

A. E. JACOBS.
CAR BOLSTER.
APPLICATION FILED AUG. 28, 1912.

1,053,818.

Patented Feb. 18, 1913.

2 SHEETS-SHEET 1.

Fig. 1.

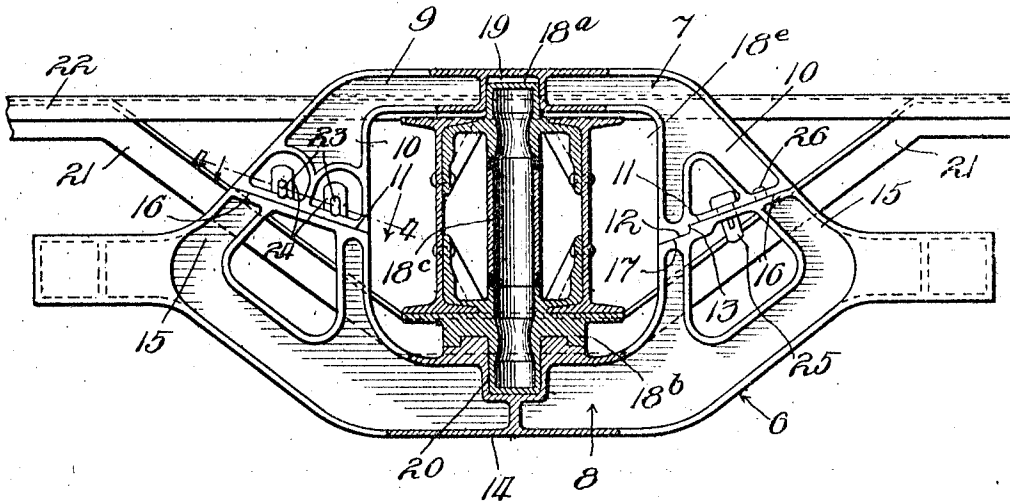
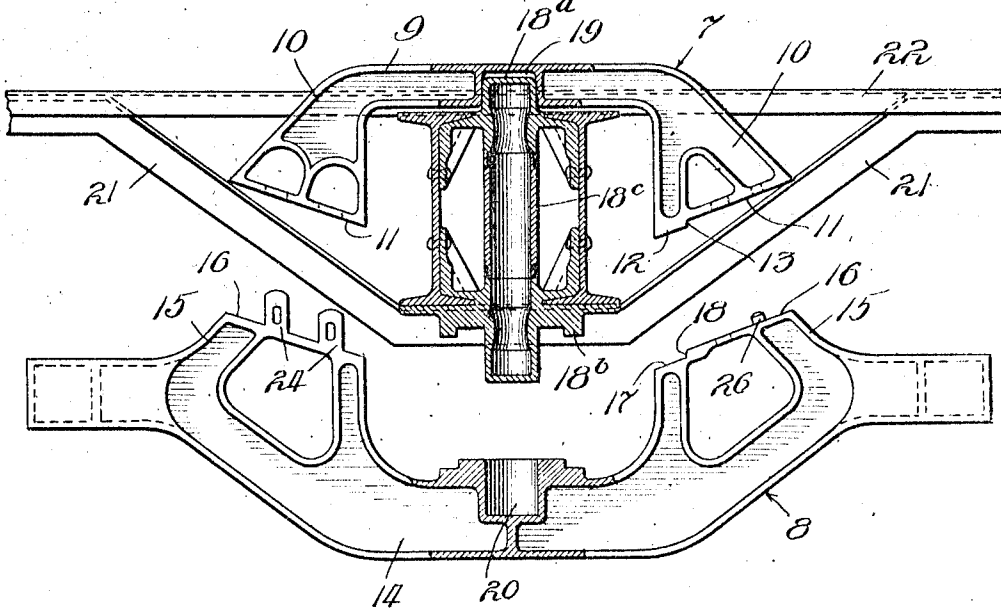


Fig. 2.



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2 SHEETS-SHEET 2.

Fig. 3.

