June 10, 1941. F. H. LEHECKA 2,245,283

FLOORING FOR HOUSED SWITCHES

Filed Nov. 12, 1940 2 Sheets-Sheet 1

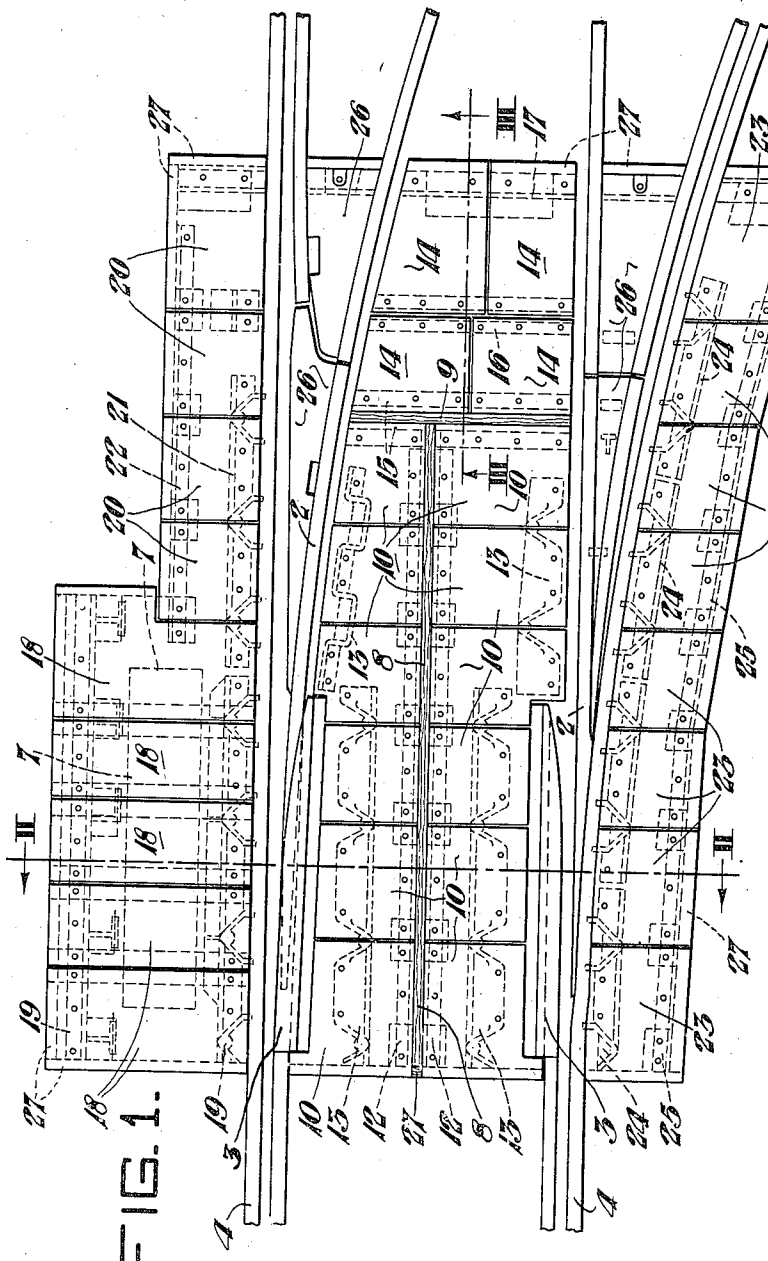


FIG. 1.

