March 27, 1934. C. C. CASEY 1,952,117

SORTING DEVICE

Filed March 6, 1931 2 Sheets-Sheet 1

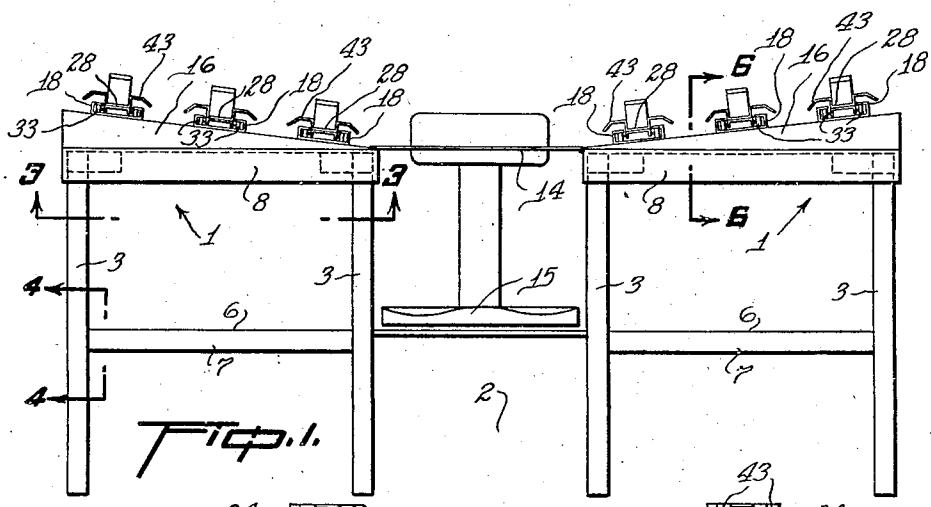


Fig. 1.

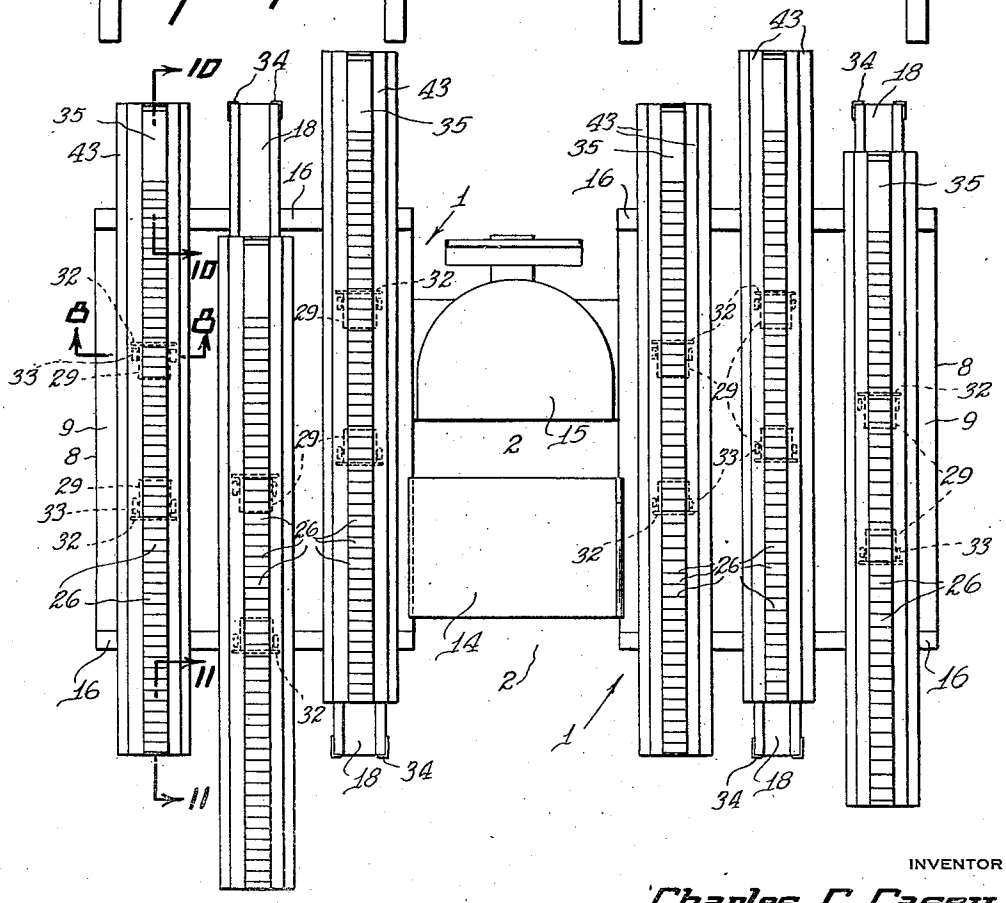


Fig. 2.

