A. J. McCAULEY.

CAR TRUCK.

APPLICATION FILED JULY 20, 1909.

1,007,472.

Patented Oct. 31, 1911.

3 SHEETS—SHEET 1.

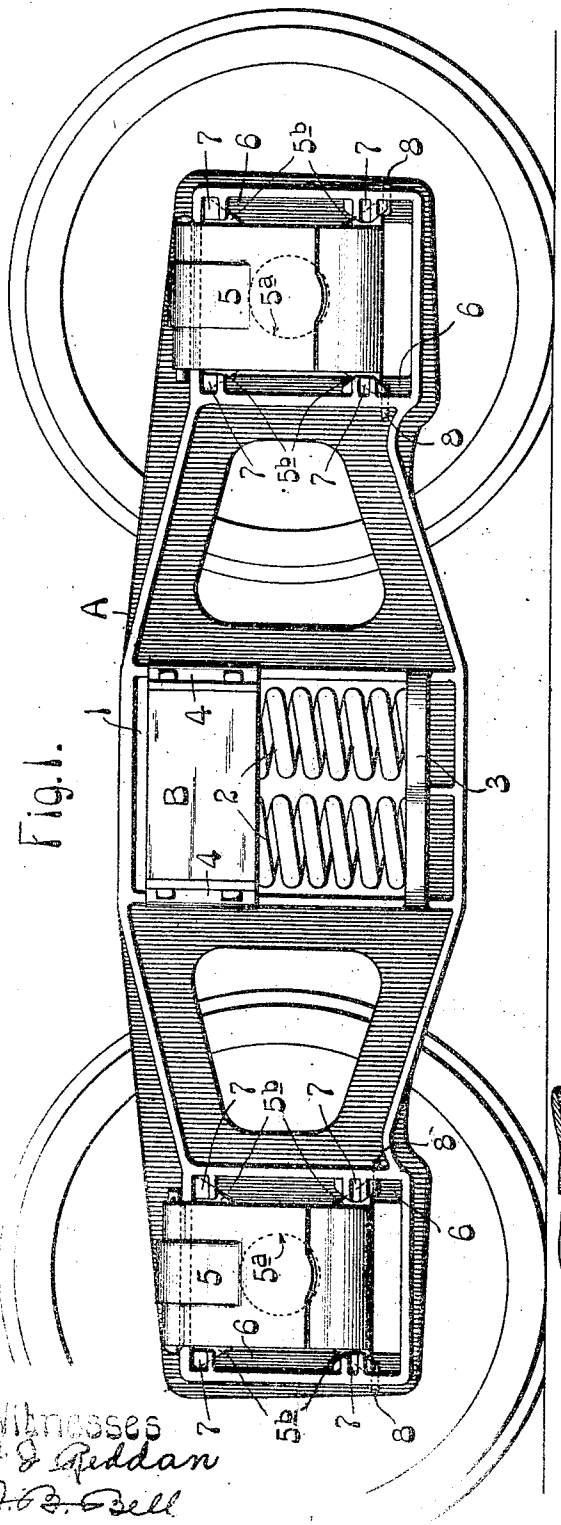

Fig. 1.

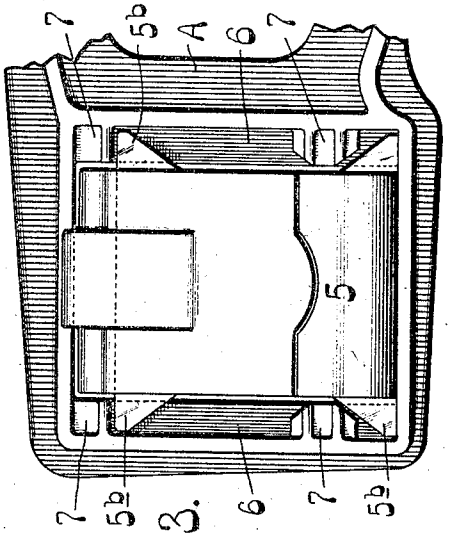

Fig. 3.

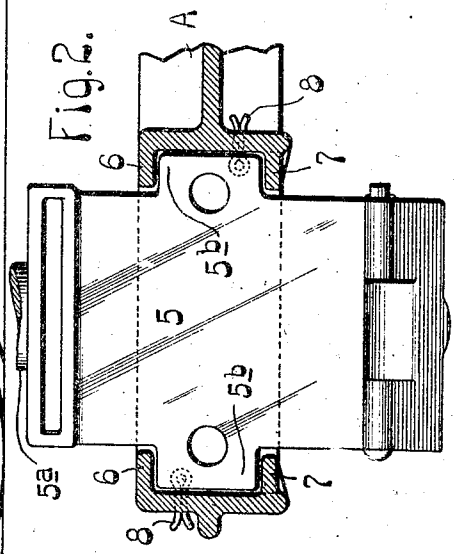

Fig. 2.

