

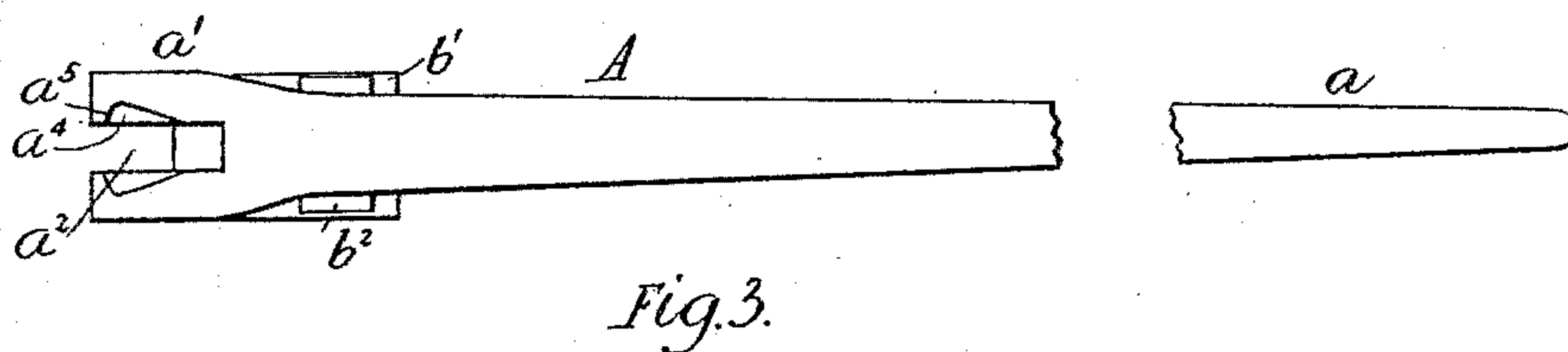
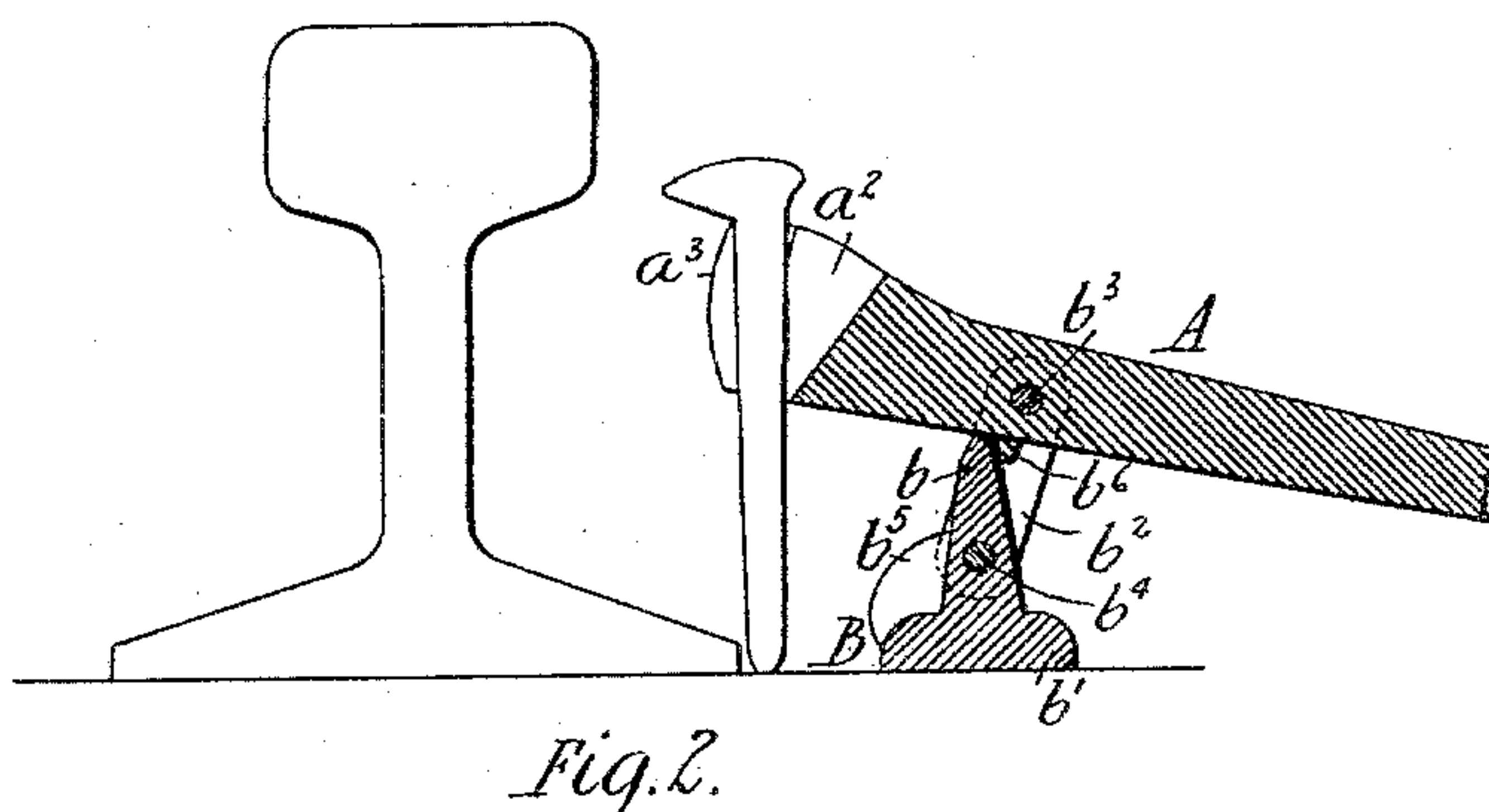
