

(No Model.)

J. S. PATTEN.
THILL COUPLING.

No. 494,884.

Patented Apr. 4, 1893.

Fig. 1.

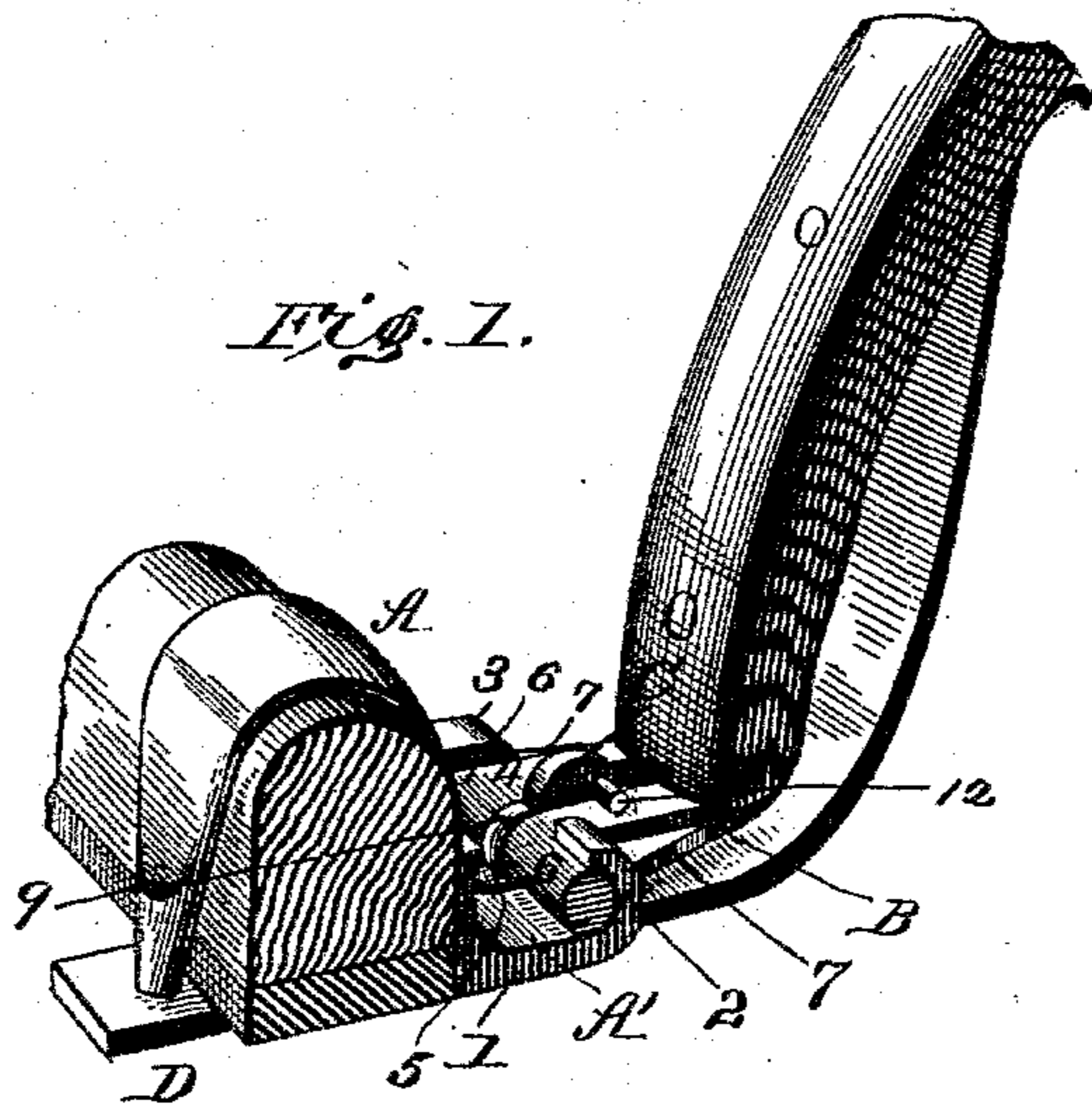


Fig. 2.

