J. McE. AMES.

CAR UNDERFRAME.

APPLICATION FILED NOV. 14, 1907.

904,746.

Patented Nov. 24, 1908.

3 SHEETS—SHEET 1.

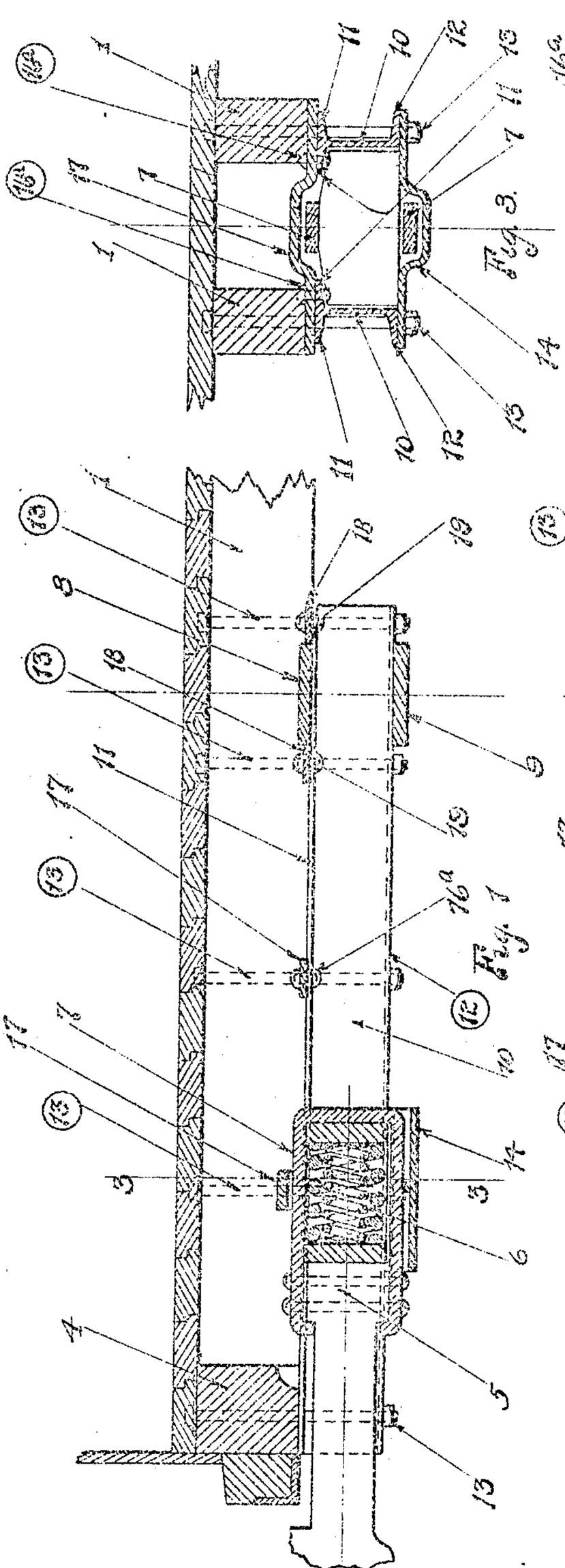

Fig. 3.

