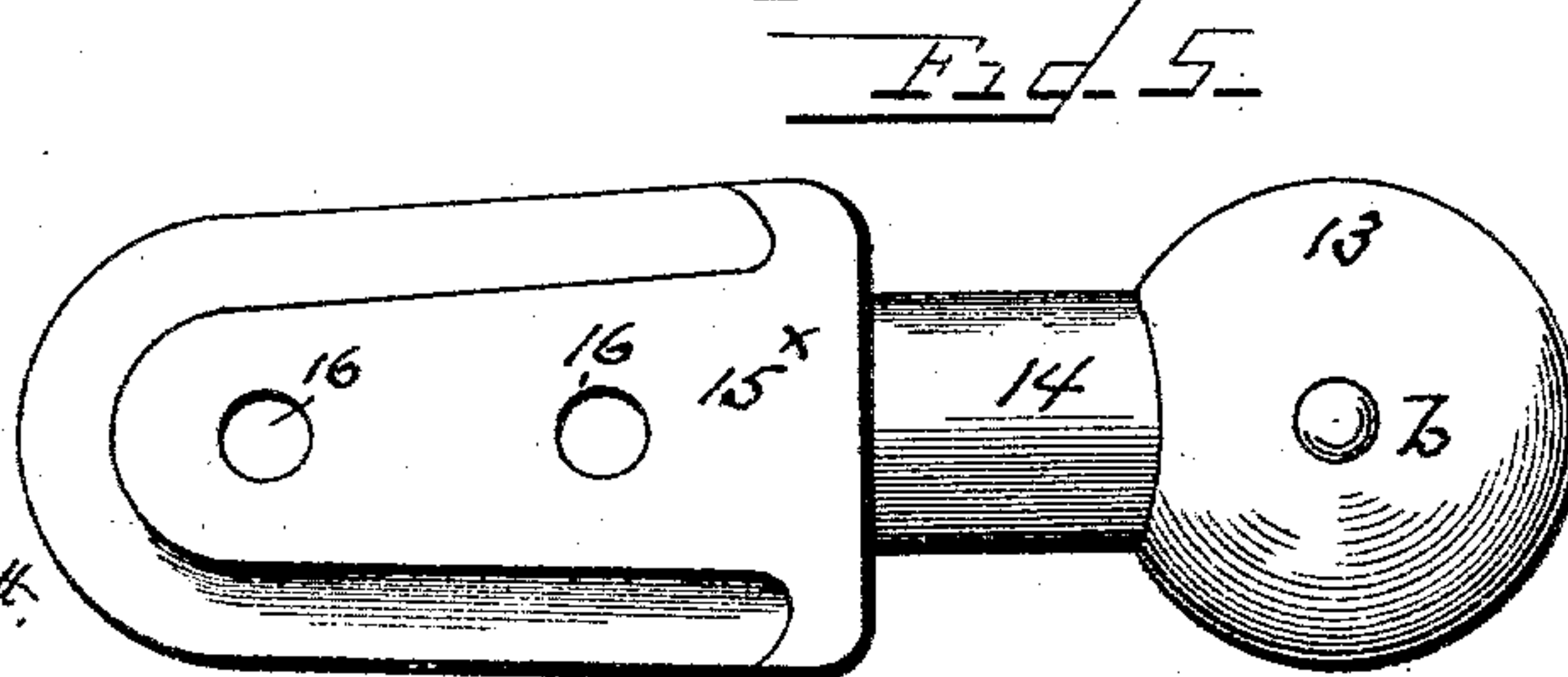