Witnesses
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3 SHEETS—SHEET 2.

Fig. 4.

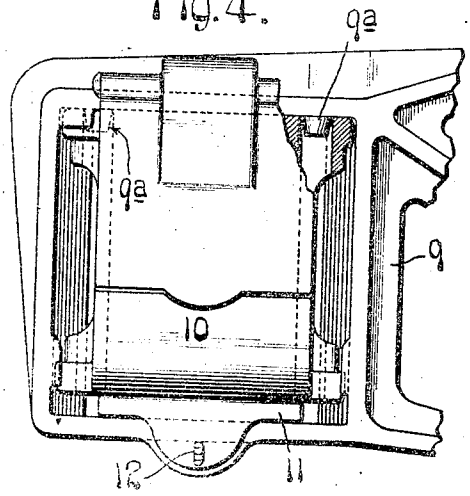


Fig. 5.

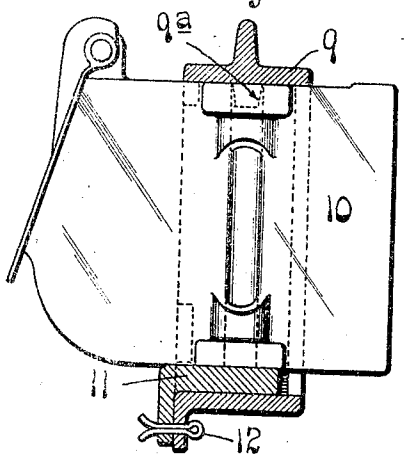
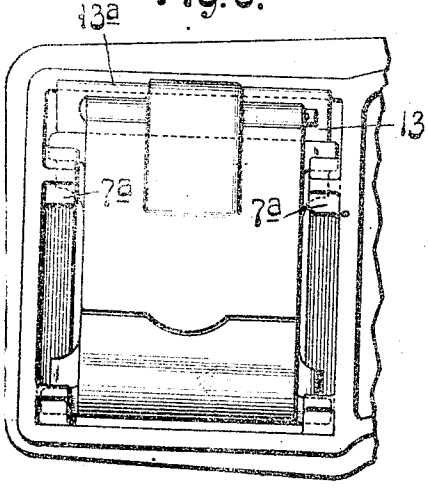


Fig. 6.



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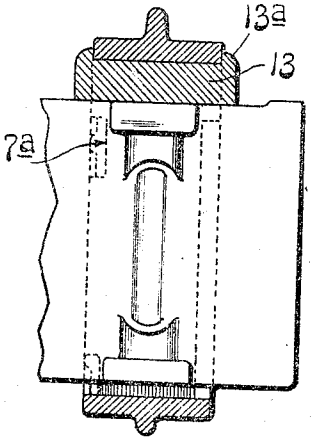
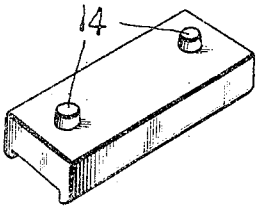


Fig. 8.



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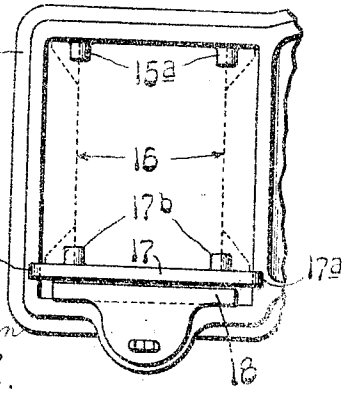
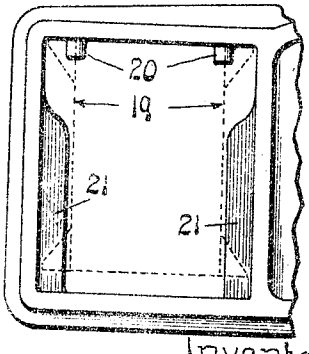


Fig. 10.



Witnesses

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3 SHEETS—SHEET 3.

Fig. 11.

