

(No Model.)

E. J. LEYBURN.
CAR COUPLING.

No. 414,230.

Patented Nov. 5, 1889.

Fig 1

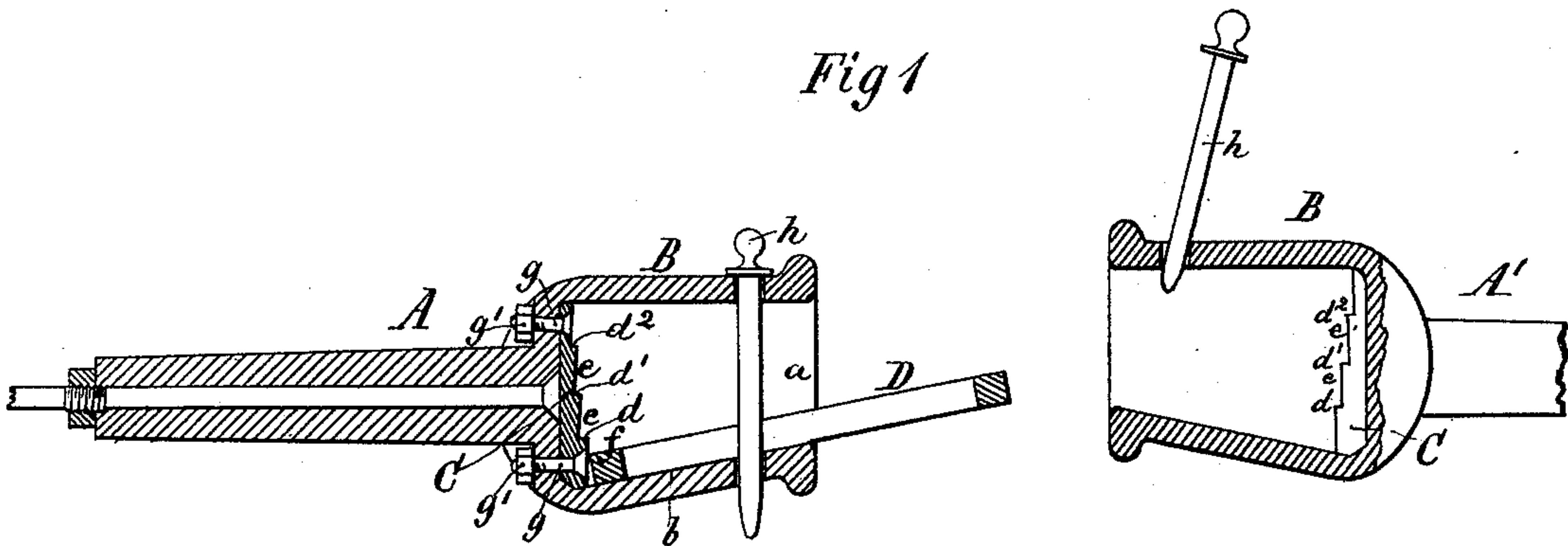


Fig 2.