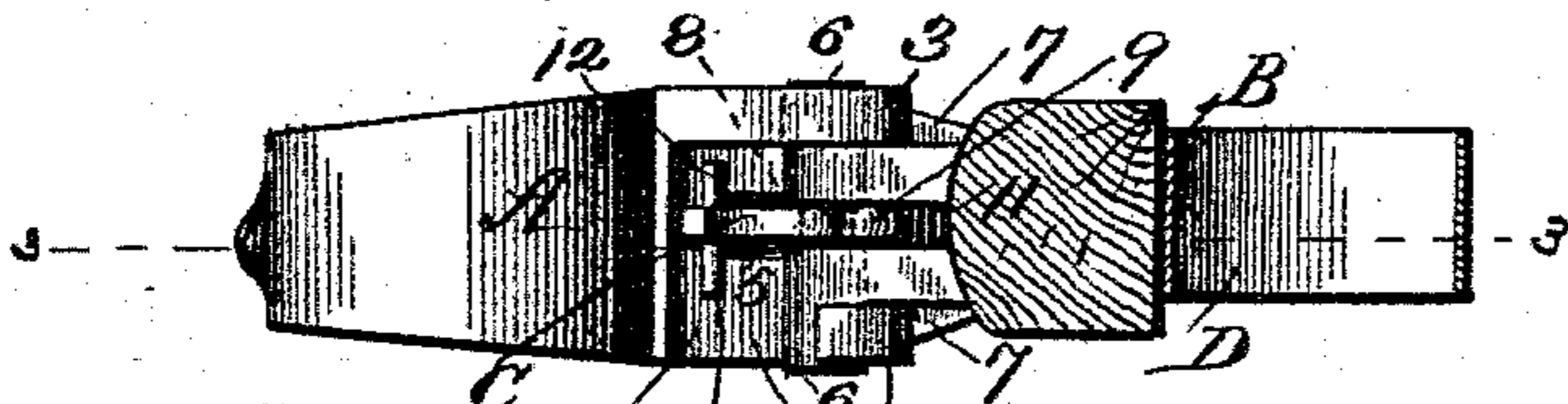


Fig. 3.

