

E. ELEKTOROWICZ (BY JUDICIAL CHANGE OF NAME NOW E. DE RYSS).
STATION PLATFORM FOR RAILWAYS.

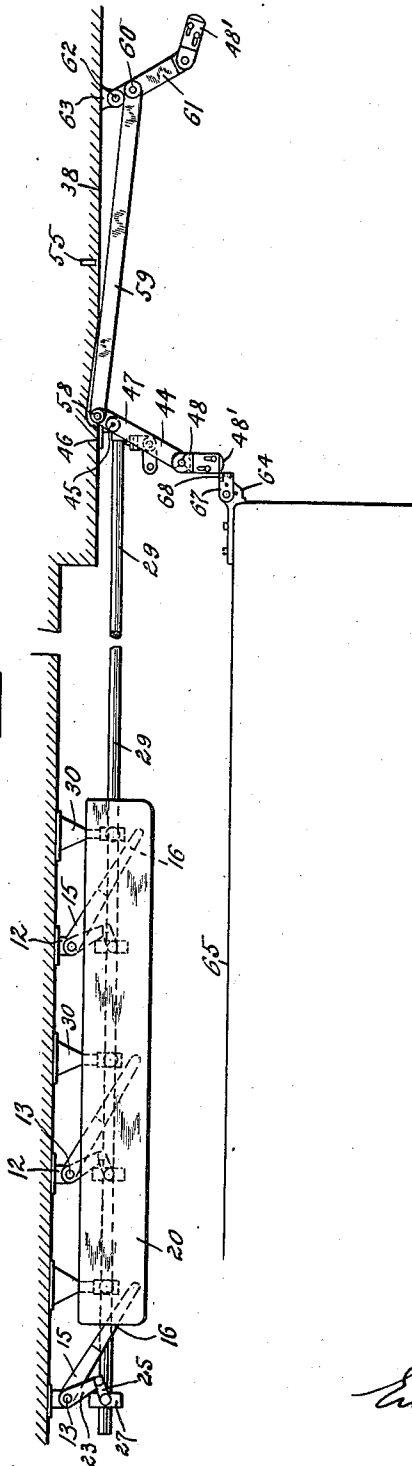
APPLICATION FILED FEB. 3, 1912.

1,027,828.

Patented May 28, 1912.

3 SHEETS—SHEET 1.

Fig. 1.



WITNESSES
W. Klink
S. Birnbaum

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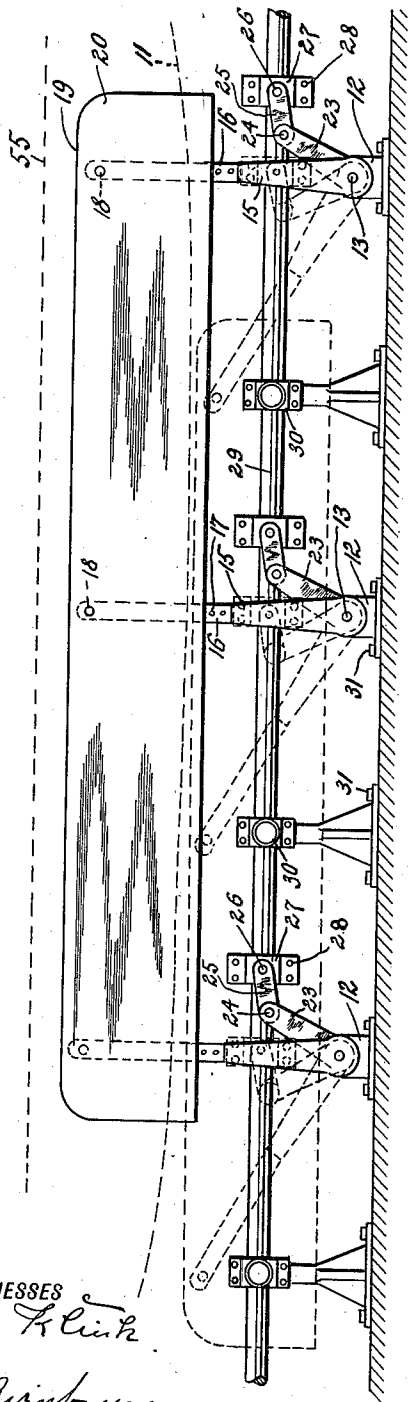
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Fig. 2.



