

No. 677,626.

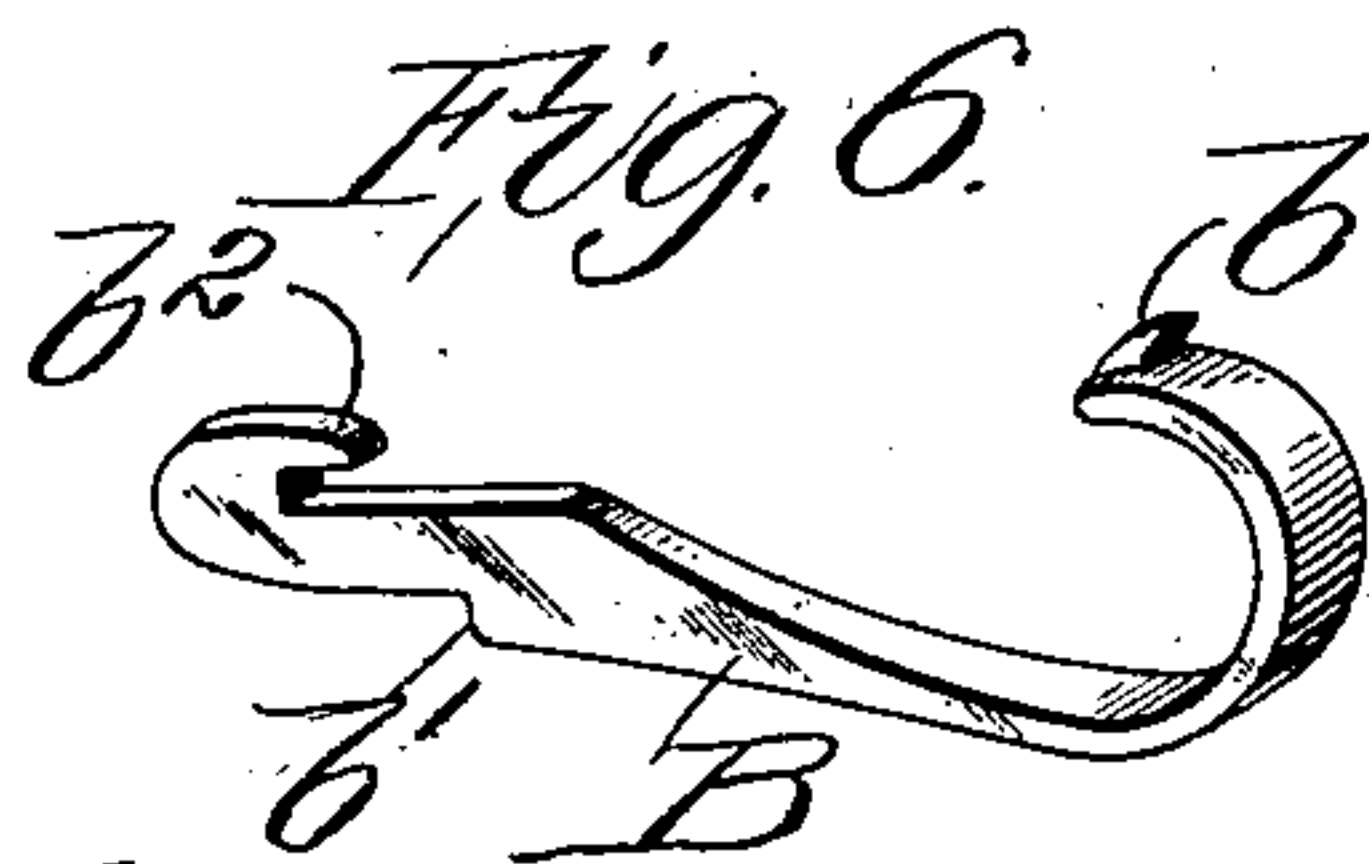
