

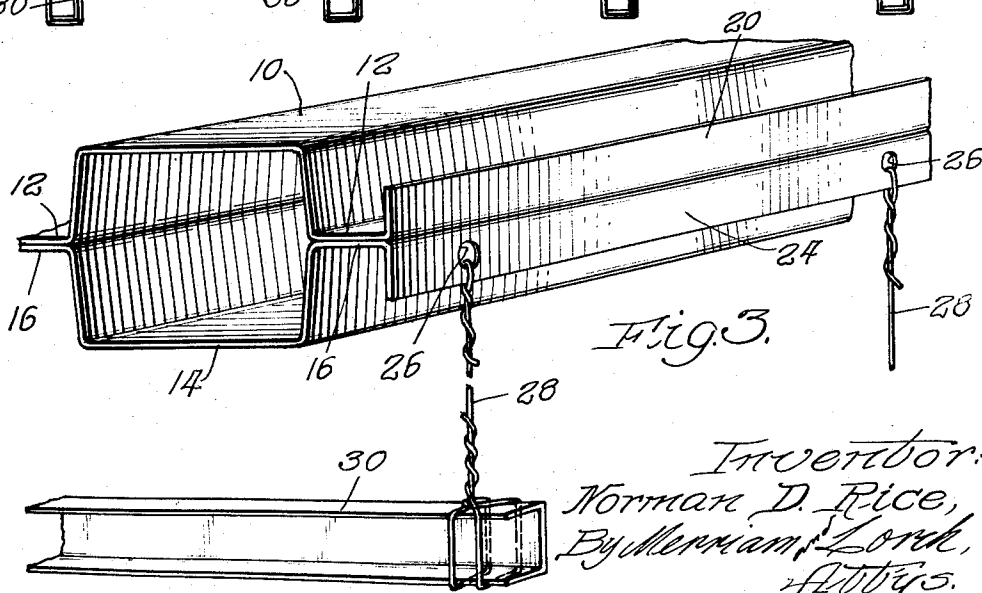
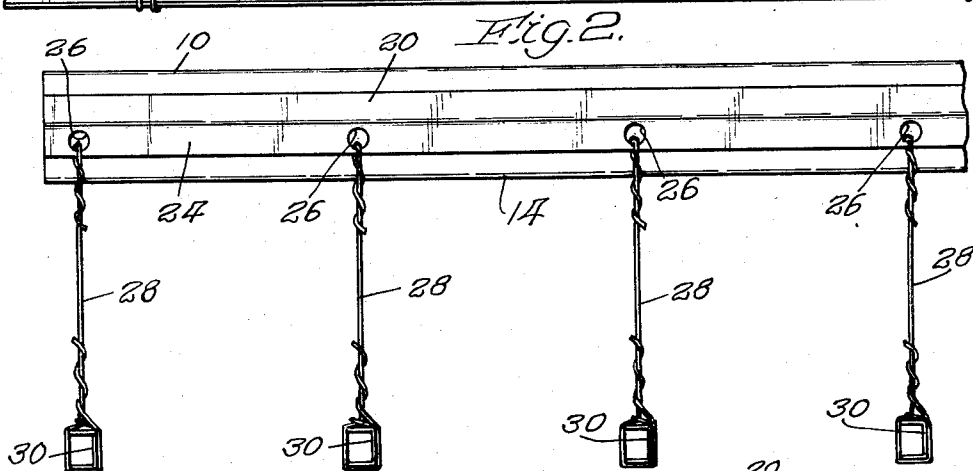
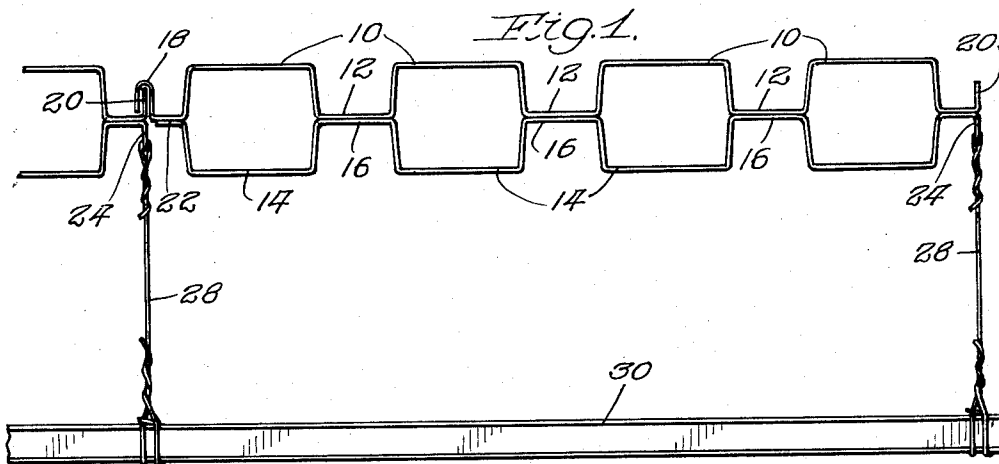
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N. D. RICE
METALDECKING

2,901,062

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2 Sheets-Sheet 1.



