

(No Model.)

2 Sheets—Sheet 1.

W. J. WALKER.
CAR COUPLING.

No. 465,300.

Patented Dec. 15, 1891.

Fig 1

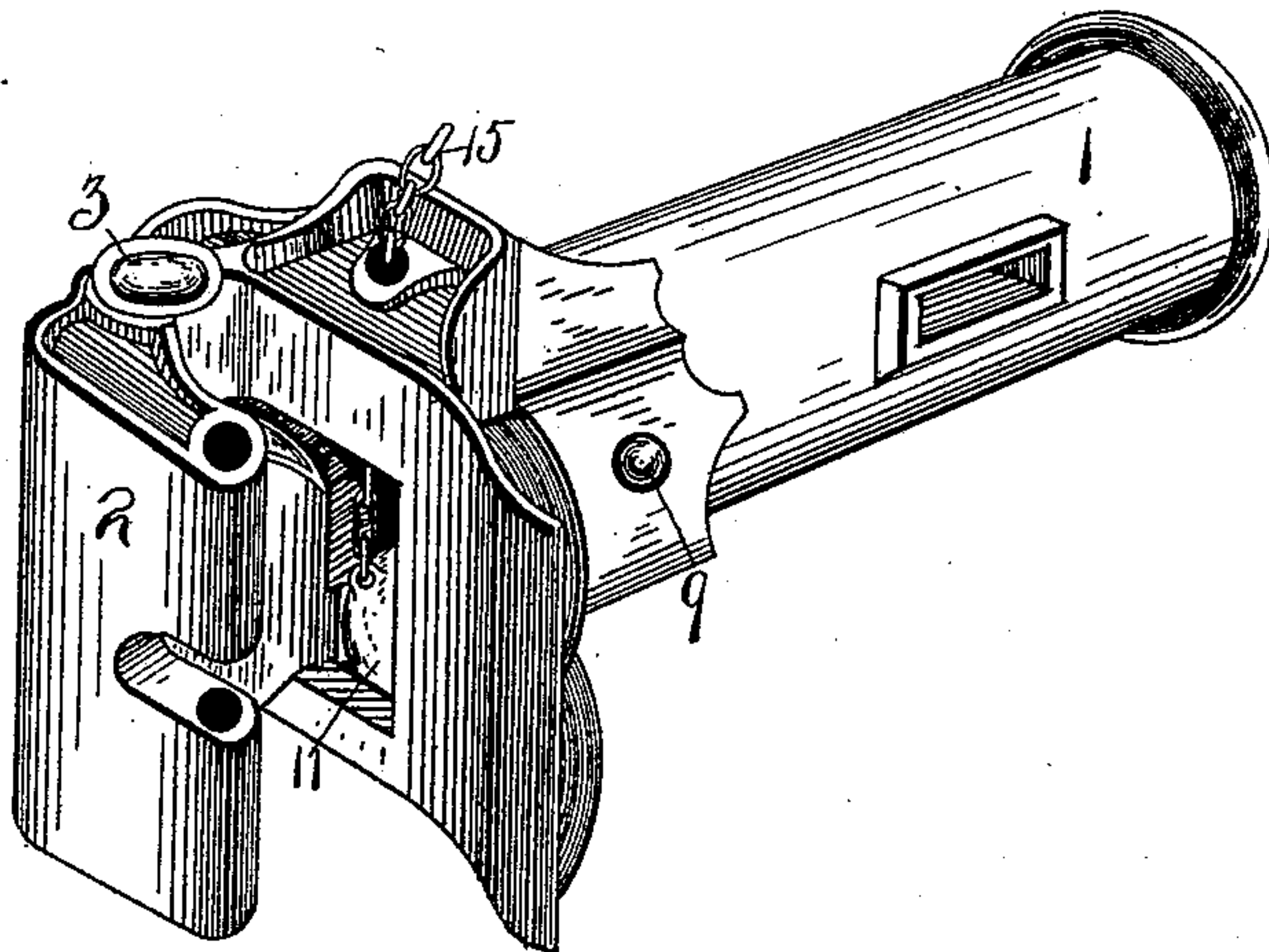


Fig 2