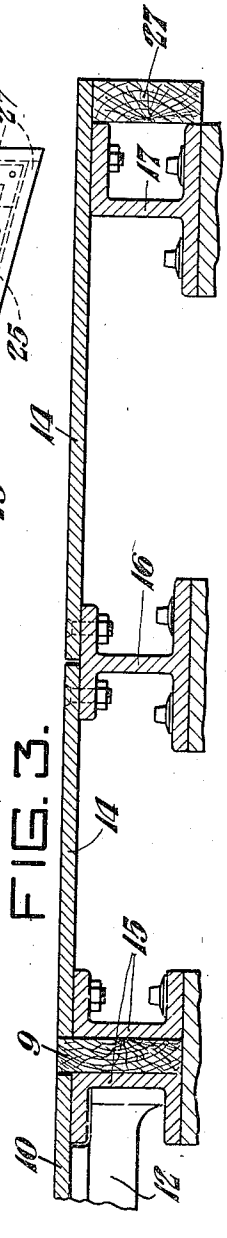


FIG. 3.

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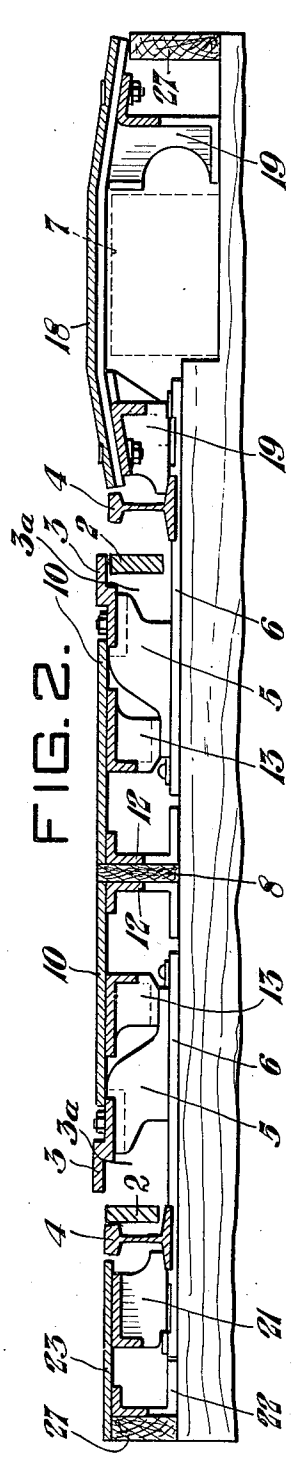


FIG. 2.

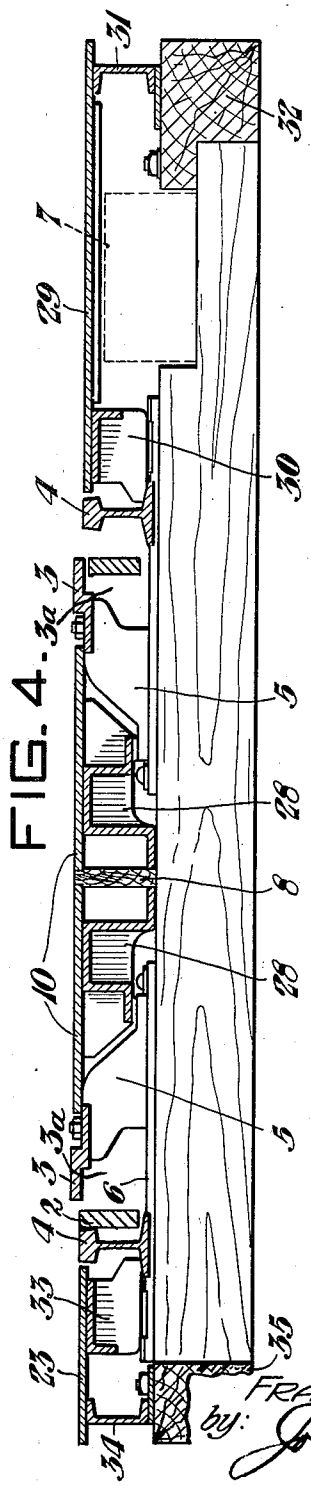


FIG. 4.

