

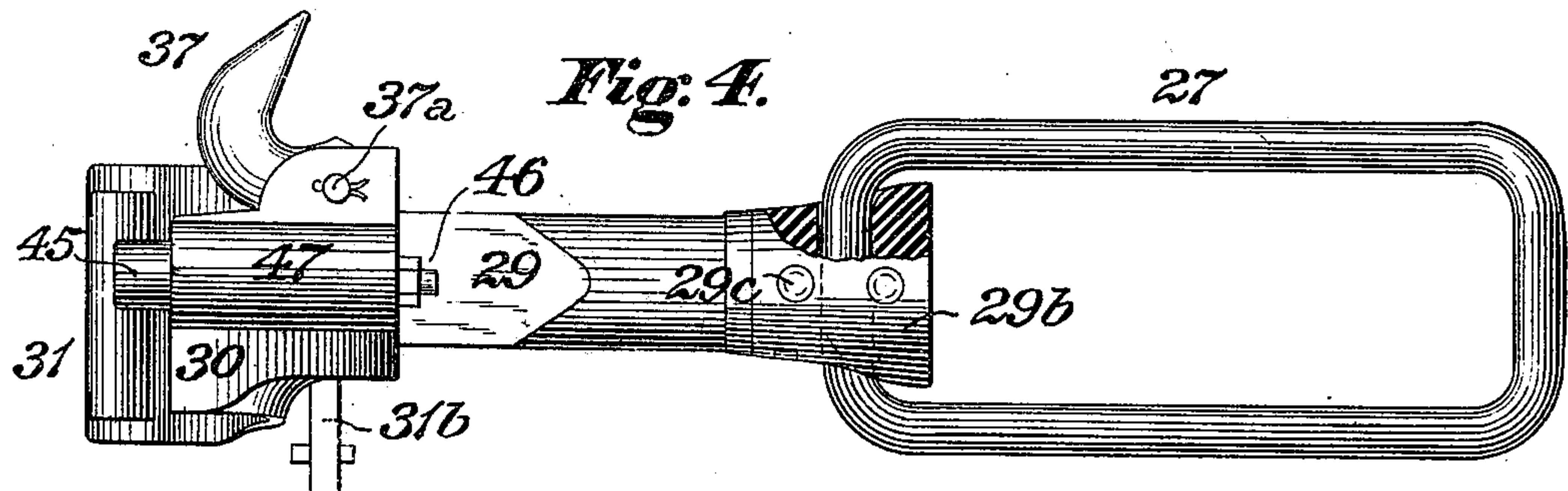
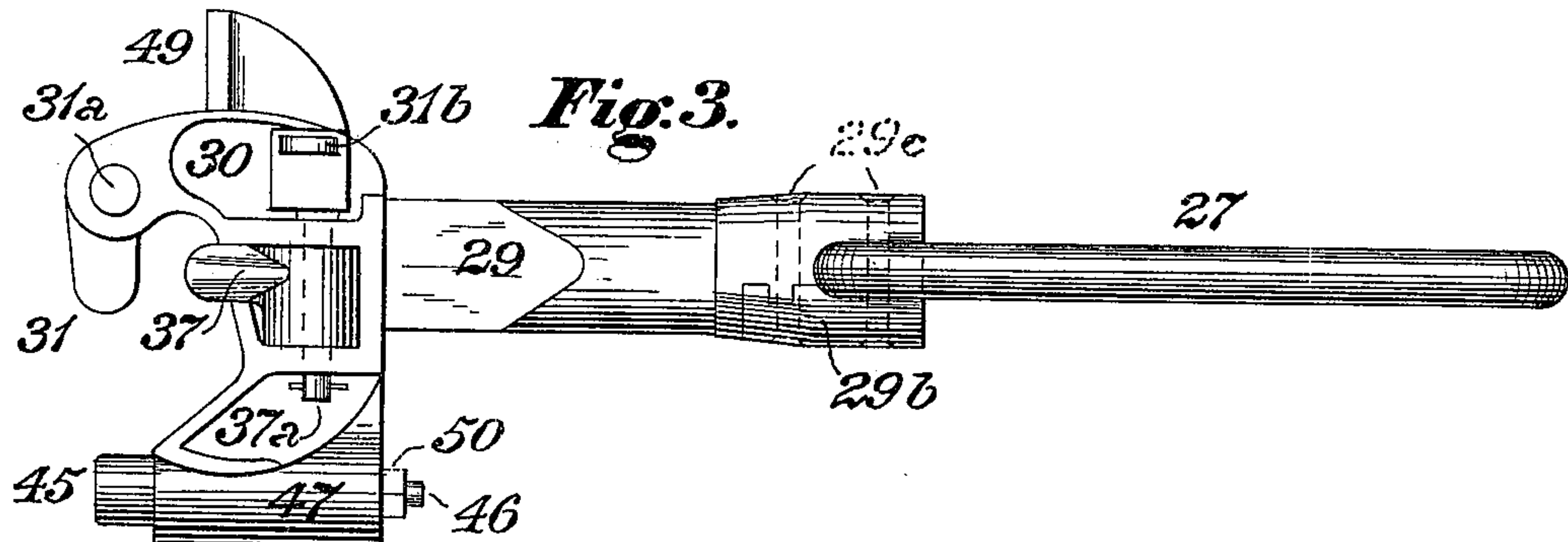
