

No. 685,446.

Patented Oct. 29, 1901.

J. R. FLEMING.
CAR AXLE BOX.

Application filed Oct. 26, 1900.)

(No Model.)

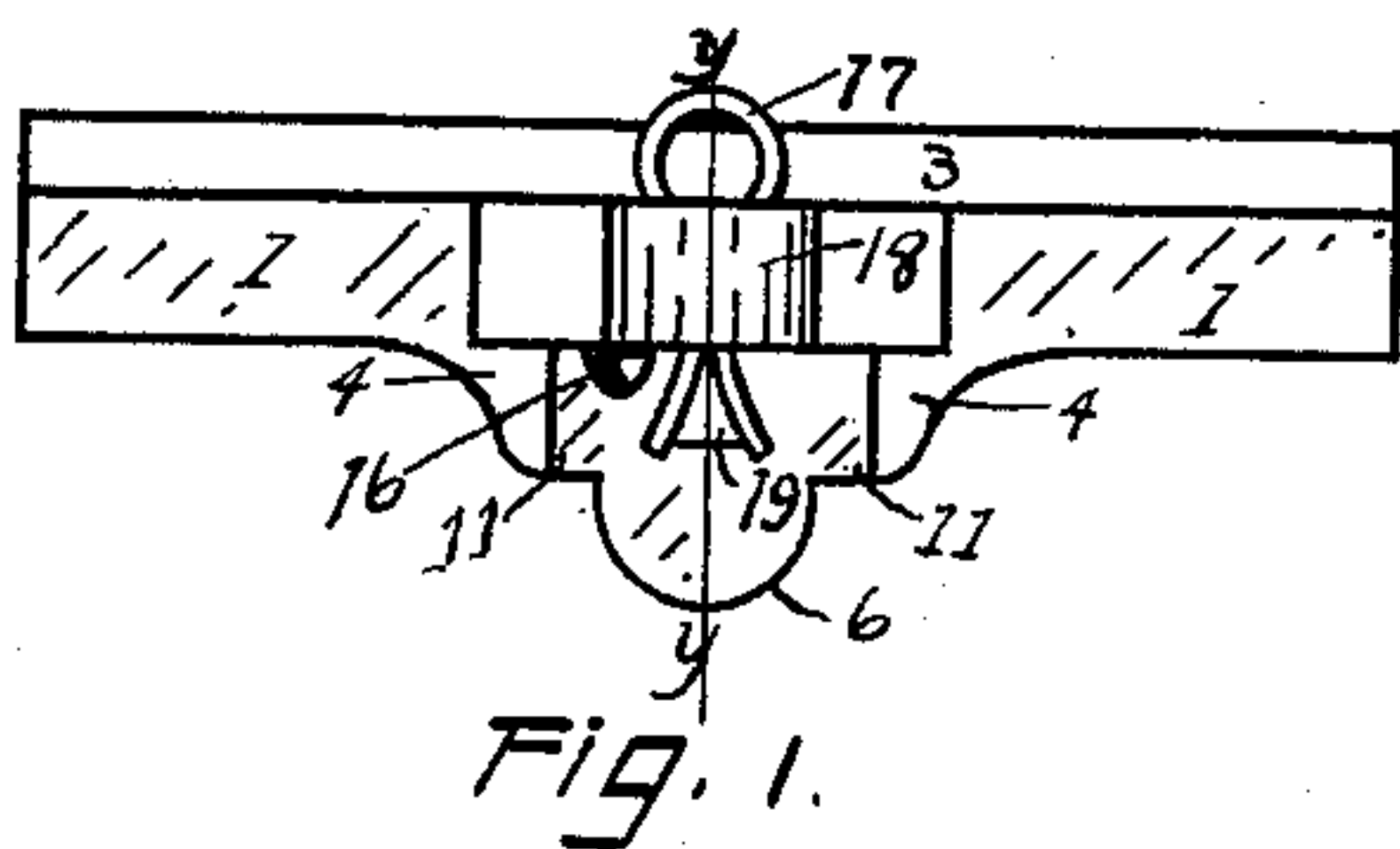


Fig. 1.

