

No. 875,058.

PATENTED DEC. 31, 1907

R. E. FRAME.
SPRING PLANK.

APPLICATION FILED JULY 8, 1907.

Fig. 1.

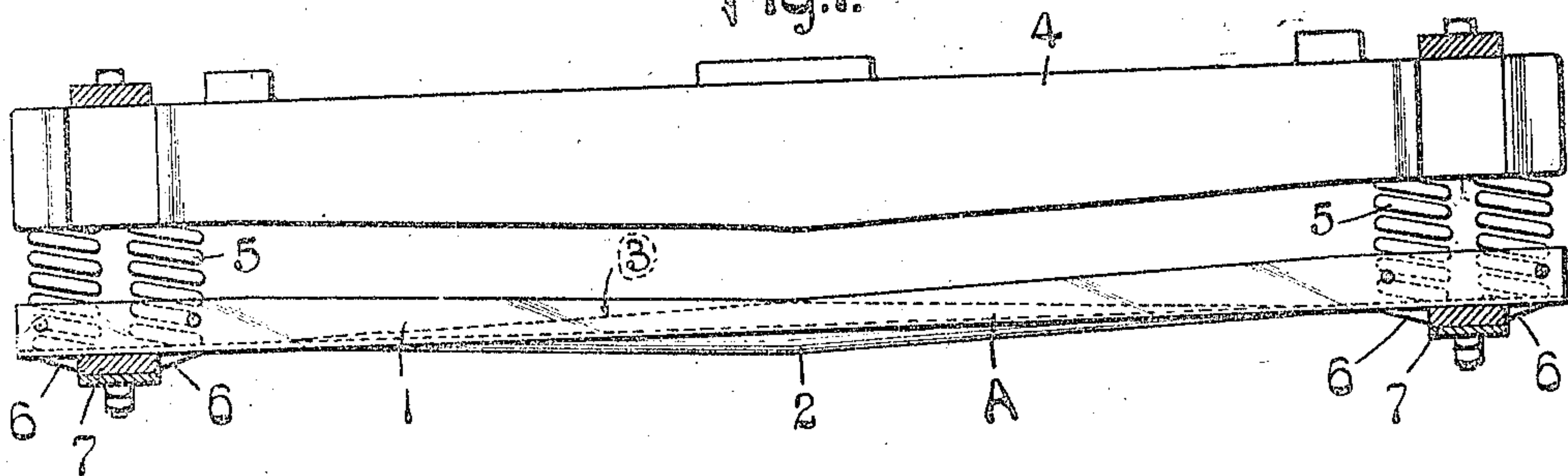


Fig. 2.