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FLOORING FOR HOUSED SWITCHES

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Application November 12, 1940, Serial No. 365,358

4 Claims. (Cl. 238—380)

This invention relates to switches of railroad tracks and, particularly, to a flooring for use therewith and especially for use in connection with housed-point type split switches.

This application is a continuation-in-part of my copending application, Serial No. 262,985, filed March 20, 1939.

In ordinary railroad track, such as is commonly used in city streets for street cars, usually the common type tongue switches and mates are provided for switching the cars from one track to another. Such switches are usually permanently located in the street pavement and are so constructed and designed that motor and other vehicles can easily traverse thereover without danger or difficulty. In the tracks used for subway trains and the like, which are designed for high speed, it is necessary to provide open split switches of the housed-point type for safety in operation. Such switches require constant maintenance and must be accessible for inspection and adjustment at all times to insure such safety and sureness of operation.

In order to make the working and operating parts of such switches accessible for repair and, at the same time, provide a suitable and safe running surface for the use and passage of motor and other street vehicles thereover, it is necessary to provide a system of removable flooring or pavement therearound which can be quickly and conveniently removed and it is to such that the present invention refers.

It is one of the objects of the present invention to provide an improved flooring for open split switches of the housed-point type for railroad tracks which is simple and inexpensive in its construction and, at the same time, a flooring which can be quickly and conveniently removed and replaced.

It is another object of the invention to provide a floooring for open split switches of the housed-point type for railroad tracks which is substantially level with the top of the rails so as to permit the safe and smooth passage of motor and other vehicles thereover.

Various other objects and advantages of this invention will be more apparent in the course of the following specification and will be particularly pointed out in the appended claims.

In the accompanying drawings there is shown, for the purpose of illustration, an embodiment and a modification thereof which my invention may assume in practice.

In these drawings:

Figure 1 is a plan of the improved flooring of my invention showing it in position around an open split switch of the housed-point type;

Figure 2 is a section taken on the line II—II of Figure 1;

Figure 3 is a section taken on the line III—III of Figure 1; and

Figure 4 is a transverse section similar to Figure 2 showing a modified construction.

Referring more particularly to the drawings, the improved flooring of my invention is shown incorporated with a conventional open split switch of the housed-point type which is usually employed in connection with the rails for subway trains and the like. The switch shown includes a pair of movable switch point rails **2**, one being associated with each rail, and a pair of guard members or bars **3** which are positioned opposite the extreme pointed end of the switch point rails **2** in parallel relation with the stock or main rails **4** from which they are suitably spaced and supported preferably by guard bar chairs **5** which are mounted on the switch base plate **6** which is in turn mounted on the railroad ties. The guard members **3** and the chairs **5** are so constructed and arranged as to provide a longitudinally extending housing **3a** in under the guard members and extending substantially throughout the length thereof for a purpose hereinafter to be described.

There is also associated with the switch a box **7** for housing a suitable electric throw switch, for operating the same, which is preferably located to one side of the tracks as shown in Figure 2 of the drawings. Although the improved system of flooring of my invention is shown incorporated with an open split switch of the housed-point type, it will be understood that this flooring can be used in connection with any similar type switch.

According to the present invention, there is positioned centrally between the stock rails **4** and parallel thereto a longitudinally extending insulating member **8** which extends for a substantial distance in the vicinity of the switch preferably from a point just outside the outer ends of the guard bars **3** to a point intermediate the switch point rails **2** and has a height at least equal to the height of the rails **4** and preferably a height slightly more than that of the rails. This insulating member **8** is preferably a wooden strip which has preferably been treated with creosote oil or the like to protect it from the elements. There is positioned between the switch point rails **2** flush with the end of the insulating member **8**, and substantially perpendicularly thereto, a simi-

lar insulating member 9 which is also preferably a wooden strip which has been similarly treated.

