, postmark them and cancel the stamps thereon. I will hereinafter refer to such postmarking and canceling machine as a "canceling" machine.

It has heretofore been attempted to run letters direct from the sorting table into such canceling machines; but these attempts have not been practically successful as it frequently happened that two or more letters would be bunched and passed simultaneously into the canceling machine and clog same; or one letter would telescope another before the canceling machine could act thereon, thus producing imperfect work, jamming letters, and causing annoying delays in the operation of the canceling machines.

The object of my invention is to avoid such objectionable and annoying occurrences and enable the letter to be automatically passed from the sorting table to and through the canceling machine without manual handling; thus greatly facilitating the operation of canceling the mail, and lessening the amount of manual labor required in so doing.

This invention is applicable to various types of present known letter sorting tables, and canceling machines, and as both of such machines are well known and familiar to those skilled in the art, I have conventionally indicated in the drawings only such parts of the sorting table and canceling machine in connection with my improvements as will enable the invention to be clearly understood and adopted and used by those familiar with the art; and while I have shown one intermediate mechanism for directing the letters from the delivery end of the sorting table into the canceling machine, it should be understood that the invention is not restricted to the particular form or construction of parts or arrangements thereof shown in the drawings, and that all such constructions and arrangements as come within the purview of the claims hereto appended are considered within the scope of the invention which I desire to protect.

In the claims I refer to a "canceling" machine, but intend thereby to include any mechanism for postmarking, stamping, or printing upon letters, etc. And by the term "letters" I intend to include any articles which can be operated upon by such "canceling" machine.

In the drawings:—

Figure 1 is a diagrammatical plan view of parts of a sorting table, a canceling machine, and the intermediate letter chute, as arranged and coördinated to operate in accordance with my invention.

Fig. 2 is an end elevation of Fig. 1 partly in section.

Fig. 3 is a detail view illustrating the use of the pusher plate after the sorting operation is completed.

The sorting table conventionally indicated in the drawings is shown as if having but one channel 1^a into which the letters are inserted edgewise by hand, and they are moved endwise longitudinally of the channel and discharged therefrom by a suitable conveyer (such as an endless belt, 1^b) onto one end of a receiving chute 2 whereon they are stacked and moved facewise by a rotary stacker 3 which may be of any suitable kind, and operated by any suitable means so as to

successively push the letters facewise forward into and along the chute 2, as indicated in the drawing. The rear wall 2^a of the chute forms a stop to arrest the letters ejected from channel 1^a, and aline same.

The chute 2 is arranged adjacent and to one side of the end of the sorting table 1 at substantially right angles to the channel 1^a and preferably so as to direct the letters rearwardly relatively to the table. To facilitate the movement of the letters the chute may be inclined downwardly from the stacker so that the movement of the letters in the chute is facilitated by gravity and they will not be unduly compressed as they reach the discharge end of the chute.

If desired the movement of the letters longitudinally of the chute may be facilitated by any desired accelerating device or mechanism such as is commonly employed; such devices are well known and are not a feature of the present invention.

The discharge end of the chute is so connected with the end of a canceling machine that the letters pass from the chute directly onto the feed table 4 (or feed belt of the feed table) of the said canceling machine and are carried by the usual feed belt 4^a on such feed table up to and against the separating roller 5 and wiper 5^a of the canceling machine which, being constructed and operating as usual, successively separates the letters from the stack on the table and passes them onto the marking and canceling devices (not shown).

By reference to Fig. 1 it will be seen that the delivery end of the sorting table is to one side of and overlaps or passes by the receiving end or feed table of the canceling machine, so that the chute conducts the letters direct from the discharge end of the sorting table into the feed end of the canceling machine.

The canceling machine is preferably of the well known "Universal" type, such as shown for example in Patent #1,022,191 of April 2, 1912, and needs no further explanation herein.

The construction and operation of the sorting table *per se* and of the canceling machine *per se* are well known, and therefore do not require special or detailed explanation or illustration herein as any one familiar with the art will fully comprehend same.