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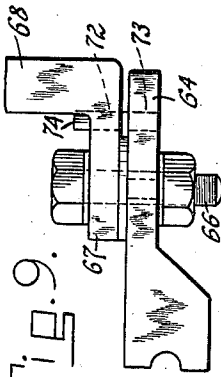


Fig. 9.

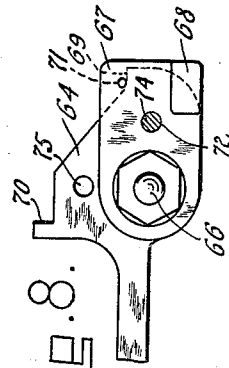


Fig. 8.

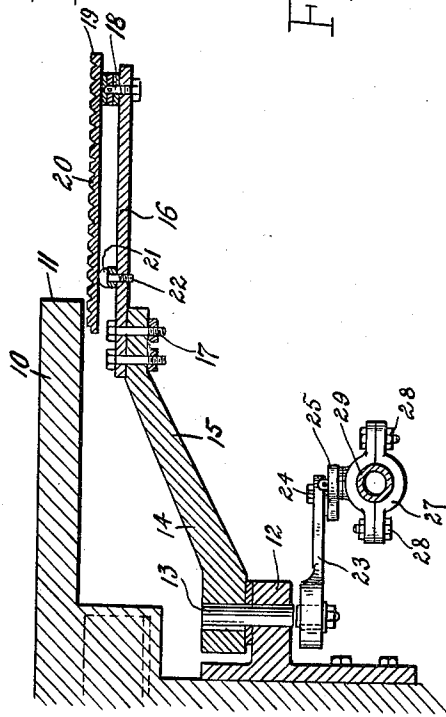


Fig. 3.

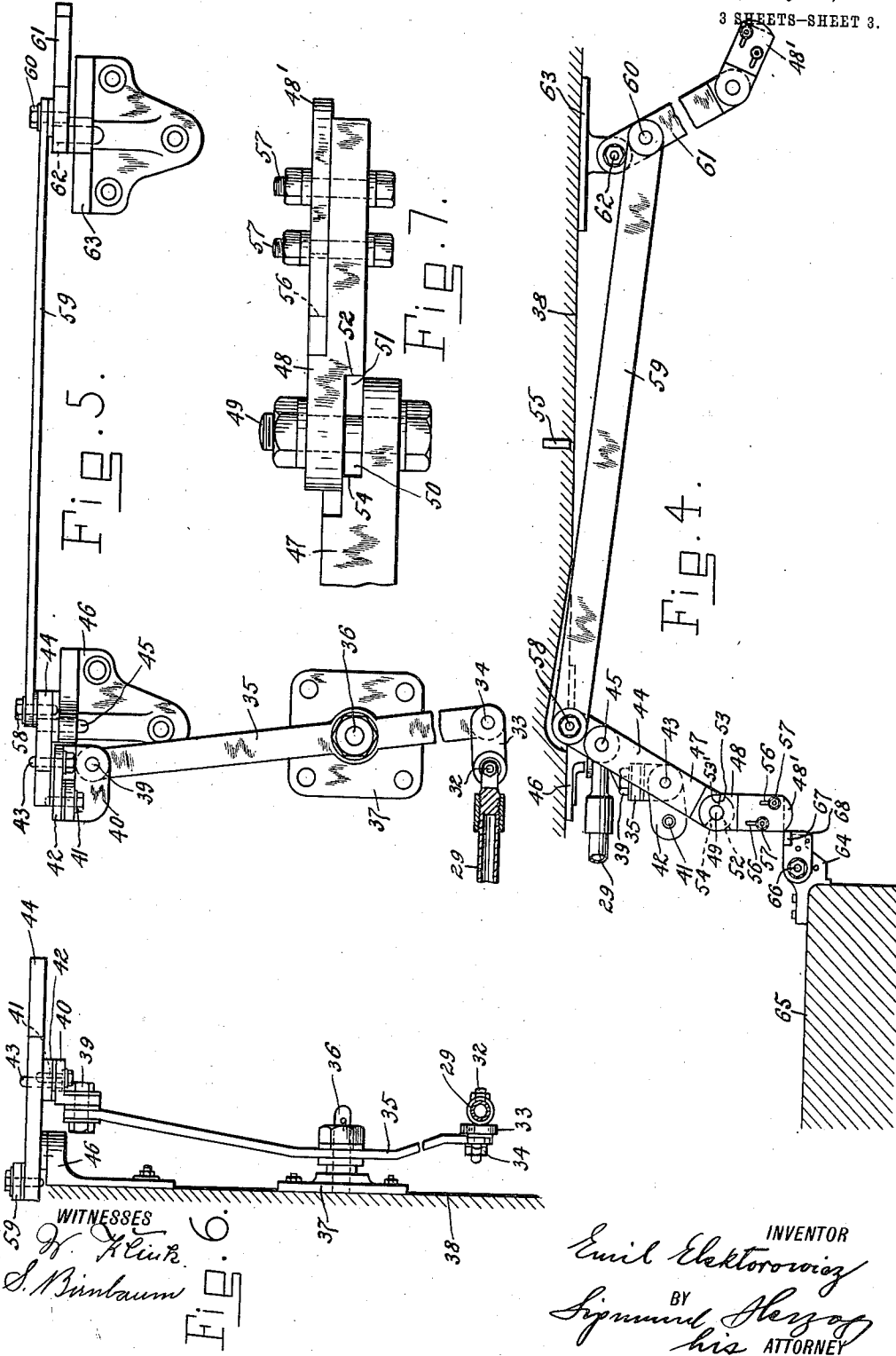
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3 SHEETS-SHEET 3.



