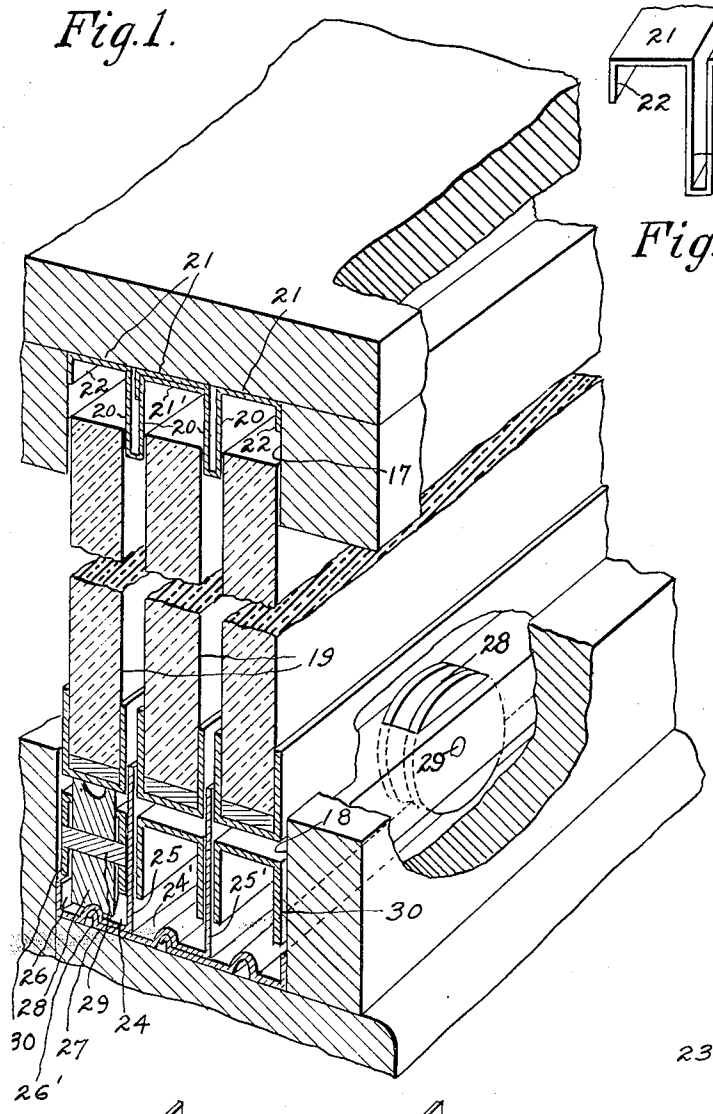
Jan. 30, 1934. A. VOIGT 1,945,008

DOOR SEPARATOR AND TRACK FOR DOOR RUNWAYS IN DISPLAY CASES

Filed June 14, 1928

Fig.1.



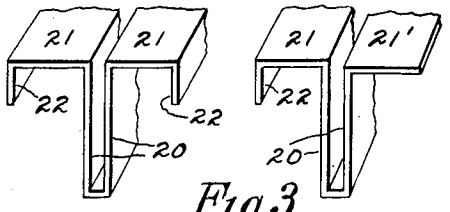




Fig.2.




Fig.3.

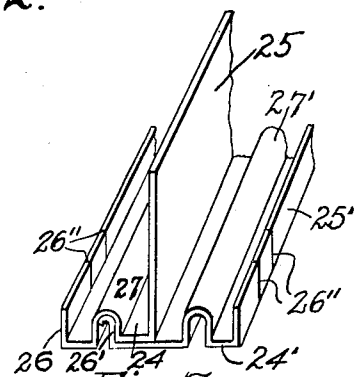



Fig.7.