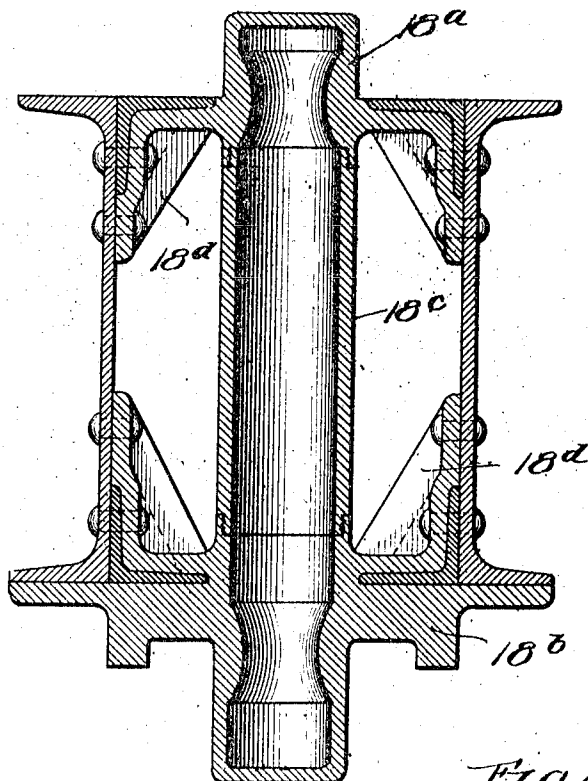


Fig. 5.

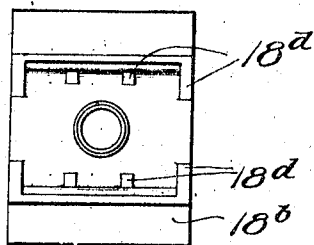
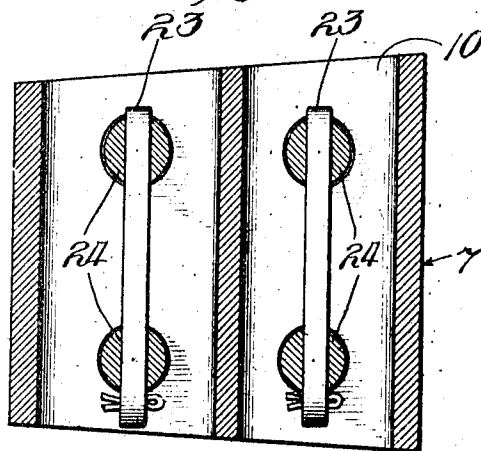


Fig. 4.



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UNITED STATES PATENT OFFICE.

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CAR-BOLSTER.

1,053,818.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ABRAHAM L. JACOBS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Bolsters, of which the following is a specification.

The present invention relates to a bolster arranged in two sections, one secured to the trucks of a car, and the other to the body of a car.

The objects of the present invention are, to arrange the bolster in two individual and separable sections; to employ removable locking means for connecting the sections, whereby they may be quickly and readily separated; and to arrange the sections so that their point of juncture will be in a relatively low plane, and thus only a relatively short lifting operation required to permit the truck to be removed from beneath the car body.

A further object of the invention is to provide means for centering the sections of the bolster prior to the locking operation, so that in placing the body of the car upon the trucks the bolster sections may be properly registered with one another, and to arrange the engaging portions of the bolster sections so that they will withstand the strains tending to separate them.

The invention further consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings: Figure 1 is a view partly in section of the bolsters of the present invention, in engaged and locked position; Fig. 2 is a view similar to Fig. 1, showing the position assumed by the bolster sections when the body of the car is raised for the purpose of withdrawing the trucks; Fig. 3 is an enlarged section of the center pin and center beam of the car; Fig. 4 is a section taken on line 4—4 of Fig. 1, looking in the direction of the arrow; and Fig. 5 is a detail of the reinforcement for the center pin.

In connection with car repair work and similar operations, it frequently becomes necessary to lift the body of the car from the trucks in order to remove the trucks from their position beneath the car, or for other purposes. This is usually done by means of jacks, and if it is necessary to lift the body relatively high before the truck can be removed, the operation is a difficult one to per-

form without breaking or distorting some portions of the car structure.

