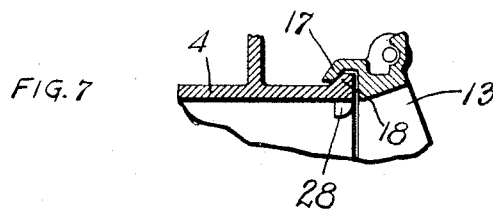
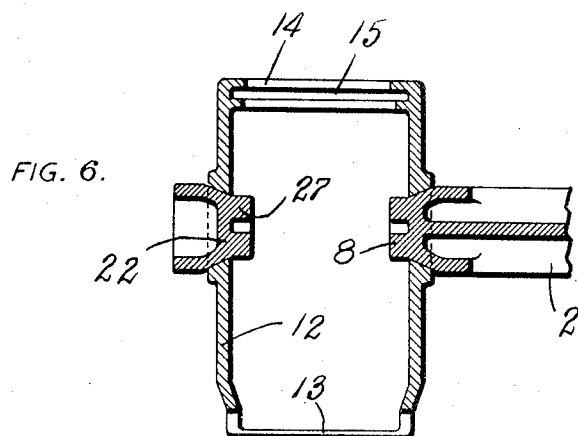
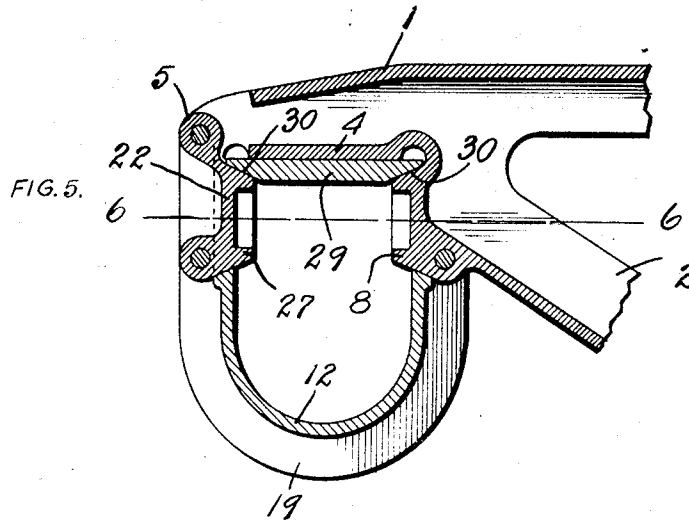


1,050,848.

