

No. 722,786.

PATENTED MAR. 17, 1903.

W. P. WESCOTT, JR.
DIVIDED CAR AXLE AND JOURNAL BOX.

APPLICATION FILED DEC. 10, 1902.

NO MODEL.

Fig. 1.

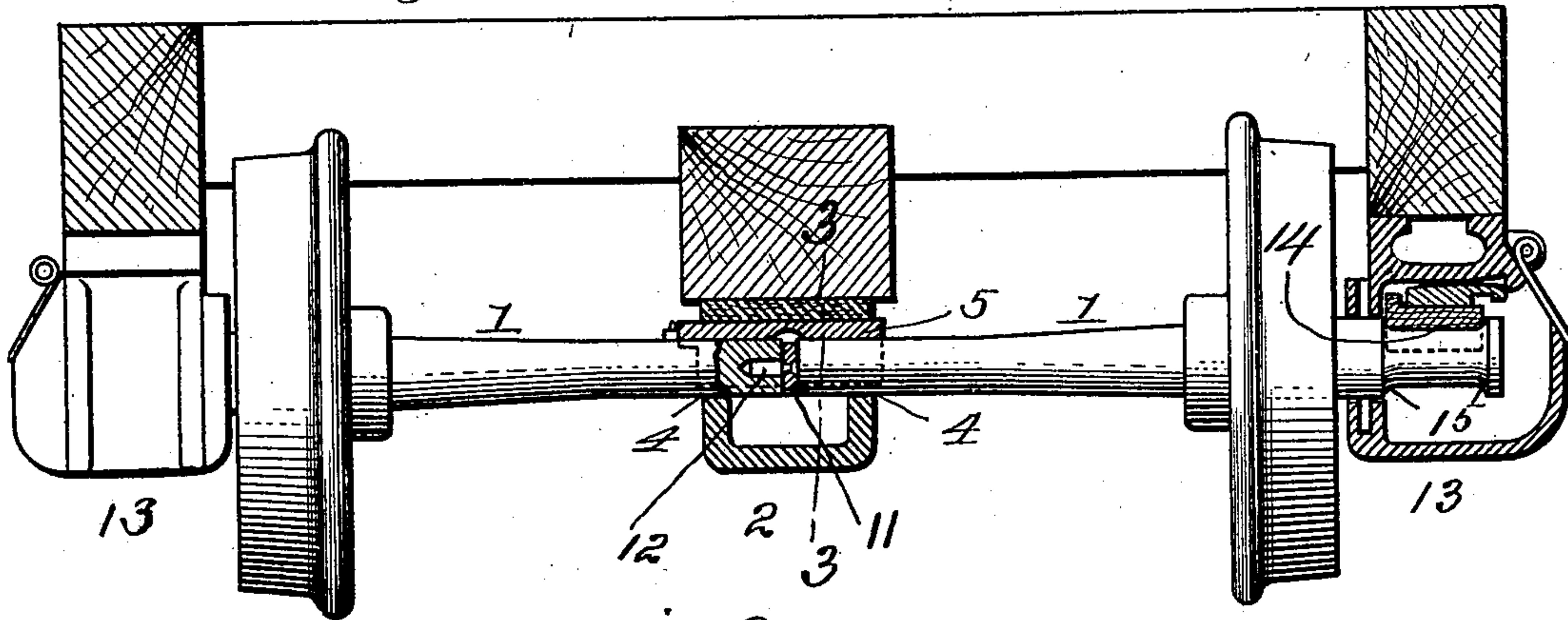


Fig. 2.

