Dec. 17, 1935. H. E. MUCHNIC 2,024,867

JOURNAL BOX

Filed Jan. 17, 1935

Fig. 1.

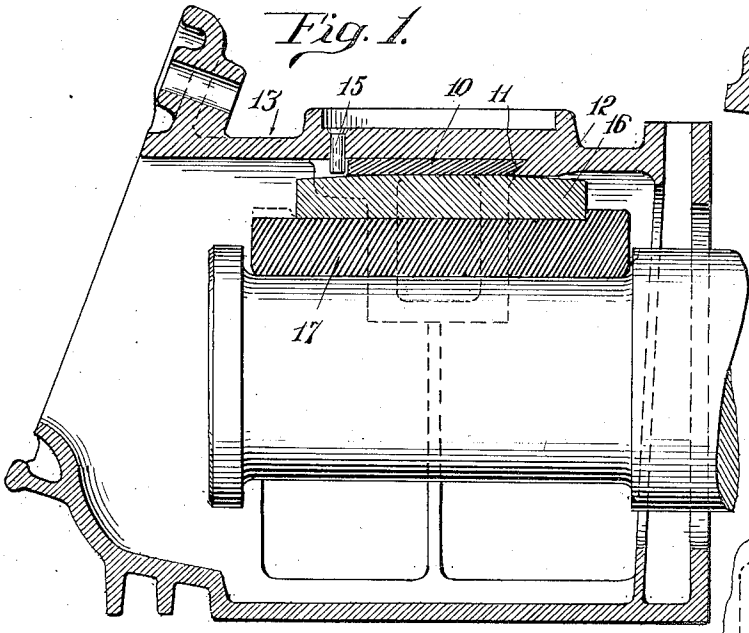



Fig. 3.

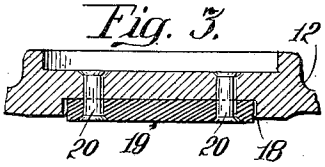



Fig. 4.

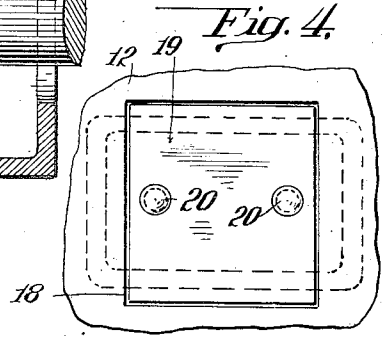



Fig. 2.

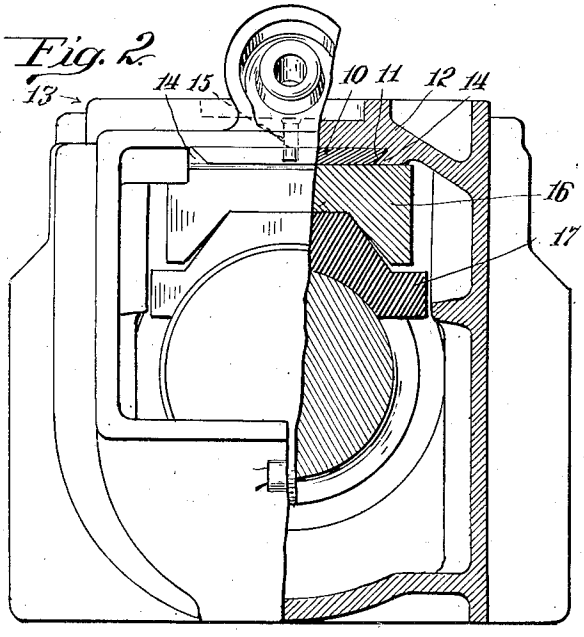



Fig. 5.

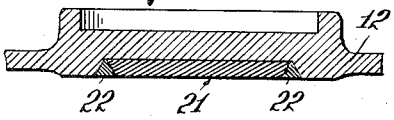
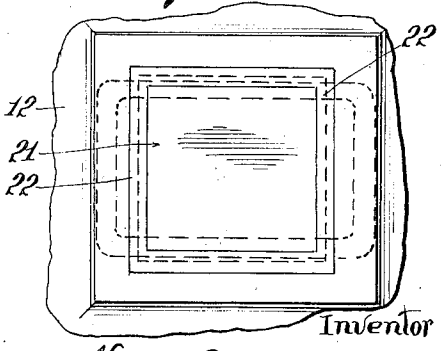



Fig. 6.




Witnesses
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# UNITED STATES PATENT OFFICE

2,024,867

## JOURNAL BOX

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Application January 17, 1935, Serial No. 2,190

2 Claims. (Cl. 308—40)

My invention pertains to railroad truck boxes or journal boxes and relates more particularly to the provision of a hardened portion in the top or roof of the journal box adapted to resist the frictional contact of the wedge or key usually employed to keep the brass in position on the journal.

The invention in its specific embodiments contemplates the provision of a hardened steel plate which is preferably removably secured in or to the roof of the box and adapted to receive the wear producing action of the usual key or wedge; the plate being immovably held in place.

The objects and advantages of my invention will be more readily comprehended from the following description of the accompanying drawing, wherein—

Figure 1 is a longitudinal section of a journal box provided with an embodiment of my invention and with the end of a journal in elevation.

Figure 2 is a cross sectional elevation of the construction shown in Figure 1.

Figure 3 is a sectional detail of a portion of the roof or top of a journal box illustrating a modified embodiment of the invention.

Figure 4 is a bottom plan view of the construction shown in Figure 3.

