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THIRD RAIL PROTECTOR.

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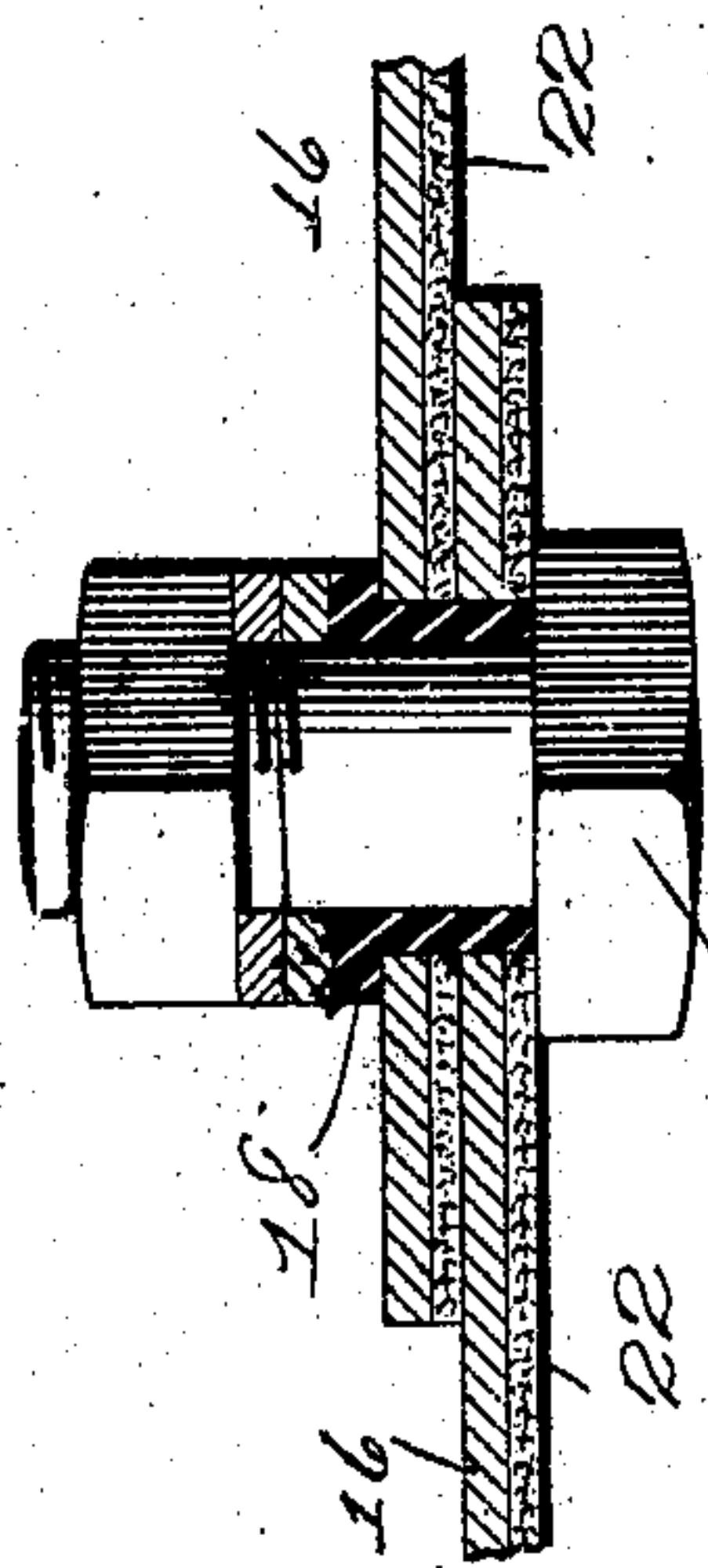


Fig. 1.

Fig. 2.

