

(No Model.)

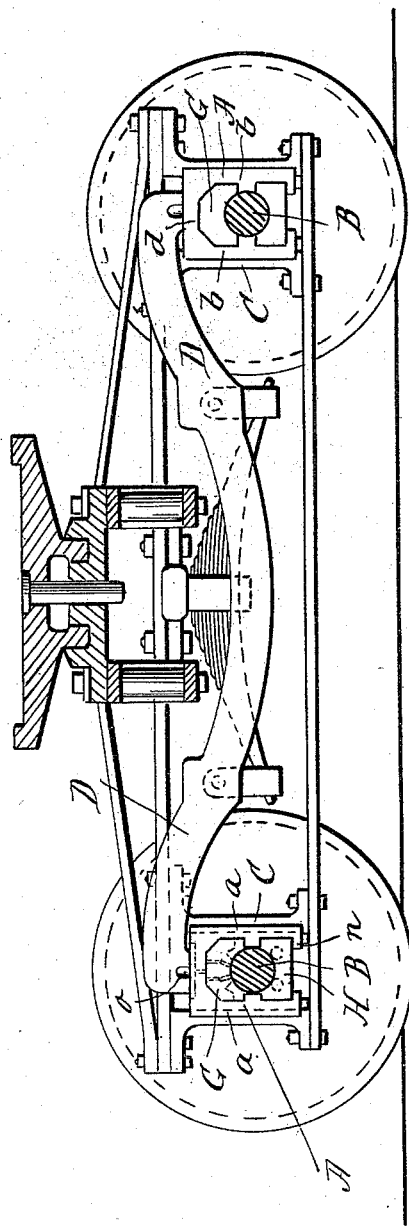
2 Sheets—Sheet 1.

H. J. THOMPSON.
JOURNAL BOX.

No. 493,665.

Patented Mar. 21, 1893.

Fig. 1.



Witnesses:

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J. M. Bellowe

Inventor:

Henry J. Thompson,
per Charles A. Atty.

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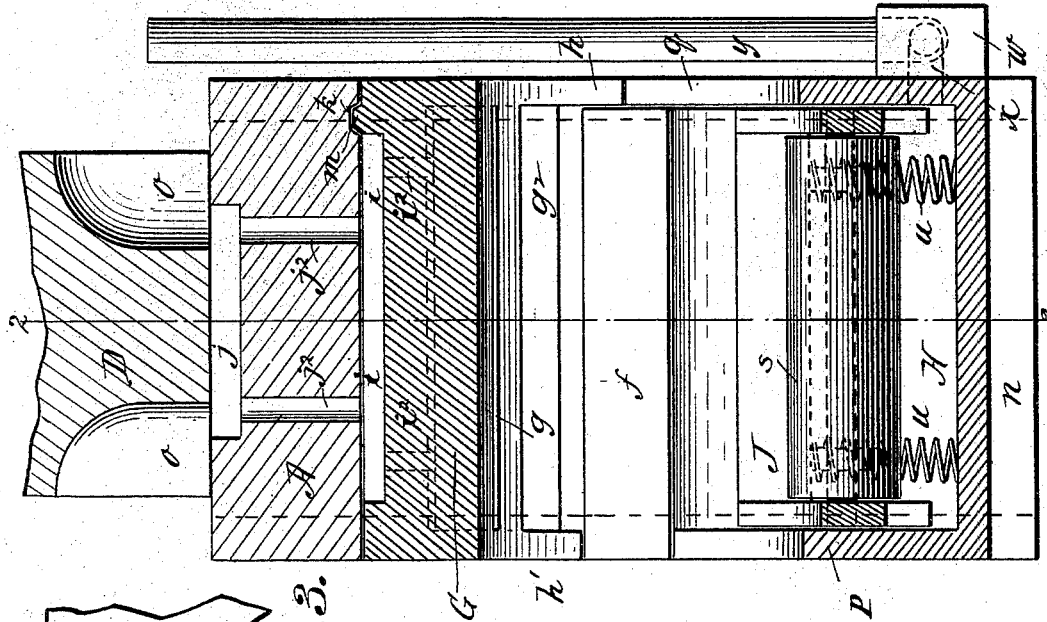


Fig. 3.