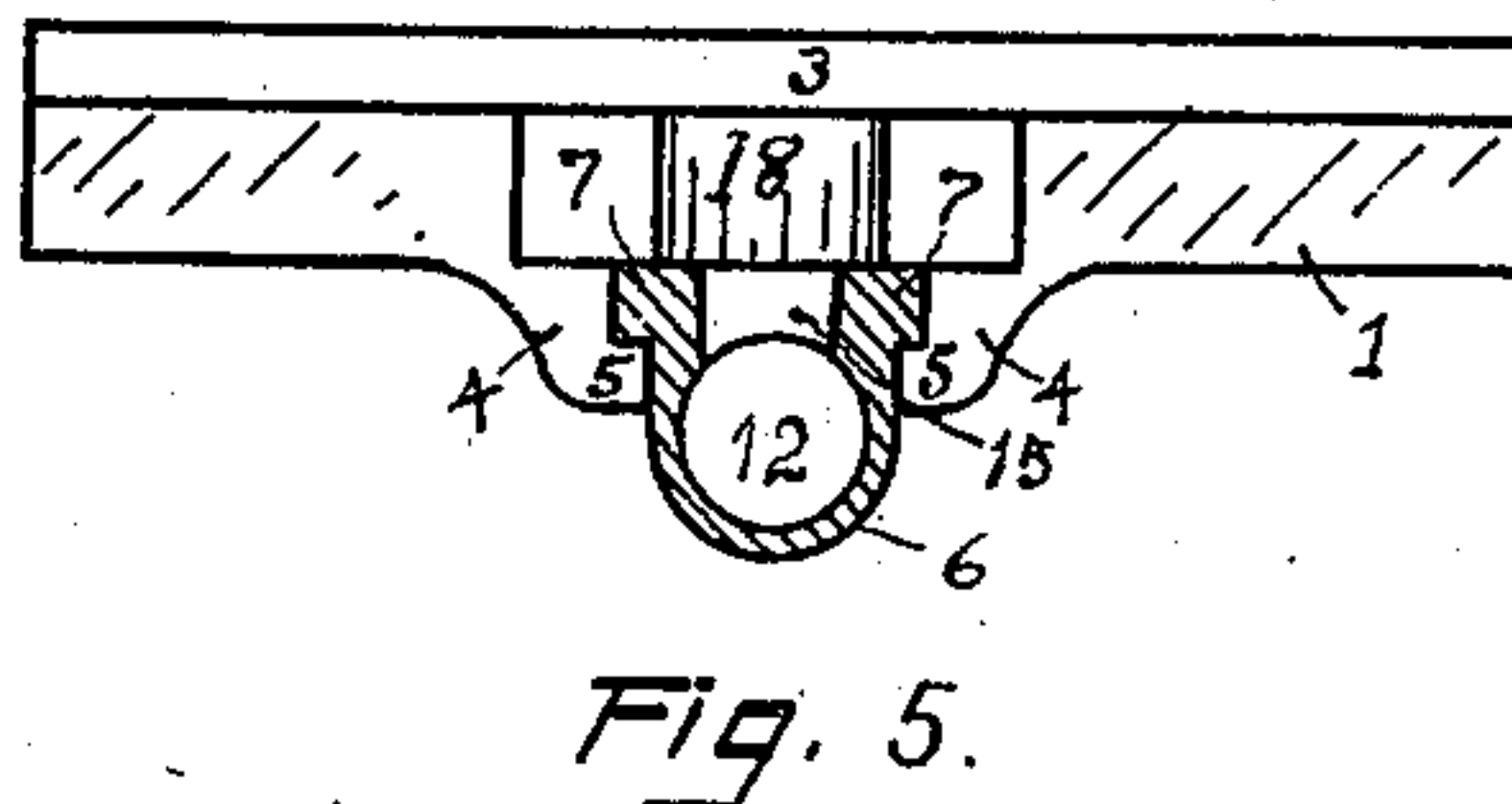


Fig. 5.

