

No. 857,990.

PATENTED JUNE 25, 1907.

G. A. GASMAN & J. T. LYNCH.
PICK-UP TABLE FOR MAIL MATTER.

APPLICATION FILED JAN. 3, 1905.



Witnesses

C. E. Jordan
R. B. Haver.

Inventors

38 66 George A. Gaeman,
John T. Lynch
By David H. Fletcher,
Atty

UNITED STATES PATENT OFFICE.

GEORGE A. GASMAN AND JOHN T. LYNCH, OF CHICAGO, ILLINOIS, ASSIGNORS
TO TIME MARKING MACHINE COMPANY, OF CHICAGO, ILLINOIS, A COR-
PORATION OF THE DISTRICT OF COLUMBIA.

PICK-UP TABLE FOR MAIL-MATTER.

No. 857,990.

Specification of Letters Patent.

Patented June 25, 1907.

Application filed January 3, 1905. Serial No. 239,490.

To all whom it may concern:

Be it known that we, GEORGE A. GASMAN and JOHN T. LYNCH, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pick-Up Tables for Mail-Matter, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification, in which correspond-
ing letters of reference in the different figures indicate like parts.

The primary object of our invention is to provide a pick-up table for sorting, facing and stacking mail matter, which shall be so arranged and constructed that a single separating mechanism may be employed for mail pieces of a given size or less, in conjunction with an indefinite number of feeding pockets, said pockets being so arranged and constructed in conjunction with a conveyer, that mail pieces of different sizes, as predetermined by the operator, may be directed to different separators and separately stacked.

Further objects are to provide novel means for separating one mail piece from another during their passage to the stacker, and for stacking the same in such a way as to avoid the clogging or crumpling of the mail-pieces, all of which is hereinafter more particularly described and definitely pointed out in the claims.

In the drawings, Figure 1, is a plan view of a portion of a pick-up table, conveying, separating and stacking mechanism, embodying the features of our invention, portions of said table being broken away to show the conveying mechanism, Fig. 2, is a longitudinal vertical sectional view thereof taken upon the line 2—2, Fig. 1, viewed in the direction of the arrow there shown, and Fig. 3, is a sectional view taken upon the line 3—3, Fig. 2.

Referring to the drawings, 1 represents a flat table of indefinite length and the usual width of about five feet. Mounted upon suitable drums 2, located at opposite ends of the table, one of which is shown in Fig. 2, is a horizontal conveying belt 3, the upper face of which is located at a distance beneath the table corresponding to somewhat more than the width of ordinary small sized mail pieces. The carrying belt is arranged parallel with the edge of the table, a portion being beneath

and a portion extending beyond said edge as shown in Fig. 1. The outer edge of said belt is housed by means of a wall 4, while above the inner edge is located a wall 5, said walls serving as guards or shields for the mail pieces in the respective chutes. A series of two or more depending sheet-metal deflecting plates 6, are attached to the edge of the table and extended down to within close proximity to the belt. The rear end of each plate 6 is curved outwardly as shown at 7 and is joined to the body of a parallel plate 8, the rear end of which is provided with a reverse or inward curve 9, the rear end of the part 8 being attached to the preceding plate 6 about midway between the ends of the latter. Intervening cross braces serve to strengthen the connections between the parts described. This arrangement of the parallel plates serves to form a series of pockets 11, 12, the outlets of each of the former leading to the runway or chute 13, intended for the smaller mail pieces, while those from the latter lead to a runway 14, intended for the larger mail pieces, the curved parts 7 forming deflecting surfaces for shunting the mail from the pockets 11, while the parts 9 bear the same relation to the pockets 12.

Hinged at 15 to the forward end of the forward partition 8 are deflecting plates 16, 17, the former for deflecting the mail pieces from the chute 13 into a separating mechanism provided therefor, and the latter into a like separating mechanism for the chute 14. A spring 18 is interposed between the deflecting plates 16, 17 for the purpose of retaining each with a yielding pressure in a normal position. The separating mechanism for the chute 13 consists of a series of feed rollers 19, 20, 21 and 22, the latter of which is mounted upon a driving shaft 23 connected with a source of power. The several shafts of the rollers mentioned, which are in alinement, are provided upon their lower ends with gears as shown in Fig. 2, which are so proportioned and connected in a well known way, as to rotate the several feed rollers named in the same direction.

Located opposite the feeding roller 19 is an idler 24, the shaft of which is mounted in yielding bearings and is sustained in its normal position by means of a spring 25.

Mounted upon short shafts 26, 27, Fig. 1, are pulleys 28, 29, the shafts of which are journaled in the usual way in sliding blocks arranged to move independently at right angles to the plane of the axes of the wheels 21 and 22. Springs 30, 31 serve to hold said blocks in their respective normal positions, one end resting against a block 32 attached to the frame. A friction belt 33 is mounted upon said pulleys. Said pulleys are driven by means of suitable gears 33^a, Fig. 3, (meshing with gears 33^b, one of which is shown upon the lower ends of the shaft of the pulley 20) at a lower rate of speed than that of the wheels 20, 21, and in a reverse direction. An idler 34, is also placed opposite the wheel 22.

