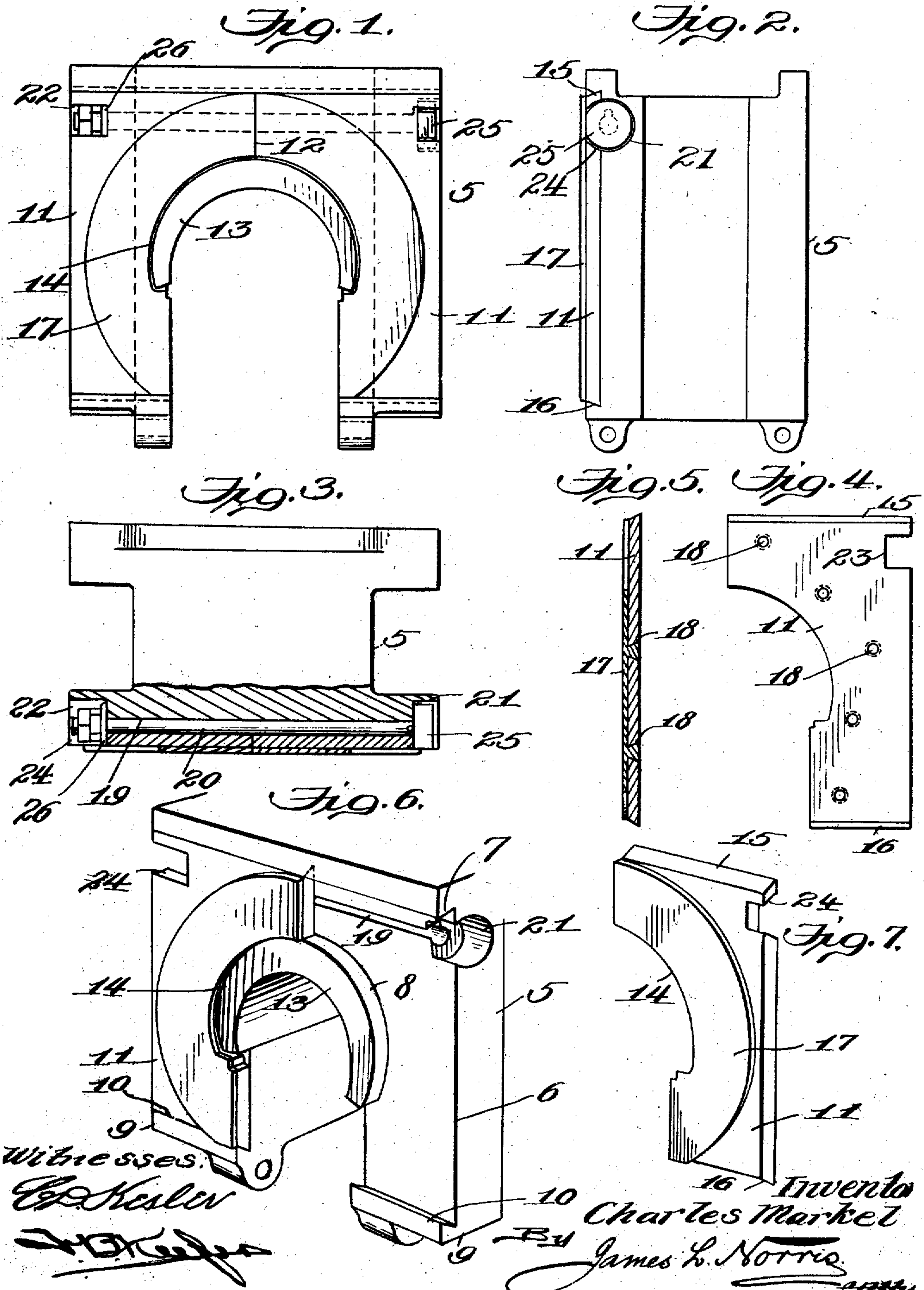


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ATTACHMENT FOR DRIVING BOXES.
APPLICATION FILED MAR. 16, 1909.

966,344.

Patented Aug. 2, 1910.



UNITED STATES PATENT OFFICE.

CHARLES MARKEL, OF CLINTON, IOWA.

ATTACHMENT FOR DRIVING-BOXES.

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Specification of Letters Patent.

Patented Aug. 2, 1910.

Application filed March 16, 1909. Serial No. 483,775.

To all whom it may concern:

Be it known that I, CHARLES MARKEL, a citizen of the United States, residing at Clinton, in the county of Clinton and State of Iowa, have invented new and useful Improvements in Attachments for Driving-Boxes, of which the following is a specification.

This invention relates to driving box side motion plates for use on locomotive, engine truck and trailer boxes, or any axle box where there is wear between the hub of the wheel and the side of the box resulting in lost or side motion.

The object of this invention is to overcome the wear on the hub side of boxes by providing means for readily and economically taking up the side motion due to wear.