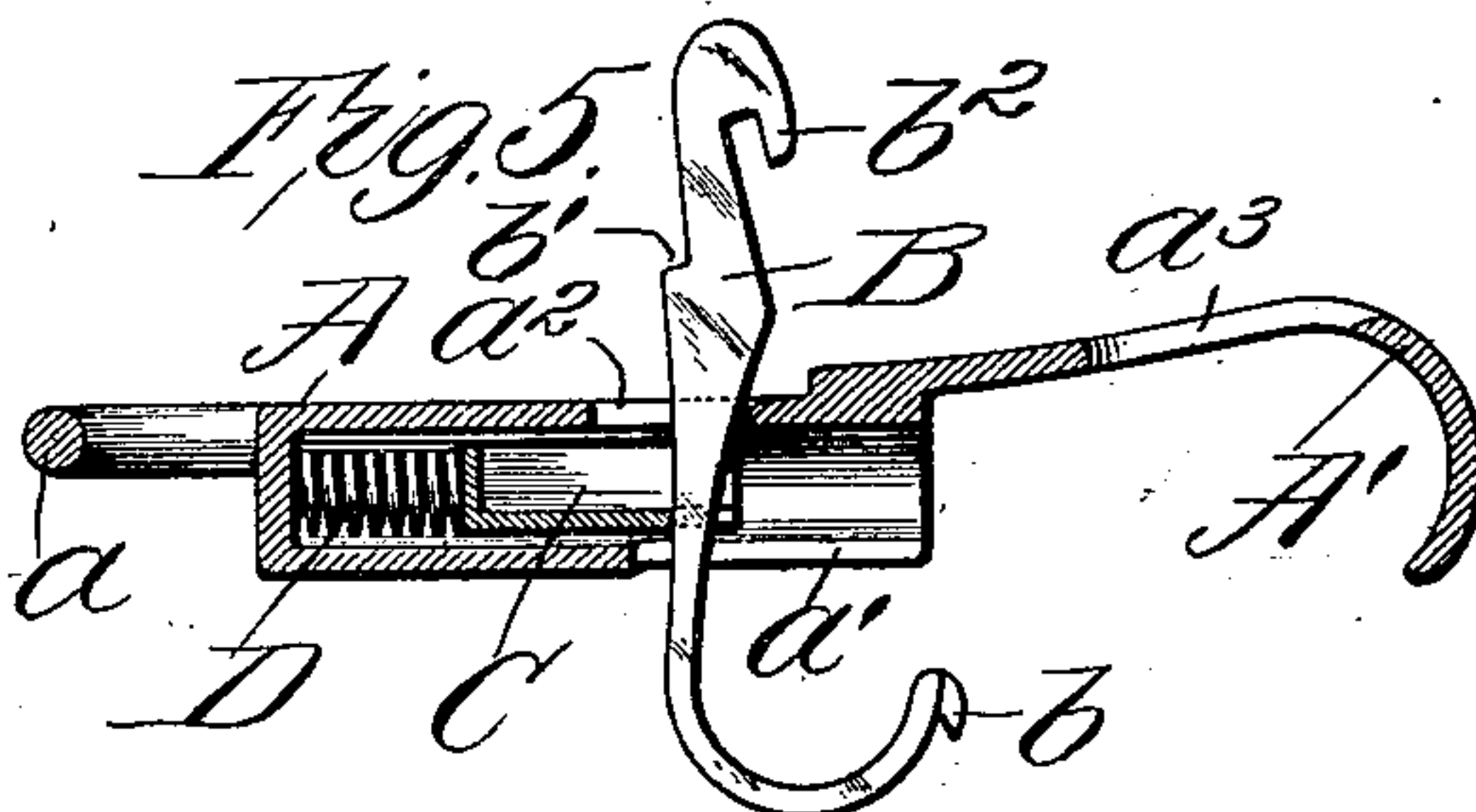