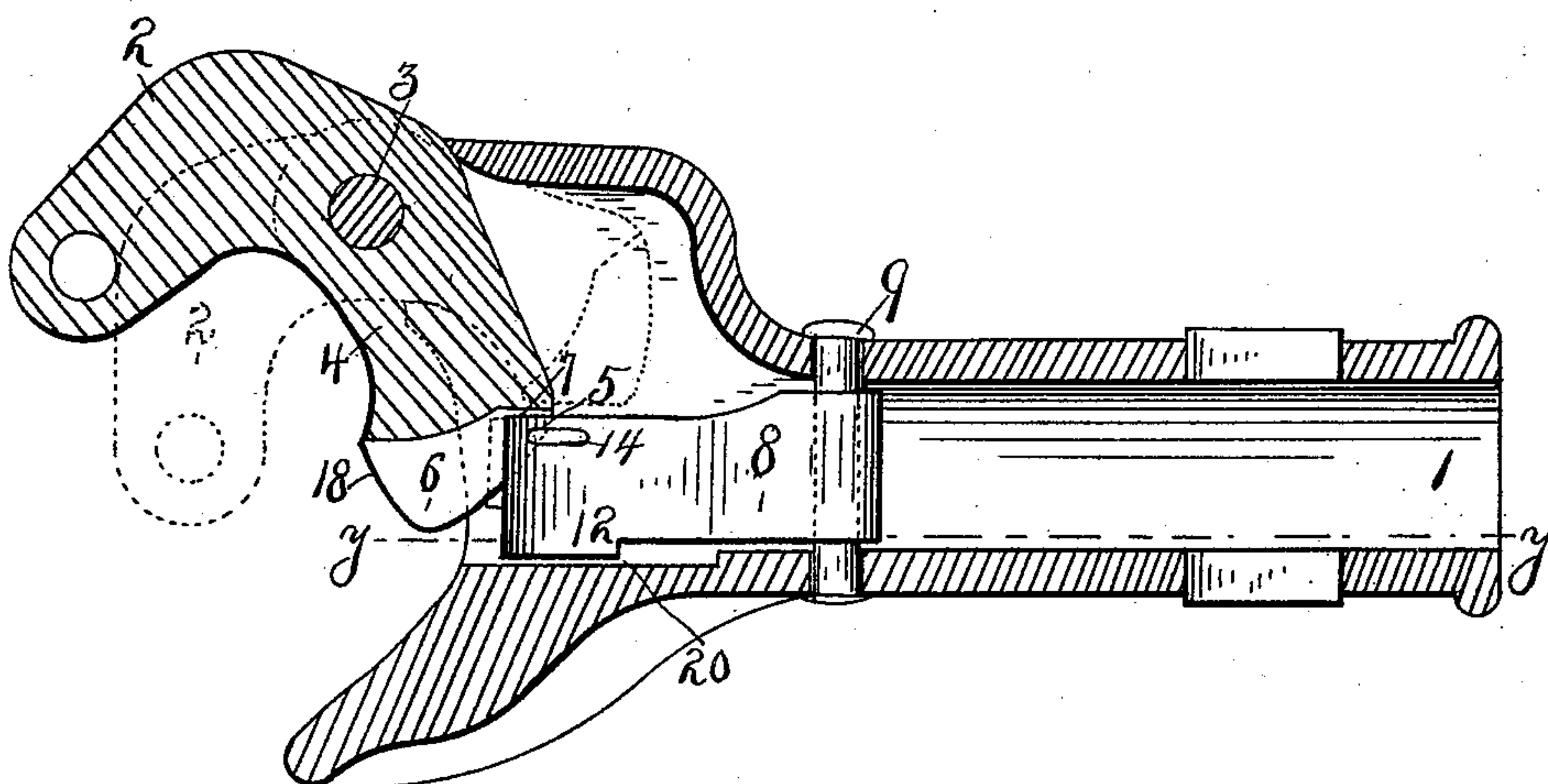
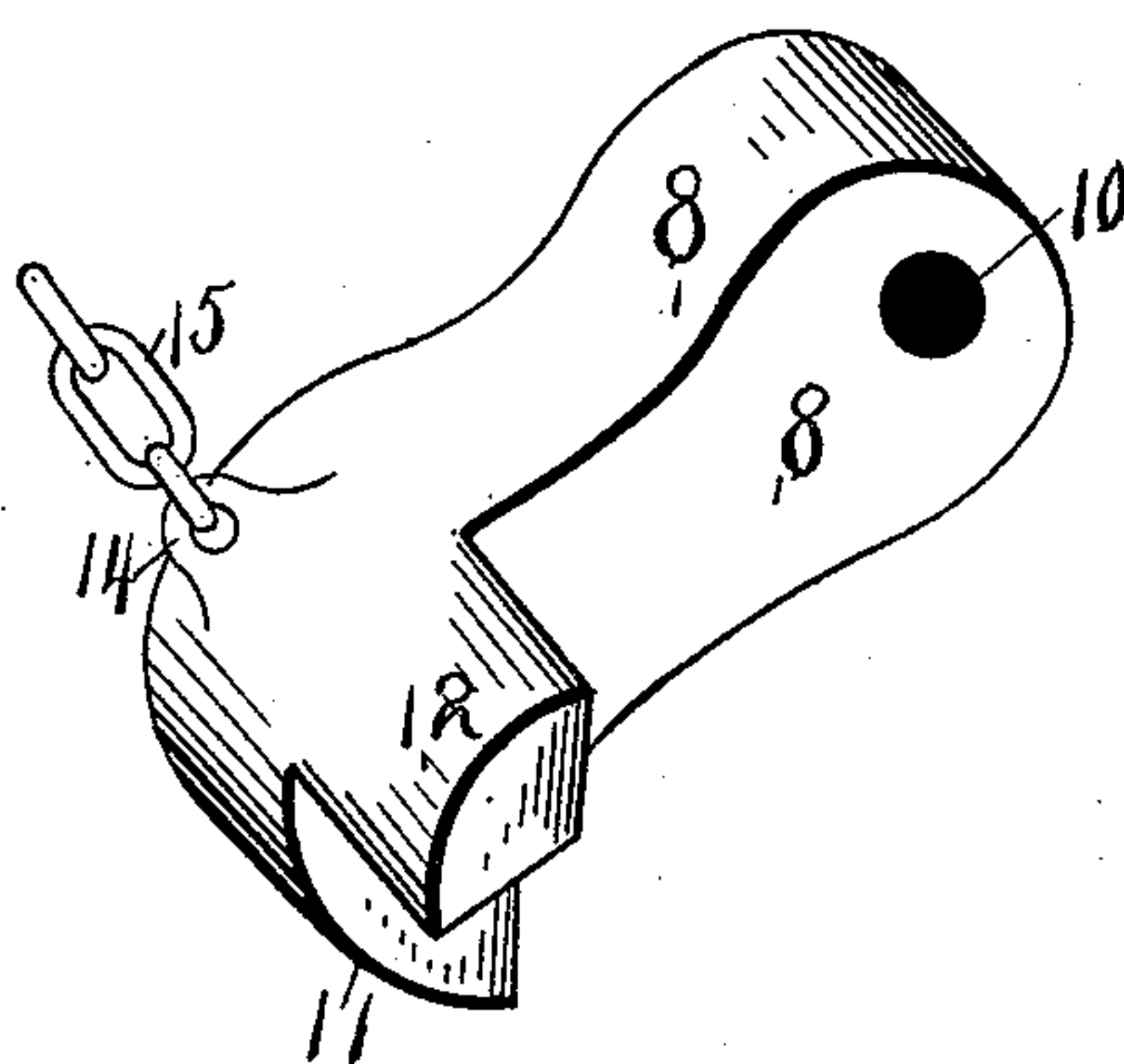