WITNESSES
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 FIG. 6

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UNITED STATES PATENT OFFICE.

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STATION-PLATFORM FOR RAILWAYS.

1,027,828.

Specification of Letters Patent.

Patented May 28, 1912.

Application filed February 3, 1912. Serial No. 675,195.

To all whom it may concern:

Be it known that I, EMIL ELEKTOROWICZ, (by judicial change of name now EMIL DE RYSS,) a subject of the Emperor of Austria-Hungary, and resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Station-Platforms for Railways, of which the following is a specification.

The present invention relates to improvements in station platforms for railways, and is specially adapted for use in stations of the subways and elevated railroads, although, as will be seen hereinafter, it is not limited to that use.

The invention herein disclosed is of that kind shown and described in my application, Ser. No. 685,373, filed March 21, 1912, and refers more particularly to certain features of construction adapted for use in connection with an apparatus of this character.

At stations which are built on a curve of the track, the edge of the station platform must for structural reasons be arranged in such a manner that a gap or space appears between the curved edge of the platform and the edge portion of the car platform when the train stops at the proper place at the station. Similar conditions might arise when a station is built on a straight line track if the track is for some reason built at a substantial distance from the edge of the platform. Many accidents arise at such stations, owing to the fact that the persons boarding or getting off the train do not notice in due time the gap or space between the car platforms and the edge of the station platform.

It has been proposed heretofore to arrange at such stations so-called "emergency platforms" which are usually actuated by a station attendant, and serve to bridge over or close the gap between the train and the station platform. This arrangement is, however, objectionable for the reason that the trainmen very often open the doors or gates of the cars before said emergency platform has been put in place by the station attendant.

It is one of the objects of the present invention to provide simple and efficient auxiliary platforms for bridging over the gaps between the cars of the train and the station platform, which are automatically

operated by the train, and brought into their operative positions before the train stops, that is to say before the trainmen are allowed to open the doors of the cars.

