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E. LATSHAW

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JOURNAL BOX MOUNTING

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Fig. 1.

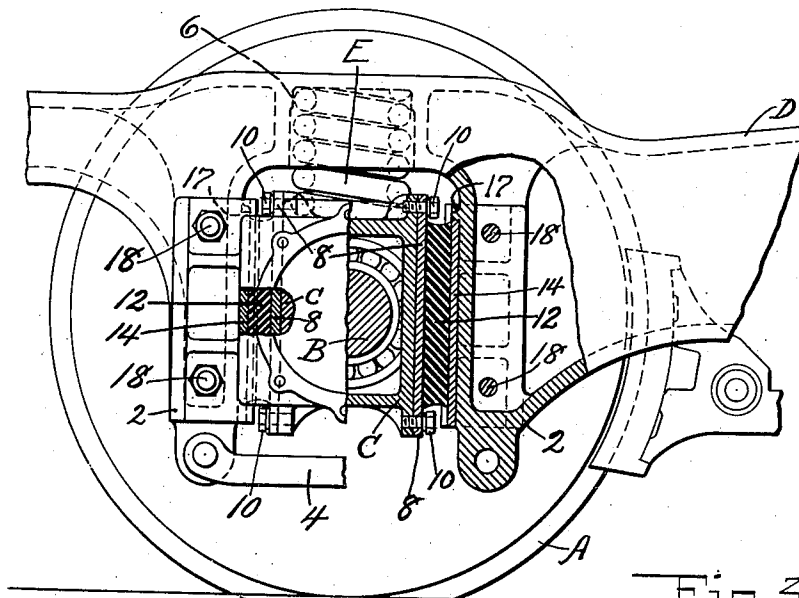


Fig. 3.

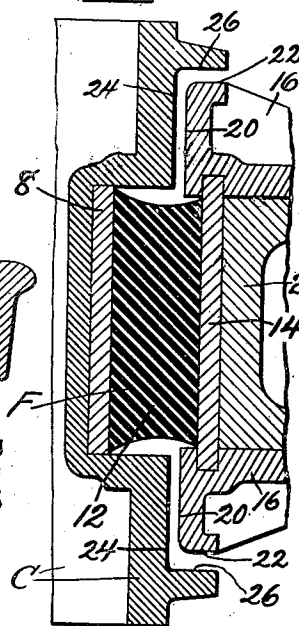
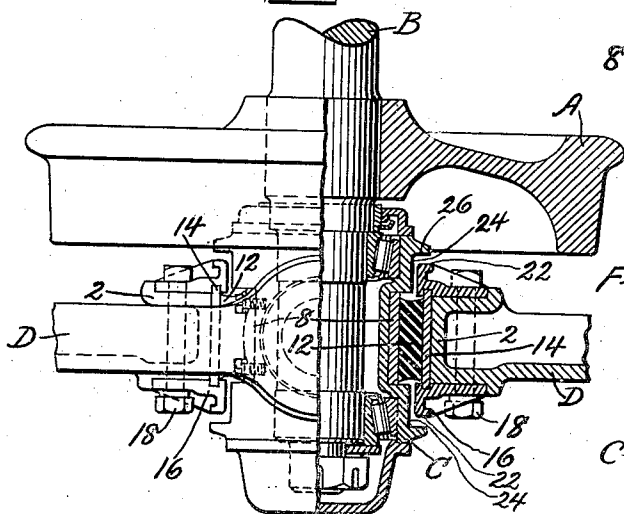


Fig. 2.



INVENTOR
Elmer Latshaw
BY Donald U. Rich
ATTORNEY

UNITED STATES PATENT OFFICE

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JOURNAL BOX MOUNTING

Elmer Latshaw, Philadelphia, Pa., assignor to The
J. G. Brill Company, Philadelphia, Pa., a cor-
poration of Pennsylvania

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10 Claims. (Cl. 105—224.1)

This invention deals with journal box mount-
ings and especially with mountings wherein the
journal box will be resiliently centered in the
pedestal jaws, although it is equally advanta-
geous in a bolster or similar mounting.

