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D. & A. A. MULLEN.
MARGINAL PROTECTING STRIP FOR PAVEMENTS.
APPLICATION FILED SEPT. 24, 1901.

NO MODEL.

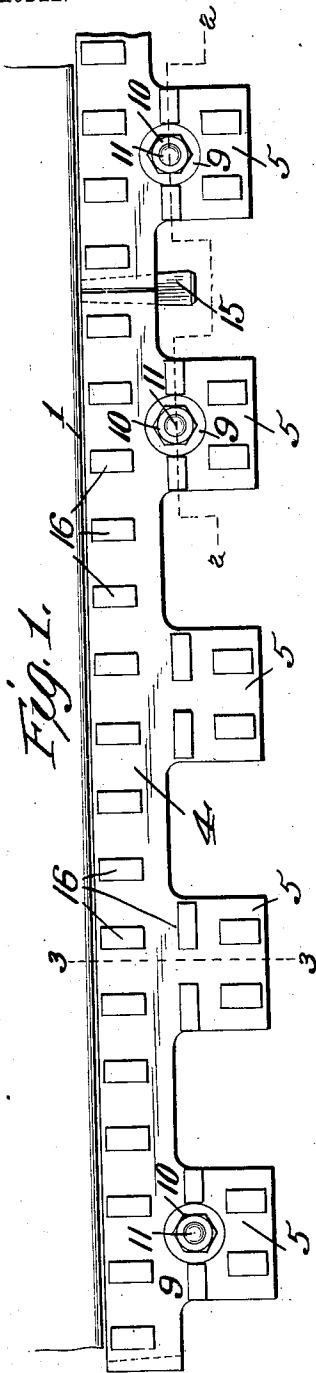


Fig. 1.

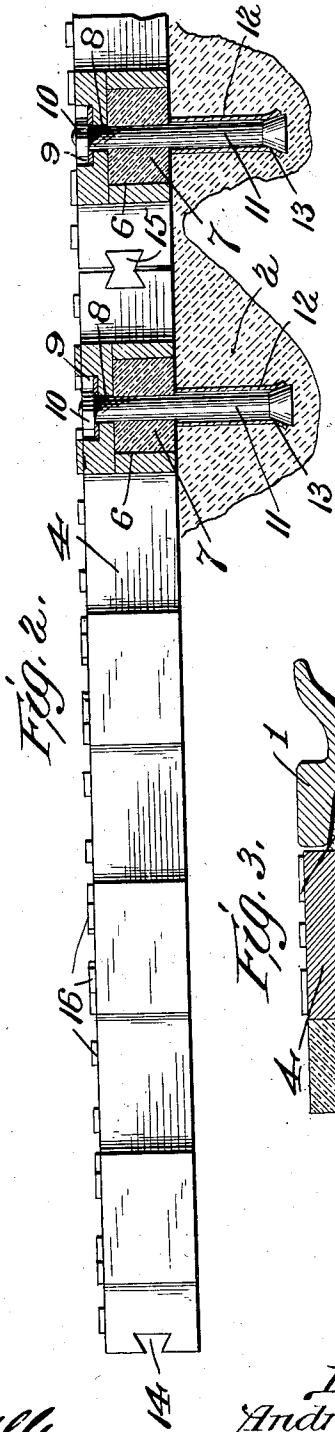


Fig. 2.

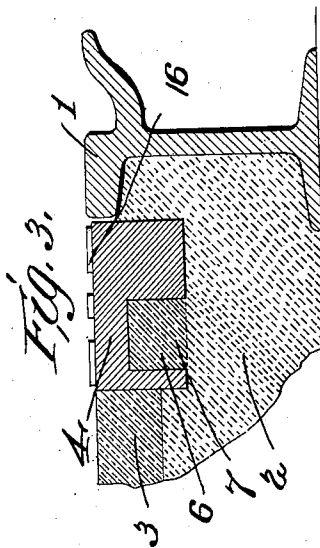


Fig. 3.

Witnesses

William F. Hall
J. P. Mather,

Inventors

Daniel Mullen
Andrew A. Mullen
by J. A. Russell
Attorney

UNITED STATES PATENT OFFICE.

DANIEL MULLEN AND ANDREW A. MULLEN, OF NEW YORK, N. Y.; SAID
DANIEL MULLEN ASSIGNOR TO SAID ANDREW A. MULLEN.

MARGINAL PROTECTING-STRIP FOR PAVEMENTS.

SPECIFICATION forming part of Letters Patent No. 739,899, dated September 29, 1903.

Application filed September 24, 1901. Serial No. 76,369. (No model.)

To all whom it may concern:

Be it known that we, DANIEL MULLEN and ANDREW A. MULLEN, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Marginal Protecting-Strips for Pavements; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in marginal protecting-strips for pavements, and it is especially designed as an improvement in strips for protecting the edges of asphalt pavements along railway-rails and other bodies susceptible to vibration.

