

APPLICATION FILED JAN. 8, 1907.

Patented Oct. 6, 1908.

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JOURNAL BOX.
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3 SHEETS—SHEET 2.

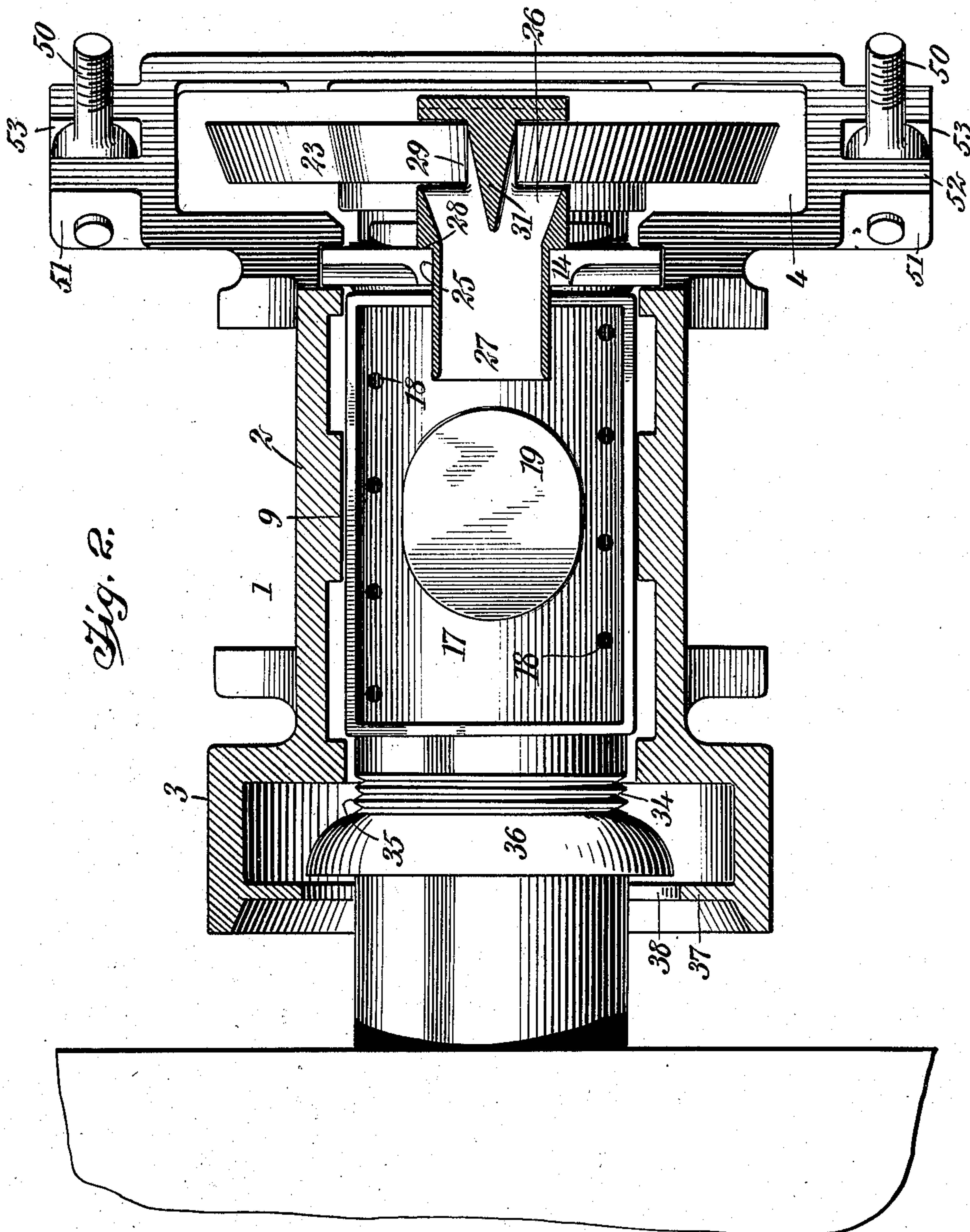


Fig. 2.

WITNESSES

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3 SHEETS—SHEET 3.

Fig. 3.

