

No. 677,627.

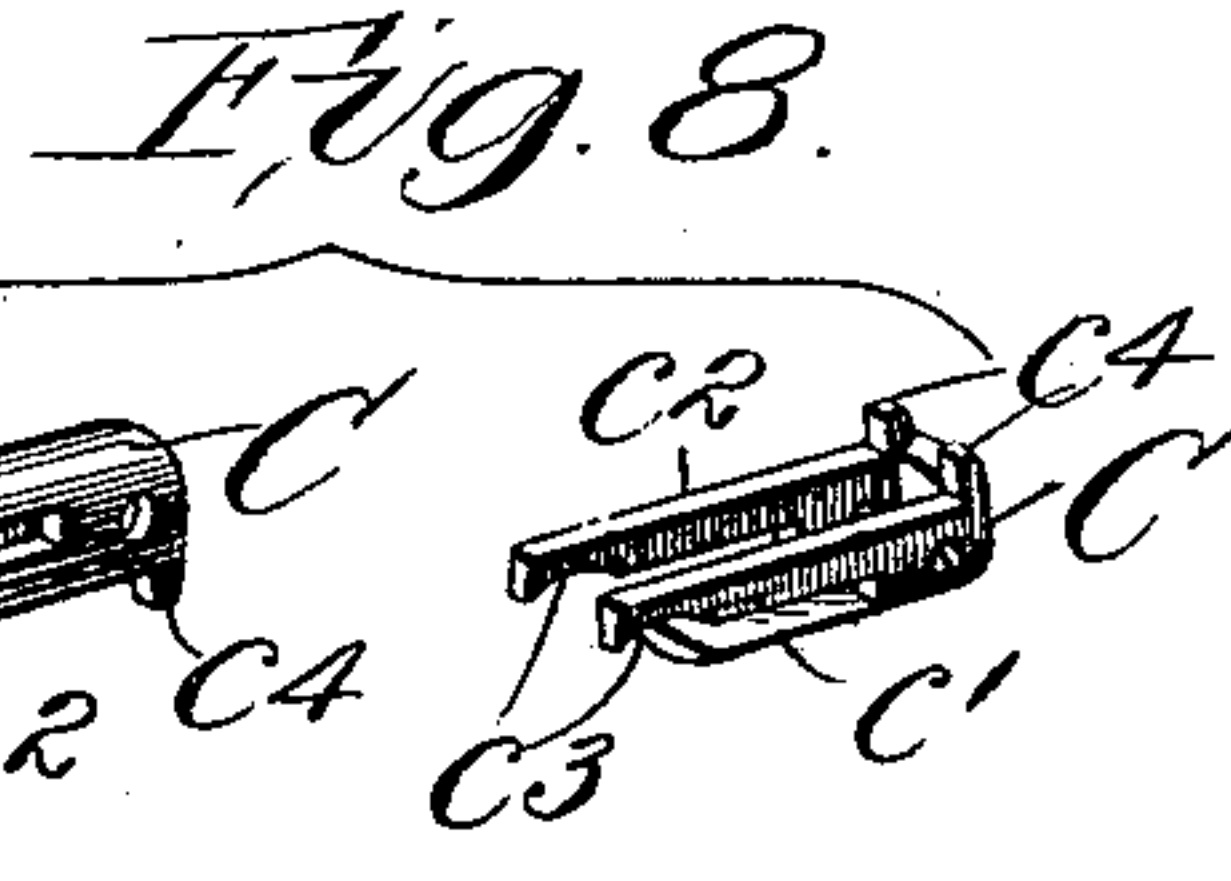