The object of the present invention is the provision of a strip of the class stated which is so constructed as to insure the protection from damage of asphalt pavements at their edges contiguous to railway-rails, which damage commonly arises by reason of the vibration of the rails incident to the passage of the rolling-stock; and, furthermore, the invention contemplates the provision in the construction of the protecting-strip of simple and efficient means for deadening the noise of traffic occasioned by the passage of vehicles over the strips.

A further object of the present invention is to provide, in conjunction with the protecting-strips, an efficient medium for anchoring the strips, so that the latter are absolutely independent of the tram-rails, but at the same time capable of expansion and contraction incident to varying changes of temperature.

With these general objects in view and others which will appear as the nature of the improvements is better understood the invention consists, substantially, in the novel construction, combination, and arrangement of parts, as will be hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a top plan view of a pair of protecting-strips constructed in accordance with the present invention and illustrated in applied position. Fig. 2 is a side elevation thereof, illustrating the strips

mounted upon the usual concrete foundation and also illustrating in section the anchoring means for the strips. Fig. 3 is a transverse sectional view on the line 3 3, Fig. 1.

Referring to the drawings, the numeral 1 designates a railway-rail of usual construction; 2 the ordinary concrete foundation of an asphalt pavement, and 3 the asphalt surface laid upon the foundation 2. These elements forming no part of the present invention in their details it is needless to enter into a further discussion of their construction and formation. As before premised, however, the present invention relates to a marginal protecting-strip for the surface 3 at its edge contiguous to the rail 1, and said strip consists of an elongated body 4, which may be of cast-iron or any other desired material, said strip being preferably of a length to correspond to the usual length of an ordinary rail and also having its edge which lies adjacent to the rail perfectly straight, so as to preserve complete parallelism between said edge and the rail. The strip 4 is laid upon or embedded in the upper surface of the concrete 2; but it will be observed that in so positioning the strip 4 a sufficient space is permitted to remain between the rail and the strip as will enable the former vibrating without in any degree affecting the position of the strip. As the strip 4 is interposed between the edge of the asphalt surface 3 and the rail 1 and as the strip is unaffected by the vibration of the rail, it is obvious that the surface 3 is also perfectly free from the vibration of the rail, and hence cracking and breaking of said surface are entirely prevented.

Arranged at the outer edge of the strip 4, or that which is most remote from the rail 1, and spaced at suitable intervals along the strip 4 is a series of outwardly-extending substantially rectangular wings 5, each of said wings being provided at its under face with a recess or pocket 6, and said pockets when the strip 4 is in applied position are filled with a suitable composition 7, preferably asphalt, as clearly shown in Fig. 3, in order to effectually absorb and deaden all noise arising from traffic of vehicles over the wings and strip. It will also be observed that the recesses or pockets 6 are so arranged as to be

entirely protected, unexposed, and out of alignment with the abutting edges of the surface 3, and consequently the composition which is received by said recesses or pockets is entirely free from the entrance and accumulations of water which might pass down between the surface 3 and the strip. It is also essential that the strips when laid along the tracks should be maintained in fixed relation thereto and firmly held upon the concrete foundation 2, and to this end each strip is provided adjacent to its ends or at any other desired points with bolt-receiving openings 8, each of said openings being enlarged at its upper end, as at 9, for the reception of a tap or nut 10. By reason of this construction the taps or nuts 10 are flush with the surface of the strip 4, and thus are effectually concealed. The taps or nuts 10 are carried by expansion-bolts 11, the latter being incased in suitable sleeves 12, embedded in the concrete 2 and having their lower ends flared, as at 13, to snugly fit over and receive the heads of the bolts 11, and by reason of the flared ends of the sleeves 12 it is apparent that vertical displacement or withdrawal of said sleeves from the concrete without breaking the latter is prevented. It will be further observed, however, that the sleeves 12 extend only to the surface of the concrete 2, and hence a sufficient length of the bolts 11 is exposed for ready insertion into the openings 9. The bolts 11 being capable of expansion, the strips 4 are also free to expand and contract under the varying degrees of temperature.

As has been previously stated, the strips 4 are approximately the length of the usual rail; but it is highly desirable that the strips should be so connected as to form practically a continuous strip throughout the entire length of the track, and to the accomplishment of this purpose the ends of each strip are each provided with a transversely-extending tapering dovetail groove 14, which when the strips 4 are laid registers with the groove in the end of the next adjacent strip. Fitting within each pair of the grooves 14 is a tapering locking-wedge 15, approximately X-shaped in cross-section, and through the medium of the wedges 15 the strips are locked against separation.

To provide a firm tread-surface and reduce liability of slipping to a minimum, the upper faces of each of the strips 4, together with the wings 5 thereof, are provided with projections 16, shown, preferably, as rectangular; but it is of course apparent that transversely-extending ribs may be employed in lieu of the projections, or the latter may be of any other desired configuration.

While the form of the invention herein shown and described is what is believed to be a preferable embodiment thereof, it will be understood that the invention is susceptible of various changes in the form, proportion, and minor details of construction, and the

right is therefore reserved to modify or vary the invention as falls within the spirit and scope thereof.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A protecting-strip of the class described, comprising an elongated body having a pocket in its under face and extending into said body, and sound-absorbing material arranged in said pocket.