2 SHEETS--SHEET 2.



WITNESSES

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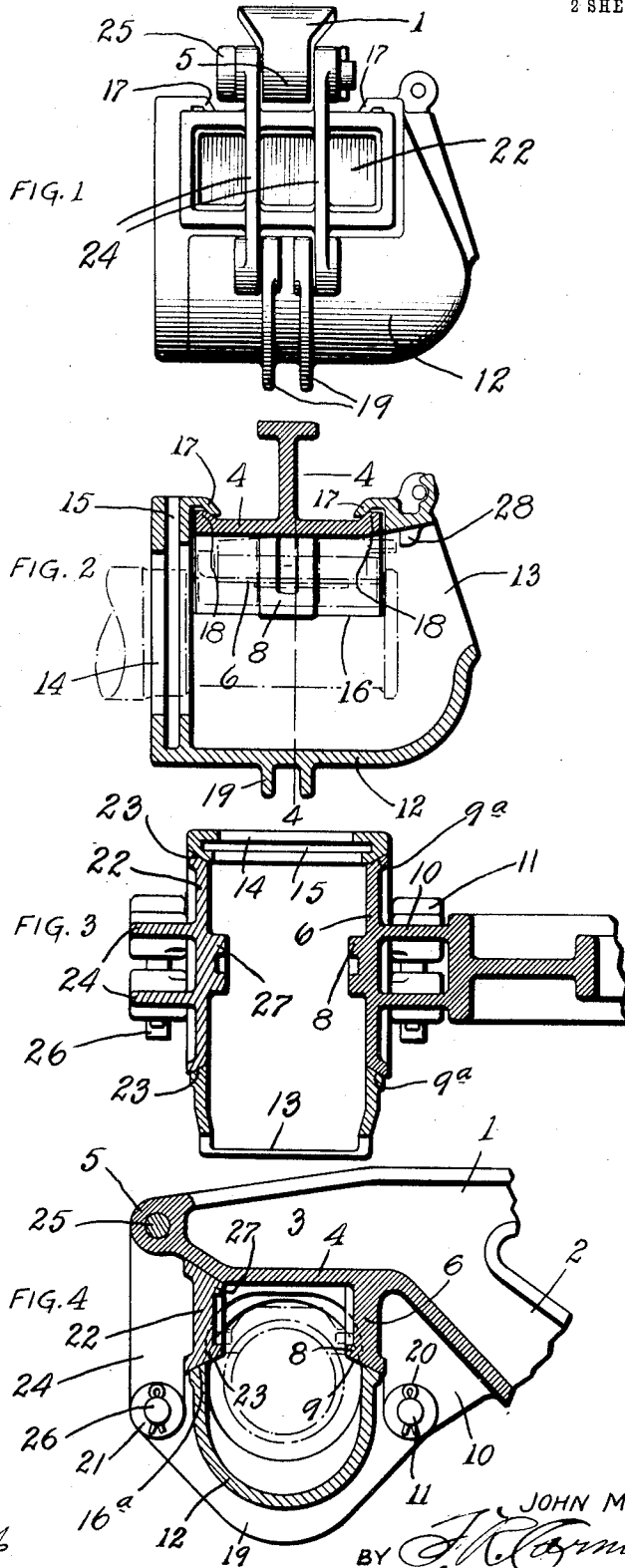
BY *J. R. Cornwall*, ATT'Y.

J. M. ROHLFING.
CAR TRUCK SIDE FRAME AND JOURNAL BOX.
APPLICATION FILED MAR. 29, 1912.

1,050,848.

Patented Jan. 21, 1913.

2 SHEETS—SHEET 1.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN M. ROHLFING, OF ST. LOUIS, MISSOURI, ASSIGNOR TO WOLFF TRUCK FRAME COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF MAINE.

CAR-TRUCK SIDE FRAME AND JOURNAL-BOX.

1,050,848.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed March 29, 1912. Serial No. 687,224.

To all whom it may concern:

Be it known that I, JOHN M. ROHLFING, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car-Truck Side Frames and Journal-Boxes, 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, forming part of this specification, in which—

Figure 1 is an end elevation of a car truck side frame of my improved construction and showing the housing which combines with said side frame to form the journal box. Fig. 2 is a vertical section taken lengthwise through the center of the journal box. Fig. 3 is a horizontal section taken through the center of the journal box. Fig. 4 is a vertical section taken approximately on the line 4—4 of Fig. 2. Fig. 5 is a vertical section similar to Fig. 4 and showing a modified construction of the combined side frame and journal box. Fig. 6 is a horizontal section taken approximately on the line 6—6 of Fig. 5. Fig. 7 is a detail sectional view of a further modified form of the combined side frame and journal box.

This invention relates generally to cast metal side frames for car trucks, and more particularly to the construction and arrangement of the journal boxes positioned upon the ends of the side frames.

The primary objects of my invention are, to provide a divided journal box whose essential parts that receive and resist the greatest strains are constructed of a very strong and tough material and the other parts of a material of comparatively less strength; to provide a journal box having a removable lower shell or housing that is symmetrical on both sides of its longitudinal axis in order that it may be readily positioned on either end of the side frame; third, to provide a reversible and interchangeable link for connecting the end of the side frame with the shell or housing of the journal box and fourth to provide a construction wherein worn or broken parts can easily and quickly be replaced.