The essentially novel feature of my invention is the relative arrangement of the sorting table, chute and canceling machine so that they are coördinated and coöperate to first deliver the letters edgewise from the discharge end of the table into the receiving end of the chute; then move the letters facewise lengthwise of the chute, and deliver the letters directly from the chute to the feed table of the canceling machine, so that the letters are moved endwise from the stack in the chute into the canceling machine in such manner that no manual handling of the letters is required from the time they are inserted into the channel of the sorting table until they are finally discharged (after being postmarked and canceled) from the delivery end of the canceling machine; and no letter shunting or readjusting or repositioning devices are required between the chute and sorting table, or between the chute and feed table.

When the last letter has been fed from the sorting table the operator may adjust the pusher plate 6 behind the last letter in the chute, as indicated in Fig. 3; said plate 6 being attached to a slide 6^a mounted on a rod 6^b, and connected by a cord 6^c with a weight 6^d, said cord running over a guide pulley 6^e so that the pusher plate acting under the influence of the weight tends to push the letters down the chute to the canceling machine, and relieves the operator of the duty of feeding such letters to the canceling machine by hand.

When the machine is operating normally, however, the chute being full, the pusher plate is swung out of the way to one side of the chute as indicated in Fig. 1.

It will be seen that the letters are moved first endwise from the sorting table, then facewise along the chute interposed between the overlapped ends of the sorting table and canceling machine, then again edgewise through the canceling machine. The letters are fed from the sorting table to the rear of the stack of letters in the feed chute of the canceling machine, thus preventing clogging. After the chute is once filled the letters are automatically postmarked and canceled between the manual operations of sorting the letters on the table and of removing the canceled and postmarked mail from the delivery end of the canceling machine; and when the apparatus is operating properly no manual handling of the mail is required between the sorter and the canceling machine; and the operator in charge of the canceling machine can easily see that the letters are properly fed down the chute to the canceling machine.

The stacker wheel 3 is commonly used in connection with sorting tables but I utilize such stacker wheel not only to push the letters out of the way as they come from the sorting table, but as a means to forward such letters through the chute to the canceling machine, the distance between the stacker wheel and the canceling machine feed table and the inclination of the chute from the stacker wheel to the canceling machine feed table being so regulated and adjusted as to insure proper and satisfactory feed of the letters from the sorting machine to the canceling machine.

The stacker wheel when properly arranged

and operated as described insures the presentation of the letters against the feed rollers of the canceling machine in such manner and with such pressure that the feed rollers will properly act upon the letters and forward them to the marking and canceling devices. The stacker star wheel thus performs the function of a constantly operating pressing or feeding device to insure that the letters will be presented to the feed rollers of the canceling machine with sufficient pressure to insure the proper action of the latter; and this is one of the important features of my automatic mechanism for handling the letters from the time they are dropped into the channel of the sorting machine to the final stacking of such letters in the canceling machine.

The invention is not limited to the specific features of construction nor the specific combination of parts illustrated in the drawings; and is not intended to be restricted by the nomenclature herein to stamp canceling machines as it obviously is adapted for other uses than canceling mail; and the means for forwarding the letters facewise to and against the feeding devices of the canceling machine may be used in connection with the feed devices of a stamp canceling or other machine, independently of or apart from the sorting machine.

What I claim is:

1. In apparatus for sorting and canceling mail mechanically; the combination of a sorting table having a letter discharge channel or chute in which the letters are moved edgewise, a canceling machine having canceling mechanism through which the letters are passed edgewise; with a chute adapted to receive letters from the discharge end of the sorting channel and extending at an incline downwardly to the feed table of the canceling machine, whereby letters may be automatically passed from the sorting table to and through the canceling machine.

2. In apparatus for sorting and canceling mail mechanically; the combination of a sorting table having a letter discharge channel or chute in which the letters are moved edgewise; and a stacker wheel adjacent the end of such channel; a canceling machine having canceling mechanism through which the letters are passed edgewise; said canceling machine being arranged with a downwardly inclined chute adapted to receive letters from the sorting channel and direct them to the canceling machine, the letters being automatically fed by the stacker from the sorting table channel to and through the chute to the canceling machine.

3. Apparatus for sorting and canceling mail; comprising a sorting table, and a canceling machine arranged with its line of letter travel parallel with but to one side of the line of letter travel in the sorting table, the discharge end of the sorting table overlapping the feed end of the canceling machine so that the letters are fed from the sorting table to the rear of the stack of letters at the feed end of the canceling machine.

