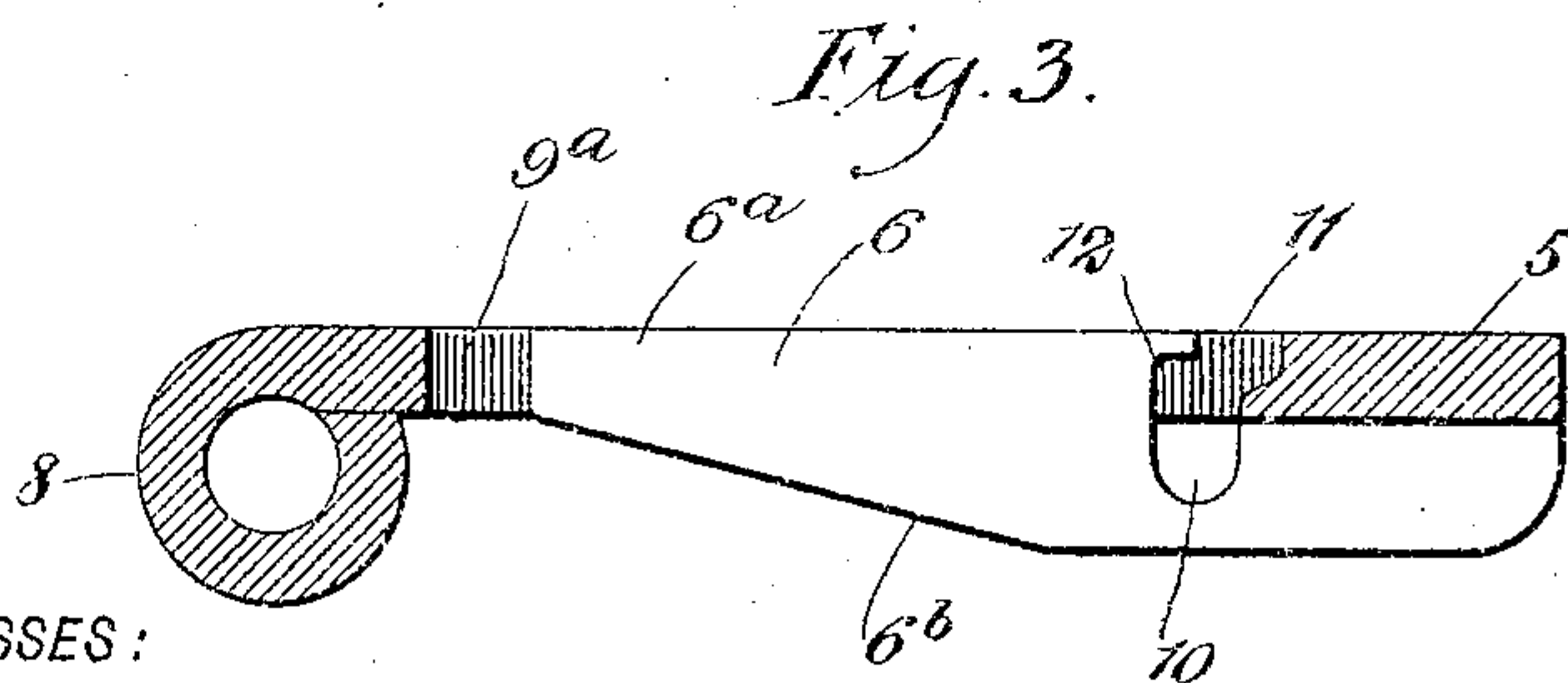