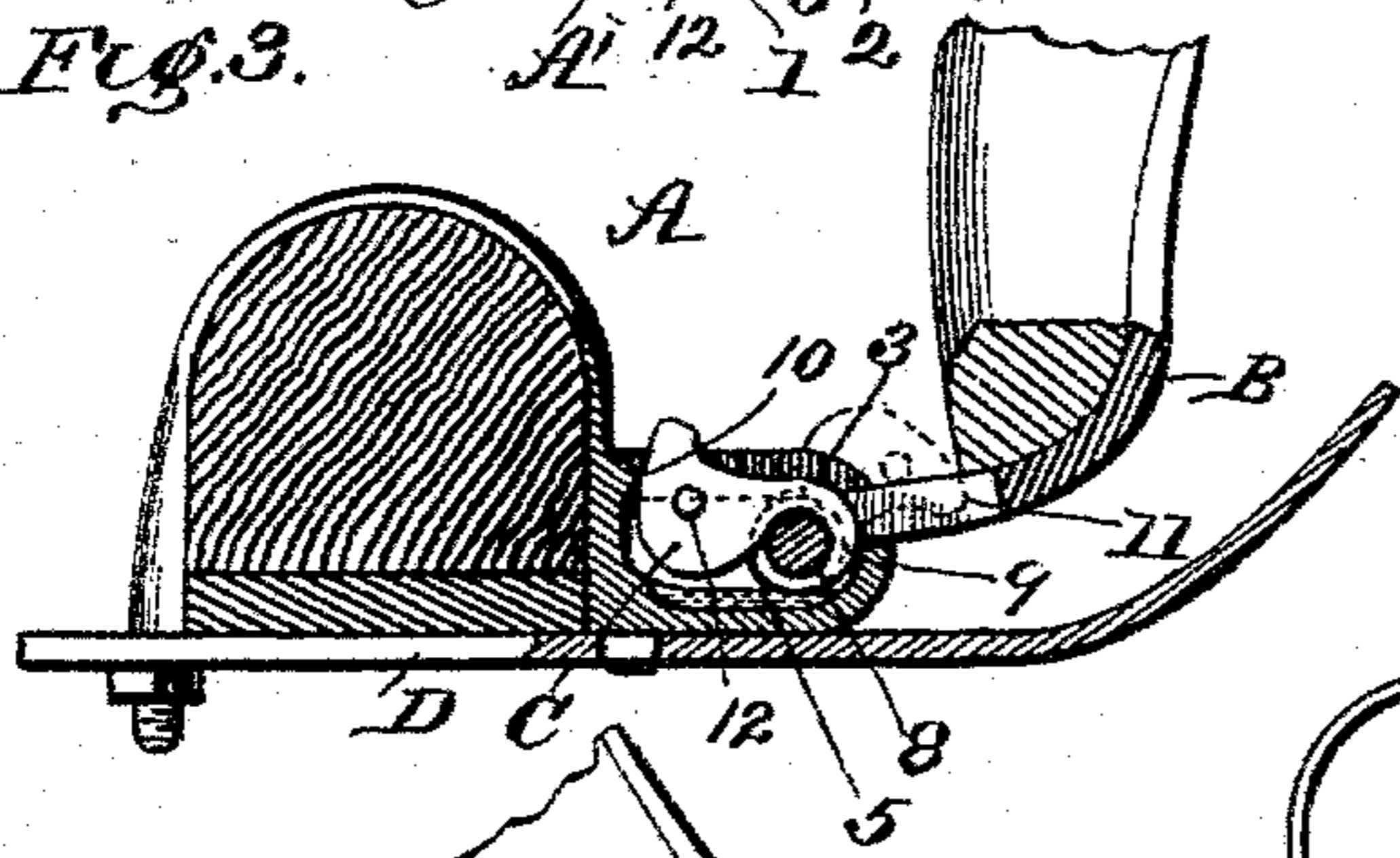


Fig. 6.