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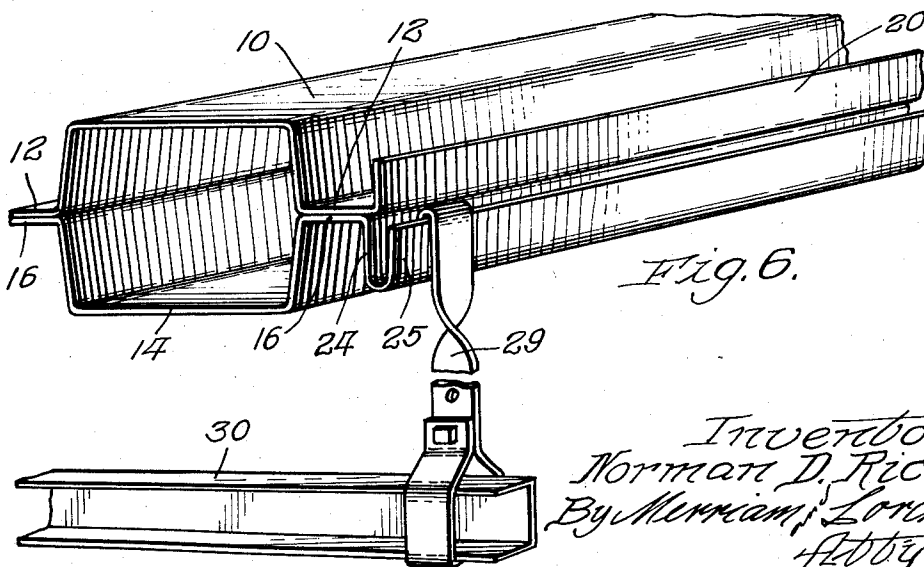
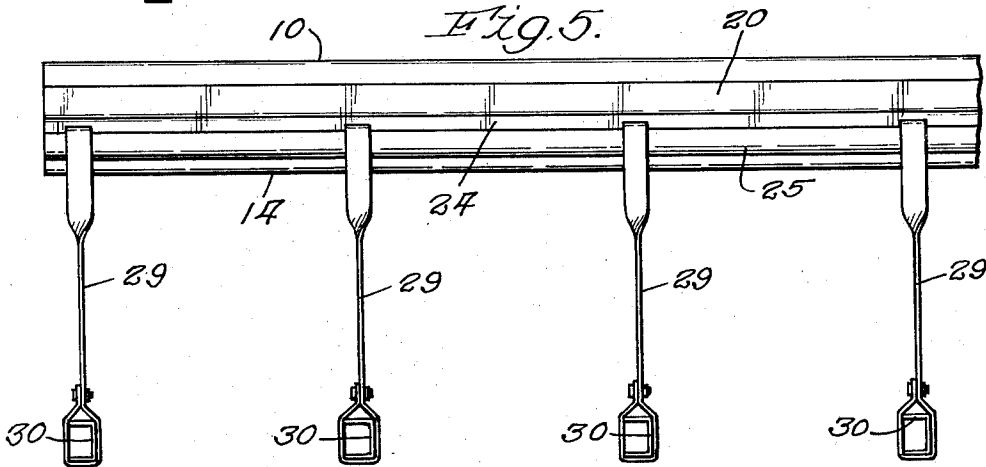
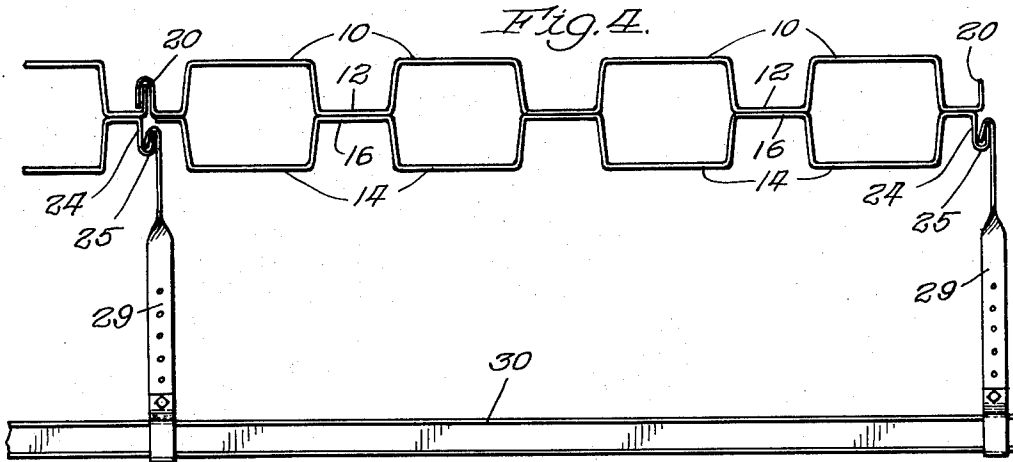
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N. D. RICE
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2 Sheets-Sheet 2



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1

2,901,062

METALDECKING

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1 Claim. (Cl. 189—34)

This invention relates to multi-cellular metal deck suitable as flooring, roofing or other building structure and more particularly to decking of this type having means for attaching accessories to the underside thereof.