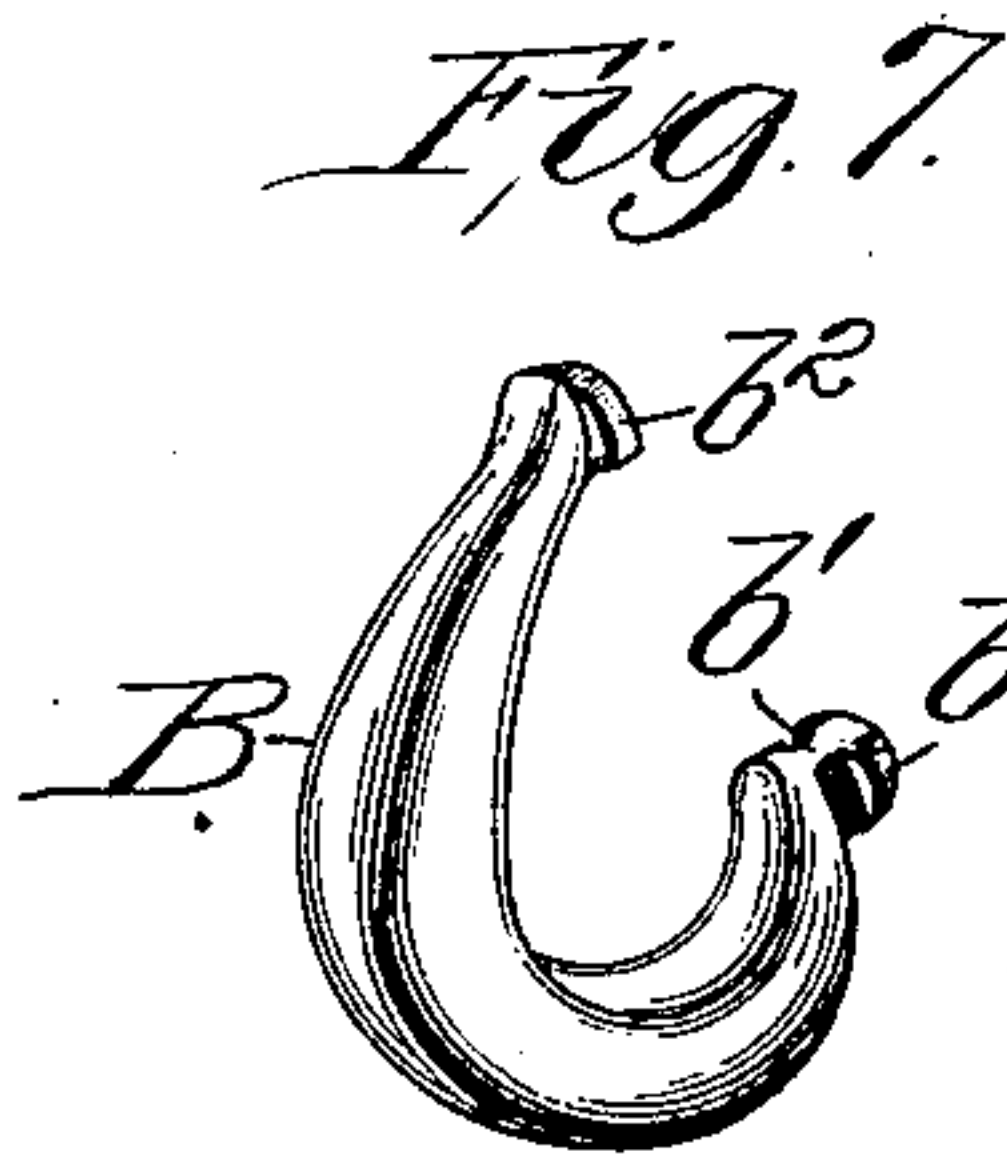
