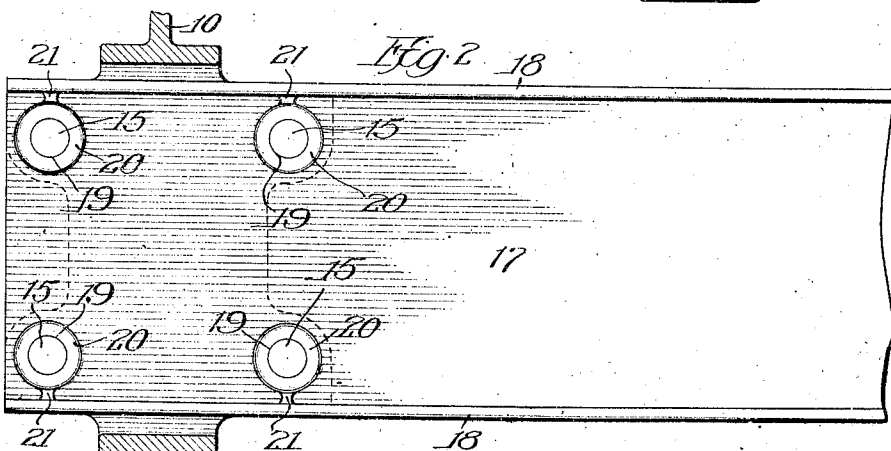
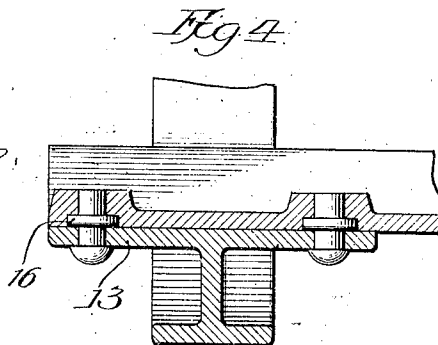
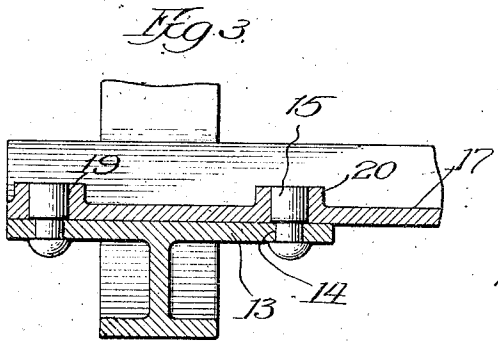
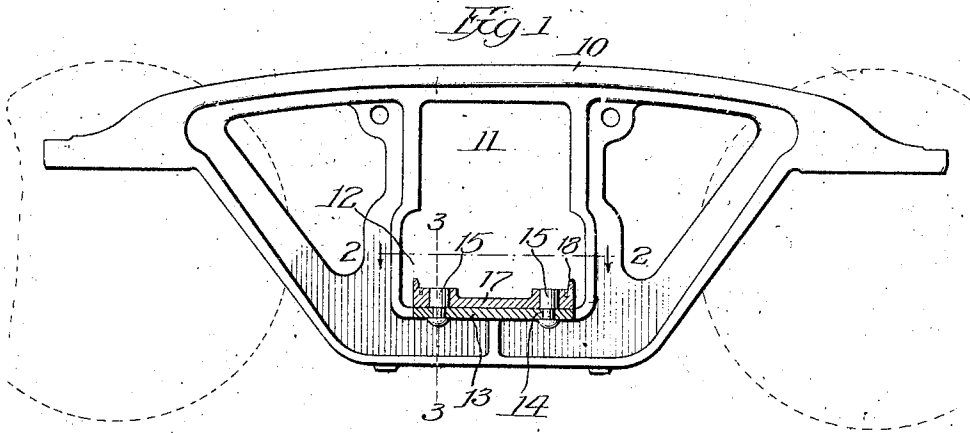


J. C. DAVIS.  
 CAST STEEL SPRING PLANK.  
 APPLICATION FILED DEC. 18, 1911.

1,056,635.

Patented Mar. 18, 1913.



Witnesses  
 Ed. C. Davis  
 Chas. T. Murray

Inventor  
 James C. Davis  
 By *Arthur C. Davis*  
 Attys

# UNITED STATES PATENT OFFICE.

JAMES C. DAVIS, OF HINSDALE, ILLINOIS, ASSIGNOR TO AMERICAN STEEL FOUNDRIES,  
OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

## CAST-STEEL SPRING-PLANK.

1,056,635.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed December 18, 1911. Serial No. 666,461.

*To all whom it may concern:*

Be it known that I, JAMES C. DAVIS, a citizen of the United States, and resident of Hinsdale, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cast-Steel Spring-Planks, of which the following is a specification.

My invention relates to car trucks and has particular reference to a novel attaching means between the car truck side frame and spring plank.

