

E. R. GROVE.
JOURNAL BOX.
APPLICATION FILED APR. 22, 1913.

Patented June 24, 1913.

2 SHEETS—SHEET 1.

1,065,355.

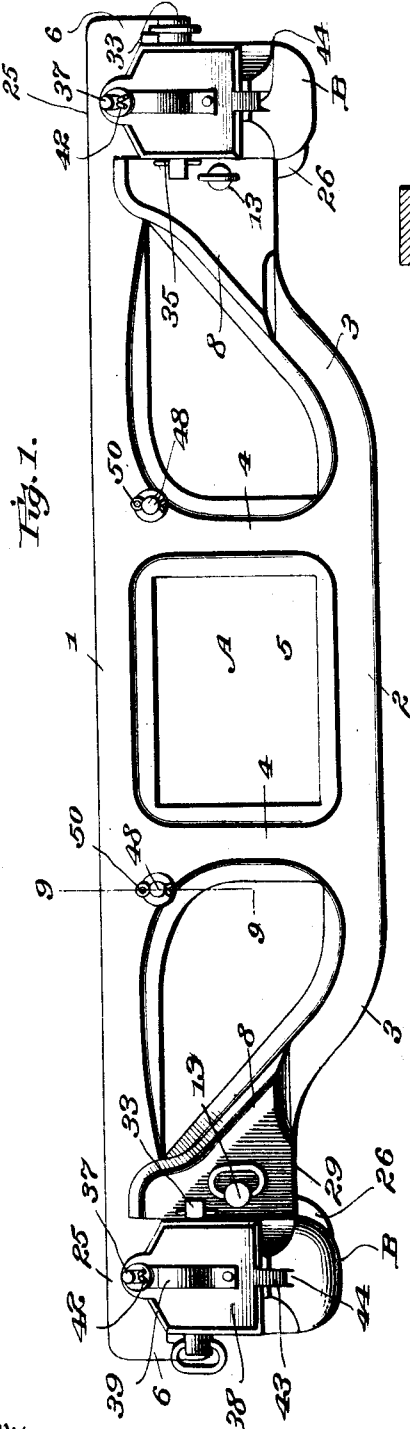


Fig. 1.

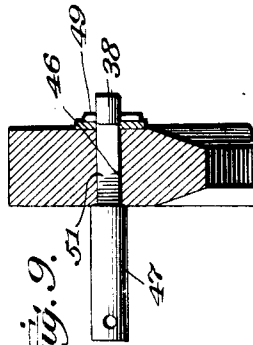


Fig. 9.

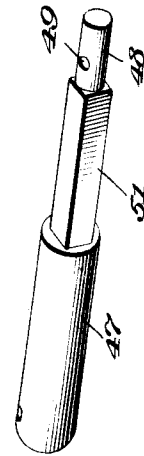


Fig. 8.

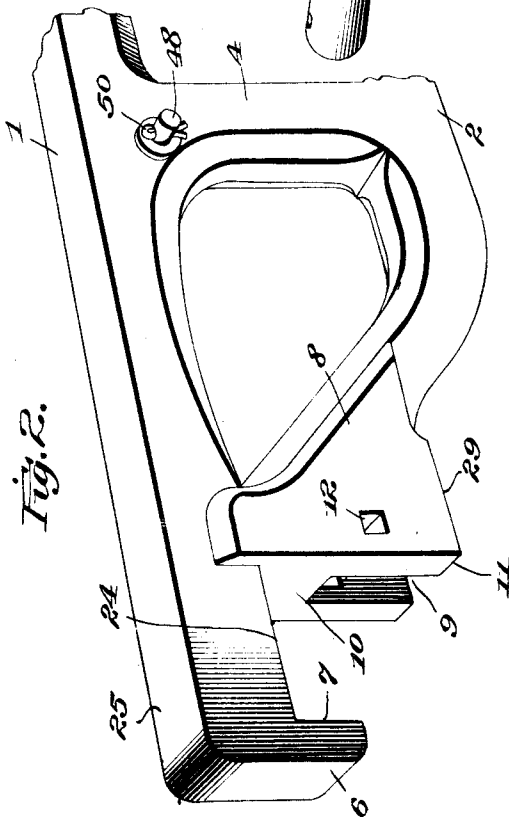


Fig. 2.