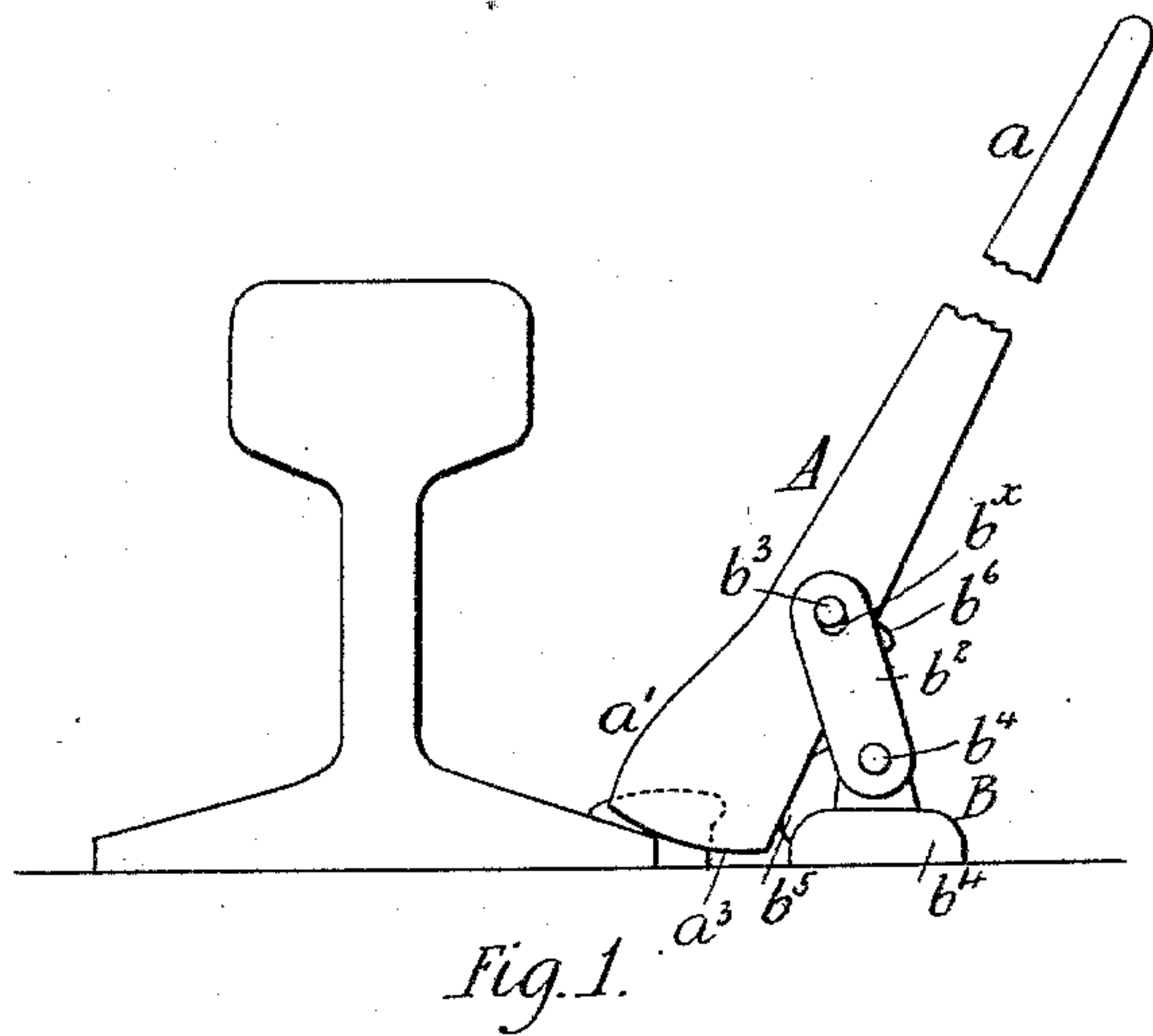
(No Model.)

