Aug. 25, 1931. L. T. SCHUBERTH 1,820,034

RAILWAY STRUCTURE

Filed July 22, 1929 5 Sheets-Sheet 1

Fig. 1

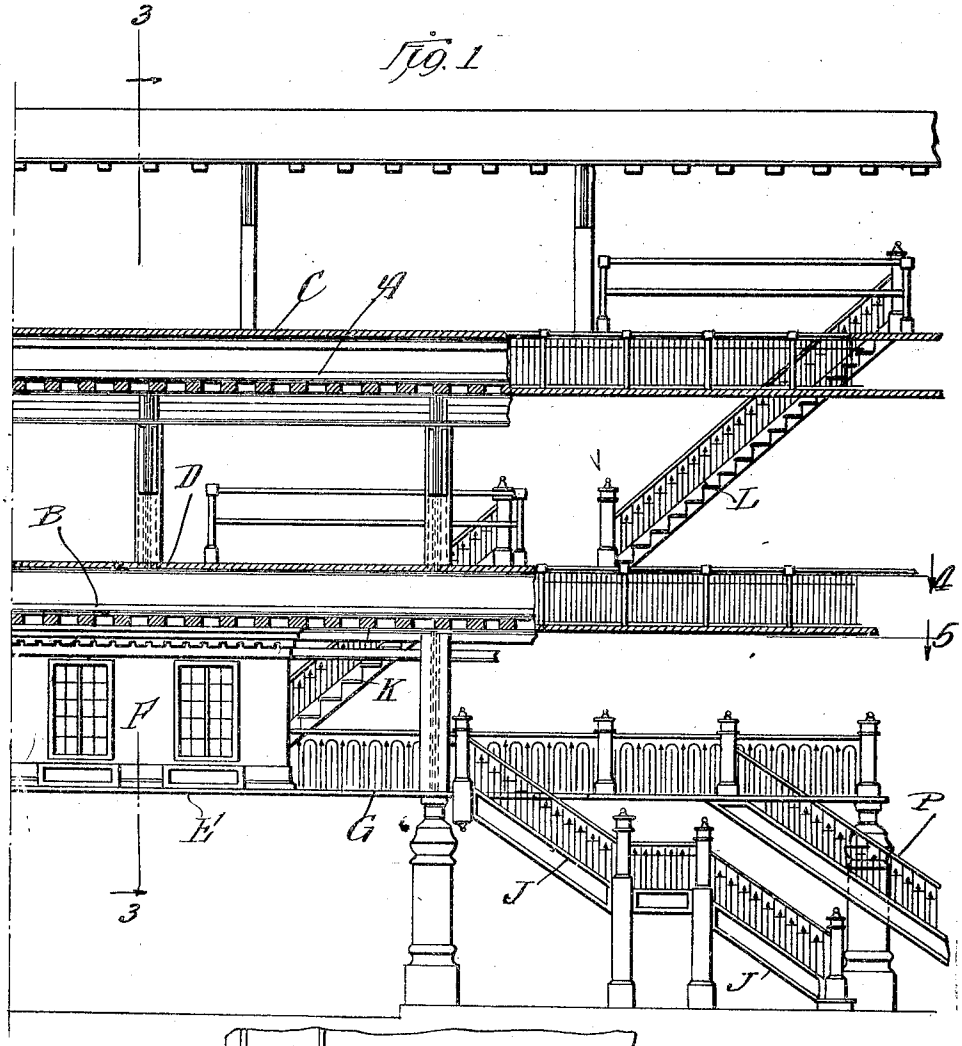
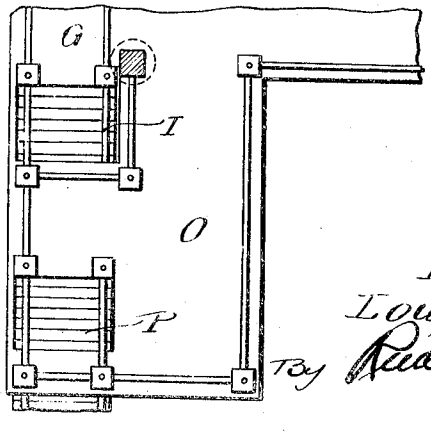


Fig. 6.



