

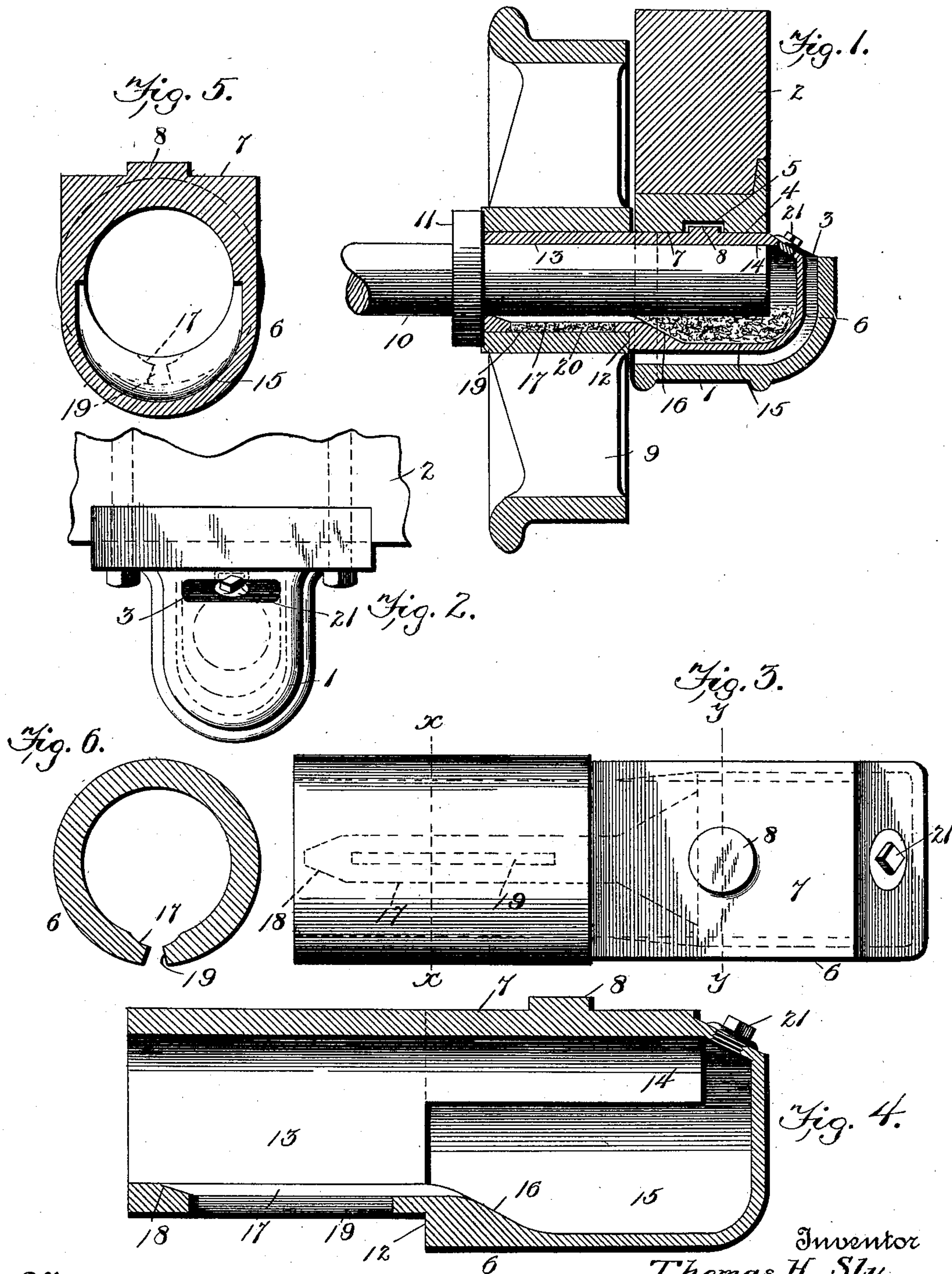
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T. H. SLY.
SELF LUBRICATING JOURNAL BOX.

(Application filed Dec. 8, 1898.)

(No Model.)



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UNITED STATES PATENT OFFICE.

THOMAS H. SLY, OF DUNMORE, PENNSYLVANIA.

SELF-LUBRICATING JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 636,461, dated November 7, 1899.

Application filed December 8, 1898. Serial No. 698,614. (No model.)

To all whom it may concern:

Be it known that I, THOMAS H. SLY, a citizen of the United States, residing at Dunmore, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Self-Lubricating Journal-Boxes; 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.

My invention relates to self-lubricating journal-boxes, being intended particularly for use in connection with the axles and wheels of mine-cars.

One object of the present invention is to afford comparatively long bearing-surfaces for both axle and wheel and to provide for their self-lubrication through their entire length in an improved manner, whereby the oil or lubricant is evenly fed to and distributed over the bearing-surfaces without loss from dripping or discharge.

Another object is to provide an improved journal box or bearing adapted for automatic adjustment or movement relatively of the car sill and body to compensate for swaying of the car.

Having the foregoing and other objects in view, the invention consists of certain improved features and novel combinations of parts set forth in detail hereinafter and recited in the appended claims.

