May 13, 1941. G. G. GREULICH 2,241,512

BRIDGE DECK OR FLOOR

Filed Sept. 28, 1938

FIG. 1.

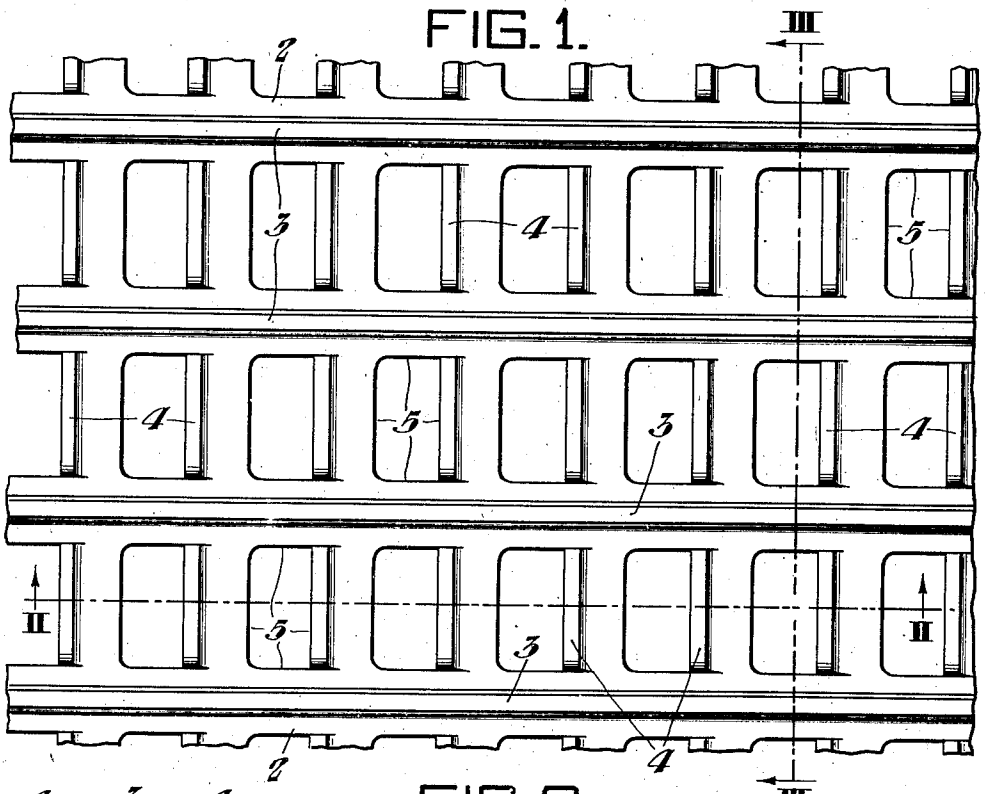


FIG. 2.

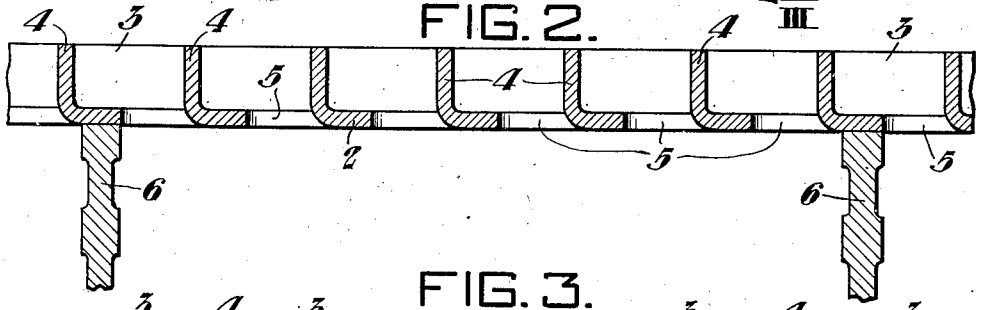
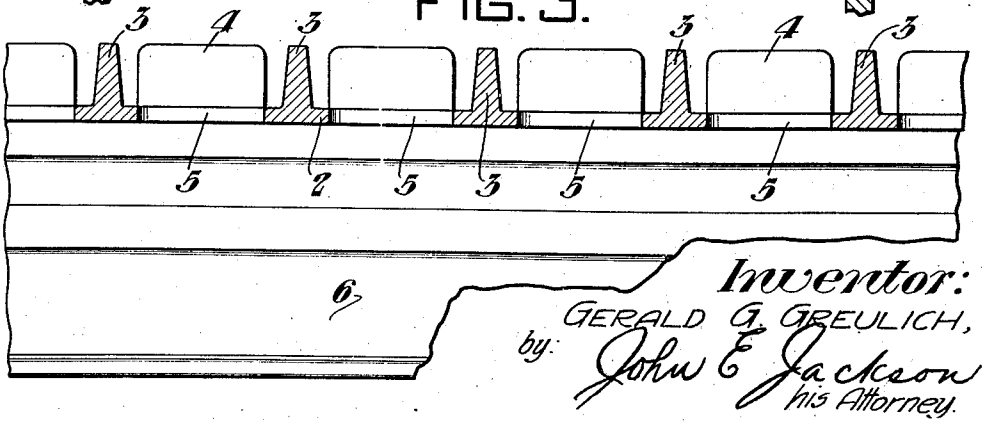