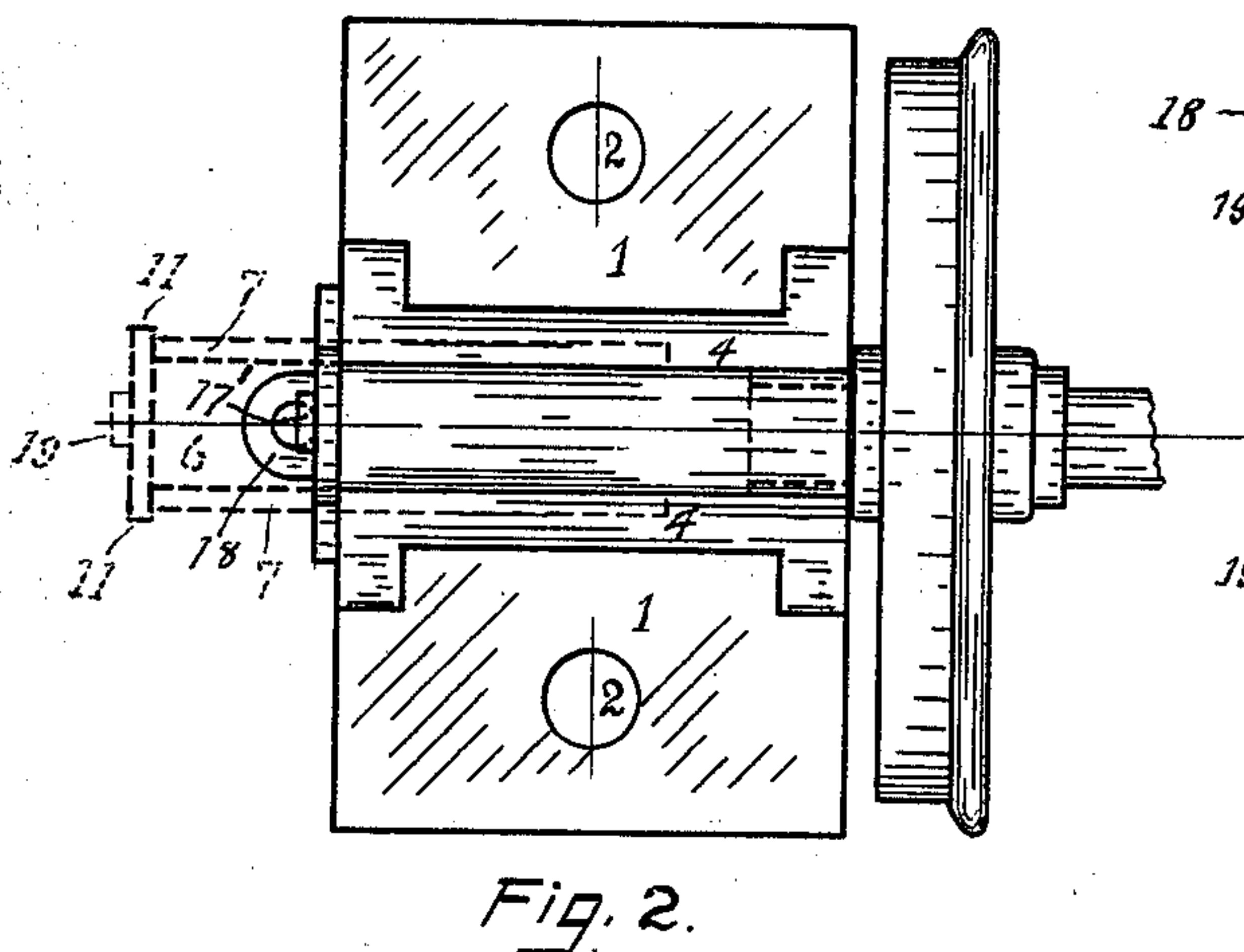


Fig. 2.

