

905,271.

J. S. ANDREWS.
UNDERFRAME FOR CARS.
APPLICATION FILED JAN. 24, 1908.

Patented Dec. 1, 1908.
2 SHEETS—SHEET 1.

Fig. 1

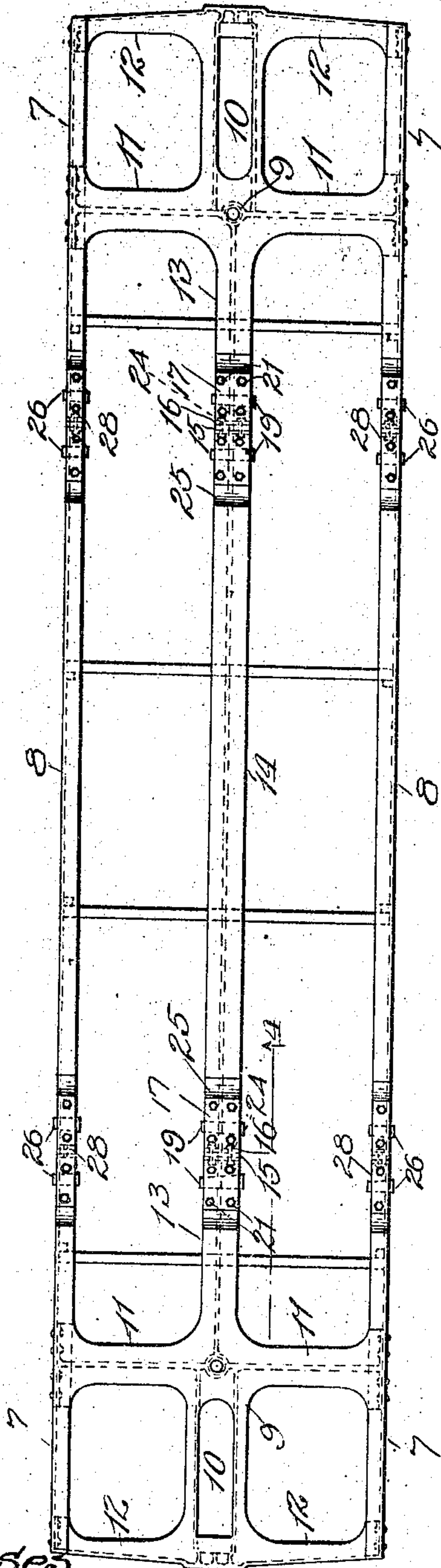


Fig. 3

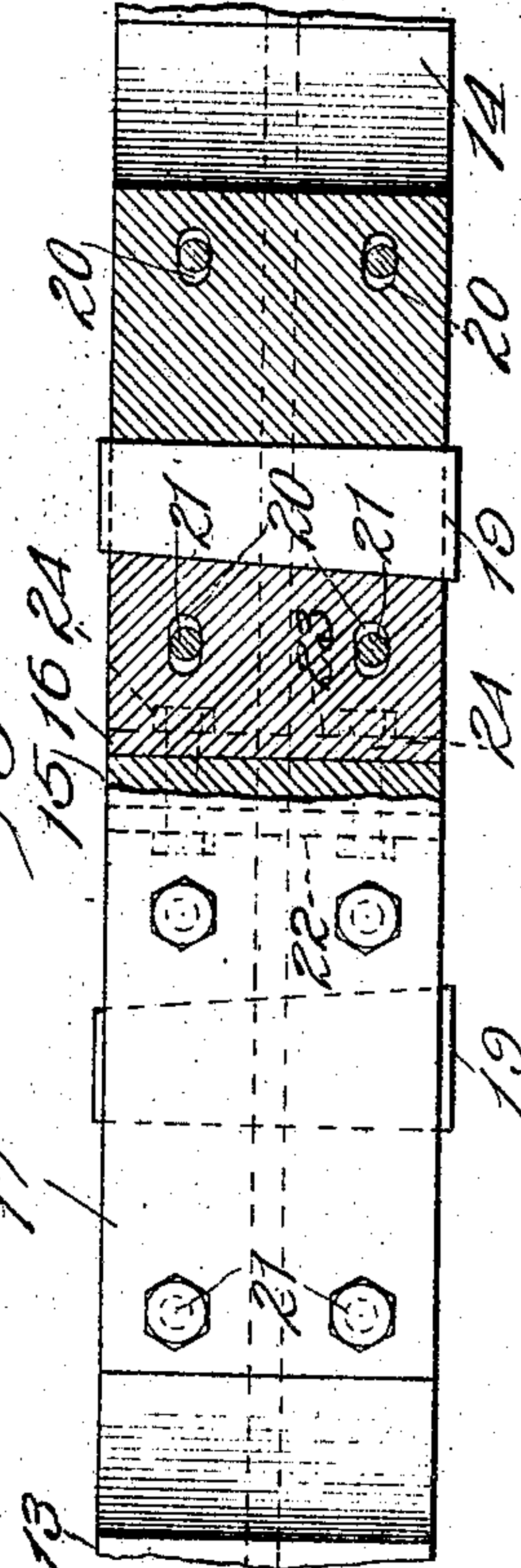
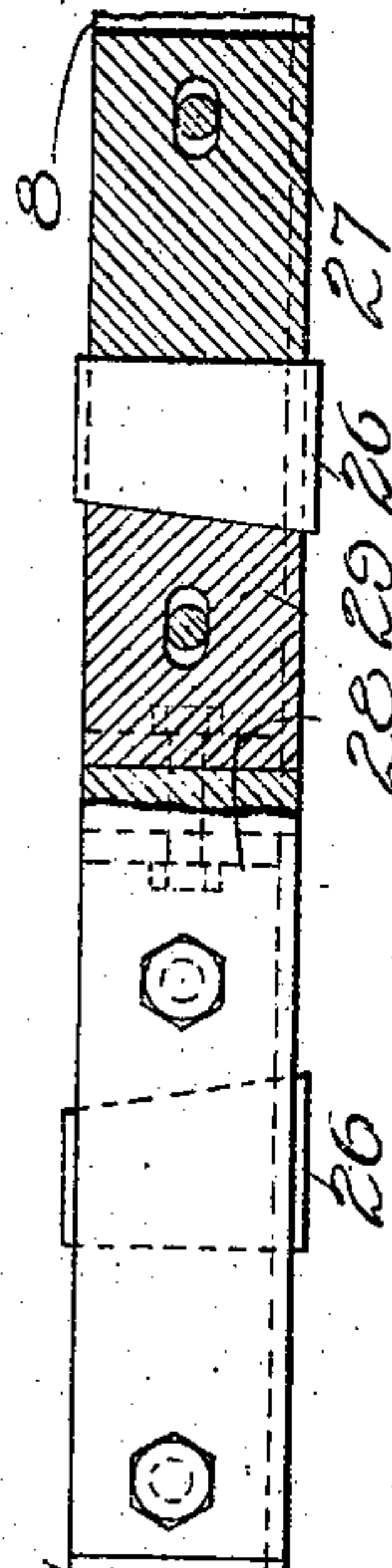