There is arranged, between the insulating member 8 and each of the guard rails 3, a plurality of suitable metallic cover plates 10 which are supported by longitudinally extending structural channel members 12 disposed on the railroad ties on each side of the insulating member 8, and longitudinally extending structural angle members 13 preferably arranged on the guard bar chairs 5 with the outer ends of the cover plates adapted to rest on top of the same, as shown in Figure 2.

There is also disposed on the upper side of the insulating member 9, between the tracks of the switch, as shown in Figure 3, a plurality of metallic cover plates 14 which are adapted to enclose this part of the switch. These cover plates 14 are supported by a structural channel member 15 disposed on the outer side of the insulating member 9, the I-beam 16, and the structural H-member 17 positioned at the extreme upper end thereof, all of which are suitably mounted on the cross ties perpendicularly to the rails.

The switch throw box, at the side of the track, is covered by a plurality of metallic cover plates 18 which are supported by the longitudinally extending structural angular members 19. There is also positioned on that side of the track, on the upper side of the cover plates 18, a plurality of smaller metallic cover plates 20 which are supported by a similar longitudinally extending structural angle member 21 and a channel member 22.

On the opposite side of the tracks there is disposed a plurality of metallic cover plates 23 similar in size to the smaller sized cover plates 20 which are likewise supported by a longitudinally extending structural angle member 24 and a longitudinally extending structural channel member 25. There is arranged between the rails at the frogs thereof a pair of cover plates 26 which are supported by similar suitable structural members. The entire structural part of the flooring is preferably enclosed by a wooden frame 27 on which the outer ends of the outer disposed cover plates of the flooring are adapted to lie.

In Figure 4 there is shown a modified construction of the improved flooring of my invention. In this construction, the cover plates 10 between the rails are supported by a pair of longitudinally extending structural chair members 28 having substantially a double reverse Z-shaped cross section with one disposed on each side of the insulating member 8 and so arranged that the outer ends of the cover plates are adapted to rest on the guard bar chairs 5, as in the preferred construction. The cover plates 29 in this modified construction enclosing the switch throw box are supported preferably by longitudinally extending structural angle members 30 with the outer ends of these cover plates supported by longitudinally extending channel irons 31 which are supported in turn preferably by a tie 32 disposed parallel to the tracks and attached to the ends of the cross ties.

The metallic cover plates 23 on the opposite side of the track in this construction are disposed on a longitudinally extending structural angle member 33 similar to the angle member 21 with the outer ends of the cover plates supported by a longitudinally extending structural channel member 34 which is in turn supported preferably by ties 35 extending parallel to the rails 4 and located at the ends of the cross ties. All of the cover plates are held in position on the structural members preferably by means of machine screws or the like which can be easily removed and replaced from the outer side.

It will be understood that the extreme pointed ends of each of the switch point rails 2 are positioned in the housings 3a in under the respective guard bars or members 3, as is clearly shown in Figures 2 and 4 of the drawings, when the point rails are disposed out of contact and away from the main or stock rails 4 so that the points are protected, thereby eliminating any danger of their becoming damaged or unintentionally moved and at the same time eliminating the hazard of such points to both vehicular and pedestrian traffic thereover. Thus, it will be seen that the guard bars or members 3 together with all of the cover plates provide a continuous vehicular floor and housing for the operating parts of the switch substantially level with the top of the rails with each of the cover plates being of such size and arranged so that any one of them can be easily and conveniently removed without disturbing the others for making repairs to the operating parts of the switch which is a decided advantage.

As a result of my invention, it will be seen that there is provided a system of flooring which will not interfere with the actuation of the switch and which will permit quick and convenient periodical inspection and maintenance of working parts of the same, and, at the same time, a flooring which will allow motor vehicles and the like to pass safely over the switch and travel the same route as the trains without subjecting such vehicles to undue risk.

While I have shown and described an embodiment of my invention and a modification thereof, it will be understood that these embodiments are merely for the purpose of illustration and description and that various other forms may be devised within the scope of my invention, as defined in the appended claims.