Witnesses:
Harry R. L. Ostrander
Robert Cramer

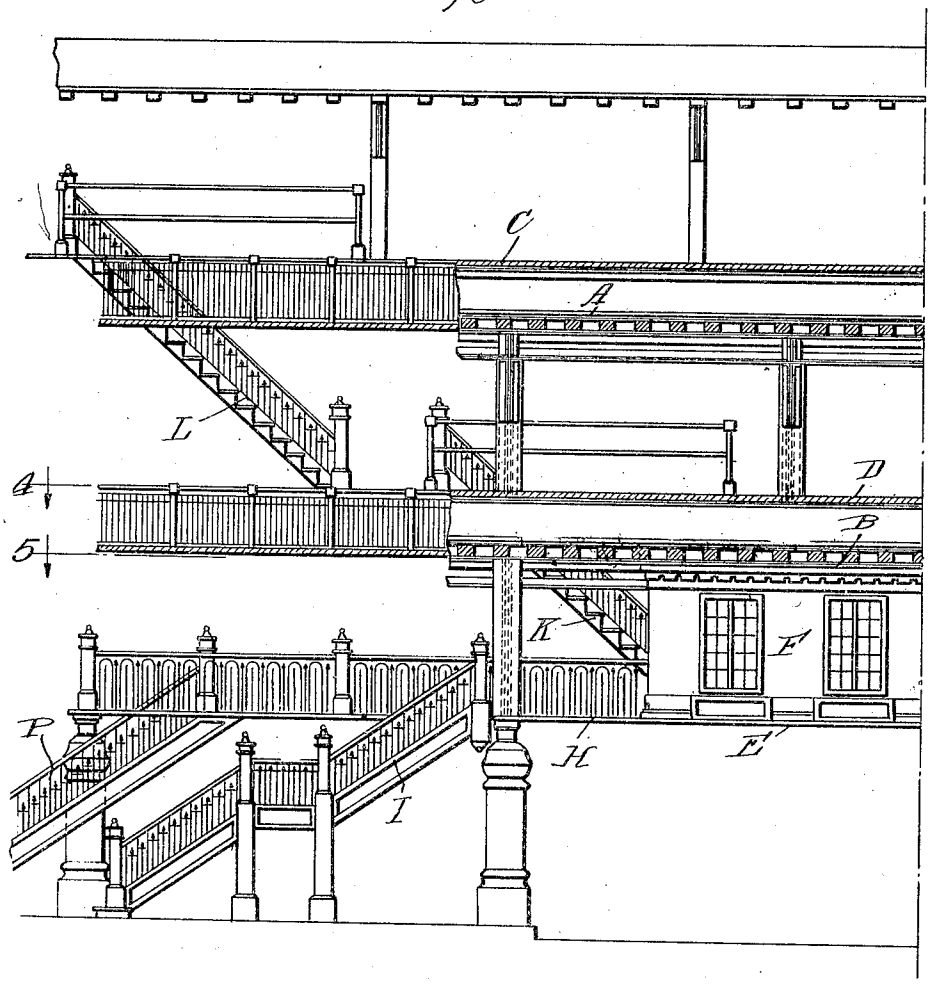
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Aug. 25, 1931. L. T. SCHUBERTH 1,820,034

RAILWAY STRUCTURE

Filed July 22, 1929 5 Sheets-Sheet 2

Fig. 2



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Aug. 25, 1931. L. T. SCHUBERTH 1,820,034