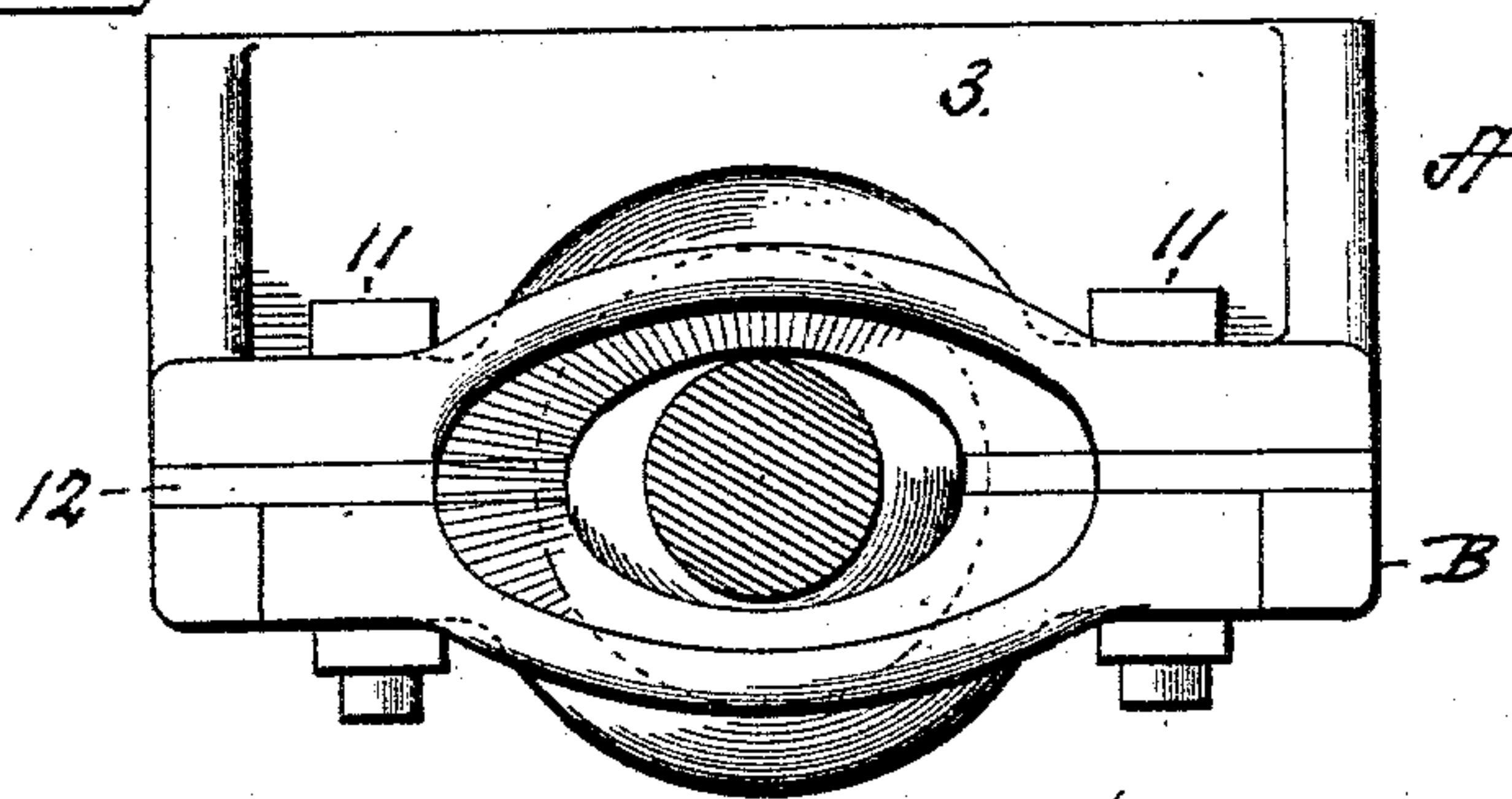
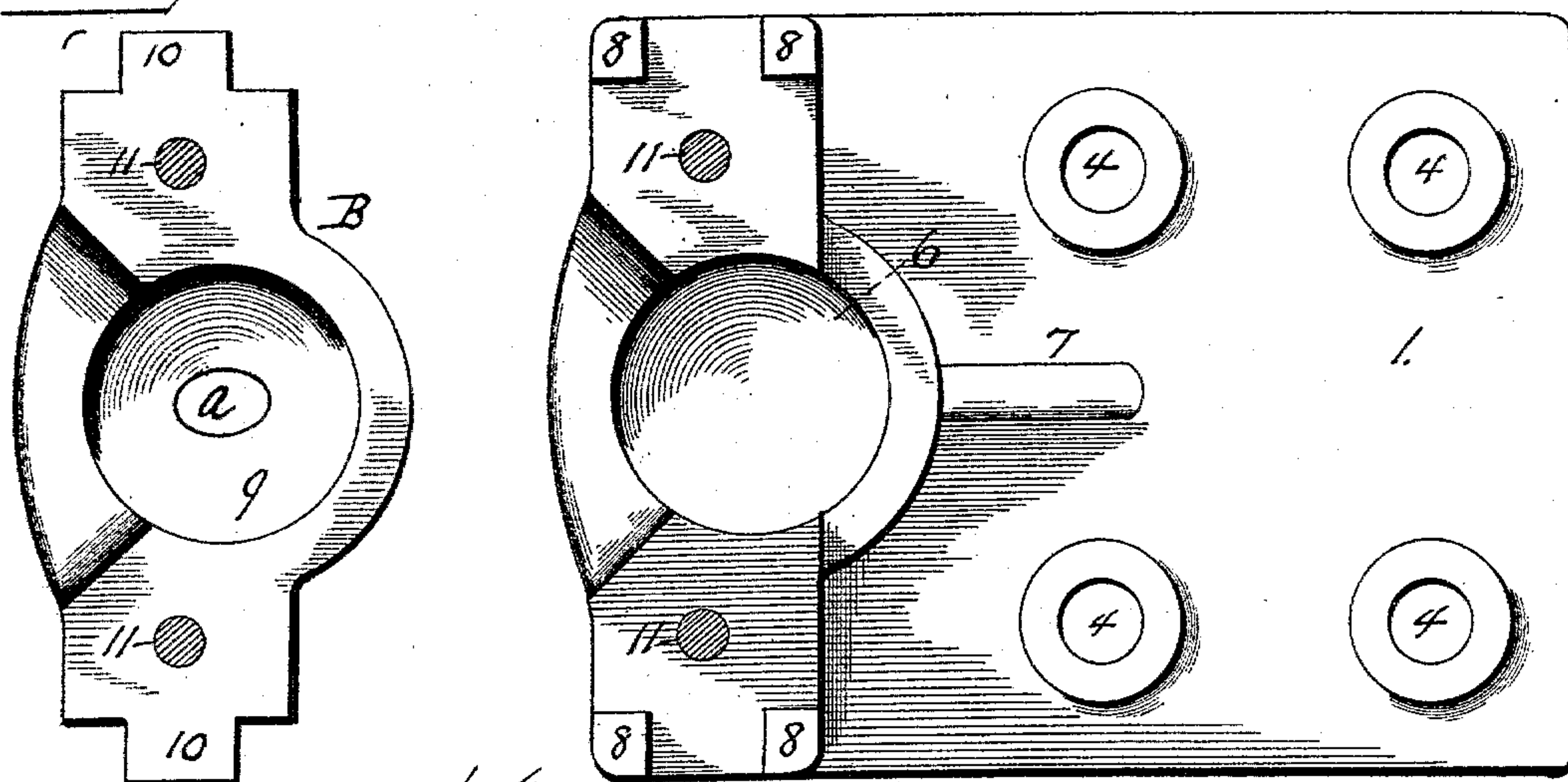