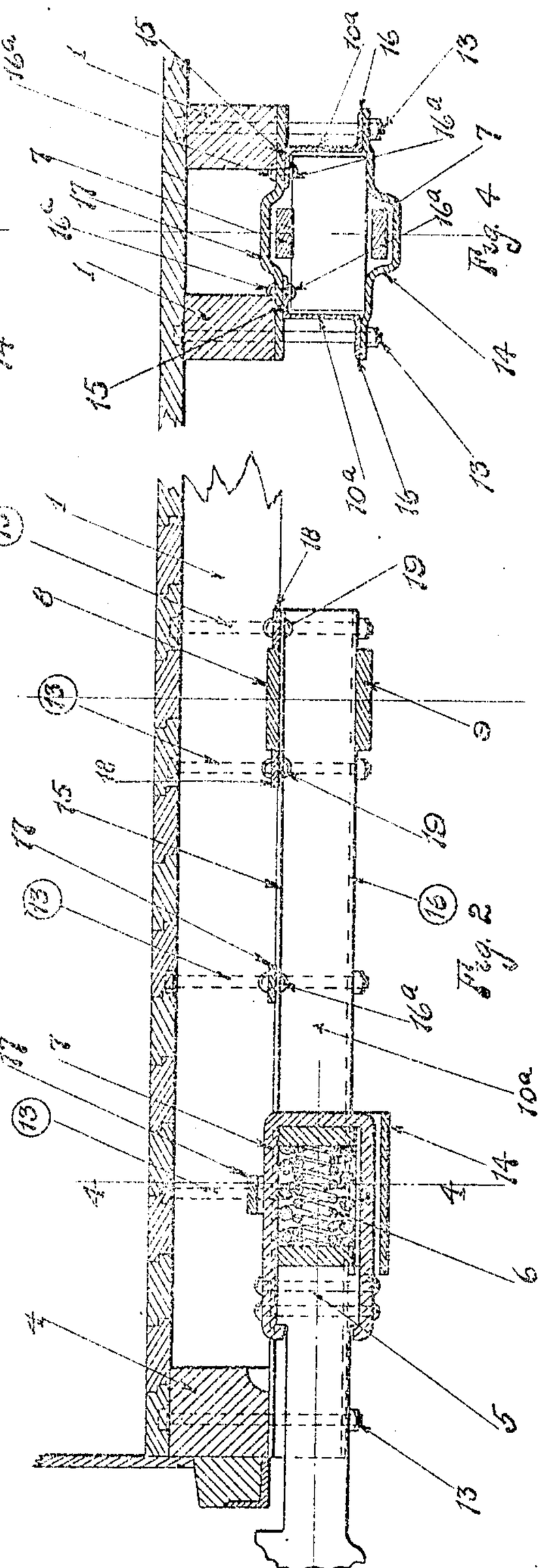

Fig. 4.

Fig. 1.

Fig. 2.

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3 SHEETS--SHEET 2.

