

L. G. WOODS.
REINFORCED TRUCK FRAME.
APPLICATION FILED AUG. 17, 1908.

913,602.

Patented Feb. 23, 1909.

2 SHEETS—SHEET 1.

FIG. 1

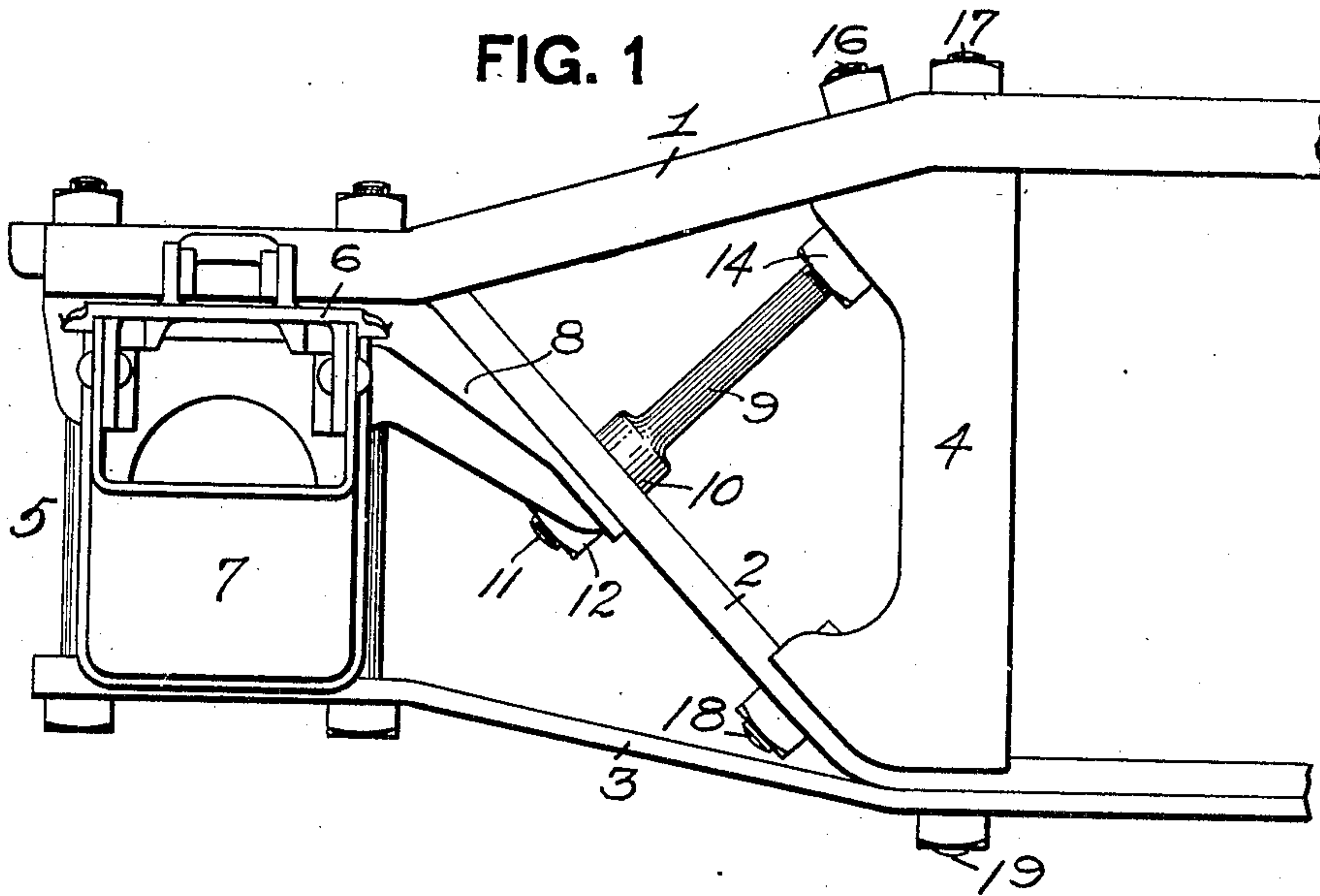
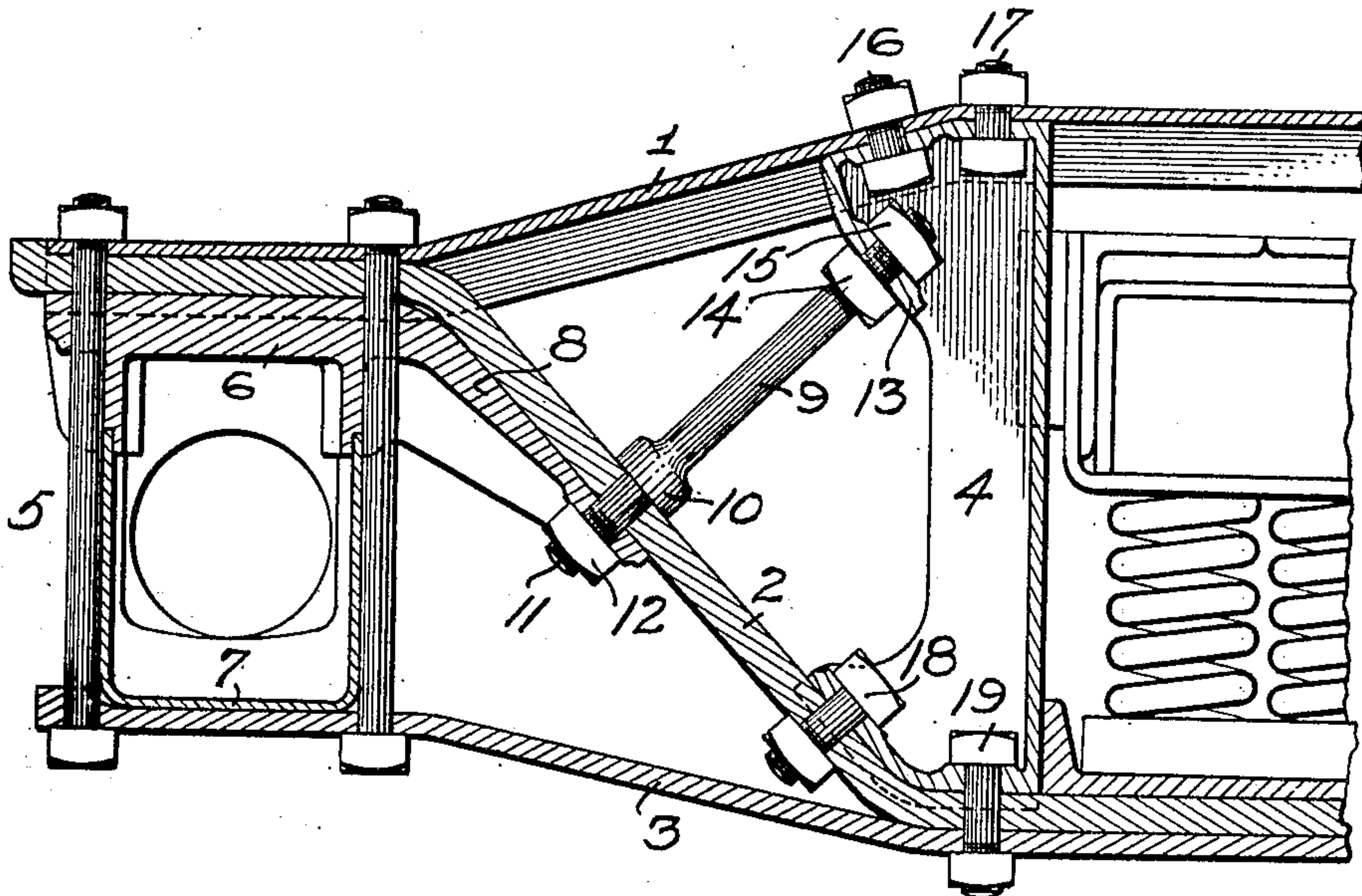