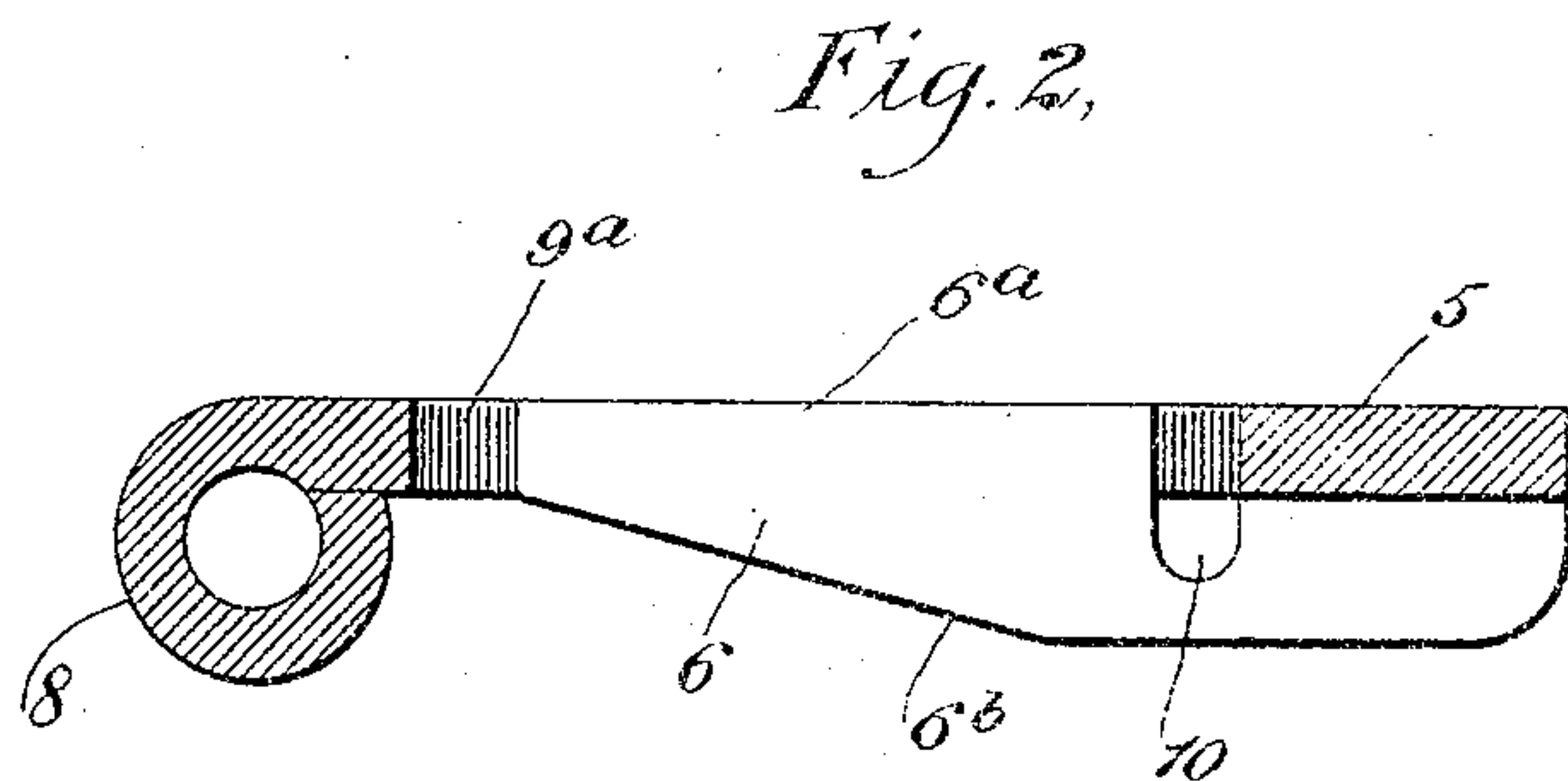
