

No. 681,997.

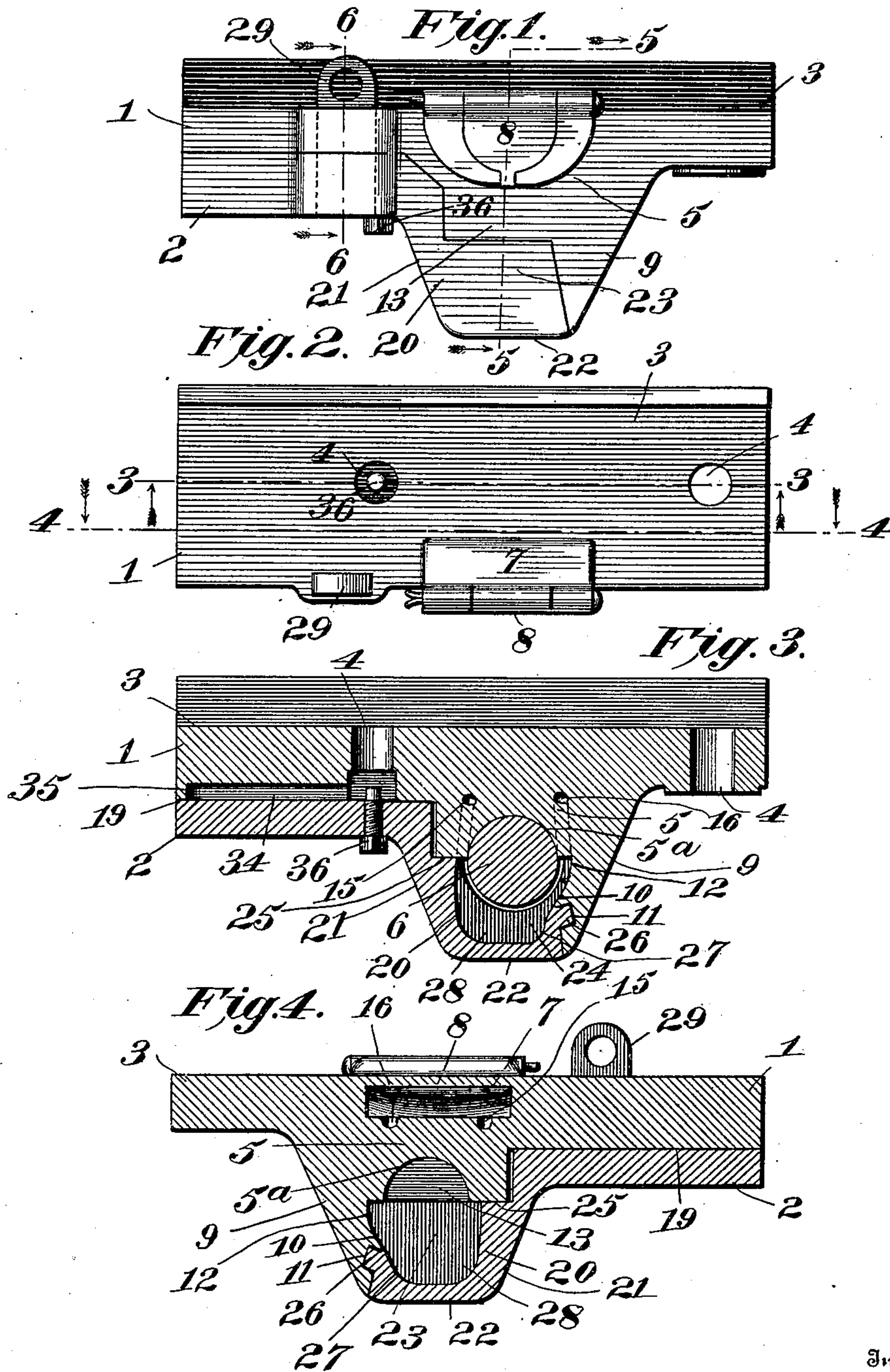
Patented Sept. 3, 1901.