In previous journal box mountings as con-
structed there has been a metal to metal con-
tact between the journal box and the truck
frame which was necessarily noisy and trans-
mitted wheel noises to the truck frame and
thence to the car body. Likewise a certain
amount of looseness in a horizontal and especial-
ly in a transverse direction was necessary which
caused heavy hammer blows to be transmitted
to the truck frame under braking forces and
flange reaction.

It is an object therefore of this invention to
provide a journal box mounting wherein the
metal to metal contacts are eliminated as much
as possible.

It is also an object of this invention to provide
a journal box mounting whereby the journal box
will be resiliently held centered with respect to
the pedestal jaws.

It is another object of this invention to pro-
vide a journal box mounting wherein the journal
box is resiliently held centered yet is provided
with portions adapted to cooperate with the
pedestal jaws to absorb heavy shock loads.

It is a still further object to provide a journal
box mounting that will not transmit wheel
noises to the truck frame.

These and other objects will be apparent to
any one skilled in the art from a study of the
accompanying description and drawing in which

Figure 1 is an elevation view, partly in section,
of a journal box mounting incorporating the
present invention;

Fig. 2 is a plan view, partly in section, of the
construction shown in Fig. 1, and,

Fig. 3 is an enlarged sectional view showing
the relation of the journal box and one of the
pedestal jaws.

Referring now to the drawing in which like
numerals refer to like parts. The wheel A is
attached to axle B which carries a journal box
C supporting a conventional truck frame D
through the spring E. The truck frame is pro-
vided with the usual pedestal jaws 2, tie bar 4
and spring pocket 6. In the instance shown the
spring is of the helical type, although any form
may be used, and is preferably insulated from
the truck frame or journal box by some resilient
or non-resonant material.

The journal box C which is shown as of the

roller bearing type has plates 8 attached to the
usual jaw engaging portions on either side by
the machine screws 10. Attached to plate 8, in
some manner such as by vulcanizing, is a block
of resilient material 12, preferably rubber, which
is also attached to a plate 14 thus forming a unit
F. Plate 14 rests against the pedestal
jaws and is clamped immovably in place by the
thrust members 16 held on the frame by bolts 18.
Any possible vertical movement of outer plates
14 is also prevented by stop shoulders 17 formed
on the pedestal jaws as clearly shown in Fig. 1.
The thrust members, preferably of phosphor-
bronze, provide bearing surfaces 20 and 22 adapt-
ed to cooperate with bearing surfaces 24 and 26
respectively on the journal box. In the instance
shown and as purely representative the surfaces
20 and 24 are spaced one-eighth inch while sur-
faces 22 and 26 are spaced one-quarter inch.

In practice, and as shown in Fig. 1, the unit
F is attached to the journal box and pedestal
jaws in such a position that with the empty car
body resting on the truck the rubber will not be
under any strain, but upon a load being placed
in the car body or a blow delivered the rubber
will be placed in shear and aid the helical spring
in absorbing the load or blow. Likewise on a
rebound the rubber will be placed in shear and
restrain the rebound of the spring. It is there-
fore seen that the unit will act as a dampener to
absorb any unusual vertical movements between
the journal box and truck frame.

The provision of the clearances between sur-
faces 20 and 24 will allow the rubber on one side
of the journal box to act in compression and on
the other side in tension to absorb normal move-
ment of the journal box in a longitudinal direc-
tion and yet will check this movement by con-
tact of the surfaces before the rubber is over-
strained. Thus any braking or similar forces
will be absorbed by the rubber until they reach
a certain value and then any force exceeding
this value will be absorbed by the metallic bear-
ing surfaces.

The clearances between surfaces 22 and 26
will allow a similar functioning of the unit in
absorbing transverse movement with the excep-
tion that the rubber will be placed in shear to
absorb any transverse movement of the journal
box up to a certain amount.

It is readily seen that the journal box is tied
resiliently and universally to the side frame by
means which will resist movement in any direc-
tion up to a certain amount and that movement
beyond this amount is prevented by metallic

contact, thus preventing a rupturing strain being placed on the rubber. It will also be seen that by designing the unit as stated all normal forces are resisted by the rubber while all abnormal forces beyond a certain value are absorbed by the metallic contact thus permitting the use of a smaller unit than would be necessary if rubber alone absorbed the entire force.