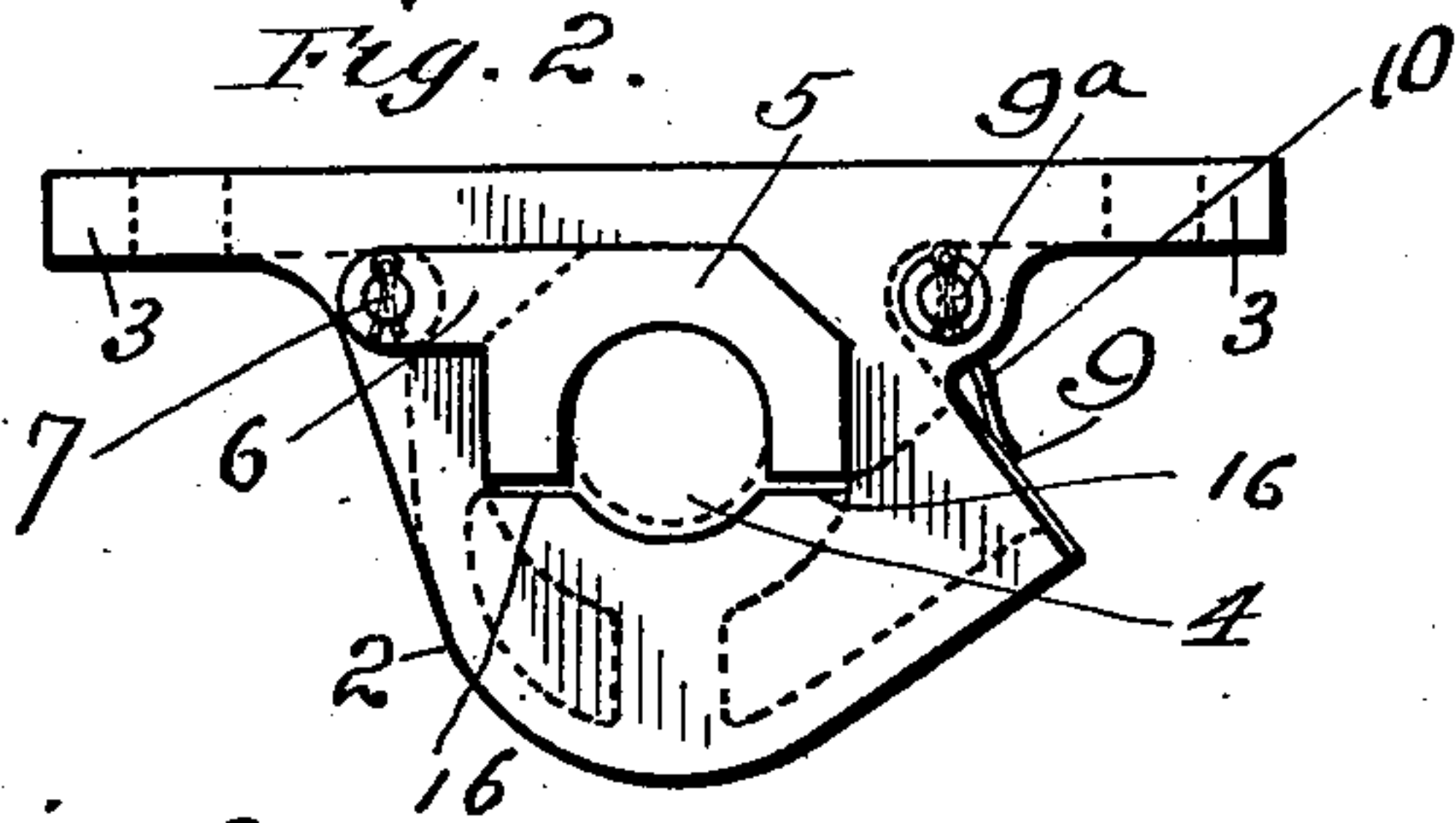


Fig. 3.