RAILWAY STRUCTURE

Filed July 22, 1929 5 Sheets-Sheet 3

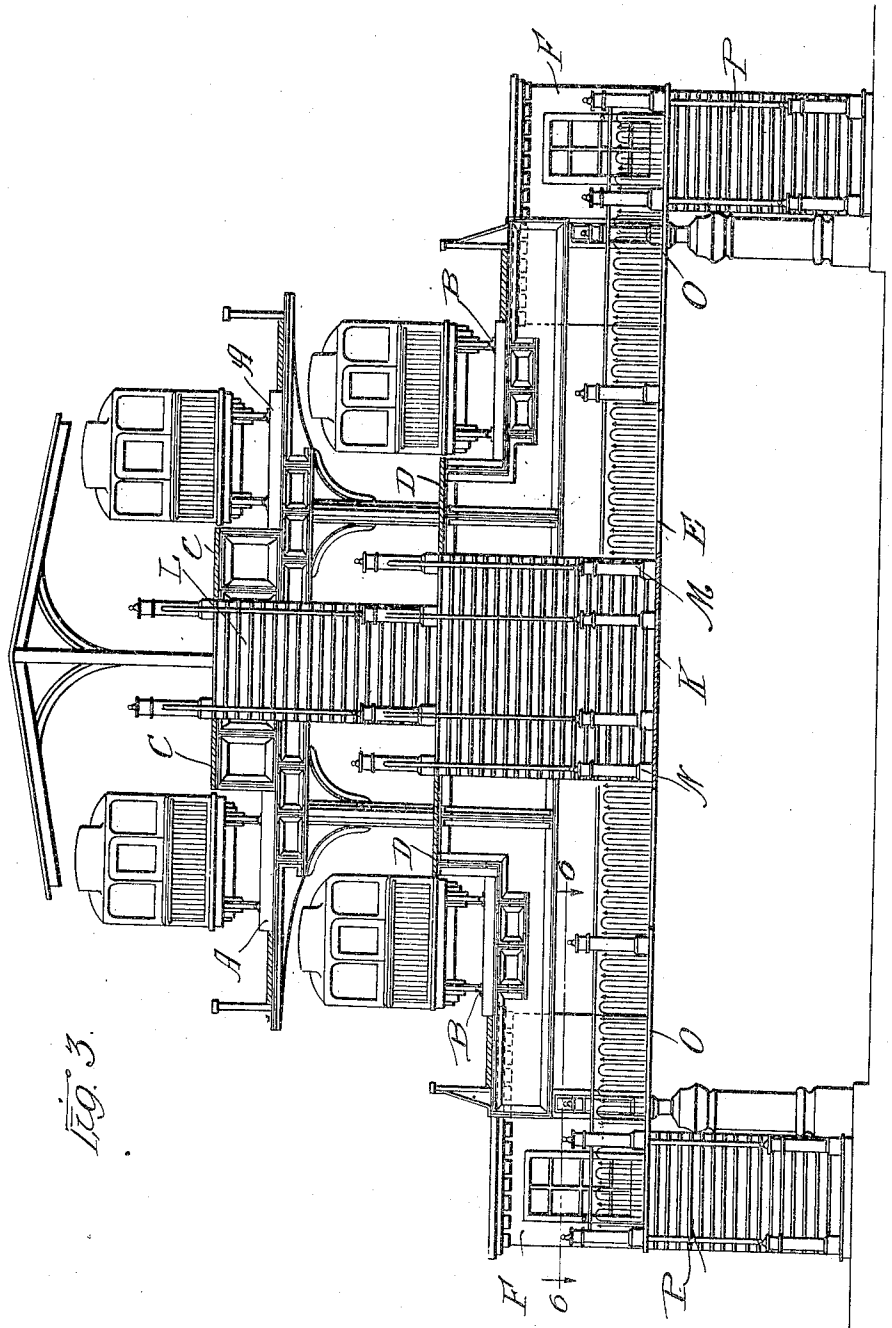


Fig. 3.

Witnesses:
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Aug. 25, 1931. L. T. SCHUBERTH 1,820,034