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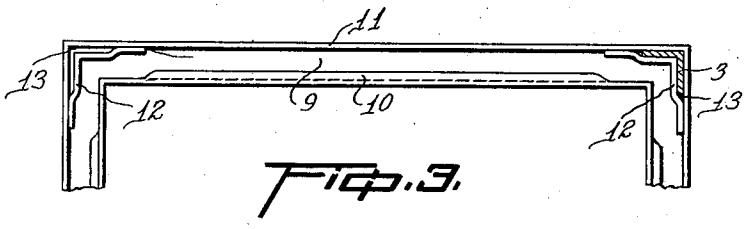


Fig. 3.

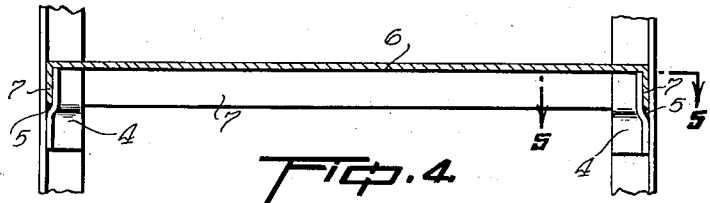


Fig. 4.

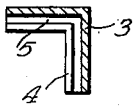


Fig. 5.

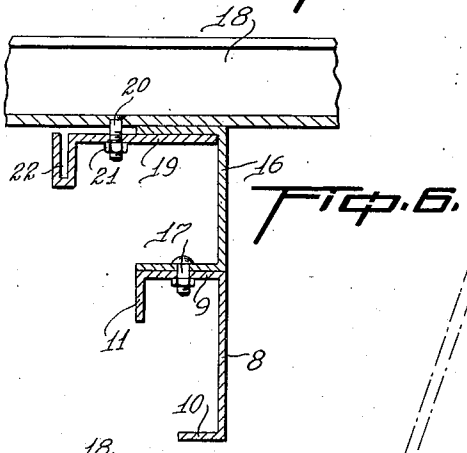


Fig. 6.

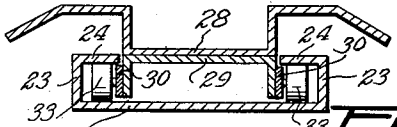


Fig. 8.

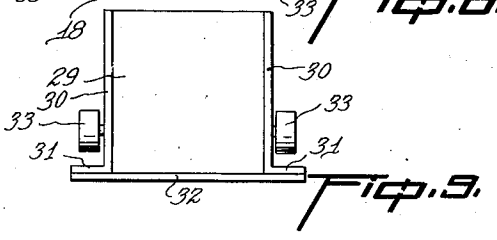


Fig. 9.

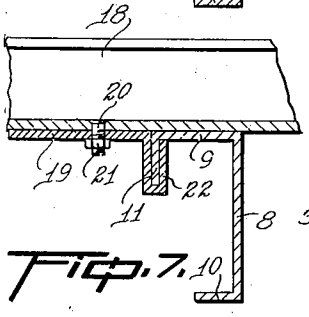


Fig. 7.

Fig. 10.

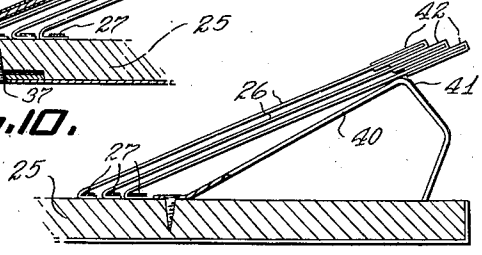


Fig. 11.

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UNITED STATES PATENT OFFICE

1,952,117

SORTING DEVICE

Charles C. Casey, Detroit, Mich.

Application March 6, 1931, Serial No. 520,744

5 Claims. (Cl. 45—2)

The present invention pertains to a novel sorting device for the arrangement of printed or written matter, such as letters, bills and the like, in alphabetical, numerical or other predetermined arrangement.

The principal object of the invention is to provide a device of this character whereby the speed and range of the operator are greatly increased. With regard to speed, the receiver in which the material is sorted is slidably mounted with respect to the position occupied by the operator, so that any part of the receiver may be brought within convenient reach of the operator by a sliding movement thereof, rather than by time-consuming reaching by the operator.