D. J. SULLIVAN.
JOURNAL BEARING FOR MINE CARS.

(Application filed Dec. 8, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Inventor

David J. Sullivan.

Witnesses

Genton & Belt,
J. Sullivan

By

A. B. Wilson & Co

Attorneys

No. 681,997.

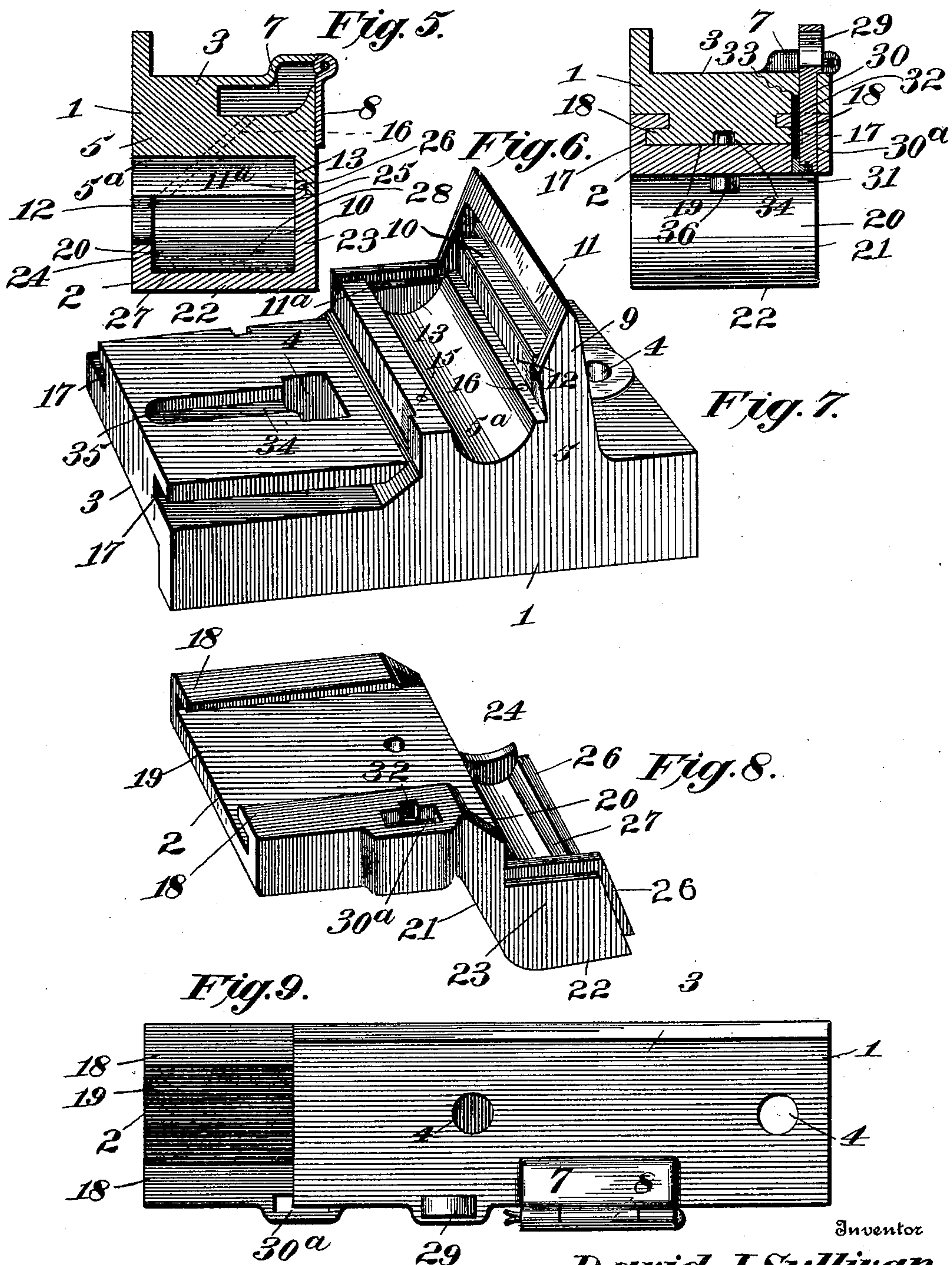
Patented Sept. 3, 1901.