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2 SHEETS—SHEET 2.

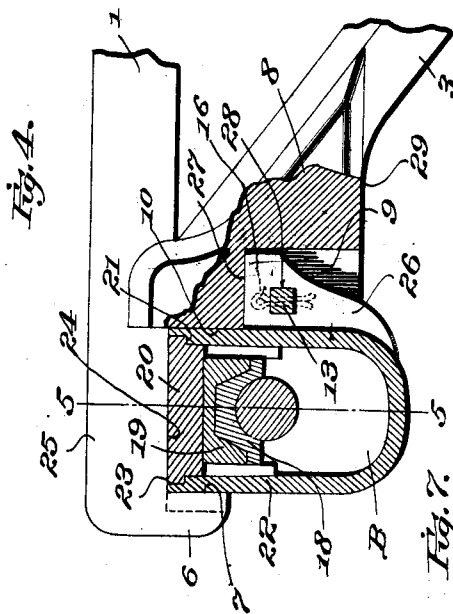
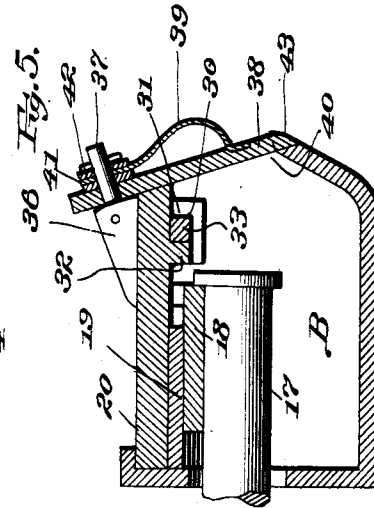
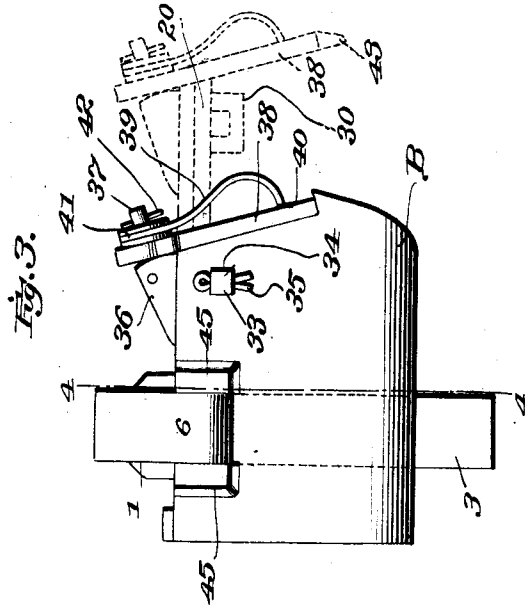
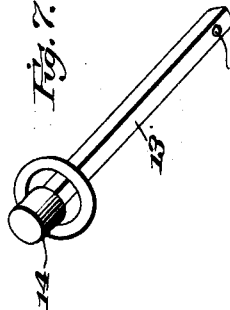
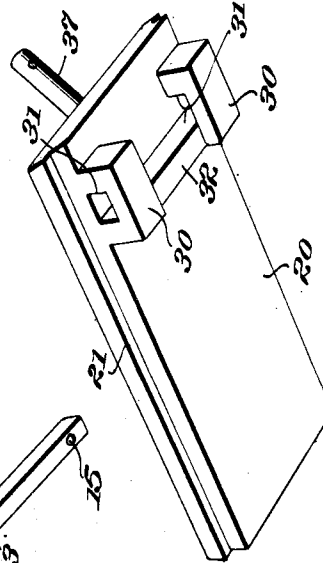


Fig. 6.