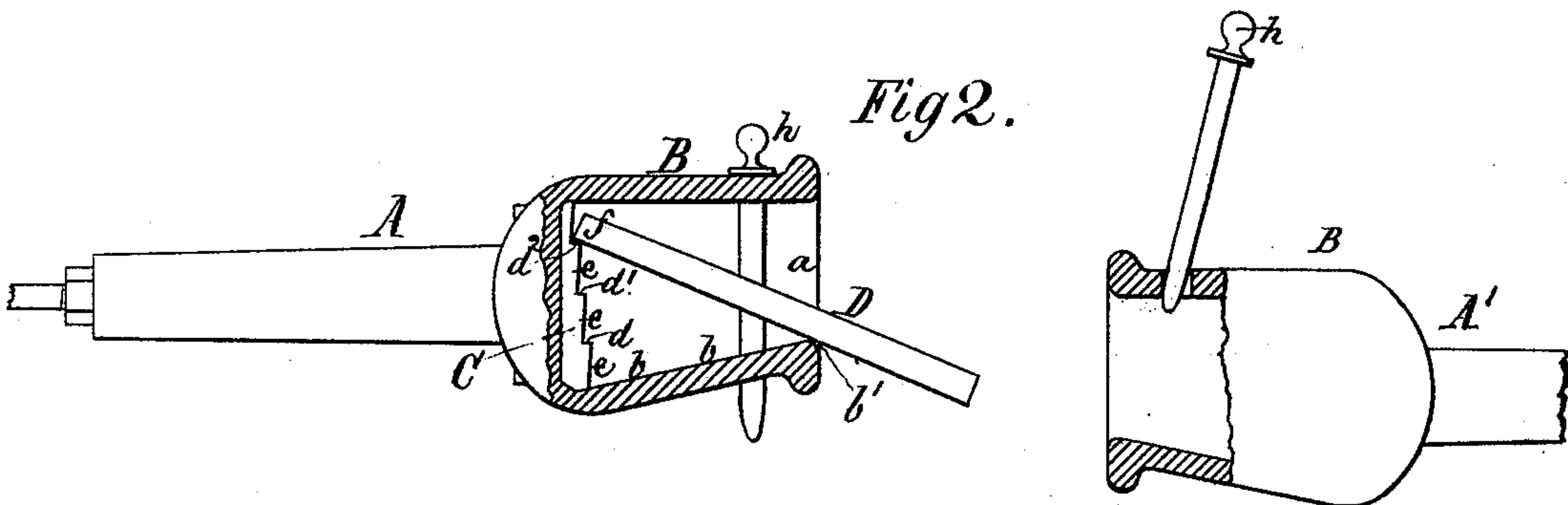


Fig 3.

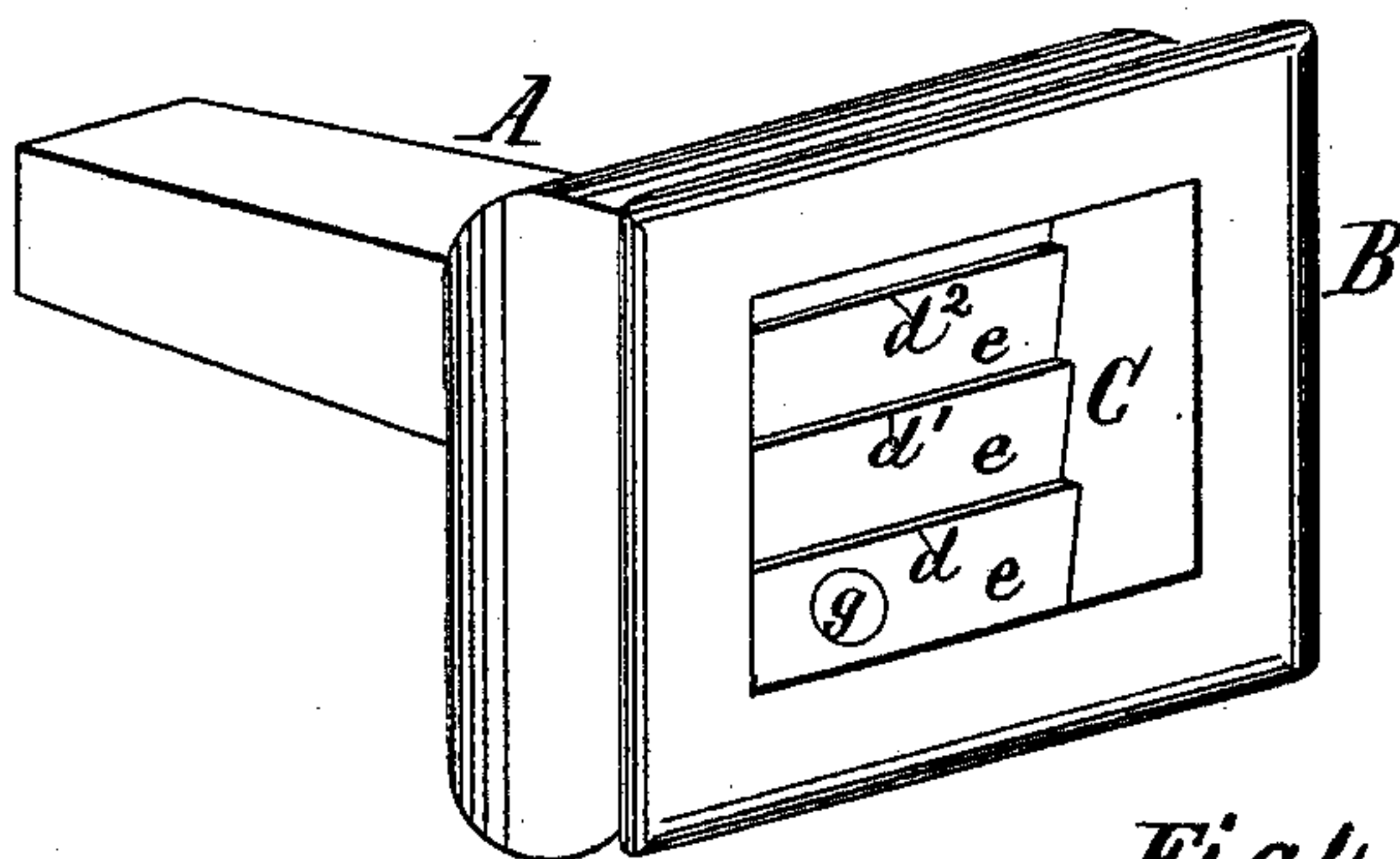
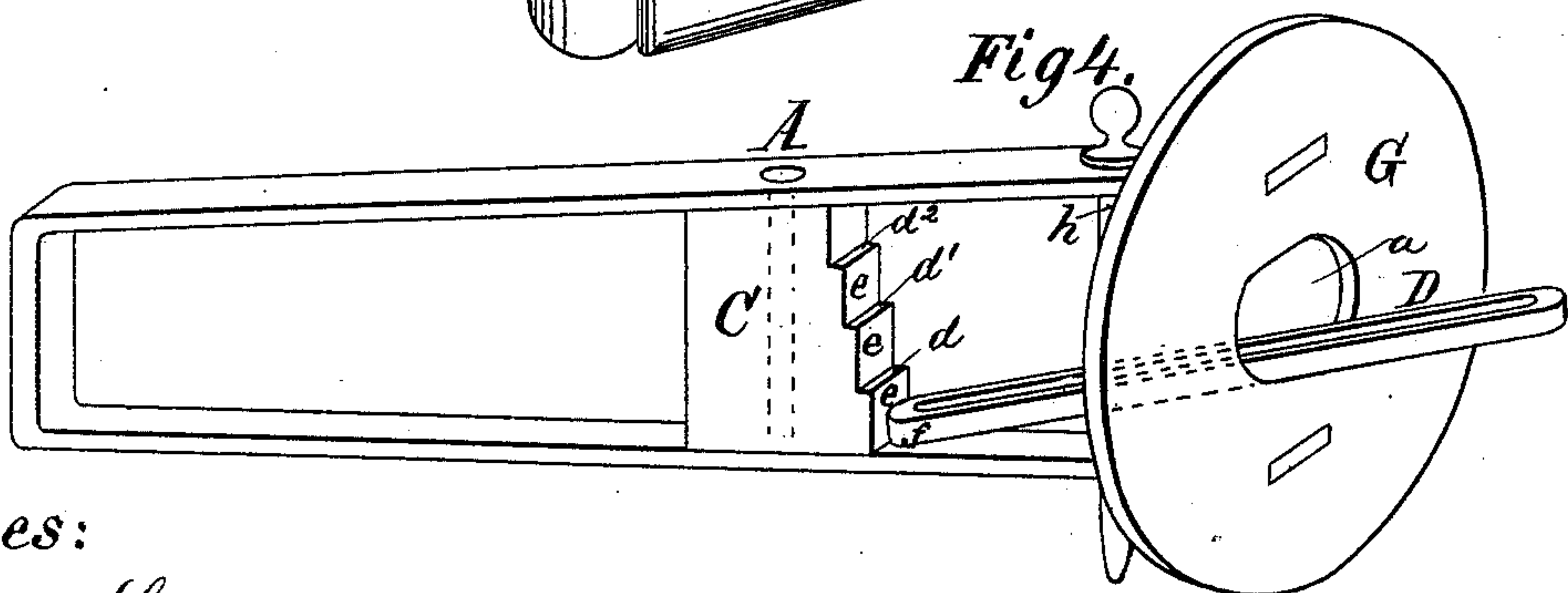