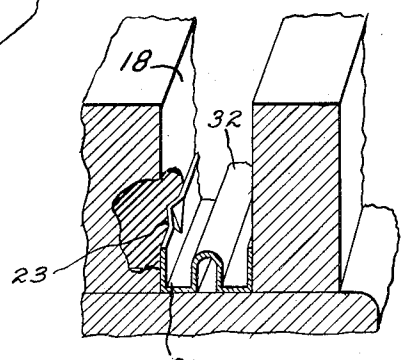



Fig.8

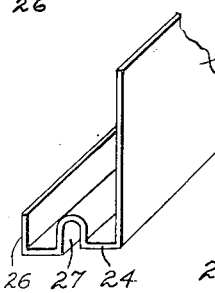



Fig.4.

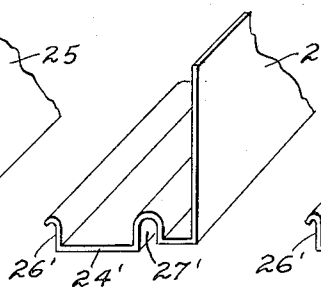



Fig.5.

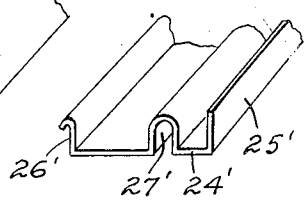



Fig.6.

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1,945,008

## DOOR SEPARATOR AND TRACK FOR DOOR RUNWAYS IN DISPLAY CASES

Albert Voigt, New York, N. Y.

Application June 14, 1928. Serial No. 285,411

10 Claims. (Cl. 16—100)

This invention relates to display cases having an opening for affording access to the case and having runways in the top and bottom in relation to said opening for the mounting of doors therein to have longitudinal movement one relative to the other, and it is the object of the invention to provide improved means for mounting in said runways a multiple door separator structure in the upper runway and a combined multiple door separator and track structure in the lower runway, and to provide structures of this character wherein the parts are adapted to be interchangeable and built up whereby the runway may be arranged with two or more laterally disposed separators and tracks and adapt the runways for two or more doors one movable relative to the others, and to provide a door separator and combined door separator and track which is simple and cheap in structure and efficient in use.

In arranging door separators and tracks in the runways of display cases it has heretofore been the practice to secure the same in position by means of screws or nails engaged in perforations in the material of the separators and runways and driven into the material of the case runway. Such securing means work loose with the result that they form obstructions to the movement of the doors or door carriers in the runways, and it is a further object of the invention to provide an improved constructed and arranged door separator and combined door separator and track whereby the material thereof is utilized as the means for securing them against displacement in the runways by arranging them with a part adapted to be offset into the material of the runway.

Display cases are of varying lengths as well as the door separators and tracks to be engaged in the door runways thereof with the result that should a case be of less length than the separator or track a portion of the same must be cut off and becomes waste, and it is a further object of the invention to provide an improved endwise separable door separator and track constructed and arranged whereby the separator sections and combined separator and track sections may be releasably coupled in endwise alined relation, and thus a separator and track section may comprise a single section or may be built up of endwise coupled sections.

Other objects and advantages will hereinafter appear.

In the drawing accompanying and forming a part of this application Figure 1 is a perspective view in section and broken away of a portion of a display case showing my improved door separator and combined door separator and track structures mounted in the door runways thereof.

Figure 2 is a perspective view of a portion of the door separator.

Figure 3 is a perspective view of a portion of the door separator adapted to be combined with the separator of Figure 2 to provide a multiple separator.

Figures 4, 5 and 6 are perspective views of parts of a combined door separator and track adapted to be interchangeably connected to provide a multiple door separator and track structure.

Figure 7 is a perspective view of a portion of a combined separator and track structure built up from the parts shown in Figures 4 and 6.

Figure 8 is a perspective view in section of a portion of a door runway of a display case with an embodiment of my improved track structure mounted therein and showing the manner of securing the separator and track against displacement in the door runway of a display case.

