

No. 762,858.

PATENTED JUNE 14, 1904.

A. B. BELLOWS.

CAR SILL.

APPLICATION FILED AUG. 29, 1903.

NO MODEL.

Fig. 1.

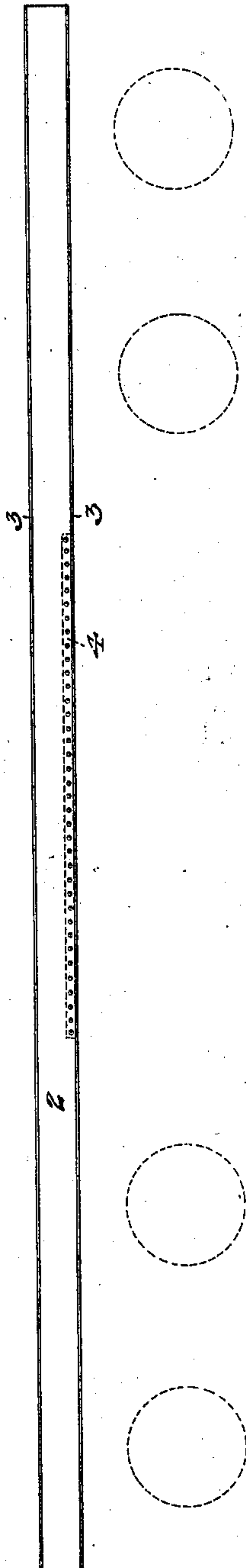


Fig. 2.

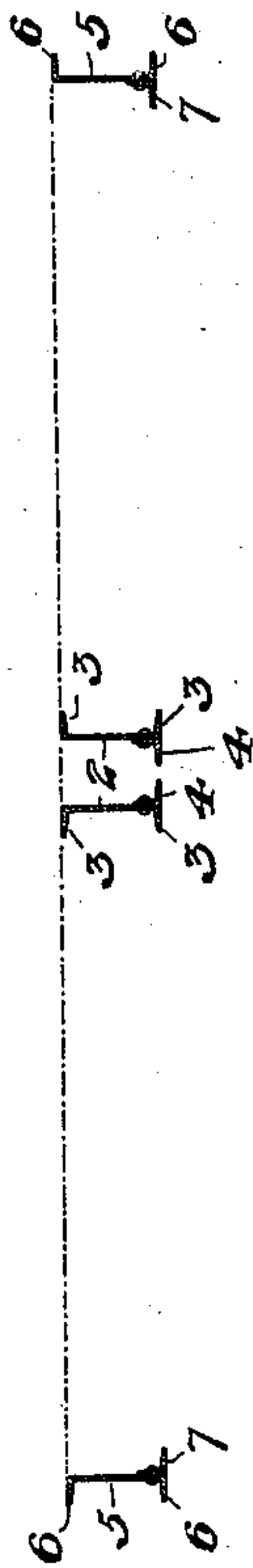
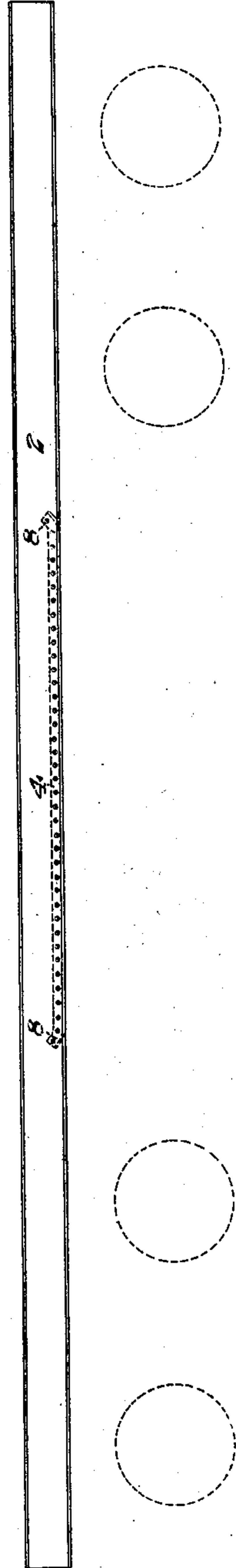


Fig. 3.



WITNESSES

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ARTHUR B. BELLOWS, OF PITTSBURG, PENNSYLVANIA.

CAR-SILL.

SPECIFICATION forming part of Letters Patent No. 762,858, dated June 14, 1904.

Original application filed November 4, 1901, Serial No. 81,007. Divided and this application filed August 29, 1903. Serial No. 171,174. (No model.)

To all whom it may concern:

Be it known that I, ARTHUR B. BELLOWS, of Pittsburgh, Allegheny county, Pennsylvania, have invented a new and useful Car-Sill, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a car-sill constructed in accordance with my invention. Fig. 2 is a cross-section showing the center and side sills of a car constructed in accordance with Fig. 1. Fig. 3 is a view similar to Fig. 1, showing a modified form.

My invention relates to the longitudinal sills employed in railway-cars, and is designed to provide for strengthening the intermediate portion of the sill between the bolsters in a simple and efficient manner without greatly increasing the weight of the sill.