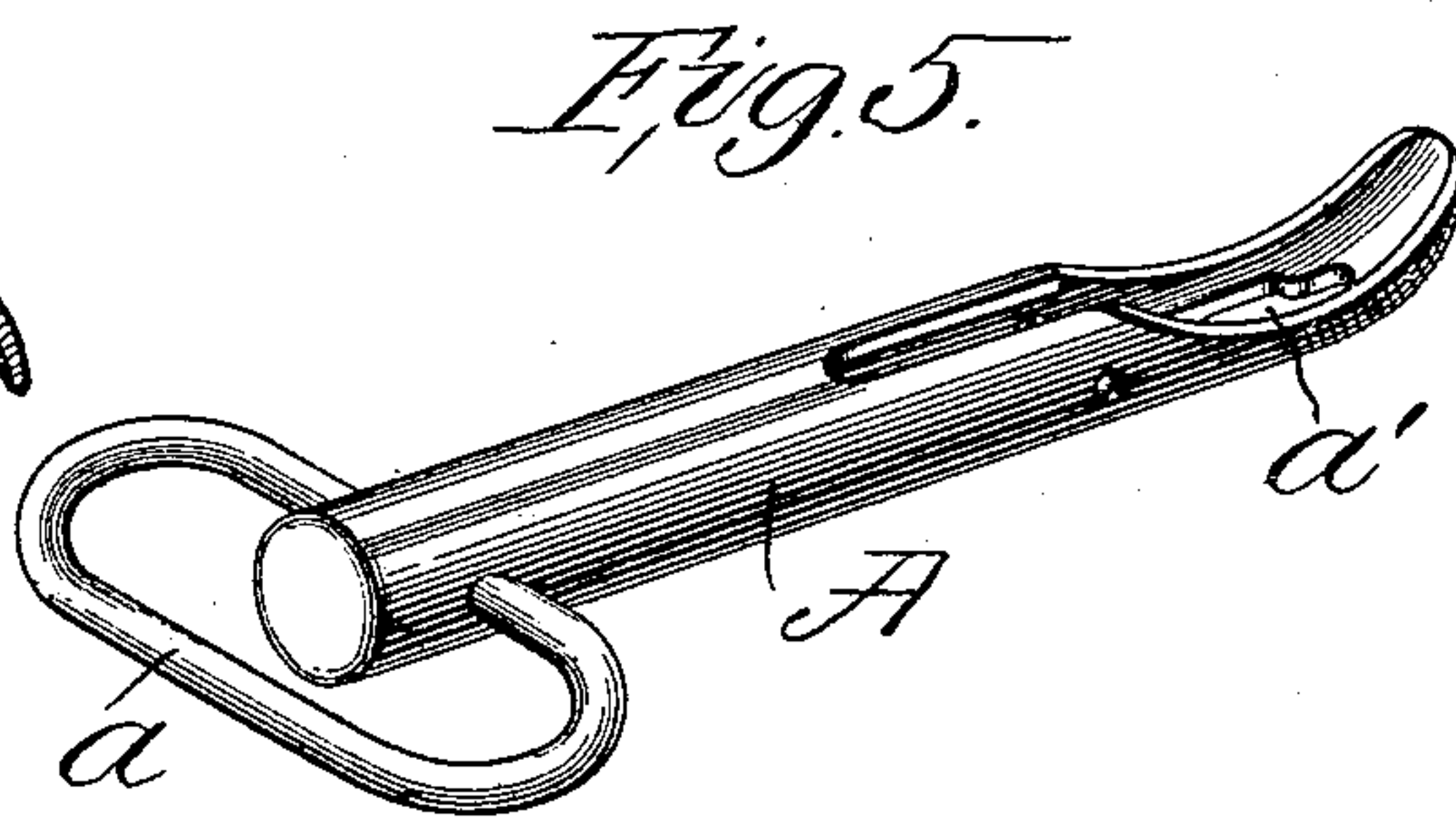
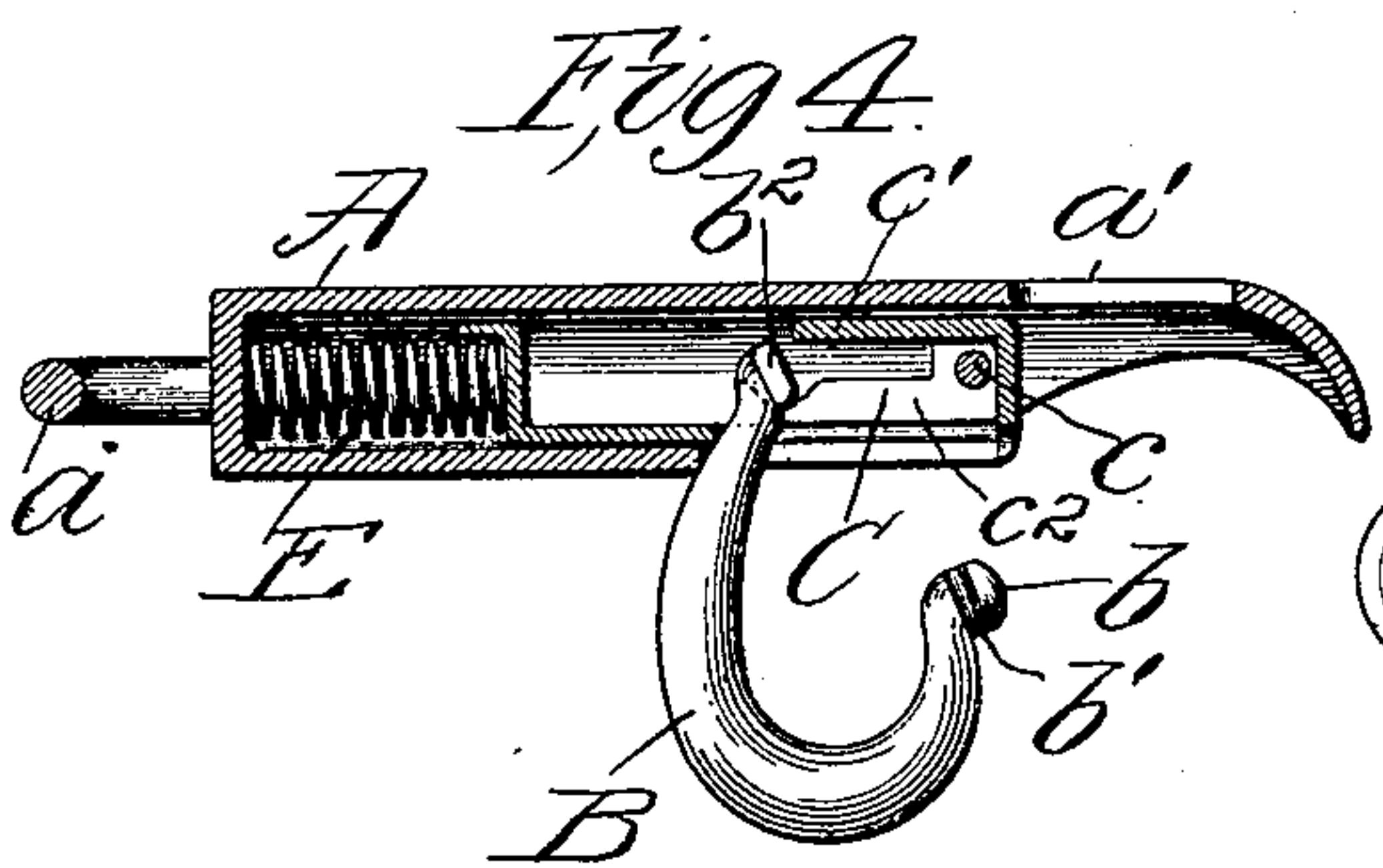