In buildings it is common to use metal cellular flooring the upper side of which is usually covered with concrete to constitute a floor, and the lower side of which constitutes the ceiling or ceiling support for the immediately adjacent lower floor. Such accessories as ceilings, heating equipment, duct work are customarily supported from above by attaching or dropping wires or hanger strips through holes drilled in the flat sections between the cells. Of necessity this had to be done before the concrete was poured and required elaborate layouts prior to pouring the concrete. In some instances such decks are used as the roof in which case the upper surface is covered with roofing material instead of concrete. Furthermore, such procedures required the presence of a workman both above and below the flooring in order that the hangers could be fastened. This has proved to be relatively expensive because of the time and labor involved.

Attempts have been made in the past to circumvent this procedure by welding studs or wires to the underside of the flooring. While this procedure somewhat reduced the manpower and reduced the need for a pre-layout, the cost of studs and welding was prohibitive in many instances.

It is the purpose of this invention, therefore, to provide a readily available and relatively inexpensive means for supporting such accessories as ceiling members, heating equipment, and duct work. The foregoing is accomplished in general by forming the cellular deck members, preferably, but not necessarily, along their margins, with extending or depending flanges which may be apertured to receive securing wires or strips or which may be hooked for the reception of hooked hangers.

A more complete understanding of this invention will be had from the following detailed description given in connection with the drawings in which

Figure 1 is a end elevation of a section of cellular decking illustrating one form of the invention.

Figure 2 is a side elevation of the same.

Figure 3 is a fragmentary perspective view illustrating a portion of the cellular decking member constructed in accordance with this invention.

Figure 4 is an end elevation illustrating another form of this invention utilizing hooked flanges.

Figure 5 is a side elevation illustrating the second form of this invention and

Figure 6 is a fragmentary perspective of the second form of this invention.

As illustrated in Figure 1 the invention is shown as applied to a multi-cellular metal deck particularly suitable as flooring, having an upper section and lower section. One section, usually the upper section, is provided with spaced cells or channel-like hollow supporting beams 10 separated by alternate flat sections. The upper sections terminate along one margin in a hooked flange 18 adapted to interlock with an upturned flange 20 formed on the other margin of the adjoining section. The lower sections normally welded to the upper sections are formed

2

with mating cells or hollowed supporting beams 14 spaced by alternate and mating flat section 16. The lower sections terminate in a flat horizontal flange 22 along one marginal edge and a downturned flange 24 along the other edge. The closed cells formed by the upper and lower sections may be used to contain electric wiring or other facilities such as a heating medium.

In the form of this invention illustrated in the Figures 1, 2, and 3 the downturned flange 24 is provided with apertures 26 (Figures 2 and 3) spaced along its length to provide means for suspending accessories by means of wires 28. The accessories have been schematically illustrated as channels 30. Obviously, hooked or bolted straps could be used in place of the wires.

It has been found expedient to space the apertures through the flange at every 3 inches or so, however, this may be varied to suit the particular installation. Obviously, the apertures could be keyhole slots or the suspending wires could be formed with upset heads of irregular shapes so as to be insertable through the apertures only at an angle or in one direction.

In Figures 4 to 6 there is illustrated the same type of cellular flooring. However, the downwardly extending marginal flange 24 is bent upwardly upon itself to provide a running hook 25 for the reception of a similarly hooked hanger strap 29 the lower end of which engages the accessory such as channel 30 for suspending the latter from the lower floor deck section.

It will be understood that the illustrated channels 30 are used for illustrative purposes only and that they could well be ceiling members, heating or electrical equipment, duct work, or other accessories normally suspended from the underside of a flooring which in turn is the ceiling of the floor below.

The use of the flanges 24 makes it possible to use either apertures 26 or hooked portions 25 so that any desired equipment may be hung from the lower floor deck section without the aid or assistance of a workman on top of the floor. Furthermore, this can be done either before or after pouring of the concrete on the floor deck. Obviously, this not only saves manpower, but reduces the cost of materials necessary such as welding materials and studs.

It will be apparent to those skilled in the art that many changes may be made in the details of construction, for instance, suspending flanges may be formed on both marginal edges of the lower floor deck rather than just one edge, without departing from the spirit and scope of the invention as defined in the appended claim.

I claim:

Cellular metal-deck structure adapted to receive a covering thereon comprising a plurality of complementary upper and lower sections providing alternate cells and flats with corresponding flats positioned in contiguous abutting relationship and secured together, the formed cells being unobstructed and adapted to receive electrical wiring and the like, the outermost edge flat of each upper section having an outer marginal flange for interlocking engagement with the adjacently positioned and adjoining upper section, one of the outermost edge flats of each lower section having a continuous downwardly extending marginal flange, said marginal flange being apertured at spaced intervals for suspending accessories from the underside of said deck.

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