Further objects of my invention are, to provide a simple, strong and rigid construction wherein a portion of the truck side

frame and a housing or special form are combined to form the journal box, to provide a simple construction wherein the housing forming the lower portion of the box may be easily and quickly applied to or removed from the truck side frames to permit the axles to be moved endwise relative to the side frames when the truck is being assembled or taken apart, and further to provide an interchangeable and reversible block or link, which, when properly positioned, forms a portion of one of the side walls of the journal box.

A further object of my invention is to generally improve the construction of the divided journal box shown in my Patent #856,492, dated June 11, 1907.

To the above purposes my invention consists in certain features of novelty hereinafter more fully described and claimed.

Referring by numerals to the accompanying drawings, and particularly to the construction illustrated in Figs. 1 to 4 inclusive, 1 and 2 designate respectively the compression and tension members of a cast metal side frame, said members being united at their ends and extended a sufficient distance beyond the meeting point to form a head 3, which forms a support for the housing or shell of the journal box. The bottom flanges of the tension member 2 of the side frame extend horizontally beneath the head 3, said flanges being widened at this point to form a plate 4 which serves as a top or cover plate for the journal box. The top flange of the compression member 1 extends over the head 3 and unites with the outer end of the plate 4 to form a lug 5 which is perforated transversely in order to receive a bolt or pin utilized in attaching the upper end of the link or block, hereinafter more fully described, and which is utilized as a connection between the end of the truck frame and the housing that forms the lower portion of the journal box.

Formed integral with the plate 4 near the inner end thereof or adjacent to the point where said plate unites with the tension member 2 is a depending transversely disposed web 6 provided on its inner face with an integral lug 8 against which the side lugs of the journal bearing engage. The underside of this web is provided with a beveled face 9, and the ends of said web are provided with beveled faces 9^a. Formed inte-

gral with the web 6 and with the bottom flange of the tension member 2 is a pair of depending webs 10, the same being transversely perforated in order to receive a pin or bolt 11 utilized in attaching the inner side wall of the journal box housing to the side frame. The housing forming the lower portion of the journal box is preferably cast in a single piece and comprises a shell 12 which is substantially U-shaped in cross section, having an opening 13 in its outer end. This opening is normally closed by an ordinary journal box door (not shown) that is hinged in the usual manner upon lugs formed on top of the housing. The inner end of the shell or housing 12 is provided with an opening 14 for accommodating the end of the axle, and formed in said inner end is a vertically disposed pocket 15 adapted to receive a suitable dust guard. The upper portion of one of the side walls of the shell or housing 12 is cut away so as to form an opening 16 of such size as to receive the web 6, and the edges of this opening are inclined or beveled to correspond with the beveled faces 9 and 9^a on the bottom and front and rear ends of the web 6. Formed on top of the end portions of the shell or housing 12 are transversely disposed overhanging lips 17 which engage corresponding ribs 18 formed on the side edges of the plate. Formed integral with the underside of the shell or housing 12 is a pair of flanges 19, the ends of which terminate in the pairs of heads 20 and 21 on the outer faces of the side walls of said housing. When the shell or housing is properly applied to the side frame one pair of these heads occupies a position immediately adjacent to the depending lugs 10 and said parts receive the pin or bolt 11. The opposite side wall of the shell or housing is cut away at its upper end to form an opening 16^a, equal in size to the opening 16, previously described. Thus it will be seen that the sides of the shell or housing 12 are symmetrical and identical in construction, and therefore said shell or housing can be readily applied to either end of the side frame. Such construction materially reduces the first cost of parts, and likewise lessens the cost of repairs.

The interchangeable and reversible block or link 22 is adapted to close the opening between the outer wall of the shell or housing and the end of the top plate 4, said block or link being provided on its four edges with beveled faces that engage corresponding beveled faces on the shell or housing around the openings 16 or 16^a and a beveled face on the underside of the head between the plate 4 and lug 5. Formed integral with this block or link on the outside thereof is a pair of vertically disposed ribs 24, the ends of which are perforated in order to receive

pins 25 and 26 utilized in connecting the link or block to the perforated lug 5 and the pair of perforated ears on the outside wall of the shell or housing 12. This block or link is made symmetrical in order that it can be interchanged and reversed in position so as to be used at either end of the side frame. Formed on the inner face of the block or link 22 is a vertically disposed stop or lug 27 against which engages the corresponding side lugs of the journal bearing. The end of the axle, the journal bearing and the journal bearing wedge are shown in dotted lines in Figs. 2 and 4. The journal bearing wedge is prevented from moving outward by the usual lugs 28 formed on the shell or housing 12 at the upper end of the opening 13.

