

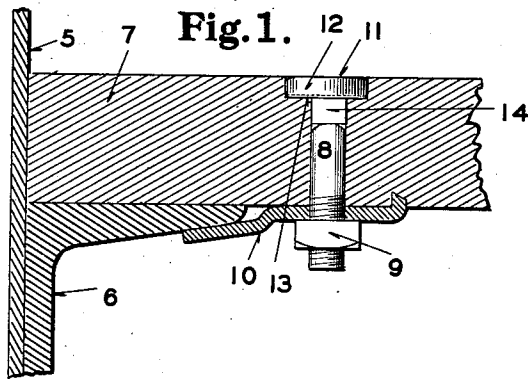
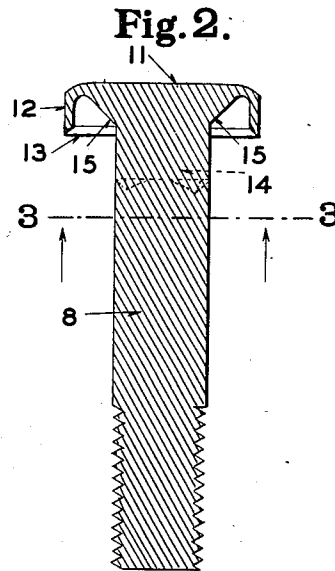
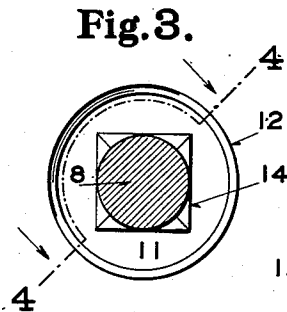
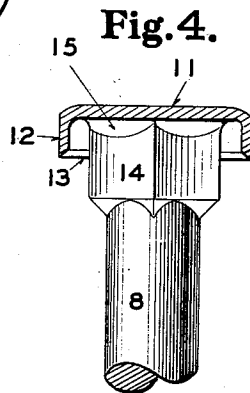
Sept. 1, 1931.

L. A. HOERR ET AL

1,821,709

BOLT

Filed July 28, 1930



Inventors
L. A. Hoerr
F. H. Pietzsch
By *E. G. Huffman*
Att'y.

UNITED STATES PATENT OFFICE

LOUIS A. HOERR AND FRANK H. PIETZSCH, OF ST. LOUIS, MISSOURI, ASSIGNORS TO
WESTERN RAILWAY EQUIPMENT COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI

BOLT

Application filed July 28, 1930. Serial No. 471,115.

Our invention relates to a bolt and particularly to a bolt suitable for use in railway car construction for securing wooden parts of the car, such as flooring or sheathing, in position. Heretofore it has been necessary, when securing wooden parts such as flooring or sheathing in position on a car, either to allow the bolt heads to project beyond the face of the part, which is objectionable in any case and particularly so in flooring, or to provide the bolt holes with counterbores for the reception of the bolt heads. The latter method, while resulting in a preferable construction, is objectionable on account of the increased time and expense involved.

It is the object of our invention to provide a car construction in which the fastening means for wooden parts include a bolt having a self-countersinking head, that is, one so constructed that it may be pulled into the part flush with its face by the action of tightening the securing nut.

In the accompanying drawings, which illustrate one form of bolt made in accordance with our invention, Figure 1 is a vertical section through a portion of a car floor; Figure 2 is an enlarged longitudinal section through the bolt shown in Figure 1; Figure 3 is a section taken on the line 3—3 of Figure 2; and Figure 4 is a view of the head end of the bolt, partly in elevation and partly in section on the line 4—4 of Figure 3.

Referring first to Figure 1 of the drawings, 5 indicates the side of a car, 6 a sill, and 7 one of the floor boards supported upon the sill. The floor board is secured to the sill by means of a bolt 8 and a nut 9. In the construction shown, the bolt does not engage directly with the sill but with a clip 10 overlapping the sill flange. This clip may be of the form shown in Letters Patent No. 1,597,310 granted to S. H. Campbell on August 24, 1926.

Formed on the bolt is a thin head 11 provided on its periphery with a downwardly projecting flange 12 having a cutting edge 13. A portion 14 of the bolt adjacent to the head and projecting some distance below the flange 12 is made square, its corners pro-

jecting beyond the body of the bolt. The under face of the bolt is conical in form providing an inclined face 15 opposed to the inner wall of the flange as best shown in Figure 2.

In using our bolt the hole for the bolt is formed without a countersink. The first action of tightening the nut draws the square portion into the board, its corners projecting into the wood in the manner of the usual carriage bolt and thus effectively preventing rotation of the bolt when the head is drawn into the wood. The cutting edge of the flange severs the fiber of the wood, thus enabling the head to be drawn down flush with the face of the board, as shown in Figure 1, without the application of sufficient pressure to injure the threads of the bolt. Our construction not only enables the bolt head to be drawn in flush without the use of counterbores, but secures a tighter joint between the bolt and the board owing to the compression of the wood between the body of the bolt and the flange. This compression is increased by the conical face 13, which also facilitates the process of manufacturing the bolt.

While we have shown our invention applied to a car floor it may be applied to wooden car sheathing or other wooden parts secured to a car. While in the construction shown in Figure 1 the clip is necessary to provide a bearing for the nut parallel with the head, when the part to which the board is secured is of such form as to provide a parallel bearing, the clip may be omitted and the nut allowed to bear directly on such part.

Having fully described our invention, what we claim as new and desire to secure by Letters Patent of the United States is:

A bolt for the purpose described having a threaded cylindrical body and a head on the periphery of which is a downwardly extending flange terminating in a cutting edge, said bolt being provided adjacent its head with a non-circular part projecting beyond the body and extending below said flange, the under surface of said head being conical to provide an inclined face extending from said flange to the non-circular part and op-

posing the inner wall of said flange to compress the material to which the bolt is applied and thereby form a water-tight joint.

In testimony whereof, we hereunto affix our signatures, this 25th day of July, 1930.

LOUIS A. HOERR.
FRANK H. PIETZSCH.

10

15

20

25

30

35

40

45

50

55

60

65