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UNITED STATES PATENT OFFICE.

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JOURNAL-BOX.

1,065,355.

Specification of Letters Patent.

Patented June 24, 1913.

Application filed April 22, 1913. Serial No. 762,881.

To all whom it may concern:

Be it known that I, EDMOND R. GROVE, a citizen of the United States of America, residing at Arkansas City, in the county of

5 Cowley and State of Kansas, have invented a certain new and useful Journal-Box, of which the following is a specification, reference being had therein to the accompanying drawing.

10 This invention relates broadly to car trucks, and particularly to the truck side and journal box, including the means for fastening said parts together, so that the journal boxes may be detached from the

15 truck side with a comparatively slight uplifting movement of the truck side, each journal box being removed from the truck side by a slight downward movement followed by a lateral movement.

20 A further object of the invention is to provide a special construction of journal box which, however, is adapted to accommodate the Master Car Builders' standard journal, brass and wedge, said box embodying a sliding and detachable top which,

25 together with the lid, may be removed without detaching the journal box from the truck side, thereby providing for an inspection of the journal and the removal and replacement of the brass, after the latter has become unfit for further use.

A further object of the invention is to do away with all threaded bolts and nuts and to substitute in lieu thereof pins and keys

35 which are readily removable, without the aid of tools, and which will greatly expedite adjustment, inspection and repairs.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts, as

40 will be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

45 In the drawings: Figure 1 is a side elevation of a truck side, showing a pair of journal boxes associated therewith. Fig. 2 is a detail perspective view of one end of the truck side, the journal box being omitted. Fig. 3 is a view looking toward one end of

50 Fig. 1, showing the journal box in side elevation with the lid closed in full lines and the lid and top partially withdrawn in dotted lines. Fig. 4 is a vertical cross section through the journal box on the line

55 4-4 of Fig. 3. Fig. 5 is a vertical longitudinal

section through the journal box on the line 5-5 of Fig. 4. Fig. 6 is an underneath perspective view of the sliding and detachable top for the journal box. Fig. 7 is a detail perspective view of the box top retaining key detached. Fig. 8 is a detail perspective view of the brake beam hanger supporting pin. Fig. 9 is a detail vertical cross section on the line 9-9 of Fig. 1,

60 showing the relation of the pin of Fig. 8 to the truck side. The truck side indicated generally by the reference character A is in the main of the ordinary construction, embodying a top bar 1, a bottom 2, the end portions of which

70 slope upwardly, as at 3, toward the journal boxes, and the vertical cross braces or struts 4 leaving a central space 5 for the reception of the bolster springs. In carrying out the present invention, the top bar 1 is extended considerably beyond

75 the bottom bar, and is provided at both extremities with downwardly projecting brace lugs 6 having vertical inner faces 7. Where the upwardly inclined portions 3 of the bottom bar approach the journal boxes, they are considerably thickened and enlarged, as shown at 8, in order that they may be provided with box lug sockets 9 extending

80 therein from the side faces 10 and upwardly from the bottom faces 11, the said sockets opening in a downward direction as well as in a lateral direction. The side portions of the part 8, at opposite sides of each socket 9, are formed with transversely aligned holes 12, in which a pin 13 is detachably inserted, said pin, as well as the holes 12, being preferably square in cross section, which prevents the pin 13 from turning in the holes

85 12. The pin 13 is provided at one end with a head 14 shown in the form of a ring to facilitate withdrawing the pin from the truck side. At its extremity the pin 13 is provided with a hole 15 extending through

90 the same and designed to receive a cotter pin 16.