RAILWAY STRUCTURE

Filed July 22, 1929 5 Sheets-Sheet 4

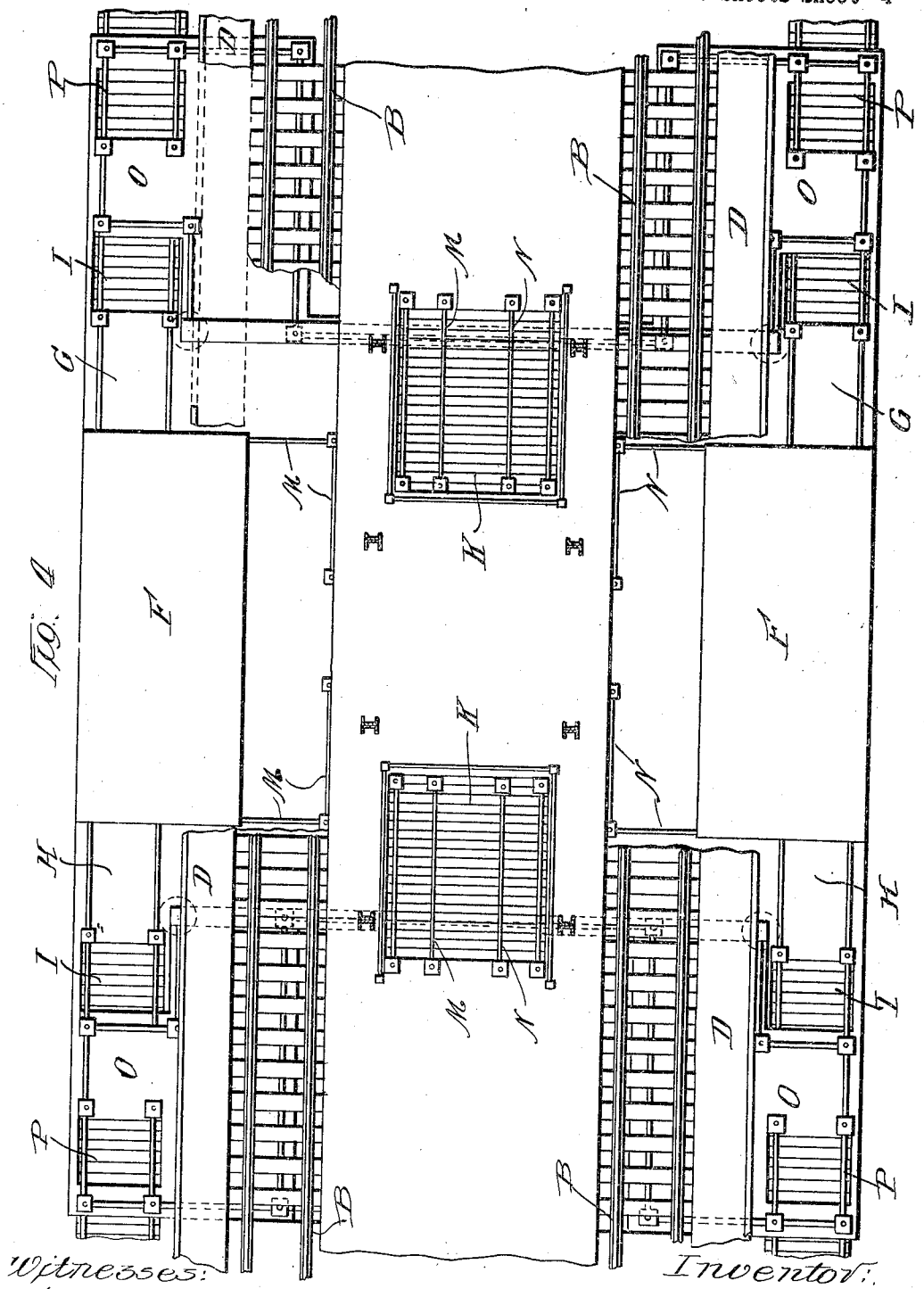


FIG. 4

Witnesses:
Harry R. L. White
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Aug. 25, 1931. L. T. SCHUBERTH 1,820,034

