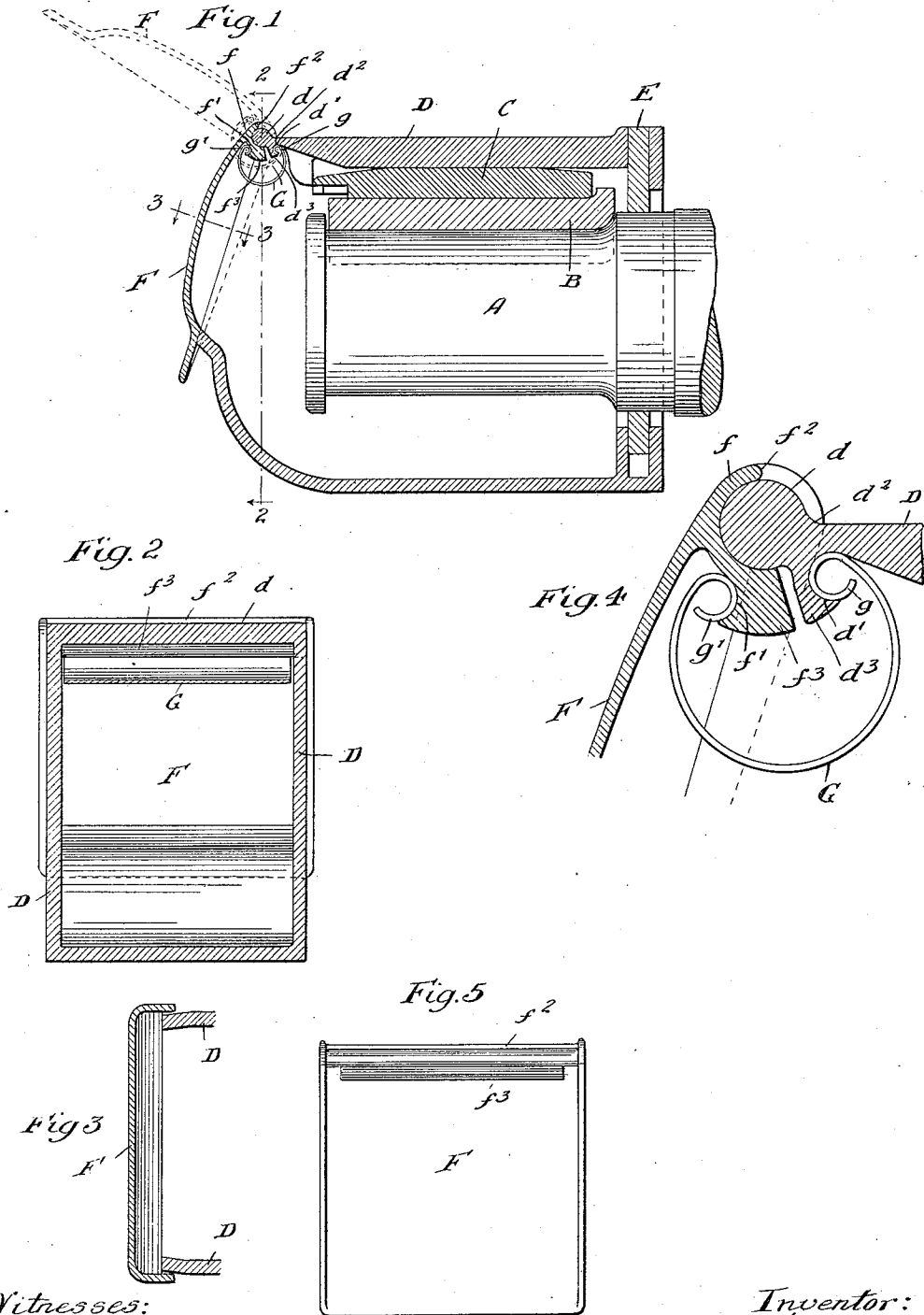


J. F. O'CONNOR.
JOURNAL BOX AND LID FOR CARS.
APPLICATION FILED JAN. 11, 1909.

1,064,692.

Patented June 10, 1913.



Witnesses:

Wm. Geiger
J. W. Munday

Inventor:
John F. O'Connor

By Munday, Watts, Adcock & Clark.
Attorneys

UNITED STATES PATENT OFFICE.

JOHN F. O'CONNOR, OF CHICAGO, ILLINOIS.

JOURNAL-BOX AND LID FOR CARS.

1,064,692.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed January 11, 1909. Serial No. 471,548.

To all whom it may concern:

Be it known that I, JOHN F. O'CONNOR, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Journal-Boxes and Lids for Cars, of which the following is a specification.

My invention relates to improvements in journal boxes and lids therefor for railway cars.

The object of my invention is to provide a journal box and lid of a simple, efficient and durable construction, in which the lid will be tightly and securely held closed by the spring, both at its hinge end and at its free end, and which may be at the same time widely opened without causing undue strain upon the spring, and in which the spring will also serve to hold the lid in its opened position.

My invention consists in the means I employ to practically accomplish this object or result; that is to say it consists in a journal box having an integral trunnion or hinge member at its outer upper edge, and also a spring seat near the axis of said trunnion and a lid having a socket or hinge member at its upper end and also a spring seat adjacent to said socket, and a spring fitting at one end in the seat on the journal box and at the other end in said seat on the lid; the spring serving to clamp the lid tightly against the journal box both at the hinged or trunnion end of the lid and also at the free end of the lid; the spring seats on the journal box and lid being on one side of the axis about which the lid turns as a hinge when the lid is closed, and at or near the dead center of said axis when the lid is opened, thus enabling the spring to hold the lid in its open position as well as in its closed position.

