

No. 608,332.

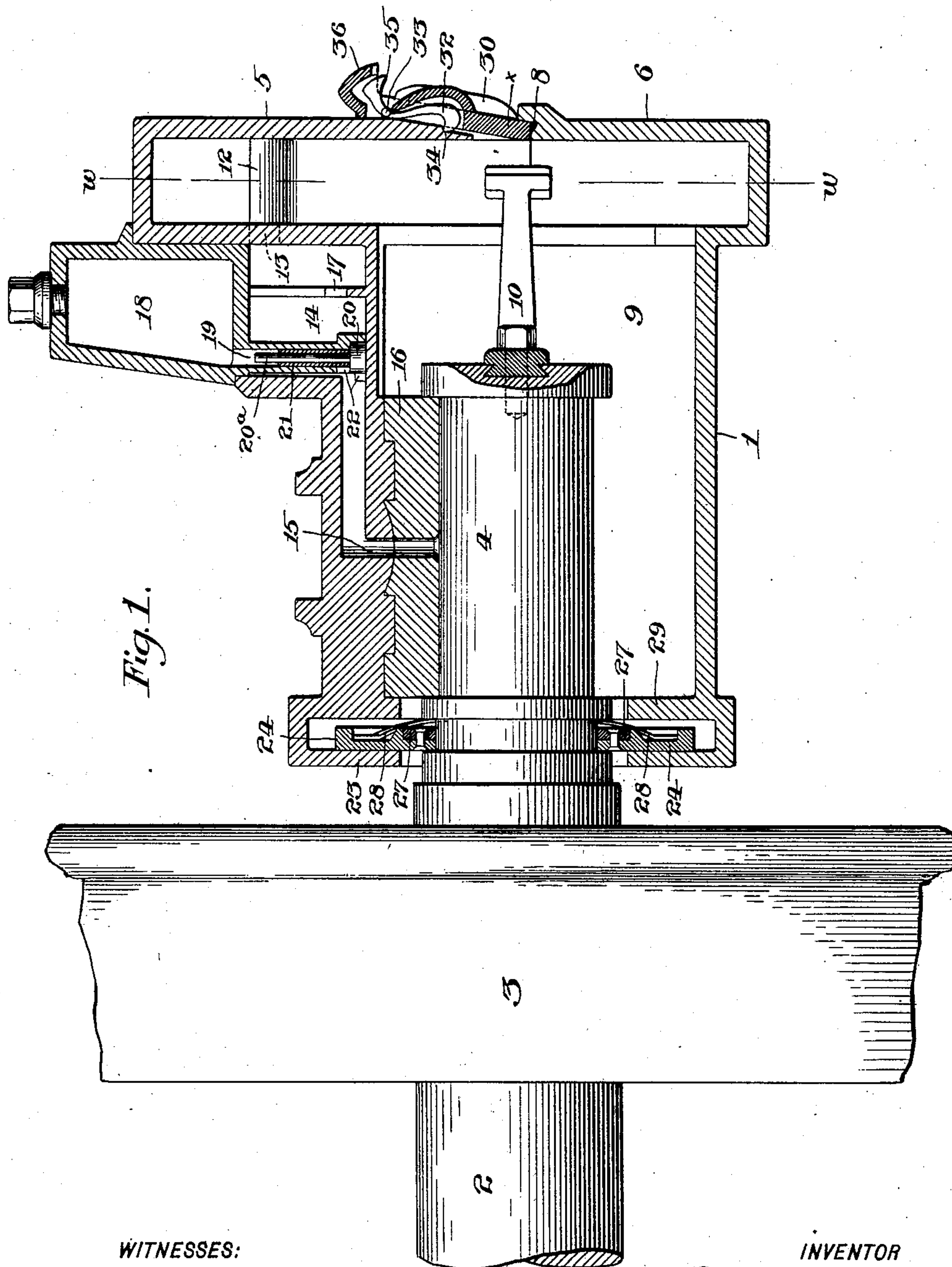
Patented Aug. 2, 1898.

F. HOETZL.  
JOURNAL BOX FOR RAILWAY CARS.

(Application filed Feb. 9, 1898.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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Fig. 3.