VAN R. PAIGE.

DEVICE FOR DRAWING SPIKES, BOLTS, &c.

No. 597,294.

Patented Jan. 11, 1898.



Witnesses

S. E. Zimmerman
W. J. Norton

Inventor

Van R. Paige

By W. W. Dudley & Co.
His Attorneys

UNITED STATES PATENT OFFICE.

VAN R. PAIGE, OF HOPKINTON, NEW HAMPSHIRE.

DEVICE FOR DRAWING SPIKES, BOLTS, &c.

SPECIFICATION forming part of Letters Patent No. 597,294, dated January 11, 1898.

Application filed July 1, 1896. Serial No. 597,659. (No model.)

To all whom it may concern:

Be it known that I, VAN R. PAIGE, a citizen of the United States, residing at Hopkinton, in the county of Merrimac and State of New Hampshire, have invented certain new and useful Improvements in Devices for Drawing Spikes, Bolts, &c.; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

15 This invention relates to devices for withdrawing railway-rail spikes, bolts, and the like, and has for its object the provision of an improved draw-bar by the operation of which the spike, bolt, or the like is readily removed without injury, the construction of the bar insuring a proper hold on the head of the spike or bolt and the withdrawal of the latter in a straight line, whereby fracture and bending are entirely avoided.

25 The following description is directed to the details of construction and operation of my improved draw-bar, and in connection with the description attention is called to the accompanying drawings, in which—

30 Figure 1 is an elevation of my improved draw-bar in position for extracting a railway-rail spike. Fig. 2 is a longitudinal sectional view of the same in the position it assumes when completing the withdrawal of the spike. Fig. 3 is a top plan view of the draw-bar.

Referring to the said drawings by letter, A denotes the bar proper, one end of which is reduced to form the handle a , while the other end is enlarged to form the head a' , in which is a slot a^2 for the reception of the spike or bolt, said slot being substantially rectangular in horizontal section for a purpose hereinafter explained. The outer or fulcrum surface a^3 of the head is inclined and slightly curved, as shown, and the rear wall of the slot extends from a point near the base of said fulcrum-surface on an opposite inclination to afford ample space for the upper end of the spike or bolt. Recesses a^4 are made in each of the side walls of the slot for the spike or bolt head, said recesses being formed of two inclined walls, one of which, a^5 , engages

in practice the under side of the spike or bolt head flanges. The recesses have their greatest depth at the upper end and diminish gradually toward the rear wall of the slot, as shown.

In Figs. 1, 2, and 3 is shown my form of shifting fulcrum, consisting of the fulcrum-piece B, reduced at its upper end to a blunt edge b , which engages the under side of the bar, as shown, and which has an integral base b' . This fulcrum-piece is connected to the bar by shackles $b^2 b^2$, each of which is perforated at the ends and slotted at one end, as at b^x , and has pin connections at b^3 with the bar through said slots b^x and at b^4 with the fulcrum-piece. b^5 is a stop on the fulcrum-piece, which determines the angle of the bar when in the position for starting the spike, and at b^6 on the under side of the bar is a stop which engages the fulcrum edge b . In practice this construction insures a constant change of fulcrum during the operation of withdrawing the spike and results in a movement of the bar-head a' , and consequently of the spike held thereby, in practically a vertical straight line, the advantages being the minimum of friction, owing to the withdrawal of the spike in a line coincident with the line in which it was driven, and also the withdrawal of the spike intact, there being no bends or fractures.

In the operation of my invention the bar is placed in position with the recessed portion of the slot engaging the spike or bolt head and with the fulcrum-piece beneath the head. The bar is then moved downward until the spike or bolt is partially withdrawn, the fulcrum-piece automatically shifting, and with the shifting fulcrum the bar is further moved until the withdrawal is complete. The slot is made of sufficient width to receive the spike or bolt shank. Hence a firm hold is at all times had on the bolt, whereby fracture is avoided. The feature of the shifting fulcrum insures the withdrawal of the spike in a line coincident with the line followed in driving, the result being the withdrawal of the bolt intact without injury and free from bending.

An advantage incidental to the use of my improved bar is that less power is required than heretofore in the operation, owing to the fact that the spike or bolt in its withdrawal takes the same direction as when being driven,

there being no lateral strain and consequently no increased friction.

The peculiar form given to the slot in the head—namely, substantially rectangular—insures a proper distribution of the strain on the spike or bolt, as the slot will receive the spike or bolt as the bar is depressed, and, moreover, a better hold on the spike or bolt results from this construction.

10 I claim as my invention—

1. In a drawing device of the class described, the combination of a draw-bar having a beveled stop on its lower side, a shifting fulcrum-piece provided with an upper tapering edge engaged by said beveled stop, and the shackles connected to said fulcrum-piece and draw-bar, substantially as set forth.

2. In a drawing device of the class described, the combination of a draw-bar having a stop on its lower side, a shifting ful-

crum-piece provided with an upper tapering edge engaged by said stop, a stop at the base of the fulcrum-piece for the forward end of the draw-bar, and shackles connected to said fulcrum-piece and draw-bar, substantially as described.

3. The combination with a draw-bar of the class described provided with a shoulder on its under side, a shifting fulcrum-piece having a fulcrum edge engaging said shoulder, and a shackle connection between said fulcrum-piece and bar, substantially as described.

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

VAN R. PAIGE.

Witnesses:

SAM K. PAIGE,

GEO. C. BLAISDELL.