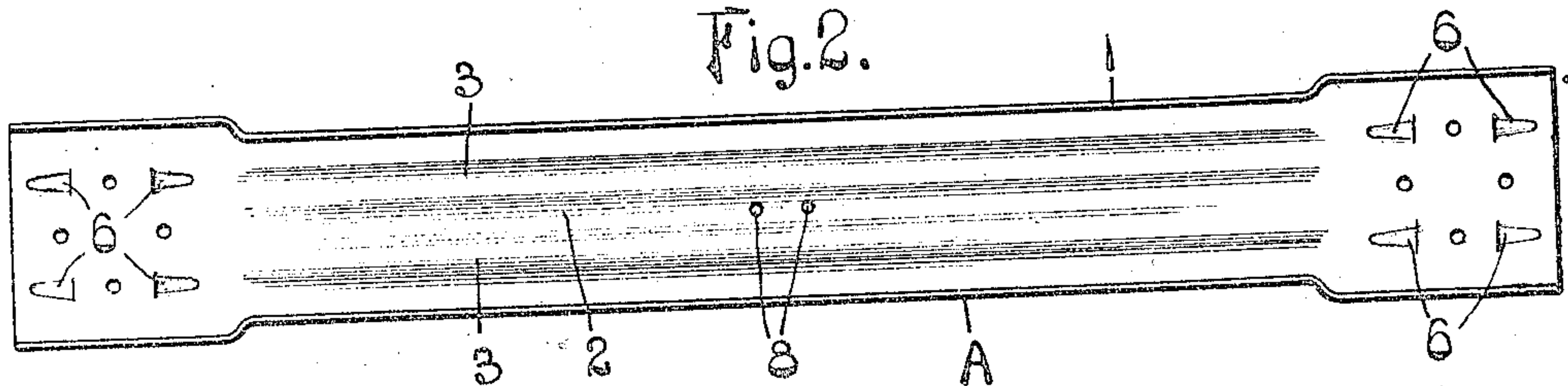
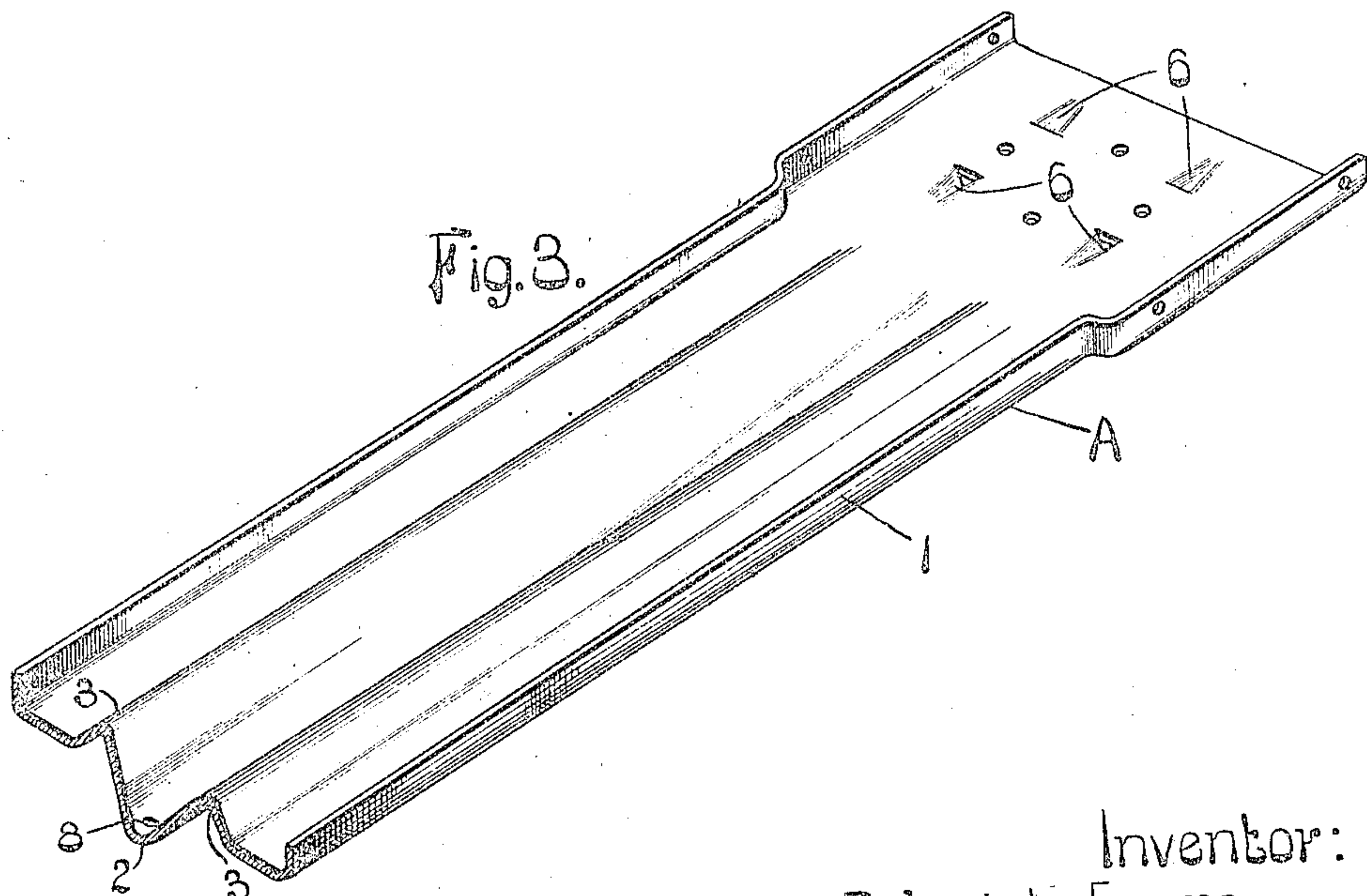


Fig. 3.



Witnesses
a. J. McCauley.
Mills L. Church.

Inventor:
Robert E. Frame
by *Barthwell* *Comstock*
Att'y's.

UNITED STATES PATENT OFFICE.

ROBERT E. FRAME, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO HERBERT W. WOLFF,
OF ST. LOUIS, MISSOURI.

SPRING-PLANK.

No. 875,058.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed July 8, 1907. Serial No. 382,658

To all whom it may concern:

Be it known that I, ROBERT E. FRAME, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Spring-Planks, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a cross sectional view through a car truck showing my improved spring plank in operative position; Fig. 2 is a top plan view of the spring plank; and Fig. 3 is an enlarged perspective view of one-half of the spring plank.

This invention relates to spring planks for car trucks, and the main object of my invention is to provide a spring plank that is light and strong and which will permit the use of a wide and deep bolster. The metal spring planks that have been in general use, were formed from commercial rolled channel irons. As the spring plank has to be very strong and rigid it was necessary to use a channel having long flanges and these long flanges made it necessary to use a narrow bolster or one having a reduced or contracted central portion so that when the bolster-supporting springs were compressed the bolster would telescope inside of the flanges of the spring plank. Moreover, channels of this description are quite expensive and their excessive weight is also another very objectionable feature as it adds greatly to the weight of the truck.