In the manufacture of car trucks during recent years the users have indicated their preference for a side frame of integral or one-piece construction. In order to assemble with such one-piece side frames bolsters having column guides or lips, it is necessary to enlarge the transverse opening in the side frame at some point in accordance with the patent to Hardie, No. 569,044. However, even by the use of a side frame having such enlarged opening it is almost invariably necessary to remove the spring plank whenever the bolster is to be removed and as the spring plank is usually riveted to the spring seat in the side frame, much inconvenience is caused.

I am aware that it is not broadly new to provide inter-locking connection between the spring plank and side frame without the use of rivets. However, I have designed and show herein a form of dowel connection between the spring plank and side frame which is extremely simple, easily constructed and permits of the separation of the connected parts with ease.

My invention will be more readily understood by reference to the accompanying drawings, wherein,

Figure 1 is a side elevation of a car truck side frame having my novel spring plank secured thereto; Fig. 2 is a plan view on the line 2—2 of Fig. 1; Fig. 3 is a vertical section on the line 3—3 of Fig. 1, and, Fig. 4 is a similar view showing a modified construction.

Referring more particularly to the drawings it will be seen that in the preferred embodiment I employ a one-piece side frame 10, having a transverse opening 11, the lower portion 12 of which is enlarged. Forming the floor of this enlarged opening is a spring seat 13 having a plurality of perforations 14 therein. These perforations may be cored out or drilled as desired. After the casting

has been cleaned, dowel pins 15 are inserted in the openings and riveted as shown. These dowel pins have their upper ends slightly larger than the portion which extends through the spring seat perforations, this enlargement providing sufficient bearing and at the same time after the riveting is done prevents endwise movement of the dowel pin in either direction.

The dowel pins shown in Fig. 4 are slightly modified in that the upwardly projecting part is of the same diameter as the part passing through the spring seat but there is provided an annular flange 16, which obviates the possibility of the pin dropping down after being riveted.

My novel spring plank is, as shown, preferably of channel form, comprising a web 17 and flanges 18. Openings 19 are provided, which openings register with the dowels 15. Around the openings I provide reinforcements 20 in order to get sufficient bearing and rigidity. I may prefer to connect the bosses 20 to the flange 18 by means of webs 21 although this is not essential. It will be understood that where rivets or pins are employed, these rivets being passed through perforations in the web of a commercial channel, the section of metal in the web is so thin that the rivets are liable to be sheared or the metal around the rivets upset, thus making a loose and insecure connection. In my construction an extended bearing is secured.

In order to level up the end of the spring plank and provide a bearing for the car springs, I contemplate providing the ordinary wood seats having recesses corresponding to the upwardly projecting reinforcing bosses, whereby the seats and springs are held against horizontal displacement. It will be seen that by this construction I am enabled to provide dowels projecting from the spring seat and thus secure a readily detachable connection between the spring plank and side frame. This might be secured by casting the dowels as a part of the spring seat but this is undesirable in view of the necessary irregularity of the dowels and the consequent necessity for field drilling or punching of the holes through the channel in order to assure registration and avoid a loose connection.

Various modifications will be apparent to those skilled in the art and I therefore do

not wish to be limited to the exact forms herein shown and described.

I claim:

1. In a car truck, the combination of a  
5 side frame having a spring seat, pins projected vertically from said seat and a spring plank having perforations registering with the said pins, said plank being reinforced around the perforations therein, said rein-  
10 forcements serving as a means for retaining a nest of springs against horizontal movement, substantially as described.

2. In a car truck, the combination of a side frame having a spring seat, dowels  
15 projected from said spring seat and a cast metal spring plank having openings registering with said dowels and provided with reinforcements around said openings, said reinforcements serving as a means for retaining a nest of springs against horizontal  
20 movement, substantially as described.

3. In a car truck, the combination of a one-piece side frame having a transverse opening and a spring seat, pins projected  
25 from said spring seat and a cast metal spring plank having openings registering with said pins and provided with reinforcements around said openings, said reinforcements serving as a means for retaining a

nest of springs against horizontal move- 30  
ment, substantially as described.

4. In a car truck, the combination of a one-piece side frame having a transverse opening and a spring seat, said spring seat being provided with perforations, pins riv- 35  
eted in said perforations and projected into the transverse opening of said side frame to form dowels, a cast steel spring plank having perforations registering with said dowels and provided with reinforcements  
40 around said perforations, said reinforcements serving as a means for retaining a nest of springs against horizontal movement, substantially as described.

5. In a car truck, the combination of a  
45 side frame having a spring seat provided with perforations, dowels secured in said perforations, said dowels having endwise-movement-limiting abutments above and below said spring seat, and a spring plank  
50 having perforations registering with said dowels and adapted to be fitted on said spring seat, substantially as described.

JAMES C. DAVIS.

Witnesses:

A. TREVOR JONES,  
S. M. DARLING.