A. L. DRUM.

STATION CONSTRUCTION AND METHOD OF HANDLING TRAFFIC.

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1,174,400. Patented Mar. 7, 1916.

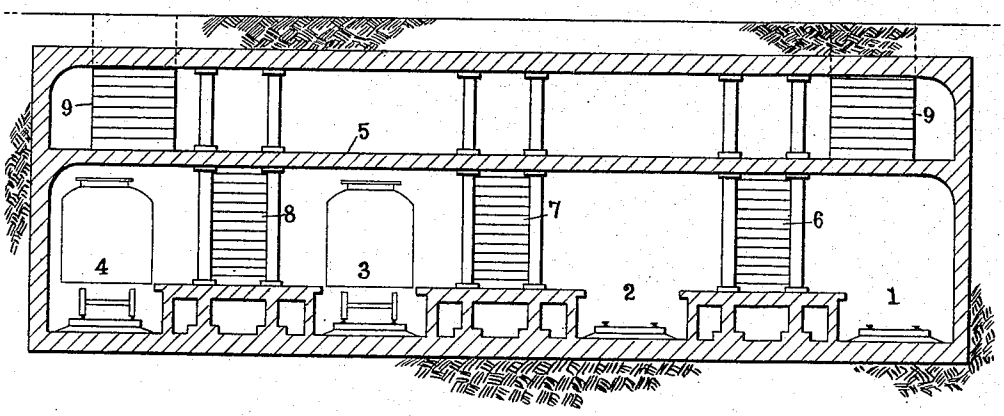


Fig. 2.

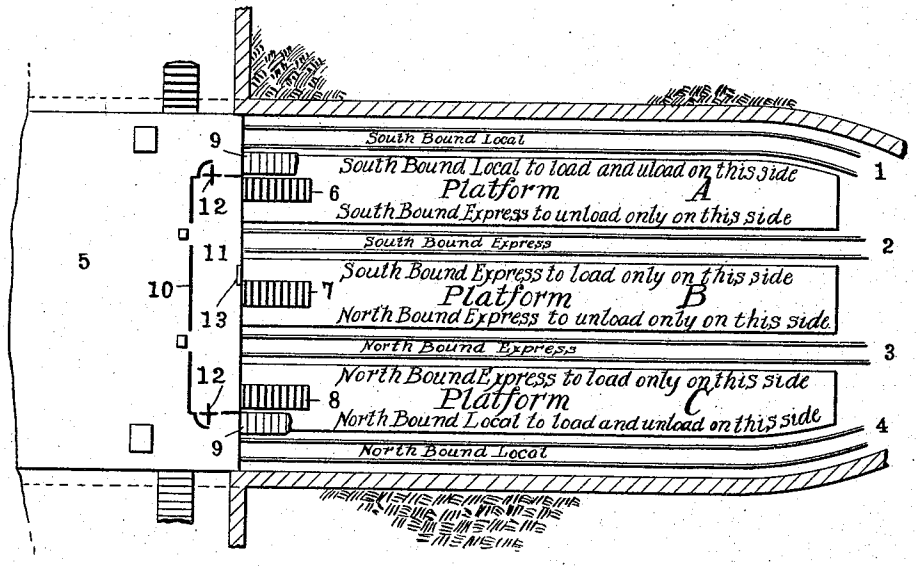


Fig. 1.

WITNESSES

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STATION CONSTRUCTION AND METHOD OF HANDLING TRAFFIC.

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To all whom it may concern:

Be it known that I, ALPHONSUS L. DRUM, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented certain new and useful Improvements in Station Construction and Methods of Handling Traffic, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to station construction and methods of handling the traffic therein, and with respect to its more specific features, to a station of a four-track railway system and methods of handling the passengers in loading and unloading the cars.

One of the objects of the present invention is the provision of a practical arrangement of tracks and station platforms whereby trains may be loaded and unloaded with a minimum consumption of time.

Another object is the provision of a simple arrangement of tracks and station platforms which permits of separating the loading from the unloading passengers on trains bound in the same direction, so as to eliminate interference between unloading, loading and transfer passengers, thereby adding to the comfort, convenience and safety of the traveling public besides increasing the capacity in trains per hour of the system.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the several steps and the relation and order of one or more of such steps with relation to each of the others thereof, and in the features of construction, combinations of elements and arrangement of parts which will be exemplified in the method hereinafter disclosed and the construction hereinafter set forth, and the scope of the application of each of which will be indicated in the following claims.

In the accompanying drawings, wherein the invention is shown embodied in a subway system and wherein similar reference characters refer to similar parts throughout the several views, Figure 1 represents a plan of a four-track subway at a passenger station; and Fig. 2 represents a cross-section of Fig. 1.