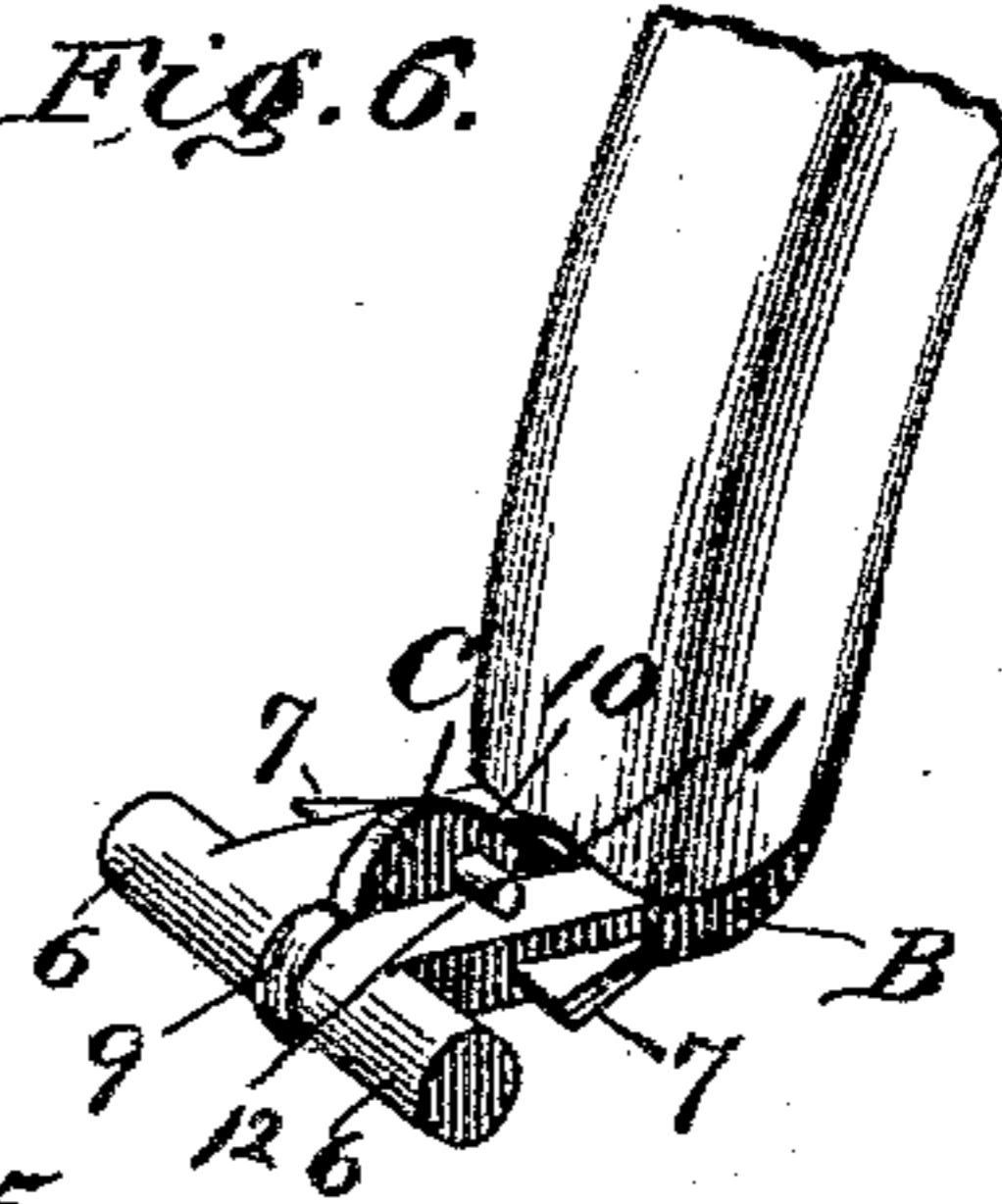


Fig. 5.