My invention further consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described and set forth in the claims.

In the accompanying drawing forming a part of this specification, Figure 1 is a central vertical longitudinal section of a journal box and lid embodying my invention; Fig. 2 is a vertical section on line 2—2 of Fig. 1; Fig. 3 is a detail section on line 3—3 of Fig. 1; Fig. 4 is an enlarged detail vertical section showing the hinge members of

the journal box and lid and spring; and Fig. 5 is a detail elevation of the lid looking from the inside.

In the drawing A represents a car or other axle journal, B the journal bearing, C the wedge, D the journal box, E dust guard and F the lid of the journal box.

The journal box D at its outer upper end or edge is furnished with an integral trunnion or hinge member d , and adjacent to the axis thereof with a seat or hook d^1 for engagement with one end of the spring G, by which the lid is held in its closed and also in its open position. The spring seat or hook d^1 is preferably located on the inside of the journal box, as illustrated in the drawing, and the same is preferably of a segmental socket form suitable for receiving the curved end or coil g at one end of the spring G.

The hinged lid F is provided at its upper end with an integral hinge member f preferably a segmental socket adapted to fit and partially embrace the trunnion d on the journal box, and also with a spring seat f^1 to engage the opposite end of the spring G, the spring seat f^1 being preferably in the form of a segmental socket or hook adapted to receive the curved end or coil g^1 of the spring G. The lid F is held tightly closed against the journal box by the tension of the spring G both at the upper or hinged end of the lid and at the lower end of the lid, and also at its side edges, as the spring exerts a direct clamping together pressure upon the trunnion and socket members of the hinge as well as a pressure tending to hold the hinged lid in its closed position.

When the lid is closed the spring seat f^1 on the lid is on one side of the axis or center about which the lid turns in opening; and when the lid is opened this spring seat f^1 passes a line passing through said center or axis and the spring seat on the lid, so that the spring also serves to hold the lid in its elevated or opened position. And as the spring seat or hook d^1 on the journal box and the spring seat or hook f^1 on the lid are both closely adjacent to the center or axis of the trunnion d , about which the lid turns in opening, the lid may be opened to the full extent desired without causing undue strain upon the spring; thus enabling me to employ a strong stiff spring and one fully adequate to securely, tightly and very firmly hold the cover in its closed position, and thus effec-

usually exclude dust and cinders from the journal box at the lid end thereof.

The spring G is preferably a flat curved spring, with coiled ends to fit the spring seats or hooks $d^1 f^1$ on the journal box and lid.

The spring seats or hooks $d^1 f^1$ on journal box and lid are preferably located on the inside of the journal box and lid, as illustrated in the drawing, as the spring is thus not accessible from the outside and is protected from injury or accidental or malicious removal by the inclosing journal box and lid.

The extreme upper edge f^2 of the lid serves as a stop to limit the opening movement of the lid by engagement with the stop shoulder d^2 of the journal box.

When opened to its full extent, as indicated by the dotted lines in Fig. 1, a line drawn through the centers of the spring seats $d^1 f^1$, or of the coils $g g^1$ at the ends of the spring, preferably approaches near to the center of the trunnion d but falls slightly short of said center, so that the friction between the hinge members $d f$ of the journal box and lid under the pressure of the strong spring G, will serve to hold the lid in its open position while the train is stationary, while at the same time enabling the lid to automatically close under the jarring motion of the train aided by the gravitation of the lid. This is of material service in automatically closing of the lid if it should be accidentally left open by the car inspector or oiler.

As my new construction of journal box and lid enables an exceedingly strong spring to be employed, and as this spring is so combined with the journal box and lid as to constantly and firmly clamp the lid to the journal box at both its hinge end and its free end, and to automatically take up wear between the journal box and lid and the hinge members thereof, the lid is prevented from any rattling or other motion in respect to the box while the car is in motion, and thus prevents wear and consequent speedy destruc-

tion of the lid and journal box, and thereby adds materially to the durability of the lid and journal box.

The journal box is furnished with a stop wing or projection d^3 , and the lid with a corresponding stop wing or projection f^3 adapted to be engaged by the spring G on its inner face when the lid is fully open, and thus serve as a further means for limiting the opening movement of the lid and also to enable the spring itself to prevent the lid from being forcibly pried from the journal box by using the lid itself as a lever.

I claim:

1. The combination with a journal box having an open inner end for the axle journal to project through, and provided at its upper end with a hinge member and a curved spring seat adjacent thereto and on the interior thereof, of a lid having a hinge member and a curved spring seat adjacent thereto and on the interior thereof, and a C-shaped spring having curved ends fitting in said spring seats of the journal box and lid and surrounding and interiorly housing the hinge members of the journal box and lid, substantially as specified.

2. The combination with a journal box having an open inner end for the axle journal to project through, and provided at its upper end with a hinge member and a spring seat adjacent thereto and on the interior thereof, of a lid having a hinge member and a spring seat adjacent thereto and on the interior thereof, each of said seats being in the form of a socket and a C-shaped spring having its ends removably fitting in said spring seats of the journal box and lid and surrounding and interiorly housing the hinge members of the journal box and lid, said hinge members of the journal box and lid having interengaging stop shoulders, substantially as specified.

JOHN F. O'CONNOR.

Witnesses:

H. M. MUNDAY,
PEARL ABRAMS.