Although one specific arrangement and application of the invention has been shown and described it is to be understood that the invention may be adapted to other uses such as bolster mountings and that it is to be limited only in accordance with the appended claims.

What is claimed is:

1. In a journal box mounting for a railway truck frame, longitudinally spaced pedestal jaws, a journal box located in the space between the jaws, longitudinally spaced resilient means including rubber loaded in shear connecting said box and jaws for universal movement of a predetermined amount, and means preventing such movement beyond said predetermined amount in at least certain directions.

2. In a journal box mounting, spaced pedestal jaws, a journal box, resilient means including rubber shear springs positively connecting said box and jaws and adapted to yieldingly center the box in the space between the jaws by acting in compression, and means preventing excessive yielding of said resilient means in both shear and compression.

3. In a journal box mounting, pedestal jaws, a journal box between said jaws, means connecting said journal box and jaws including a resilient element comprising rubber having plates vulcanized to opposite faces thereof, said connecting means being so arranged relative to the jaws and journal box as to shearingly resist relative movement between the journal box and pedestal jaws, and cooperating means on the pedestal jaws and journal box for preventing relative movement therebetween beyond a predetermined amount.

4. In a journal box mounting for a railway truck frame, longitudinally spaced pedestal jaws on the frame, a journal box having bearing surfaces projecting on either side of the frame, rubber shear springs positioned in the space between the pedestal jaws and journal box to restrain the movement of the latter, and means carried by the pedestal jaws and co-acting with the projecting bearing surfaces of the journal box for limiting the movement of the journal box.

5. In a journal box mounting, spaced pedestal jaws, a journal box in the space between the pedestal jaws, resilient members having plates fixed to opposite sides thereof and positioned in the space between the journal box and pedestal jaws, and means for fastening the plates to the adjacent pedestal and journal box walls.

6. In a journal box mounting, spaced pedestal jaws, a journal box positioned in the space between the pedestal jaws, resilient members having spaced plates fixed thereto positioned in the space between the journal box and the pedestal jaws, means for securing one of the plates of each resilient member to said journal box in the space, thrust members fixed to the pedestal jaws, and means carried by the thrust members for engaging a plate of each resilient member.

7. In a journal box mounting, spaced pedestal jaws, a journal box positioned in the space between the pedestal jaws, spacer units positioned in the space between the journal box and pedestal jaws and each including a body of resilient material having fixed thereto inner and outer metallic plates, means for securing the inner plates to the journal box, and means for removably securing the outer plates to the pedestal jaws.

8. In a journal box mounting, pedestal jaws, a journal box positioned between the pedestal jaws, spacer units each including a body of resilient material having fixed thereto inner and outer metallic plates positioned between the journal box and pedestal jaws, means for securing the inner plates to the journal box, thrust members removably secured to opposite portions of the pedestal jaws in such a position as to cooperate with adjacent portions of the journal box, and means carried by the pedestal jaws for engaging the outer plates.

9. In a journal box mounting, pedestal jaws, a journal box positioned between the pedestal jaws, spacer units each including a body of resilient material having fixed thereto inner and outer metallic plates positioned between the journal box and pedestal jaws, means for securing the inner plates to the journal box, thrust members including bearing elements fixed to the pedestal jaws in such a position as to cooperate with adjacent portions of the journal box, means carried by the thrust members for engaging the outer plates, and means on the journal box engaging the bearing elements for positively limiting the movement of the parts.

10. In a railway truck, in combination with a side frame having a downwardly opening pocket defined by jaws, each jaw having a pocket opening toward the other, a journal box disposed between said jaws and having pockets opening toward said jaw pockets, and a pad of resilient rubber disposed between each jaw and the adjacent wall of said box received in said pockets, each pad having at least one of the wearing surfaces engaged by said box and the associated jaw, provided with a metal wear plate secured thereto.

ELMER LATSHAW.