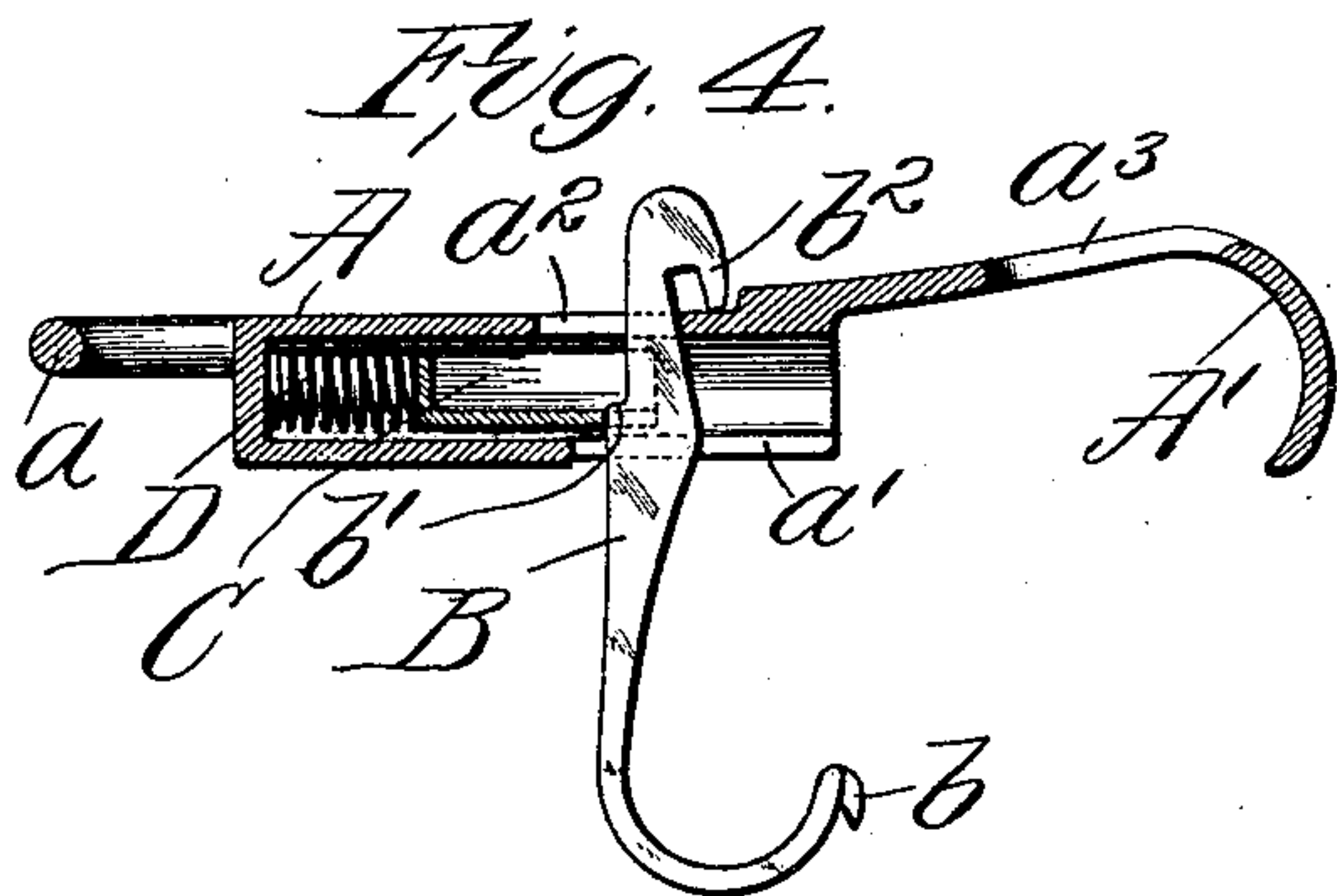