It will be noted in my improved construction that the plate 4 and web 6 form the top and a portion of the inner side wall of the journal box, and that the block 22 which forms a portion of the outer side wall of the journal box, serves as a link whereby the outer portion of said journal box is connected directly to the end of the side frame. When the ends of the ribs 24 are properly connected to the lug 5 and perforated heads 21, the plate or block 22 fits snugly between the outside wall of the shell or housing 12 and the end of the plate 4, and as said block or plate 22 is forced into its seat, the beveled faces 23 engaging against the corresponding beveled faces on the shell or housing and the end of the plate 4 tend to move these parts away from one another, thereby pulling the overhanging lips into close engagement with the ribs 18, and form a tight joint between the beveled faces 9 and 9^a and the corresponding beveled faces around the edge of the opening 16. To separate the parts in order to move the axle and wheels endwise away from the truck frame, it is only necessary to remove the pins or bolts 11 and 26 and the plate or block 22 is now free to be swung upward, thereby permitting the shell or housing 12 to move outwardly away from the side frames with the axle.

By my improved construction much time and labor is saved in the assembling or dismantling of trucks, and when the shell or housing is properly applied to the end of the side frame and the detachable plate or block is properly positioned to connect these two parts, a very strong, substantial journal box is formed and the joints between the assembled parts are practically oil and dust-tight. The shell or housing forming the lower portion of my improved divided journal box is made symmetrical on both sides of its longitudinal axis in order that it may be applied to either end of the side frame, and likewise the block or plate 22 is made symmetrical in order that it may be reversed in position or interchanged when applied for use.

In the construction illustrated in Figs. 5 and 6 a plate 29 forms the top of the journal box, which plate may be formed integral with or separate from the shell or housing 12, and said plate occupies a position immediately beneath the plate 4 on the end of the side frame. The lower edges of the sides of this plate 29 are provided with beveled faces, as designated by 30, which fit snugly against corresponding beveled faces formed on the top of the block 22, and the upper inner face of the transverse web 6.

In the modified construction illustrated in Fig. 7 the outer stop lugs for the journal bearing wedge are formed on the outer end of the plate 4, which last mentioned plate is necessarily extended outward the proper distance to carry said lugs. This construction necessarily requires a comparatively longer housing or shell 12, but by said construction the proper distance required by M. C. B. standards are maintained within the journal box and only one size of shell or housing is required for bearings of the various accepted capacities.

It is evident that slight changes may be resorted to in the construction and relative arrangement of the parts herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim:

1. The combination with a car truck side frame having a horizontally disposed plate and a vertically disposed web on each end, of housings adapted to combine with the plates and web portions of the side frame to form journal boxes, which housings are interchangeable in order to be applied to either end of the side frame and a link forming a connection between each journal box and the outer end of the side frame.

2. The combination with a car truck side frame having a horizontally disposed plate and a vertically disposed web on each end, of housings adapted to combine with the plates and web portions of the side frame to form journal boxes, which housings are interchangeable in order to be applied to either end of the side frame, and an interchangeable and reversible block adapted to form a link between the outer side wall of each housing and the end of the side frame.

3. The combination with a car truck side frame having a horizontally disposed plate and a vertically disposed web on each end, of housings adapted to combine with the plates and web portions of the side frame to form journal boxes, which housings are interchangeable in order to be applied to either end of the side frame, and an interchangeable and reversible block adapted to form a link between the outer side wall of each housing and the end of the side frame, the edges of which block are provided with beveled faces that engage corresponding faces on the housing and side frame.