The journal box, which is designated generally by the letter B, is in the main of the usual construction, the same being of the

95 proper size and dimensions to receive the M. C. B. standard journal 17, brass 18, and wedge 19. In carrying out this part of the invention, the journal box is cast or otherwise formed without the integral top, and in

100 lieu thereof, I employ a sliding and detachable top 20, shown in detail in Fig. 6, the

opposite longitudinal edges of said top being rabbeted, as shown at 21, and the top edges of the side walls 22 of the journal box being correspondingly rabbeted, as at 23, so that the top 20 will slide readily along the rabbeted top edges of the side walls, the upper surface of the top 20 being flush with the top edges of the side walls 22, as clearly illustrated in Fig. 4.

The journal box as a whole, including the sliding and detachable top thereof, is placed relatively to the truck side so that the opposite sides of the upper portion of the box rest against and between the faces 7 and 10 of the truck side, hereinabove referred to, while the top 20 of the box rests against the bottom face 24 of the projecting end 25 of the top bar of the truck side, all as clearly shown in Fig. 4.

In order to fasten the journal box in proper relation to the truck side, said box is provided with a side lug 26 which slides in a lateral and upward direction into the socket 9, hereinabove referred to as formed in the truck side, the top face of said lug 26 bearing and resting against the top wall 27 of the socket 9, as shown in Fig. 4. The lug 26 is formed with a square hole 28 which comes into alinement with the holes 12 in the truck side to receive the fastening pin 13. To detach the journal box from the truck side, it is only necessary to withdraw the pin 13.

In order to admit of a slight relative vertical movement between the journal box and the truck side, the pin 13 is made somewhat smaller than the hole 28 in the box lug 26 through which it passes. This enables a lifting jack to be placed under a jacking shoulder or face 29 on the truck side, for the purpose of slightly elevating the truck side, until the weight is taken off the top 20 of the box, after which, by removing the key to be described, the box top may be readily slid outwardly from beneath the face 24 of the truck side.

To lock the top 20 in place, said top is provided on its underside with a pair of keepers 30 formed with key holes 31 therein arranged in alinement with each other transversely of the top 20, the two keepers 30 being shown as connected at the rear by a cross web 32 which bears against the key shown at 33. The box sides 22 are formed with holes 34 in line with the holes 31 in the keepers, and by preference, all of said holes are square as is also the pin 33, said pin being long enough to extend entirely through the journal box and being of the same description as the pin shown in Fig. 7, which is to say, the pin 33 is provided at one end with a ring and at the other end with a hole to receive the cotter pin 35, shown in Fig. 3.

At its front edge, the detachable top 20 is provided with a pivot lug 36 having a pro-

jecting and upwardly inclined pivot 37, on which the usual journal box lid 38 is mounted to turn and swing laterally, the lid being pressed inwardly against the front of the journal box by a bowed spring 39 fastened, at 40, to the lid and formed with an eye 41 to receive the pivot 37, on which it is held by means of a cotter pin 42. At its lower end, the lid is shown as provided with the usual handle or lip 43 which is received in a socket 44 in the front wall of the journal box.

The journal box on the side opposite the lug 26 is provided with ribs 45 in spaced relation to each other, between which the brace lug 6 is received and held, when the journal box and truck side are assembled.

The truck side is provided at two places with square holes 46 to receive a pair of brake beam hanger supporting pins, as shown in detail section in Fig. 9, one of said pins being illustrated in perspective in Fig. 8, wherein it will be observed that each pin comprises a relatively large cylindrical end portion 47, on which the brake beam hanger is journaled, another relatively small or reduced cylindrical end portion 48 formed with a hole 49 to receive a cotter pin 50, and an intermediate portion 51 which is square in cross section, and which fits the hole 46 to prevent said pin from turning and wearing excessively under the action of the brake beams and shoes.