As previously stated, the main object of my invention is to provide a light-weight metal spring plank that will be strong enough to withstand the strains to which it is subjected and which will permit a wide bolster to be used.

Another object of my invention is to provide a spring plank that can be manufactured at a low cost and which will present a neat appearance. To this end I form the spring plank from pressed metal and provide it with shallow side flanges and longitudinally extending corrugations to strengthen it.

Referring to the drawings which illustrate the preferred form of my invention, A designates a spring plank formed from pressed

metal and provided with shallow side flanges.

1. A deep V-shaped corrugation 2 of varying depth extends longitudinally through the center of the spring plank, and extending parallel to the corrugations 2 and on each side thereof are inverted V-shaped corrugations 3. These corrugations 3 are also of varying depth and both the corrugations 2 and 3 diminish in depth from the middle toward the ends of the spring plank. The flanges 1 are not of uniform depth throughout the entire length of the spring plank but are shallowest at the middle of the plank and then gradually increase in depth towards the ends of the plank, as shown in Fig. 1. By corrugating the spring plank in the manner described I obtain a very rigid construction and one which presents a neat and ornamental appearance. It is light and as the flanges 1 are shallow the bolster 4 will not strike the flanges when the bolster-supporting springs 5 are compressed. Therefore, I am able to use a wide and deep bolster which, of course, is desirable as it can carry a greater load than a narrow bolster or one having a reduced or contracted central portion. The end portions of the spring plank are wider than the middle portion thereof so as to provide a seat for the lower ends of the ordinary supporting springs 5, and pressed lugs 6 are formed on the underneath side of the plank to engage the lower arch bars 7 and thus relieve the strain on the rivets that secure the spring plank to the arch bars. Preferably, the V-shaped corrugation 2 is provided at its deepest portion with holes 8 that permit water to drain out of the corrugation.

A spring plank of this description can be manufactured cheaply, it presents a neat appearance, and the corrugations 2 and 3 are so formed that the plank is very rigid and strong. By having the corrugations disposed oppositely to each other, that is to say, having the deep corrugation 2 projecting downwardly and the shallow corrugation 3 projecting upwardly, I obtain a spring plank that is shallow but still very strong.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A spring plank formed of pressed metal and provided with pairs of integral lugs or

projections which embrace the side faces of the arch bars of a truck; substantially as described.

2. A pressed metal spring plank having an approximately V-shaped corrugation extending longitudinally through the center thereof; substantially as described.

3. A pressed metal spring plank having an approximately V-shaped corrugation extending longitudinally through the center thereof, said corrugation diminishing in depth from the center towards the ends of the plank; substantially as described.

4. A pressed metal spring plank provided with a longitudinally extending corrugation, an oppositely disposed corrugation at each side of the corrugation first referred to, and upwardly projecting side flanges; substantially as described.

5. A pressed metal spring plank having an approximately V-shaped corrugation extending longitudinally through the center thereof, and inverted V-shaped corrugations arranged parallel to the corrugation first referred to and on each side thereof, all of said corrugations being of greatest depth at the middle of the plank and diminishing in depth toward the ends of the plank; substantially as described.

6. A pressed metal spring plank provided with side flanges and a plurality of longitudinally extending corrugations which are deepest at the middle of the plank and diminish in depth towards the ends of the plank; substantially as described.

7. A pressed metal spring plank provided with side flanges and having a deep approximately V-shaped corrugation and shallow inverted V-shaped corrugations extending longitudinally through the center thereof; substantially as described.

8. A pressed metal spring plank provided with upwardly projecting side flanges and longitudinally extending V-shaped corru-

gations, one of said corrugations having an opening to permit water to drain out of same; substantially as described.

9. A pressed metal spring plank having side flanges and pairs of pressed lugs which are separated from each other a sufficient distance to receive the arch bars of a truck between them; substantially as described.

10. A pressed metal spring plank provided with upwardly projecting side flanges and a plurality of approximately V-shaped longitudinally extending corrugations; substantially as described.

11. A pressed metal spring plank having side flanges which increase gradually in depth from the middle toward the ends of the plank, and oppositely disposed corrugations extending longitudinally through the center of the plank; substantially as described.

12. A pressed metal spring plank having side flanges which increase gradually in depth from the middle toward the ends of the plank, and oppositely disposed corrugations extending longitudinally through the center of the plank, said corrugations being of greatest depth at the middle of the plank and diminishing gradually in depth towards the ends of the plank; substantially as described.

13. A pressed metal spring plank, the middle portion of which is of less width than the end portions thereof, shallow flanges at the sides of said plank, and oppositely disposed corrugations extending longitudinally through the center of the plank; substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this fifth day of July 1907.

ROBERT E. FRAME.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.