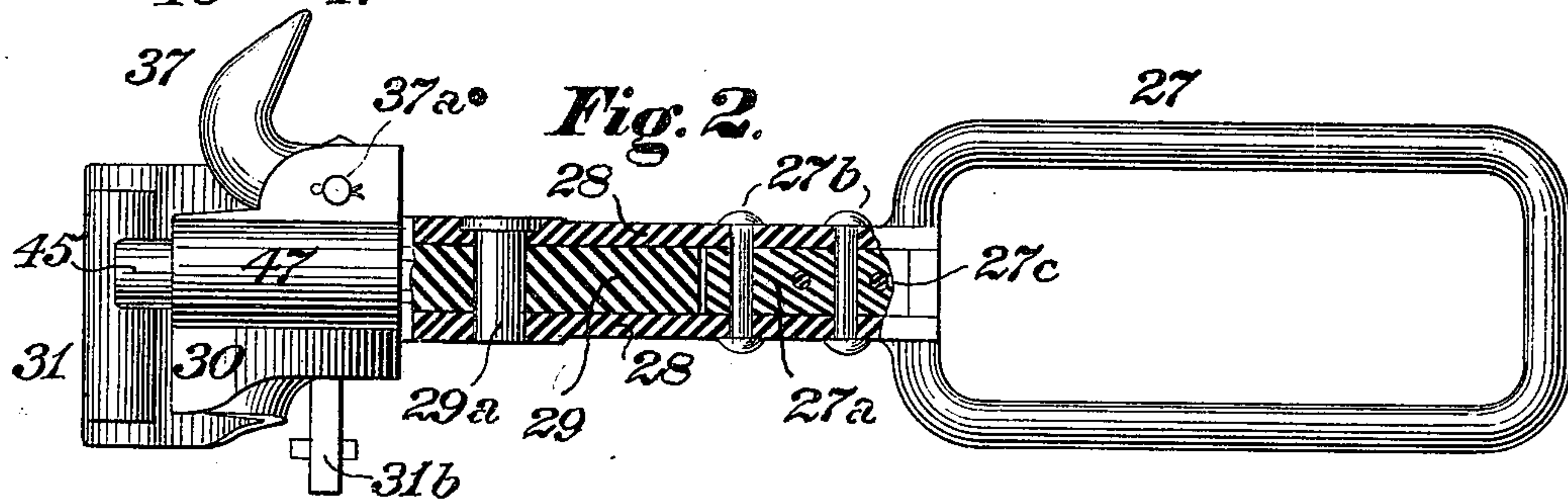
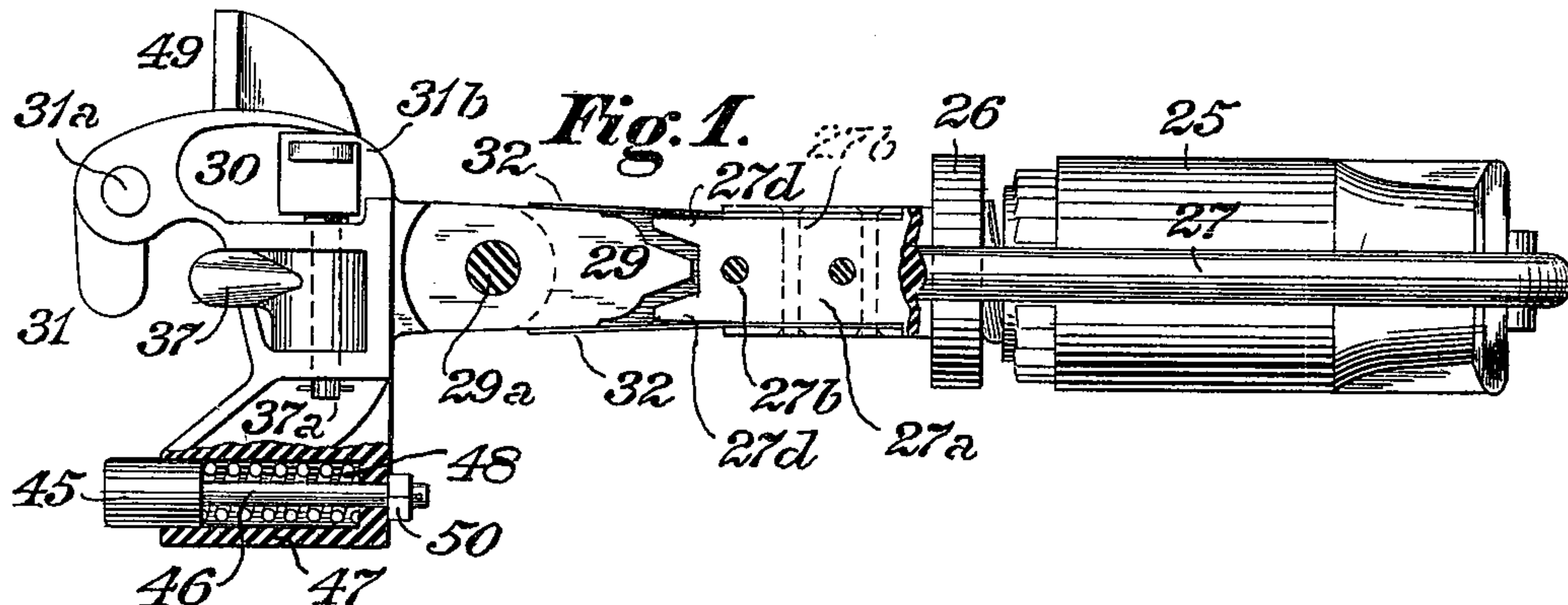
No. 672,113.

