

P. J. BJÖRK.

SPIKE PULLER.

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960,621.

Patented June 7, 1910.

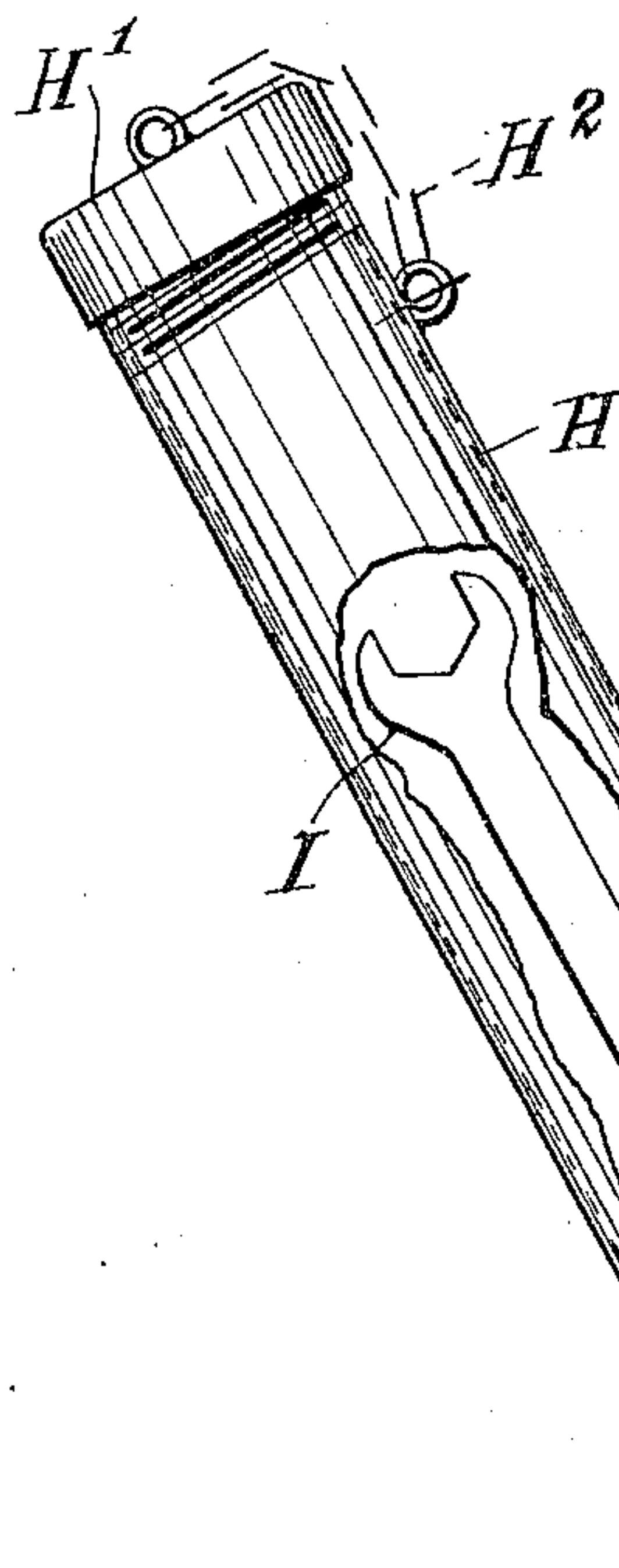


Fig. 1.