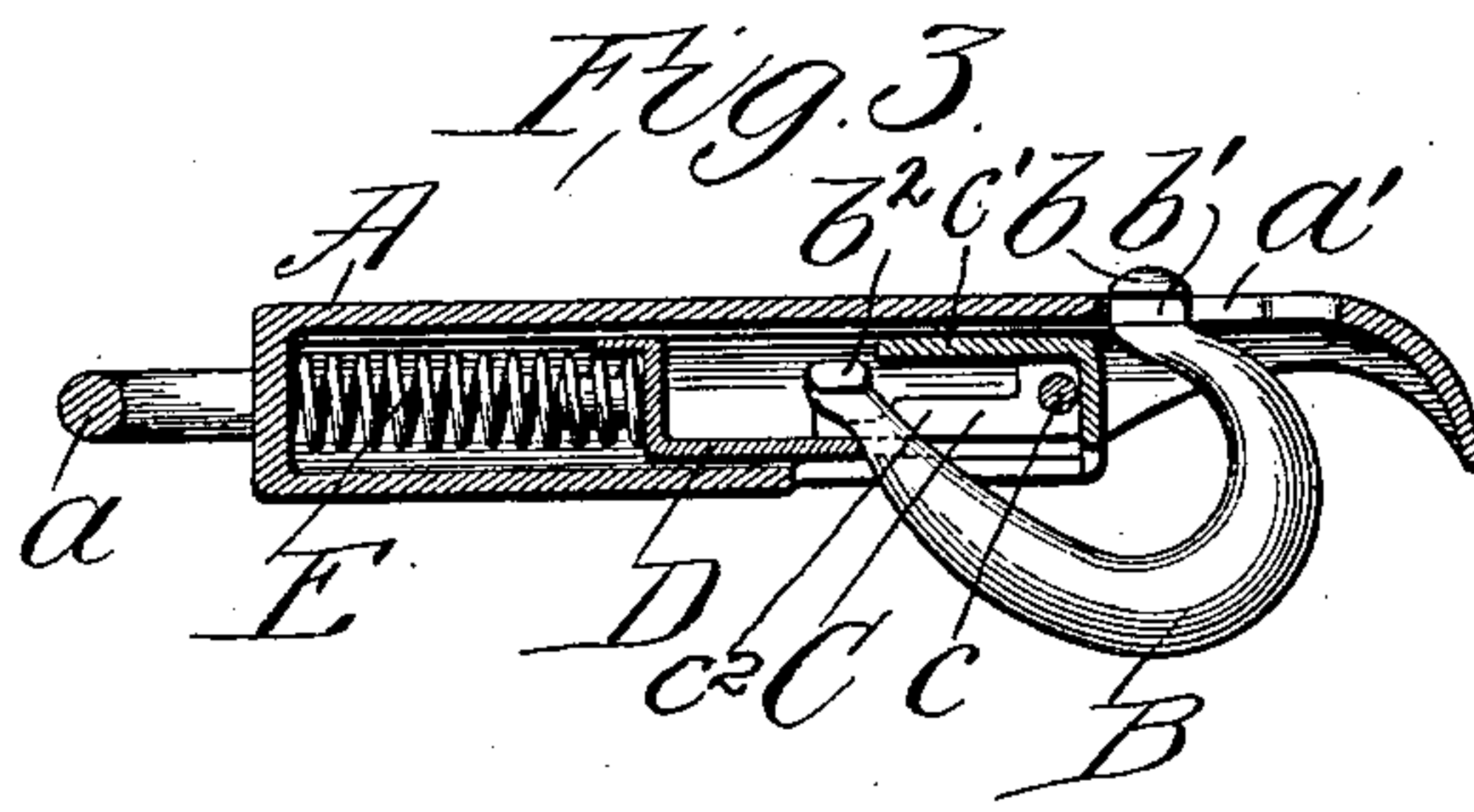