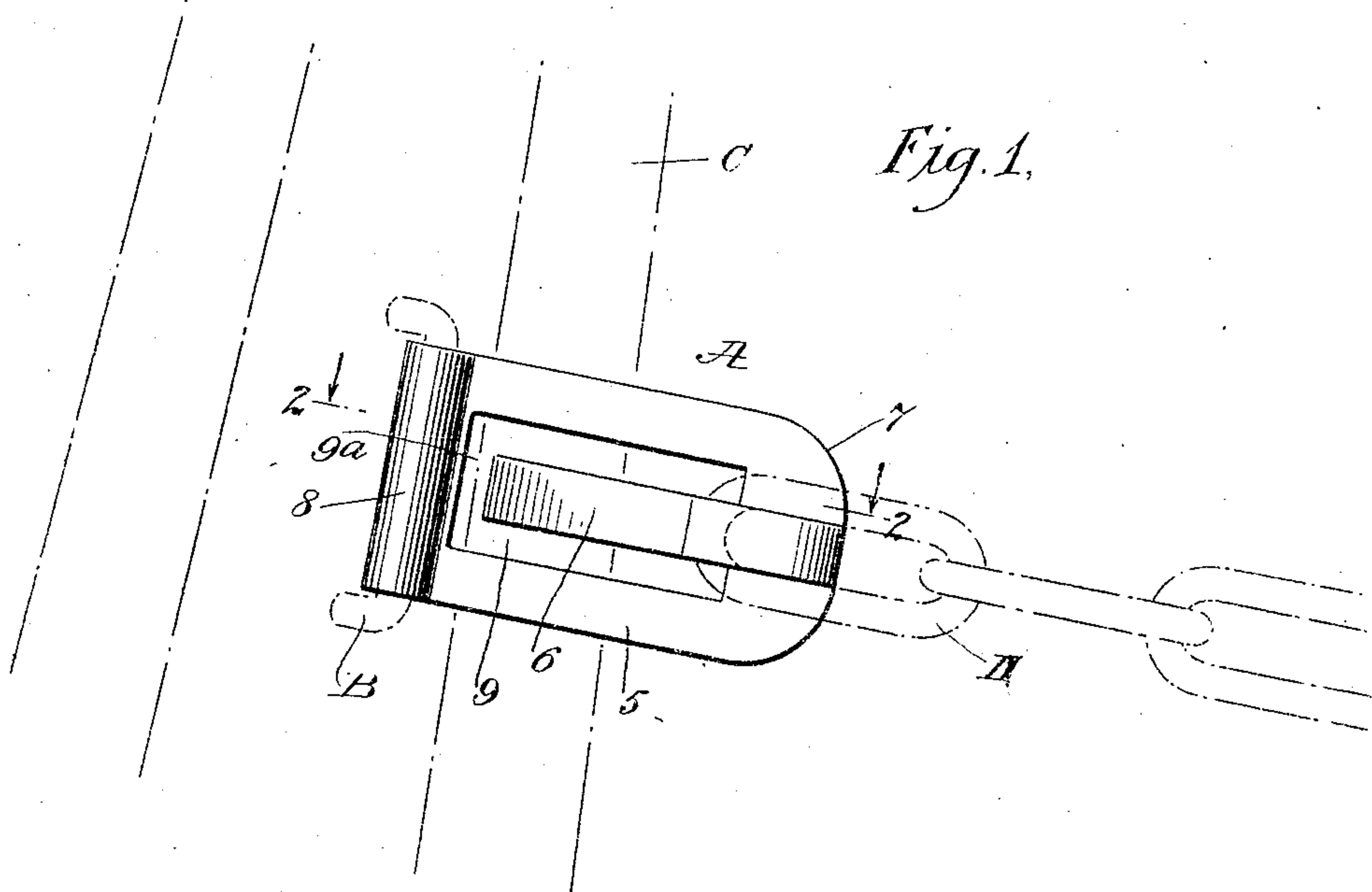