RAILWAY STRUCTURE

Filed July 22, 1929 5 Sheets-Sheet 5

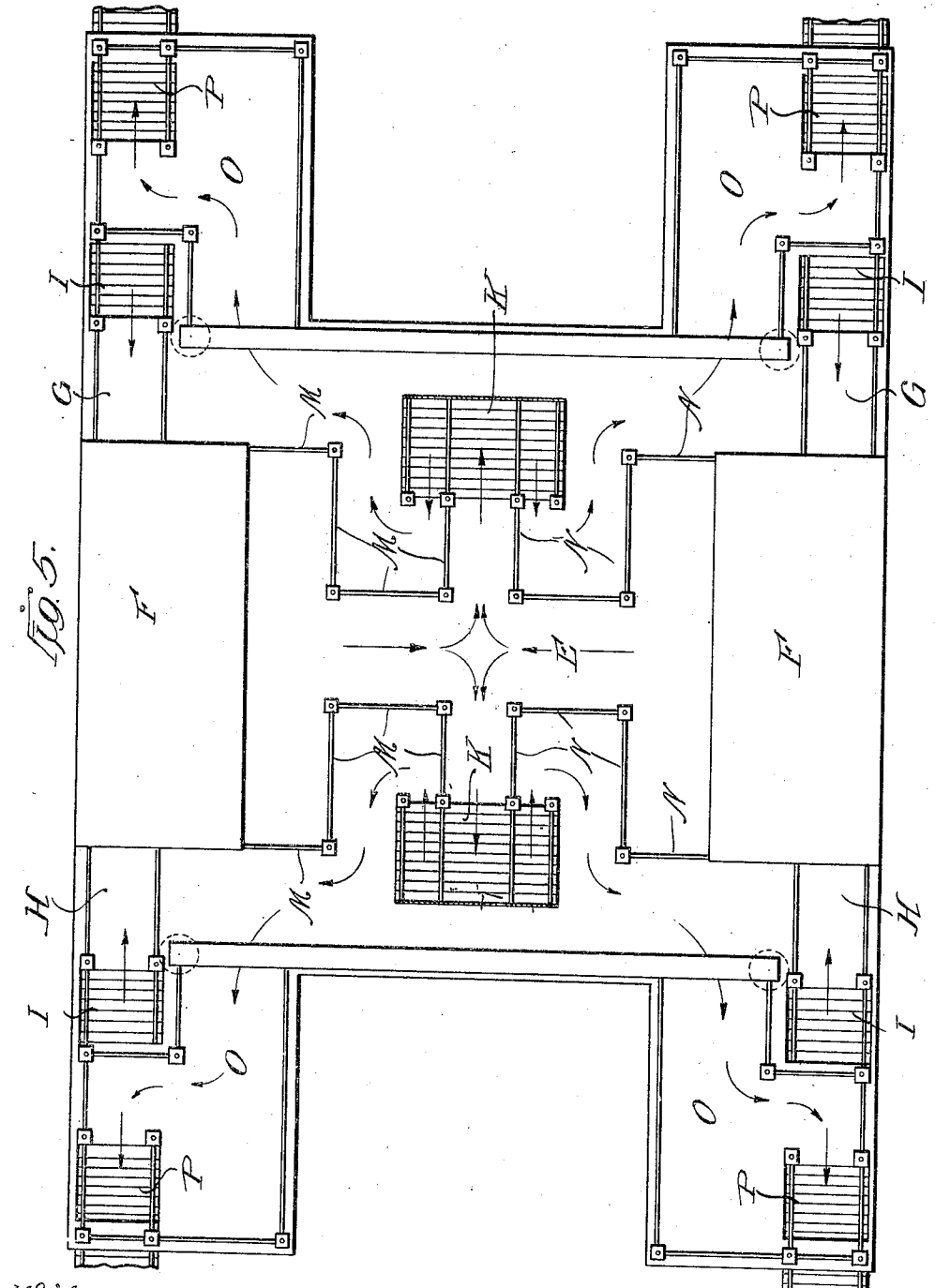


Fig. 5.

Witnesses:
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Inventor:
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Patented Aug. 25, 1931 1,820,034

UNITED STATES PATENT OFFICE

LOUIS T. SCHUBERTH, OF CHICAGO, ILLINOIS

RAILWAY STRUCTURE

Application filed July 22, 1929. Serial No. 379,919.

This invention relates to improvements in passenger transportation systems particularly adapted to the needs of large cities to provide ample facilities for handling rush-hour crowds in minimum space and also provide for express and local train service in such a manner that the passengers for one class of trains will not impede quick loading and unloading of passengers for another class.

The main objects of the invention are:

First. To provide a railway structure adapted for both elevated and underground installation wherein local and express train tracks are disposed at respectively different elevations and relatively arranged with respect to the platforms, stairways, ticket offices, entrances and exits, etc. to permit of and facilitate movement of streams of passengers without interference with each other.

Second. To provide a structure of this type which will occupy minimum space and may be economically constructed and operated.