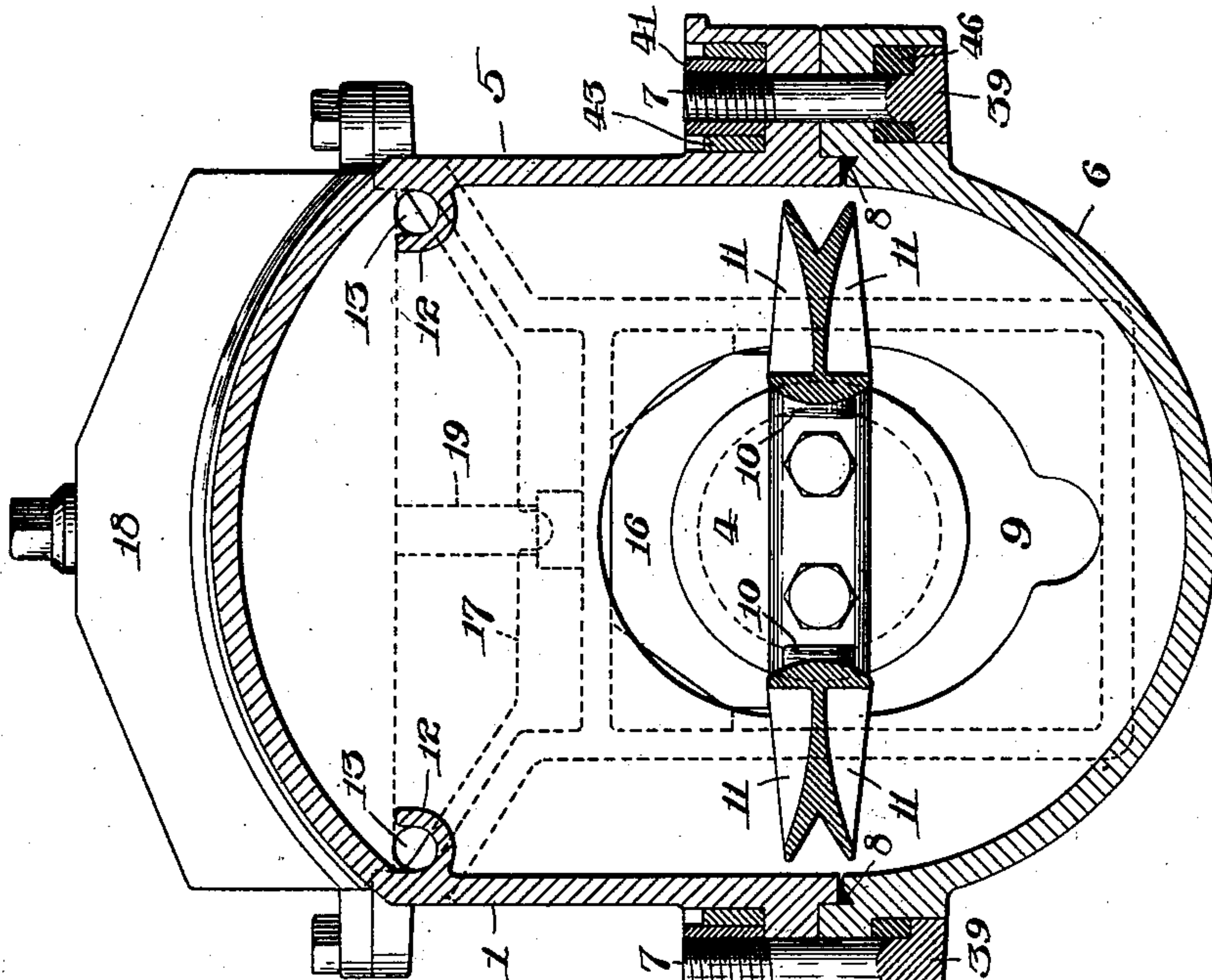
