No. 799,324. PATENTED SEPT. 12, 1905.

G. GIBBS.

FLOOR CONSTRUCTION.

APPLICATION FILED MAR. 27, 1905.

Fig. 1.

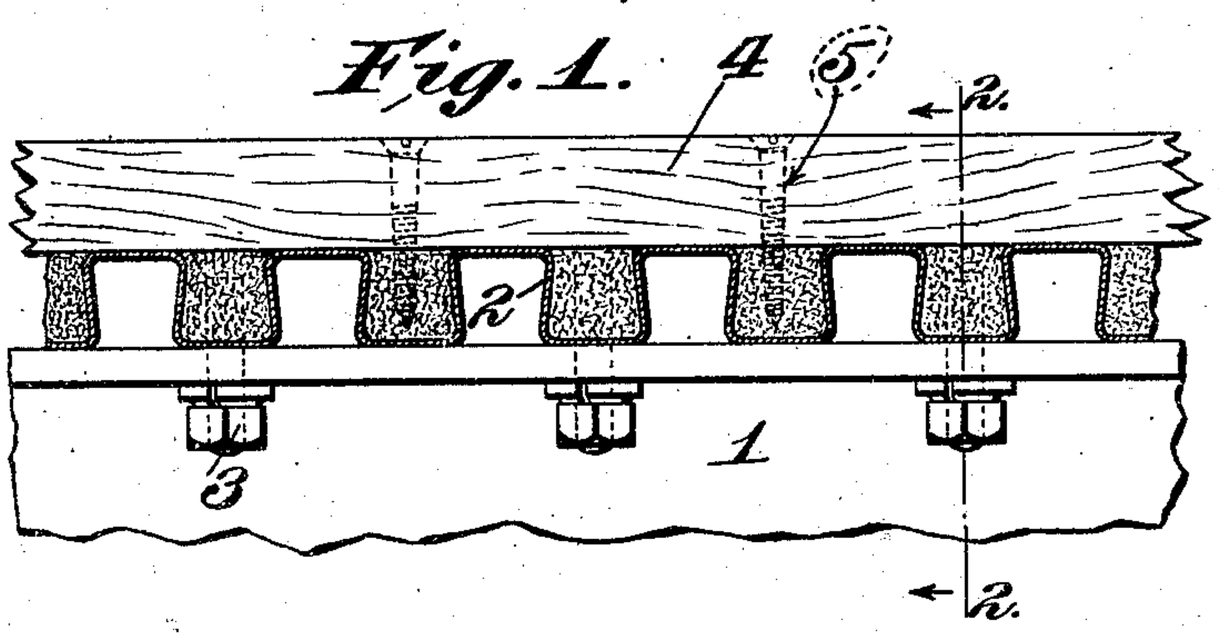


Fig. 2.