Fig. 2



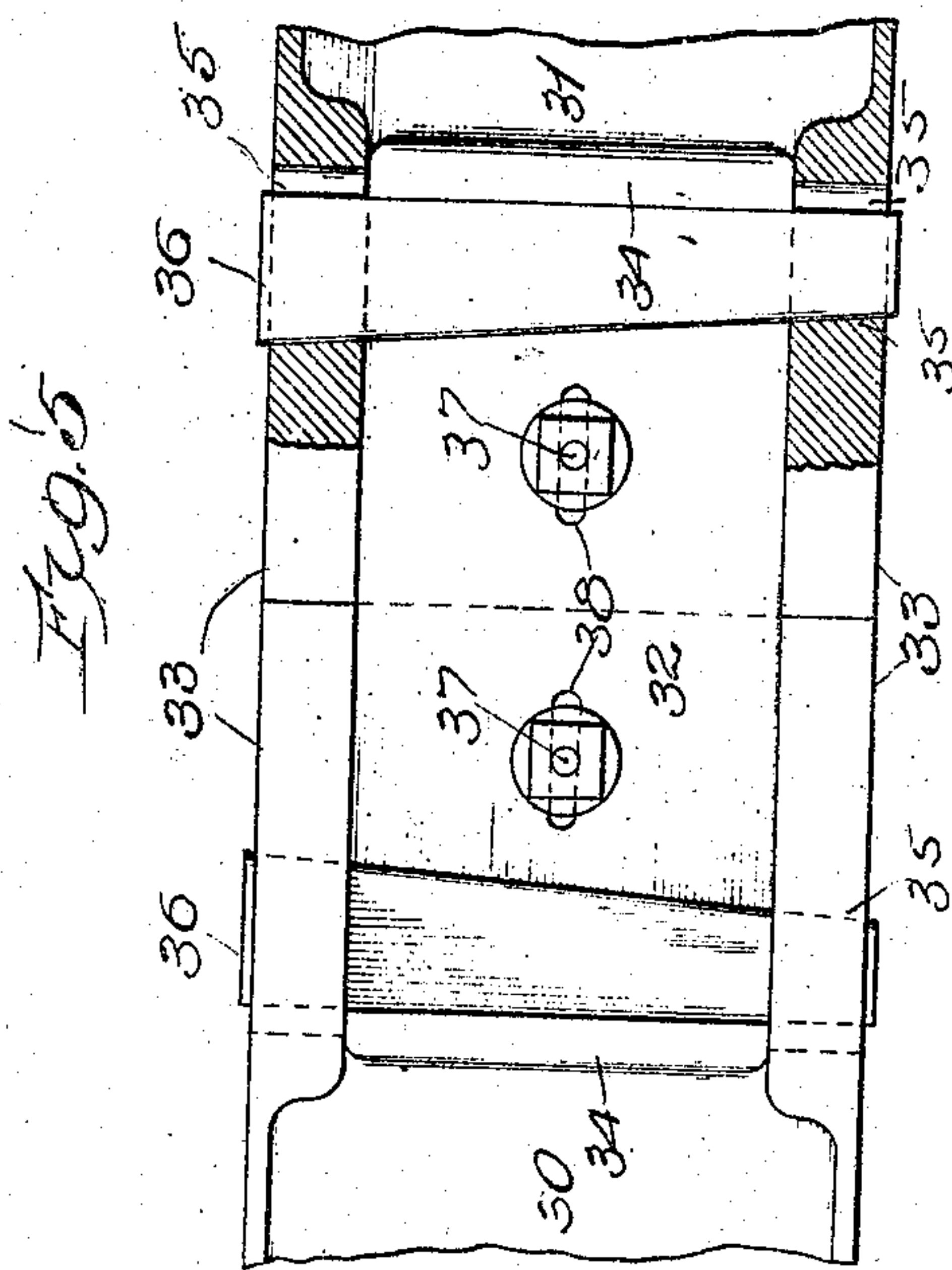
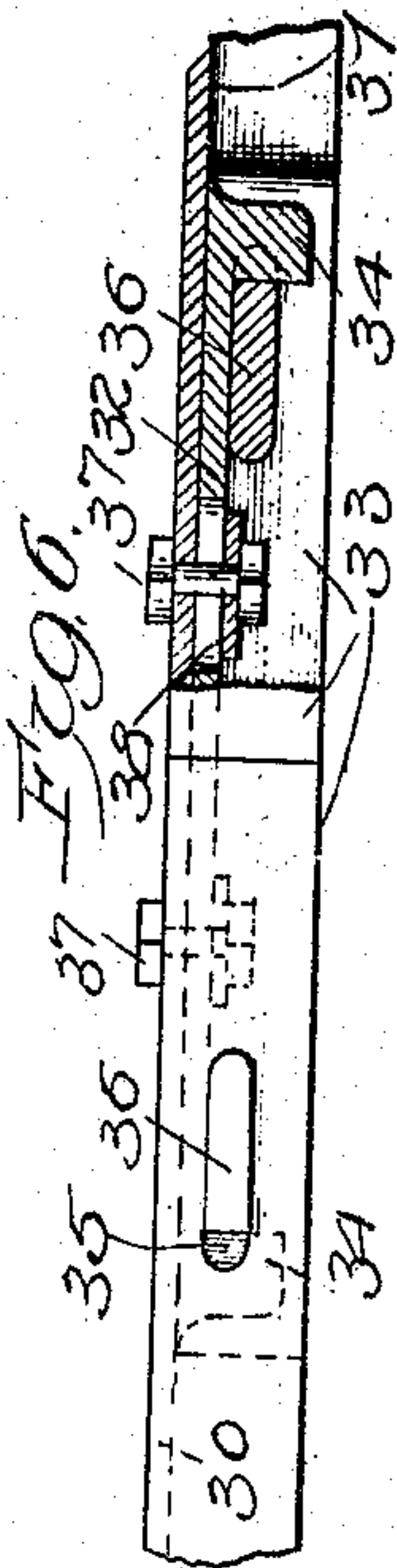
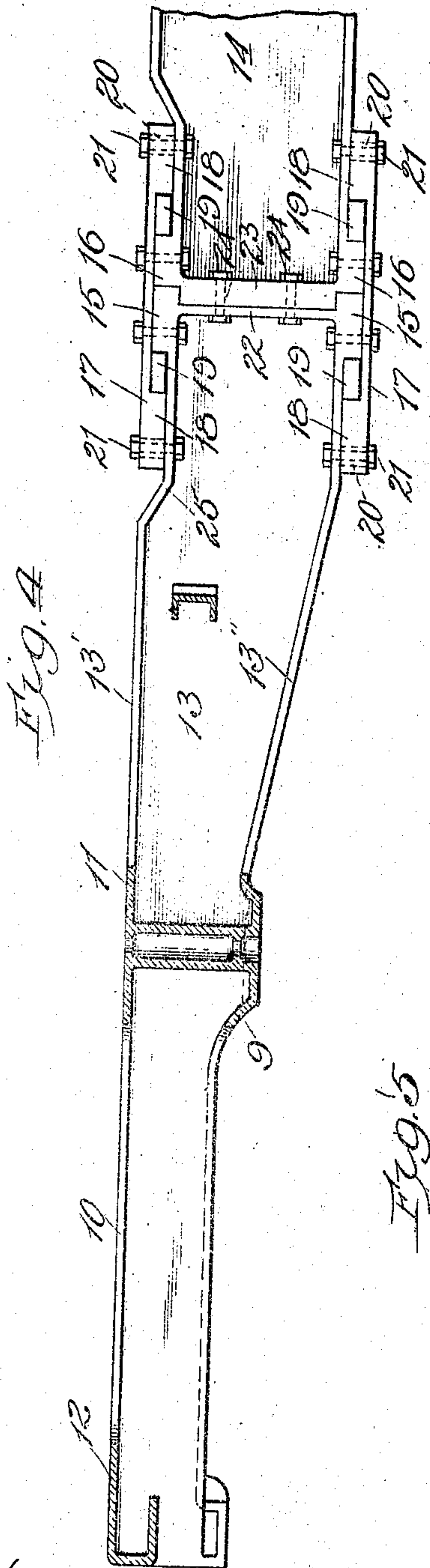
Witnesses
Harry R. L. White
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James S. Andrews
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UNITED STATES PATENT OFFICE.