In Figures 1 to 7, inclusive, of the drawing I have shown an embodiment of my improved separator and track structure in connection with a display case, only so much of the case being shown as is deemed essential to an understanding of the invention. To afford access to the case an opening is provided, usually in the front of the case, which is closed by doors slidably mounted in runways 17, 18 in the top and bottom of the case and extending longitudinally of the opening, the present invention being particularly adapted for the mounting of glass doors 19 in said runways. While certain features of the invention adapt it for the mounting of a single door in a runway, it is particularly adapted for the arranging of multiple parallel tracks and separators in the runways for mounting two or more doors in a runway, and shown in the present instance in Figure 1 adapted to the mounting of three doors.

To maintain the doors in spaced relation and permit of free and easy movement thereof in the runways a separator is mounted in the upper runway, which separator is formed of a single sheet metal plate when only two doors are to be mounted in the runway, as shown in Figure 2. The plate is folded longitudinally upon itself with the opposite folded portions arranged in spaced and parallel relation, as shown at 20, to comprise a parting member. The longitudinal marginal portions of the folds are flanged outwardly at a right angle, as at 21, and the longitudinal marginal portions of said outward

flanged portions are flanged to extend in the direction of and parallel with the folded portions 20, as at 22, said flanged portions 22 when two doors are to be mounted in the runways being arranged to lie contiguous to the side walls of the runway and serve to support and secure the separator against displacement therein, for which purpose portions of the material of said flanges 22 are offset into the wall of the runway after the separator is engaged therein, as shown at 23 in Figure 8. The outwardly flanged portions 21 also serve to space the parting member centrally in the runway 17 and divide said runway into a pair of runways, the parting member being of a length to engage between a pair of doors (Figure 1) to serve not only as a separator but also as a guide for the doors. When the runway 17 is to be divided to adapt it for three or more doors a further separator or separators is provided, said separators being the same in structure as that shown in Figure 2 with the exception that one flange 21' is not provided with the reversely flanged portion 22 and the fold 20 of the plate on which said flange is arranged is of slightly less length than the other fold. In mounting the same in the runway 17 the flange 21' is engaged within one of the flanges 21 of the other separator so that said flange will be in overlapped relation to the flange 21' and the flange 22 thereof engaged in the space between the folds 20, as clearly shown in Figure 1. It will be obvious that should it be desired to mount additional doors in a runway further separators having a flanged portion 21' are utilized.

The combined separator and multiple track structure for use in the runway 18 to arrange the same with parallel multiple tracks for the mounting of a series of doors therein, comprises a plate of sheet metal formed to right angle shape in cross section, as shown in Figure 4, the one angle portion 24 to constitute the track member is arranged to be in abutting relation to the bottom of the runway, and the other angle portion 25 a separator or parting member to extend at a right angle to the base and be engaged between a pair of doors. The longitudinal marginal portion of the track member is flanged in the direction of and parallel with the parting member, as at 26, and serves as the means for securing the track member in the runway by offsetting portions of said flange into the side of the runway. To facilitate the offsetting of the material of the flange 26 into the wall of the doorway to secure the track therein said flanges may be arranged with tongues by providing incisions therein to extend from the edge to adjacent the juncture thereof with the angle portion 25, as shown a 26'' in Figure 7. The track member is offset intermediate and in the direction of the parting member 25 and marginal flange 26, as at 27, in the present instance to arcuate channel shape in cross section, to constitute the track rail, the portions laterally of said rail forming the base of the track rail. The doors are supported upon said track rail to have to and fro longitudinal movement through the medium of rollers 28 having a peripheral groove conforming in shape to and for engagement with the rail, said rollers being rotatably mounted on pins 29 extended through axial openings in the rollers and fixed at the ends in the opposite legs of a carrier 30 of channel shape in cross section, and the rollers being of a diameter so that a peripheral portion will project through openings in the connecting portion of the channel legs and beyond the lateral edges of said legs, as clearly shown in Figure 1.