D. J. SULLIVAN.
JOURNAL BEARING FOR MINE CARS.

(Application filed Dec. 6, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
Fenton S. Belt,
Attorney

By *A. B. Wilson & Co.*
Attorneys

David J. Sullivan.

UNITED STATES PATENT OFFICE.

DAVID J. SULLIVAN, OF JERMYN, PENNSYLVANIA.

JOURNAL-BEARING FOR MINE-CARS.

SPECIFICATION forming part of Letters Patent No. 681,997, dated September 3, 1901.

Application filed December 6, 1900. Serial No. 38,934. (No model.)

To all whom it may concern:

Be it known that I, DAVID J. SULLIVAN, a citizen of the United States, residing at Jermyrn, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Journal-Bearings for Mine-Cars; and I do 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.

This invention relates to an improved automatic lubricating journal-bearing for mine-cars.

The object of the invention is to provide a journal-bearing of this character from which the journal when bent, broken, or otherwise injured may be readily removed to detach the axle without the necessity of unloading the car or tipping it over on its side.

With this and other minor objects in view the invention consists of certain novel features of construction, combination, and arrangement of parts, as will be hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is an outer or front side elevational view of a journal-bearing embodying my invention. Fig. 2 is a top plan view thereof. Fig. 3 is a vertical longitudinal section on line 3 3 of Fig. 2. Fig. 4 is a similar view on line 4 4 of Fig. 2. Fig. 5 is a vertical transverse section on line 5 5 of Fig. 1. Fig. 6 is a similar view on line 6 6 of Fig. 1. Fig. 7 is a detail bottom perspective view of the upper or fixed section of the bearing. Fig. 8 is a detail top perspective view of the lower or sliding section of the bearing; and Fig. 9 is a view similar to Fig. 2, showing the sliding section opened to release the axle-journal.

Like reference characters designate corresponding parts throughout the several views.

Referring now more particularly to the drawings, the numeral 1 represents the fixed or stationary section, and 2 the movable section, of my improved journal-bearing. The stationary section comprises in its construction a horizontal plate or bracket 3, provided with openings 4 for the passage of bolts or other fastenings for attaching it to the car. Between these openings the plate or bracket

is provided on its under side with an extension 5, which is concaved on its under side, as shown at 5^a, to form the upper portion of the box or bearing for the axle-journal 6, and in the plate 3 above said concavity is formed an oil chamber or reservoir 7. The top of this chamber is formed by the plate 3 or an extension from the upper surface thereof, and access thereto is obtained through a hinged or pivoted door 8, located upon the outer side of the plate or bracket. From one side of the said extension 5 a box-section 9 projects downwardly and is provided upon its inner face with an inclined shelf 10, a recess 11 at the base and outer side of said shelf, and an inclined conducting-wall 12, leading from the adjacent side of the base of the extension 5 to said shelf. The box or bearing portion formed by said extension is open at one side for the passage of the axle-journal and partly closed at the outer side by the outer or front wall 13 of the extension 5 and box-section 9. Feed-passages 15 and 16 extend from the oil-chamber 7 through the bottom of the extension 5 and open at their lower ends upon opposite sides of the concavity 5^a. These passages are adapted to feed the oil or lubricant to opposite sides of the journal-box in the manner hereinafter described.