FIG. 2



WITNESSES.

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Robert C. Fother

INVENTOR.

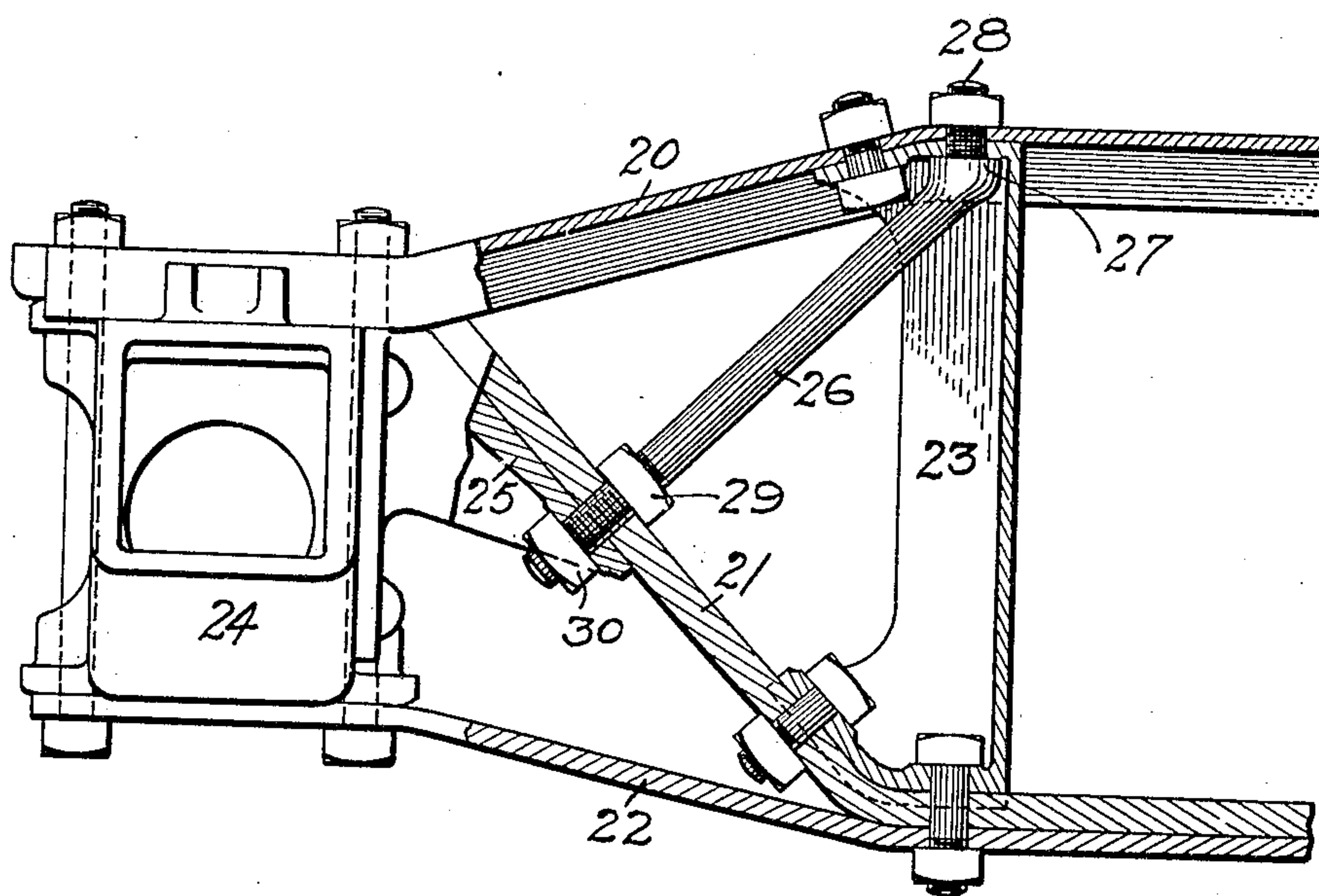
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FIG. 3



WITNESSES.

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UNITED STATES PATENT OFFICE.

LEONARD G. WOODS, OF PITTSBURG, PENNSYLVANIA.

REINFORCED TRUCK-FRAME.

No. 913,602.

Specification of Letters Patent.

Patented Feb. 23, 1909.

Application filed August 17, 1908. Serial No. 448,904.

To all whom it may concern:

Be it known that I, LEONARD G. WOODS, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Reinforced Truck-Frames; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to railway truck frames and to the bracing of the same and the journal box mounted therein, its object being to improve the construction set forth in my application for Letters Patent filed July 1st, 1908, Serial No. 441,329, so as to stiffen the frame, and to relieve the top arch bar from bending strains which heretofore were present on account of bracing the journal box in position, and a further object is to brace the truck frame against the constant blows of the bolster.

The invention consists generally in combining with a diamond truck frame having a top arch bar, a bottom arch bar and a reinforcing member extending from the junction of the top arch bar and bottom arch bar, of a strengthening member connected to the reinforcing member and lower arch bar and extending at an upward and inward incline toward the bolster column or guide; such strengthening bar being preferably connected to the bolster guide and to an arm extending inwardly from the journal box so as to hold the journal box from getting out of square and to brace the bolster column against blows of the bolster.

In the accompanying drawings Figure 1 is a side view; Fig. 2 a longitudinal sectional view through the truck frame; and Fig. 3 is a side view partly broken away illustrating a modification.

The truck frame illustrated is of ordinary diamond frame type having the top arch bar 1, bottom arch bar 2, tie bar 3, and the bolster column or guide 4. In Figs. 1 and 2 I have illustrated a journal box 5 having the upper portion formed of cast steel or like metal, as at 6, and with the pressed metal body 7, as described in previous applications filed by me. Said box is provided with the arm 8 illustrated as projecting inwardly underneath the bottom arch bar 2 and fitting against the lower face thereof. This arm 8 thus forms a reinforcing member extending from the junction of the top and bottom arch bars downwardly over the bottom arch bar. Extending from about the