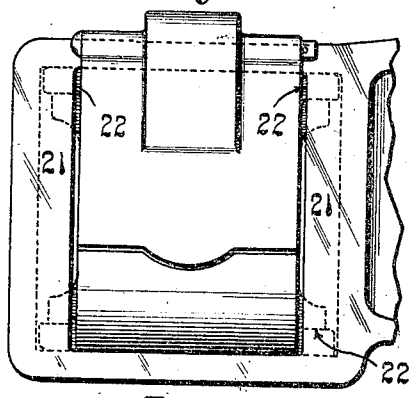


Fig. 12.

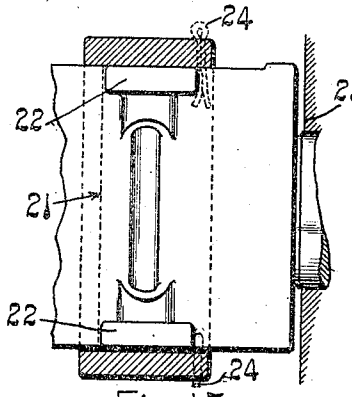


Fig. 13.

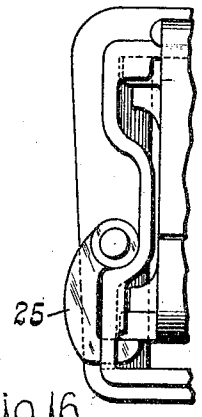


Fig. 14.

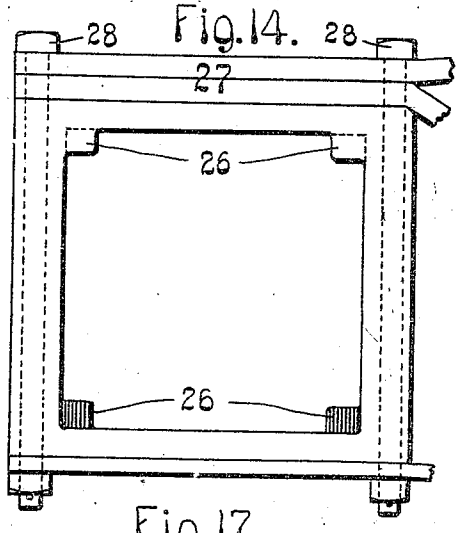


Fig. 15.

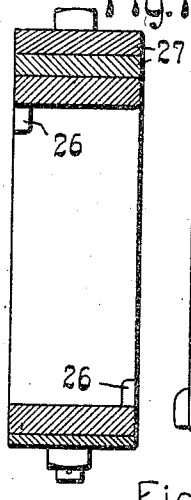


Fig. 16.

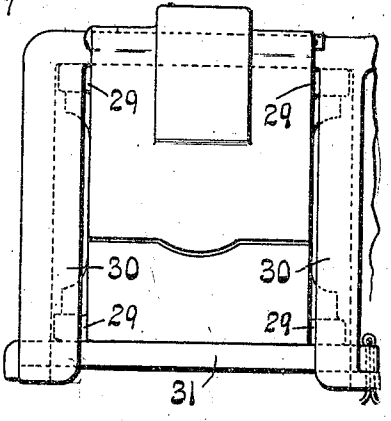


Fig. 17.

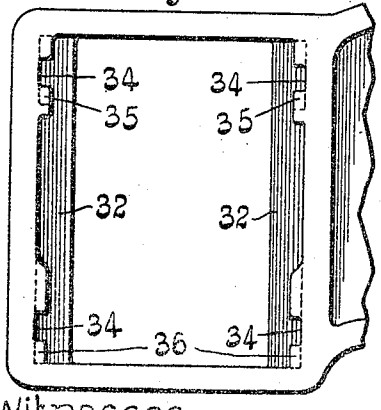


Fig. 18.

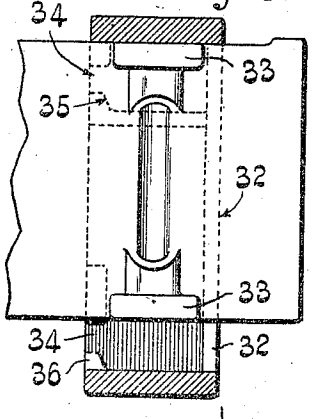
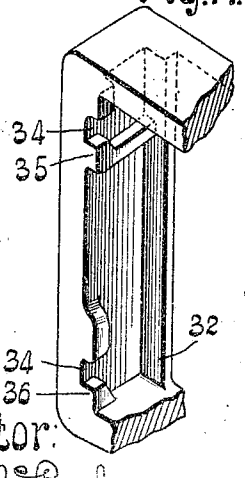


Fig. 19.



Witnesses

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L. B. Bell.

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UNITED STATES PATENT OFFICE.