Fig 4.



Witnesses:

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UNITED STATES PATENT OFFICE.

EDWARD J. LEYBURN, OF LEXINGTON, VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 414,230, dated November 5, 1889.

Application filed May 1, 1889. Serial No. 309,276. (No model.)

To all whom it may concern:

Be it known that I, EDWARD J. LEYBURN, a citizen of the United States, residing at Lexington, in the county of Rockbridge and State of Virginia, have invented certain new and useful Improvements in Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is the improved construction of a car-coupler in which the connecting-link may be set to any desired angle suitably in the draw-head to make a connection automatically with the draw-head of an approaching car, whether the draw-head of the approaching car be higher or lower than the draw-head of the car to which my invention is applied, thereby relieving the attendant of the necessity of going between the approaching cars to guide the link in order to make the proper connection. To accomplish this purpose I construct the draw-head of my improved car-coupler with a gradual incline, which terminates in a deep depression in the rear portion of the lower half of the draw-head, and of such depth of rearward and downward inclination that the preponderating gravity of the coupling-link placed therein will cause the link normally to rest upon the inclined bottom wall of the draw-head, with its forward projecting portion elevated to the highest point at which a coupling can be effected with the draw-head of an approaching car, and in connection with such mode of construction I employ a vertical step-plate or wall having a series of open receding steps, upon which the rear end of the coupling-link may be readily made to rest in order to effect a coupling with an approaching car whose draw-head is of a lower level than that to which my invention is applied, and in either of which cases the rearward gravity of the link holds it in position for effecting the desired coupling.

