No. 777,507. PATENTED DEC. 13, 1904.

J. E. HEWITT.

CAR AXLE BEARING.

APPLICATION FILED JAN. 18, 1904.

NO MODEL.

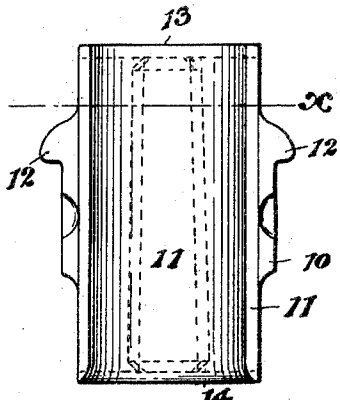


Fig. 1.

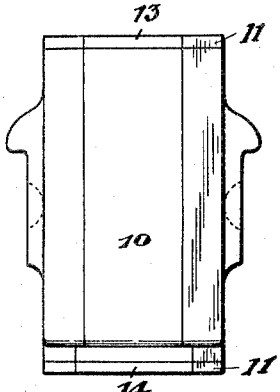


Fig. 2.

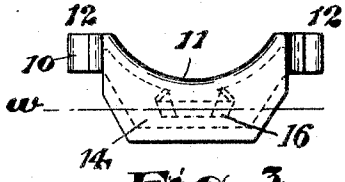


Fig. 3.

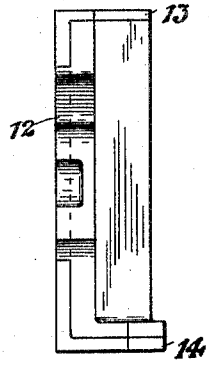


Fig. 4.

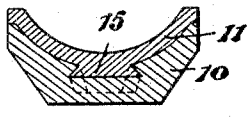


Fig. 5.

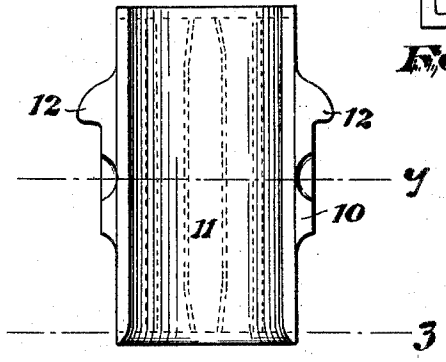


Fig. 6.

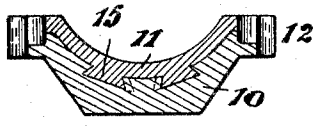


Fig. 7.

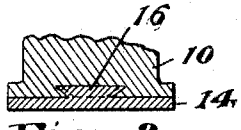


Fig. 9.

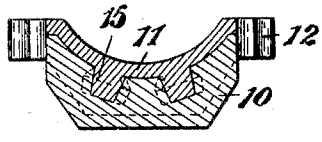


Fig. 8.

WITNESSES:

Ralph Lancaster

Russell M. Everett.

INVENTOR:

James E. Hewitt,

BY

Charles H. Pell,

ATTORNEY.

No. 777,507. Patented December 13, 1904.

UNITED STATES PATENT OFFICE.

JAMES E. HEWITT, OF NEWARK, NEW JERSEY.

CAR-AXLE BEARING.

SPECIFICATION forming part of Letters Patent No. 777,507, dated December 13, 1904.

Application filed January 18, 1904. Serial No. 189,437. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. HEWITT, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented and produced new and original Improvements in Car-Axle Bearings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to numerals of reference marked thereon, which form a part of this specification.

The objects of this invention are to reduce the expense of maintaining proper journal-bearings for car-wheels, to increase the durability of the journals, to enable the contacting metal to be more securely held upon its casing and after its life of service more easily removed therefrom, to reduce the cost of construction, and to obtain other advantages and results, some of which will be referred to hereinafter in connection with the description of the working parts.

The invention consists in the improved journal-bearing for railway-car wheels and in other axles or journals of heavy machinery and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like numerals of reference indicate corresponding parts in each of the several figures, Figure 1 is an inside or top plan of my improved bearing. Fig. 2 is a bottom plan of the same. Fig. 3 is an end view, and Fig. 4 a side view. Fig. 5 is a section taken at line *x* of Fig. 1. Fig. 6 is a top or inside plan showing a modification of construction. Figs. 7 and 8 are sectional views taken through lines *y* and *z*, respectively; and Fig. 9 is a section taken through line *w*.

In said drawings, 10 indicates the casing, which is cast from inexpensive but strong and durable metal, such as iron or steel, and 11 is the lining metal adapted to make contact with the axle or journal, the metal preferred being what is now commonly known in the market as "vim" metal and consisting of a composition containing tin, lead, and copper and having antifrictional qualities, as well as durability. Said casing in cross-section is interiorly concave and exteriorly angular, as shown in Figs. 3, 5, 7, and 8, and at its opposite lateral edges is provided with lugs or flanges 12, adapted to enter or engage the recessed box or part of the car which rests on said casing and holds it in position to take the weight of the car and transmit the same to the axle of the car-wheel. On the curved interior surface of the casing the same is grooved from end to end, the grooves tapering, being wider at one end than at the opposite end of the casing. Said grooves are preferably dovetailed or undercut to prevent a detachment of the lining metal in a direction perpendicular to the axis of curvature of the interior surfaces, the grooves being open at opposite ends to permit an outslipping, as hereinafter described.

The lining metal 11, which contacts with the axis or shaft, extends the full length of the casing 10 and beyond the opposite ends thereof, the said lining metal at said ends being turned upward, as at 13 14, to form stops or stays and positively preventing longitudinal movement of said lining metal on the casing. The lining metal is cast onto the casing, the molten metal filling the undercut and flaring grooves, and thus forming dovetails 15. The extreme ends of the casing are preferably dovetailed vertically, as indicated at 16 in Figs. 1 and 9, thus holding the stops or stays 13 14 in place and more effectually preventing longitudinal displacement, the ends of the vertical dovetail grooves being open to permit the metal to be conveniently chiseled therefrom.

In service when the wear of the axle on the lining has reduced the thickness of the latter so that a removal is desirable the end stop at the small end of the flaring groove is chiseled off or otherwise removed, so that the worn lining can be removed by simply hammering the same at said end, thus loosening it from the casing and permitting a detachment by a longitudinal sliding movement. After being thus detached the casing can be again placed

in a mold and another lining cast therein, the metal removed being again used, if desired, in the new casting. Thus a railroad company may conveniently renew its bearings from time to time with great convenience and ease, especially when furnished with a furnace and molds such as I propose to supply in connection with the casings herein described.

Having thus described the invention, what I claim as new is—

1. The improved axle-bearing herein described, comprising a casing having a concave side provided with a longitudinal groove extending the full length of said concave side and opening out through the extremities thereof, the said extremities being provided with dovetailed slots vertical or perpendicular to the concave side, and a lining of comparatively soft metal extending the full length and beyond the extremities of said casing, and into the vertical dovetails at the extremities of said casing, substantially as set forth.

2. The improved axle-bearing herein described, comprising a casing having its concave side provided with a longitudinal undercut groove extending the full length of said casing, and at the ends having dovetailed vertical grooves, and a lining extending the full length of the said casing and having at opposite ends of said casing stop extensions lying against the ends of said casing and in said vertical, dovetailed grooves to prevent detachment.

In testimony that I claim the foregoing I have hereunto set my hand this 2d day of January, 1904.

JAMES E. HEWITT.

Witnesses:
CHARLES H. PELL,
RUSSELL M. EVERETT.