Another object of the invention is to provide means, whereby the said auxiliary platforms are restored to their normal inoperative positions by the train as soon as the train moves a slight distance beyond the stop target.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and minor details of construction within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a plan view, somewhat diagrammatic, of one of the auxiliary platforms with the same actuating means for all; Fig. 2 is a plan view showing the platform both in its operative and inoperative positions; Fig. 3 is a transverse section of said platform; Fig. 4 is a plan view of the actuating means of the auxiliary platforms; Fig. 5 is a side elevation of the device shown in Fig. 4; Fig. 6 is a front elevation of the device shown in Fig. 4; Fig. 7 is an enlarged front elevation of a detail of construction of the actuating means; Fig. 8 is a plan view of a portion of the actuating means which is carried by the train; and Fig. 9 is a side elevation of the device shown in Fig. 8.

In the drawings, the numeral 10 indicates an overhang platform, the edge 11 of which is shown in Fig. 2 of the drawings in dotted lines, and constructed to conform to the curvature of the track. Below the overhang of the platform are fixedly attached to the structure a plurality of brackets 12, in each of which is oscillatably mounted a bolt 13. To these bolts are keyed, or otherwise attached, arms 14, 14, which are made for structural reasons of two sections 15 and 16,

bolted together at 17. To these arms are pivoted at 18 along their outer edges 19 auxiliary platforms 20, in the form of plates, their inner ends resting upon the semispherical heads 21 of studs 22, which are fastened in any suitable manner to the sections 16 of the arms 14. To the lower ends of the bolts 13 are keyed, or otherwise attached, levers 23, 23, which are arranged at an angle to the arms 14, 14. To the free ends of these levers are pivoted at 24 links 25, which are in a similar manner secured at 26 to caps 27, 27. These caps are rigidly fastened by means of clamping screws 28, or otherwise, to a rod 29, which is slidably arranged in bearings 30, 30, the latter being attached to the platform below its overhang, for instance by means of screws 31, 31. The rod 29 extends along the platform of the station and is connected with a number of auxiliary platforms in the manner now described. Obviously there are as many auxiliary platforms as there are doors in the longest train which the station platform is adapted to accommodate. It should be noted that the stop target of the station is arranged relative to said auxiliary platforms in such a manner that, when the first car or motor car stops at the target, said auxiliary platforms will be in nearly registering position with the car platforms. Normally the auxiliary platforms are arranged below the overhang 10 of the station platform, as clearly shown in dotted lines in Fig. 2 of the drawings. These positions may be termed the "normal inoperative positions" of the auxiliary platforms. When extended, an auxiliary platform will occupy the position shown in full lines in Fig. 2 of the drawings, in which case the arms 14 will extend substantially at right angles to the tangents of the railroad track at these points, or, if the track is a straight one, in lines at right angles to the center line of the same. The extended position may be termed the "operative position."

As has been stated above, the auxiliary platforms are brought from their inoperative positions into their operative ones automatically by an incoming train. For this purpose the rod 29 is connected pivotally at 32 with a connecting link 33, which latter is in a similar manner secured at 34 to a substantially vertical two armed lever 35. This lever is fulcrumed at 36 to a bracket 37, which is fastened in any suitable manner to the wall 38 of the subway, or to any other suitable support. At its upper end the lever 35 is fastened by means of a horizontal pivot 39 to a lug 40, preferably in the form of an angle-iron, to which is fastened by means of a substantially vertical pivot 41 a connecting link 42, attached by means of a similar pivot 43 to a two armed actuating lever 44, which is fulcrumed at 45 to a bracket 46, which latter is carried by the wall of the subway or a

similar support. This two armed lever extends a substantial distance inward from the wall or support, and is made of two sections 47 and 48, as shown in detail in Fig. 7 of the drawings. These two sections are bolted together by a vertical screw 49, and are provided with recesses 50 and 51, respectively. These recesses overlap each other and extend in the section 48 from the stop 52 to the stop 53, shown in Fig. 4 of the drawings. The recess 51 extends from the stop 53' to the stop 54.