The present invention deals with a method of solving this problem, by constructing a bolster attached to the car body and a bolster attached to the trucks independent and separable from one another, and providing suitable removable locking means for joining the two sections together to provide a unitary whole. By this arrangement, the two sections can be easily separated, and the lifting movement necessary to have the car body bolster clear the truck bolster is relatively slight, and can be very easily and quickly accomplished without any danger of a strain being imparted to other portions of the structure, which would be detrimental.

The bolster 6 of the present invention is composed of two parts or sections 7 and 8. For the purpose of simplifying the description, the portion 7 will be referred to in the specification and claims as the upper section, and the portion 8 as the lower section. The upper section 7 is the part to which is attached the framework carrying the car body, and may be termed the body bolster, and the lower section 8 is the part which is attached to the trucks, and may be termed the truck bolster.

The upper section, in the form shown, comprises a horizontally extending portion 9, from each end of which members 10 depend. These members terminate in faces 11, one of which is provided with an offset forming a shoulder 13.

The lower section, in the form shown, consists of a horizontally extending portion 14, from each end of which rises a member 15, each member terminating in a face 16 adapted to rest against the faces 11 heretofore referred to.

One of the faces 16 is provided with an offset 17 coinciding with the offset 12, and provides a shoulder 18 which coincides with the shoulder 13, thus providing a shouldered or interlocking engagement between these two faces. As illustrated, one set of engaging faces extends at an angle to the other. This provides an increased engaging surface between the two sections and further affords a wedging engagement therebetween, whereby lateral or sidewise play between the two sections is prevented, since such movement, because of the angled relation of the faces, would, obviously, tend to force the sections

vertically, transmitting the strain against either the body of the car or the truck, or both, which parts would tend to withstand and absorb the strain, thus relieving the locking members.

The bolster sections, as illustrated, are arranged to form an opening 18^a, in which is positioned the center pin, the outer end of the center beam, and the reinforcements for said pin. The particular construction of center pin illustrated in the drawings has no bearing upon the present invention and is not claimed as a portion thereof, and any desirable form of pin may be used, if desired.

The form of pin illustrated comprises an upper portion 18^a, a lower portion 18^b, and an intermediate portion 18^c, which are joined together; said outer and inner portions are in the form of flanged castings adapted to be secured to the center sill, and said flanged portions are reinforced by webs 18^d, best shown in Fig. 5.

The upper section 7 is provided with a recess or bearing 19 adapted to receive the upper end of the pin, and the lower section 8 is provided with a recess or bearing 20 adapted to receive the lower end of the pin. I prefer to make these recesses of oblong formation, permitting of a slight tilting or tipping of the pin within the recesses during the operation of raising the body of the car from the trucks. If this tilting movement is not provided for, in one way or another, a binding will take place, which will prevent the raising of the truck without a distortion or breaking of some portion of the bolster or other parts of the car.

A series of cross braces 21 are illustrated, which are connected to a beam 22 which supports and to which is secured the floor of the car, the cross braces being attached to the center pin; and through the medium of this connection, when the body of the car is raised, these braces 21 will be raised upward, and through the medium of the center pin will raise the upper section 7 of the bolster. Of course, the means of connecting the upper portion of the bolster to the car body may be varied somewhat from the construction above described, but it is to be understood that said upper section is intended to be attached to the car body and to be raised and lowered therewith. It is necessary to employ some sort of locking means for securing the two sections of the bolster together when the car is in operation, and it is preferable to employ locking means which are of a nature to be readily removed from position when a separation of the body of the car from the trucks is desired.

The means which I have illustrated for connecting the members on one side consists of two tapered pins 23, which extend

through suitable ears 24. The connection illustrated for the other side consists of a bolt 25, held in position by a suitable cotter pin or other means, which, in conjunction with the shoulders 13 and 18 and a dowel pin 26, maintains the opposite side in locked engagement. As stated, the locking means shown simply illustrates one method of carrying out the invention, and any suitable locking means may be employed, provided it is within the scope of the appended claims.