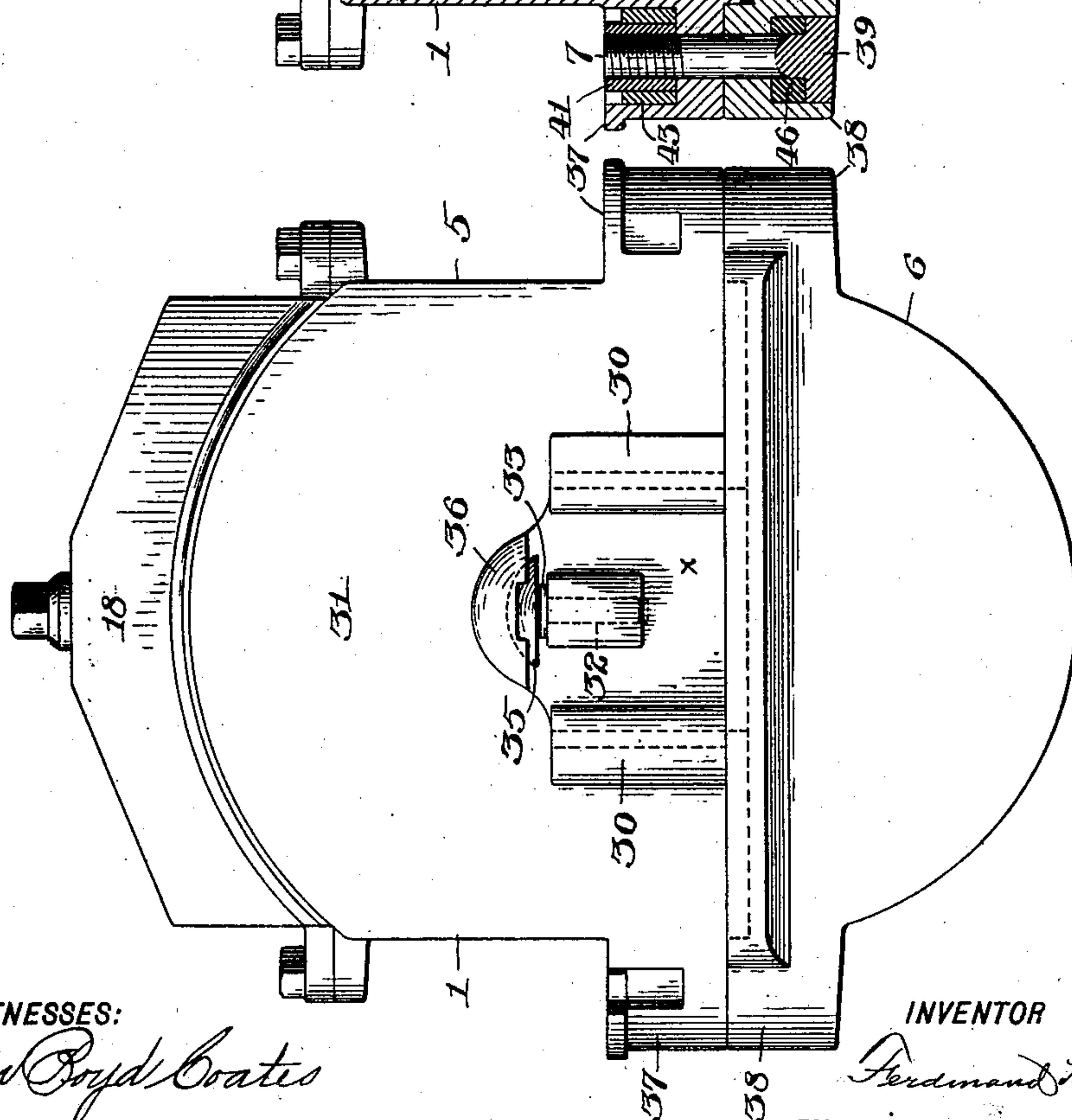