In the drawings, Figure 1 is a vertical central longitudinal section of my improved car-coupler and a partially like view of the draw-head of a car with which a coupling is to be effected, its coupling-pin *h* being elevated, as shown. Fig. 2 is a vertical central longitudinal section of a portion of my im-

proved car-coupler with the remaining parts in elevation, the view showing partly in section and partly in elevation the draw-head of an approaching car with which a coupling is to be effected. Fig. 3 is a perspective view of my improved car-coupler, showing clearly the entrance to the draw-head and the series of vertical open receding steps at the rear end of the interior of the draw-head. Fig. 4 is a modified plan for effecting the normal elevation of the forward end of the link, the same being shown in perspective view in connection with the "steps" or "rests" represented in Figs. 1 and 2.

In the drawings, Figs. 1, 2, and 3, A indicates my improved car-coupler, the draw-head B of which is made with its bottom wall *b* sloping back, and much deeper at its rear than at its front end *b'*.

At the back of the opening *a* of the draw-head I provide a steel plate or rear wall C, having a series of open rearwardly-receding notches or steps *d d' d''*, against the risers *e* of which the rear end *f* of the link D may impinge and so serve as a guide during the act of elevating such end of the link to a seat upon the respective steps *d d' d''*, in order to depress the forward end of the link D to a position suitable for coupling with the draw-head of an approaching car. In Fig. 1 I have shown this plate C secured in position by bolts *g* and nuts *g'*, as represented; but this stepped device might be cast integral with the draw-head. But I prefer having a plate C of steel or other proper metal bolted to the rear wall of the draw-head, as indicated, since in the event of breakage the stepped plate can be readily removed.

In the ordinary draw-heads provided for cars the depth of the opening of the draw-head occupied by the link is such that the front end of the link always tilts downward from the front end of the draw-head, and thus the ordinary way in connecting cars is for a man to stand between them and raise the link to effect a coupling, he jerking his hand back in time to prevent being hurt; but by my invention the normal condition of the link D is as shown in Fig. 1, the greater portion of the length of the link resting upon the bottom wall *b* of the draw-head in rear of its front end *b'*, which end *b'* of the draw-head

serves as a fulcrum-rest for the link when the rear end of the link rests upon either of the steps d d' d^2 , and in all of which positions the preponderating rearward gravity of the link holds it in place for effecting a coupling, so that by this arrangement I am enabled to "set" the link while the car carrying it is approaching the car with which the coupling is to be effected. By my construction of the plate C the risers e between the steps d d' d^2 serve as adjusting-guides against which to press the end f of the link D while elevating and seating such end from its position shown in Fig. 1 to its position shown in Fig. 2, or to and upon any intermediate step, as the case may be, in order to effect a coupling.

In Fig. 1 I have shown a draw-head A' of a car having its coupling-pin h raised, supposed to be approaching for coupling with my improved draw-head A of said figure, and with the link D of draw-head A having its forward end elevated to its greatest height for such purpose; but in Fig. 2 said link D has its forward end fully depressed for the purpose of coupling, and with its rear end resting upon the step d^2 of the plate C, and it is manifest that any intermediate step may be utilized to accommodate the height of respective draw-heads of cars to be coupled together.

In Fig. 4 the bumper-plate G has a central opening, as a , through which the greater portion of the link D is passed, and with its rear end f resting against the plate C, as shown,

thus effecting the normal inclined position of said link, as shown in Fig. 1, within the draw-head B.

My invention may be applied to draw-heads which have their pins or hooks automatically held up without changing its principle.

What I claim, and desire to secure by Letters Patent, is—

1. A draw-head B, having a rearwardly and downwardly inclined wall b of greater length than one-half of the length of the coupling-link D, in combination with the rear wall C, provided with a series of rearwardly-receding steps d d' d^2 and risers e , link D, and coupling-pin h , substantially as and for the purpose described.

2. A coupling draw-head provided with a chamber having rearwardly-receding steps for the entering end of a coupling-link to rest upon, and a downwardly and rearwardly inclined bottom wall b , the said chamber being of greater length than one-half the length of the coupling-link, in combination with a coupling-link D, having a preponderating weight and length in rear of the front end b' of the draw-head during the act of coupling, substantially as described.

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

EDWARD J. LEYBURN.

Witnesses:

S. O. CAMPBELL,
E. L. PERRY.