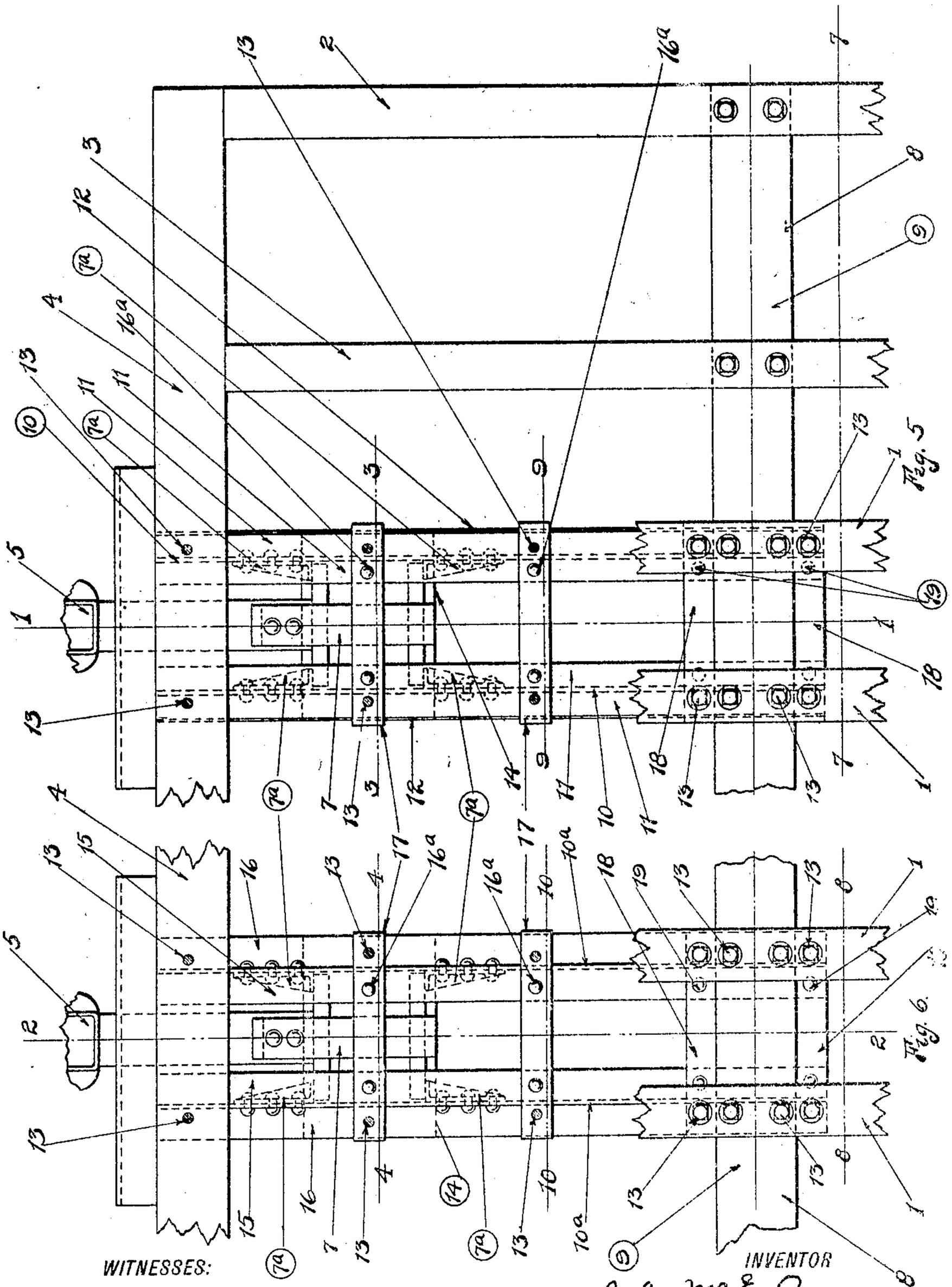

Fig. 5

Fig. 6.

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3 SHEETS—SHEET 3.

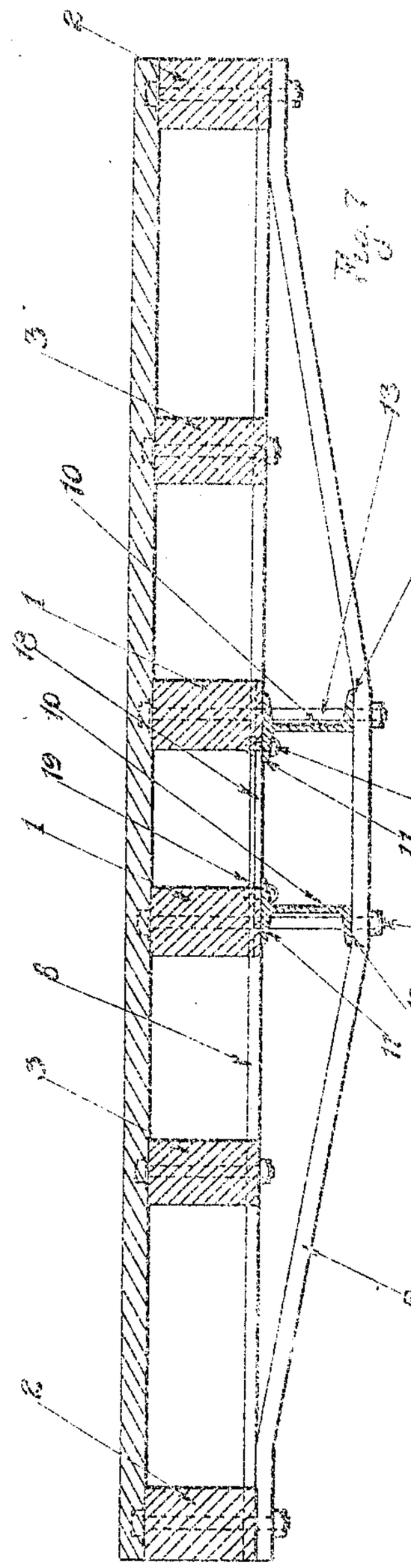

Fig. 7.