Fig. 2.



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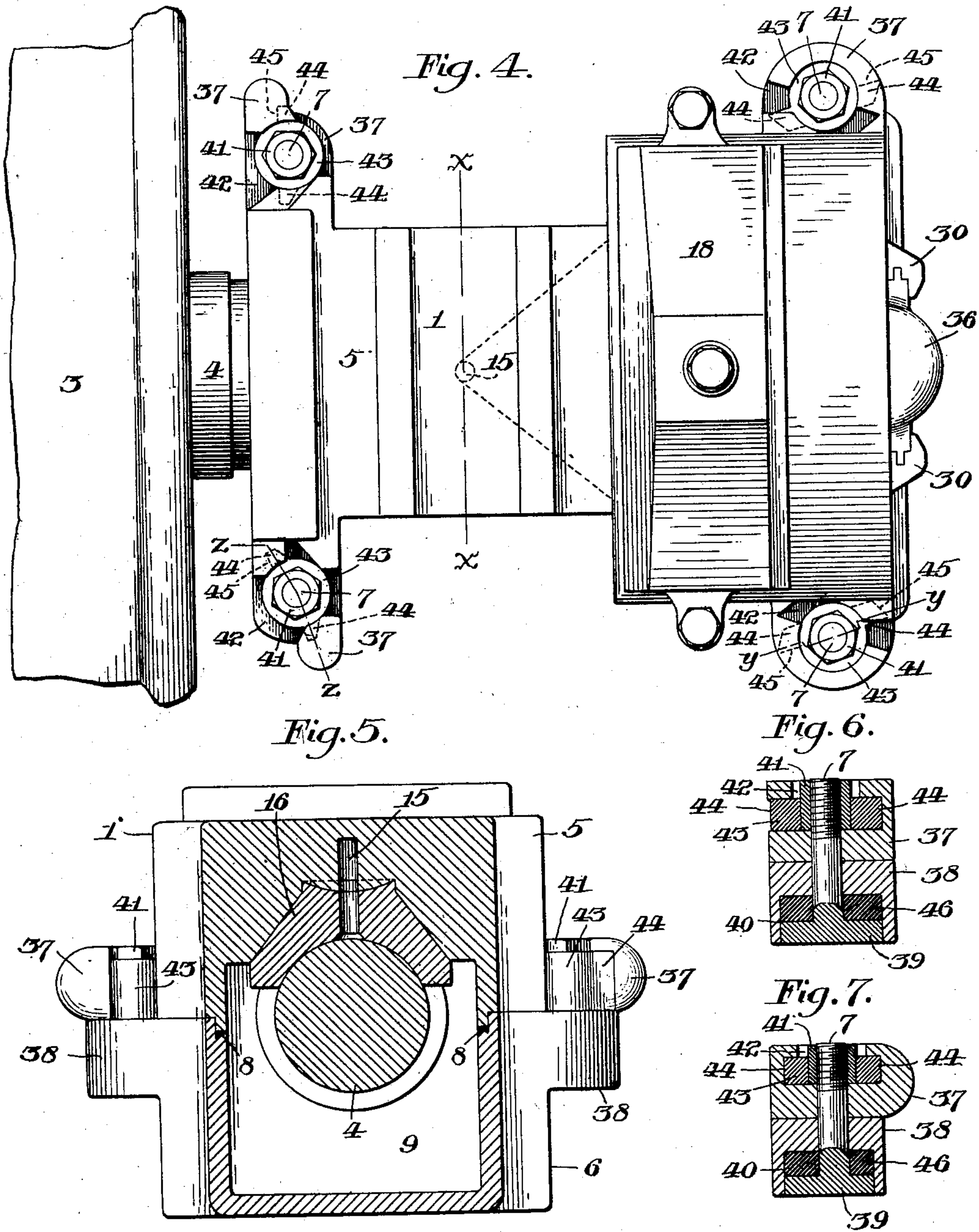
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*Fig. 8. Fig. 9.*  
39 39

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# UNITED STATES PATENT OFFICE.

FERDINAND HOETZL, OF PHILADELPHIA, PENNSYLVANIA.

## JOURNAL-BOX FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 608,332, dated August 2, 1898.

Application filed February 9, 1898. Serial No. 669,622. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND HOETZL, a subject of the Emperor of Austria-Hungary, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Journal-Boxes for Railway-Cars; 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 improvements in journal-boxes for railway and other cars, and has for its objects, first, improvements in means for maintaining a continuous flow of oil over the axle during the whole time the car is in motion, and, second, improvements for securing and holding together the upper and lower sections of a journal-box.

The invention consists, essentially, first, in a chamber located in the journal-box above the brass, divided into two sections by a low partition, whereby the forward compartment of said chamber provides a means for separating dirt, grit, &c., from the oil in its passage therethrough, and, second, in improvements in bolts and means for locking the same upon the journal-boxes for the purpose of securing the two sections thereof together.

The invention further consists in the novel construction and arrangement of the several parts of the device, as hereinafter described, illustrated in the drawings, and more particularly pointed out in the claims hereunto appended.

In the accompanying drawings, Figure 1 is a longitudinal vertical section through a journal-box embodying my invention. Fig. 2 is a front elevation of the journal-box. Fig. 3 is a transverse vertical section as on line *ww* of Fig. 1. Fig. 4 is a plan view of said journal-box. Fig. 5 is a transverse sectional view on line *xx* of Fig. 4. Figs. 6 and 7 are sectional details as on lines *yy* and *zz*, respectively, of Fig. 4. Fig. 8 is a plan view of the locking-bolts used on the front of the journal-box and shown in Fig. 6. Fig. 9 is a plan view of the locking-bolt used on the inner end of the journal-box and particularly shown in Fig. 7.