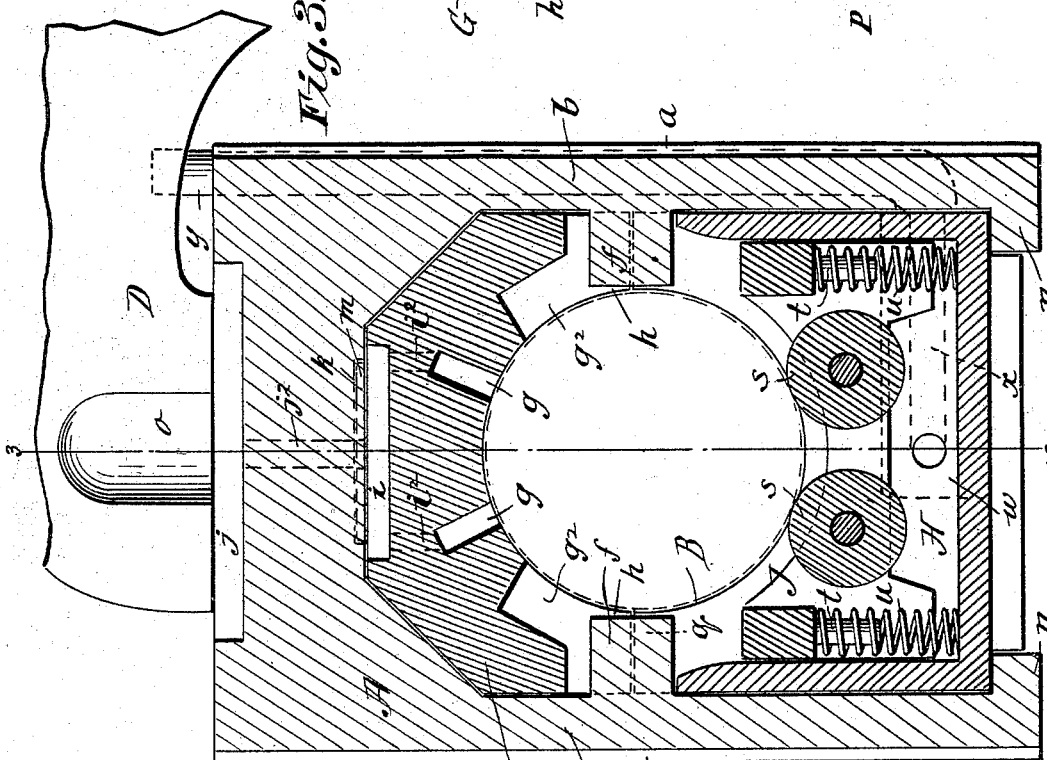


Fig. 2.

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UNITED STATES PATENT OFFICE.

HENRY J. THOMPSON, OF SPRINGFIELD, MASSACHUSETTS.

JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 493,665, dated March 21, 1893.

Application filed November 25, 1892. Serial No. 452,986. (No model.)

To all whom it may concern:

Be it known that I, HENRY J. THOMPSON, a citizen of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Journal-Boxes for Locomotive-Trucks, of which the following is a specification.

This invention relates to improvements in journal-bearings for trucks, more especially designed for locomotives.

The object of the invention is to insure in a journal bearing which is of inexpensive and practicable construction, means of unusual efficiency for the lubrication of the bearing.

To this end the invention consists in the construction and combination of parts, all substantially as will hereinafter more fully appear and be set forth in the claims.