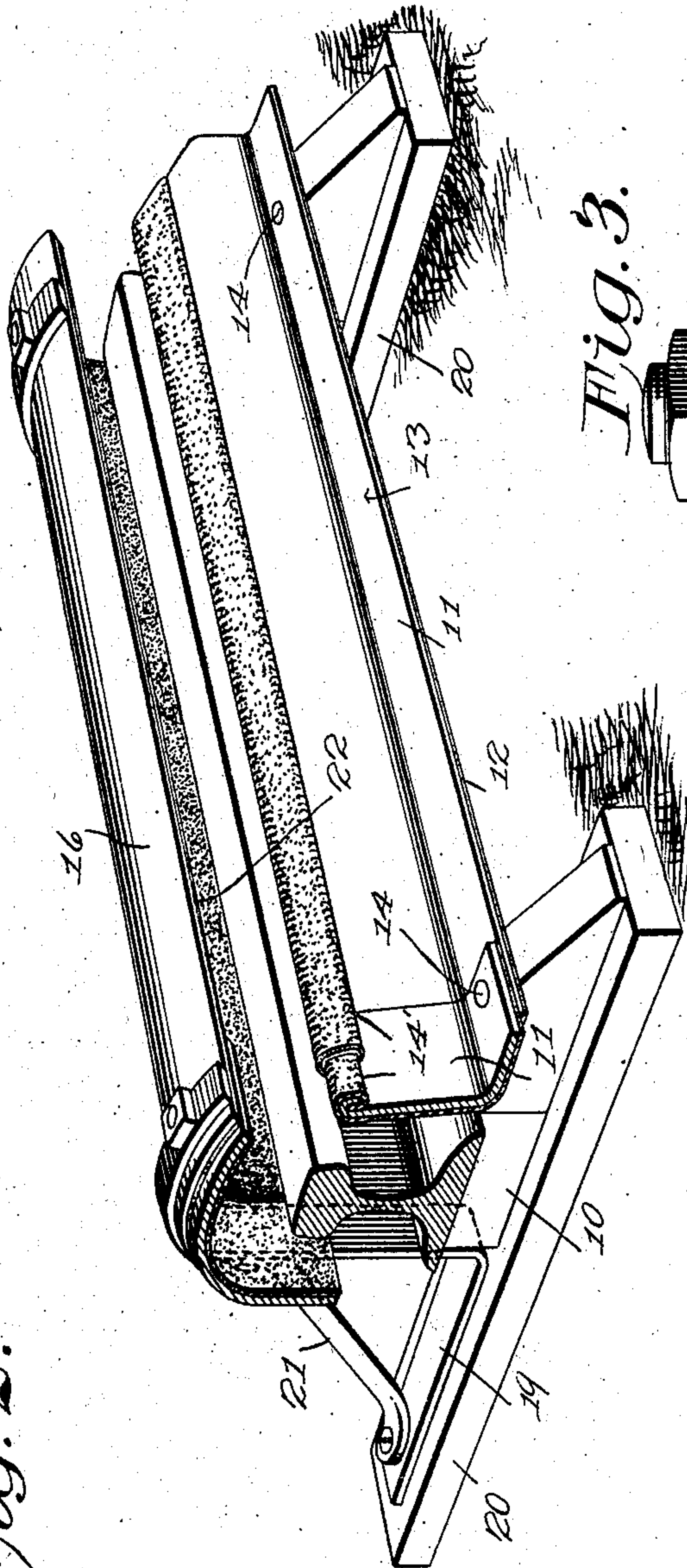