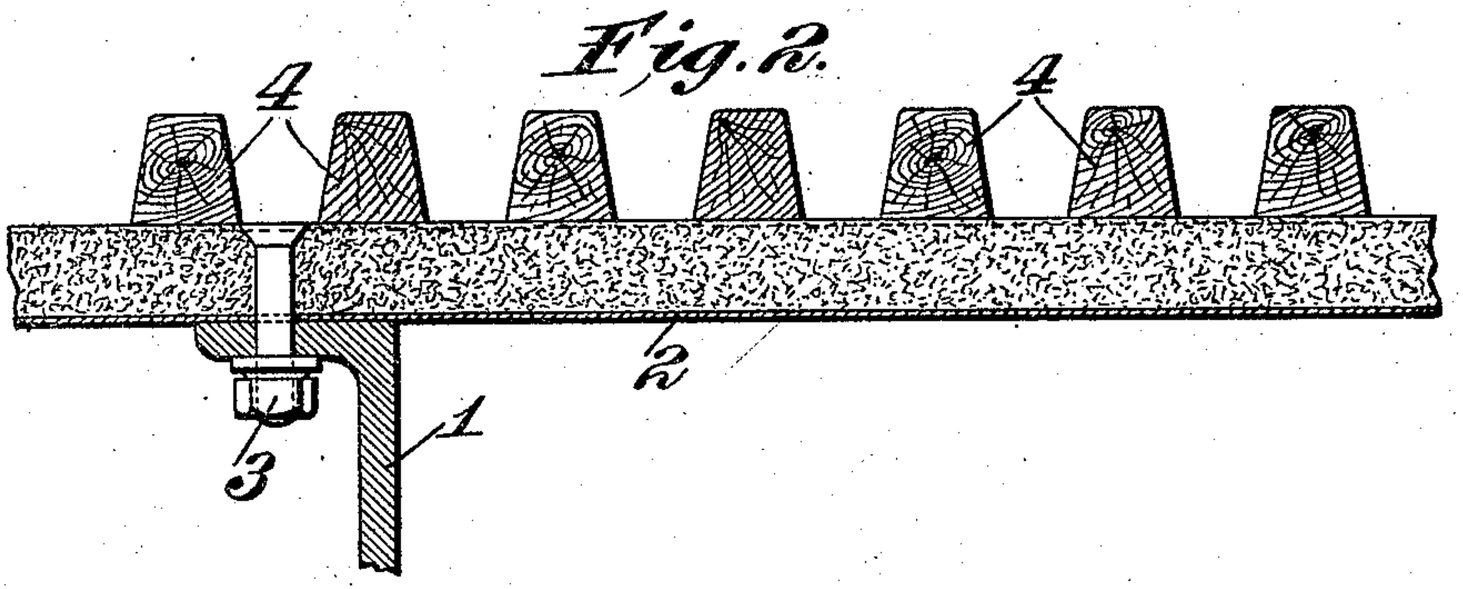


Fig. 3.

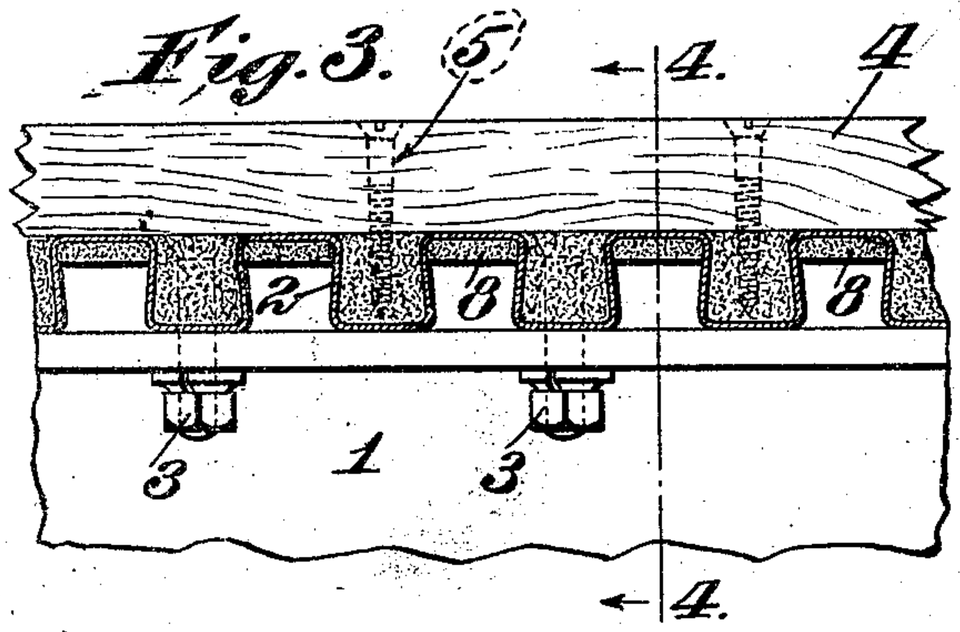


Fig. 4.

