

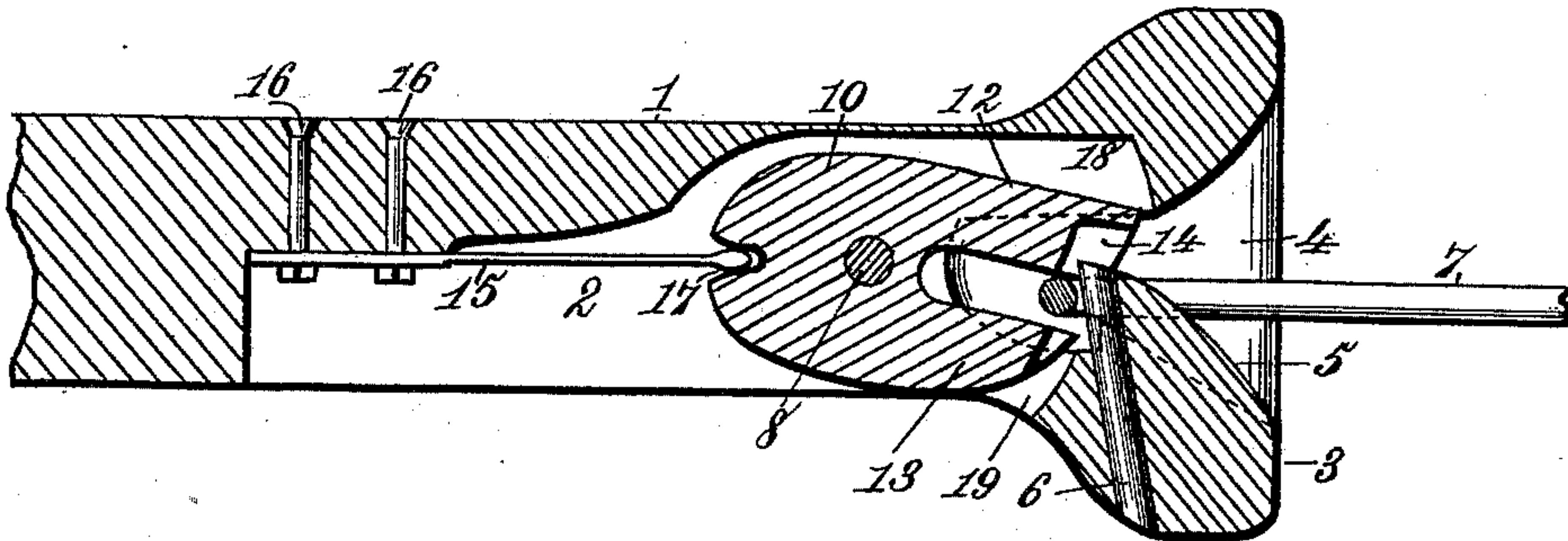
(No Model.)