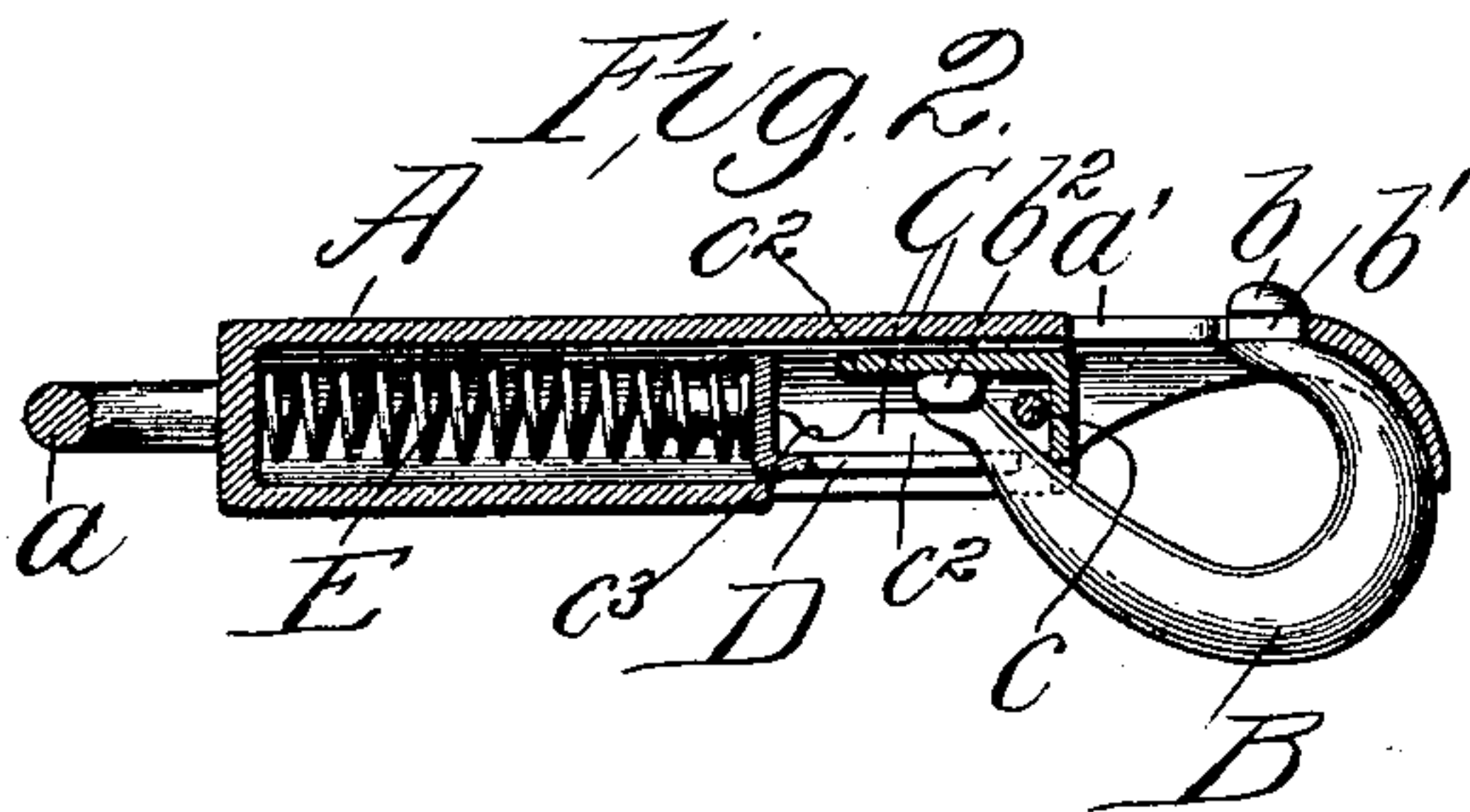