The slidable mounting of the receiver further enables an increased capacity thereof in that all parts may be brought within reach of the operator by the sliding movement as already stated. With further regard to the range or compass of the device, the invention contemplates the provision of several such slidable receivers arranged parallel to each other and all within an arm's length of the operator. To facilitate reaching the farthermost receivers, these units may be supported at successively higher levels outwardly or away from the operator's station. Moreover, the receivers or units may be thus provided at both sides of the operator.

The invention also embodies further improvements contributory to the desired results. Among these is a construction whereby the slidable unit may overlap the ends of the track on which it slides, so that the length or capacity of the unit is not limited by the length of the track.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings, in which—

Figure 1 is an end elevation of the device;

Fig. 2 is a plan view thereof;

Figs. 3 and 4 are sections on the lines 3—3 and 4—4 respectively of Figure 1;

Fig. 5 is a section on the line 5—5 of Figure 4;

Fig. 6 is a section on the line 6—6 of Figure 1;

Fig. 7 is a similar section showing a different assembly of the parts;

Fig. 8 is a section on the line 8—8 of Figure 2;

Fig. 9 is a plan view of one of the carriage elements shown in Figure 8; and

Figs. 10 and 11 are sections on the lines 10—10 and 11—11 respectively of Figure 2.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

As shown more clearly in Figure 1, the device embodies two table structures indicated generally by the numeral 1 and spaced apart to form a space or station 2 for the operator as will presently appear. Each such table is assembled of sheet metal stampings and includes four legs 3 of angular cross section as shown in Figures 4 and 5. Each leg carries an angle bracket 4 secured in the angle thereof and having a portion which is spaced as at 5 from the leg as clearly shown in Figure 5. The legs of each table structure are braced by an inverted tray 6 having a marginal flange 7 received in the spaces 5.

The top of each table structure comprises a rectangular or frame-like member of channel cross section, the base 8 of the channel standing vertical and the side walls 9 and 10 occupying a horizontal position as shown in Figure 6. The upper wall 9 is formed with a downwardly extending flange 11 for a purpose which will presently appear. Brackets 12 are secured in the corners of each top member, namely against the flange 11 thereof, and are shaped to provide angular spaces 13 of such size as to receive the upper ends of the legs 3 as shown more clearly in Figure 3.

A flat table piece 14 is hinged to one of the table structures and has its free end resting on the other table structure as shown in Figures 1 and 2. The table structures are joined together and maintained in the desired spaced relation by means of a seat 15 also secured to the table structures and bridging the space 2 behind the member 14, so that an operator occupying the seat may use the member 14 as a work table which supports the papers or articles to be sorted.

Upon the end of each table structure is mounted an inclined riser 16 which slopes upwardly away from the space 2 as may be seen in Figure 1. These risers are also of channel cross section and have one of the side walls lying upon the wall 9 of the table top and detachably secured thereto by a stud 17 as shown in Figure 6. Parallel tracks 18 are mounted across the risers of each table structure. Each track rests upon the upper wall of opposite channels 16 and is secured to the latter by clamping plates 19 engaging the lower surface of the same wall. Studs 20 are passed through the base of each track, extending through the plates 19 and are equipped with nuts 21 which bind the track and members 19 against the top wall of the channel 16. The free edge of each plate 19 has a channel formation 22 for a purpose which will presently appear. Each of the tracks has vertical side walls 23 which are flanged inwardly at 24 as shown in Figure 8.

The filing devices associated with the tracks

18 consist each of an elongated base member 25 to which is secured a series of flaps 26 lying lengthwise of the base and secured transversely thereof by any suitable means 27. The carriage structure consists of an elongated tray 28 adapted to receive the base 25 and carriage elements or trucks 29 of channel cross section secured in inverted position to the bottom of each tray at spaced intervals as may be seen in Figure 2. The side walls of the members 29 have strips 30 secured thereto, and these strips are flanged or bent outwardly at one end as indicated by the numeral 31 in Figure 9. Another strip 32 is mounted across each element 29 and is secured to the flanges 31 of the strips 30. The members 30 carry rollers 33 which ride on the track and are received beneath the flanges 24. The rollers may be passed beneath the flanges 24 from the ends of the track, after which stop members or bumpers 34 are secured to the ends of the track to be engaged by the members 32 and thus prevent the carriage from being drawn out of the track.