By referring to Fig. 1 of the drawings, it will be seen that the point of engagement of the faces 11 and 16 is located approximately midway the distance between the horizontal portions of the sections 7 and 8. By this arrangement, when it is desired to lift the body of the car from the trucks, the distance necessary to separate the two parts is equal to the distance between the point of engagement of the faces 11 and 16 and the lowermost point of the members 21.

By referring to Fig. 2, wherein the parts are shown in the position they occupy when the trucks can be separated from the body of the car, it will be seen that the distance necessary to elevate the body is approximately one-half the distance of the space in which the center pin lies, or about ten inches in actual practice. Of course, the distance above referred to can be varied considerably, according to the idea of the builder of the car, that is, by locating the point of engagement of the faces 11 and 16 lower down, the body can be separated from the trucks by lifting the same a shorter distance, and by raising the point of engagement of said faces, a greater movement must be imparted to the body to effect the separation. The point of engagement of the two faces can, therefore, be a matter of considerable variation, provided it is not one which would unduly weaken the structure or depart from the scope of the appended claims.

When it is desired to separate the body from the truck, the locking means are removed and the separation effected. The removal of the locking means is a simple operation, and said means are positioned so as to be easy of access. In lowering the body of the car into position upon the trucks, the ears or studs 24, together with the dowel pin 26, and the shoulders 13 and 18, will form a centering means so as to properly align the bolster sections, thus eliminating the use of any special care or precaution in reassembling portions of the car.

I claim:

1. A bolster of the class described, comprising an upper section and a lower section, a center pin mounted in said sections, and removable means for locking said sections together, the point of juncture of the sections being in a plane intermediate the ex-

tremities of the center pin, substantially as described.

2. A bolster of the class described, comprising an upper section and a lower section, a center pin mounted in said sections, and a keyed connection between the sections, the point of juncture of the sections being in a plane intermediate the extremities of the pin, substantially as described.

3. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section, members on the lower section engaging therewith, removable locking means for locking the engaged members together, and means for centering the section prior to the locking operation, substantially as described.

4. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section, surfaces on the lower section to receive said members, and removable locking means for locking the sections together, substantially as described.

5. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section, surfaces on the lower section to receive said members, removable locking means for locking the sections together, and means for centering the sections prior to the locking operation, substantially as described.

6. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section terminating in faces extending at an angle to one another, surfaces on the lower section to receive said faces, said surfaces extending at an angle to one another, and at an angle and corresponding to the angle of said faces, and removable means for locking the sections together, substantially as described.

7. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section terminating in sloping faces extending at an angle to one another, surfaces on the lower section adapted to receive the faces of said members, and extending at corresponding angles to said faces, removable locking means for locking the sections together, and means for centering the sections prior to the locking operation substantially as described.

8. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper

section, surfaces on the lower section against which said members abut, an offset engagement between said members and surfaces, and removable locking means for locking the sections together, substantially as described.

9. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section, surfaces on the lower section against which said members abut, an offset engagement between said members and surfaces, removable means for locking the sections together, and means for centering the sections prior to the locking operation, substantially as described.

10. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section, surfaces on the lower section against which said members abut, the engaging faces of one member and surface being correspondingly offset to provide a shouldered engagement therebetween, and removable means for locking the sections together, substantially as described.

11. A bolster of the class described, comprising an upper section and a lower section, members depending from the upper section, surfaces on the lower section against which said members abut, an interlocking shoulder connection between said members and surfaces, removable locking means for locking the sections together, and means for centering the sections prior to the locking operation, substantially as described.

12. A bolster of the class described, comprising an upper section and a lower section, alined sets of members extending from said sections and provided with faces arranged to abut against one another, the faces of one set of members extending at an angle to the other, and removable locking means for locking the alined members together, substantially as described.

13. A bolster of the class described, comprising an upper section and a lower section, alined sets of members extending from said sections and provided with faces adapted to abut against one another, the faces of one set of members extending at an angle to the faces of the other set, removable locking means for locking said alined members together, and means for centering the sections prior to the locking operation, substantially as described.

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Witnesses:

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