Reference is to be had to the accompanying drawings in which these improvements are illustrated and in which,

Figure 1 is a side elevation of a locomotive truck having the present improved journal bearings indicated thereon. Fig. 2 is a vertical section taken centrally through one of the journal bearings on a plane at right angles to the line of the axle. Fig. 3 is a vertical section of the same taken on the plane at right angles to that of Fig. 2, as indicated by the line, 3—3. In said Fig. 3 the line 2—2 indicates the section line precisely on which the said sectional Fig. 2 is taken.

In the drawings A represents the journal box, or housing, of which one is provided for each bearing, B indicating the car-wheel-axle and C the pedestal of the truck frame for each journal and D represents the equalizing bar. The journal-box, A, has the external, vertical, and parallel edge flanges, *a, a*, whereby the box is held in proper engagement with the pedestal while it has its slight vertical movement, as usual. The journal-box, A, is of a rectangular form having the sides *b, b*, and top, *d*. The form of the chamber in the upper portion of said box is semi-octagonal, and the side of the box, intermediately of its height, have the inwardly projected ledges, *f, f*.

G represents the "brass" or journal-bearing the same having externally, or at its upper side, the usual semi-octagonal form to

closely fit in the correspondingly formed upper portion of the said chamber in the journal-box, the under side of this brass having the same semi-circular conformation as the axle for the direct bearing support of the box by the axle. The inner side of the brass is, however, provided with one or more recesses, *g, g*, which are substantially radially extended relative to the center from which the internal arc-surface of the brass is generated, and partially through the thickness of said part, leaving the curved bearing surface to be comprised in a succession of separated ribs; the brass, at its inner lower corners, is, furthermore, recessed, as at *g², g²*, whereby the bearing surface of the brass is less extended around the sides of the axle. The brass, at its ends, has the integral webs or flanges, *h, h'*, the one, *h'*, at one end having its lower edge arranged to rest on the tops of the aforesaid ledges, *f, f*, near their ends, while the flange, *h*, at the other end of the brass, has the lower edge portion of its flange lying along outside the ends of the ledges which latter terminate, as seen in Fig. 3, slightly within the plane of the open end of the box. The brass has in its top a broad, shallow depression, *i*, and the journal-box has in its top, also, a somewhat similar depression, and one or more ducts, *j²*, pass downwardly through the thickness of metal constituting the top of the box whereby communication for oil may be had from the said depression, *j*, to the one, *i*, in the top of the brass; and from said latter depression, *i*, one or more ducts, *i²*, extend through the brass to convey oil downwardly into the aforesaid radial recesses, *g, g*. The inside of the journal-box, at its top, has the groove, *k*, while the brass has the transverse rib, *m*, at its top for engagement in said groove, which engagement, together with the aforesaid flange, *h*, at the end of the ledges, *f, f*, prevent endwise displacement of the brass relative to the box. The equalizer bar having its ends in bearing support upon the tops of the journal boxes, as usual, is provided with the recesses, if desired, as seen at *o*, for facilitating the entrance of oil into the journal bearing from the top.

H represents an oil receptacle in the bottom of the journal-box, the same here being shown as removable and supported upon the inwardly projected rests or ledges, *n, n*, of the

box, A. This oil-box has its side, *p*, at one end of the journal-box, with its upper edge lying under the said ledges, *f, f*, while the end, *q*, of the oil-box, at the other end of the journal-box, is projected upwardly far enough to lie alongside the adjacent ends of the said ledges, *f, f*, and by this engagement the oil-box is held against any endwise movement in one direction. Within this oil-box is a frame, J, which is spring-supported from the bottom of the box and carries one or more rollers, *s*, which have a yielding and rolling bearing against the axle. This frame is of rectangular form of such dimensions as to fit for free guiding movements within the oil-box, and opposing members of the frame have the downwardly extended spindles, *t, t*, with which the upper ends of the spiral supporting springs, *u, u*, have encircling engagements. The oil-box is provided externally with the thickened portion, *w*, having the horizontal duct, *x*, through it which at one end inwardly communicates with the oil-box and at its other end has connected thereto the entrance pipe, *y*, for oil. The oil, which is supplied within the oil-box, H, is by the rollers, *s, s*,—which are rotated by and in contact with the axle of the car-wheel,—carried to the axle for the lubrication thereof; and thus it is seen that there are provided in each journal-box the automatic lubricating devices at the bottom, as well as the means for effecting, at pleasure, the lubrication at the top of the bearing. The endwise movement of the oil-box inwardly in the direction of the length of the axle may be insured by a collar on the axle, or the hub of the car-wheel, or otherwise.