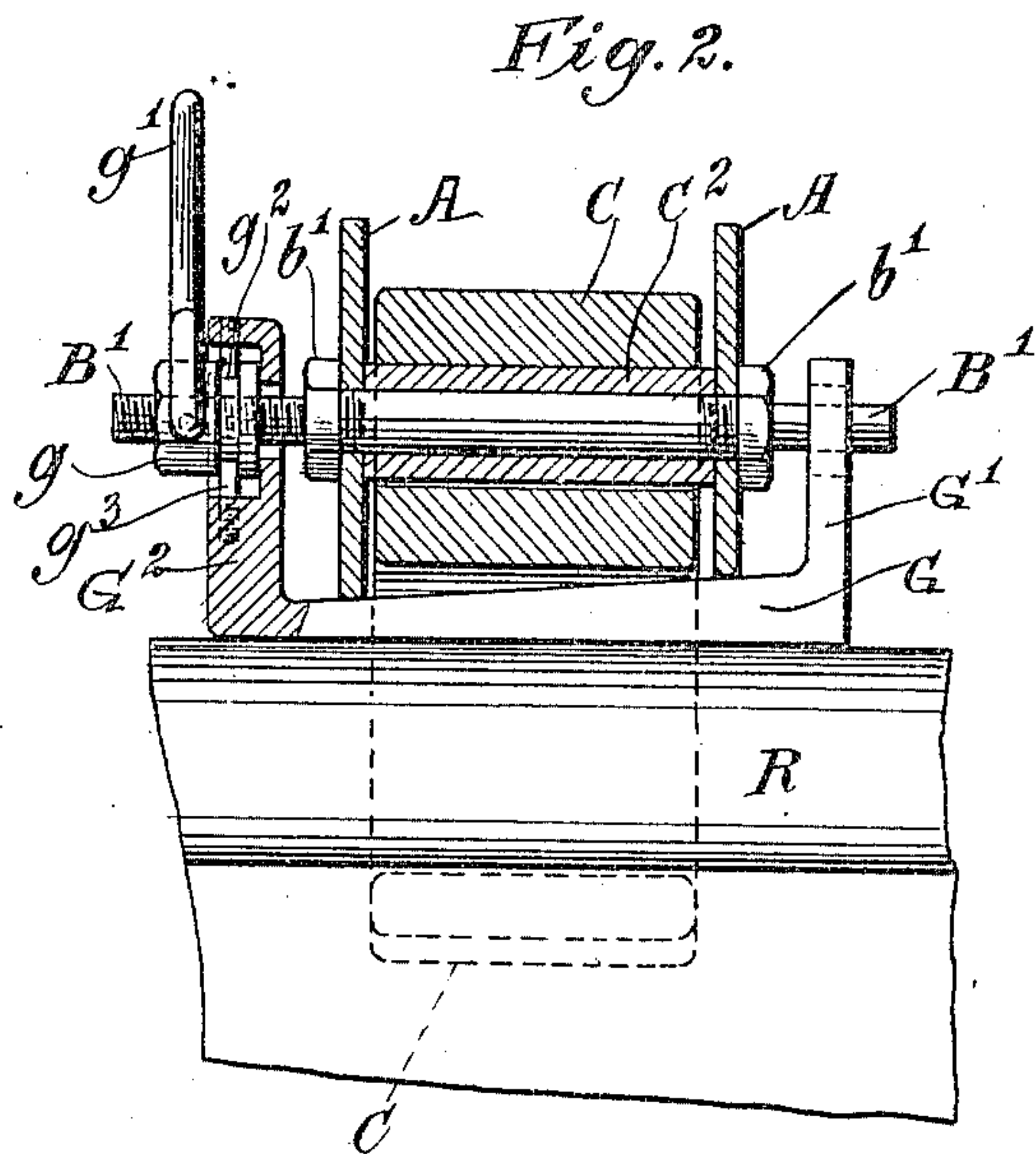