W. H. GROVE.  
CAR COUPLING.

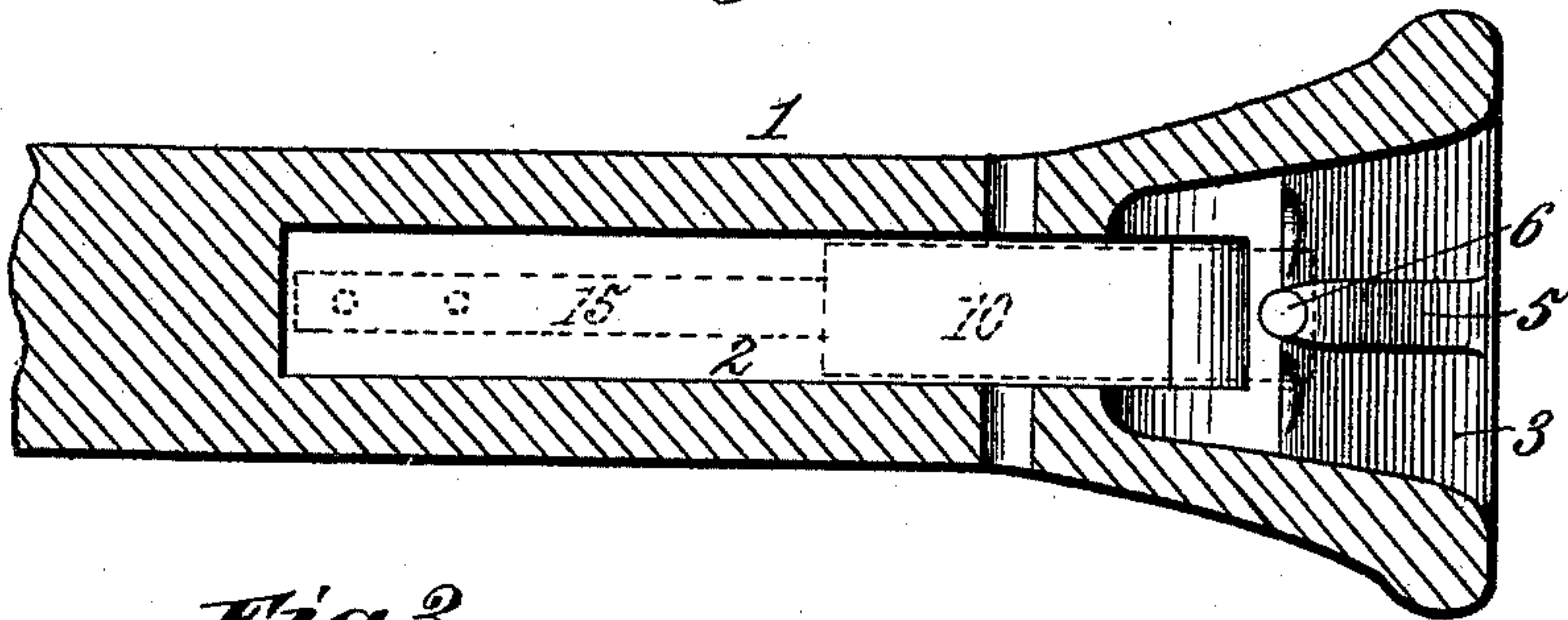
No. 495,797.

Patented Apr. 18, 1893.