The journal box hereinabove described is perfectly adapted to receive the M. C. B. standard journal, brass and wedge, and it will be seen that by slightly jacking up the truck side, so as to relieve the pressure on the sliding top of the box, said top may be slid outwardly in a horizontal direction, carrying with it the box lid which is pivotally mounted on the box top. This gives full access to the box and its contents, enables the wedge and brass to be easily removed and replaced, and also enables the journal to be carefully inspected and cooled by the usual method. It will be understood that when the pressure is relieved on the journal box, the latter is permitted, by the means referred to, to sag or hang down sufficiently to permit the top to be easily removed. The box as a whole embodies only three pieces, namely, the body, the top, and the lid. Both time and labor are saved by reason of the accessibility of the parts, brought about by the construction hereinabove described. Furthermore, a pair of wheels, including the axle, may be quickly removed from the truck by jacking the truck high enough only to permit the boxes to be moved downwardly, so as to clear the brace lugs 6, after which the boxes are permitted to move laterally away from the truck side, the wheels and axle with the boxes attached being rolled away from the truck. There is an absence

of all threaded bolts and nuts which materially reduces the liability of such elements to become corroded and stuck. All of the operations referred to hereinabove may be performed *en route*, and without the use of special tools, as by detaching the cotter pins, the locking pins and keys may be withdrawn by hand.

What is claimed is:

10 1. The combination of a truck side embodying top and bottom horizontal bars and strut braces connecting said bars, the said top horizontal bar being extended at both ends beyond the bottom bar, depending brace
15 lugs at the extremities of said top bar, journal boxes held in the spaces under the extended ends of said top bar and between said brace lugs and main body of the truck side and demountable in a downward direction relatively to the truck side, an attaching
20 lug on the side of each journal box, the truck side being formed with a downwardly opening socket for the reception of said lug, and a detachable pin inserted through said
25 lug and the truck side and serving to fasten the box and truck side together.

2. The combination of a truck side embodying top and bottom horizontal bars and strut braces connecting said bars, the said
30 top horizontal bar being extended at both ends beyond the bottom bar, depending brace lugs at the extremities of said top bar, journal boxes held in the spaces under the extended ends of said top bar and between
35 said brace lugs and main body of the truck side and demountable in a downward direction relatively to the truck side, an attaching lug on the side of each journal box, the truck side being formed with a downwardly
40 opening socket for the reception of said lug, and a detachable pin inserted through said lug and the truck side and serving to fasten the box and truck side together, said pin and the holes therefor in the truck side and at-
45 taching lug being square in cross section.

3. The combination of a truck side formed with a downwardly opening lug socket and journal box space, a journal box located in
50 said space and demountable in a downward and longitudinal direction relatively to the

truck side, an attaching lug on said journal box fitting in said socket, and a pin detachably inserted through the truck side and said lug and serving to fasten the journal box and truck side together.

4. The combination of a truck side, and a journal box having a vertical movement relatively to each other, a detachable top for said box slidable horizontally, and locking means for fastening said top in a closed
60 position.

5. The combination of a truck side, and a journal box having a vertical movement relatively to each other, a detachable top for said box slidable horizontally, and locking
65 means for fastening said top in a closed position, including a keeper on the underside of said top, and a detachable key inserted through the journal box and engaging said keeper.

6. The combination of a truck side, and a journal box having a vertical movement relatively to each other, said box having the top edges of its side walls rabbeted, a detachable top for said box slidable horizontally
75 in the rabbets of said side walls, and locking means for fastening said top in a closed position.

7. The combination of a truck side, and a journal box having a vertical movement
80 relatively to each other, a detachable top for said box slidable horizontally, locking means for fastening said top in a closed position, and an overhanging shoulder at the inner top edge of said box under which
85 the top slides.

8. The combination of a truck side, and a journal box having a vertical movement relatively to each other, a detachable top for said box slidable horizontally, locking means
90 for fastening said top in a closed position, and a box lid pivotally attached to said top and removable therewith from the journal box.

In testimony whereof I affix my signature 95 in presence of two witnesses.

EDMOND R. GROVE.

Witnesses:

WILLIAM H. SMITH,
GEORGE E. RINEHART.