Fig 3



WITNESSES

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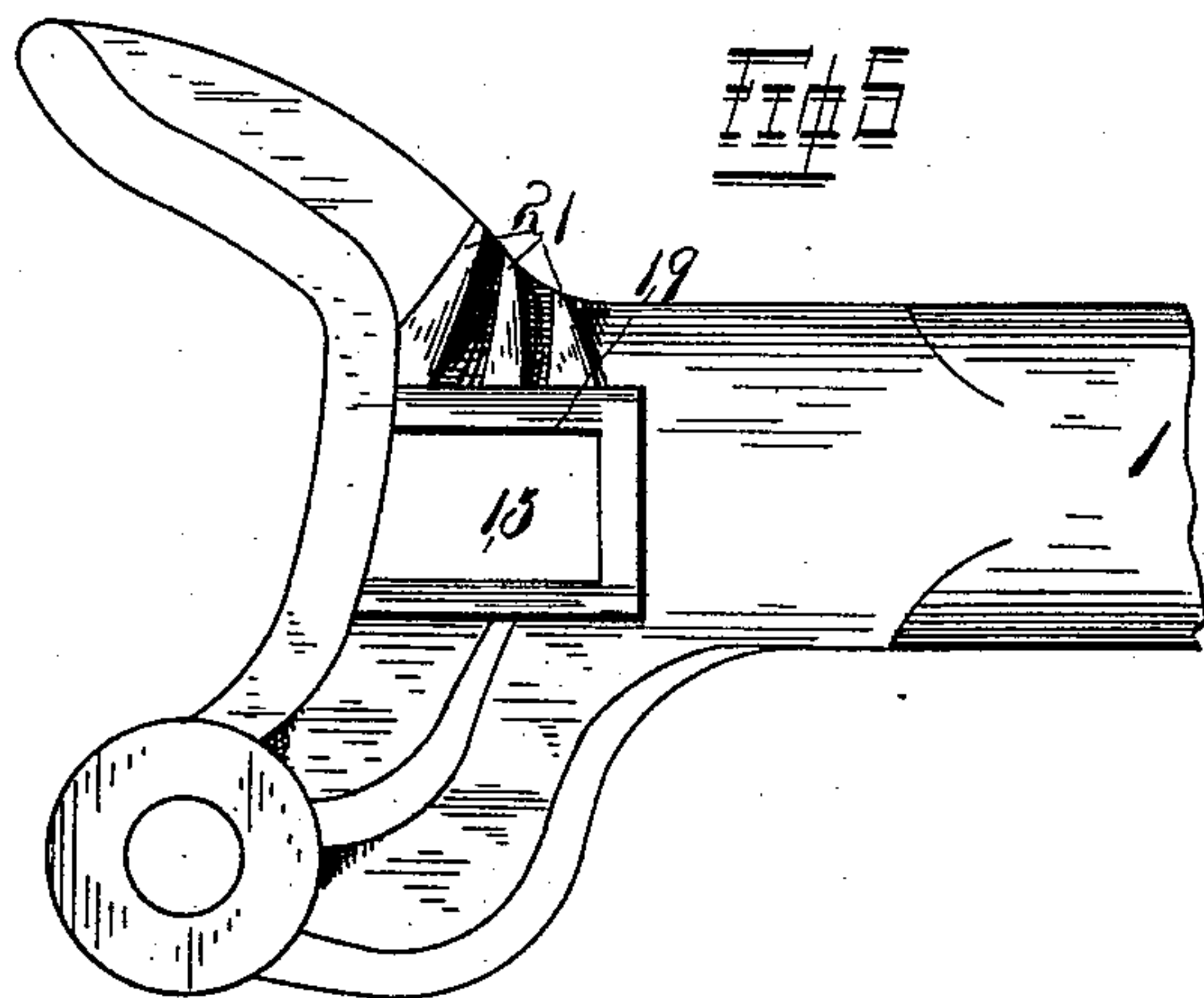
