I. G. DOWNS.

CENTER SILL FOR RAILWAY CARS.

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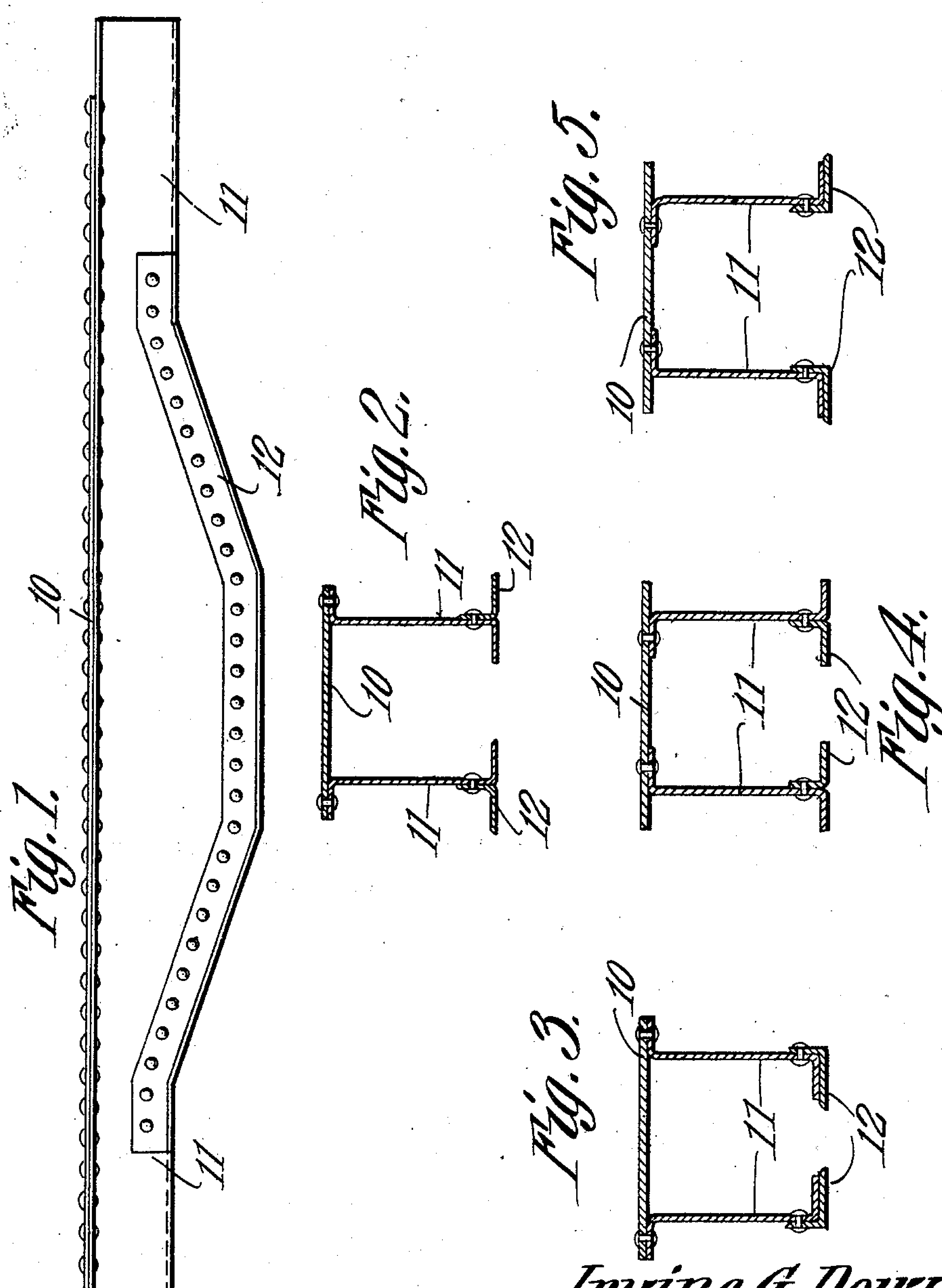
924,748. Patented June 15, 1909.



Witnesses

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IRVING GARFIELD DOWNS, OF HOLLIS, NEW YORK.

CENTER SILL FOR RAILWAY-CARS.

No. 924,748. Specification of Letters Patent. Patented June 15, 1909.