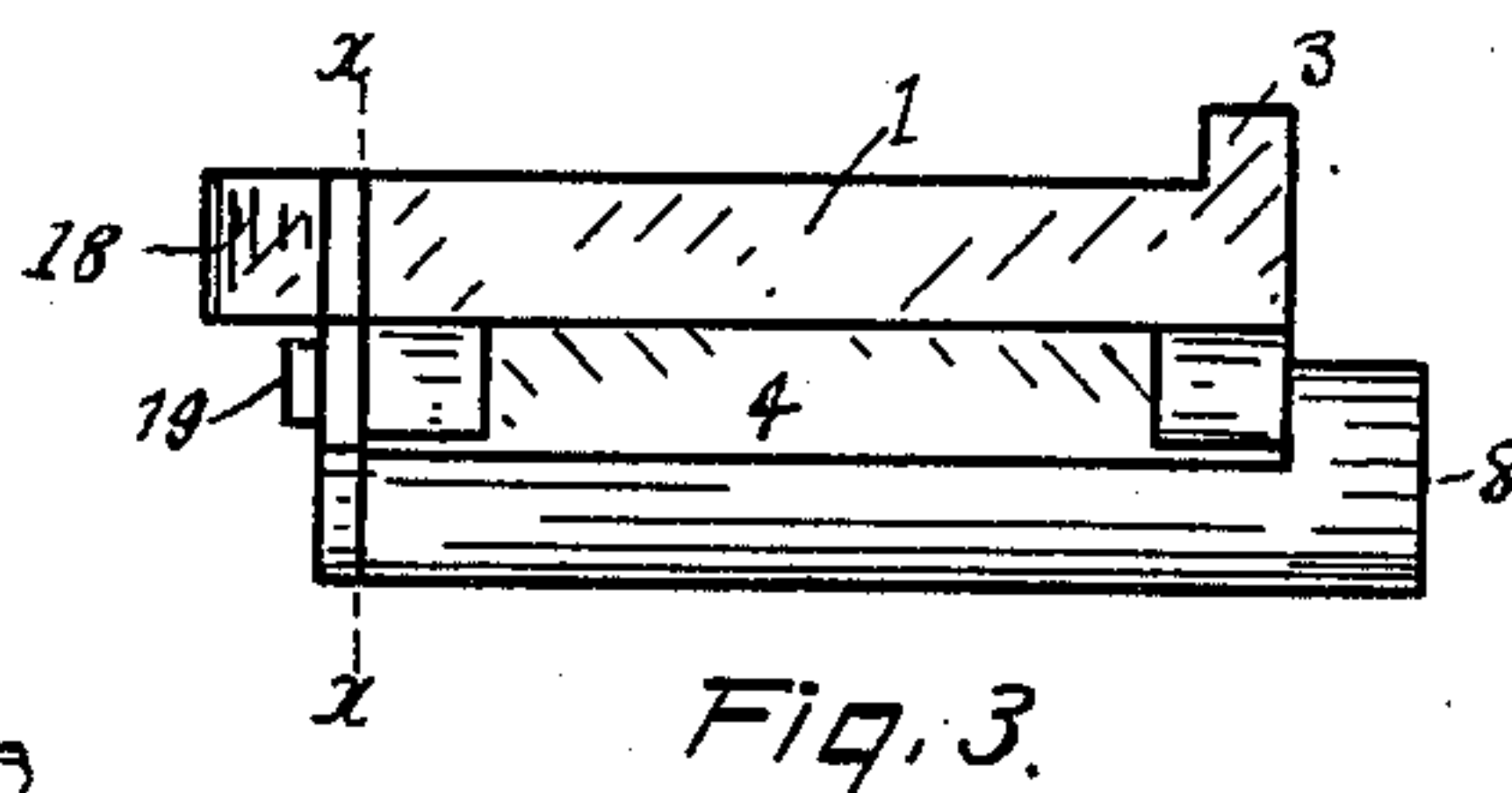


Fig. 3.