From an inspection of Figs. 4 and 7 of the drawings, it will be seen that the stops 52, 53, 53' and 54 of the two arms limit the oscillating movement of the section 48 around the bolt 49 relative to the section 47. More particularly, the section 48 is adapted to swing around the bolt until its stop 53 abuts against the stop 53' of the section 47. This position is shown in Fig. 4 of the drawings. On the other hand, the section 48 is adapted to swing around the bolt 49 until its stop 52 abuts against the stop 53 of the section 47. The purpose of this arrangement will be more fully described hereinafter. In the normal position of the lever 44, the section 48 of the same is arranged substantially at right angles to the middle line of the track, and is held in such position a distance, say for instance, three feet in front of the stop target, marked 55. As it might be necessary to vary the length of the section 48 of the lever 44, an adjusting plate 48' is provided with slots 56, 56, which are engaged by clamping screws 57, 57 for fixing the position of said plate upon said arm 48. Adjustment might become necessary if the said plate is worn, or as the particular construction of the station may require. The lever 44 is pivotally connected at 58 with one end of a connecting bar 59, the other end of which is pivoted at 60 to a lever 61, which is fulcrumed at 62 to a bracket 63 upon the wall of the subway, or upon any other suitable support. The construction of the lever 61 is in all respects identical with that of the lever 44, except that it is made in the form of a one armed lever. The connection between the levers 44 and 61 is such, that the section 48 of the lever 61 will be arranged at an angle to the middle line of the track when the section 48 of the lever 44 is held at right angles thereto, and vice versa. The lever 61 is mounted a substantial distance beyond the stop target 55 for a purpose which will be hereinafter fully described.

That part of the platform actuating means which is mounted upon the train comprises a base plate 64, shown in detail in Figs. 8 and 9 of the drawings, which is fastened in any suitable manner in front of the motor car 65. To this base plate is fulcrumed at 66 a horizontal block 67, with which is made integral or to which it attached a vertical

setting bar 68, in the path of which is arranged the adjusting plate 48' upon the lever 44, when the section 48 of said lever is held in its normal position, shown in Fig. 4 of the drawings. The base plate 64 is provided with two stops 69 and 70, while the lower surface of the block 67 carries a pin 71. This pin abuts against the stop 69 when the setting bar 68 is in its operative position, in which case an aperture 72 in the said block registers with an aperture 73 in the base plate. A pin 74 inserted in the said two registering apertures serves to keep the setting bar 68 in its operative position. When not needed, that is to say when the train runs along a track, the stations of which have no auxiliary platforms, or when the motor car is not used as such, the block 67 with the setting bar 68 may be swung around its pivot 66, until the pin 71 will abut against the stop 70 and the aperture 72 in the block will register with an aperture 75 in the base plate, to be held in such position by means of the pin 74, which is inserted into the two now registering apertures.

The operation of the device is as follows: The normal position of one of the emergency platforms and the operating means for all of the same is shown in Fig. 1 of the drawings. As soon as a train enters the station, it will normally slow down as it proceeds toward the stop target 55. Before the motor car reaches the stop target, its setting bar 68 will engage the adjusting plate 48' of the lever 44. By shifting this lever in the direction of movement of the motor car, the lower end of the lever 35 will move around its fulcrum 36 in an opposite direction, and shift thereby the rod 29 in the direction indicated by the arrow in Fig. 1, by which movement the auxiliary platforms will be brought into their operative positions, shown in full lines in Fig. 2 of the drawings, thereby bridging over or closing the gaps between the edge of a station platform and those of the cars. It will be observed that in shifting the lever 44 in the direction indicated above, the lever 61 will move in an opposite direction, and be brought into a position, whereby the section 48 will be arranged substantially at right angles to the center line of the track. When the train moves out of the station, the setting bar 68 will engage the lever 61, and move the same around its pivot in the direction of the motion of the train. By this movement, the several parts are caused to assume their normal positions, that is to say the emergency platforms are stored below the overhang of the station platform and the actuating means restored to those positions in which they can be operated by the next incoming train.

It should be observed that the construction of the levers 44 and 61 permits a train, which has passed beyond the platform, to

reënter the station without operating the auxiliary platforms. In reëntering the station, the setting bar 68 will simply shift the section 48 of said lever 44 around its bolt 49 until the stop 52 will abut against the stop 54 without actuating the rod 29.