JAMES S. ANDREWS, OF NEW YORK, N. Y.

UNDERFRAME FOR CARS.

No. 905,271.

Specification of Letters Patent.

Patented Dec. 1, 1908.

Application filed January 24, 1908. Serial No. 412,873.

To all whom it may concern:

Be it known that I, JAMES S. ANDREWS, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Underframes for Cars, of which the following is a specification.

This invention relates to underframes for railway cars and its object is primarily to provide a metal underframe of strong and substantial construction and composed of standard sections consisting of steel castings securely and rigidly fastened together.

The invention also has for its object to provide simple means for drawing the sections of the underframe together and securing them rigidly to each other.

As this invention has relation more particularly to the manner and means for securing the castings forming the underframe together it will be understood of course that the invention can be embodied in underframes of various constructions and therefore I do not limit myself to the adaptation of the invention with the particular construction of underframe illustrated in the accompanying drawings, in which

Figure 1 is a plan view of an underframe embodying the invention. Fig. 2 is a detail enlarged plan view, partly in section, showing the joint in one of the side sills. Fig. 3 is a similar view showing the joint in the center sill. Fig. 4 is a longitudinal vertical sectional view on the line 4-4 of Fig. 1. Fig. 5 is a side view, partly in section, of a modified form of joint. Fig. 6 is a plan view, partly in section, of the joint shown in Fig. 5.

Referring to the drawings the side sills consist of two end sections 7 and a central section 8, these sections being all preferably made of cast steel in channel form and rigidly secured together at their adjacent ends as hereafter described and as shown in the joint of the center sill in Fig. 4. At each end of the frame is a draw-bar sill 9 which is provided with an opening 10 to receive the draw-bar and its attachments. Each draw-bar sill is made of cast steel and is provided with side projections 11 which constitute the body bolster and which are bolted or otherwise securely fastened to the sections 7 of the side sills. Each draw-bar sill is also provided with integral side projections 12

which constitute the end sills and are bolted or otherwise securely fastened to the sections 7 of the side sills. The draw-bar sills have integral projections 13 which constitute parts of the center sill and abut against the cast steel intermediate section 14 of the center sill which is preferably made in I-form.

Lugs 15 are provided on the top and bottom of the projections 13 and at the outer ends thereof and lugs 16 are provided on the top and bottom of the center sill section 14 at the ends thereof to abut against the lugs 15 on the projections 13. (Figs. 3, 4.) Tie plates 17 are arranged to lie upon said lugs 15, 16, and are provided with lugs 18 at the ends thereof and at a distance removed from the lugs 15, 16 to provide a space between themselves and the lugs 15, 16 to receive the wedge blocks 19. When the parts are assembled these wedge blocks are driven in between the lugs 18 and the lugs 15, 16 and thereby the center sill section 14 and the projections 13 are drawn up close together to make a close joint. The tie plates 17 have elongated openings 20 to receive the bolts 21 which pass through openings in the flanges 13', 13'' of the castings to secure the tie plates to the castings and fasten the parts rigidly together. The elongated openings in the tie plates allow for variations which may occur in the closeness of fit between the parts of the joint.