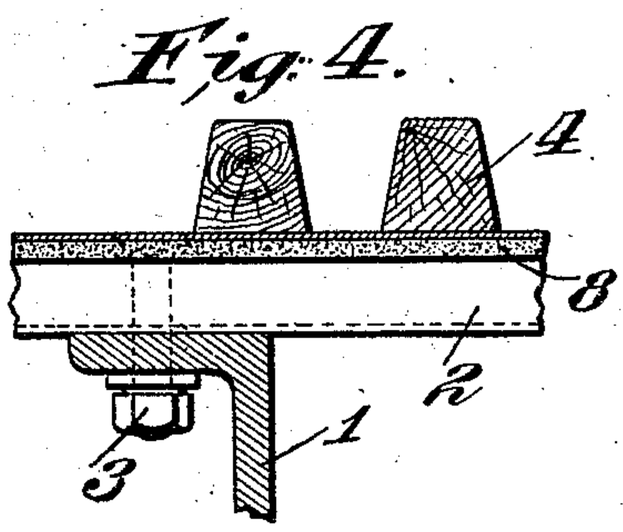
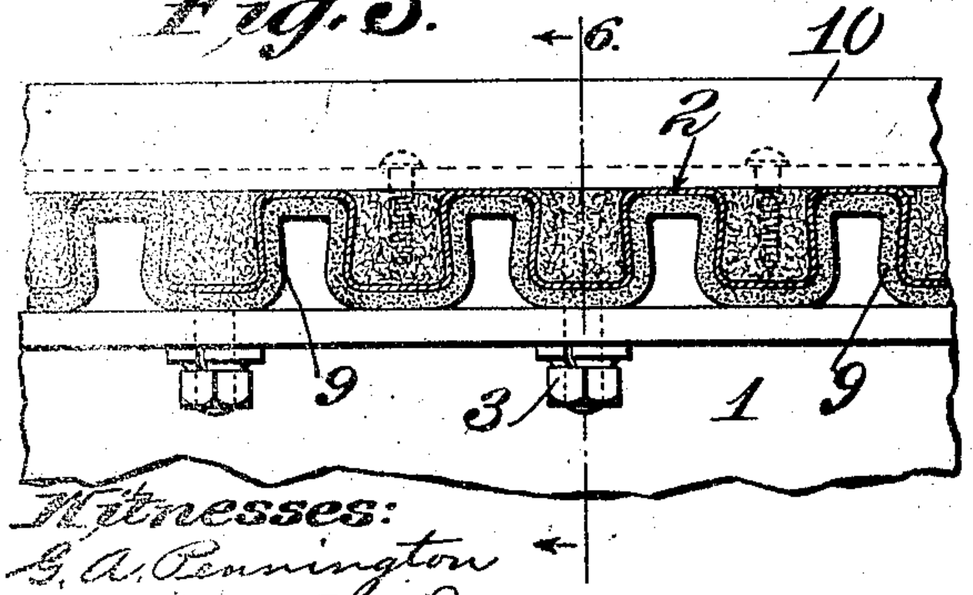
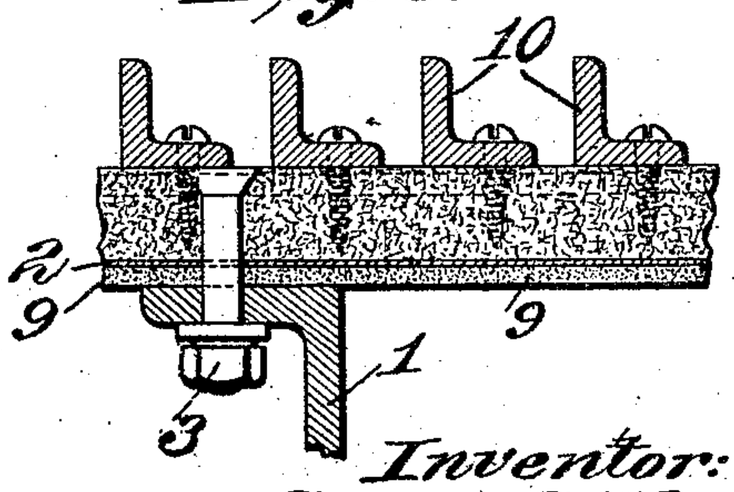


Fig. 5.



Witnesses:
G. A. Pennington
A. J. McCauley.

Fig. 6.



Inventor:
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UNITED STATES PATENT OFFICE.

GEORGE GIBBS, OF NEW YORK, N. Y.

FLOOR CONSTRUCTION.

No. 799,324. Specification of Letters Patent. Patented Sept. 12, 1905.

Application filed March 27, 1905. Serial No. 252,233.