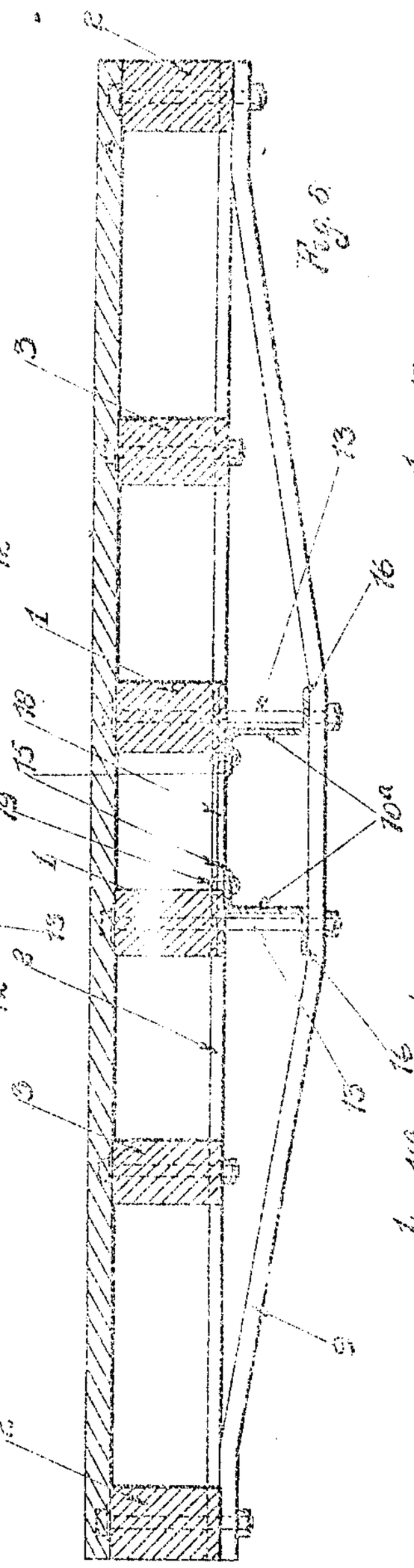

Fig. 6.