In the ordinary construction or that now commonly employed, Babbitt metal is applied to the hub side of axle boxes to obviate friction and wear, but when this metal becomes worn or broken it produces a side motion which is very objectionable. To overcome this side motion it is necessary to run a locomotive into a shop and dismantle the same or take out the wheels, remove the boxes, and renew the Babbitt metal. This operation is very expensive, as it requires two or three days time with the constant loss of use of the locomotive.

In the drawing: Figure 1 is a front elevation of a driving box embodying the features of the invention. Fig. 2 is a side elevation of the same. Fig. 3 is a top plan view of the box partially broken away and shown in section. Fig. 4 is a detail elevation of one of the plates looking toward the inner side thereof. Fig. 5 is a transverse vertical section through the plate showing the facing of Babbitt metal therefor. Fig. 6 is a detail perspective view of a portion of the driving box showing one of the side motion plates removed. Fig. 7 is a detail perspective view of the side motion plate removed from Fig. 6.

The structure of the driving box is in all particulars similar to that ordinarily employed in cooperation with the axles of the wheels of locomotives, engine trucks and trailers, except in the specific particulars which will be hereinafter noted, and said driving box is designated by the numeral 5. The hub side of the box is planed down, for instance about five-eighths of an inch, as at 6, and an upper overhanging or dovetailed

flange 7 extending fully across the box is formed above the arch 8, and on the same side the legs 9 are formed with corresponding or cooperating dovetailed flanges 10, the removal of the metal on the hub side of the box and the formation of the dovetailed flanges 7 and 10 providing a seat for the reception of two side motion plates 11 which are duplicate in construction and join at their upper central portions as at 12. Within the arch 8 the usual brass bearing 13 of arcuate form is fitted and held. These plates 11 conform in contour to the seat in which they are removably fitted and are formed with semi-arcuate recesses 14 which jointly conform to the contour of the brass bearing 13, said recesses coinciding and receiving, when the plates 11 are applied, the projecting portion of the brass bearing, as clearly shown by Figs. 1 and 6.

The upper and lower edges 15 and 16 of each plate are beveled in reverse directions to correspond to and engage the dovetailed flanges 7 and 10, the plates being applied to the driving box from opposite sides and pushed fully inwardly until the upper central portions as at 12 are pushed inwardly in full engagement with each other. The face of each plate 11 has a Babbitt metal layer 17 applied thereto in the manner particularly shown by Figs. 4 and 5, key-openings 18 being formed in the plate at intervals so that the Babbitt metal will run through said openings, as shown by Fig. 5, and form keys for securely holding the layer in applied position. The object of this Babbitt metal layer on each plate is to prevent friction and wear between the hub of the wheel and the face of the plate, and in the event that this layer wears down it may be readily replaced at small cost. The plates 11 are removably secured to the driving box by boring a hole 19 entirely across the upper portion of the box and inserting a bolt 20 therein. The hole 19 at one extremity is enlarged to form a bolt head seat 21 and at the opposite extremity is similarly enlarged to provide a nut and washer seat 22, the one plate 11 having a slot 23 to coincide with the bolt head seat 21 and the other plate is formed with a slot 24 to register with the nut and washer seat 22. The bolt head 25 is large enough to extend into the slot 23 and the washer 26 is of such dimensions as to project into the slot 24 so that when the bolt is tightened up and the nuts and washer

26 applied as shown by Figs. 1 and 3, the plates 11 will be drawn in close engagement and prevented from having movement until the bolt 20 is released and withdrawn. It will be understood that the bolt and washer seat 22 and registering slot 24 will be large enough to permit the convenient application and removal of the nuts with relation to the washer 26.

10 When the Babbitt metal parts become worn, or there is side motion from any cause, it can be remedied by simply removing the bolt 20 from the box, removing the plates 11 sidewise and renewing the Babbitt metal on the plates and the latter redispensed in operative position on the box, or new plates may be put in without requiring a dismantling of the locomotive or trucks and with very little delay or loss of time.

20 The improved construction will be found exceptionally advantageous, and it is obvious that modifications in the dimensions and proportions may be adopted to accommodate various applications. It will also be observed that there is practically no disturbance of the usual organization of the

driving box with the exception of the formation of the seat for the reception of the plates, as hereinbefore explained.

What is claimed is:

An axle or driving box having the usual arch and an opening extending from the arch through the bottom of the box, the hub side of the box being planed down and having an upper overhanging dovetailed flange and lower cooperating dovetailed flanges, and a plate secured to the hub side of the box and composed of sections having the upper and lower ends thereof engaging the dovetailed flanges and the inner portions conforming to the contour of the arch and opening, the sections being removable sidewise from the box, and means for holding the sections applied to the hub side of the box.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CHARLES MARKEL.

Witnesses:

HOMER VAN EPPS,
OSCAR J. JENSEN.