To that end it consists in forming a car-sill with a rolled body-section having a vertical web and one or more flanges extending the entire length of the sill and securing to this sill-body a rolled flange-section which preferably extends throughout the intermediate part of the sill.

It also consists in a sill or stringer for a car comprising a plurality of channel-irons secured to each other with the channels facing outwardly and strengthening bars or strips secured longitudinally of the webs of the channel-irons and wholly within the flanges of the channels thereof.

It further consists in strengthening the lower part of a sill by securing a rolled flanged section thereto below the center of gravity of the sill and within the lines of the sill.

It also consists in the construction and arrangement of the parts, as hereinafter more fully described, and set forth in the claims.

This application forms a divisional part of my parent application, Serial No. 81,007, filed November 4, 1901, for car-sills.

In the drawings, referring to the form of Figs. 1 and 2, 2 2 represent a pair of commercial rolled channels forming a center sill and having their flanges 3 turned outwardly.

Along the lower inner sides of the channel-webs I rivet a pair of angles 4 4, with their horizontal flanges projecting inwardly toward each other and in substantially the same plane as the lower flanges 3 of the channels. These strengthening-angles do not extend throughout the length of the sill in the preferred form, but through the intermediate part of the sill between the bolsters, and preferably terminating at or between the bolsters.

If side sills are used, I preferably employ a single channel 5, with the flanges 6 turned outwardly, and an angle 7, corresponding to the angle 4, riveted along its lower inner portion and extending through the intermediate part of the sill.

The ends of the shorter strengthening members may be parallel with the channel-flanges, as in the form of Figs. 1 and 2, or the ends of these strengthening-angles may be bent or curved upwardly, as shown at 8 in Fig. 3.

The advantages of my invention result from the strengthening of the intermediate part of the longitudinal sill or stringer by a member which is within the lines of the sill, and hence is not liable to be in the way of brake apparatus or other parts. If a rolled flanged section is used as a strengthening member, the flange gives an additional base for securing air-brake parts or other elements thereto.

An important feature of the invention lies in attaching the strengthening members below the center of gravity of the sills, thereby increasing the moment of inertia and making the sill-section more symmetrical, especially in types where steel floor or cover plate is used.

Many changes may be made in the form and arrangement of the car, the sill-body, and the strengthening member without departing from my invention.

I claim—

1. A sill or stringer for a car comprising two channels with their flanges facing outwardly, and strengthening bars or strips secured to the inner faces of their webs, said strips extending longitudinally and being within the outside lines of the sill; substantially as described.

2. A car having a longitudinal metallic sill extending at least from bolster to bolster and comprising a girder with a vertical web and upper and lower flanges, and a strengthening member consisting of a rolled flanged section secured to and extending through the intermediate portion only of the web, the flange of the strengthening member extending on a level, at least as high as the lower flange of the girder; substantially as described.

3. A sill or stringer for a car comprising a plurality of rolled flanged sections each having a strengthening member secured to its intermediate part and below the center of gravity of the sill, the strengthening members consisting of rolled flanged sections located wholly within the outside lines of the sill; substantially as described.

4. A longitudinal sill or stringer for a car comprising a girder with a vertical web and upper and lower angular flanges, and a strengthening member secured to the web of the girder below its center of gravity, said strengthening member having a lower flange extending on a level at least as high as the lower flange of the girder; substantially as described.

5. A longitudinal sill or stringer for a car comprising a girder having a vertical web with top and bottom flanges extending laterally in the same direction, and a strengthening member secured to the intermediate part of the girder below its center of gravity, said strengthening member extending through the intermediate portion only of the girder and having a lower flange on a level at least as high as the lower angular flange of the girder; substantially as described.

6. A longitudinal car-sill comprising two girders with their flanges projecting in oppo-

site directions, and angles secured to the webs of the girders along their lower portions and on the sides opposite to the girder-flanges, the lower flanges of the strengthening-angles being on a level at least as high as the lower flanges of the girder; substantially as described.

7. A longitudinal car-sill consisting of a vertical web with angular flanges at the top and bottom, and a strengthening member of less length than the sill and consisting of a rolled flanged shape, said strengthening member being secured to the intermediate part of the sill below its top and extending parallel with the top flange of the girder throughout its length; substantially as described.

8. A longitudinal metallic car-sill comprising two rolled channels with their webs extending vertically, each having a strengthening member secured thereto and consisting of a rolled flanged section secured to the channel-web and extending through the intermediate portion only of the sill, the flange of the strengthening member extending on a level at least as high as the lower flange of the channel; substantially as described.

9. A car having a longitudinal metallic sill extending beyond the bolsters, said sill comprising a girder with a vertical web and upper and lower flanges, and a strengthening member narrower than the girder, said member being secured to and extending only through the intermediate portion of the girder, and being within the outside lines of the sill; substantially as described.

In testimony whereof I have hereunto set my hand.

ARTHUR B. BELLOWS.

Witnesses:

GEO. B. BLEMING,
JOHN MILLER.