4. In apparatus for sorting and canceling mail mechanically; the combination of a sorting table having a channel in which the letters are moved edgewise, and a canceling machine having canceling mechanism through which the letters are passed edgewise and a feed chute; the discharge end of the sorting table overlapping the feed end of the canceling machine so that the letters are fed from the sorting table to the rear of the stack of letters in the said feed chute.

5. Apparatus for sorting and canceling mail; comprising a sorting table, a canceling machine arranged with its line of letter travel parallel with but to one side of the line of letter travel in the sorting table and having a feed chute; the discharge end of the sorting table overlapping the feed end of the canceling machine so that the letters are fed from the sorting table to the rear of the stack of letters in the said feed chute; said chute receiving letters edgewise from the sorting table and delivering them facewise to the canceling machine, and means for forwarding letters along said chute.

6. Apparatus for sorting and canceling mail; comprising a sorting table, and a canceling table arranged with its line of letter travel parallel with but to one side of the line of letter travel in the sorting table; the discharge end of the sorting table overlapping the feed end of the canceling machine; with an inclined chute between the discharge end of the sorting table and the feed end of the canceling machine adapted to receive letters edgewise from the sorting table and deliver them facewise to the canceling machine.

7. In apparatus for sorting and canceling mail mechanically; the combination of a sorting table having a letter discharge channel or chute in which the letters are moved edgewise; and a canceling machine having canceling mechanism through which the letters are passed edgewise, and feeding devices; said canceling machine being arranged parallel with but to one side of the discharge channel of the sorting table, the discharge end of the sorting table overlapping the feed end of the canceling machine; with means at the discharge end of the sorting table, and extending at approximately right angles to the said discharge channel and said feeding devices, adapted to receive letters from the channel and direct them to the feeding devices, the letters being fed from the sorting table to the rear of the

stack of letters in the feeding devices of the canceling machine, substantially as described.

8. In apparatus for sorting and canceling mail; the combination of a sorting table having a letter discharge channel or chute in which the letters are moved edgewise, and a canceling machine having a feed table and canceling mechanism through which the letters are passed edgewise; said canceling machine being arranged parallel with but to one side of the discharge channel of the sorting table, the discharge end of the sorting table overlapping the feed end of the canceling machine; with a downwardly inclined chute extending at approximately right angles to the sorting table and adapted to receive letters edgewise from the sorting table and move them facewise direct to the feed table of the canceling machine and deliver letters facewise thereto, substantially as described.

9. In apparatus for sorting and canceling mail; a sorting table, and a canceling machine arranged with its line of letter travel parallel with but to one side of the line of letter travel in the sorting table; the discharge end of the sorting table overlapping the feed end of the canceling machine; with means adapted to receive letters from the sorting table and direct them to the canceling machine, and a stacker for forwarding letters along said means, the letters being fed from the sorting table to the rear of the stack of letters at the feed end of the canceling machine, substantially as described.

10. In apparatus for sorting and canceling mail mechanically; a sorting table having a channel in which the letters are moved edgewise, and a canceling machine having canceling mechanism through which the letters are passed edgewise; the discharge end of the sorting table overlapping the feed end of the canceling machine; with downwardly inclined means adapted to receive letters edgewise from the sorting channel and direct them facewise to the canceling machine; and a stacker for forwarding letters along said means, the letters being fed from the sorting table to the rear of the stack of letters at the feed end of the canceling machine, substantially as described.

11. In combination; canceling mechanism; a feed table; means for feeding letters to the canceling mechanism; a chute adapted to direct letters facewise to the feed means, said chute being downwardly inclined toward the feed means; and a rotary stacker adapted to move the letters facewise downward through the chute to and against the feeding means, the letters being fed from the sorting table to the rear of the stack of letters at the feed end of the canceling machine, substantially as described.

12. In apparatus for canceling mail; a canceling machine having a feed table, and rollers for feeding letters edgewise to the canceling mechanism; a downwardly inclined chute adapted to direct letters to the feed table of the canceling machine; means for feeding letters to the chute; and a rotary stacker adapted to move the letters facewise downward through the chute to and against the feed rollers, the letters being fed from the sorting table to the rear of the stack of letters at the feed end of the canceling machine, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature.

WALTER H. BOWES.