FIG. 3.



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BRIDGE DECK OR FLOOR

Gerald G. Greulich, Mount Lebanon, Pa.

Application September 28, 1938, Serial No. 232,203

1 Claim. (Cl. 14—73)

The present invention relates to a structural member for use as an open bridge deck or flooring, grating or the like.

An object of the invention is to provide a reticulated structure formed from a sheet or plate by rolling ribs thereon and providing upwardly projecting lugs between the ribs for forming a self-cleaning floor structure.

Other objects and advantages will become apparent as the description proceeds and reference is had to the accompanying drawing in which:

Figure 1 is a detailed plan of the present invention;

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

Figure 3 is a section on line III—III of Figure 1.

In the drawing, the numeral 2 represents a plate or sheet on which is rolled, in any conventional manner, spaced parallel ribs 3 projecting from one surface of the sheet or plate 2. Portions of the plate 2, between the spaced parallel ribs 3, are punched out and bent at substantial right angles to the plane of the sheet 2 to provide lugs 4 which terminate in a plane substantially in alignment with the uppermost surface of the ribs 3.

These lugs 4 on the plate or sheet 2 are in spaced parallel relation with each other and at right angles to the ribs 3. In forming the lugs 4, there is provided a plurality of openings 5 formed in the rolled steel section which permit the tread surface of the unit to be self-cleaning and enable extraneous matter, such as snow, rain or dirt, to drop freely therethrough. Structural supporting members 6 are provided for supporting said structural unit.

The ribs 3 are formed by any conventional rolling operation, after which the formed unit is positioned for punching out, in any conventional manner, portions of the metal between the ribs so as to form the lugs 4, which terminate in substantial alignment with the ribs 3 but at right angles thereto. In forming the lugs 4, the ribs 3 become T-shaped in cross-section, as shown in Figure 3. According to the foregoing construction, there is a complete absence of rivets, bolts, or welding.

I am aware that open-work bridge deck flooring is not new in the art. However, in all of the prior art devices known to me, the open-work construction requires strips secured to parallel bars by rivets, bolts or the like whereas according to the teachings of the present invention there is provided an open-work bridge deck or flooring unit made from a solid piece of rolled steel.

While I have shown and described a specific embodiment of the present invention, it will be understood that I do not wish to be limited exactly thereto, since various modifications may be made without departing from the scope of the invention as defined in the following claim.

I claim:

An open bridge deck or flooring comprising a metallic plate providing integral spaced parallel continuous ribs projecting from one surface thereof, a plurality of series of transversely aligned substantially rectangular lugs disposed at right-angles to said continuous ribs, one of said lugs being disposed between each of said ribs and the next adjacent rib, each of said lugs being L-shaped in section with the foot portion thereof comprising the web of the plate and the leg portion extending at substantial right-angles thereto, the web of the plate having an aperture between each lug and the corresponding lug of the next adjacent series, the contours of the said apertures corresponding to the outlines of the leg portions of the said lugs, the ends of said lugs being spaced from the sides of the adjacent ribs, the upper edges of said ribs and said lugs terminating in substantially the same plane, whereby there is provided between the said ribs traction surfaces defined by the upper edges of the said lugs.

GERALD G. GREULICH.