Mounted upon a series of short vertical shafts 35, 36, 37 and 38, which are connected by means of intermeshing gears and arranged to rotate in unison, are a series of curved deflector vanes 39, 40, 41 and 42, two being placed upon the shaft 35 and 37, respectively, and one upon each of the remaining shafts so that said vanes may overlap and pass each other in operation. The vanes upon the shaft 37 are larger than any in the group, those upon the shaft 35 being the smallest. The shafts are so placed that the ends of the vanes 39, 40 and 41 are in a plane at an angle to that of the letter path between the feed rollers, as indicated in dotted lines in Fig. 1, the direction of said angle being reversed after passing the vane 41.

The shaft 37 is provided with a sprocket wheel 43, which is connected by means of a sprocket-chain 44 to a like wheel 45 upon the driving shaft 23.

The separating mechanism for the chute 14 corresponds exactly to that described for the chute 13 except that the feed-rollers 46, 47, 48 and 49 are placed upon the outside to correspond to the outer wall of the chute. The friction belt 50 corresponds to the belt 33, being mounted in like manner upon pulleys 51 and 52, the journals of which are also supported in spring-controlled yielding bearings.

Revoluble stacking vanes 53, 54, 55, 56 and 57 correspond to those above described for the chute 13, except that the number is greater to provide for the longer mail pieces, while the arrangement is the same.

Extending laterally from the respective groups of stacking vanes are guide-ways 58, 58, and 59, 59, each of which is provided with parallel vertical walls. Slides 60 and 61 are arranged to move in said guide-ways respectively, the former being connected by means of a cord 62 to a weight 63, said cord being trained over a pulley 64, as indicated in dotted lines in Fig. 1. A like cord 65 is trained over a like pulley 66, as indicated in dotted lines and connected with a weight not shown.

The operation of said device is as follows:
The mail pieces of less than a predetermined

size are dropped edgewise into any one of the pockets 11, from whence they are conveyed by the belt 3 through the chute 13 to the feed-rollers. The shield 16 as well as the idler 18 yields to conform to the thickness of the mail pieces which are more or less separated thereby,—the separation being completed by the retarding belt 33. The fact that the bearings of said belt pulleys are arranged to move independently, we have found to be a very important factor in separating mail-pieces of varying thickness. As each mail piece passes the last pair of feed-rollers, it is deflected by the first vane upon the angle indicated in dotted lines until its forward end contacts with the stack of mail pieces 67. The rotation of the several pieces continue to advance it until its end abuts against the wall of the guide-way. The object of the several vanes operating in the manner described is to strike the mail piece in different places through-out its length and thereby prevent bending or crumpling. The diagonal arrangement of the mail pieces in the slide, in conjunction with the construction and arrangement of the several vanes aids greatly to produce this result. We have found in practice that wet or slimy mail can be handled with the utmost effectiveness, but it is important that the number of revoluble vanes should conform to the length of the mail pieces admitted to a given chute and that the vane of larger diameter should be at or near the middle of the series. The weighted sliding followers are also of importance in that they always move toward the stack to support it in case any mail-pieces are removed, and when all are removed, return to a normal position.

* Having thus described our invention, we claim:

1. In a device of the class described, the combination of a series of feed-pockets for receiving mail-pieces, said pockets being in communication with a chute or runway, means for conveying the mail-pieces to a common separator, a separator common to all of said pockets and a stacking mechanism.

2. In a device of the class described, the combination of a series of hoppers or feed-pockets arranged to communicate with a chute or runway, means common to both said hoppers and chute for conveying articles deposited in said hoppers to a common separator, a separator common to all of said pockets and mechanism for stacking said articles.

3. A stacking mechanism consisting of a series of revoluble winged deflectors varying in size or diameter with the larger deflector at or near the middle of the series, in combination with means for conveying thereto articles to be stacked.

4. The combination with a pick-up-table, a mail-chute and separating mechanism, of a

stacking mechanism, consisting of a series of revoluble winged deflectors varying in size with the larger deflector at or near the middle of the series.

5. The combination with a pick-up-table, a mail-chute and separating mechanism, of a stacking mechanism consisting of revoluble deflectors having curved deflecting wings, the axes of said deflectors being placed in alinement while the wings of the different deflectors vary in length from short to long and from long to short in the successive order of their grouping.

6. The combination with a pick-up-table, a mail-chute and separating mechanism, of a stacking mechanism consisting of revoluble deflectors having curved deflecting wings, the axes of said deflectors being placed in alinement in a plane parallel to that of the letter path through the separator, the wings of the different deflectors being increased in length from the first to that at or near the middle of the group and thence decreased

correspondingly to the end of the group whereby the mail pieces may be first deflected at a given angle from their path through the separator and finally stacked at a reverse angle thereto.

7. In a device of the class described, the combination with a separator of a series of revoluble deflectors having curved vanes of varying lengths, the length of said vanes being successively increased and then decreased in the order of their grouping, a stacking frame and a yielding mail-piece support arranged at an acute angle to the plane of the frame.

In testimony whereof, we have signed this specification in the presence of two subscribing witnesses.

GEORGE A. GASMAN.
JOHN T. LYNCH.

Witnesses:

D. H. FLETCHER,
CARRIE E. JORDAN.