In the drawings I have illustrated the in-

vention as applied to a journal-box such as is used on ordinary railway-cars.

The numeral 1 designates the journal-box; 2, the car-axle; 3, the wheel thereon, and 4 the journal on the end of the axle.

The form of box that I prefer to use is made in two sections or halves, 5 being the upper section and 6 the lower section. These two parts of the box are securely held together by means of novel locking-bolts 7, hereinafter referred to. A rubber strip 8, placed between the two sections, insures a tight connection.

The journal 4 extends some distance into the main oil-reservoir 9, and has secured thereon two outwardly-extending arms 10 10. On the ends of each of these arms is formed two spoon-like depressions 11 11, which during the rotation of the journal dip into and scoop up the oil lying in the front end of the reservoir 9, discharging said oil into the troughs 12 12, formed in the upper part of the box. The two spoon-like depressions 11 11 on the end of each arm are oppositely disposed relative to each other, so that irrespective of the direction in which the axle revolves the oil will be delivered into one or the other of the troughs 12. After the oil has been discharged into the troughs 12 it will flow out through the openings 13 13 into an adjacent chamber 14, and from thence by way of the duct 15 in the bearing-block 16 to the journal 4, dripping from the said journal into the oil-reservoir 9, and, passing to the front thereof, is again dipped up by the spoons 11 11. From the foregoing it will be seen that by the rotation of the axle there is maintained a continuous flow of oil over the journal.

Extending across the chamber 14 and located some distance inside of the openings 13 is a low partition 17, that divides said chamber 14 into two compartments, the outer part serving to catch any grit, sand, &c., which will settle at the bottom before the oil passes over the said partition.

To prevent the bearing from becoming overheated and resulting in what is termed a "hot box," caused through neglect to supply the main reservoir with a sufficient quantity of oil, I provide an auxiliary oil-reservoir 18, said auxiliary reservoir being located above the chamber 14 and provided with a depending pipe 19, on the lower end of which and



resting upon the floor of the chamber 14 is a head 20, formed of copper or other good heat-conducting metal. Attached to the head 20 is an upwardly-extending copper stem 20<sup>a</sup>,  
 5 that projects some distance into the pipe 19. Surrounding the upwardly-extending stem 20<sup>a</sup> is a cylindrical packing or collar 21, of wax or other fusible material, which effectually closes the pipe and prevents any oil  
 10 escaping from the auxiliary oil-reservoir 18.

Should the bearing-block 16 become overheated from want of oil, the heat will be conducted through the floor of the chamber 14 to the head 20 and stem 20<sup>a</sup> and melt the cylindrical wax packing or collar 21, allowing  
 15 the oil in the auxiliary reservoir 18 to pass down the pipe 19 and through the cut-away portion 22 into the chamber 14, passing from thence through the duct 15 onto the journal  
 20 4 and filling the main oil-reservoir, from which it will be dipped or scooped up by the revolving spoons 11 11 and be again passed over the journal in the regular way.

Fitted in the guideways 30 30 on the front wall 31 of the journal-box is a slide *x*, designed to close the opening through which the oil is introduced to the main reservoir 9. This slide is provided with a latch 32, pivoted to said slide at 33. Formed in the wall 31 is a notch  
 30 34, which registers with the lower end of the latch 32. The upper end 35 of the latch 32, extending outwardly under a hood or projection 36 on the slide, keeps the lower end in the notch by gravity. The said hood or projection 36 serves the double purpose of protecting the latch from injury and also affording a means for manipulating the slide. By  
 35 applying pressure underneath the outwardly-projecting end 35 of the latch it will be disengaged from the notch 34, and the slide can be raised.