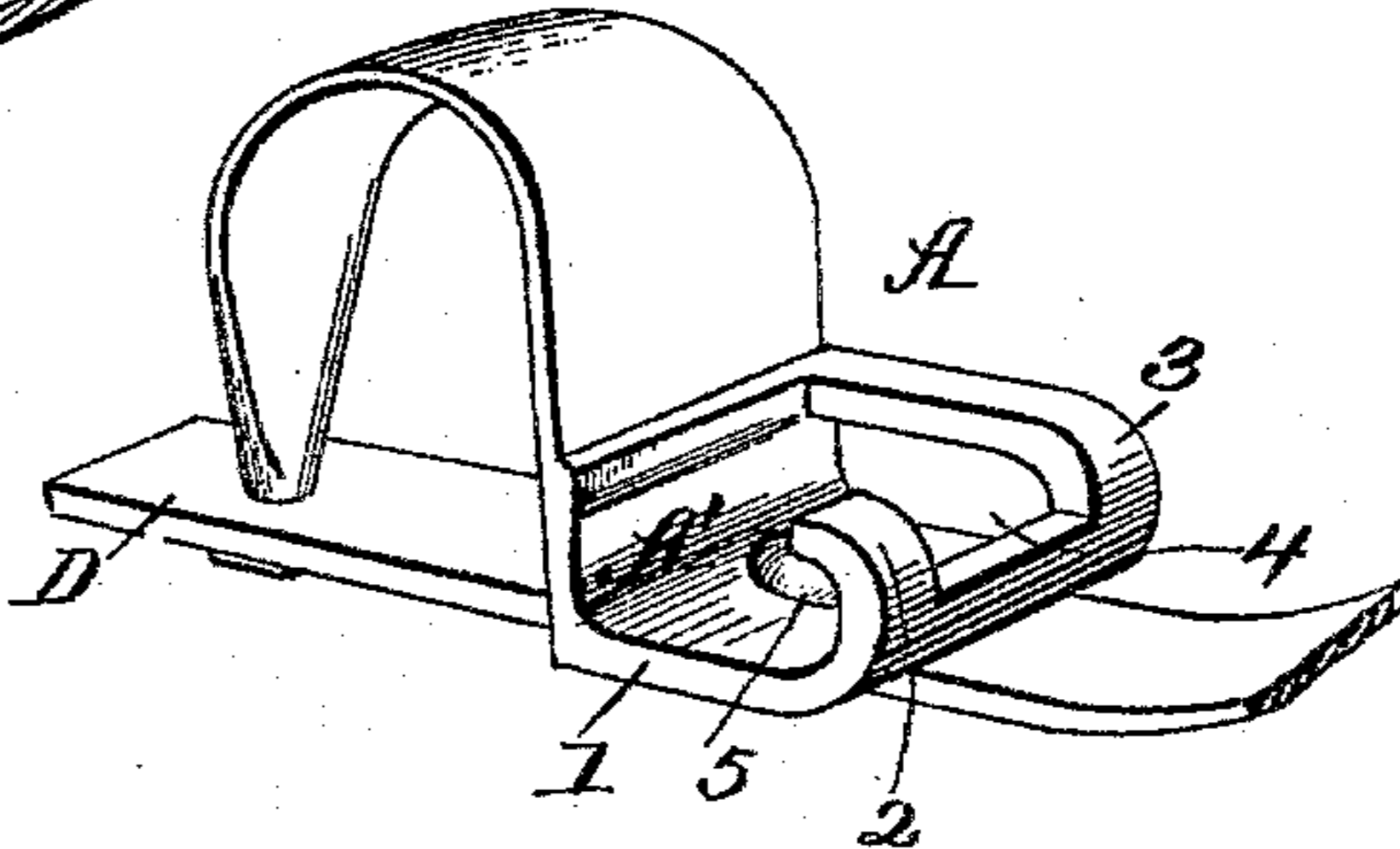
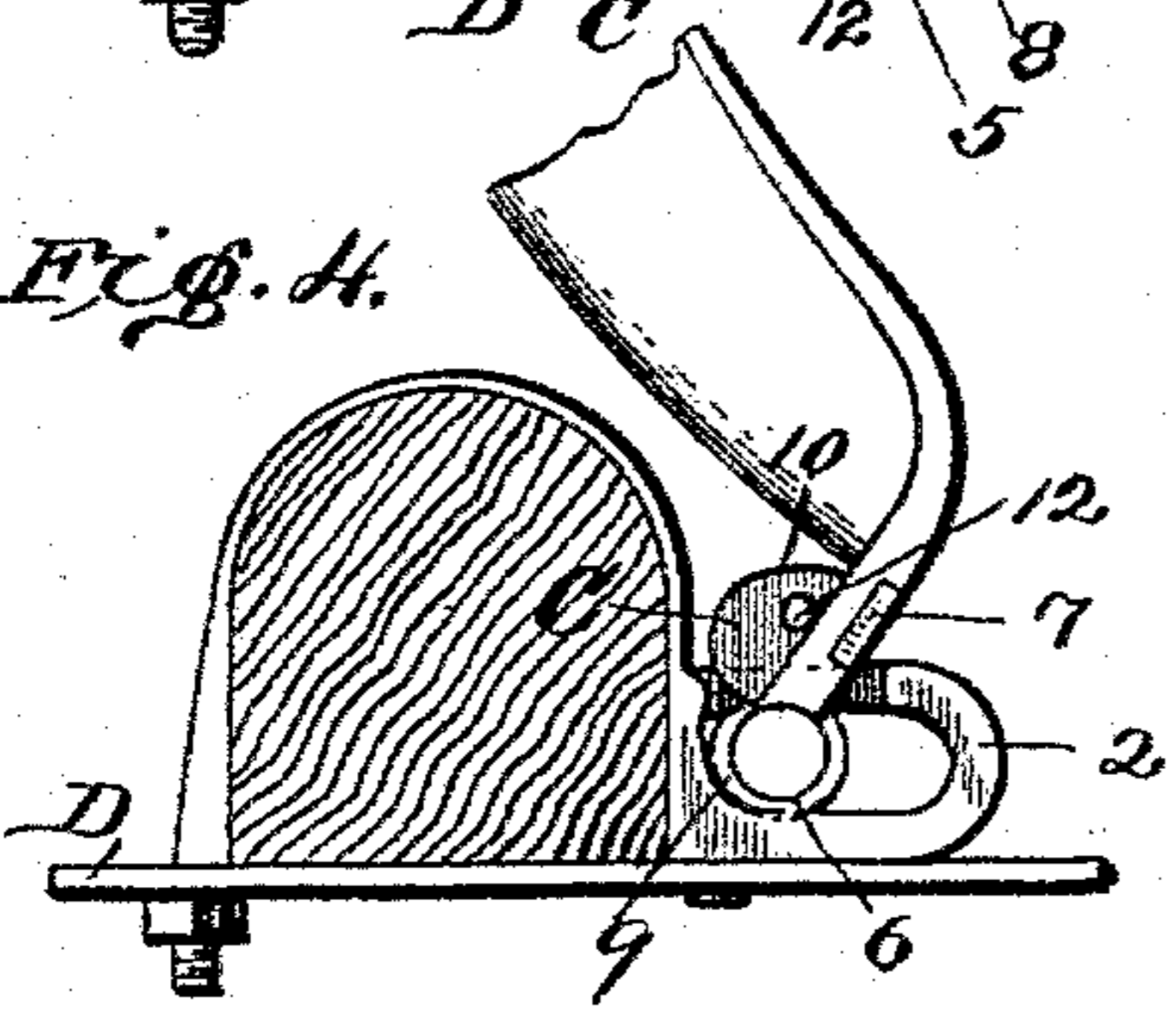