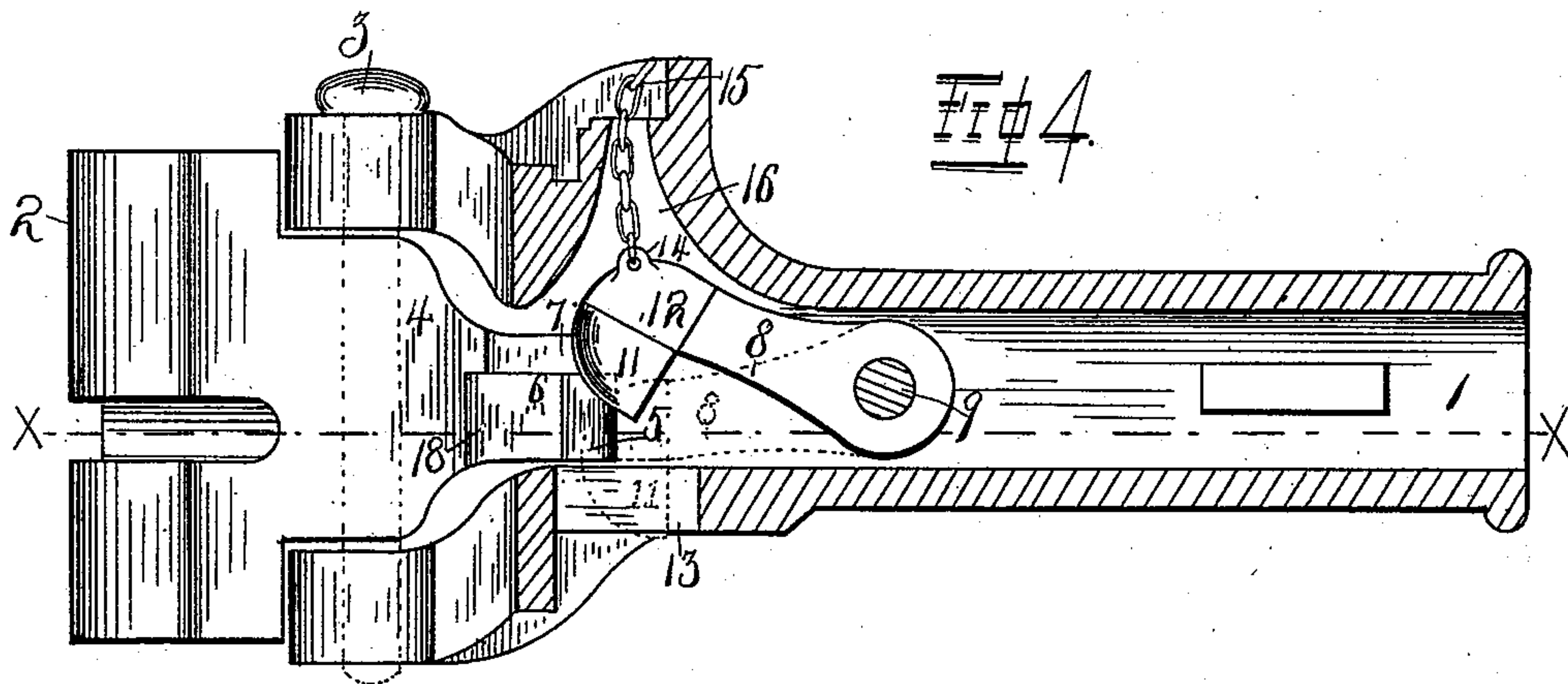
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UNITED STATES PATENT OFFICE.