I claim:

1. In a railroad track, a switch including a pair of movable switch point rails with one being associated with each main rail, a guard member arranged along the inside of each of said rails substantially parallel thereto and spaced therefrom, said guard members positioned opposite the switch point rails with at least the extreme points of the same adapted to be positioned thereunder to house the same when the point rails are disposed in one position away from the main rails so that said points are protected thereby, means for supporting said guard members, a plurality of removable cover plates arranged at least between said guard members and the main rails throughout the vicinity of said switch, and means arranged on the railroad ties for supporting said cover plates, each of said guard members together with all of said cover plates being arranged so that substantially a continuous vehicular floor is provided between the rails substantially level with the top thereof and being removably disposed so as to provide a removable flooring throughout the vicinity of the switch with each of said cover plates being of such size and arranged so that any one of them can be easily and quickly removed from position without disturbing the others for making repairs to the switch.

2. In a railroad track, a switch including a pair of movable switch point rails with one being associated with each main rail, a guard member ar-

ranged along the inside of each of said rails substantially parallel thereto and spaced therefrom, said guard members positioned opposite the switch point rails with at least the extreme points of the same adapted to be positioned thereunder to house the same when the point rails are disposed in one position away from the main rails so that said points are protected thereby, a plurality of removable cover plates arranged at least between said guard members and the main rails throughout the vicinity of said switch and a plurality of structural members arranged on the railroad ties for supporting said guard members and all of said cover plates, each of said guard members together with all of said cover plates being arranged so that substantially a continuous vehicular floor is provided between the rails substantially level with the top thereof and being removably disposed so as to provide a removable flooring throughout the vicinity of the switch with each of said cover plates being of such size and arranged so that any one of them can be easily and quickly removed from position without disturbing the others for making repairs to the switch.

3. In a railroad track, a switch including a pair of movable switch point rails with one being associated with each main rail, a guard member arranged along the inside of each of said rails substantially parallel thereto and spaced therefrom, said guard members positioned opposite the switch point rails with at least the extreme points of the same adapted to be positioned thereunder to house the same when the point rails are disposed in one position away from the main rails so that said points are protected thereby, a plurality of removable cover plates arranged between said guard members and the main rails throughout the vicinity of said switch, a plurality of similar removable cover plates arranged along the outer side of each of said main rails and said point rails, and a plurality of structural members arranged on the railroad ties for supporting said guard members and all of said cover plates, each of said guard members together with all of said cover plates being arranged so that substantially a continuous vehicular floor is provided between the rails substantially level with the top thereof and being removably disposed so as to provide a removable flooring throughout the vicinity of the switch with each of said cover plates being of such size and arranged so that any one of them can be easily and quickly removed from position without disturbing the others for making repairs to the switch.

4. In a railroad track, a switch including a pair of movable switch point rails with one being associated with each main rail, a guard member arranged along the inside of each of said rails substantially parallel thereto and spaced therefrom, said guard members positioned opposite the switch point rails with at least the extreme points of the same adapted to be positioned thereunder to house the same when the point rails are disposed in one position away from the main rails so that said points are protected thereby, a switch box disposed to one side of said main rails for housing an electric throw switch for operating the switch, a plurality of removable cover plates arranged between said guard members and the main rails throughout the vicinity of said switch, a plurality of similar removable cover plates arranged along the outer side of each of said main rails and said point rails, and a plurality of structural members arranged on the railroad ties for supporting said guard members and all of said cover plates, each of said guard members together with all of said cover plates being arranged so that substantially a continuous vehicular floor is provided between the rails substantially level with the top thereof so as to house the operating parts of the switch together with the switch box and with the cover plates being removably disposed so as to provide a removable flooring throughout the vicinity of the switch and each of said cover plates being of such size and arranged so that any one of them can be easily and quickly removed without disturbing the others for making repairs to the operating parts of the switch.

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