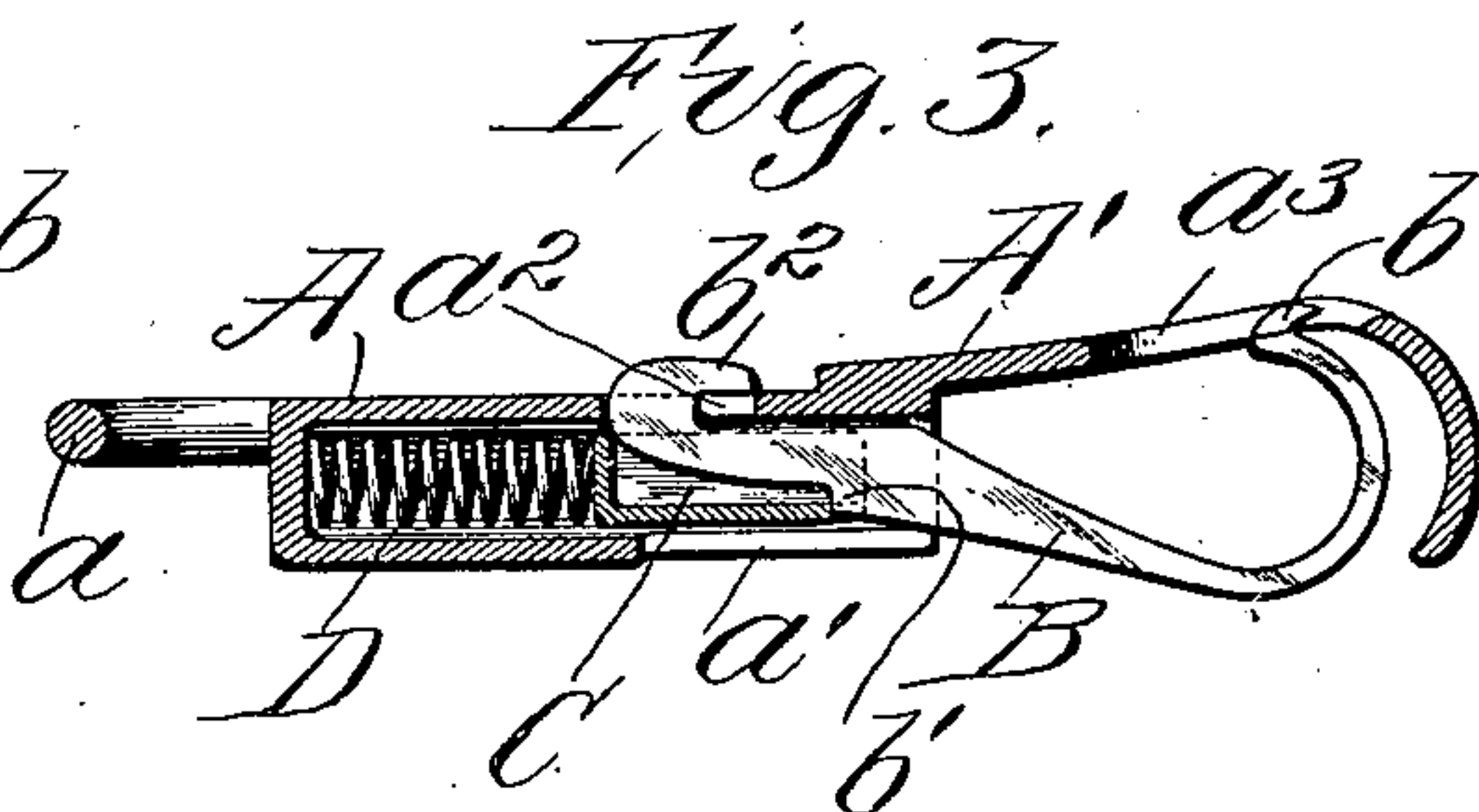