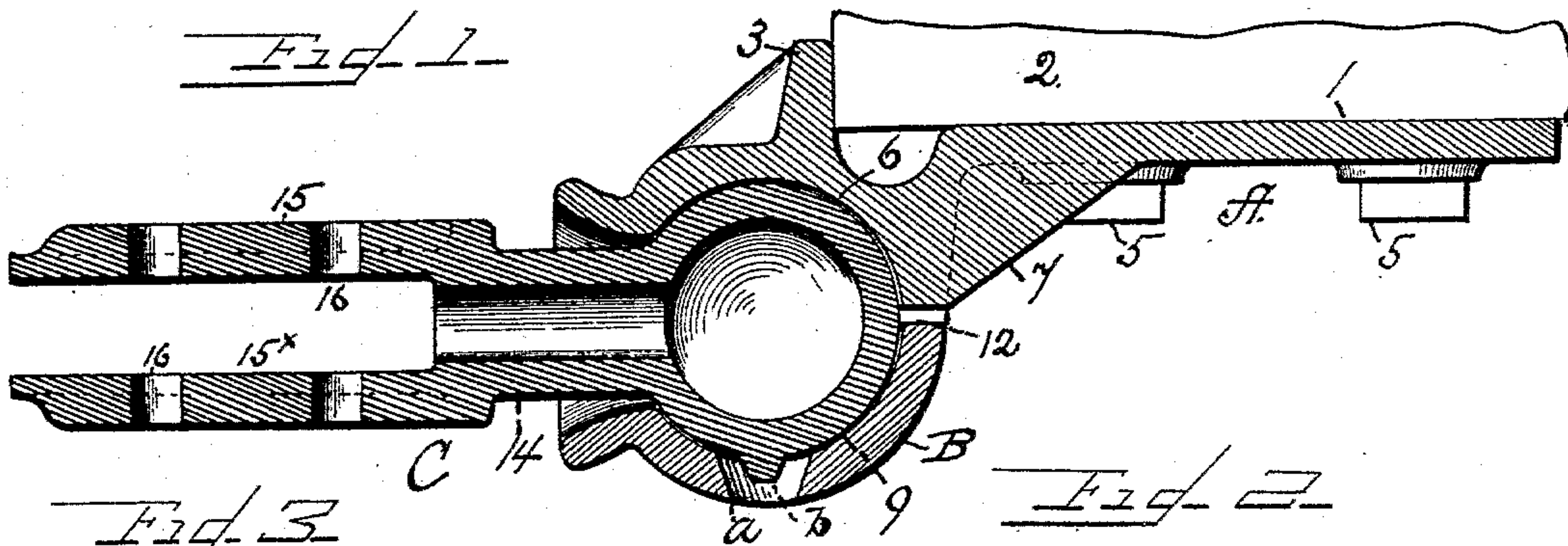