Application filed June 11, 1908. Serial No. 437,979.

To all whom it may concern:

Be it known that I, IRVING G. DOWNS, a citizen of the United States, residing at Hollis, in the county of Queens and State of New York, have invented a new and useful Center Sill for Railway-Cars, of which the following is a specification.

This invention relates to railway car frames.

The invention has special relation to a center sill for such car frames.

The object of the invention is to provide an improved construction of center sills for railway cars.

The invention consists of a center sill for railway cars built up of a pair of pressed metal Z-bars, combined in some instances with what is commonly known as rolled or structural steel.

The invention further consists in certain novel details of arrangement and combinations of parts hereinafter fully described, illustrated in the accompanying drawings, and specifically set forth in the claims.

In the accompanying drawings, like characters of reference indicate like parts in the several views, and;

Figure 1 is a longitudinal side elevation of a center sill constructed in accordance with this invention. Fig. 2 is a transverse median section of Fig. 1. Fig. 3 is a view similar to Fig. 2 of a modification of the invention. Fig. 4 is another view of a further modification. Fig. 5 is a view of a still further modification of the invention.

While in the present instance the device is shown as constituting what is known as a "fish-belly" type of center sill, it is obvious that the same may be used equally well for a plate type thereof.

In the present showing the numeral 10 indicates a cover plate whereto are rigidly attached in the usual manner a pair of pressed metal Z-bars 11. In the usual construction these Z-bars are made of plate steel as is also the cover plate 10. The Z-bars 11 have their upper flanges oppositely disposed as clearly shown in Figs. 2 to 5 inclusive. In the form shown at Fig. 1 the Z-bars are arranged so that the upper flanges lie in substantially the same plane, while the lower flanges lie in a plurality of planes, the Z-bars being deeper at the middle than at the ends and the intermediate portion tapering from the middle portion to the end portion. The lower or tension flanges of the Z-bars are preferably strengthened by riveting or otherwise securing thereto, angles 12, and in the type shown in Fig. 1 these angles preferably terminate at the end of the slanting or tapered portion of the Z-bars, though they may end elsewhere.

In the arrangement shown in Fig. 2 the Z-bars have their upper flanges turned outward and the angles 12 are attached to the outer side of the web and extend in a direction opposite the lower or tension flanges of the Z-bars.

In the form shown in Fig. 3, the arrangement of the Z-bars is the same as in Fig. 2, but the angles extend beneath the flanges of the Z-bars.

In the form shown in Fig. 4 the position of the Z-bars and angles is reversed from Fig. 2, and in the form shown in Fig. 5 the position is reversed from that of Fig. 3.

It is to be noted, however, that in all of the forms shown the flanges of the Z-bars are oppositely disposed and the reinforcing angle is attached to the lower portion of the web of each of the Z-bars.

By means of this arrangement there is provided an improved, simple and efficient center sill of the kind described.

Having thus described the invention, what is claimed, is:—

1. In a railway car, a center sill comprising a pair of pressed metal Z-bars each having a middle section of relatively great depth, end sections of relatively small depth, and tapering intermediate sections between the ends and middle, a cover plate attached thereto, and rolled metal members attached to the lower part of the web.

2. In a railway car, a center sill comprising a pair of spaced metal Z-bars each having a middle section of relatively great depth, end sections of relatively small depth, and tapering intermediate sections between the ends and middle, a cover plate attached thereto, and rolled metal members attached to the lower portions of the webs and extending over the middle portion.

3. In a railway car, a center sill comprising a pair of pressed metal Z-bars each having a middle section of relatively great depth, end sections of relatively small depth, and tapering intermediate sections between the ends and middle, a cover plate attached thereto, and rolled metal members attached to the

lower portion of the webs and extending over the middle and intermediate portions of the lower flanges.

4. In a railway car, a center sill comprising a pair of pressed metal members with rolled metal shapes attached to the bottom parts thereof and turned so as to inclose the lower flange of the pressed metal members.

5. In a railway car, a center sill, composed of Z bars having metal shapes attached to the webs thereof, the flanges of said shapes projecting laterally from said webs.

6. In a railway car, a center sill composed of Z bars and metal shapes attached thereto, said shapes overlapping the bottom flanges and the webs of the bars adjacent to said flanges.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

IRVING GARFIELD DOWNS.

Witnesses:

GEO. H. HARMAN,

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