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I. E. JOHNSON.
HARNESS HOOK.

APPLICATION FILED FEB. 20, 1902.



WITNESSES:

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HARNESS-HOOK.

SPECIFICATION forming part of Letters Patent No. 779,545, dated January 10, 1905.

Application filed February 20, 1902. Serial No. 94,915.

To all whom it may concern:

Be it known that I, IRA EDSON JOHNSON, a citizen of the United States, and a resident of Fresno, in the county of Fresno and State of California, have invented new and useful Improvements in Harness-Hooks, of which the following is a full, clear, and exact description.

My invention relates to improvements in harness-hooks, the same being more especially adapted for service on hames to afford an improved means for easily attaching and detaching trace-chains to and from the hames, although it will be understood that the hook may be used on different parts of a harness—such, for example, as on a butt-chain harness—or it may have a swivel to use on fifth and other chains, or it may have an ordinary eye or loop fastening, or it may be used in connection with spreader or stretcher chains.

The object of the present invention is the provision of an improved style of hook which when employed on a hame is capable of securing numerous advantages from a practical standpoint. Among these advantages are increased durability of the hook and the trace-chain used in connection therewith, comparative freedom of the trace-chain from the tendency to become unfastened, and thereby attaining greater safety and security in the attachment of the chain and the hook, the arrangement of the tongue in such a way that it is not liable to catch into the chains of an adjacent harness or with other links of the trace-chain engaged therewith, to prevent the trace from cutting into the collar or pad or pressing against the animal's shoulder, and to make the article present a neat and attractive appearance, to make it strong and simple, and to render it capable of manufacture at a low cost.

With these ends in view the invention consists in the novel construction and arrangement of parts, which will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation of my improved

hook, showing it applied to a hame and used in connection with a trace-chain, said hame and the chain being represented by dotted lines. Fig. 2 is a longitudinal section through the improved hook, the plane of the section being indicated by dotted line 2 2 in Fig. 1; and Fig. 3 is another longitudinal section through the harness-hook, representing another embodiment thereof.

To enable others to understand the invention, I have represented it by the accompanying drawings in connection with a hame and a trace-chain.

The improved hook A consists of a plate 5 and a tongue 6, the same being preferably cast in a single piece of metal. The plate 5 is preferably flat and of the generally rectangular form, (shown by Fig. 1,) except that one end of said plate may be slightly rounded, as at 7. The plate may be provided at its opposite end with any suitable means by which it may be attached to a hame or to other devices or to other parts of a harness; but, as shown by the drawings, said plate 5 is provided with an open eye or loop 8. This eye or loop is adapted to receive a staple B or any other device by which it may be attached to a hame, (indicated partly by dotted lines at C in Fig. 1.) The staple provides a convenient means for the secure attachment of the hook to the hame; but it is evident that equivalent devices may be employed for the desired attachment of the hook to the hame or any other part of a harness or to any other suitable device.

The plate 5 is provided with a longitudinal slot 9, and into this slot extends the tongue 6. This tongue is fast or integral with that end of the plate 5 having the rounded corners 7, and said tongue is of such a length that it terminates short of the end 9^a of the slot 9 adjacent to the eye 8. The edge 6^a of the tongue is disposed in flush relation to the inner face of the plate 5; but the other edge, 6^b, of the tongue is inclined, as shown by Figs. 2 and 3, so that the point of the tongue will lie practically flush with the outer face of the plate 5. As shown by Figs. 2 and 3, the end of the tongue which is joined to the plate 5 projects out-

wardly therefrom for a suitable distance, and this tongue is provided with a notch 10, the same opening through the inner edge 6^a of the tongue and having its closed end terminating beyond the plane of the outer face of the plate 5.

The hook A is adapted for use in connection with an ordinary trace-chain, (indicated by dotted lines at D in Fig. 1.) In order to connect a link of this chain to the hook, it is necessary to turn the link at an angle to the length of the chain and slip it endwise through the end 9^a of the slot in the plate 5, thus fitting the link over the tongue 6. The link can now be moved through the slot and along the tongue until the end thereof comes opposite to the notch 10 in the tongue, and said link is then turned into the notch and is then turned to a position parallel with the plate 5, whereby the end of the link is confined within the notched part of the tongue, and is thereby firmly connected to the hook A. To remove the trace-link from the hook, it is necessary to reverse the described operation by first turning the link to a position at right angles to the plane of the plate 5, then move the link endwise until it is out of the notch 10, after which the link must be carried along through the slot 9 and over the tongue 6 until it reaches the end 9^a of the slot, at which time the link can be pulled out of the hook.