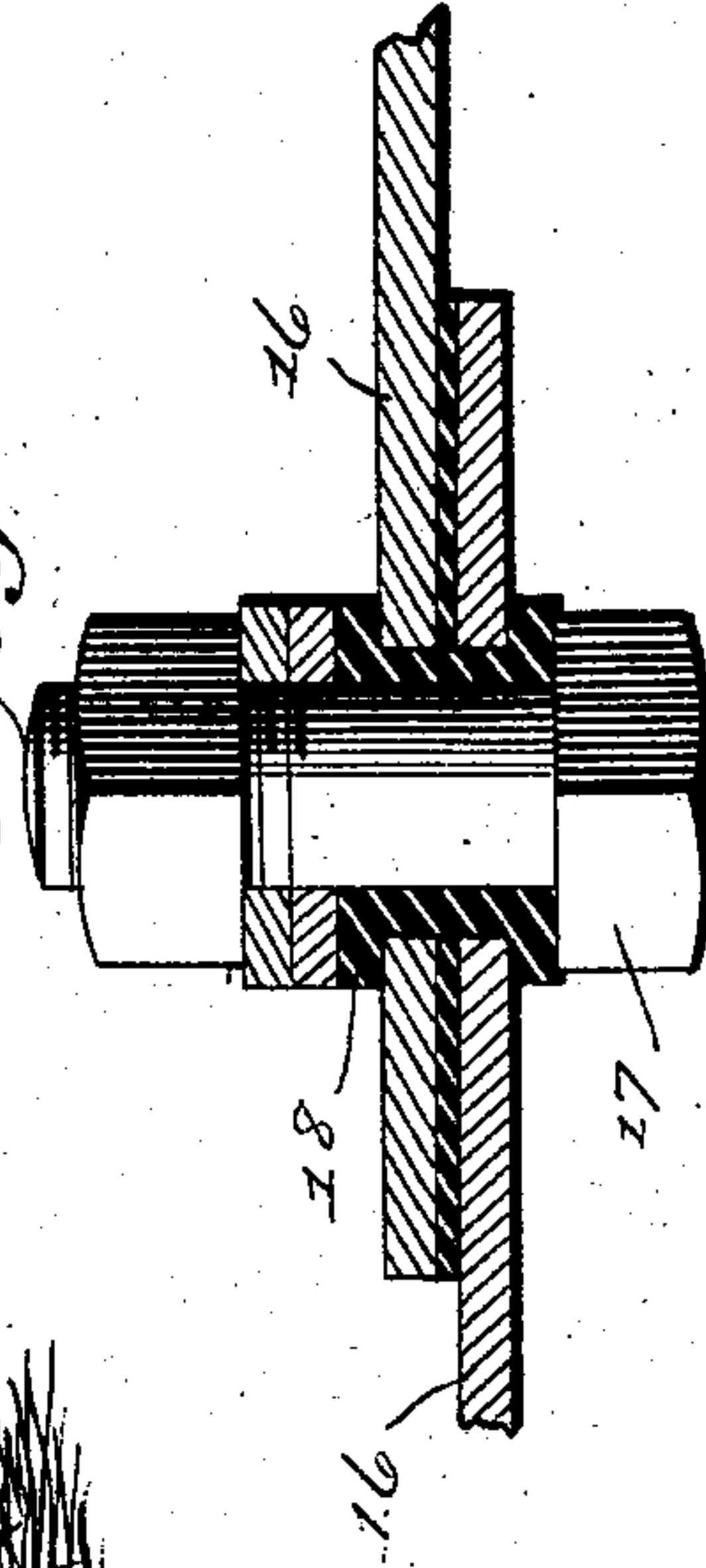