I claim—

1. In a journal-bearing, the combination with a journal-box having in its top a depression, and one or more ducts leading downwardly therefrom, of the brass having the approximately radial recesses extended from its axle-bearing side and having in its top the depression, *i*, and the ducts, *i², i²*, leading from said depression, *i*, to the radial recesses, substantially as and for the purpose set forth.

2. The combination with a journal-box having in its opposite sides the ledges, *f, f*, which at one end terminate within the end of the box, of the brass having at one end the web or flange, *h*, lying alongside the ends of the said ledges and said brass having at its top a rib and groove engagement with the internal upper surface of the journal-box, substantially as and for the purpose set forth.

3. In a journal-box a brass having recesses, *g, g*, extended partially through the thickness of the brass from the bearing side thereof, and having ducts, *i², i²*, leading from its top to said recesses and said brass at its inner lower corners having the recesses, *g², g²*, substantially as shown.

4. The combination with a journal-box having in its opposite sides the inwardly extended ledges, *f, f*, which at one end termi-

nate slightly within the end-face of the box, of the removable oil-box, H, having a support at the bottom of the journal-box, and having one side, *p*, of such height as to terminate under the said ledges at one end of the journal-box, and the oil-box having its other side, *q*, so upwardly extended as to lie alongside the other ends of said ledges, and the spring-supported frame and rollers, substantially as and for the purpose set forth.

5. The combination with a journal-box having in its opposite sides the inwardly extended ledges, *f, f*, which at one end terminate slightly within the end face of the box, said box also having the inwardly extended rests, *n, n*, at its bottom, of the removable oil-box, H, having a support on said rests with the side, *p*, terminating under said ledges at one end thereof, and the other side, *q*, so upwardly extended as to lie alongside the other ends of said ledges, the frame, J, movably guided and spring-supported in the oil-box and having the rollers, *s, s*, substantially as described and shown.

6. The combination with the journal-box having in the bottom thereof the removable box, J, with the thickened external portion, *w*, with the duct, *x*, leading therethrough and terminating within the oil-box, and the tube, *y*, arranged at the outside of the journal-box and having a connection with said duct, and the rollers, and spring-supported frame therefor movably guided in said oil-box, substantially as described.

7. The combination with a journal-box having in its top the depression, *j*, and the downwardly extended ducts, *j², j²*, and having in its opposite sides the inwardly extended ledges, *f, f*, which at one end terminate slightly within the end face of the box, and also having at its bottom the inwardly extended rests, *n, n*, of the brass having the depression, *i*, in its top, and recesses leading upwardly from its axle-bearing side and communicating with said depression and having at one end the portion, *h'*, to bear upon the top of said ledges at one end of the box, said brass having at its other end the web or flange, *h*, downwardly extended to lie alongside the ends of said ledges at the other end of the box, and the removable oil-box, H, having a support on said rests, *n, n*, and having the side, *p*, terminating under said ledges at one end thereof and the other side, *q*, so upwardly extended as to lie alongside the other ends of the ledges, the frame, J, movably guided and spring-supported in the oil-box, and having the rollers, *s, s*, and a conduit leading from the outside of the journal-box into the oil-box, all substantially as described and shown and for the purposes set forth.

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Witnesses:

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