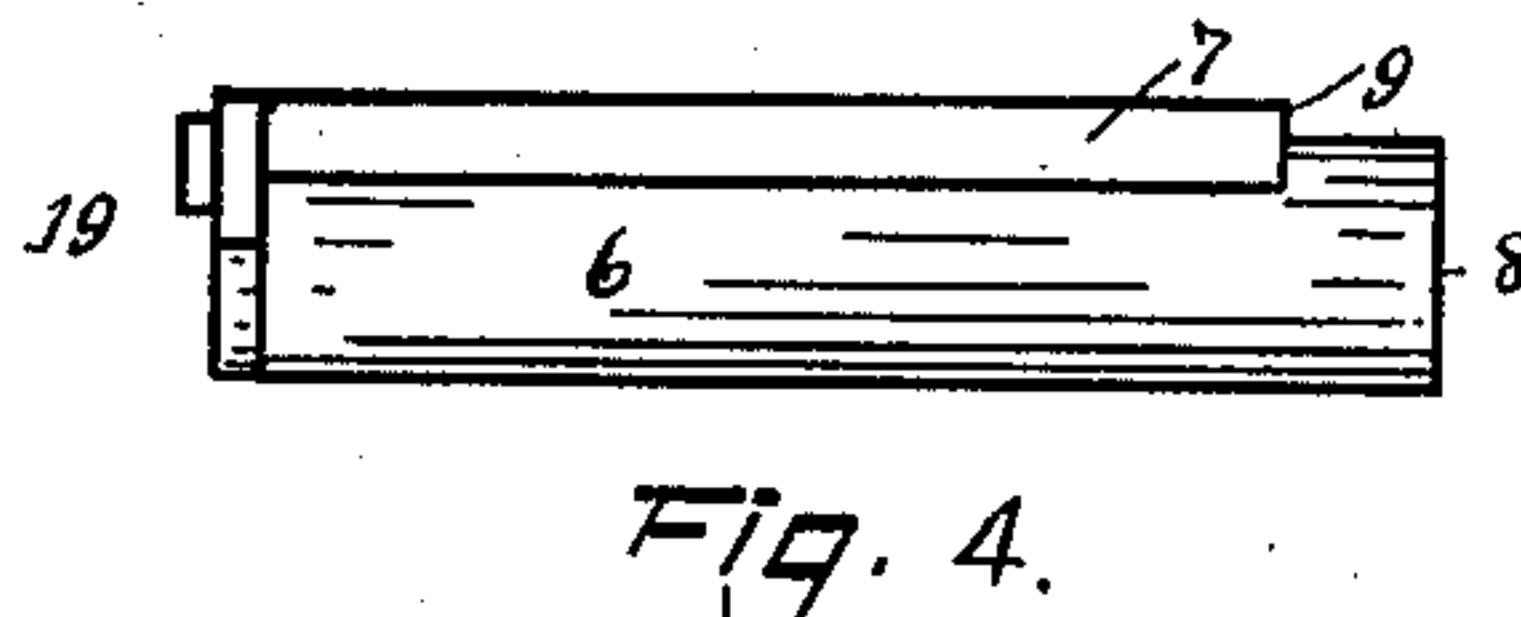


Fig. 4.

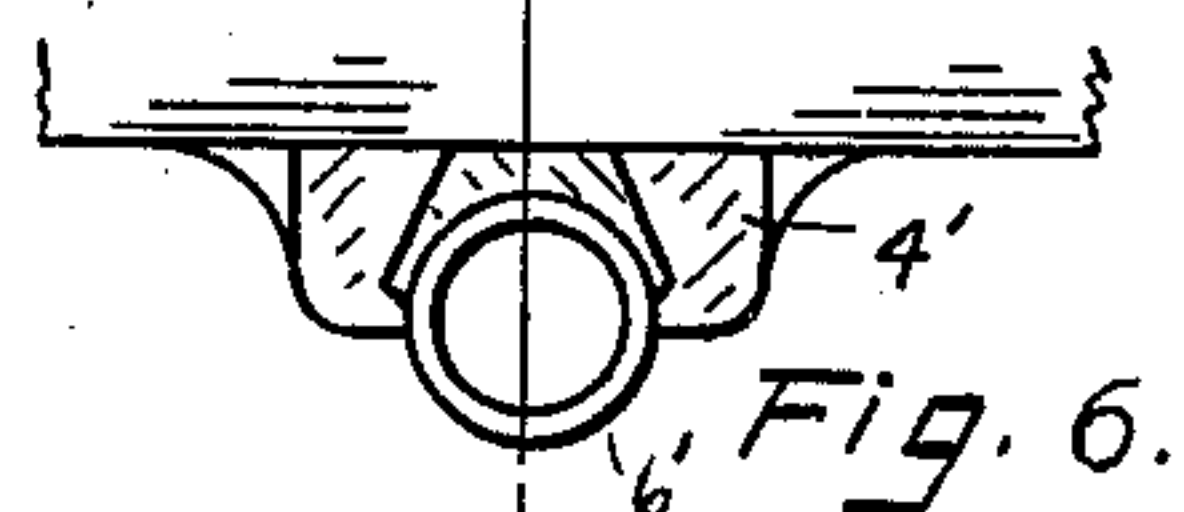


Fig. 6.