In the accompanying drawings illustrating the preferred embodiment of the invention:

Fig. 1 is a fragmentary side elevation of a railway structure constructed in accordance with the invention.

Fig. 2 is a continuation of Fig. 1.

Fig. 3 is a vertical transverse sectional view on the line 3—3 of Fig. 1.

Fig. 4 is a plan section on a reduced scale on the line 4—4 of Fig. 1.

Fig. 5 is a plan section on the line 5—5 of Fig. 1.

Fig. 6 is a fragmentary plan section on the line 6—6 of Fig. 3 showing a passage and stairway also shown in Fig. 5.

In said drawings the structure is shown as adapted for elevated railways as distinguished from subway installations. It comprises, generally, two tiers of railways or tracks A and B, respectively, disposed at different elevations and each, in the instance illustrated, comprising tracks for two trains with a passenger platform C between the tracks A and a passenger platform D between the tracks B.

The portion of the structure shown is at the intersection of two streets at which a station is provided. Below the platform C there is provided another platform E which extends transversely of the latter. This platform E may, for example, extend east and west and be arranged to extend over the middle of an east and west street crossing a north and south street, the platforms C and D being disposed midway of the latter and parallel therewith. Similarly the platform E constituting a passageway, may be arranged midway of the ends of the platforms C and D.

At the respective ends of said platform E are the passenger ticket offices and waiting rooms F for passengers. These waiting rooms extend over the entire width of the platform E and are equipped with entrance doors opposed to the stairway landings G and H disposed at the upper ends of stairways I and J extending parallel with the platforms C and D and leading from the sidewalks of the north and south street. The roofs of the ticket offices are disposed preferably at the same level as the tracks B and are spaced therefrom.

Leading from the platform E to the platform D are wide stairways K and leading from the platform D to the platform C are somewhat narrower stairways L, the lower ends of which are spaced from the upper ends of the stairways K. The latter may, as shown, be provided with hand rails M intermediate the side hand-rails N thereof so as to divide said stairways into three divisions, the middle one of which may be confined to the use of ascending passengers and the others to the use of descending passengers.

The essential features of the invention reside in providing means for efficiently segregating passengers for local from passengers for express trains and for segregating opposing streams of passengers from each other to thereby expedite service. To this end the arrangement may be that the class of trains receiving and delivering the greatest number or proportion of passengers at the stations handling the greatest volume of business (as for example, the "loop district" of Chicago and the lower section of New York city) shall determine the level used for trains carrying the greater volume. Assuming that

the express trains to and from the great business sections carry the greater proportion, it would be obviously advantageous to run the express trains on the tracks B or lower level tracks in the case of elevated railways and, vice versa, on the tracks A or upper level in the case of subway installations. Limiting the walking distance of the larger proportion of passengers to the lesser distance will obviously tend to relieve congestion.

Hence, in the instant case, with reference to elevated railway structures, the express trains would run on the rails B and the outer side portions of the stairways K used for exit or descent only and the middle portion for entrance or ascent passengers only.

To more effectively segregate opposing streams of traffic, the platform E is divided into three aisles by means of suitable fencing or partitioning such as the elements M and N, the outer aisles leading from the intermediate hand-rails of the stairways K to exit platforms O. The latter are L-shaped to include landings at the upper ends of stairways P leading to the side-walks. These stairways P are aligned with the stairways I and are spaced therefrom. The exits from the outer aisles of the platform E to the platforms O are disposed adjacent the inner corners of the ticket office housings.

The platforms C and D must necessarily be of a length sufficient to permit entry and exit of passengers to every car of the longest train contemplated. Consequently a number of stairways such as the stairways L may connect the platforms C and D at intervals, an arrangement whereby certain of said stairways are limited to the use of ascending and other to the use of descending passengers being preferable. These additional stairways are omitted from illustration as being easily understood and commonly used.

Obviously turnstiles and signs may be used in connection with the various passages and stairways described and shown, the same being old in the art and constituting no part of this invention.