(No Model.)

W. T. VAN DORN.  
DRAW BAR ATTACHMENT FOR STREET CARS.

No. 569,729.

Patented Oct. 20, 1896.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM T. VAN DORN, OF LINCOLN, NEBRASKA.

## DRAW-BAR ATTACHMENT FOR STREET-CARS.

SPECIFICATION forming part of Letters Patent No. 569,729, dated October 20, 1896.

Application filed September 19, 1895. Serial No. 563,018. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM T. VAN DORN, a citizen of the United States of America, residing in Lincoln, in the county of Lancaster, in the State of Nebraska, have invented a new and useful Draw-Bar Attachment for Street-Cars, of which the following is a specification.

My invention has relation to improvements in attachments for connecting or fastening the draw-bar or coupling to the body of the car, which will have a universal play or movement to automatically accommodate itself to the direction of the pull under all the variable motions of the car, both vertical and lateral.

I have fully and clearly illustrated my invention in the accompanying drawings, wherein—

Figure 1 is a longitudinal vertical section taken centrally through the car-bracket and the draw-bar attachment. Fig. 2 is a bottom plan view of the car-bracket. Fig. 3 is a plan view of the socket-piece which holds the ball of the draw-bar attachment in the socket or seat. Fig. 4 is an end view of the car-bracket and socket-piece united and showing the stem of the draw-bar attachment in cross-section. Fig. 5 is a detail plan view of the draw-bar attachment removed from the car-bracket.