In the construction of the hook shown by Fig. 2 the notch 10 is straight and opens through the inner edge of the tongue 6; but I do not desire to strictly confine myself to the use of a straight notch, because I am aware that the mouth of the notch may be offset, as indicated at 11 in Fig. 3, thereby providing the shoulder 12, which prevents the trace-link from accidentally dropping out of the notch in the tongue of the hook.

It is well known by those skilled in the art that the ordinary hame-hook is made of narrow wrought metal, which, owing to its narrow bearing-face, will soon cut out the links of the trace-chain and also will itself wear out, owing to the friction and strain to which it is exposed. In my improved hook the tongue 6 is provided with a bearing-face the width of which is equal to the width of the opening in the trace-link, thereby reducing the liability of the hook and the link to cut through and prolonging the life and durability of the parts.

In adjusting the harness to or from a horse the traces when connected to the ordinary hame-hook are constantly becoming detached from the hame, and this occurs as well when the horses are left standing harnessed in the barn. With my invention the traces cannot become detached from the hooks without bringing the trace-links at right angles to the hooks, then moving the link through and beyond the shoulder, and finally forward through the opening in front of the tongue.

In using chain harness the trace is not always hooked in the end link, and the trace is frequently shortened by dropping one or more links. Oftentimes the dropped links catch onto the hooks on the opposite harness, especially in backing a team, and as the horses pull apart the hooks are frequently twisted out of shape and are broken off at the hames. With my improvement it is impossible for dropped links of the traces to catch on the opposite hooks of the harness. Furthermore, in using the old-style hame-hook when hitching the trace to it one side of the link is liable to bear directly against the collar, into which it frequently cuts. If the collar is a narrow one and a pad is used, the link is likely to cut away the parts. When no pad is employed, the chain-link will embed itself in the animal's shoulder. My improved hook overcomes this objection, because the plate 5 furnishes a bearing for the trace-link, and the latter cannot touch the collar or the pad.

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

1. A trace or like hook comprising a substantially rectangular plate having an eye at one end and provided with a slot intermediate the eye and opposite end of the plate, said slot extending lengthwise of the plate, a tongue formed integral with the outer face of the plate between the rear end of the slot and rear end of the plate and projecting outwardly from the plate, said tongue being widened adjacent its attached end with the widened portion projecting in the slot centrally thereof with the inner face of the portion of the tongue lying in the slot flush throughout its length with the inner face of the plate, and having a notch at the point where the tongue joins the plate of relatively less width than the length of the tongue, substantially as described.

2. A hook of the type described, comprising a substantially rectangular plate, provided at one end with an eye, and having a rectangular slot in its body extending longitudinally of said body between the eye and the opposite end of the plate, a tongue carried by the plate and secured to the outer face of the plate throughout the width of the portion of the plate between the rear end of the slot and the rear end of the plate, said tongue projecting outwardly from the plate at its point of attachment and having its free or unsecured portion lying within the slot in the plate throughout the length of said free or unsecured portion with the inner edge thereof flush throughout its length with the inner face of the plate, and said tongue having a notch extending transversely into the tongue adjacent the rear wall of the slot and being of relatively less width than the length of the free or unsecured portion of the tongue.

3. In a hook of the type described, a substantially rectangular plate constructed at one end to receive securing means, and having a

rectangular longitudinally-extending slot, a rigid tongue formed integral with the outer face of the plate throughout the width of the space between the rear end of the slot and rear
5 end of the plate, said tongue extending longitudinally of the plate with its free or unsecured portion projecting into the slot throughout the length of said portion with its inner edge flush with the inner face of the plate, the
o free or unsecured portion of said tongue projecting into the slot being of less length than the slot and of less thickness than the width of said slot to provide a space at the free end

and sides of the tongue, said free or unsecured portion of the tongue having a notch at its rear end of relatively less width than the length
15 of the said portion, and said tongue carrying a shoulder projecting into the notch, substantially as described.

In testimony whereof I have signed my name
20 to this specification in the presence of two subscribing witnesses.

IRA EDSON JOHNSON.

Witnesses:

W. G. HOLLAND,
J. D. STATHAM.