The bases 25 are receivable in the trays 28 as already indicated and are of such weight that they do not slip in the trays but move only with the respective carriages. At the forward end of each series of flaps is provided a heavier and rigid flap 35 hingedly attached to the forward end of the base as by means of a flexible member 36 held by a screw 37. The forward end of the base is also provided with a stop member 38 preferably held by the screw 37 and having a portion 39 lying at an angle to the forward extremity of the base 25 and thus limiting the upward swinging movement of the member 35. When this member engages the part 39, it is nearly in a vertical position as shown in dotted lines in Figure 10. This device thus prevents the several flaps from reversing their inclination when the filing unit is well filled.

At the other end of the base is secured an upstanding supporting member 40 providing an elevated supporting point 41 below which the last flap of the series cannot fall. This device tends to maintain the upper edges of the flaps at substantially the same bevel when the filing unit is well filled, so that the index tabs 42 at the free ends of the flaps may readily be seen by the operator. The trays 28 have outwardly extending wings 43 on which the ends of the sorted material may rest if it extends beyond the longitudinal edges of the flaps 26. The wings thus prevent the material from drooping and interfering with the movement of the carriage.

In the use of the device as thus far described, the operator occupies the seat 15 and preferably the material to be sorted is placed before him on the member 14. The width of the tables is such that all of the filing units are conveniently within an arm's length of the operator so that they may readily be reached without requiring that the operator materially change the position of his body. It will be understood that if the operator is required to move his body to reach certain parts of the sorting device, his efficiency will be greatly impaired. The carriages may be at successively higher levels outward from the operator in order to facilitate reaching them.

It is only necessary that some part of each carriage be within convenient reach of the operator, inasmuch as any part of the carriage may then be brought into reach by pushing or pulling it along its track. The carriages are constructed to ride easily on the tracks by a slight push or pull which is sufficient to bring the wanted flap within reach of the operator.

Due to the inward position of the members 32 from the ends of the carriages the latter may be propelled to overlap the ends of the tracks. Thus, each unit has considerably greater movement and hence greater accessibility than if the stop devices were carried at the ends of the tray to engage stops at the ends of the track. To state the matter differently, the last described construction would require a considerably longer track than the illustrated construction for a given travel of the carriage. The construction here shown is particularly desirable since the tracks are fixed parts of the device, while the base members 25 with the associated flaps are portable in that they may readily be lifted out of the trays in transporting the sorted material to some other device for another operation.

The construction shown in Figures 6 and 7 enables the device to be used with or without the risers 16 as preferred. The construction embodying the risers has already been described. To dispense with the risers, the nuts 21 are removed and the studs 17 released so that the tracks may be lifted from the risers and the risers from the top pieces 8. The tracks are then replaced upon the top pieces 8 and the members 19 are turned through an angle of 180° in the horizontal plane so that the channeled parts 22 thereof receives the downward flanges 11 of the members 8 as shown in Figure 7. The nuts 21 are then adjusted to bind the plates 19 against the tracks. The tracks are held against longitudinal shifting by the engagement of the channels 22 with the flanges 11 and against transverse shifting by the studs 20.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention, as indicated by the appended claims.

What I claim is:—

1. A sorting device comprising a support, a plurality of carriages slidably mounted thereon in parallel relation and disposed within the reach of an operator at an edge of the support, and filing means carried by each of said carriages, said carriages being mounted at successively higher levels.

2. A sorting device comprising a support formed to provide a space for the operator, a plurality of carriages slidably mounted on said support on each side of said space and within reach of an operator in said space, and filing means carried by each of said carriages, said carriages being mounted at successively higher levels at each side of said space, the carriages nearer said space being at the lowest level.

3. A sorting device comprising a track, a carriage slidable on said track, filing means carried by said carriage, stops at the ends of said track, and means carried by said carriage inwardly of the ends thereof and engageable with said stops, whereby said carriage may be moved to overlap the ends of said track.

4. A sorting device comprising a track, an elongated base slidably mounted thereon, filing flaps secured to said base transversely thereof and extending longitudinally thereof, and outwardly extending wings provided at the longitudinal edges of said base.

5. In a sorting device, a support having a downwardly extending flange, a riser detachably se-

cured upon said support and having an upper supporting flange, a track mounted upon the flange of said riser, a clamping member disposed beneath the flange of said riser and having a channeled portion, means binding said track and clamping member to the flange of said riser, said channeled portion being engageable over the flange of said support on removal of said riser from said support, whereby said track may then be secured directly upon said support and to said clamping member by said binding means.

CHARLES C. CASEY.