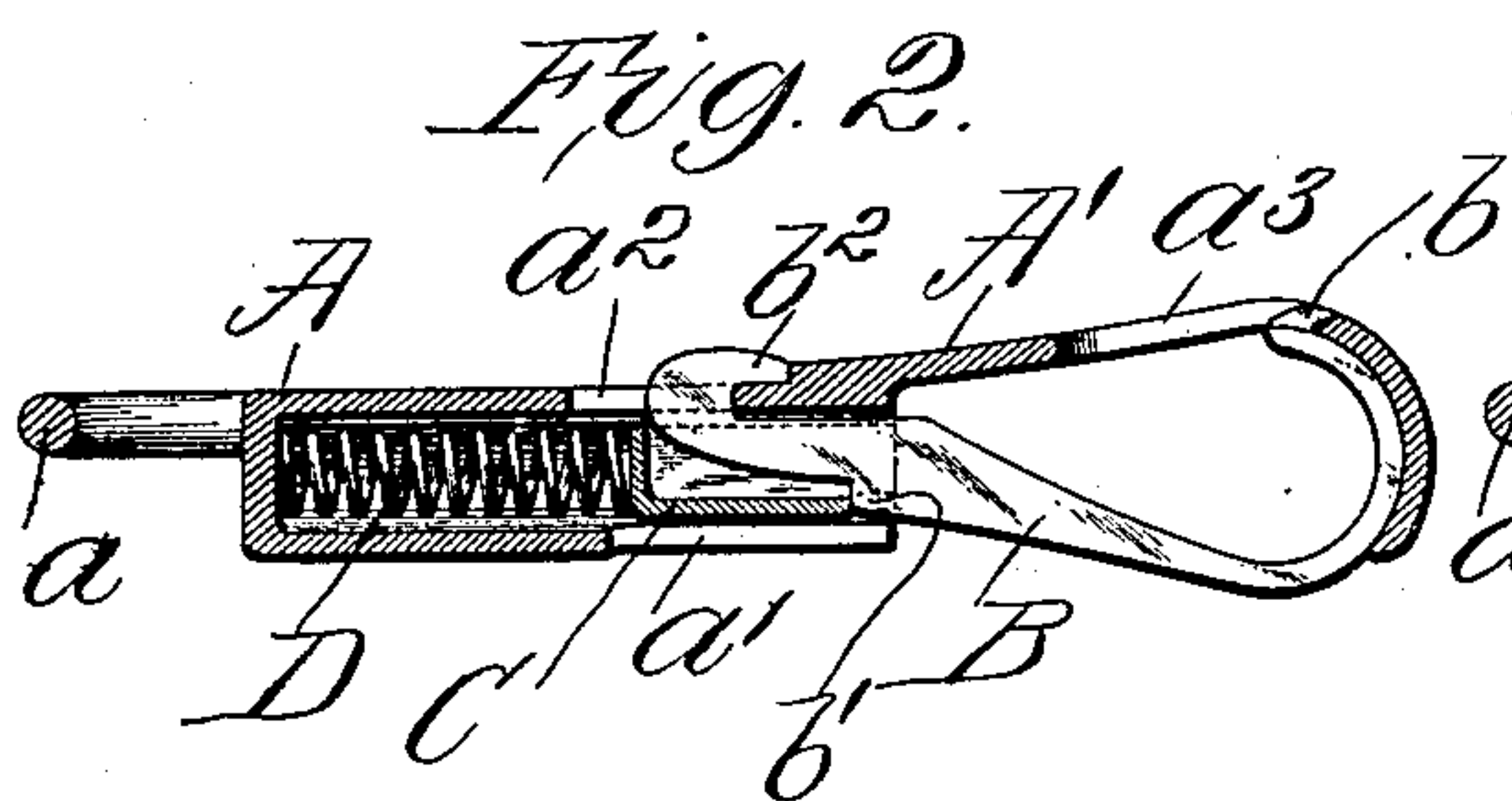