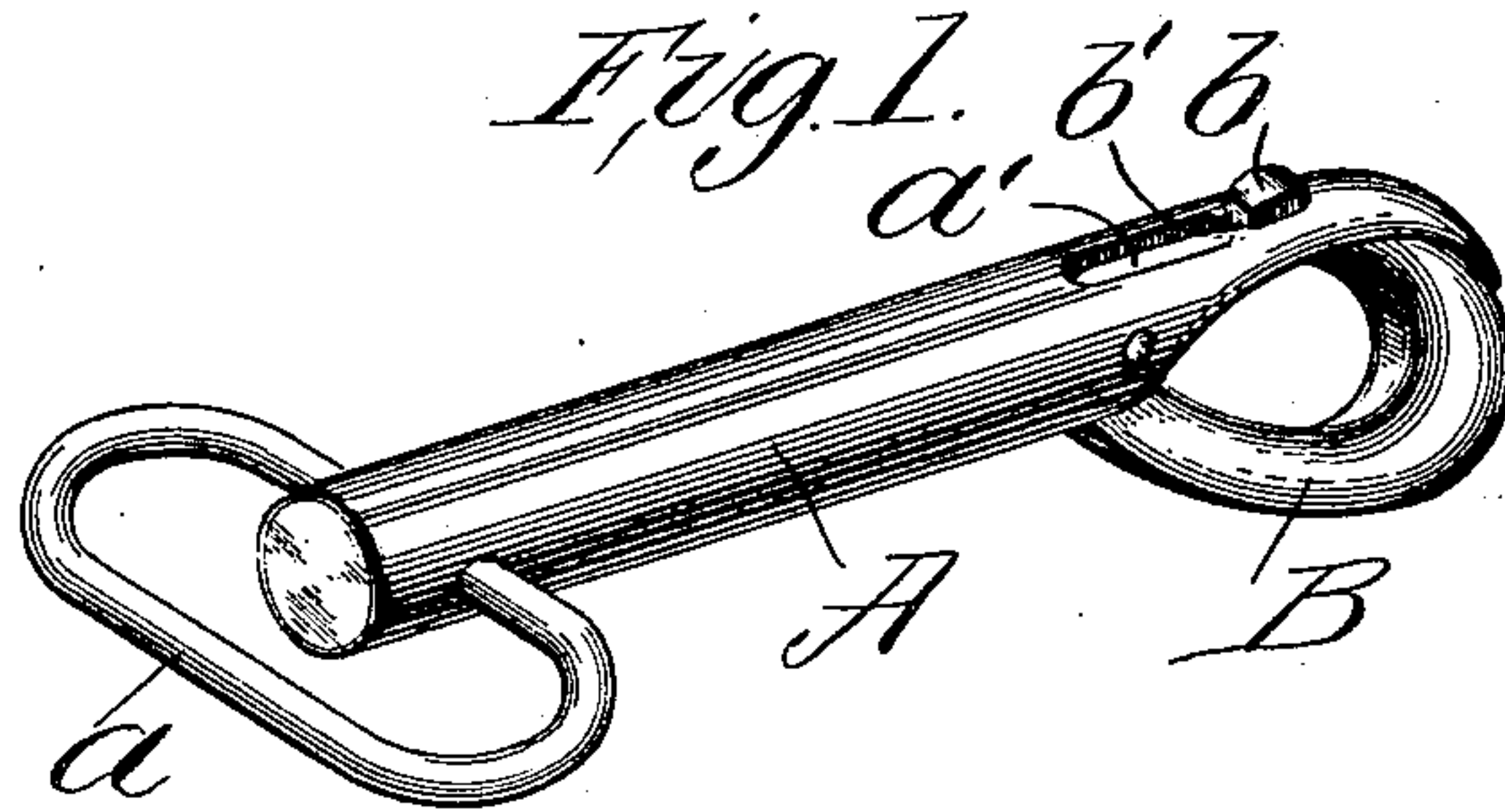
Patented July 2, 1901.