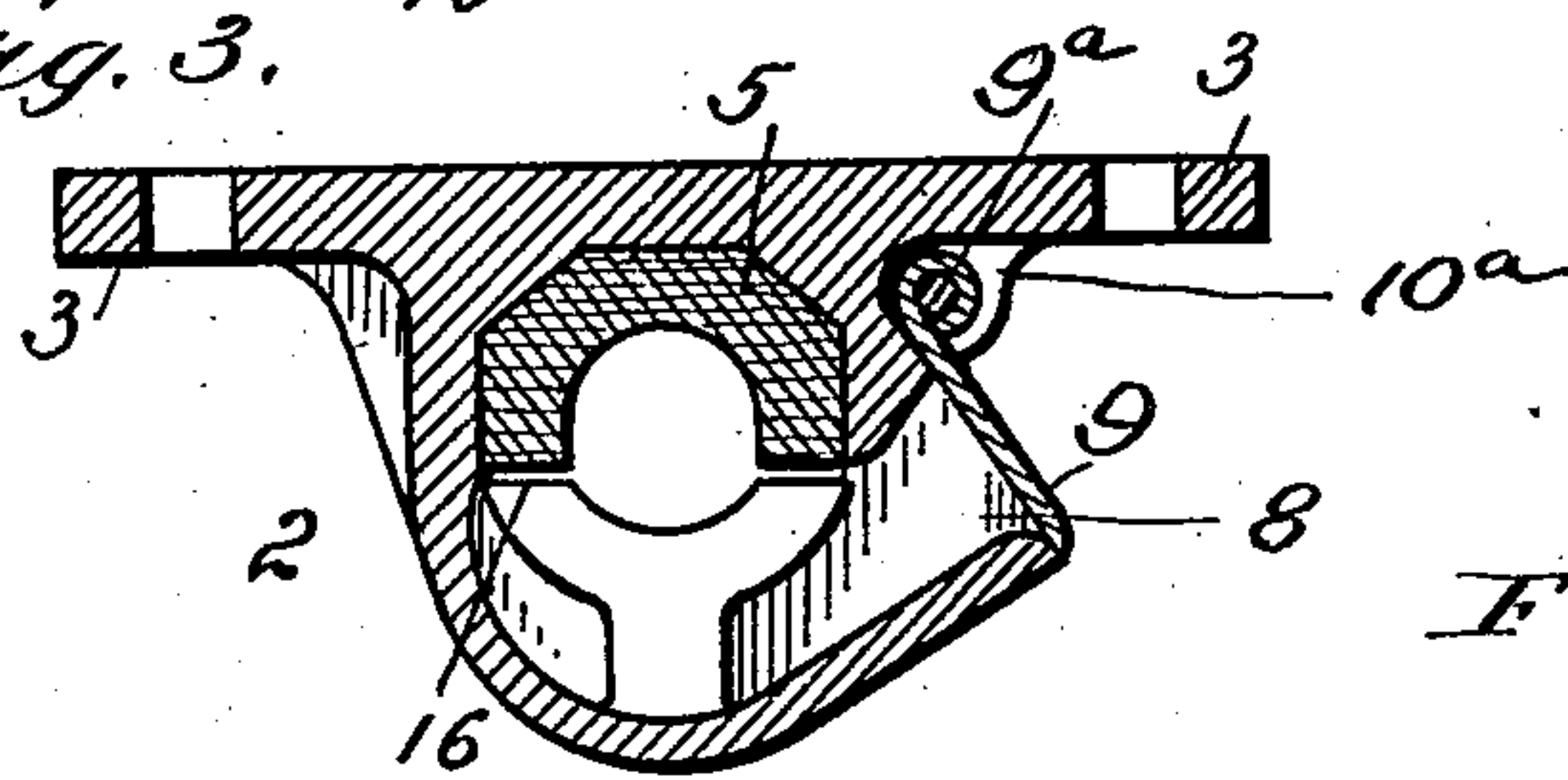


Fig. 4.