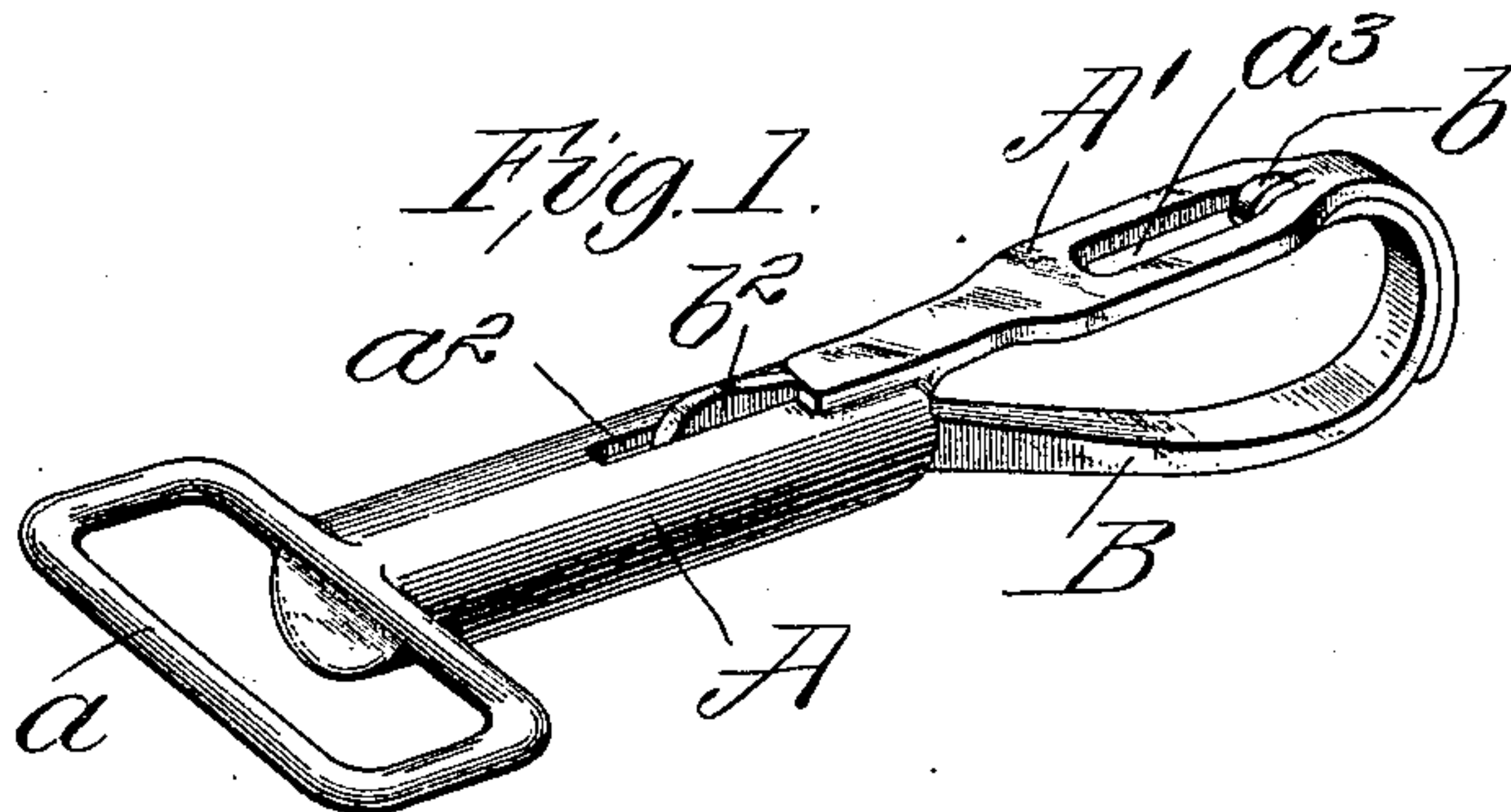
Patented July 2, 1901.