Patented Apr. 16, 1901.

G. WESTINGHOUSE.  
CAR COUPLING.

(Application filed Jan. 25, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

GEORGE WESTINGHOUSE, OF PITTSBURG, PENNSYLVANIA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 672,113, dated April 16, 1901.

Application filed January 25, 1900. Serial No. 2,717. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE WESTINGHOUSE, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Car-Couplings, of which improvement the following is a specification.

My invention is more particularly designed for use in connection with railroad-cars having a comparatively short rigid wheel-base, such as are largely employed on the railroads of Great Britain and continental Europe, but is not limited in application to that or any other specific type of railroad-vehicles.

The object of my invention is to provide an automatic car-coupling which will in practice present the advantages of being exempt from liability to uncouple in passing around short curves, of relieving strains on the car-frame in passing curves, and of capability of being coupled with equal facility and security either with another automatic coupling or with a coupling of the link type.

The improvement claimed is hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a plan or top view, partly in section, of a car-coupling, illustrating an application of my invention; Fig. 2, a side view, partly in longitudinal central section; Fig. 3, a plan view showing a modified form; and Fig. 4, a side view, partly in section, of the construction shown in Fig. 3.

In the practice of my invention I provide a coupler-head 30, to which a knuckle 31 is pivoted by a vertical knuckle-pin 31<sup>a</sup>. The coupler-head is provided with a suitable locking-pin 31<sup>b</sup>, and, except as to the features of my invention hereinafter described, it may be of any preferred form of what is known as the "vertical-plane" or Master Car-Builders' type of automatic coupler. The stem or shank 29 of the coupler-head 30 is pivoted, either directly or through the intermediation of a separate draw-bar 28, to a draft strap or yoke 27, which is adapted to surround and impart strains received by the coupler-head to a draft and buffing apparatus of any known and preferred type—as, for example, a frictional draft-gear inclosed in a housing or casing 25, the rear end of which fits against

the inner end bar of the draft-strap and which is provided with a follower-plate 26 at its front end.