J. W. BOOTH.

SNAP HOOK.

(Application filed Feb. 20, 1901.)

(No Model.)



Attest:
Wm. H. Scott
H. L. Amer.

Inventor:
John W. Booth,
by Bakewell Cornwall
Attys.

UNITED STATES PATENT OFFICE.

JOHN W. BOOTH, OF WASHINGTON, MISSOURI.

SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 677,627, dated July 2, 1901.

Application filed February 20, 1901. Serial No. 48,171. (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, county of Franklin, State of Missouri, have invented a certain new and useful Improvement in Snap-Hooks, of which the following is a full, clear, and exact description, 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, 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 of the same. Fig. 3 is a similar view showing the hook-tongue longitudinally displaced and ready to swing on its pivot. Fig. 4 is a similar view showing the hook-tongue in its open position. Fig. 5 is a detail view of the shank inverted. Fig. 6 is a detail view of the plunger which coöperates with a spring. Fig. 7 is a detail view of the hook-tongue. Fig. 8 represents a slotted plug which is inserted in the forward end of the bore of the shank.

This invention relates to a new and useful improvement in snap-hooks, one object being to protect the moving parts against being interfered with by foreign substances.

Another object is to simplify the construction of devices of this character.

Another object is to more effectually secure the hook-tongue against accidental lateral displacement and to strengthen the hook-tongue.

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, provided with a ring *a* at its rear or outer end, through which medium said shank may be secured to a strap or other device. The front end of this shank is provided with a hood extension, which is hollow on its under side and which curves downwardly, as shown. In the top wall of this hood is an opening *a'*, designed to receive the outer end of the hook-tongue, said opening being contracted at its forward end.

B indicates the hook-tongue, whose outer

end is provided with a head *b*, designed when the hook-tongue is home, as shown in Figs. 1 and 2, to occupy a position above the hood extension of the shank, while the shank *b'*, which connects said head to the body portion of the hook-tongue, is received in the contracted portion of the opening *a'*.

*b*² indicates a head or enlargement on the rear end of the hook-tongue, preferably of substantially semicircular shape, its lateral extremities forming two projecting shoulders, one on each side of the hook-tongue. This head *b*² coöperates with a slotted plug C, which plug is held in the front end of the bore of the shank by means of the pin *c*. This plug may be described as having substantially three prongs, the topmost *c'* being the shortest, while the two lowermost prongs *c*² extend rearwardly beyond the top prong, the upper faces of the ends of the prongs *c*² being notched or recessed, as at *c*³. The forward end of the plug is provided with projections *c*⁴, between which the hook-tongue moves.