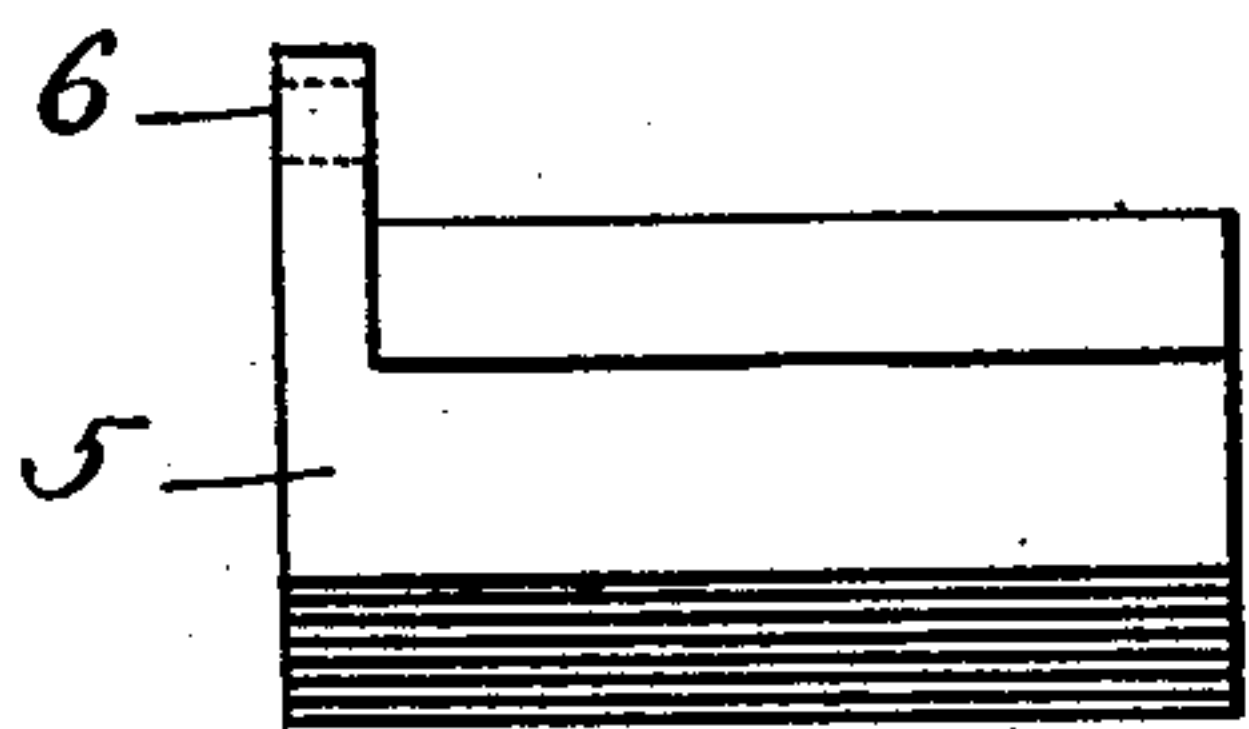
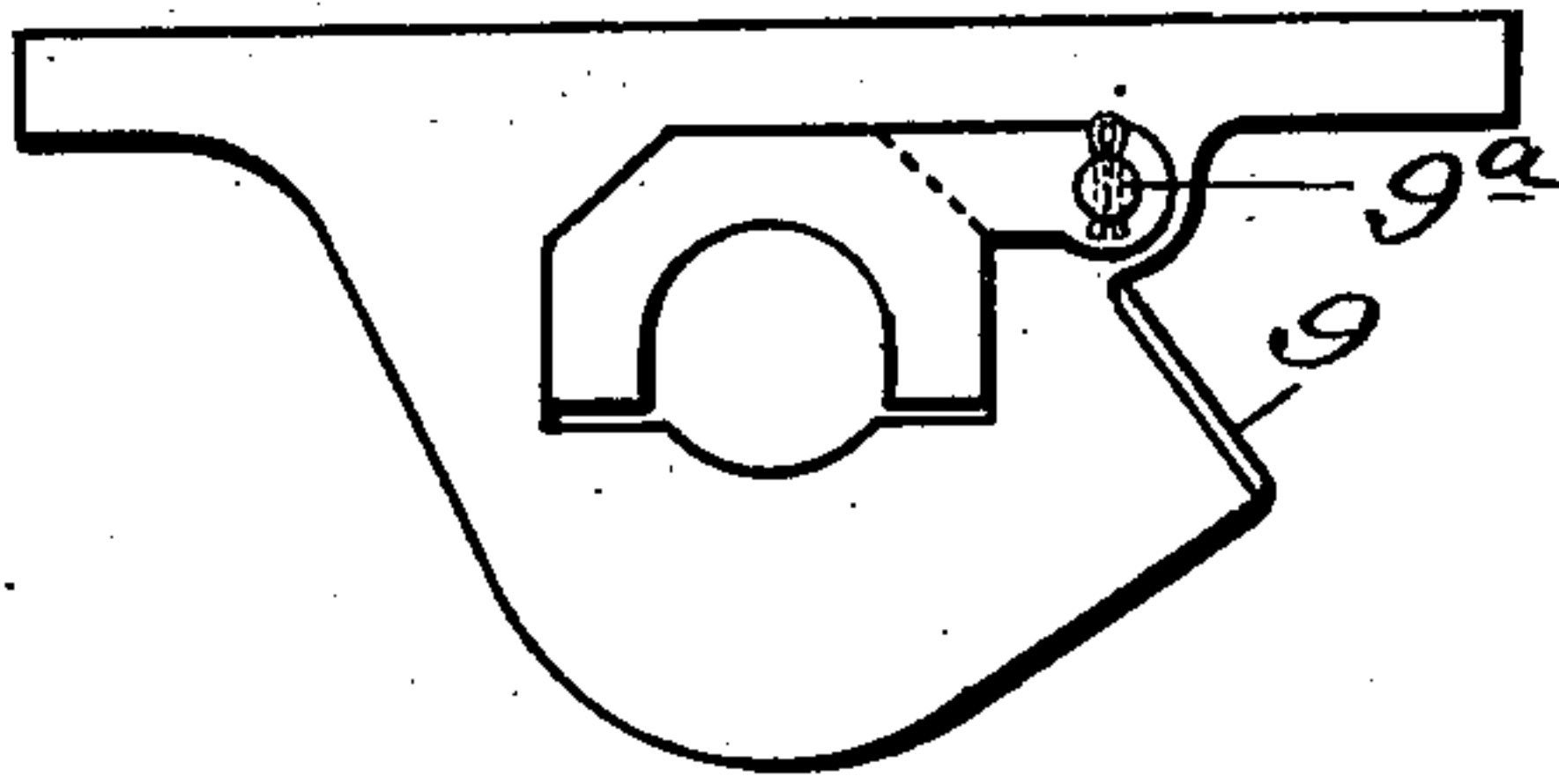