As shown in Figs. 1 and 2, the draft-strap 27 is formed integral with or rigidly secured to the upper and lower sections 28 of a bifurcated draw-bar, a block 27<sup>a</sup> being interposed between the draw-bar sections at and adjacent to the draft-strap and being connected to the sections by rivets 27<sup>b</sup>. The stem or shank 29 of the coupler-head fits freely in the space between the draw-bar sections, to which it is pivoted by a vertical pin or bolt 29<sup>a</sup>. The coupler-head is thereby afforded a limited range of movement in a horizontal plane about the axis of the pin 29<sup>a</sup>, by which the liability of its knuckle 31 to become detached while passing around a curve from the knuckle of another coupler-head to which it is coupled is substantially reduced and strains on the car-frame in passing around curves are relieved. Springs 32, which are secured by rivets 27<sup>c</sup> to the draft-yoke block 27<sup>a</sup>, bear at their free ends against the opposite sides of the coupler-head shank 29, between its pivot-pin 29<sup>a</sup> and the draft-strap, and tend to return the coupler-head to and maintain it in normal position—that is to say, with the longitudinal central plane of its shank in line with that of the draft-strap and of the car. The traverse of the coupler-head about the axis of the pivot-pin 29<sup>a</sup> is restricted to a properly-limited degree by lateral stops 27<sup>d</sup>, formed on the end of the block 27<sup>a</sup> adjoining the inner end of the coupler-head shank 29 and adapted to abut against lateral inclines adjoining the adjacent end thereof.

In the modified construction shown in Figs. 3 and 4 the coupler-head shank 29 constitutes of itself a draw-bar and is pivoted directly to the draft-strap 27 instead of to an interposed separate draw-bar, as in the instance first described. The outer end bar of the draft-strap in this case serves as the pivot, the pivot pin or bolt 29<sup>a</sup> of Figs. 1 and 2 being dispensed with. The shank 29 is made of sufficient length to perform the function of a draw-bar and is provided at its inner end with a removable section 29<sup>b</sup>, between which and the body of the shank there is formed a vertical socket, in which the outer end bar of the draft-strap



is fitted freely, and the removable section and the body of the shank are thereafter connected by rivets 29<sup>c</sup>.

In order to maintain the knuckle 30 constantly in tension when coupled with that of another car, a pressure-block 45 is fixed upon a stem 46 and fitted to traverse longitudinally in a horizontal plane in a guide-socket 47 on one side of the coupler. A spring 48, located within the socket, bears on the inner face of the friction-block with a constant tendency to force it to and maintain it at the outward extremity of its traverse, which is limited by a stop-nut 50 on the opposite end of the stem 46. A vertical abutment 49 is formed on the opposite side of the coupler-head, its face being so located relatively to that of the pressure-block when at the outward limit of its traverse that the pressure-block of each coupler-head shall bear against the abutment 49 of the connected coupler-head of the adjoining car and impose a degree of compression upon the springs 48 of the pressure-blocks sufficient to maintain the knuckles constantly under tension when coupled, thereby correspondingly reducing the liability to accidental disconnection and promoting the smooth riding of the train.

In many instances it may be necessary or desirable to couple a car fitted with my improved coupling to another of existing construction which is provided with a link-coupling of the type common on European railroads. To this end a coupling-hook 37 of proper form to engage a coupling-link is pivoted by a horizontal pin or bolt 37<sup>a</sup> to lugs cast upon the top of the coupler-head 30. The coupling-hook 37 normally stands in such position that a link can be engaged and maintained securely in engagement with it whenever desired. When a coupling is made with another automatic coupler in the ordinary manner, the outer portions of the coupling-hooks 37 of the two coupler-heads are brought into contact and swing back upon the axes of their pivot-pins 37<sup>a</sup> sufficiently far to stand

clear of the knuckles when the latter are engaged one with the other, the hooks being when swung back supported upon and above the coupler-heads.

As a general rule the cars on English and other European railroads which are fitted with link-couplings are also provided with spring-buffers located on their ends, and when one of these cars is to be coupled to a car on which my present invention is applied it is desirable to provide end abutments for the buffers of the former car. To this end buffer-blocks having heads adapted to abut against the heads of the spring-buffers of an adjoining car fitted with a link-coupling may be detachably connected to bearing-plates on the end sill or buffer-beam of a car fitted with my improved coupling, said buffer-blocks being removed when the car is coupled with another having an automatic coupler. The removable buffer-blocks referred to do not form part of my present invention and are fully set forth in a separate application for Letters Patent filed by me.

I claim as my invention and desire to secure by Letters Patent—

1. In a car-coupling, the combination of a coupler-head, a knuckle pivoted thereto, a shank fixed thereto and having a vertical socket adjacent to its inner end, a draft strap or yoke, having its outer end bar fitted freely in said socket, and a removable section connected to the draw-bar shank and maintaining the draft-strap in connection therewith.

2. In a car-coupling, the combination of a coupler-head, a knuckle pivoted vertically thereto, and a coupling-hook pivoted horizontally to lugs on the top of the coupler-head, in position to be supported thereon when swung back clear of the knuckle of the coupler-head of an adjoining car.

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Witnesses:

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