To all whom it may concern:

Be it known that I, GEORGE GIBBS, a citizen of the United States, residing at New York, State of New York, have invented a certain new and useful Improvement in Floor Construction, 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, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view through my improved floor construction. Fig. 2 is a sectional view on line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view of a modified form of floor construction. Fig. 4 is a sectional view on the line 4 4 of Fig. 3. Fig. 5 is another modified form of floor construction, and Fig. 6 is a sectional view on line 6 6 of Fig. 5.

This invention relates to a new and useful improvement in floor constructions designed particularly for railway rolling-stock, although it is obvious that the same can be used in connection with buildings, bridges, &c.

One of the objects of my invention is to provide a fireproof insulation-flooring composed of a metal plate and cementitious material so constructed that it will support vertically-applied loads and also act as a stiffener for the substructure.

With this object in view the invention consists in the construction, arrangement, and combination of the several parts, all as will be hereinafter described and afterward pointed out in the claims.

In Figs. 1 and 2, 1 indicates one of the longitudinal sills of a car-underframing; but it will be understood that in practice there are two or more of such sills employed and also that in some cases there are transverse sills or transoms used. On this substructure, irrespective of its type or character, is arranged a corrugated-metal plate 2, the corrugations thereof being angular, as shown. By the peculiar formation of this plate it will be noticed that the channels have their mouths contracted, so that when the cementitious material, preferably monolith or a fireproof composition of asbestos or the like, is placed in position therein and allowed to harden it is not liable to become displaced even though a fracture might occur which would destroy the continuity of the mass. Securing devices 3 are employed to secure the corrugated plate to the substructure. These devices are preferably in the form of bolts whose heads are embedded in the cementitious material. The cementitious material in the form shown in Fig. 1 only fills the channels of the corrugated plate, thus leaving exposed portions of metal connecting the upper walls of the channels. Upon these exposed metal portions and the upper faces of the cementitious material in place therewith are arranged wooden strips 4, having wood-screws 5 passing therethrough and down into the cementitious material to secure said wooden strips in place. When used as a flooring for railway rolling-stock, the corrugations or channels of the metal strips preferably extend transversely the longitudinal axis of the car-body, and the wooden strips are arranged at right angles to these channels, said wooden strips running parallel to the longitudinal axis of the car-body.

While the construction shown in Figs. 1 and 2 is fireproof and non-heat-conducting to an extent and will deaden the sound to an appreciable degree, it is not altogether proof against electric arcs originating under the body of the car and which might pierce the metal sheet at a point where the top connecting-pieces of metal are exposed and cause an arc to pass up between the floor-strips. To obviate this difficulty, I have inserted the asbestos strips 8, (see Figs. 3 and 4,) which are driven into the dovetail channels opening through the bottom of the metal plate. Any suitable material other than asbestos could be used in these strips 8.

In Figs. 5 and 6 I have shown another modification in which there is an asbestos or other fireproof sheet 9 applied to the under surface of the corrugated or grooved metal sheet and following the configurations thereof, so as to make a continuous fireproof and arc-proof sheet under the metal sheet proper.

Instead of having wooden strips 4 (shown in Figs. 1 to 4, inclusive) metallic angles 10 could be employed, as shown in Figs. 5 and 6, the bottom flanges of said angles being secured in position by screws passing into the cementitious material.

I am aware that minor changes in the construction, arrangement, and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. A flooring composed of a metallic sheet, a layer of plastic material on said sheet, and floor-supporting wearing-strips on the metallic sheet and filling, said strips having fastening devices embedded in said filling; substantially as described.

2. A flooring composed of corrugated metallic sheets having plastic material on the respective sides thereof, and floor-supporting wearing-strips on said plastic material having fastening devices embedded in said material; substantially as described.

3. A floor composed of a sheet of metal having upwardly and downwardly opening grooves, a fireproof insulation material filling the upwardly-opening grooves, and a sheet of fireproof material following the configurations of the lower surface of said sheet and occupying the downwardly-opening grooves; substantially as described.

4. A floor composed of layers of metallic and non-metallic sheets to form a fireproof and heat-resisting surface; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 23d day of March, 1905.

GEORGE GIBBS.

Witnesses:
W. L. MURRAY,
H. S. JOHNSON.