J. W. BOOTH.

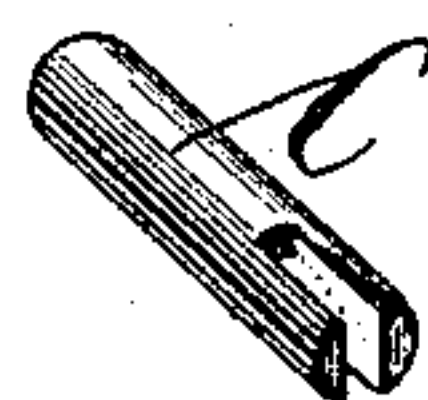
SNAP HOOK.

(Application filed July 30, 1900.)

(No Model.)



*Fig. 7.*



Attest:  
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H. L. Amer.

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by *Baker & Cornwall*  
Attys.



# UNITED STATES PATENT OFFICE.

JOHN W. BOOTH, OF WASHINGTON, MISSOURI.

## SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 677,626, dated July 2, 1901.

Application filed July 30, 1900. Serial No. 25,217. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN W. BOOTH, a citizen of the United States, residing at Washington, in the county of Franklin, in the State of Missouri, have invented certain new and useful Improvements in Snap-Hooks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of my improved snap-hook. Fig. 2 is a longitudinal sectional view showing the hook closed. Fig. 3 is a similar view showing the hook displaced longitudinally preparatory to opening the same. Fig. 4 is a similar view showing the hook in its open position. Fig. 5 is a similar view showing the hook locked in its open position. Fig. 6 is a detail view of the hook-tongue. Fig. 7 is a detail inverted view of the plunger.

This invention relates to a new and useful improvement in snap-hooks, the object being to make a simple, compact, and easily-assembled snap-hook, and one which is light, strong, and effective and not liable to accidental disarrangement.

With these objects in view the invention consists in the construction, arrangement, and combination of the several parts, all as will hereinafter be described, and afterward pointed out in the claims.

In the drawings, A indicates the shank of the hook, whose rear end is provided with a loop or ring  $a$  for the attachment of a strap or other device. This shank is provided with an opening or bore for receiving a spring and plunger, the bottom wall of said bore at the front end of the shank being notched, as at  $a'$ , to permit the play of the hook-tongue therein. The top wall of the shank, near the front end thereof, is provided with an opening  $a^2$ , through which passes the inner end of the hook-tongue.

A' indicates the hook extension, preferably formed integral with the shank and provided with an opening  $a^3$ , in which is received the hooked outer end of the tongue, this hook extension A' extending down and embracing a part of the hook-tongue, as shown in Figs. 1 and 2.

B indicates the hook-tongue, whose outer

end is curved to fit in the curved extremity of the extension A'. This hook-tongue is provided with a hook  $b$ , which coöperates with the front wall of the opening  $a^3$  and locks the hook-tongue in position when the same is closed. The inner end of this hook-tongue is received by the bore in the shank, the under edge of the inclosed end being provided with a shoulder  $b'$ , against which fits a plunger C, said plunger being constantly pressed forward by a spring D. The construction of this plunger is shown in Fig. 7, wherein it will be seen to consist of a body portion, preferably cylindrical in shape and provided with a slot in its front end for receiving the hook-tongue. The inner end of the hook-tongue projects through the opening  $a^2$ , said projecting end being in the form of a hook  $b^2$ , which hook is longer than the hook  $b$  and coöperates with the front wall of said opening.