I also prefer to provide the end of the projection 13 with a recessed head 22 to receive the projecting head 23 on the adjacent end of the center sill section 14 and secure these heads together by bolts 24 as shown in Fig. 4. This construction may be reversed and the center sill 14 provided with a recessed head to receive the projecting head on projection 13, if desired.

The center sill section 14 and the projection 13 may be depressed as indicated to receive the tie plate so that said tie plate will lie flush with the rest of the frame or this depression may be dispensed with and the tie plate arranged as shown on the flange 13'' at the bottom of the joint (Fig. 4).

The joints at the ends of the side sill sections 8 and the adjacent ends of the side sill sections 7 are made like the joint between the ends of the center sill section 14 and the projections 13 as clearly shown in elevation in Fig. 4 and it will not be necessary to enter

into a detail description thereof except to say that the wedges 26 are driven in between the lugs 27 on the underside of the tie plates 28 and the lugs 29 on the sections of the side sill in the manner heretofore described.

In Figs. 5 and 6 I have illustrated another form of joint embodying the wedges but in this construction the wedges are arranged in an upright position instead of in a horizontal position as in the construction illustrated in Figs. 1-4. Figs. 5 and 6 illustrate a joint which is especially adapted for a side sill in which the sections 30 and 31 consist of steel castings made in channel form. A tie plate 32 is arranged between the flanges 33 of these sections and this tie plate is provided at its ends with outwardly projecting lugs 34. The flanges 33 are preferably made thick at their ends for greater strength and they are provided with elongated openings 35 to receive the wedge blocks 36. When the parts are assembled the wedge blocks are driven down through the openings 35 in the upper flange of the sections 30, 31 and into engagement with the lugs 34 on the tie plate. As the wedges are driven through the openings in the upper flange and into the openings in the lower flange of the sections 30, 31 they will, by engagement with the lugs 34, draw the sections close together, as shown in Fig. 5, so that they can be rigidly secured by bolts 37 passing through elongated openings 38 in the tie plate and openings in the sections.

As heretofore mentioned the sections of the underframe may be made in any desired form and number, so far as my present invention is concerned, and it will be observed that the invention provides for securing the sections together in a firm and rigid manner whether or not they are made to an exact fit. The invention also facilitates the operation of assembling the parts of the underframe and the joints permit the removal of any section for repair or replacement without disassembling the entire frame.

What I claim and desire to secure by Letters Patent is:

1. In a sectional underframe for cars, the combination of two sections arranged end to end, a tie plate overlapping the adjacent ends of said sections, and wedge blocks engaging said tie plate and said sections to draw the sections together.

2. In a sectional underframe for cars, the combination of two sections arranged end

to end, a tie plate overlapping the adjacent ends of said sections, lugs on said tie plate, and wedge blocks engaging said lugs and said sections to draw the sections together.

3. In a sectional underframe for cars, the combination of two sections arranged end to end, a tie plate overlapping the adjacent ends of said sections, lugs on said sections, and wedge blocks engaging said tie plate and said lugs to draw the sections together.

4. In a sectional underframe for cars, the combination of two sections arranged end to end, a tie plate overlapping the adjacent ends of said sections, lugs on said tie plate, lugs on said sections, and wedge blocks engaging said lugs to draw the sections together.

5. In a sectional underframe for cars, the combination of two sections arranged end to end, said sections having a depression at the top and at the adjacent ends thereof, a tie plate overlapping the ends of the sections and resting on the top thereof in said depression, and wedge blocks engaging said tie plate and said sections to draw the sections together.

6. In a sectional underframe for cars, the combination of two sections arranged end to end, a tie plate overlapping the adjacent ends of said sections, wedge blocks engaging said tie plate and said sections to draw the sections together, and bolts passing through the tie plate and the sections to secure the parts together, said tie plate having enlarged openings to receive the bolts.

7. An underframe for cars comprising a plurality of sections made to fit together, tie plates overlapping the ends of said sections, wedge blocks engaging said tie plates and said sections to draw the sections together and make tight joints therebetween, and means for securing the tie plates to the sections.

8. An underframe for cars comprising a plurality of sections made to fit together, said sections having lugs thereon at their adjacent ends, tie plates overlapping the ends of said sections, lugs on said tie plates, and wedge blocks to engage the lugs on the sections and the lugs on the tie plate at each joint of the frame to draw the sections together and make the frame rigid.

JAMES S. ANDREWS.

Witnesses:

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