What I claim is:—

1. The combination with the overhang of a station platform, of a plurality of plates shiftably mounted below said overhang, said plates being normally held under said overhang, but being adapted to be shifted to bridge over the gaps between the station platform and the platforms of the cars, and means adapted to be actuated by an incoming train for causing said plates to move into their operative positions.

2. The combination with the overhang of a station platform, of a plurality of plates shiftably mounted below said overhang, said plates being normally held under said overhang, but being adapted to be shifted to bridge over the gaps between the station platform and the platforms of the cars, means adapted to be actuated by an incoming train for causing said plates to move into their operative positions, and means adapted to be operated by an outmoving train for causing said plates to move into their normal positions below said overhang.

3. The combination with the overhang of a station platform, of a plurality of plates shiftably mounted below said overhang, said plates being normally held under said overhang, but being adapted to be shifted to bridge over the gaps between the station platform and the platforms of the cars, means adapted to be actuated by an incoming train for causing said plates to move into their operative positions, and means adapted to be operated by an outmoving train for causing said plates to move into their normal positions below said overhang and for restoring said first named means to its normal initial position.

4. The combination with the overhang of a station platform, of a plurality of arms oscillatably mounted below said overhang, a plate pivotally attached near to the outer edges of said arms, said plate being normally held under said overhang, but being adapted to project beyond the same to bridge over the gap between the station platform and the platform of a car when said arms are held substantially at right angles to the tangents of the track, and means connected with said arms and adapted to be actuated by an incoming train for causing said arms to project beyond said overhang and said plate to move into its operative position.

5. The combination with the overhang of a station platform, of a plurality of arms oscillatably mounted below said overhang, a plate pivotally attached near to the outer

edges of said arms, said plate being normally held under said overhang, but being adapted to project beyond the same to bridge over the gap between the station platform and the platform of a car when said arms are held substantially at right angles to the tangents of the track, means connected with said arms and adapted to be actuated by an incoming train for causing said arms to project beyond said overhang and said plate to move into its operative position, and means connected with said first named means adapted to be operated by an outgoing train to restore said arms and said plate to their normal positions below said overhang.

6. The combination with the overhang of a station platform, of a plurality of arms oscillatably mounted below said overhang, a plate pivotally attached near to the outer edges of said arms, said plate being normally held under said overhang, but being adapted to project beyond the same to bridge over the gap between the station platform and the platform of a car when said arms are held substantially at right angles to the tangents of the track, means connected with said arms and adapted to be actuated by an incoming train for causing said arms to project beyond said overhang and said plate to move into its operative position, and means connected with said first named means adapted to be operated by an outgoing train to restore said arms and said plate to their normal positions below said overhang and said first named means to its normal initial position.

7. The combination with the overhang of a station platform, of a plurality of arms oscillatably mounted below said overhang, a plate pivotally attached near the outer edges of said arms, said plate being normally held under said overhang, but being adapted to project beyond the same to bridge over the gap between the station platform and the

platform of a car when said arms are held substantially at right angles to the tangents of the track, a rod shiftably mounted under said overhang and operatively connected with all of said arms, and means arranged immediately in front of the stop target of the station connected with said rod and adapted to be actuated by an incoming train for causing said rod to be shifted and thereby said arms to project beyond said overhang and said plate to move into its operative position.

8. The combination with the overhang of a station platform, of a plurality of arms oscillatably mounted below said overhang, a plate pivotally attached near the outer ends of said arms, said plate being normally held under said overhang, but being adapted to project beyond the same to bridge over the gap between the station platform and the platform of a car when said arms are held substantially at right angles to the tangents of the track, a rod shiftably mounted under said overhang and operatively connected with all of said arms, means arranged immediately in front of the stop target of the station connected with said rod and adapted to be actuated by an incoming train for causing said rod to be shifted and thereby said arms to project beyond said overhang and said plate to move into its operative position, and means arranged beyond said stop target connected with said first named means and adapted to be operated by an outgoing train to restore said arms and said plate to their normal positions below said overhang.

Signed at New York, in the county of New York and State of New York, this 30th day of January, A. D. 1912.

EMIL ELEKTOROWICZ.

Witnesses:

SIGMUND HERZOG,
S. BIRNBAUM.