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J. M. CINNAMOND
BOLT FOR COMPOSITE FLOORS
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Fig. 1.

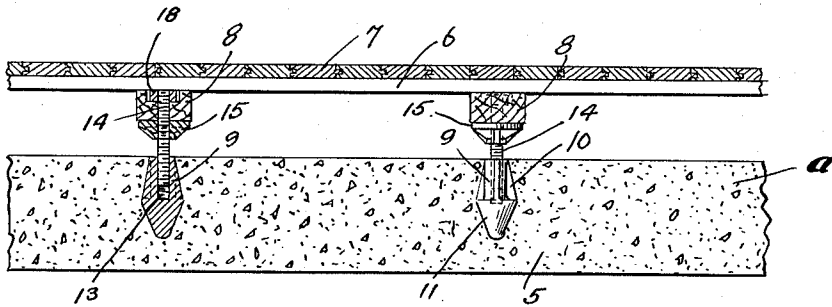


Fig. 2.

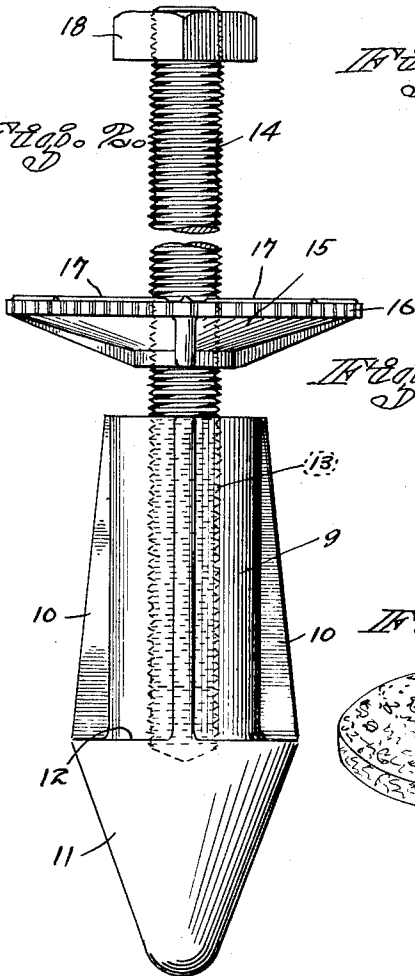


Fig. 3.

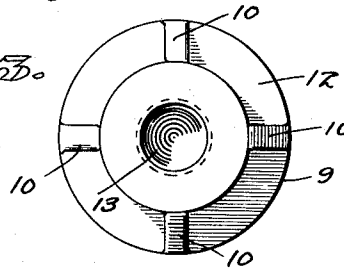


Fig. 4.

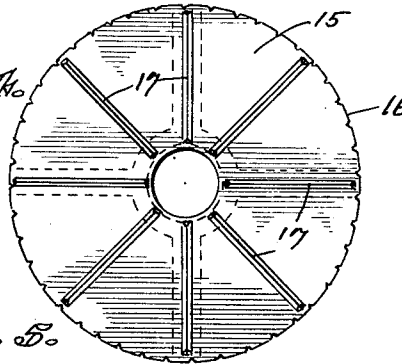
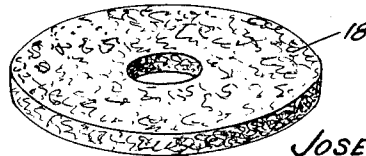


Fig. 5.



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BOLT FOR COMPOSITE FLOORS.

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The present invention relates to improvements in composite building floor construction, wherein wooden floor boards are supported by sleepers which in turn are supported by a concrete floor slab extending transversely of the building.

The general object of the invention is to facilitate the operation of obtaining a required level or relation between the upper bearing surfaces of adjacent sleepers in a composite floor so that the surface of the floor made up of the boards supported by the sleepers presents no undesirable irregularities.

The invention further proposes to provide a novel form of connection between the sleepers and the concrete slab of a composite floor, the said connection being constructed so as to effectively support the sleepers against vertical displacement and to admit of easy connecting of the sleepers to the slab.

The above and other objects are accomplished by instrumentalities pointed out in the following specification.

The invention is clearly defined in the claims.

A satisfactory embodiment of the invention is illustrated in the accompanying drawings forming part of the specification and in which

Figure 1 is a detail transverse section of a composite floor showing duplicate connectors of the present invention in use, one of said connectors being in side elevation and the other in central vertical section.

Figure 2 is a contracted side elevation of the connector of the present invention practically full sized scale.

Figure 3 is a detail plan of the socket or anchor, and

Figure 4 is a detail plan of the bolster.

Figure 5 is a detail perspective of a form of noise deadener that may be employed in connection with the device.

The composite floor, which is designated generally by *a* comprises a concrete slab 5 which extends transversely of the building and is supported by the usual girders, not shown. For purposes of illustration I have shown the wooden portion of the composite floor as being made up of a rough under-floor 6 upon which is disposed the boards which make up the finished floor 7. The sleepers 8 are of usual construction and extend transversely of the rough or under-floor

6 which under-flooring is secured in the usual manner to the sleepers 8.