In the accompanying drawings, Figure 1 is a vertical section of the complete invention; Fig. 2, an end elevation showing the outer box; Fig. 3, a detail plan view of the inner or journal box; Fig. 4, a detail longitudinal section of the inner box; Fig. 5, a section taken through the inner box on line *y y* of Fig. 3, and Fig. 6 a section taken on line *x x* of Fig. 3.

An outer box 1, which is suitably bolted to the car-sill 2, is employed to receive the inner box or bearing. This outer box has an open mouth 3 and is provided with a flat inner and upper face 4, having a recess 5. The inner box 6 has about one-half of its length loosely received in outer box 1, being provided with a flat top 7 where received in said outer box and having a lug or projection 8 extending upwardly from its flat top. The

flat face 4 of the outer box rests on the flat top of the inner box, and the lug is received loosely in the recess 5. The inner box is somewhat smaller than the interior of the outer box and does not touch the latter either at its end or sides, and as the lug is smaller than the recess the inner box can slide longitudinally and laterally sufficiently to compensate for all swaying of the car-body when in motion.

The innermost half of the inner box 6 is cylindrical on the exterior, where it affords a bearing for the car-wheel 9, which is bored out just large enough to run freely on said bearing.

The numeral 10 designates the axle, having the usual collar 11, which bears against the hub of the car-wheel and confines the latter between itself and a shoulder 12 on the inner box 6. The spindle end of the axle is loosely received in and turns against the smooth cylindrical interior 13 of the innermost half of the box 6 and projects into the outermost half of said box, where it bears against the upper curved bearing-surface 14. The box 6 is enlarged or recessed around this end of the axle-spindle to form an oil or packing reservoir 15. This reservoir is provided by recessing the lower half of the interior of the box, beginning about in line with shoulder 12 and extending to the outer end of the box; but the inner end of the recess is narrowed or converged and inclined or sloped gently at 16 to insure an easy and steady feed of the oil or lubricant to a somewhat shallow groove or channel 17, formed in the bottom of the inner bearing-surface 13. This channel terminates in an inclined and tapered blind inner end 18 near the collar 11. A narrow slot 19, widened downwardly, is provided to feed the oil from the channel to the wheel, the same being blind at both ends and of less length than the channel. It is filled with packing 20 to insure an even and steady feed of the oil, so that none will be wasted. The inner box has an inclined portion adjacent the mouth 3 of the outer box, which is provided with a removable screw stopper or closure 21, closing an opening through which the oil and waste or packing can be introduced to the reservoir.

The reservoir having been filled with pack-

ing and oil around and in contact with the end of the axle-spindle, as shown, the contact will insure lubrication of the outer end of the spindle and the bearing 14. The oil
 5 will also work up along the incline 16 and into channel 17, thus lubricating the remaining portion of the spindle and the bearing-surface 13. It will also soak and feed through packing 20 and properly lubricate the wheel
 10 and its bearing, dripping or too rapid feed of the lubricant being prevented by the employment of the packing. The loose fitting of the inner box in the outer box and its connection therewith, while insuring a proper
 15 rigidity of the parts at all times, permits automatic adjustment to compensate for swaying of the car-body.

Having thus described my invention, what I claim as new, and desire to secure by Letters
 20 Patent, is—

1. The combination with an outer stationary box, of a journal-box loosely received in the outer box, and an axle received in the inner box, said inner box being movable longitudinally of the axle in the outer box and
 25 laterally in said box.

2. The combination with an outer stationary box, of a journal-box loosely received in the outer box, an axle journaled within the
 30 inner journal-box, and a wheel loose on said journal-box, said journal-box being movable longitudinally of the axle in the outer box and laterally within the said outer box.

3. The combination with a stationary outer
 35 box having an upper inner flat face provided with a recess, of an inner journal-box loosely received in the outer box and provided with a flat upper, outer face lying against the flat face of the outer box and provided with a lug
 40 or projection which fits loosely in the recess,

being of appreciably smaller size than said recess, whereby the inner journal-box is held in position and adapted for movement in the outer box.

4. The combination with a box having a
 45 slot extending through its side, a channel extending along its interior surface and opening into the slot, and a lubricant-reservoir communicating with the channel, of an axle journaled in the box, and a wheel journaled
 50 on the box.

5. The combination with a journal-box having an inner axle-bearing which has its lower half recessed or enlarged at one end to form a lubricant-reservoir having a bottom slop-
 55 ing gradually and regularly at one part until it merges in the bottom of the unrecessed surface and there continued into a channel which extends along the said unrecessed bearing-surface, of an axle in said bearing.
 60

6. The combination with a journal-box having an inner axle-bearing and an outer wheel-bearing, said axle-bearing having its lower half recessed or enlarged at one portion of its length to form a lubricant-reservoir hav-
 65 ing a bottom sloping gradually at one end until it merges into the unrecessed bearing-surface and there continued into a channel which extends along that bearing-surface nearly to the end thereof, and a slot extend-
 70 ing through the journal-box from the channel to the outer or wheel bearing, of packing in said slot, an axle in the axle-bearing, and a wheel loose on the wheel-bearing.

In testimony whereof I affix my signature
 75 in presence of two witnesses.

THOMAS H. SLY.

Witnesses:

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