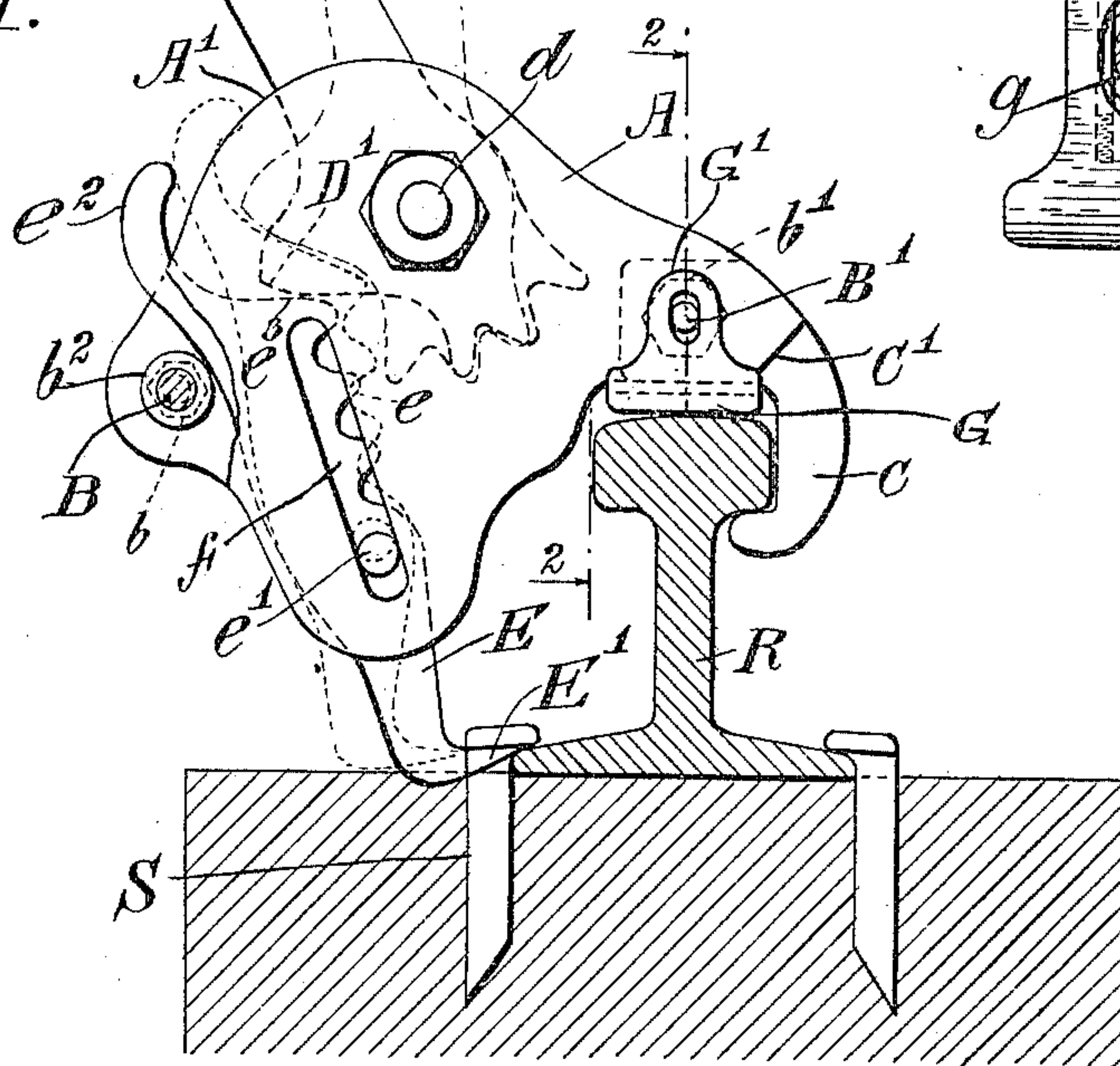