mid portion of the bottom arch bar at an upward and inward incline toward the upper end of the bolster column is the strengthening member 9 which is illustrated as formed of a bar connected to the arm 8 of the journal box and the bottom arch bar, at one end, and to the bolster column at the other end. Sometimes this strengthening bar connects to the top arch bar at or close to the bolster column, and either directly or through the bolster column. The strengthening member 9 thus connects the reinforcing member of the bottom arch bar with the bolster column without causing bending strains in the top arch bar. In its preferred form the bar 9 has the shoulder 10 bearing on the top face of the bottom arch bar, the bar having the projecting threaded portion 11 extending through both the bottom arch bar and the said arm 8 and held by the nut 12. The upper end of this bar is threaded and projects through the flange extension 13 of the bolster column and is provided with the nut 14 below said flange and the nut 15 above said flange, the said bar forming in this way a rigid connection between the journal box extension, lower arch bar, bolster guide and also top arch bar. In this way the brace can resist the tensile strains set up by the tendency of the journal box to rotate, and it can equally as well resist the compressive strains occasioned by the blows of the bolster. This latter feature helps materially in protecting the bolts 16 from being sheared off. As illustrated the bolster guide is connected to the arch bars by bolts 16, 17, at the top, and bolts 18, 19 at the bottom thereof.

It is of course well known that in such truck frame the top arch bar is under compression and the lower arch bar under tension. As described in the said application filed July 1st, 1908, by providing the journal box with the arm 8 and connecting it to the bottom arch bar the frame is held from being bent at the junction point. In doing so, the bottom arch bar would be bent downwardly, were it not prevented by the tension, resisted by the spacer or as in this application, the diagonal brace 9. This brace now being connected to the bolster guide near the top, or in fact to the top arch bar near the junction point, will relieve the top arch bar of such strains such as would occur if a spacing member such as illustrated in said application were connected to such top arch bar

mid-way between the journal box and bolster column. Such strengthening member also serves to add another truss within the main truss frame and by a very simple device stiffen and strengthen it by its connection between the bottom arch bar and the bolster column. It is also well known that the swinging or lurching of the bolster within the bolster columns brings heavy shearing strains upon the bolts connecting the bolster column to the arch bars, and the inclined strengthening bar or member 9 serves to sustain or brace the column against such motion of the bolster within its guides, as above mentioned.

In Fig. 3 I have illustrated a modification of the invention showing the same with the top arch bar 20, bottom arch bar 21, tie bar 22, bolster column 23, and with the cast metal journal box 24, the arm 25 being shown as bolted to the side of such box. In this construction I employ a like strengthening member or bar 26 which extends from the bottom arch bar 21 upwardly to the bolster column and is bent at its upper end so as to connect together the top arch bar and the bolster column. To this end it has the shoulder 27 fitting within the bolster guide and has the threaded or bolt portion 28 extending through both the bolster guide and the top arch bar. At the other end said strengthening bar 26 is threaded and passes through the bottom arch bar and the arm 25, being connected thereto by bolts 29 and 30. In such construction the truck frame and parts are braced in substantially the way above described.

What I claim is:

1. The combination of a diamond side frame having a top arch bar, a bottom arch bar, a reinforcing member extending from the junction of the top and bottom arch bars along the bottom arch bar, a bolster column, and a strengthening member secured to the bottom arch bar and the reinforcing member and extending at an upward and inward incline toward and connected at about the junction of the top arch bar and the bolster column.

2. The combination of a diamond frame truck having a top arch bar, a bottom arch bar, a bolster column, of a journal box having an inwardly projecting arm and a

strengthening member connected to the bottom arch bar and said journal box arm and extending at an upward and inward incline toward and connected at about the junction of the top arch bar and bolster column.

3. The combination of a diamond frame truck having a top arch bar, a bottom arch bar, a bolster column, of a journal box having an inwardly projecting arm and a strengthening member connected to the bottom arch bar and said journal box arm and extending at an upward and inward incline and connected to the bolster column.

4. The combination of a diamond frame truck having a top arch bar and a bottom arch bar, of a bolster column having a flange extension below the junction of the column with the top arch bar and a strengthening member extending from the bottom arch bar at an upward and inward incline and connected to the said flange extension of the bolster column.

5. The combination of a diamond frame truck having a top arch bar, bottom arch bar and a bolster column, with a strengthening member connecting the bottom arch bar and bolster column, said member being formed of a bar having a shouldered end passing through one of the arch bars.

6. The combination of a diamond frame truck having a top arch bar, bottom arch bar and a bolster column, with a strengthening member connecting the bottom arch bar and bolster column, said member being formed of a bar having a shouldered end and a threaded portion beyond the same passing through one of the arch bars.

7. The combination of a diamond frame truck having a top arch bar, a bottom arch bar and bolster column, said bolster column having a flange extension, with a strengthening member formed of a bar connected to said flange extension and having at the other end a shouldered portion with a threaded extension beyond the same, said threaded extension extending through the bottom arch bar.

In testimony whereof, I the said LEONARD G. Woods have hereunto set my hand.

LEONARD G. WOODS.

Witnesses:

A. STUCKI,
THOS. M. BENNER.