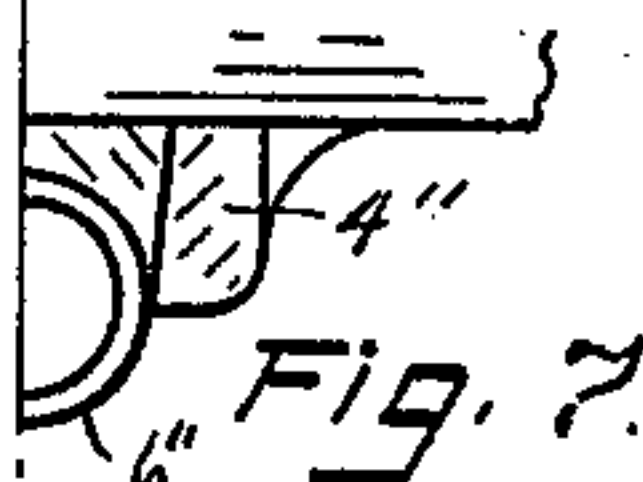


Fig. 7.

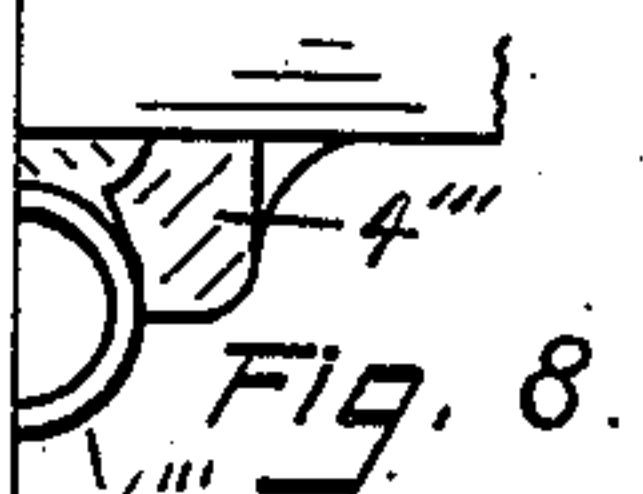


Fig. 8.