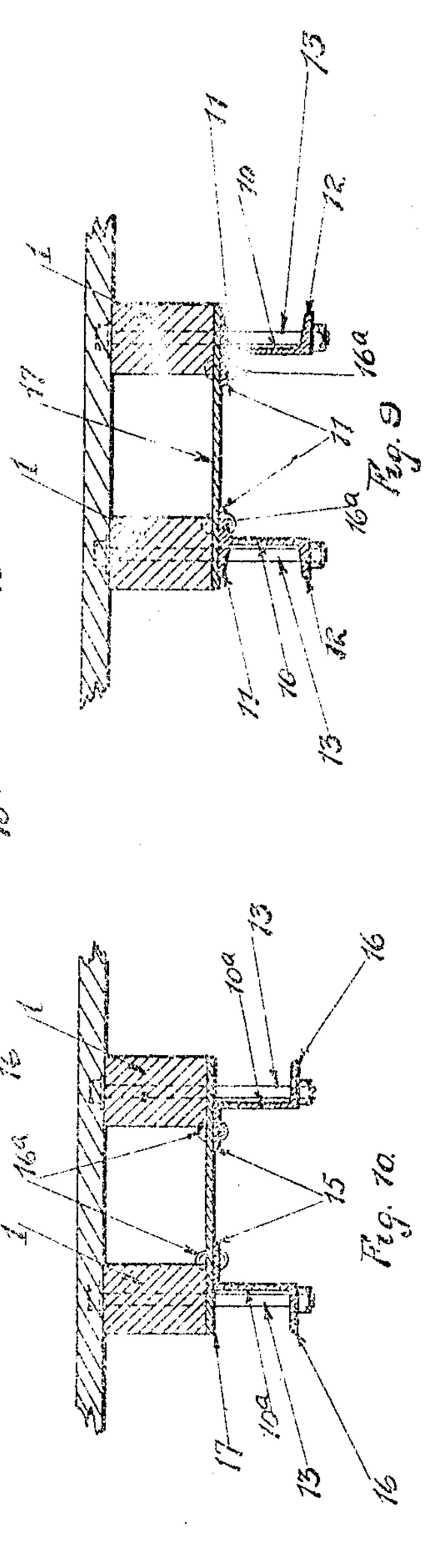

Fig. 9.

Fig. 10.

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CAR-UNDERFRAME.

No. 904,746. Specification of Letters Patent. Patented Nov. 24, 1908.

Application filed November 14, 1907. Serial No. 402,194.

To all whom it may concern:

Be it known that I, JOHN McE. AMES, of Dongan Hills, Staten Island, Richmond county, city of New York, and State of New York, and being a citizen of the United States, have invented certain new and useful Improvements in Car-Underframes, 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, which illustrate the preferred form of the invention, though it is to be understood that the invention is not limited to the exact details of construction shown and described, as it is obvious that various modifications thereof will occur to persons skilled in the art.

This invention relates to improvements in underframes for railway cars and is designed especially for use with underframes of wood though it may be used with any suitable style of underframing.

The object of the invention is to produce an improved draft sill arrangement which may be secured to and carried below such underframing and preferably in line with the car body bolster in which case the rearwardly extending portions of the draft sill members will be disposed between the tension and compression members of such bolster forming struts.

While I have illustrated but two modifications in the accompanying drawings it will be obvious to one skilled in the art that many other modifications of the invention are possible and I desire to claim all such modifications as are within the scope of the following description and claims.

Referring to the drawings, Figure 1 is a central longitudinal view showing the invention applied in position, the section being taken on line 1—1 of Fig. 5. Fig. 2 is a similar view showing a slightly modified form of construction. Fig. 3 is a transverse sectional view, the section being taken on line 3—3 of Fig. 1. Fig. 4 is a transverse sectional view, the section being taken on line 4—4 of Fig. 2. Fig. 5 is a plan view showing the modification of Figs. 1, 3, 7 and 9 in position. Fig 6 is a plan view showing the modification of Figs. 2, 4, 8 and 10 in position. Fig. 7 is a transverse sectional view on line 7—7 of Fig. 5. Fig. 8 is a transverse sectional view on line 8—8 of Fig. 6. Fig. 9 is a transverse sectional view on line 9—9 of Fig. 5. Fig. 10 is a transverse sectional view on line 10—10 of Fig. 6.

Referring to the parts: 1 indicates center sills; 2 side sills; 3 intermediate sills and 4 end sill, and as the device is duplicated at the other end of the car only an end fragment of the car is shown.

5 indicates generally the draft rigging including spring 6, yoke 7 and follower stops 7^a of any suitable detail construction adapted for the purpose. The style of draft rigging is not material, hence further description thereof is not required.

In the construction illustrated in both modications the draft sills hereinafter described pass rearwardly of and between the upper and lower bolster members 8—9 thereby forming struts for such bolsters. Extending thence forwardly are the draft sills 10—10^a said sills in Figs. 1, 3, 5, 7, 9, comprising special rolled shapes having oppositely disposed integral flanges 11 at their upper sides whereby a considerable bearing surface is provided for the center sills. Projecting laterally and outwardly from the vertical webs 10 are integral flanges 12 through which, and through the flanges 11 vertically above which, pass bolts 13 which extend though said center sills and serve as securing means for the said draft sills. It is to be observed that there are no inwardly disposed flanges at the lower side of the draft sills. Thus the entire space between their webs is available for the insertion of suitable draft rigging which is supported in position in any desired manner, as by straps 14.