Fig. 3.



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UNITED STATES PATENT OFFICE.

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THIRD-RAIL PROTECTOR.

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Specification of Letters Patent.

Patented Dec. 5, 1905.

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To all whom it may concern:

Be it known that we, WILLIAM H. KOBER and CHARLES E. WATIER, citizens of the United States, residing at Lancaster, in the county of Fairfield and State of Ohio, have invented a new and useful Third-Rail Protector, of which the following is a specification.

This invention relates to devices of that class employed for preventing accidental contact of persons or animals with the third rail of electrical railways.

A further object of the invention is to provide a shield that may be applied at comparatively small cost and will serve to protect the rail from accumulations of ice or snow.

A still further object of the invention is to provide a protecting-shield formed of fire-proof material that will not be injured by accidental fires along the railway-track; and a still further object is to provide a novel form of shield so arranged that snow or dust which may enter between the shield and rail will not accumulate, but will pass downward to a point below the rail.

With these and other objects in view, as will more fully hereinafter appear, the invention consists in certain novel features of construction and arrangement of parts, hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that various changes in the form, proportions, size, and minor details of the invention may be made without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings, Figure 1 is a sectional perspective view of a third rail, illustrating the application thereto of a shield constructed in accordance with the invention. Fig. 2 is a detail sectional view showing the point of connection between two sections of the shield. Fig. 3 is a similar view illustrating a slightly-modified construction.

Similar numerals of reference are employed to indicate corresponding parts throughout the several figures of the drawings.

The shield forming the subject of the present invention comprises two main parts, one arranged near the inner face of the rail and the other protecting the outer face and top of the rail, and each is formed of a number of

sections connected together to form a practically continuous shield open at one side for the entrance of the brush or other current-collecting device carried by the car.

These third rails are usually mounted at some distance above the ground and in the present instance are shown as supported on blocks 10, which may be secured to the cross-ties or other supports, and said blocks are arranged in spaced relation, so that there will be little or no danger of accumulation of snow or dirt.

The inner shield is formed of a plurality of sections 11, each comprising an outer sheet-metal plate and an inner sheet 12, formed of asbestos or other suitable material and united to the sheet metal by asphalt or other securing agent. The sections 10 are bent out at the bottom to form horizontal flanges 13, which may be secured by spikes or nails 14 to the supports 10, and each section is arranged to overlap the next adjacent section, so that a single securing device may be employed for both. The layers of insulating material may be bent over the upper edges of the metal, as indicated at 14', especially at the juncture of the sections, so that the latter may be securely held from displacement, and, if necessary, auxiliary fastening devices may be employed to secure the approximately vertical webs of the sections to each other. The outer shield member is also formed of a plurality of overlapping sections, these sections being of any convenient length and preferably formed of sheet metal of sufficient strength to support the weight of a person or animal without bending. The sections are united to each other by bolts 17, that extend through insulating-bushings 18, so that in case one section becomes energized, as by contact with the current-collecting device, the remaining sections of the shield will be cut off. These sections are supported at equal intervals by brackets 19, that are extended downward to the cross-ties 20 or other suitable supports and are braced by diagonals 21, secured to the horizontal and vertical arms of said bracket. The plates 16 have their inner faces lined with sheets of asbestos 22, or some similar non-conducting material may be employed, and these sheets serve, in connection with the insulating-bushings 18, to prevent any electrical connection

between adjacent sections. It is not, however, necessary in all cases to line the sections throughout, inasmuch as said sections may be connected together, as shown in Fig. 3, insulation being employed to prevent electrical
5 contact between said sections, and with a construction of this character only that section adjacent to the car will be energized, while all of the remaining sections will be in-
10 sulated.

It will be observed that the lower edge of the outer section is at a point some distance above the foot of the rail and that the lower flange of the inner section is arranged inward
15 from the foot of the rail, so that in case snow or dust enters the open slot left for the current-collector the material so entering may pass down between the shield members and the rail and will not be held against the rails
20 by said shield member.

Having thus described the invention, what is claimed is—

In a third-rail system, a shield member formed of a plurality of transversely-curved metallic strips, each having an insulating-
25 lining, the ends of the strips and the linings overlapping, and the lining of the outer strip serving to insulate the strips from each other, insulated securing - bolts connecting said
30 strips, and supporting - brackets extending over the strips and rigidly secured thereto to form strengthening-braces for the shield.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

WILLIAM H. KOBER.
CHARLES E. WATIER.

Witnesses:

W. J. FRITZ,
L. LACEY.