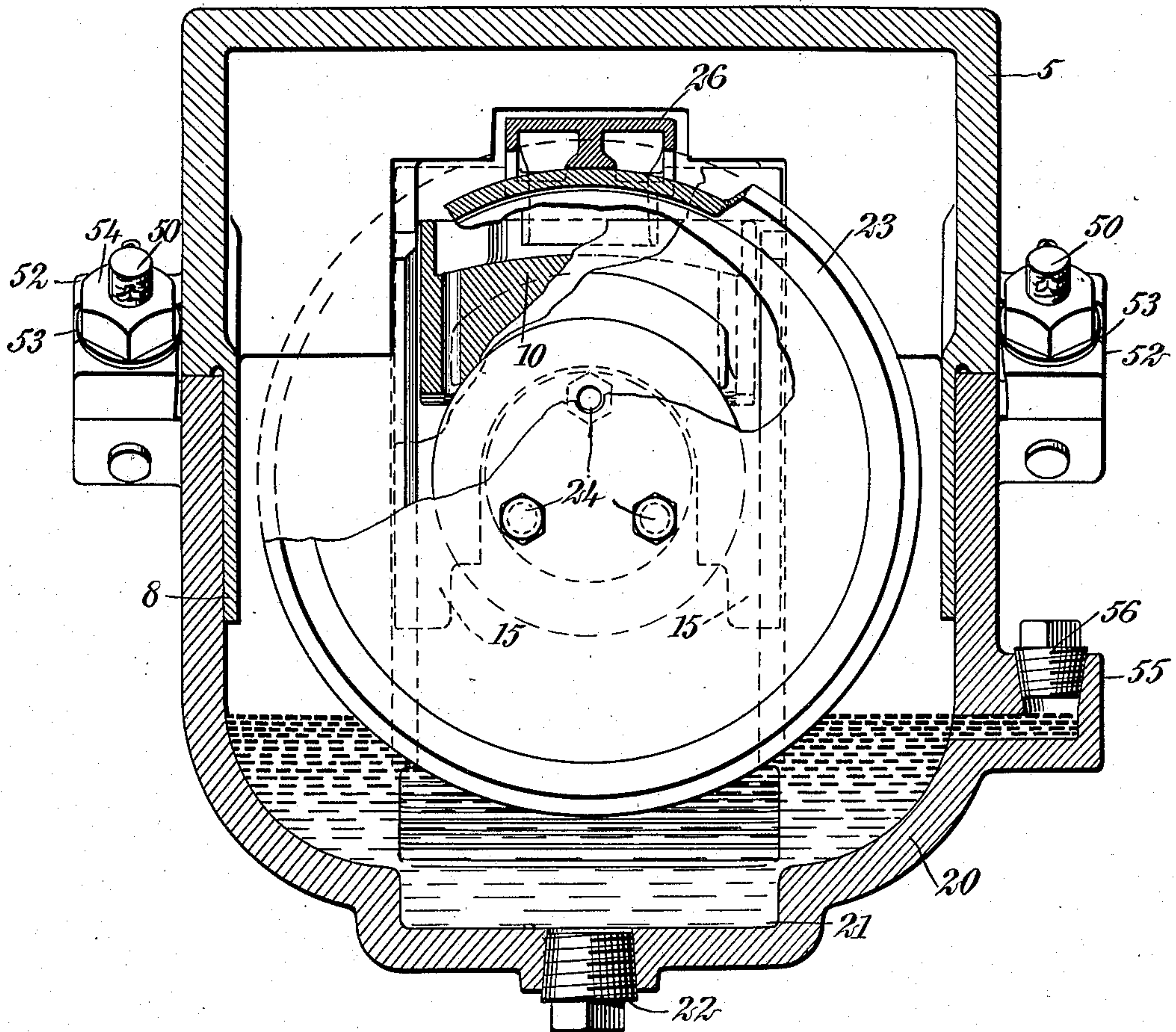