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES S. PATTEN, OF BALTIMORE, MARYLAND, ASSIGNOR TO HIMSELF AND
MORTON SCHAEFFER, OF SAME PLACE.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 494,884, dated April 4, 1893.

Application filed October 22, 1892. Serial No. 449,722. (No model.)

To all whom it may concern:

Be it known that I, JAMES S. PATTEN, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Thill-Couplings, of which the following is a specification.

My invention is an improved thill coupling seeking among other improvements to provide a spring support for the thill, and to furnish means by which the thill iron may be coupled to the clip and held without anti rattling springs or rubbers, in such way as to avoid all rattling, take up wear, and permit the easy adjustment of the thill iron and its removal from the clip without requiring the unscrewing of any nuts or bolts.

The invention consists in the special constructions and combinations of parts herein-after described and pointed out in the claims. In the drawings—Figure 1 is a perspective view of my improvement. Fig. 2 is a detail top plan view thereof, the latch being in locked position. Fig. 3 is a section on line 3—3 of Fig. 2 showing the latch locked in full lines and unlocked in dotted lines. Fig. 4 is a side view with the latch unlocked and the thill iron thrown back to the position it is set to in applying and removing it from the clip. Fig. 5 is a detail view of the clip and Fig. 6 is a detail view of the thill iron.

The clip A has at its front side the joint section for the thill iron such section being in the nature of a hook like seat A' having a base plate 1, the side hook 2 and the opposite side hook 3 separated from hook 2 by an intervening space 4 and preferably closed as shown. It is preferred to close the hook 4 at the top as it increases the strength of the seat and also serves as a stop to limit the movement of the thill irons as they are being moved laterally in applying them to the clips. On their front sides the hooks 2 and 3 are rounded or curved.

In the base plate 1 I form a depression or cavity 5 in which a few drops of oil may be placed which will be taken up by the moving parts and spread out to the surfaces needing lubrication.