2. A protecting-strip of the class described, comprising an elongated body, wings carried thereby and projecting outwardly therefrom, each of said wings being provided with a pocket, and sound-absorbing material arranged in the pockets of said wings.

3. A protecting-strip of the class described, comprising an elongated body, wings carried thereby and projecting outwardly therefrom, each of said wings being provided with a pocket in its under face, and sound-absorbing material arranged in the pockets of said wings.

4. As an improved article of manufacture, a protecting-strip adapted to be interposed between the rail of a railway-track and the surface of a pavement, and comprising an elongated body having in its under face a pocket or recess extending into said body.

5. A protecting-strip of the class described, comprising an elongated body having one of its edges perfectly straight, wings carried by said strip at its opposite edge and projecting outwardly therefrom, each of said wings being provided with a pocket, and sound-absorbing material arranged in the pockets of said wings.

6. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between said rail and said surface, but spaced laterally from the rail, whereby the rail is free to laterally vibrate without vibrating the protecting-strip.

7. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, but spaced laterally from the rail, whereby the rail is free to laterally vibrate without vibrating the protecting-strip, said strip being provided with a series of outwardly-projecting wings.

8. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, but spaced slightly from the rail, whereby the rail is free to vibrate without vibrating the protecting-strip, said strip being provided with a series of outwardly-projecting wings each of which is provided with a pocket, and sound-absorbing material arranged in the pockets of said wings.

9. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, but spaced laterally from the rail, whereby the rail is free to laterally vibrate with-

out vibrating the protecting-strip, and means for anchoring the protecting-strip to the foundation of the pavement.

10. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, and means embedded in the foundation of the pavement and adapted to engage the protecting-strip for anchoring the latter to said foundation, said means being independent of the protecting-strip.

11. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, and bolts embedded in the foundation of the pavement and adapted to engage the protecting-strip for anchoring the latter to said foundation.

12. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface and provided with a series of outwardly-projecting wings, said strip being spaced laterally from the rail, whereby the rail is free to vibrate laterally without vibrating the protecting-strip, and means embedded in the foundation of the pavement and adapted to engage the protecting-strip for anchoring the latter to the foundation of the pavement.

13. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface and provided with a series of outwardly-projecting wings, each of said wings being provided with a pocket, means arranged in said pockets for absorbing the sound incident to traffic, and means for anchoring the protecting-strip to the foundation of the pavement.

14. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface and provided with a series of outwardly-projecting wings, each of said wings being provided with a pocket, means arranged in said pockets for absorbing the sound incident to traffic, and bolts embedded in the foundation of the pavement and adapted to engage the protecting-strip for anchoring the latter to said foundation.

15. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, sleeves embedded in the foundation of the pavement, and bolts arranged in said sleeves and held thereby in said foundation, said bolts being adapted to engage the protecting-strip for anchoring the latter to said foundation.

16. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface, sleeves embedded in the foundation of the pavement and having their lower ends

flared, and bolts arranged in said sleeves and having their heads seated in the flared ends of said sleeves, whereby the latter hold the bolts in said foundation, said bolts being adapted to engage the protecting-strip for anchoring the latter to said foundation.

17. The combination with the contiguous ends of the sections of a marginal protecting-strip, of a tapering locking-key fitted to the ends of said sections and extending across the same.

18. The combination with the contiguous ends of the sections of a marginal protecting-strip each of which is provided with a groove, of a tapering locking-wedge extending across said ends and fitted in said grooves.

19. The combination with the contiguous ends of the sections of a marginal protecting-strip each of which is provided with a dovetailed groove, of a tapering locking-wedge extending across said ends, said wedge being X-shaped in cross-section and fitted in said grooves.

20. The combination with a railway-rail and the surface of a pavement, of a protecting-strip interposed between the rail and said surface and formed in sections, and tapering locking-wedges arranged between the contiguous ends of said sections for securing the latter together.

21. As an improved article of manufacture, a protecting-strip adapted to be interposed between the rail of a railway-track and the surface of a pavement, and comprising an elongated body having a pocket located within the side walls thereof and extending into said body.

22. As an improved article of manufacture, a protecting-strip adapted to be interposed between the rail of a railway-track and the surface of a pavement, and comprising an elongated body having a protected pocket therein, said pocket extending into said body.

23. As an improved article of manufacture, a protecting-strip adapted to be interposed between the rail of a railway-track and the surface of a pavement, and comprising an elongated body having an unexposed pocket therein, said pocket extending into said body.

24. As an improved article of manufacture, a protecting-strip adapted to be interposed between the rail of a railway-track and the surface of a pavement, and comprising an elongated body having a pocket formed therein and out of alinement with the abutting edges of said surface, said pocket extending into said body.

In testimony whereof we affix our signatures in the presence of two witnesses.

DANIEL MULLEN.
ANDREW A. MULLEN.

Witnesses:

S. J. GARGES,
JAMES S. WALSH.