I claim as my invention:

1. A railway structure comprising sets of railway tracks disposed at different elevations, one above the other, passenger platforms disposed contiguous to said respective sets of tracks, stairways connecting the lower with the upper platform, a platform disposed below the lower of the aforesaid platforms and extending transversely thereof, ticket offices at the ends of the transverse platform, stairways extending from the street level to said ticket offices, stairways leading from said transverse platform to the next higher platform at points between the said ticket offices, said last-named stairways including passenger ascents and descents separated from each other, lateral platforms associated with said transverse platform adjacent the ends thereof, stairways leading from said lateral platforms to street level, and partitioning means on said transverse platform forming aisles thereon leading from said passenger descents to said lateral platforms to thereby segregate exit passenger streams from entering passenger streams.

2. A railway structure comprising two pairs of railway tracks arranged one above the other, a passenger platform for each pair of said tracks disposed therebetween, stairways connecting said platforms, a third platform extending transversely of said first-named platforms and spaced therefrom, stairways connecting said transverse platform at its middle portion with the nearest of the first-named platforms and including passenger entrances and exits, respectively, segregated from each other, ticket offices at the ends of said transverse platform equipped for access from street level by entering passengers only, auxiliary platforms associated with said transverse platform and equipped for exit of passengers to street level, and partitioning means on said transverse platform arranged to form aisles thereon connecting the aforesaid passenger exit stairways with said auxiliary platforms, and other aisles connecting the ticket offices with the aforesaid passenger entrance stairways.

3. A railway structure comprising two pairs of railway tracks arranged one above the other, a passenger platform for each pair of said tracks disposed therebetween, stairways connecting said platforms, a third platform extending transversely of said first-named platforms and spaced therefrom, stairways connecting said transverse platform at its middle portion with the nearest of the first-named platforms and including passenger entrances and exists, respectively, segregated from each other, ticket offices at the ends of said transverse platform equipped for access from street level by entering passengers only, said transverse platform including L-shaped extension portions arranged adjacent to and between the ticket offices, means connecting the outer end portions of said platform with street level, and partitioning means on said transverse platform arranged to form aisles thereon connecting the aforesaid passenger exit stairways with said extension portions and providing aisles connecting the ticket offices with the aforesaid passenger entrance stairways.

4. A railway structure including two platforms disposed at different elevations and extending transversely to each other, railway tracks bordering one of said platforms, stairways connecting said platforms and including passenger ascents and descents, respectively, segregated from each other, the other of said platforms provided at its ends with ticket offices, passenger stairways for entering passengers arranged to connect said

ticket offices with street level, passenger exit stairways arranged parallel with and spaced from said entrance stairways, means associating said exit stairways with said last-named platform, and means on the latter connecting associating means with the first-mentioned stairways to form aisles leading exit passengers from the track-bordered platform to the said exit stairways, and to form other aisles leading from the ticket offices to said first-named stairways and said track-bordered platform.

5. A railway structure including a plurality of railways tracks, passenger platforms associated and extending parallel therewith, a platform extending transversely to said tracks at a different elevation than the latter and at an elevation spaced from street level, passenger ticket offices disposed at opposite ends of the last mentioned platform and having opposed exits leading to the latter, entrances to each of said offices, stairways leading from street level to said entrances to cause all entering passengers to pass through said offices, exit stairways leading from said last-named platform to street level and arranged parallel with and above said entrance stairways, passage-ways on said last-named platform leading from the latter to said exit stairways, and stairways arranged between said ticket offices and said entrance and exit stairways connecting the several platforms with each other.

6. A railway structure including a plurality of railway tracks, passenger platforms associated and extending parallel therewith, a platform extending transversely to said tracks at a different elevation than the latter and at an elevation spaced from street level, passenger ticket offices disposed at opposite ends of the last-mentioned platform and having opposed exits leading to the latter, entrances to each of said offices, stairways leading from street level to said entrances to cause all entering passengers to pass through said offices, exit stairways leading from said last-named platform to street level and arranged parallel with and above said entrance stairways, passage-ways on said last-named platform leading from the latter to said exit stairways, and stairways arranged between said ticket offices and said entrance and exit stairways connecting the several platforms with each other, said last-named connecting stairways being equipped with means for separating ascending from descending traffic streams.

In testimony whereof, I have hereunto set my hand this 19th day of July, 1929.

LOUIS T. SCHUBERTH.