ALBERT J. McCAULEY, OF ST. LOUIS, MISSOURI, ASSIGNOR TO THE J. S. ANDREWS COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF WEST VIRGINIA.

CAR-TRUCK.

1,007,472. Specification of Letters Patent. Patented Oct. 31, 1911.

Application filed July 20, 1909. Serial No. 508,645.

To all whom it may concern:

Be it known that I, ALBERT J. McCAULEY, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car-Trucks, 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, in which—

Figure 1 is a side elevation of a car truck constructed in accordance with this invention; Fig. 2 is a horizontal sectional view taken through one end of the truck frame; Fig. 3 is a detail view showing the truck frame moved to an abnormal position; Fig. 4 is a side elevation of a portion of a modified form of truck; Fig. 5 is a vertical sectional view, partly in elevation, of the truck shown in Fig. 4; Fig. 6 is a side elevation of another modified form of truck; Fig. 7 is a vertical sectional view, partly in elevation, of the truck shown in Fig. 6; Fig. 8 illustrates a filler for maintaining a journal box in a truck frame; Figs. 9, 10 and 11 are side views illustrating further modifications; Fig. 12 is a vertical sectional view, partly in elevation, of the truck shown in Fig. 11; Fig. 13 is a side elevational view showing another modification; Fig. 14 illustrates a portion of a truck having a casting adapted to surround and interlock with journal boxes; Fig. 15 is a vertical sectional view of the parts shown in Fig. 14; Fig. 16 is a side elevational view showing another form of truck frame; Fig. 17 illustrates a modified form of side frame; Fig. 18 is a sectional view of the frame shown in Fig. 17, showing the journal box in position; and Fig. 19 is a detail view illustrating projections on the frame shown in Fig. 17.

This invention relates to improvements in car trucks, the main object being to provide a truck wherein the standard type of journal boxes can be very easily applied to or removed from the truck frames.

Another object is to provide an improved car truck in which journal boxes are connected to each other by a single casting which entirely surrounds the same.

The Master Car Builders' standard journal box is provided with side lugs or flanges which receive bolts for securing the journal box to the truck frames. In the preferred form of my invention these bolts may be dispensed with, the usual side lugs or flanges on the journal boxes being interlocked with the truck frames. I deem this feature very important because it constitutes a very simple fastening means and enables the standard type of journal box which is in general use to be secured to trucks without the use of bolts or nuts. This invention can also be used on trucks having springs above the journal boxes, and when so used the interlocking parts may be of a design adapted to coöperate with a sliding truck frame.

I have herein shown M. C. B. standard journal boxes having the usual hollow projections which coöperate with the inner faces of projections on the truck frame, but it will be understood that other forms of journal boxes and various designs of lugs and flanges could be used in accordance with this invention.

In the drawings A indicates a truck frame in the form of a casting having a bolster-receiving opening 1 within which a bolster B is slidingly mounted. Springs 2 are interposed between the bolster and a spring seat 3. I have shown a bolster provided with removable column guides 4 which cooperate with the truck frame, but it will be understood that this invention is not limited to any particular type of bolster, and that any suitable shape or design of bolster-receiving opening may be used. If desired, the bolster could be rigidly secured to the truck frames.

5 indicates journal boxes of the M. C. B. type, mounted in substantially rectangular openings in the ends of the truck frame, said journal boxes being entirely surrounded and connected to each other by the truck frame.

5^a indicates journals secured to the truck wheels. In accordance with the M. C. B. standard, the journal boxes 5 have side flanges or lugs 5^b which are adapted to receive bolts. These lugs 5^b are arranged between and interlocked with lugs or flanges 6 and 7 on the truck frame. By referring to Fig. 2 it will be seen that the lugs 5^b are mounted in substantially [shaped portions of the truck frame, the legs of said [shaped portions being formed by flanges 6 and lugs 7. The lugs 7 on the outer face of the truck frame are preferably short and may be disengaged from the journal box lugs by lifting the truck frame. As the weight of the

car tends to move the truck frames downwardly and the journal boxes are supported on the journals it will be readily seen that this weight tends to prevent the interlocking lugs from being disengaged. To remove a journal box it is only necessary to disengage the interlocked lugs by lifting the truck frame as shown in Fig. 3 and then withdraw the journal box therefrom.

If desired, cotters 8 or other devices may be secured to the truck frame below the journal boxes, as shown in Figs. 1 and 2. Cotters 8 prevent the truck frame from being accidentally disengaged from the journal boxes when the truck is in service, another function of these cotters being to cause the journal box to move with the truck frame when the latter is being raised for the purpose of removing a bearing or wedge from the space between a journal and journal box.