To arrange the runway for the mounting of three doors therein a further combined separator and track member is provided substantially as described the respective parts being indicated by 24', 25', 26' and 27', (Figure 5) with the exception that the outer marginal portion of the track member 24' is twice the width of the portion of the track between the track rail and flange 25' and the marginal portion 26' is curved outward to conform to and engage in the offset rail 27 of the adjacent track to unite said members. To arrange the outer portions of the two tracks to extend in the same plane and lie contiguous to the bottom of the runway the portion of track 24 between the offset 27 and parting member 25 is arranged in a higher plane, as clearly shown in Figure 1.

To arrange the runway 18 with a further track a third plate (Figure 6) is provided substantially of the same cross sectional shape and size as the combined separator and track structure shown in Figure 5 and the parts have been given the same reference characters, with the exception that the part 25' constituting the parting member in the Figure 6 arrangement is of less height than in Figure 5 and is adapted as the means for securing the track structure in the case runway the same as the track flange 26 in the Figure 4 arrangement. In the three track arrangement it will be noted that the parting members 25, 25' of the arrangements of Figures 4 and 5 serve as the means to separate the central door from the two outer doors, as clearly shown in Figure 1. To adapt the separator and track structure to a two track structure the intermediate separator and track member shown in Figure 5 is omitted, and the track member shown in Figure 6 is interlocked with the track structure of Figure 4, as shown in Figure 7.

In Figure 8 I have shown one feature of the invention embodied in a single track arrangement, comprising a plate having the opposite longitudinal marginal portions 31 flanged in the same direction and parallel relation to arrange the track with the means to secure it against displacement in the runway, and having an intermediate portion offset in the same direction as said flanges, in the present instance to arcuate channel shape in cross section, as at 32, to form a roller engaging track rail and the portions at the opposite sides of said rail as the track base. The track is secured in the runway by offsetting the material of the marginal flanges 31 into the sides of the runway, as shown at 23, in the same manner as the track structure in Figure 1 is secured in the runway.

Having thus described my invention I claim:

1. In a multiple track structure for door runways in display cases, a sheet metal member of right angle shape in cross-section, one angle portion constituting a door parting portion and the other a track member having the longitudinal marginal portion flanged laterally to extend parallel with the door parting portion and intermediate the sides offset to extend parallel with and midway between the flange of the track member and door parting portion to constitute a roller engaging track rail, a second sheet metal member having the opposite longitudinal marginal portions flanged at right angles, one of said flanged portions being overlapped by the portion of the track portion of the first member from which the door parting portion extends and the

flange of the overlapped portion of the second member conforming to and engaging in the offset rail of the track member of the first member, the second member being offset midway between and to extend in the direction of the flanges to constitute a roller engaging rail, and the lateral flange of said second member and of the track portion of the first member adapted to engage the opposite walls of the door runway and position the parting member of the first member centrally therein.

2. In a track for door supporting rollers in channel runways of display cases, a sheet metal member of right angle shape in cross section, one angle portion adapted to engage the bottom of the runway and serve as a track, and the other angle portion being of greater width than the track portion to extend at a right angle to the bottom of the runway to serve as a door separator and guide, the marginal portion of the track portion being flanged to extend parallel with and of less width than the angle portion of the member of greatest width and adapted to engage the side wall of the runway to position the angle portion of greatest width in predetermined spaced parallel relation to said side wall of the runway.

3. A track for door supporting rollers in channel runways of display cases, comprising a sheet metal member of right angle shape in cross section one angle portion being of greater width than the other angle portion to serve as a door separator, and the other angle portion of less width adapted to engage the bottom of the runway and midway of the width thereof offset to arch shape in cross section to extend parallel with and spaced from the angle portion of greatest width to constitute a roller engaging rail, and said latter angle portion having the free longitudinal marginal portion flanged to extend parallel with the angle portion of greatest width and adapted to engage the side wall of the runway to position the angle member of greatest width in predetermined spaced relation to said side wall of the runway.