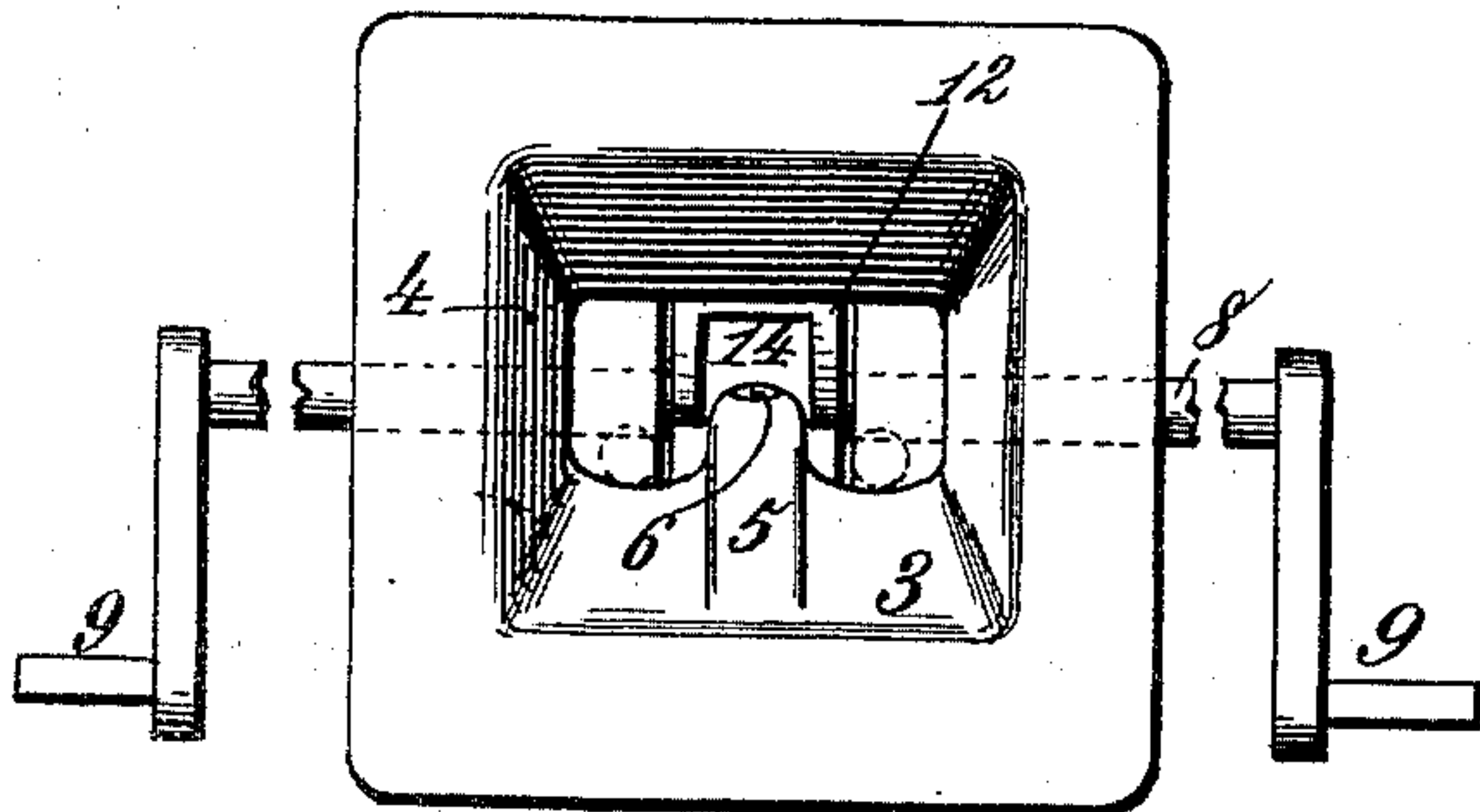
*Fig. 1.*



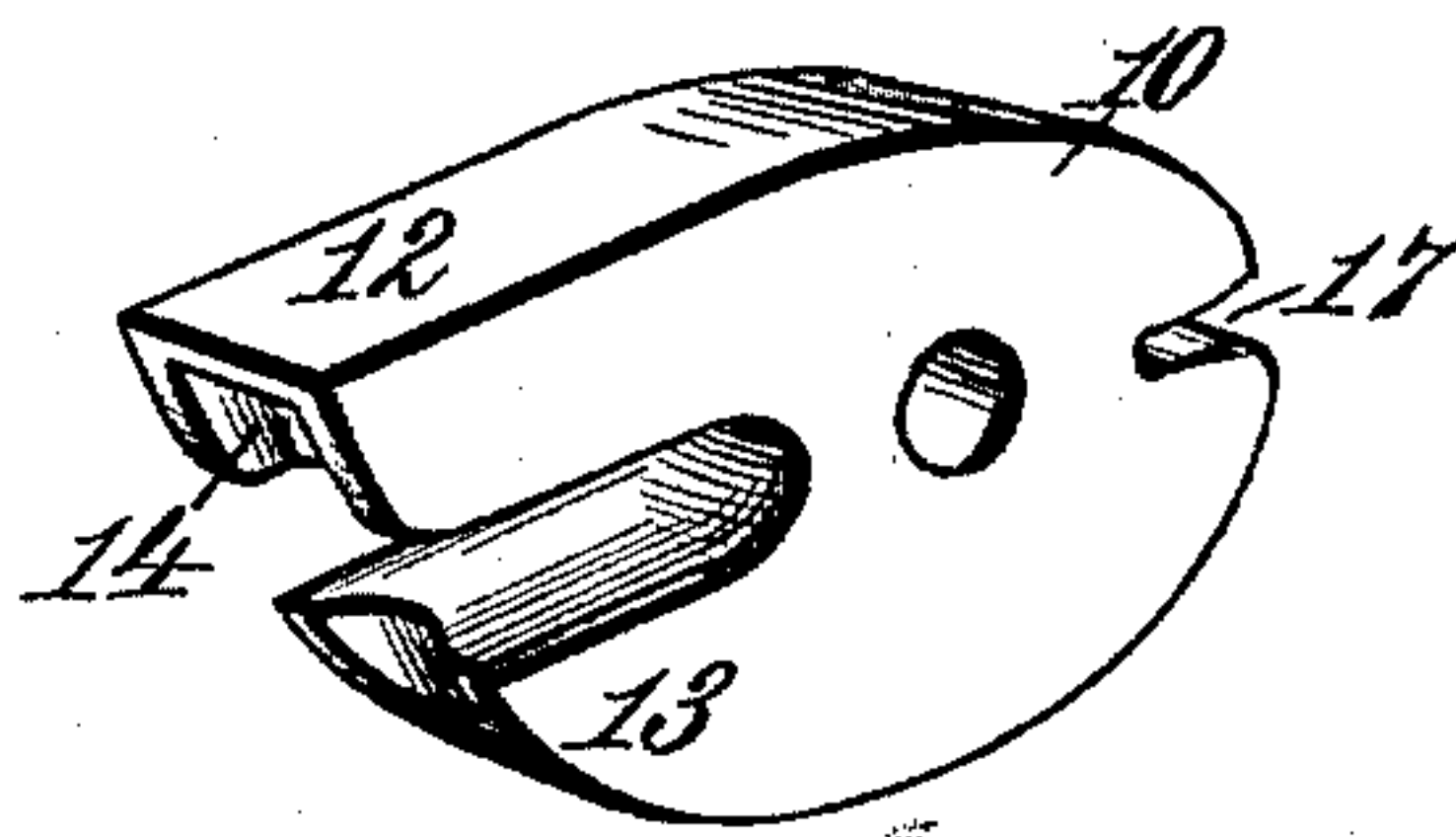
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses:  
*Robert G. Crutt,*  
*A. H. Norris.*

Inventor:  
*William H. Grove.*  
By *James L. Norris.*  
*Atty.*



# UNITED STATES PATENT OFFICE.

WILLIAM H. GROVE, OF CIRCLEVILLE, OHIO, ASSIGNOR OF ONE-HALF TO  
C. R. DRESBACK, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 495,797, dated April 18, 1893.

Application filed February 6, 1893. Serial No. 461,231. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM HENRY GROVE, a citizen of the United States, residing at Circleville, in the county of Pickaway and State of Ohio, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

This invention relates to car-couplings which can be coupled and uncoupled without entering between the ends of the cars, and the invention has for its object to provide new and improved means for adjusting the coupling-link to enter an adjacent drawhead and for disengaging the link to uncouple the cars.

The invention also has for its object to provide a strong, substantial and durable engaging projection for the link, whereby undue wear of the projection is avoided.

To accomplish these objects my invention consists in the combination of a draw-head having a beveled projection fixed centrally at the bottom of its mouth, a pin fixed at the rear of and bearing against the said beveled projection and with which the link engages, a transverse rock-shaft, and a forked link-adjuster mounted on the rock-shaft and having one arm arranged to swing and adjust the link and the other arm to lift the link from engagement with the pin.

The invention is illustrated by the accompanying drawings, in which—

Figure 1, is a longitudinal sectional view taken vertically through the car-coupling. Fig. 2, is a horizontal sectional view. Fig. 3, is a front elevation, and Fig. 4, is a detail perspective view of the forked link-adjuster.