Fig. 4 and Fig. 5 illustrate a modified form wherein the truck frame 9 in addition to being interlocked with side projections on the journal box 10 is provided with lugs 9^a which project into the bolt holes in said projections. Removable fillers 11 are arranged below the journal box 10 for the purpose of maintaining said box interlocked with the truck frame. 12 indicates split keys or cotters which secure fillers 11 to the truck frame.

Fig. 6 and Fig. 7 illustrate a form wherein it is necessary to either raise the journal box or lower the truck frame to unlock said parts. The upper projections 7^a on the truck frame are located below the top of the journal-box-receiving opening, and removable fillers 13, having locking lugs 13^a, hold the journal box in position.

In Fig. 8 I have shown a modified form of filler having lugs 14 which are adapted to enter bolt holes in the journal box lugs.

The truck frame 15, shown in Fig. 9, is provided with lugs 15^a which are adapted to enter bolt holes in the journal box 16. 17 indicates a plate having end lugs 17^a engaging the truck frame and projections 17^b adapted to enter holes in the bottom lugs of journal box 16. The journal box and plate 17 are held in position by a filler 18 removably secured to the truck frame.

Fig. 10 illustrates a modification wherein the journal box 19 is interlocked with projections 20 on the truck frame, the latter being provided with flanges 21 which coöperate with the lower lugs on journal box 19.

Fig. 11 and Fig. 12 illustrate a modified form of truck frame that can be very easily manufactured, said frame being provided with vertical flanges 21 located at the outer edge of the journal-box-receiving opening. Lugs 22 on the journal box engage the inner faces of flanges 21, and the journal box is prevented from moving inwardly by the truck wheel 23; however, if desired, split keys 24 or other devices may be employed to prevent the journal boxes from moving inwardly.

Fig. 13 illustrates a portion of a truck frame constructed substantially as hereinbefore described, a pivoted locking device 25 extending under the journal box and being applied to said frame for the purpose of maintaining the journal box in position.

Fig. 14 and Fig. 15 show a casting adapted to surround a journal box and having lugs 26 for interlocking therewith, said casting being secured to the end of an arch bar frame 27 by means of bolts 28.

In Fig. 16 I have shown a M. C. B. standard journal box having the usual hollow lugs 29 which interlock with flanges 30 on the truck frame. 31 indicates a bar removably secured to the frame and coöperating with the bottom of the journal box.

Figs. 17 to 19 illustrate a form of truck frame in which fillers or other removable devices for maintaining the journal boxes in position are unnecessary. The inner edge of the truck frame is provided with vertical flanges 32 which coöperate with the inner face of journal box lugs 33, the outer edge of said frame being provided with lugs which form grooves 34 through which the journal box lugs are passed while said box is being inserted. If the truck frame should rise or the journal box fall after said parts are in operative position they will be prevented from becoming disengaged by lugs 35 and 36 and the flanges 32.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. A car truck having journal boxes, a cast metal side frame resting on and surrounding said journal boxes, said side frame and journal boxes being interlocked together by means capable of being unlocked by moving one of said parts to an abnormal position, and members which coöperate with the bottom of the journal boxes, retaining said parts in their normal position.

2. A car truck having a side frame, journal boxes surrounded by said truck frame and locked therewith by means capable of being unlocked by moving one of said parts to an abnormal position, and removable members maintaining said parts in their normal position.

3. A truck frame in the form of a casting having journal-box-receiving openings, journal boxes having extensions arranged in opposite sides of said openings and locked between pairs of projections on the truck frame, and removable members for maintaining said parts in interlocking engagement.

4. A truck frame in the form of a casting having journal-box-receiving openings, journal boxes having extensions arranged in op-

posite sides of said openings and locked between pairs of projections on the truck frame, and removable fillers for maintaining said parts in interlocking engagement.

5. A truck frame in the form of a casting having journal-box-receiving openings, the side, top and bottom walls of said openings being integrally connected together, journal boxes arranged in said openings and interlocked with vertical faces of the truck frame, said parts being separable when moved vertically to an abnormal position, and removable means for maintaining said parts in their normal position.

6. A truck frame in the form of a single casting, journal boxes surrounded by and interlocked with said casting, and removable members arranged below the journal boxes for maintaining said parts in their normal position.

7. A truck frame in the form of a single casting, journal boxes interlocked therewith, and removable fillers interposed between said truck frame and journal boxes.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 17th day of July, 1909.

ALBERT J. McCAULEY.

Witnesses:
J. B. BELL,
J. J. REDDAN.