Figure 5 is a sectional detail of a portion of the roof of a journal box illustrating another modification of the invention.

Figure 6 is a bottom plan view of the construction shown in Figure 5.

My invention has for its purpose the provision of a construction whereby the life of a journal box will be greatly prolonged.

In practice, the greatest wear takes place in the roof portion of the journal box where the key or wedge member, which is wedgingly arranged between the brass and the roof or top of the box, exerts its constant frictional bearing on or shifting contact with the inner surface of the top of the journal box. The constant rubbing action of the key or wedge member soon causes the top or roof portion of the journal box to become so worn that it is necessary to scrap the entire box even though the rest of the box is still in serviceable condition.

This rubbing action on the roof of the box causes the wedge or key to partially embed itself in the roof of the box.

This prevents the wedge or key having the proper rocking movement and results in hot bearings due to the fact that the bearing cannot align itself automatically with the journal.

Originally, journal boxes were made of gray iron and latter of malleable iron, but they all possess the disadvantage that they become worn making it necessary to discard them.

The purpose of my invention is to provide a journal box provided with a hardened steel portion or insert adapted to withstand this constant frictional action of the key or wedge member without, however, materially increasing the cost and without in any way departing from the standard or accepted construction and specified requirements.

In the specific embodiment of the invention as disclosed in Figures 1 and 2, the wear resisting portion or element comprises a flat plate 10 of suitable thickness and size; with certain of the edges tapered or beveled as shown at 11. In the particular exemplification, three of the edges of the plate are beveled as evident in Figure 2 taken substantially at right angles to Figure 1.

The top or roof 12 of the journal box 13 on its inner surface is provided with a pocket open at one end which is produced by the opposingly disposed or inwardly sloping flanges 14. The flanges 14 are of size commensurate with the thickness of the plate to be used and the flanges are arranged to constitute a three-sided socket or pocket so as to permit the plate 10 to be endwisely slid into place, namely from the outer end or the left hand side of the box as viewed in Figure 1. The flanges 14 are shown formed integral with the journal box top or roof, but it will be understood that the flanges may be secured in place in any other manner as might be the case in the application of my invention to an old type of journal box.

As shown in Figures 1 and 2, the dove-tailed relation between the plate or insert 10 and the walls of the pocket securely holds the plate in close association with the roof of the journal box; and in order that the plate or insert 10 cannot shift endwisely out of the pocket, I provide the rivet-pin 15. This pin 15 may be inserted through a small hole formed in the roof of the journal box with its head countersunk as shown and the end of the pin disposed across the unbeveled end of the insert or plate 10 as very clearly shown in Figure 1. With the pin 15 in this position it is apparent that the plate 10 cannot shift or move out of its pocket.

As shown in Figure 1, the key or wedge member 16 is wedgingly disposed between the top or roof 12 of the journal box 13 and the brass 17. The tops of the keys or wedge members are generally made slightly arcuate as seen in Figure 1; and heretofore these wedge members have been

in direct contact with the top or roof proper of the journal box, exerting a wearing action on the roof, causing the latter to become so worn that the journal box had to be discarded regardless of its general condition. With the insert or plate 10 of comparative size, the top surface of the wedge member 16 is in direct contact with the plate 10 and exerts its wear producing action on the plate 10 which preferably is made of hardened steel and hence better adapted to resist the wearing action. On the other hand, if the plate or insert should become worn, it may be readily replaced by another upon simply removing the intercepting rivet-pin 15.

Instead of employing the method of holding the insert or plate as heretofore described, other methods of securing the insert may be employed. For example, in Figures 3 and 4, I show the main portion of the journal box roof 12 on its inner surface with a rectangular depression or socket 18 adapted to receive the rectangular plate or insert 19 which is preferably made of hardened steel. The top wall 12 of the journal box and the plate 19 are provided with a pair of registering apertures for the rivets 20, 20 whose ends are made flush as shown in Figure 3.

The plate 19, like plate 10, is of sufficient thickness and size to cover or contact with the entire friction producing surface of the wedge or key member 16.

In Figures 5 and 6 another method is shown in so far as securing the wear resisting insert or hardened steel plate 21 is concerned. The inside surface of the top or roof 12 of the journal box, like the structure shown in Figure 3, is provided with a countersunk portion or depression. The plate or insert 21 and the walls about the depression are preferably chamfered to provide a proper weld as shown at 22, thus eliminating the use of pins or rivets; the weld 22 being preferably a continuous weld as shown in Figure 6.

I have shown and described certain specific embodiments of my invention which contemplate a journal box with a roof portion made of wear resisting material, or provided with a plate or insert of metal harder than that which it would be practicable to use in making the entire box; the wear resisting characteristic being obtained without entailing an excessive and therefore undesirable cost.

Instead of exemplifications shown and described, the invention might have expression in different form without, however, departing from the spirit of my invention.

What I claim is:—

1. A journal box, the top whereof is provided with an aperture while the roof on the inner side is provided with a three-sided socket or pocket open at bottom and toward the outer end of the journal box, the three side walls of the pocket being beveled, a hardened steel plate adapted to be endwisely inserted in said pocket, three edges of the plate being tapered to correspond with the bevel of the pocket side walls to provide an interengaging sliding relation, and a pin insertible through said aperture and adapted to hold the plate against movement.

2. In a journal box the top whereof on the inner side is provided with a pocket open at the lower side and at the end disposed toward the outer end of the journal box, a hardened steel plate endwisely insertible in the pocket through said open end, and removable means secured to the top whereby the plate is held against longitudinal movement.

HENRY E. MUCHNIC.