Fig. 5.



WITNESSES:

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WILLIAM P. WESCOTT, JR., OF JERSEY CITY, NEW JERSEY.

DIVIDED CAR-AXLE AND JOURNAL-BOX.

SPECIFICATION forming part of Letters Patent No. 722,786, dated March 17, 1903.

Application filed December 10, 1902. Serial No. 134,609. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. WESCOTT, Jr., a citizen of the United States, residing at Jersey City, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Divided Car-Axles and Journal-Boxes Therefor, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a transverse sectional view showing the center box and one of the end boxes in section; Fig. 2, a side elevation of the center journal-box; Fig. 3, a transverse sectional view thereof on the line 3 3 of Fig. 1; Fig. 4, a detail plan view of the bearing-brass of the center box; and Fig. 5 a detail side elevation of the center box, showing the bearing-brass connected to the pivot-pin of the lid.

In mine-cars of the usual construction the axles are mounted in journal-boxes and the wheels are loosely mounted thereon to permit those at one side of the car to rotate independently of those at the other side thereof. This is necessary because of the very sharp turns in the tracks in the mines and the impossibility of properly grading the tracks at the curves. In this construction it is practically impossible to lubricate the wheels, and consequently the axles are very soon worn and cut to such an extent as to render them unsafe. This undue wear on the axles is a source of constant trouble and expense; and it is the main object of this invention to obviate this expense and difficulty and to provide a car-axle which will permit the wheels on opposite sides of the car to turn at different speeds or to be independently locked against rotation and at the same time provide proper journal-boxes to reduce the wear on the axles to a minimum.

Another object of this invention is to provide a divided car-axle and to rigidly secure a wheel to each section thereof near its outer end, a center journal-box being provided to receive the inner ends of the two sections, said inner box being so constructed as to efficiently support the ends of the axle-sections and to prevent them having any undue

sidewise movement.

A further object of the invention is to provide a center journal-box into which the bearing-brass may be readily inserted and withdrawn whenever desired.

The axle is divided at its middle to form the two sections 1, and the adjoining inner ends of these sections are supported in a journal-box 2, which is suitably bolted to the under side of one of the car timbers or beams at the transverse center of the car. This box is composed of a casing formed of one casting and provided with the flanges 3, by which it is bolted to the car-timber. The vertical sides of this casing are apertured at 4 for the passage of the inner ends of the car-axle sections and to permit the bearing-brass 5 to be inserted therein above the axle. The exterior of the journal-brass is made angular, (as shown in the drawings it is semi-hexagonal,) and the upper edges of the transverse apertures in the journal-box casing are formed correspondingly angular to receive the angular journal-brass. It is obvious that the exterior of the journal-box may be of any desired angular formation and that the upper walls of the apertures in the journal-box casing may be of corresponding shape. The purpose of this is to prevent any rotary movement of the brass on the axle.

The side walls of the casing 2 of the center journal-box is formed with the shoulders 16, on which the lower ends of the side portions of the journal-brass 5 may rest when the axle-sections are withdrawn from said box. The sides of the journal-brass 5 of the center box are extended below the horizontal center of the axle-sections to prevent the corners of said brass from contacting with the journals. It will be readily seen that in mine-cars fitted with divided axles of this character the inner ends of said axle-sections will necessarily have considerable vibration. Therefore if the lower corners of the bearing-brass were at the horizontal center of the axles or above it they would be constantly jammed against the axle. This would soon destroy the brass and injure the journal.