In Figs. 2, 4, 6, 8, 10 are shown draft sills of substantially Z shape wherein the upper flanges 15 project inwardly and the lower flanges 16 extend outwardly while the webs 10^a thereof are vertical or nearly so. Tie straps 17 are riveted to the inwardly disposed flanges 11 and 15 and are secured thereto by rivets 16 as shown while said tie straps extend laterally beyond the vertical webs of the draft sills in both modifications and in the modification of Figs. 2, 4, 6, 8 and 10 provide additional bearing surface for the center sills resting thereon. Thus I have provided separate draft sills of metal which are especially adapted for use with wood underframes. Said draft sills being of

metal and being carried under the center sills may be substituted for wood draft sills in case of repairs or renewal of such parts. It is to be understood that the draft sills may terminate short of the bolster members where it is advantageous to use a different type of bolster.

In the construction illustrated wherein the draft sills extend through the bolsters, draft sill stops 18 are secured to the upper flanges of the draft sills and abut against the upper bolster member 8 at each side thereof, said draft sill stops being secured to the draft sills by means of rivets 19 as shown. If desired the draft sills may be continuous from end to end of the car.

Having described the invention, what I claim is:

1. In a car underframe, the combination comprising end sills, wood center sills extending to said end sills and rolled, metallic draft sills in a plane below said center sills, said draft sills having inwardly disposed upper flanges, vertical webs and outwardly disposed lower flanges and securing means extending through said center sills and outside of the webs of said draft sills.

2. In a car underframe, the combination comprising end sills, wood center sills extending to said end sills and rolled, metallic draft sills in a plane below said center sills, said draft sills having inwardly and outwardly disposed upper flanges, vertical webs and outwardly disposed lower flanges and securing means extending through said center sills and outside of the webs of said draft sills.

3. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills and forming struts for said bolsters, said draft sills having integral inwardly disposed upper flanges, relatively vertical webs and outwardly disposed lower flanges and vertically disposed securing means passing through said center sills and said lower flanges.

4. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills and forming struts for said bolsters, said draft sills having integral inwardly and outwardly disposed upper flanges, relatively vertical webs and outwardly disposed lower flanges and vertically disposed securing means passing through said center sills and said lower flanges.

5. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills and forming struts for said bolsters, said draft sills having integral inwardly and outwardly disposed upper flanges, relatively vertical webs and outwardly disposed lower flanges.

6. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills and forming struts for said bolsters, said draft sills having integral inwardly and outwardly disposed upper flanges, relatively vertical webs and outwardly disposed lower flanges and vertically disposed securing means passing through said center sills and both outer flanges of said draft sills.

7. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills, said draft sills having integral inwardly and outwardly disposed upper flanges, relatively vertical webs and outwardly disposed lower flanges and vertically disposed securing means passing through said center sills and both outer flanges of said draft sills.

8. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills and forming struts for said bolsters, said draft sills having integral inwardly disposed upper flanges, draft sill stops at each side of said bolster and vertically disposed securing means passing through said center sills and said lower flanges.

9. In a car underframe, the combination with bolsters and wood center sills, of draft sills in a plane below said center sills and forming struts for said bolsters, said draft sills having integral inwardly and outwardly disposed upper flanges, draft sills stops secured to said upper flanges at each side of the bolster, relatively vertical webs and outwardly disposed lower flanges and vertically disposed securing means passing through said center sills and said lower flanges.

10. In a car underframe, the combination comprising continuous wood center sills, end sills, a bolster, separately formed flanged draft sills, extending between the top and bottom member of said bolster and serving as struts therefor and securing means for said draft sills passing through outer flanges thereof and through said center sills.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

JOHN McE. AMES.

Witnesses:
F. J. GIBBONS,
F. V. COOPER.