The device of the present invention which is employed with the composite floor *a* comprises an anchor member 9 which is embedded in the slab 5 and provided with longitudinal ribs or flanges 10 which extend upwardly toward one end of the anchor from the middle portion thereof, and by their presence operate to prevent turning of the anchor within the slab 5 by having their intervening spaces arranged so as to provide channels in which the concrete or plastic material of the slab 5 readily enters when the anchor is embedded in the slab while the material thereof is in a plastic condition. It will be noted that the lower end portion of the socket 9 is tapered so as to provide a somewhat pointed head 11 for facilitating the operation of inserting the anchor into the slab 5. When the anchor is inserted as shown, its upper end is flush or substantially so with the upper surface of the slab, and the upper portion of the head 11 provides a circular flange 12, the presence of which prevents the anchor from being pulled from the slab after the material thereof has set.

The anchor is provided with a centrally disposed screw threaded bore 13 into which is screwed one end of a screw threaded shank 14. By having the screw threaded connection between the anchor and the shank, the latter is adjustable so that its upper end may be readily adjusted to the required distance from the upper surface of the slab 5. The upper end portion of the shank 14 passes loosely through the sleeper 8 and a bolster 15 is screwed upon the shank 14 and bears upon the lower surface of the sleeper 8 and operates to support the same within the floor structure. The bolster 15 is preferably of circular contour and of an area to extend across the lower edge of the sleeper 8. The periphery of the bolster 15 is milled, as indicated by 16, so as to facilitate the turning by hand of the bolster in adjusting it upon the shank. The upper surface of the bolster is provided with a plurality of radially disposed ribs 17 having sharpened edges which, under the weight of the sleeper, form indentations in the lower surface thereof and thereby interlock the bolster with the sleeper so as to prevent accidental turning movement of the bolster.

In using the device, the anchor portion 9 is first embedded in the concrete or slab *a* at the time of pouring the slab. It will, of course, be understood that for each of the sleepers 8 a number of the devices of this invention will be employed and spaced apart for suitable distances. When the structure is ready for the finished floor, the shanks 8 are screwed into the sockets 13. To facilitate the operation of screwing a shank within a socket, a nut such as shown at 18, is screwed upon the upper end of the shank 14. The provision of the nut permits a socket wrench, or its equivalent, to be employed in screwing the shank into the socket. The shank is screwed into the socket until its upper end approximates the height desired from the upper side edges of the sleeper from the upper face of the slab. Before screwing the shank into the socket, the bolster 15 may be screwed upon the shank so as to form a bearing for the sleeper when the same, with a suitable opening therein, is placed over the upper end portion of the shank. The presence of the bolster supporting the sleeper permits of adjusting the latter by turning the bolster until the upper side thereof is at the required distance above the slab 5. In this way, it will be observed that the operation of adjusting any section of a sleeper to the required distance above the slab may be readily effected by operating one or more of the bolsters. After a sleeper has been properly adjusted, the nut 18 may be removed therefrom or screwed into a socket, such as shown in Figure 1, in the upper side of the sleeper, if desired.

If so desired, any approved form of means may be interposed between the sleeper and the bolster either for the purpose of deadening noise or for imparting a yielding or spring action to the finished floor 7. In Figure 5 I have shown a sound deadener in the form of a felt washer 18 which is adapted to be arranged over the shank 14 and to bear upon the bolster 15. The washer 18 conforms substantially in size to the adjacent face of the bolster and is thereby adapted to interfit between the sleeper and the bolster.

Although I have shown and described one

embodiment of my invention, it is to be understood that the same is susceptible of various changes; and I reserve the right to employ such as may come within the scope of the appended claims.

I claim:

1. In building construction a composite floor comprising a concrete slab, an anchor member embedded in the slab and having its upper end substantially flush with the surface of the slab, said anchor member having a longitudinally screw threaded socket opening through the upper end thereof, a board supporting sleeper disposed above the slab, a screw threaded shank having one end portion screwed into the socket of the anchor and its opposite end portion passing loosely through the sleeper, and a bolster screwed upon the shank and interposed between the slab and the sleeper and supporting the sleeper.

2. A sleeper support for composite floors comprising an oblong anchor member having an exteriorly disposed and longitudinally extending rib and further having a centrally disposed screw threaded socket extending longitudinally of the member and opening through one end thereof, a bolster having a separately disposed open ended screw threaded passage and a screw threaded shank having one end portion screwed into the socket of the anchor and its opposite end portion screwed into the passage of the bolster.

3. A sleeper support for composite floors comprising an oblong anchor member pointed at one end and having a plurality of exteriorly disposed longitudinal ribs and further having a centrally disposed screw threaded socket extending longitudinally of the member and opening through an end thereof remote from the pointed end, a bolster having a centrally disposed screw threaded passage and a relatively flat roughened surface and a screw threaded shank having one portion screwed into the socket of the anchor and its opposite end portion screwed through the opening of the bolster.

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