Extending laterally from one end of the brass 5 is a lug 6, which lies close against the outer side of the journal-box casing and is apertured for the passage of a retaining-pin 7, a cotter-pin being passed through said retaining-pin to secure the brass in place. Of course any suitable means may be employed for securing said brass in place in the axle-box. The means shown is simple and efficient and permits of the ready withdrawal of the brass from the box, it being simply necessary to remove the cotter-pin, and the brass may be drawn from the box. It is obvious that the lug 6 may be in such a position as to be engaged over the pivot-pin 9^a of the lid 9, if desired. In this way the retaining-pin 7 may be dispensed with. This arrangement is shown in Fig. 5 of the drawings.

The lubricating material is passed into the chamber of the journal-box through the opening 8 at one side thereof, said opening being closed by a suitable lid 9, which is pivoted between the flanges 10^a on the casing and is held yieldingly closed by a spring 10.

The inner ends of the car-axle sections are separated a slight distance, and between them is inserted a wearing washer or disk 11 of suitable composition, said disk being held against lateral displacement by means of a loose rivet 12, which passes longitudinally through the center of said washer and into a central aperture in one of the axle-sections. As the purpose of this pin is merely to prevent the sidewise displacement of the washer, it will be readily understood that it is not necessary to permanently secure said pin to the axle-section.

The outer ends of the axle-sections are mounted in journal-boxes 13, which contain bearing-brasses 14, which bear on the ends of the axle. The axle ends are reduced at the point where they contact with these brasses to form the shoulders 15, which take up the endwise thrust and prevent any undue independent endwise movement of the axle-sections, said shoulders bearing directly against corresponding shoulders formed in the bearing-brasses.

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

1. The combination of a car-axle divided at its middle each section thereof carrying a wheel rigidly secured thereto, the inner ends of said section being in axial alinement and close together at the transverse center of the car, a journal-box for said adjoining ends, a bearing-brass in said box, and extending through one side wall of said box, and means for detachably connecting said brass to the box.

2. The combination of a car-axle formed in two sections each section carrying a wheel near its outer end, the inner ends being in axial alinement and close together, a center

journal-box for the inner ends of said axles said box being formed with a transverse aperture in one of its side walls, a bearing-brass adapted to be inserted in said box through said aperture, and means without the journal-box for detachably securing the brass in position in said box to prevent the endwise displacement of said brass.

3. The combination of a car-axle formed of two sections each section having a wheel rigidly secured thereto near its outer end, the inner ends of said sections being arranged axially in line with each other, a journal-box for said inner ends, a bearing-brass in said box, one end of said brass extending through an aperture in one side wall of said box, the brass and the aperture being of substantially the same outline whereby any movement of the brass around the journal will be prevented, and means for securing the brass against endwise movement through the box.

4. The combination of a car-axle formed in two sections each section having a wheel rigidly secured thereto near its outer end, the inner ends of said sections being in axial line, a journal-box for said inner ends, a bearing-brass in said box, the sides of said brass extending below the horizontal center of the axle, means for preventing the endwise movement of said brass through the journal-box, a wearing-washer interposed between the inner ends of the axle-sections, and a pin loosely connected to said washer at its center and extending loosely into a socket formed in the center of the inner end of one of the axle-sections.

5. The combination of a car-axle divided at its center a wheel being rigidly secured to each section thereof, the inner ends of said sections being in axial alinement and close together, a journal-box for said inner ends, a bearing-brass in said box the exterior of said brass being angular in cross-section and adapted to fit an aperture of corresponding angularity in one side wall of the journal-box, and means outside of the journal-box for detachably securing the brass to the box, whereby the brass may be readily removed through the aperture in said box.

6. The combination of a divided car-axle, each section carrying a wheel rigidly secured thereto, the inner ends of the sections being in axial alinement and arranged close together, a journal-box for said inner ends, a bearing-brass within said box, the exterior of said brass being angular in cross-section and fitting an aperture of corresponding angularity in one wall of said box, a lug formed on said brass outside of the journal-box, said lug being apertured for the passage of a retaining-pin, substantially as described.

7. The combination of a car-axle formed in two sections, each section having a wheel rigidly secured thereto the inner ends of said sections being in axial alinement and arranged

close together, a journal-box for said inner
ends, a bearing-brass in said box, the exterior
of said brass being angular in cross-section
and the sides of said brass extending below
5 the horizontal center of the axle, and means
for securing said brass to the journal-box.
In testimony whereof I hereunto affix my

signature, in the presence of two witnesses,
this 6th day of December, 1902.

WILLIAM P. WESCOTT, JR.

Witnesses:

FREDERICK D. HERBERT,
WM. R. DAVIS.