Designating the several parts or elements of the device by proper references, A is the car-bracket, consisting of a substantial plate of metal, such as malleable iron, steel, or drop-forging or iron. The plate 1 of this bracket has a plain upper face to set under and against the lower face of the timbers 2 of the car, and is formed with a transverse upward-projecting flange 3, extending across the end of the plate, and is designed to set with its inner face against the front face of the timber, substantially as indicated in Fig. 1 of the drawings. The bracket A is provided with bolt-holes, as shown, through which fastening-bolts 5 are inserted and by which the bracket is secured to the car. In the forward under part of the bracket is formed a half-round recess 6, constituting the upper half of the socket for the ball of the draw-bar attachment, as shown in Figs. 1 and 2, the rear portion of the socket shell or part being strengthened by a brace-flange 7. At the corners of the socket part of the bracket A are formed strong studs 8, between which

the ends of the socket-piece are fitted and held, so as to keep it in proper position and relation to the plate and to the upper portion of the socket. B designates the socket piece or plate, formed to fit and be secured to the under and forward portion of the car-bracket, as shown in Figs. 1 and 4 of the drawings. The piece B has formed in it a half-round recess 9, and the ends have projections 10, which fit between the studs or guide-pieces 8 of the car-bracket. The parts A and B are strongly held together by means of bolts 11, substantially as seen in Fig. 4 of the drawings. At a suitable point in one of the shells, as at *a*, is formed an elongated and rounded recess, in which a projection on the ball of the attachment engages to permit the ball and stem thereof to have sufficient play and to prevent the ball from turning completely over in the socket. The mouth or opening from the socket is made elongated, oval, and flaring in order that the stem of the draw-bar attachment may have ample play to accommodate the bar to all directions it may be moved when the car is moving around curves in the road. This construction is well illustrated in Fig. 4 of the drawings. Between the parts A and B is fitted an elastic cushion 12, which permits adjustment should the bearing between them become worn, and at the same time tends to relieve them from the effects of a solid and non-elastic conjunction.

C designates the draw-bar attachment, formed with a spherical end 13, fitting in the socket of the parts A and B, and from this ball 13 projects the stem 14, which terminates in upper and lower straps 15 15<sup>x</sup>, adapted to take and hold between them the coupling or draw-bar connected to the coupling. The straps 15 15<sup>x</sup> are secured to the coupling or draw-bar by means of bolts (not shown) passed through holes 16, as indicated in Figs. 1 and 5 of the drawings. On the face of the ball is formed a projection *b*, which engages in the recess *a* for the purposes heretofore specified.

The device is held to the car by means of bolts, as heretofore specified, and the ball of the attachment being adjusted in the socket-recess of the car-bracket the lower part is secured in place, and then a coupling or draw



bar may be adjusted to and secured between the straps of the attachment.

It will be perceived that I have provided a device which may be readily applied to the car and as readily detached therefrom, that the draw-bar attachment may be conveniently inserted and taken from its seat by simply removing the socket-plate attached to the upper part, and that the connection between the parts adapts them to all directions of force arising in the propulsion of the cars.

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

1. The two-part car-bracket having a ball-socket formed therein, and provided with a flaring mouth leading from the socket and having a recess *a*, and the ball with stem and formed with a projection *b* to engage in the recess in the socket, substantially as set forth.

2. In a device for connecting a coupling or draw-bar to street-cars, the two-part car-bracket comprising the upper part A having a semispherical socket therein and formed with corner-studs on its lower side and the lower part B having a semispherical socket therein and formed with extended ends to fit between the corner-studs on the part B whereby the semispherical sockets are made to aline and said parts when arranged together having an opening into the socket, and a ball on the socket formed with a stem, substantially as and for the purpose specified.

In witness whereof I have hereto set my hand in the presence of two attesting witnesses.

WILLIAM T. VAN DORN.

Attest:

MARY LAWRENCE,  
REO BENNETT.