At the side of the extension 5 opposite the box-section 9 the bracket or plate 1 is grooved at 17 to receive tongues 18, formed upon the upper surface of the body or bracket portion 19 of the movable bearing-section 2. This body or bracket portion carries at its inner end a box-section 20, which coöperates with the section 9 to form a complete journal-box and oil-reservoir. This section 20 is composed of an outer side wall 21, a bottom wall 22, a front wall 23, and a rear wall 24, the latter having its upper edge concaved in conformity with the part 5^a to serve as a bearing for the axle-journal. The outer side wall 21 is formed at its upper end with a shoulder 25, upon which the lower and outer edge of the extension 5 at one side of the concavity 5^a rests, while the upper and inner vertical edges of the front wall 23 and the inner edge of the bottom wall 22 are formed with a continuous tongue or flange 26, which enters the recess 11 and a groove or recess 11^a, formed in the box-section 9 and upon the inner side

of the front wall 13 of the extension 5, whereby when the section 2 is closed a liquid-tight connection between the two box-sections is insured. The inclined shelf 10 of the
 5 part 9 laps over the portion of the flange 26 along the inner edge of the bottom wall 22 of the box-section 20 and lies flush with the said inner edge of said bottom wall, which is beveled or inclined, as shown at 27. By this
 10 construction a continuous inclined conductor is formed by the parts 12, 10, and 27 for the free flow of the lubricant from the passage 16 past one side of the journal and into the base of the box-section 20, which forms a chamber
 15 or reservoir 28 to receive the waste which is kept saturated with oil to lubricate the journal. The passage 15 in like manner feeds oil to the opposite side of the chamber 28, the oil flowing down the outer side wall 21 of said
 20 chamber. When the section 2 is closed, it will be noted that the rear of the journal-box is left open to receive the bearing, while the front thereof is closed by the walls 13, 14, and 23 to exclude dust and dirt as much as
 25 possible.

The two sections 1 and 2 are adapted to be secured in closed position by a key 29, mounted to slide in a keeper 30 on the section 1 and to engage a corresponding keeper 30^a on section
 30 2. This key is provided at its lower end with a bit or lug 31, adapted when the key is moved to pass through the clearance slots or notches 32, formed in said parts, and to abut against a shoulder 33 to limit its retracting
 35 movement when drawn up to release the section 2. A longitudinal groove 34 is formed in the under side of the plate or bracket 3 of the section 1 and has at one end a shoulder 35. A set-screw 36 on the section 2 is adapted
 40 to traverse this groove and to bind against the bracket 3 to hold the parts securely connected, also to abut against said shoulder 35 to limit the outward movement of said section 2 and prevent entire disconnection there-
 45 of from the section 1.

In practice the plate or bracket 3 of the section 1 is bolted or otherwise secured to the mine-car, the journal 6 of the axle placed in
 50 position in the part 5, and the section 2 then closed up to confine the journal. The oil or lubricant is then placed in the chamber 7 and feeds automatically by gravity through the passages 15 and 16 to the chamber 28, by
 55 which the journal is at all times effectually lubricated.

When a wheel or axle becomes bent or broken, the car may be jacked up without unloading, and by simply sliding back the section 2 of each journal-box, as shown in
 Fig. 9, the journals will be released, leaving 60 the axles free to drop out of the bearings. A new axle may then be quickly and conveniently placed in position and the boxes closed up to confine the journals thereof.

From the foregoing description, taken in 65 connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood, and it will be seen that an extremely useful and desirable journal-bearing is provided. 70

While the preferred embodiment of the invention is as herein disclosed, it will of course be understood that changes in the form, proportion, and minor details of construction may be made within the scope of the inven- 75 tion without departing from the spirit or sacrificing any of the advantages thereof.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is— 80

1. In combination with a car-axle journal, a journal-box comprising a stationary member adapted for attachment to the car, and a movable member slidable transversely of and toward and from the journal, said members 85 having interfitting portions forming a divided box to inclose the journal, substantially as set forth.

2. A journal box or bearing for car-axles, comprising a stationary section composed of 90 a bracket adapted to be attached to a car and having a transversely-extending box-section and longitudinaledge and intermediate guide-grooves, a movable section provided with a complementary transverse box-section and 95 tongues slidably engaging the edge guide-grooves on said stationary section, a set-screw on the movable section and entering the intermediate guide-groove on the stationary section, and a key for holding the movable 100 section fixed and the box-sections in engagement with each other, substantially as set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing wit- 105 nesses.

DAVID J. SULLIVAN.

Witnesses:

JOSEPH E. SULLIVAN,
 MICHAEL L. MCCARTY.