The numerals 1, 2, 3 and 4 indicate four through tracks of a railway system, the two inner tracks 2 and 3 being express tracks and the two outer tracks 1 and 2 being local tracks, the tracks 1 and 2 accommodating traffic in one direction, as south, and the tracks 3 and 4 accommodating traffic in a different direction, as north. Intermediate each pair of adjacent tracks is a platform, the present system providing three platforms A, B and C, the platform A being between local track 1 and express track 2; the platform B being between express track 2 and express track 3; and platform C being between express track 3 and local track 4, this arrangement providing three so-called "island platforms". Passenger traffic to and from the trains, or cars, on the several tracks 1, 2, 3 and 4 is confined to the island platforms A, B and C; that is to say, there are no passenger loading and unloading platforms immediately adjacent the outer sides of tracks 1 and 4. On the contrary the lateral walls of the subway may be continuous at the station and free from any interruption by the provision of outer lateral platforms at these points. A mezzanine gallery is provided as by means of a transverse floor or platform 5 extending across the tracks, and entrance from the mezzanine floor to the several platforms may be had by means of connecting stairways 6, 7 and 8. Entrance to the mezzanine platform from the street may be had by means of stairways 9. The ticket-booths and ticket-chopper or choppers will be located on the mezzanine platform, a partition or railing 10 being located on said platform and ticket-choppers being disposed adjacent entrances or gateways leading from the main portion of the mezzanine platform to within the inclosed portion 11. At either end of the inclosed or partitioned space 11 communicating with the stairways leading to the island platform, turnstiles 12 may be located, which latter will permit exit from the spaces 11 but prevent entry therethrough. Additional entries or exits to the main portion of the mezzanine platform may be provided if desired. A sign 13 is provided to direct passengers to one of the express trains, as the southbound, this sign being located at a convenient point, to indicate the stairway leading from the mezzanine to platform B.

By the above described construction is provided a four-track subway passenger station having three island platforms and

having no platform outside of the outer tracks. If, on the southbound express track 2, the traffic is heavier toward the station, then the transfer traffic will also be heavier from trains on the express track 2 to southbound trains on the local track 1. Although the trains on track 2 may have proper doors serving to permit exit and entry from both the platforms A and B, it will be apparent that should loading and unloading be permitted from both platforms, there would be a confusion of traffic, by reason of its being directed in opposite directions on a common platform and consequently more time would be consumed in loading and unloading than if the express train were loaded only from one side and unloaded only from the other. Hence in operating and handling the passenger traffic at the station on the southbound express track 2, the trains on this track are operated to unload to the platform A only and load from the intermediate platform B only, so as to avoid an increase of station stop due to a possible counter-current of loading and unloading passengers above referred to. The traffic being heavier inbound to the station on tracks 1 and 2, the transfer traffic from track 2 to track 1 will be the heavier, and by unloading trains on track 2 to the platform A, not only will the passengers who have reached their ultimate station be accommodated, but the heavier transfer traffic will be traveling in the same general direction transversely of the tracks as the remaining traffic, and thus there will be practically no interference and counter-currents of passenger traffic, as comparatively few passengers will transfer from the local train to the express train at this time.

On tracks 3 and 4, which have been referred to as "northbound", if the traffic is heavier outbound from the station, the transfer traffic from the local train on track 4 will be heavier to the train on track 3. Under these circumstances the northbound express train on track 3 is loaded only from platform C and is unloaded only to platform B, thus maintaining the current of passenger traffic in the same general direction and avoiding counter-currents of passenger traffic which cause accidents, discomfort and confusion, resulting in loss of time to the passengers in finding their way into and out of the trains. The heavier traffic being outbound on the northbound tracks, but few passengers will leave the express trains on track 3, the main traffic being on platform C from local trains on track 4 to express trains on track 3 and from the mezzanine gallery to express trains on track 3. The few passengers who may desire to transfer from the northbound express to the local would cause but little confusion at this point, and such confusion will be entirely avoided by directing them from platform B to platform C by way of the mezzanine platform.

By the above described construction and method of operation the time of station stop for express trains on either track 2 or track 3 will be reduced to a substantial extent as compared with that at prior forms of station, and the capacity in cars per hour of the express tracks will be increased, both of these factors tending to increase the capacity of the system and the safety, comfort and convenience of the traveling public.

As many changes could be made in carrying out the above method, and in the above construction, and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Having described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The herein described method of handling simultaneously incoming and outgoing passenger traffic in each of two directions during periods when the incoming exceeds the outgoing traffic in one direction and the outgoing exceeds the incoming traffic in the other direction, which consists in confining the greater incoming and the greater outgoing traffic to two separate platforms, and confining the lesser outgoing and the lesser incoming traffic to a third platform.

2. The herein described method of handling transferring, incoming and outgoing, express and local, traffic in each of two directions, at a station involving three island platforms, the incoming exceeding the outgoing traffic in one direction and the express-to-local exceeding the local-to-express transferring in the same direction, and the outgoing exceeding the incoming traffic in the other direction, and the local-to-express exceeding the express-to-local transferring in the last mentioned direction, which consists in confining the greater incoming traffic and the greater express-to-local transferring to one platform, and confining the greater outgoing traffic and greater local-to-express transferring to a second platform, and confining the lesser outgoing traffic and the lesser incoming traffic to a third platform.

3. The herein described method of han-

dling incoming and outgoing, express and local, traffic, at a station involving an express and a local track for traffic in each of two directions with platforms between adjacent tracks, which consists in confining express traffic incoming from one direction and outgoing in the other direction to a common platform, and confining the express traffic outgoing from said one direction and the local traffic incoming and outgoing in the same direction to a second platform, and confining the express traffic incoming in said other direction and the local traffic incoming and outgoing in the same direction to the third of said platforms.

In testimony whereof I affix my signature, in the presence of two witnesses.

ALPHONSUS L. DRUM.

Witnesses:
A. J. BLACK,
C. J. KULBERG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."