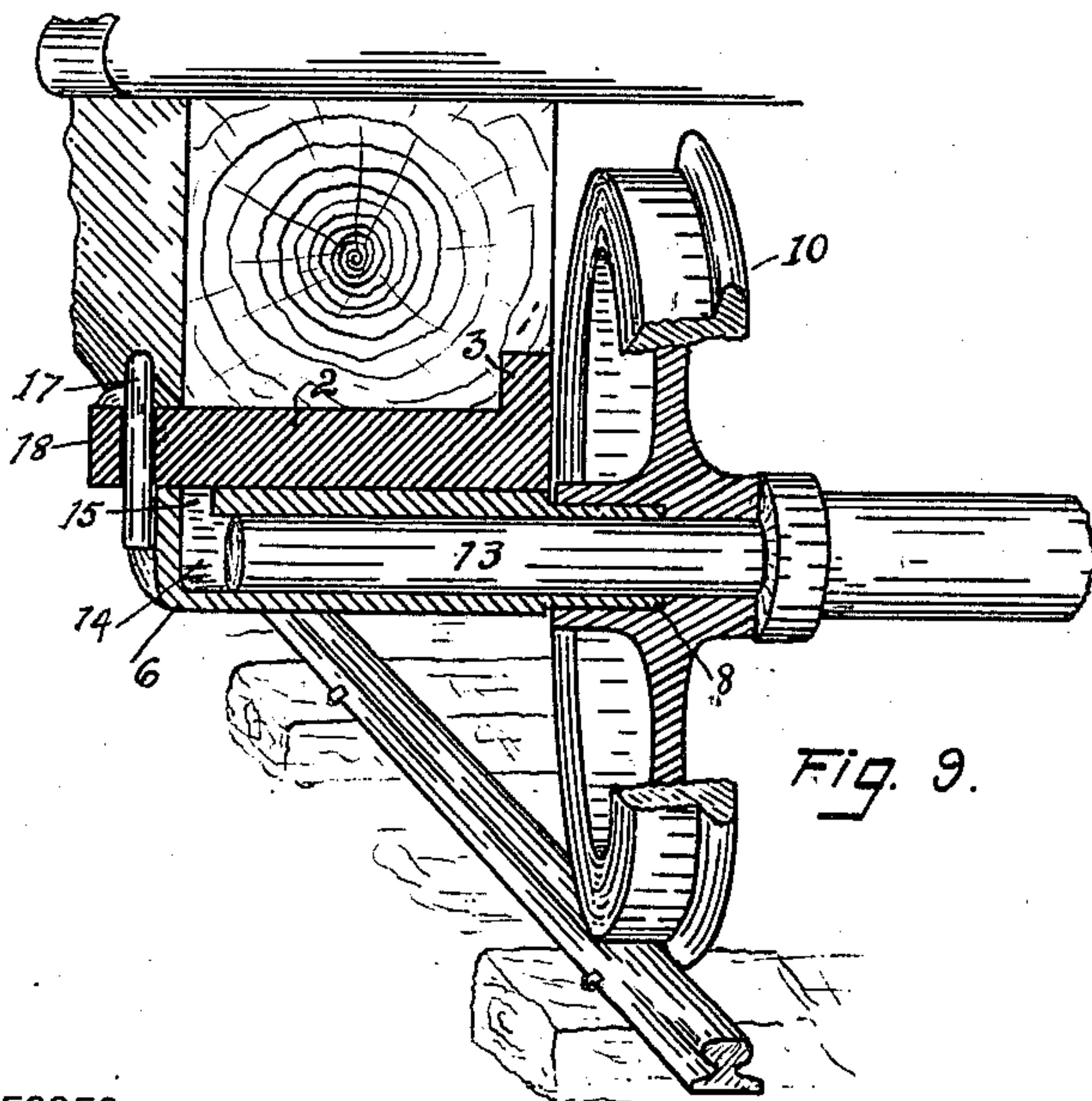


Fig. 9.

WITNESSES:

D. G. Moran
Stephen Jones

INVENTOR,

James R. Fleming
BY W. B. Repley

ATTORNEY

UNITED STATES PATENT OFFICE.

JAMES R. FLEMING, OF SCRANTON, PENNSYLVANIA.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 685,446, dated October 29, 1901.

Application filed October 26, 1900. Serial No. 34,523. (No model.)

To all whom it may concern:

Be it known that I, JAMES R. FLEMING, a citizen of the United States, residing at Scranton, in the county of Lackawanna and State of Pennsylvania, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to car-axle boxes and bearings; and the objects of the invention are to simplify such boxes, to assist lubrication, and to make them more easily separable for the purpose of dismounting the cars used therewith, and other purposes, as set forth herein and are more particularly pointed out in the claims.

To these ends the invention consists of the construction, combination, and arrangement of the several parts, as are herein described, and illustrated in the drawings, in which—

Figure 1 is an outside elevation, looking toward the end of the axle, of the main castings constituting my improved car-axle box. Fig. 2 is an under side view of the same, showing it in its relation to the car-wheel and axle and showing by dotted lines the method of sliding out the bearing from the main casting. Fig. 3 is a side elevation of the same, taken at right angles to that of Fig. 1. Fig. 4 is a side view of the bearing when removed from the main casting. Fig. 5 is a view taken similar to that in Fig. 1 when the securing-key is removed and cutting the sliding bearing on the line xx of Fig. 3. Fig. 6 is a diagram showing a substitute pattern for the sliding bearing and its sliding ways. Fig. 7 is an additional substitute pattern for the same. Fig. 8 is another additional substitute pattern for the same. Fig. 9 is a general view showing the parts of my device in the relations which they occupy when in use, the casting and sliding bearing being cut in cross-section on the line yy of Fig. 1.

Similar characters of reference denote like and corresponding parts throughout the several views.

Referring to the drawings, 1 designates the larger member of my device, being preferably a flat cast-iron plate provided with holes 2 2, by which it may be secured to the body of the car. It is also provided with an upwardly-