WILLIAM J. WALKER, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE WALKER AUTOMATIC CAR COUPLER MANUFACTURING COMPANY, OF EAST ST. LOUIS, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 465,300, dated December 15, 1891.

Application filed August 21, 1891. Serial No. 403,301. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. WALKER, of the city of St. Louis, and State of Missouri, have invented certain new and useful Improvements in Car-Couplings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in car-couplings; and it consists in the novel arrangement and combination of parts, as will be more fully hereinafter described, and designated in the claims.

In the drawings, Figure 1 is a perspective view of a car-coupling embodying my invention. Fig. 2 is a sectional plan view of the same with the hook swung open, the section being taken on line X X of Fig. 4. Fig. 3 is a detail perspective view showing an improved locking device on an enlarged scale. Fig. 4 is a sectional side elevation of the coupling with the hook swung open, the section being taken on the line y y of Fig. 2. Fig. 5 is a plan view of the under side of the draw-head, the hook being removed therefrom.

The object of my invention is to provide a novel and simplified construction in that class of car-couplings commonly known as the "Janney" type, whereby greater strength in a locking device will be brought about and the general operation of the device will be improved.

A further object is to strengthen and improve the operation of the hook and the portion of the draw-head which co-operates therewith.

Heretofore the hooks in this class of car-coupling have been greatly weakened near the point at which they are attached to the draw-head by being provided with a recess or shoulder for limiting the outward movement of said hooks. This objection, as well as others, is obviated by my improved construction, which I will now proceed to describe.

1 represents the draw-head, the rear portion of which is of the usual construction and adapted to be secured to the timbers of the car in the well-known manner. The front or forward portion of said draw-head in its general outward appearance resembles that of the Janney type of coupler, and my im-

proved coupling is designed to couple with the ordinary Janney coupling whenever it becomes necessary.

2 indicates the rotary hook, which approximates the ordinary shape, and is attached to the forward end of the draw-head by means of a vertical pin 3, which allows it to partially rotate between ears cast upon said draw-head.

4 represents the tail end of the rotary hook, which is extended rearwardly a considerable distance and made longer than the tail end of the usual hook, and its rear extremity is provided with a rounded or cam surface 5 for engaging with a rounded or cam surface on the front end of the locking device, a recess or cut-away portion forming a flat supporting-surface 6, which is also adapted to be engaged by said locking device, and with a limiting stop or shoulder 7, which latter is adapted to come in contact with one side of the locking device and thereby limit the movement of said hook when swung outwardly, as will appear hereinafter.

8 indicates the locking device, which is of such construction as to afford great strength, to wit: It is pivoted at its rear end to the draw-head in any suitable manner so that its forward end may move up and down in a vertical plane; but preferably its rear end is pivotally mounted upon a pin 9, passing through an aperture 10, and its forward end is provided with two projections 11 and 12, respectively, each cast integral with the body of the locking device, so that the projection 11 will engage an opening or bearing 13, formed in the bottom of the draw-head, and also be engaged by the cam-surface 5 and flat supporting-surface 6, formed upon the tail end of the hook, as will appear hereinafter. The projection 12 on said locking device 8 is adapted to form a stop for the same and limit its downward movement by coming in contact with the internal surface of the lower walls of the draw-head, and said projection 12 is also adapted to form a stop to limit the lateral movement of said locking device, as will also appear farther on.

Upon the upper surface of the free end of the locking device 8 is a perforated ear 14, to which is attached a chain 15, which latter passes upwardly through a flared or funnel-

shaped passage 16, so that its upper end will project above the upper surface of the draw-head for the purpose of elevating the free end of said locking device when it is desired to release the hook in uncoupling. This flared passage 16 permits plenty of room for the operation of the chain or other device by means of which the locking device is raised or elevated, and it also permits the free end thereof to pass upwardly thereinto. (See Fig. 4.)