4. The combination with a car truck side frame provided with a horizontally disposed plate and vertically disposed web on each end, of interchangeable housings adapted to combine with the plates and web portions of the side frames to form journal boxes, and detachable links forming connections between the outer side walls of the housings and the ends of the side frames.

5. The combination with a car truck side frame provided with a horizontally disposed plate and a vertically disposed web, which latter is provided on its lower edge and ends with inclined faces, a housing fitted to the side frame beneath the horizontally disposed plate and combining therewith to form a journal box, a reversible block inserted between the outer side wall of the housing and the end of the side frame, and means whereby said block is detachably connected to the side frame and housing.

6. The combination with a car truck side frame having a horizontally disposed plate at its end, of a bilaterally symmetrical housing adapted to combine with said plate to form a journal box, and overhanging lips on top of the housing at both ends thereof, which lips simultaneously engage oppositely disposed edges of the plate on the side frame as said housing is slid into position beneath said plate.

7. The combination with a car truck side frame, of detachable, interchangeable housings adapted to combine with the end portions of the side frame to form journal boxes, and interchangeable blocks forming a connection between the outer walls of the housings and the ends of the side frame, which blocks are provided on their edges with beveled faces.

8. The combination with a car truck side frame, of a housing removably connected to the end of the side frame and combining therewith to form a journal box, and a reversible block positioned between the outer side wall of said housing and the end of the side frame and forming a portion of the outer side wall of the journal box, which block is provided on its upper and lower edges with beveled faces that engage corresponding faces on the housing and end portion of the side frame.

9. The combination with a car truck side frame provided with a horizontally disposed plate and a vertically disposed web, the latter having beveled faces formed on its ends and lower edge, of a symmetrical housing adapted to combine with the plate and web on the side frame to form a journal box, which housing is provided with inclined faces against which the inclined faces on the vertically disposed web engage, and a block interposed between the outer side

wall of the housing and the end of the side frame.

10. The combination with a car truck side frame provided with a horizontally disposed plate and a vertically disposed web, the latter having beveled faces formed on its ends and lower edge, of a symmetrical housing adapted to combine with the plate and web on the side frame to form a journal box, which housing is provided with inclined faces against which the inclined faces on the vertically disposed web engage, a block interposed between the outer side wall of the housing and the end of the side frame, and which block is provided on its edges with inclined faces adapted to bear against corresponding faces on the housing and end frame.

11. The combination with a car truck side frame having horizontally disposed plates at its ends, of interchangeable housings positioned beneath said plate and combining therewith to form divided journal boxes, and link plates forming connections between the housings and the ends of the side frame.

12. The combination with a car truck side frame having horizontally disposed plates at its ends, of interchangeable housings positioned beneath said plates and combining therewith to form divided journal boxes, means for attaching said housings on their inner sides to the side frame, and link plates forming connections between the outer sides of said housings and the ends of the side frame.

13. The combination with a car truck

side frame having horizontally disposed plates at its ends, of bilaterally symmetrical housings adapted to be interchangeably positioned beneath the plates of said side frame to combine therewith in forming divided journal boxes, and link plates forming connections between the housings and the ends of the side frames.

14. The combination with a car truck side frame having horizontally disposed plates at its ends, of bilaterally symmetrical housings adapted to be interchangeably positioned beneath the plates of said side frames to combine therewith in forming divided journal boxes, link plates forming connections between the housings and the ends of the side frames, and overhanging lips on top of both ends of the housings for engaging oppositely disposed edges of the side frame plates.

15. The combination with a car truck side frame, of bilaterally symmetrical housings adapted to be interchangeably arranged beneath the ends of said side frame and to combine therewith to form divided journal boxes, and overhanging lips on top of the housings at both ends thereof, which lips engage oppositely disposed portions of the ends of the side frame as said housings are slid into position on said side frame.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this 18th day of March, 1912.

JOHN M. ROHLFING.

Witnesses:

JAMES J. COOPER,
PAUL M. BEARD.