extending flange 3 to assist in securing it to the timbers of the car. The under side of this plate is provided with a pair of substantially parallel downwardly-extending transverse flanges 4 4, having inwardly-projecting lips 5 5, constituting a horizontal sliding way into which the removable journal-bearing member 6 is adapted to be slid. The sliding bearing 6 is provided with right and left flanges 7 7, adapted to engage with the lips 5 5 aforesaid and adapted to slide upon them horizontally in the operation of removing the bearing 6. The inner end 8 of the bearing 6 is adapted to extend into an annular recess 8' into the hub of the car-wheel 10, as shown in Fig. 9, the hub of the car-wheel 10 having a part of its bore enlarged for that purpose. The flanges 7 terminate in a square shoulder 9, adapted to abut against the hub of the wheel 10. The opposite or outer end of the journal-bearing 6 is provided with right and left extending wings or projections 11 11, adapted also to prevent the bearing from sliding too far inwardly into the main casting 1. The bore 12 in the bearing, which is adapted to receive the car-axle spindle 13, is extended farther than the end of the spindle, thus forming a chamber 14, adapted to receive a lubricant or lubricant absorbent, if desired. Lubricant is introduced into the chamber 14 through the passage-way 15, which is communicated with through the outside opening 16. (Shown in Fig. 1.) When the sliding bearing 6 is inserted to its place, it is retained in position by means of a split pin 17, passing through a lug 18, and the said pin is adapted to be spread by means of a wedge-shaped projection 19 on the outer end of the bearing member 6. This wedge-shaped projection is in line with the bore 17' of the lug, and when the split pin is driven down through the said bore-hole the wedge-shaped member spreads the end thereof, as particularly shown in Fig. 1, thus securing it from accidental removal. The pattern of the downwardly-extending lugs and the engaging portions of the sliding member 6 may be variously constructed in the substitute forms suggested in Figs. 6, 7, and 8, each of which is a diagram or partial diagram of the cross-section of the sliding ways and sliding bearing engaging with them.

My axle-box, as herein described, is more

particularly applicable to such cars as are used about mines, where it may become necessary to remove the running-gears, or, in other words, dismount the cars by lifting them vertically off the axles, and my device is particularly constructed so as to furnish an improved lubricating arrangement by the sliding bearing extending into the hub of the wheel, as shown, and the wheel itself also revolvable on the spindle 13, and at the same time the construction permits the bearing 6 to be slid endwise off the axle-spindle and out of its sliding ways, as suggested in dotted lines in Fig. 2, and it is evident that when the pin 17 is removed and the weight of the car relieved slightly from the bearings the bearing member 6 may easily be slid outward and off the spindle, after which the car-body may be lifted directly upward, releasing the axle entirely and facilitating dismounting of the car.

I do not wish to be confined to the exact construction shown, as many variations in addition to those shown may be resorted to without materially departing from the spirit of my invention.

What I do claim, and desire to secure by Letters Patent, is—

1. In a car-axle box, the combination of two principal members, one of which is a suitable bearing-plate adapted to be secured to the body of the car, and the said plate having downwardly-extending flanges adapted to grasp the other member which is a sliding bearing proper having a central bore, and the said sliding bearing adapted to receive the car-axle spindle within the said bore, and the said bearing further provided with a cylindrical inner end annular in cross-section and adapted to extend within the enlarged bore of the car-wheel, in combination with a car-wheel having an enlarged bore forming with the spindle an annular recess adapted to receive the inner end aforesaid of the bearing, and the said parts separable by sliding endwise, substantially as specified.

2. In a car-axle box, the combination with

a bearing-plate having sliding ways therein and a bearing proper adapted to slide horizontally in the said bearing-plate, of a car-wheel, having part of its bore enlarged and adapted to receive the inner end of said bearing proper together with a car-spindle adapted to have the said wheel and bearing mounted thereon and removable therefrom, substantially as specified.

3. In a car-axle box, the combination with the car-axle of two new members, separable by sliding longitudinally of the car-axle, the one of said members being adapted to be secured to the car-body, and provided with a sliding way in which the other member is adapted to be slid, the said other member constituting the bearing proper, and being provided with flanges on its outer end to prevent it from sliding too far inwardly, and a pin extending through a lug in the first member adapted to secure said bearing from sliding outwardly, whereby the parts are held firmly together when in operation, substantially as specified.

4. A car-axle box comprising two separable members, the one of said members having an annular projection adapted to extend inwardly of the hub of a car-wheel, the car-wheel and car-axle adapted to be used therewith, the said car-wheel having part of its bore enlarged for the purpose of accommodating the said annular projection, and the said car-axle adapted to fit the unenlarged bore of the car-wheel aforesaid, and to extend therethrough and into the car-axle box, and the bearing member of the said car-axle box being adapted to be slid outward longitudinally for the purpose of dismounting the car from its axles, substantially as specified.

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

JAMES R. FLEMING.

Witnesses:

STEPHEN JONES,
JOHN KURTZ.