The operation is as follows: The normal locked position of the parts is that shown in Fig. 1, wherein the locking device 8 is shown at the limit of its downward movement with the projection 11 projecting downwardly through the aperture 13 in the bottom of the draw-head, and the projection (not shown in Fig. 1) resting upon the lower internal surface of the draw-head. When a strain is imposed upon the hook 2, (a draft strain,) it should be clear that the surface 18 on the tail end of said hook will bear against the side of said locking device which is opposite the projection 12, and thereby said strain will be transmitted to the side wall 19 of the aperture 13 by reason of the projection 11 bearing thereagainst, and a portion of said strain will be transmitted to the side wall 20 of the draw-head by reason of the projection 12 bearing thereagainst. In this way the strain is distributed in two different parts of the draw-head, obviating in a great measure any liability of either part to be broken. For the purpose of strengthening the side 19 of the aperture 13, against which strain comes, I provide a series of ribs 21, which are cast upon the underside of the draw-head and extend laterally from the side of said aperture to the side of the draw-head. (See Fig. 5.) When the hook 2 is in the position shown in Figs. 2 and 4, the locking device 8 is supported by the cam-surface 5 and flat supporting-surface 6 upon the tail end of the said hook in position ready to be dropped when a coupling is to be made. It will be observed that the locking device 8 is always supported in this position, except after a coupling has been made, so that there is no occasion for the chain 15 to drop down within the opening in the draw-head and be caught between the locking device and the walls of the draw-head, which has occurred in many cases in other car-couplings heretofore. It will also be observed that the hook 2 is limited in its outward movement by means of the shoulder 7 coming into contact with the side of the locking device that is opposite the projection 12, thereby obviating any necessity for forming a stopping notch or recess in said hook, which has been done heretofore and, as before stated, has greatly weakened the hook and rendered it liable to breakage at the point where such recess was formed. It will further be observed that the aperture 13 in the bottom of the draw-head is adapted

to act as an exit-passage for all dirt and accumulations which might otherwise be deposited upon the interior of the draw-head. The movement of the tail end of the hook 2 and the movement of the locking device 8 tends to keep the interior of the draw-head clear of all accumulations, they being automatically discharged through the aperture 13, thereby preventing all interference with the proper operation of said parts at all times.

What I claim is—

1. The combination of a draw-hook, a hook 2, adapted to swing in a horizontal plane and pivoted to said draw-head, a locking device 8, pivoted at its rear end within said draw-head, the tail end of said hook having a rounded cam-surface 5 and flat supporting-surface 6, upon which the free end of said hook is supported, except when the hook is in a coupled or locked position, and means for elevating said locking device after it has dropped to the limit of its downward movement, substantially as and for the purpose specified.

2. In a car-coupling, the improved locking device for hooks of the Janney type, the same having an aperture 10 in one end by means of which it is adapted to be pivoted to the draw-head and its forward end provided with two projections 11 and 12, respectively, each cast integral with the body of the locking device, so that the projection 11 may engage an opening in the bottom of the draw-head and also be engaged by the tail end of the hook, and whereby the projection 12 may form a stop and limit the downward movement of the free end of the locking device by coming in contact with the internal surface of the lower wall of the draw-head and also form a stop to limit the lateral movement of the locking device, substantially as and for the purpose specified.

3. In a car-coupling, the combination of a draw-head, as 1, having a flared or funnel-shaped passage 16 formed in its upper wall and communicating with the interior of the draw-head, a hook, as 2, pivoted to said draw-head, a locking device, as 8, mounted within the draw-head and pivoted at a point in the rear of said flared passage 16, a chain, as 15, connected to the free end of said locking device and passing upwardly through said flared passage 16, the free end of said locking device adapted to be elevated into said flared passage, and means for limiting the downward movement of the free end of the locking device, substantially as and for the purpose specified.

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

WM. J. WALKER.

Witnesses

BENJ. J. KLENE,
JNO. C. HIGDON.