4. In a multiple track structure for door runways in display cases, a series of parallelly arranged sheet metal members positioned in the runway embodying a pair of outer members and an intermediate member, one outer member and the intermediate member being of right angle shape in cross section having one angle portion of greater width than the other angle portion to serve as a door separator, and the angle portion of less width of each member to serve as a track and offset intermediate the width thereof to arch shape in cross section to constitute a track rail for engagement of door supporting rollers, the marginal portion of the track portion of the intermediate plate being flanged laterally and overlapped by the track portion of an outer member with the marginal flange engaging in the offset of the track rail of said outer member to unite said members, and the other outer member having a track portion offset intermediate the width thereof to arch shape in cross section to constitute a track rail for engagement of door supporting rollers and having the marginal portion flanged in the direction of the offset rail overlapped by the track portion of the intermediate member with the flange engaging in the offset rail of the intermediate member to unite said outer member to said intermediate member.

5. A multiple track structure for door runways in display cases as claimed in claim 4, wherein the track portions of the members are juxtaposed to the bottom of the runway and the outer marginal portion of the track portions of the outer members are flanged in the direction of the track rails to engage the side walls of the runway and portions thereof offset into said walls to secure the track structure in the runway.

6. In a multiple track structure for door runways in display cases, a series of sheet metal members, each member being offset to arch shape in cross section intermediate the side edge to provide the members with track rails, said members being arranged in laterally disposed parallel relation with a marginal portion of one member overlapping the next successive member and the overlapping portion of a member arranged at a right angle to constitute a door separator, the marginal portion of the member overlapped by another member being arranged to engage the offset track rail of the overlapping portion of a member to connect the members, and the outer marginal portion flanged in angular relation to the members and adapted to engage the wall of the runway and portions thereof offset into said wall to secure the track structure therein.

7. In a multiple track structure for door runways in display cases, sheet metal members of right angle shape in cross section positioned in the runway with one angle portion of each member extending at a right angle to the bottom of the runway and the other angle portion engaging the bottom of the runway and comprising a track, said track portion of each member having the marginal portion flanged at a right angle and longitudinally offset intermediate the sides to channel shape in cross section to constitute a track rail, and the angle portion of a member extending at a right angle to the bottom of the runway arranged in overlapping relation to the flanged marginal portion of the track of an adjacent member with the flange engaging the channel offset rail of the overlapping member to unite the members against lateral displacement and position the angle portion of the overlapping member extending at a right angle to the bottom of the runway in predetermined spaced and parallel relation to the corresponding angle portion of the overlapped member and centrally of the runway to serve as a door separator and guide.

8. In a multiple track structure for door supporting rollers in channel runways of display cases, a series of sheet metal members of channel shape in cross section with the leg connecting portion of each member offset longitudinally intermediate the legs to arch shape in cross section to constitute a track rail for engagement of the door support rollers, and the members arranged with a margin of a leg connecting portion of one member overlapping a leg and a margin of a leg connecting portion of an adjacent member with the leg of the lapped member engaging in the offset track rail of the overlapping member to interengage the members, and said interengaged members positioned in the channel runway with the leg connecting portions juxtaposed to the bottom of the runway and the outer legs of said members abutting the side walls of the runway.

9. In a multiple track structure for door runways in display cases, an elongated sheet metal member formed to angle shape in cross section, one angle portion comprising a door separator and the other angle portion a track, and a track member, said track member and the track portion of the angle member each arranged with an offset extending in the direction of and parallel with the door separator and the track mem-

ber having a marginal portion interengaged with the offset of the track portion of the angle member.

10. In a multiple track structure for door runways in display cases, a right angle member, one angle portion comprising a door parting member and the other angle portion a track portion arranged with an intermediate and longitudinal offset, and another track member having an intermediate longitudinal offset and a longitudinal marginal portion flanged laterally relative to which the track portion of the angle member from which the door parting member extends is adapted to be overlapped and said marginal flange engaged in the offset of the track portion of the angle member to interlock the track member with the track portion of the angle member.

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