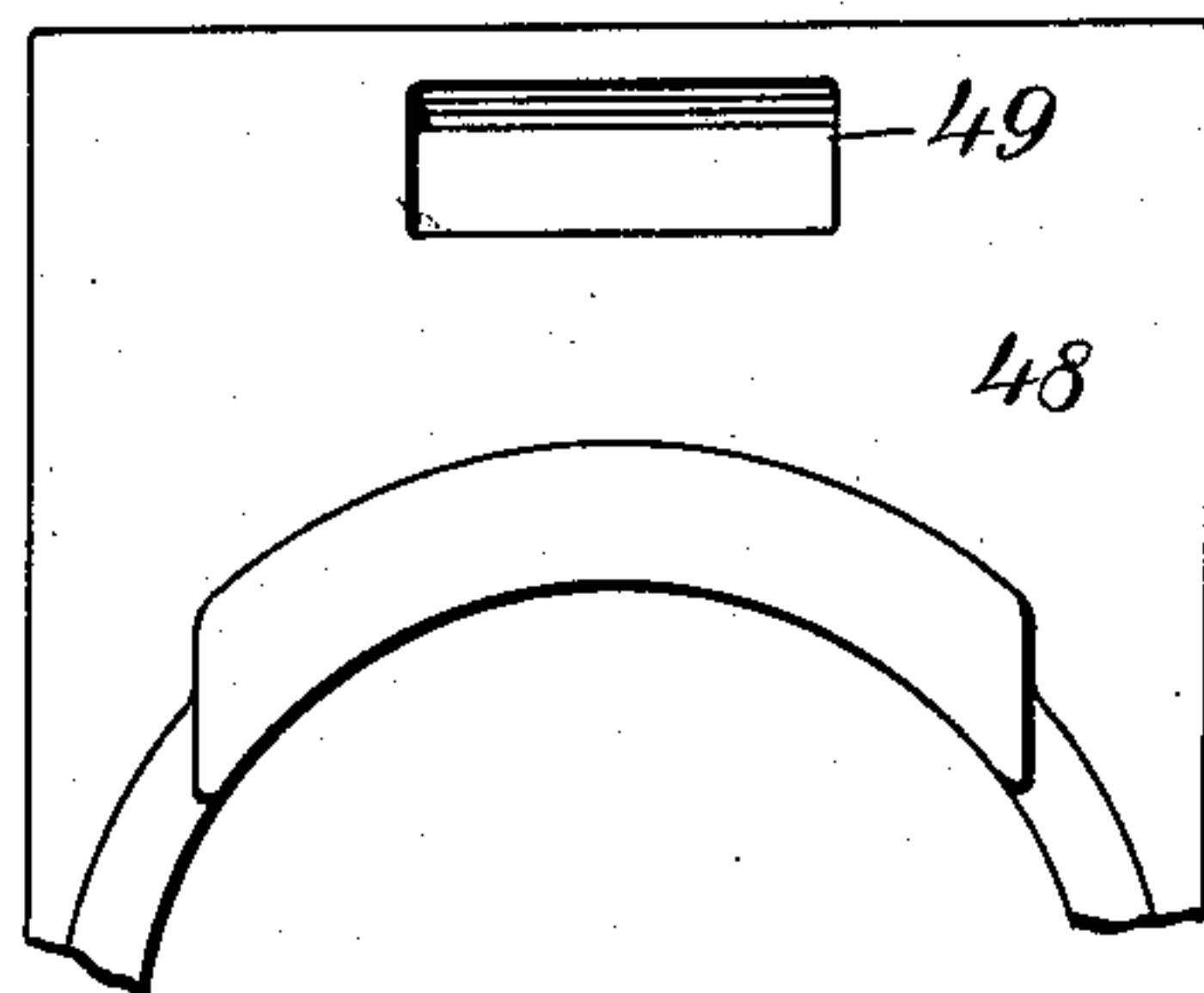