Fig. 2.

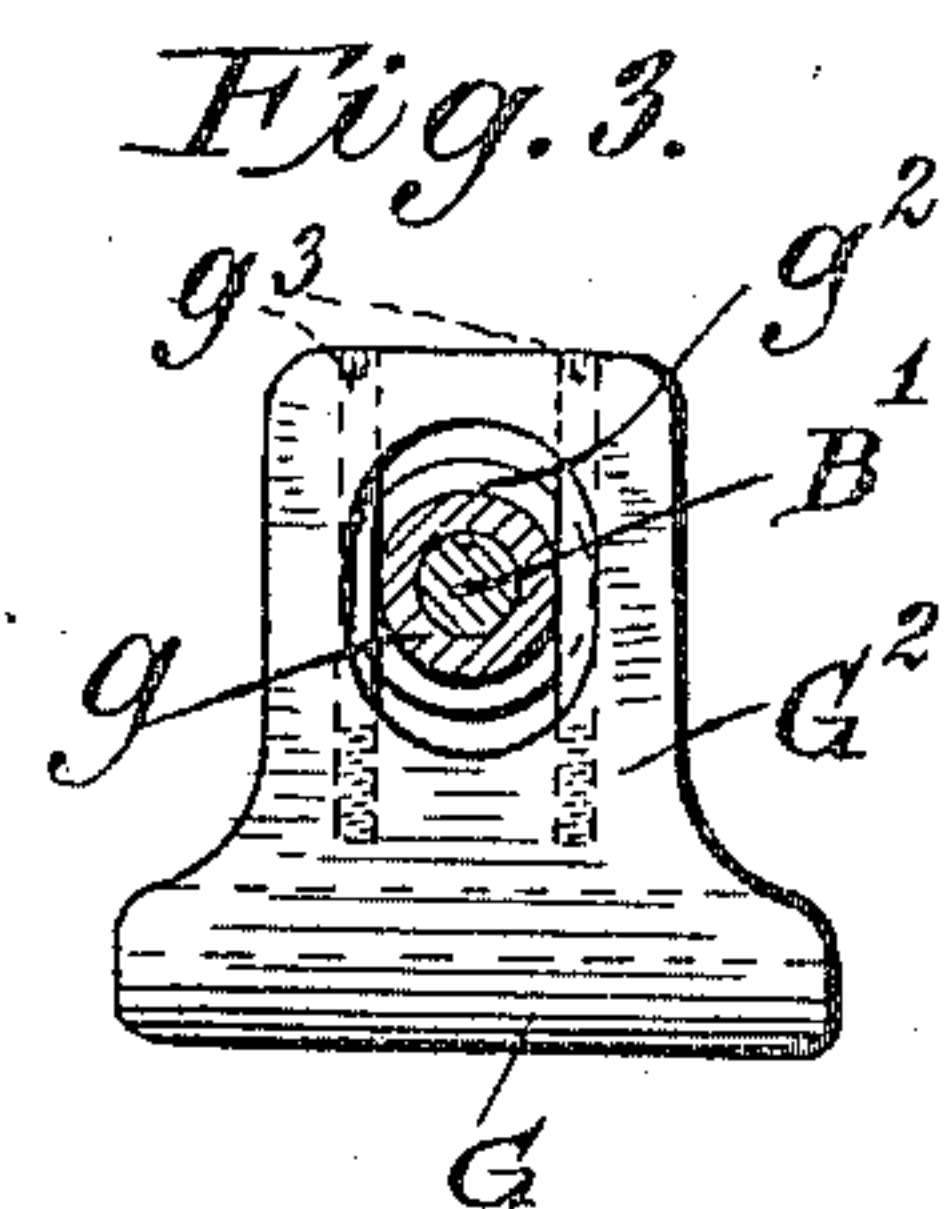


Fig. 3.

Witnesses
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SPIKE-PULLER.

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To all whom it may concern:

Be it known that I, PER JOHAN BJÖRK, a citizen of the United States, residing at New York city, in the State of New York, have invented certain new and useful Improvements in Spike-Pullers, of which the following is a specification.

My invention relates to a tool for pulling railroad spikes, and its objects are to furnish a tool by which a firm hold is secured on both the rail and the spike, and also one by which a spike may be pulled with ease, in an uninjured condition, so that it can be used again if required.

Reference is herewith made to Patent No. 524,082 which was granted to me August 7th, 1894, which device therein described I have found somewhat defective, and this application is for improvements in the identical tool shown in Patent No. 524,082, of which patent I am still the exclusive owner.

Experience with the tool as shown in Patent No. 524,082 makes it clear that I failed at that time to consider the wearing of the track rail in its effect upon the efficiency of the tool as regards its firm bite on the rail, and in the difference in distance between the top of the rail and the spike; nor did I consider the amount of friction between the claw-member and the bolt upon which it slides.

What I now propose to claim is the recent additions I have made to the tool for the purpose of overcoming the defects above stated.

As related in my previous application, my invention consists of a head of suitable construction to which is fulcrumed a lever having at its inner end several cog teeth adapted to engage a series of cog teeth projecting from a movable claw-member, said head being provided with a hook for engaging the head of the rail and supporting the tool, so that when the lever is properly worked the claw may be caused to engage under the head of a spike and the same drawn.

Other details of construction are features of my invention, and will hereinafter be fully described and specifically claimed.

In the accompanying drawings Figure 1. is a side elevation of my spike puller, showing the hook engaged with a rail and the claw-member in engagement with a spike just before it is drawn, the dotted lines showing the position of the parts previous

to the engagement of the claw-member with the spike. Fig. 2. is an end section through the lines 2. 2. in Fig. 1, showing the details of a movable and adjustable wedge by which the tool is adapted to rigidly fit either a new or worn rail. Fig. 3. is a side view of the wedge itself, showing details of the bolt, nut, and pins by which the wedge is adjusted.