On its lower end the thill iron B has a T head the projecting studs 6—6 of which are formed to fit and turn in the hooks 2 and 3

and on the thill iron I provide lateral shoulders 7, 7 which in the coupled position of the thill bear in front of the hooks 2 and 3 and prevent the backward movement of the thill iron.

The application of the iron to the clip is effected by turning the thill to the position shown in Fig. 4 when it may be slipped into the clip and turned forward to coupled position; it being removed by an operation the reverse of that just described. A latch C is pivoted to the thill iron and may be turned back therefrom as shown in full lines Fig. 3 to hold the iron in the seat or it may be turned forward to the position shown in dotted lines in said Fig. 3, to permit the application of the iron to or its removal from the clip seat. In pivoting the latch it is preferred to provide centrally of the T head a reduced portion 8 and to form the latch with a stem 9 bent around said reduced portion permitting the easy connection of the parts and avoiding the necessity of separate fastening devices. At its swinging end the latch is inclined or sloped at 10 and bears at such sloped end against the clip the end being adapted to gradually fall and take up wear as it occurs so that the coupling is always tight, the cam shaped surface of the latch operating by a wedging action to take up the wear from time to time. When it is desired to apply or remove the thills it is only necessary to turn the latch back to the dotted position shown in Fig. 3 the thill iron being slotted at 11 to receive it and the latch having lateral studs 12 to engage upon the iron and limit the backward movement of the latch as will be understood from the dotted lines in Fig. 3. The base plate D of the clip is extended forward and curved upward to its upper front end where it bears under the thill. This spring not only operates to support the thill but also causes the latter to practically pivot on the point of the spring producing a backward pressure of the thill iron in the clip operating in connection with the latch to effect a firm, secure coupling.

In operation if the latch and thill be adjusted to the position shown in Fig. 4 the thill may be set into or out of the clip. If set into the clip the thill may be turned forward and

the latch thrown back to the full line position Fig. 3 when the coupling is completed. Both latches may be turned forward and will remain so until set to locked position so that one man can readily apply and remove the thills.

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

1. The combination of the hook like seat the thill iron having a head formed to fit said seat and the latch pivoted to the thill iron provided with lateral studs 12 and having its swinging edge formed cam shape and arranged to engage a bearing surface of the clip whereby to lock the latch and to take up wear all substantially as set forth.

2. The combination of the hook like seat, the iron having a head provided with lateral stud like portions to engage the hooks of the seat and the latch pivoted at one end to said iron midway between the lateral stud like portions and adapted to be turned into position to lock the iron in the seat substantially as set forth.

3. The combination with the thill iron having lateral studs to fit the clip seat and provided midway between said studs with a circular portion of the latch having its stem bent around the said circular portion whereby it is held and pivoted to the said head substantially as set forth.

4. The combination of the clip having a bottom plate provided in its top with an oil cavity, and also having a seat for the thill iron and the thill iron having its head held in said seat above the oil cavity all substantially as and for the purposes set forth.

5. The combination with a thill iron having at its lower end a head to engage the thill seat and the latch having its stem bent around a portion of said head whereby the latch is pivotally connected substantially as set forth.

6. The thill iron provided at its lower end with a head having a reduced portion and slotted or grooved above and in line with said portion and the latch having its stem bent around said reduced portion substantially as and for the purposes set forth.

7. The combination of the clip having a hook like seat the thill iron having at its lower end a T head to fit said seat and provided in advance of said seat with lateral shoulders to bear in front of the seat and a latch pivoted to the thill iron and having its swinging edge adapted to take up wear, all substantially as set forth.

8. A clip substantially as described having the bottom or base plate of its thill iron seat provided in its upper side with an oil cavity or recess substantially as set forth.

9. The improved thill coupling consisting of the clip having its base plate extended forward and curved upward, and provided with a hook like seat, the thill resting on the forward end of the base plate of the clip and having its iron provided with a T head fitted to the seat of the clip and having a reduced portion and the latch having its stem bent around the reduced portion of the said head and its free end sloped forming a cam like surface all substantially as set forth.

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Witnesses:

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