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM A. HUFF, OF NEWARK, NEW JERSEY.

JOURNAL-BOX.

No. 900,543.

Specification of Letters Patent.

Patented Oct. 6, 1908.

Application filed January 8, 1907. Serial No. 351,337.

To all whom it may concern:

Be it known that I, WILLIAM A. HUFF, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented a new and Improved Journal-Box, of which the following is a full, clear, and exact description.

This invention relates to journal boxes such as used on railway cars.

The object of the invention is to produce a journal box of simple construction, having improved means for lubricating the wearing surfaces and for preventing the waste of oil from the box by working along the journal.

A further object of the invention is to provide a construction for the box which will tend to keep the oil in a substantially clean condition; arrangement being made for the automatic deposit of the solid particles which may accumulate in the oil.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal vertical section taken through a journal box constructed according to my invention, certain parts being broken away; Fig. 2 is a horizontal longitudinal section showing the box with the cover removed; Fig. 3 is a vertical cross section taken through the outer portion of the box, certain parts being broken away; and Fig. 4 is a side elevation of a modified form of check plate which I may use; the lower portion of this view is broken away.

Referring more particularly to the parts, 1 indicates the casing of the journal box, which has an elongated body 2 of reduced width, as shown in Fig. 2. The inner portion of this body is enlarged so as to form an oil trap 3, while the outer portion is enlarged so as to form the cone case 4. The upper portion of the cone case 4 is formed into a cover 5, which seats upon an inclined face 6, as shown in Fig. 1. The forward edge 7 of the opening which is formed in the upper portion of the cone case, is beveled as indicated, and the lower edge of the cover is beveled as shown, so as to seat nicely against this edge, as indicated in Fig. 1. In addition to this, the cover is provided with a downwardly project-

ing apron 8 which lies against the inner face of the wall of the case on the three sides thereof, as shown very clearly in Figs. 1 and 3.

The inner side of the body 2 of the box is provided with inwardly projecting cheeks 9 which afford means for holding in place a brass 10, which is slid longitudinally into position over the journal 11. The inner extremity of the brass is adapted to come against an inwardly projecting lip 12 at its upper portion, which limits the longitudinal inward movement of the brass on the journal. As indicated in Fig. 2, the arrangement is such that when the brass is in position, its middle portion lies substantially opposite to the cheeks 9, and the brass substantially fills the space between the cheeks so that it is held against lateral movement. Near its outer portion the end of the journal 11 is formed with a circumferential groove 13, and in this groove there is received a check plate 14, which is formed with downwardly projecting arms 15, as indicated in Fig. 3. This check plate is, of course, applied from above when the cover 5 is removed. It is held in position by means of vertically disposed guide lugs 16 which project inwardly from the side wall of the box as shown, it being understood that the arms of the check plate lie in the space between the lugs as indicated most clearly in Fig. 2. As shown, the upper portion of the check plate 14 projects across the outer end face of the brass 10 and affords means for preventing the same from moving outwardly along the journal. At the same time, this check plate affords means for locking the journal box to the journal.

The upper portion of the brass 10 is recessed as shown, so as to form a reservoir 17, the bottom of which is provided with a plurality of drip openings 18 through which the oil may pass downwardly to the face of the journal and brass. The central portion of the reservoir, on its upper side, is formed into a boss 19 which seats against the under side of the upper wall of the box, as indicated in Fig. 1. The drip openings 18 are preferably arranged in a staggered relation, as shown; that is, the drip openings on opposite sides of the brass are not in alinement.

The bottom 20 of the journal box is preferably inclined downwardly toward the outer end of the box, at which point the interior of the box communicates with the interior of the cone case. The cone case, at this point,

on account of its increased size, presents a depression or cup 21 for the oil. This cup is closed from below by a plug 22 which is removed when the oil in the box is to be drained out. It should be understood that a bath of oil remains constantly in the bottom of the journal box. In this bath a cone 23 dips, said cone being rigidly attached to the end of the journal 11 by suitable fastening devices 24. This cone has substantially the form of a disk, presenting a short conical face which inclines toward the brass. The upper edge of the check plate 14 is provided with a notch 25, and this notch affords means for supporting the inner portion of a stripper 26, the construction of which will appear very clearly from an inspection of Figs. 1 and 2. The purpose of this stripper is to wipe the oil from the cone 23 and conduct it to the reservoir 17. The body of the stripper is formed into a spout 27 which lies in the notch and projects beyond the same into the reservoir, as shown. At its upper portion, the spout is formed with laterally projecting shoulders 28 which seat against the outer face of the check plate as shown. The upper end of the stripper which projects across the cone is cut away on each side so as to form oppositely disposed notches or openings 29, and in this way a narrow bridge 30 is formed which lies substantially against the face of the cone as shown in Fig. 1. On the upper side of this bridge a web 31 is formed, which connects the bridge with the upper wall of the stripper. This bridge tapers toward the lower portion of the stripper so that in effect two conduits are formed for the oil in the upper portion of the stripper, which are divided from each other by the web 31. The stripper is extended beyond the cone 23 and presents a downwardly projecting apron 32, which is adapted to facilitate the return of oil to the lower portion of the box. Beyond this apron 32, the stripper is formed with a projecting lug 33 which is adapted to rest against the inner face of the wall of the cover 5, as shown. From this arrangement, it should be understood that as the journal rotates, the lower portion of the cone 23 is constantly picking up oil from the cup 4, and this oil becomes wiped off by the bridge 30 of the stripper, so that the oil runs down the stripper into the reservoir. By reason of the presence of the web 31, the conducting of the oil downwardly is facilitated, and it will be evident that the oil will be raised substantially in the same manner by a rotation of the journal in either direction.