On the sections 5 and 6 of the journal-box are arranged lugs 37 and 38, respectively, through which pass the before-mentioned  
 45 locking-bolts 7, provided on their lower ends with segmental heads 39, (see Figs. 8 and 9,) which are adapted to fit into corresponding depressions 40, formed in the under side of the lugs 38. The upper ends of the bolts 7  
 50 are screw-threaded to receive the nuts 41, which are screwed down hard upon the bottom of the depression 42 in the lugs 37. Locking-pieces 43, provided with openings corresponding in shape to the nuts 41, are then  
 55 slipped over said nuts, after which the nuts are given a slight turn backward, when the projecting ends 44 of the locking-pieces 43 will enter offsets in the lug 37, abutting against the stops 45, as shown in Figs. 8 and 9, which  
 60 limit their movement. Interposed between the heads 39 and the surface of the depression 40 are spring or other suitable yielding washers 46, preferably of soft rubber, which are compressed when the nuts 41 are screwed  
 65 tightly to place. The reaction of these spring-washers take up any slack occasioned by the slight backward turn of the nut 41 when turn-

ing the locking-pieces so as to bring the projecting ends 44 into the offsets in the lugs 37. This construction insures a tight and solid  
 70 connection between the upper and lower sections of the journal-box and overcomes any liability of the nuts 41 working loose.

Having thus described my invention, what I claim as new, and desire to secure by Letters  
 75 Patent of the United States, is—

1. In a journal-box the combination of the oil-reservoir 9, having therein the trough or troughs 12, the oil-chamber 14, a partition 17 dividing said chamber into two compartments, 80 the said chamber communicating with the trough 12, and the duct 15, passing through the bearing-block 16, with the journal 4, having on the end thereof the arm or arms 10, provided with the spoon-like depressions 11, 85 said spoon-like depressions being adapted to dip into the oil and throw it into the troughs as the axle revolves, substantially as shown and for the purpose described.

2. In a journal-box the combination of the 90 oil-reservoir 9, having therein the trough or troughs 12, the oil-chamber 14, having therein the low partition 17, dividing said chamber into two compartments, the forward one of which forming a settling-chamber for the 95 oils passing therethrough and communicating with the duct 15, passing through the bearing-block 16, with the journal 4, extending into the oil-reservoir and having thereon the arm or arms 10, provided with the oppositely- 100 disposed spoon-like depressions adapted to convey the oil from the oil-reservoir to the troughs 12, as the said journal revolves, substantially as shown and for the purpose described. 105

3. In a journal-box, the combination of the upper section 5, having thereon the lugs 37, and the lower section 6, having thereon the lugs 38, with the segmental headed bolts 7, fitting into the lug 38, and provided with the 110 spring-washer 46, the nut 41, fitting on the end of the bolt 7, and the locking-pieces 43, fitting around the nut 41, the free ends of said locking-pieces adapted to pass under offsets formed in the lugs 37, all arranged substantially as shown and for the purpose described. 115

4. A device for securing together the upper and lower sections of a journal-box having thereon extending lugs provided with openings that register, consisting of a screw-threaded bolt, a nut fitting on the screw-threaded end and a locking-piece fitting around said nut, the free end of said locking-piece adapted to project under an undercut recess in the 120 lug on the top section, and the lower end of said bolt having thereon an irregular-shaped head that fits into a corresponding depression on the under side of the lug in the lower section and a spring-washer interposed between 125 the head of the bolt and the under side of the lug, substantially as shown and described. 130

5. In a journal-box the combination of the upper section 5 having thereon lugs 37, and



the lower section having thereon lugs 38 with the bolts 7 fitting into the lugs 38, and provided with the yielding washers 46, the nut on the end of said bolt, the locking-piece 43 fitting around said nut in the lug 37, and the offsets formed in said lug 37 adapted to receive and hold the said bolt and nut in positive and locked position, all arranged substantially as, and for the purpose set forth.

10 6. In a two-part journal-box the sections thereof provided with projecting lugs adapted to receive and hold locking-bolts; in combination with bolts, yielding washers therefor, nuts thereon, suitable locking-pieces, and  
15 means for locking and holding said locking-pieces securely in the lugs of one of said sections, as set forth.

20 7. In a journal-box for railway or other cars, a suitable slide fitting in ways 30 on said journal-box, and a pivoted latch 32 in the upper part of said slide adapted to have its in-

ner end automatically engage the wall of the journal-box to hold said slide in locked position.

8. A journal-box for railway or other cars, 25 provided with means adapted to close an opening in said journal-box, consisting of a slide set in ways 30 on said journal-box, there being an opening in said slide near the top thereof, and a pivoted latch 35 adapted to 30 automatically engage a wall of said journal-box to hold the said slide in locked position, and a hood 36 at the top of said slide, adapted to protect the handle of the latch 35, and also to afford a means whereby the slide may 35 be raised, as set forth.

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

FERDINAND HOETZL.

Witnesses:

THOS. D. MOWLDS,

SAML. H. KIRKPATRICK.