Letters of reference indicate corresponding parts.

Referring to the drawings, the head or frame of my tool consists of two cheek plates A, A, of irregular shape, which are rigidly connected by means of bolts B, B¹, and nuts b, b¹, screwed onto the bolts. Rigidly secured between the rear portions of the cheek plates of the head by means of bolt B¹, is an inwardly curved hook C, the same being provided with shoulders C¹, which abut against the edges of the plates and steady the hook. Fulcrumed on a bolt d connecting the upper portions of the cheek plates, is a hand lever D, of suitable length, which terminates in a tube extension, and which being capped or covered, is utilized as a tool case. At the inner end of the lever D are several cog teeth D¹, which are adapted to engage with a series of cog teeth e on the rear edge of a claw-member E of hardened steel movably mounted between the cheek plates and provided with a suitable claw E¹. In the forward portions of the cheek plates of the head are formed a pair of opposite parallel guide slots, f, f, which extend in downward direction and receive the guide pins e¹ located at opposite sides of the claw member E.

In using the tool the hook C is engaged over the rail R to afford a firm support for the same and enable the proper purchase of the lever D, the latter and the claw-member E being then in the position indicated in the dotted lines in Fig. 1, with the inwardly curved finger e² at one side of the upper end of the claw member resting against the cam projection D¹ located on the forward lower side of the lever. A forward movement of the lever causes the cam projection D¹ to move along the inclined heel e³ of the claw member, and forces the claw E¹ under the head of the spike S. Now, by imparting to the lever D a number of quick, but forcible movements, the projection D¹ successively strikes the heel e³ of the claw-member and loosens and starts the spike from the tie in

which it is embedded. Having thus started the spike, it is readily withdrawn in a vertical position, without bending it, the teeth d^1 of the lever meshing into the teeth e of the claw-member, so that the latter is raised with its forward edge sliding upon a roller b^2 which revolves upon the bolt B.

To enable the tool to securely fit a worn rail as well as a new one, I have inserted underneath and around the cheek plates A, A, where the bolt B^1 passes through them, a wedge G having a bearing width on the rail nearly as wide as the rail itself, and having two upright ends as shown in Fig. 2, which figure is described as follows.

A, A, are the cheek plates held rigidly together by nuts b^1 on the bolt B^1 which hold the cheek plates against a sleeve C^2 , which sleeve keeps the cheek plates from binding the movable hook C too firmly. An adjustable wedge G has two upright ends, G^1 , G^2 , in which ends are oblong holes through which the bolt B^1 passes. On one end of bolt B^1 is a long thread and an outer nut g which nut is grooved. On either side of this nut a pin is screwed into the wedge metal so that the two pins g^2 , g^3 , (Fig. 3) are in the groove of the nut g and keep it in the same constant position. Fastened to the nut g is a short lever or wrench g^1 by which, or by a loose wrench if desired, the nut g can be turned. Now, if the rails are so worn that there is too little distance between the top of the rail and the bearing of the hook C on the under side of the rail to make the tool rest securely, a slight turn of the nut g will cause the bolt B^1 and the wedge G to move in opposite directions, thus raising or

lowering the back of the tool and the hook C as may be necessary to make it bite securely.

In my previous design of this tool I show a bolt B used, not only to bind the cheek plates, but also as a brace on which the claw member E slides when rising. Experience has shown an excessive friction at that point which I now lessen by placing a revolving sleeve or roller b^2 on the bolt B. Frequent loss of wrenches and tools has also suggested the addition of a tube H as a handle and receptacle for wrenches and tools. This tube has a cap H^1 which cap is guarded by a chain H^2 .

Having thus described my invention I claim as new and desire to secure by Letters Patent;—

In a spike puller, the combination with a head provided with means for engaging a rail, and a lever fulcrumed to the head and provided with a cam projection, of a claw member guided in the head and provided with a claw, said lever and claw member being provided with means for effecting their engagement;—with an adjustable wedge so arranged as to increase or diminish the distance between the body of the tool and the rail, and a hook C so arranged that the raising or lowering of the body of the tool by means of the wedge, will cause said hook to adjust itself to grip firmly on rails of varying sizes.

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Witnesses:

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