In order to enable those skilled in the art to make and use my invention I will now describe the same in detail, referring to the drawings, wherein—

The numeral 1 indicates a draw-head which may be cast in a single piece, or be otherwise constructed in any manner suitable for the conditions required. The draw-head is formed with a longitudinally slotted portion 2, and the bottom wall 3, of the bell mouth 4 is formed with a beveled projection 5, for coupling purposes. A pin 6 of steel, or other hard metal is fixed at the rear of and bears against the beveled projection for the purpose of en-

gaging the coupling-link 7, so that the link will not unduly wear the link-engaging projection composed of the beveled portion 5 and the pin 6. I prefer to cast the steel pin 6 in the draw-head during the process of casting the latter, but obviously the pin can be inserted in an orifice drilled in the draw-head after the latter has been cast. A rock-shaft 8 extends transversely through the draw-head and is supported in any suitable manner. As here shown the rock-shaft is journaled in the side walls of the draw-head and its extremities are provided with suitable handles 9 which may be in the form of cranks or hand wheels or be otherwise constructed for the purpose of operating the rockshaft. A forked link-adjuster 10 is rigidly secured to the rock-shaft and comprises two substantially parallel arms 12 and 13 separated from each other a suitable distance to accommodate the link 7, so that when the link engages the link-engaging projection 5 and 6, the upper arm 12 can be caused to bear against the inner end of the link and as the latter rests upon the bottom wall of the draw-head at opposite sides of the link-engaging projection a downward movement of the arm 12 will cause the outer end of the link to rise. By this means the link can be adjusted higher or lower for the purpose of placing it in the proper position to enter the draw-head of an adjacent car. The lower arm 13 of the link-adjuster is located in such position that it can bear against the lower side of the inner end of the link, so that when the arm 13 is raised it will disengage the link from the link-engaging projection 5 and 6. As here shown, the upper arm 12 of the link-adjuster is constructed to overhang the upper end of the pin 6 and therefore to permit the required oscillatory movements of the link-adjuster, the free extremity of the arm 12 is formed with a recess 14. By operating the rock-shaft 8 through the medium of either handle 9, the forked link-adjuster is oscillated and according to the direction in which the shaft is turned the link is adjusted higher or lower or it is disengaged from the link-engaging projection, as will be obvious.

The link-adjuster is normally held in the



position represented in Fig. 1, through the medium of a suitable spring 15, which, as here shown, is composed of a spring plate rigidly secured at one end to the draw head by means of bolts or other fastening devices 16, and having its free extremity engaged with a recess 17 in the rear end portion of the link-adjuster. If the shaft 8 be operated to raise or lower the arms 12 and 13 thereof, the spring will operate to restore the link-adjuster to its normal position so that a link entering the draw-head and rising up the beveled projection 5 will lift the arm 12 and then pass into engagement with the link-engaging projection 5 and 6.

The rising and falling movements of the arms 12 and 13 are confined within certain limits through the medium of upper and lower stops 18 and 19, which stops, as here shown, are simply integral parts of the draw-head. The stop 18 prevents the arm 12 from rising to such an extent that the arm 13 would interfere with the entering link, and the stop 19 limits the downward movement of the arm 13 to such an extent that the entering link could not properly act upon the arm 12 to raise the latter for the engagement of the link with the link-engaging projection.

The form of the spring 15 may be variously modified and likewise the rock-shaft 8 may be operated by any suitable devices other than crank handles.

The steel pin 6 constitutes a strengthening support for the beveled portion 5 and since this pin can be made of steel it will not be unduly worn by the movements of the link.

Having thus described my invention, what I claim is—

The combination of a draw-head having a beveled projection fixed centrally at the bottom of its mouth, a pin fixed at the rear of and bearing against the said beveled projection and with which the link engages, a transverse rock-shaft, and a forked link-adjuster mounted on the rock-shaft and having one arm arranged to swing and adjust the link and the other arm to lift the link from engagement with said pin, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

W. H. GROVE. [L. S.]

Witnesses:

ALBERT H. NORRIS,  
THOS. A. GREEN.