On the inner portion of the journal I provide a plurality of circumferential grooves 34 between which ribs 35 are formed constituting an oil ring. The ribs are V shaped so as to present sharp edges. These ribs operate to throw off the oil by centrifugal

force and prevent the oil from creeping along the axle toward the exterior of the box. Just beyond the oil ring and toward the inner end of the journal I provide a guard-cup 36 which consists of a dished plate or cup presenting its convex face toward the interior of the journal-box. This cup fits tightly on the axle and is pressed into place. The inner end wall 37 of the box is formed with an opening 38 which is sufficiently large to allow the cup 36 to be passed through when the journal box is being placed on the axle. As the edge of the guard projects toward the opening 38 it operates to throw back dust or dirt which tends to enter the box at this point.

The bottom 20 of the journal box is provided with a plurality of transversely disposed ribs 45, as indicated in Fig. 1; the purpose of these ribs is to provide pockets for the lodgment of solid matter which accumulates in the oil. Evidently, as the oil becomes dirty, the solid substance in it will deposit in the pockets formed between the inclined bottom and the left-hand faces of the ribs, as indicated in Fig. 1.

At about the level of the oil in the box, I provide a baffle-plate 46, which is held in position by lugs 47 upon which it rests, and which project in from the side wall of the box.

Instead of seating the stripper 26 in a notch in the upper edge of the check-plate, I may adopt the construction of check-plate shown in Fig. 4; the body of this check-plate 48 is of substantially the same form as that described above, but instead of providing a notch in the upper portion an opening 49 is provided, through which the spout of the stripper is passed longitudinally.

The presence of the baffle-plate 46 is an advantage, inasmuch as it tends to prevent splashing of the oil in passing around curves, or over unevennesses in the roadbed.

The cover 5 is held in position by means of screw-bolts 50, which are pivoted between outwardly projecting ears 51 at the sides of the cone-case. The cone-case is provided with outwardly projecting ears 52, which are formed with slots 53 as indicated, which enable the bolts to be rotated up into their proper position. The bolts, of course, carry nuts 54 which clamp the cover in position.

The bath of oil in the case may be replenished from time to time through a laterally projecting nipple 55 closed by a removable screw plug 56.

While I have named the member 10 a brass, it should be understood that this term is used in a technical sense. This part may be of any metal or composition suitable to be used for its purpose.

In fitting the stripper in the check-plate a

loose fit should be secured so that the stripper rests easily in position and adapts itself to the cone.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a journal box, in combination, a case, a journal therein, a brass on said journal having an oil reservoir for supplying oil to the journal, a check plate retaining said brass, said case having an oil bath therein, a cone attached to the end of said journal running in said bath and adapted to raise oil, and a stripper wiping the oil from said cone and passing through said check plate to deliver to said reservoir.

2. In a journal box, in combination, a case, a journal rotating in said case, a brass against said journal and having a reservoir provided with openings in its bottom, a check plate retaining said brass and having a notch in the upper edge thereof, said case having an oil bath therein, a cone attached to said journal dipping in said bath and adapted to raise oil therefrom, and a stripper

wiping the oil from said cone and passing through said notch to deliver oil to said reservoir.

3. A journal box having a case adapted to receive an oil bath and having transversely disposed ribs adapted to collect solid matter carried in the oil.

4. In a journal box, in combination, a case, a journal, a brass resting against said journal and having a reservoir formed therein, a check plate retaining said brass, said case having an oil bath therein, a cone dipping in said oil bath and adapted to raise oil therefrom, and a stripper wiping the oil from said cone, and passing through said check plate, said stripper having shoulders resting against the outer face of said check plate.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM A. HUFF.

Witnesses:

F. D. AMMAN,
EVERARD B. MARSHALL.