The operation of my improved snap-hook is as follows: Referring to the drawings, it will be observed that in Fig. 1 the hook-tongue is locked in position, both the hooks  $b$  and  $b^2$  engaging their respective parts and preventing accidental displacement, the spring holding the hook-tongue home. If it is desired to open the hook, the hook-tongue is moved inward longitudinally, such movement resulting, first, in the disengagement of the hook  $b$  and, secondly, in the disengagement of  $b^2$ . The limit of this inward movement is preferably determined by the rear wall of the opening  $a^2$ . When the hook-tongue is in its innermost position, as shown in Fig. 3, it can be swung outwardly, as shown in Fig. 4, the shoulder  $b'$  serving as a pivotal point, the hook  $b^2$  being free to play through the opening  $a^2$ . If the hook-tongue is released when in this position, the spring-pressed plunger operating against the shoulder will force the free end of the hook-tongue forwardly, the front wall of the opening  $a^2$  serving as a fulcrum in this movement. The swing of the hook-tongue in its closing movement will bring it to the position shown in Fig. 3, which position it must assume by reason of the greater length of the hook  $b^2$  in order to place the hook  $b$  in its opening  $a^3$  before said hook-tongue can move to its final or home position. Thus the hook  $b$  is received in the opening  $a^3$



at the end of the swing of the hook-tongue, and when the parts are in this position the spring-pressed plunger will force the hook-tongue to move longitudinally and so force  
 5 the hook  $b$  into engagement with the front wall of the opening in the shank extension and the hook  $b^2$  into engagement with the front wall of the opening in the shank. As shown in Fig. 5, the hook-tongue has been  
 10 pushed through the opening  $a^2$  from its normal open position, the ends thereof extending about equal distances on each side of the shank, in which position the hook-tongue is locked. All that is necessary to close the  
 15 hook-tongue from this locked position is to force the same by pull or pressure until its hook  $b^2$  engages the shank in advance of the opening  $a^2$ , when the spring-pressed plunger will force the tongue to its closed or home po-  
 20 sition.

I am aware that minor changes in the construction and arrangement of these several parts of my device can be made and substituted for those herein shown and described without in  
 25 the least departing from the nature and principle of my invention.

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

30 1. In a self-closing snap-hook, the combination of a shank having an extension, and a tongue loosely mounted in the shank and having hooks at its extremities for engaging said shank and said extension; substantially  
 35 as described.

2. In a self-closing snap-hook the combination with a hollow shank and an extension, of a swinging hook-tongue loosely mounted in, and longitudinally movable relatively to  
 40 said shank, and provided with means at its outer extremity for interlocking with said extension, and a spring in the shank for holding the hook-tongue in its closed position; substantially as described.

45 3. In a snap-hook, the combination with a hollow shank having an opening, of an apertured extension, a tongue having hooks at its

extremities adapted to cooperate with said opening and aperture, a shoulder on said tongue, and a spring-pressed plunger cooperating with said shoulder; substantially as described. 50

4. In a self-closing snap-hook, the combination with a hollow shank, of a spring-pressed plunger arranged in said shank, an extension 55 on said shank, said shank and extension being provided with openings, and a tongue loosely mounted in said shank and having hooks at its ends of different lengths for cooperating with said openings; substantially 60 as described.

5. In a self-closing snap-hook, the combination with a shank, of a tongue capable of longitudinal and rotary motion, means for locking said tongue against rotation when in 65 its home position and a spring bearing against a shoulder on the bottom edge of the tongue; substantially as described.

6. In a self-closing snap-hook, the combination with a shank, of a tongue capable of 70 longitudinal and rotary motion with respect to said shank, a spring engaging the tongue at one edge for holding said tongue in its closed position, and means for preventing rotation of the tongue when in such position; 75 substantially as described.

7. In a snap-hook, the combination with a shank having an extension, such shank and extension being provided with a notch  $a'$  and openings  $a^2$  and  $a^3$ , respectively, a spring- 80 pressed plunger arranged in the shank, and a hook-tongue provided with a hook  $b$  at its outer extremity for cooperating with the front wall of the opening  $a^3$ , a shoulder  $b'$  for cooperating with the plunger, and a hook  $b^2$  for 85 cooperating with the front wall of the opening  $a^2$ ; substantially as described.

Signed by me, the said JOHN W. BOOTH, this 27th day of July, 1900.

JOHN W. BOOTH.

In presence of—

ROBT C. GIESIKE,  
 JESSE H. SCHAPER.