D indicates a spring-pressed plunger whose forward end is bifurcated to embrace the inner end of the hook-tongue, said plunger operating, preferably, under the prongs *c*². The rear end of the plunger preferably carries a pin *d* for centering a spring E, while the rearward extension *d'* projects from the upper side of the plunger-head for holding the plunger in position on the spring and guiding the same in its movement.

The operation of the device is as follows: When the hook-tongue is home, the head at the outer end thereof interlocks with the hood extension and the head at the inner end interlocks with the plug. To open the hook, it is necessary to move the hook-tongue inwardly in a direction parallel to the longitudinal axis of the bore of the shank for the purpose of first disengaging the head *b* from the hood extension and then moving the head *b*² from between the prongs of the plug and in a position over the recesses or notches *c*³, as shown in Fig. 3. When the hook-tongue is in this position, it can be swung laterally, the head *b* readily passing through the enlarged portion of the opening *a'*, the notches *c*³ permitting the head *b*² to turn. In such longitudinal movement the hook-tongue forces the spring-pressed plunger back, and when

the hook-tongue is swung on its pivot the plunger D, engaging said hook-tongue to one side of said pivot, will be forced farther back, as shown in Fig. 4. The spring being under
 5 tension will when the hook-tongue is released in the position shown in Fig. 4 exert its energy and move the hook-tongue forward, and by reason of the pivot-point of the hook-tongue being located above the point of ap-
 10 plication of the spring the first movement of the hook-tongue under such action of the spring will be to swing to the position shown in Fig. 3, wherein the head *b* is passed through the enlarged portion of the opening *a'*, and the
 15 head *b*² is in alinement with the slot or opening between the prongs *c'* and *c*². The spring will now drive the hook-tongue forward longitudinally, forcing the head *b* to interlock with the hood extension at the contracted
 20 portion of its aperture and the head *b*² to interlock with the plug C. Both heads prevent any swinging motion of the hook-tongue from its closed position and render it necessary to move the hook-tongue backward lon-
 25 gitudinally before the same can be opened. The length of the contracted portion of the opening *a'* is somewhat less than the track-faces of the prong *c*², which is necessary to the control of the swing of the hook-tongue
 30 at the pivotal point thereof and permit the proper play of the head *b* through the enlarged portion of the aperture *a'*.

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

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

1. In a snap-hook, the combination with a shank provided with an apertured extension, of a hook-tongue having a head on its front
 45 end cooperating with the aperture in said extension, a head on its inner end, and a plug which is introduced into the forward end of the shank for forming a guideway for cooperating with said last-mentioned head, neces-
 50 sitating a longitudinal movement being imparted to the hook-tongue before the same can be swung; substantially as described.

2. In a snap-hook, the combination with a shank provided with an extension, said ex-
 55 tension having an opening whose front por-

tion is contracted, of a hook-tongue having a head on its outer end for cooperating with said opening, a head on the inner end of said tongue, a plug arranged in the forward end of the shank for cooperating with said last-
 60 mentioned head, and a spring-pressed plunger arranged in the shank; substantially as described.

3. In a snap-hook, the combination with a shank having an apertured hood extension, 65 of a hook-tongue having a head on its outer end cooperating with the opening in said hood extension, a head on the inner end of said hook-tongue, a plug introduced into the forward end of the shank, and having rearwardly-
 70 extending prongs for receiving said head and providing a guideway therefor, and a spring-pressed plunger for exerting a constant pressure against the hook-tongue at a point beneath the head on its inner end; substan-
 75 tially as described.

4. In a snap-hook the combination with a shank, of a hook-tongue having a head on its inner end, a plug introduced into the forward end of the shank and providing a guide-
 80 way for said head, the forward portion of said way being formed by parallel walls, while the rearmost portion is enlarged to permit the head to turn, and a spring-pressed plunger cooperating with the hook-tongue at a point
 85 beneath the head; substantially as described.

5. In a snap-hook, the combination with a shank, of a hook-tongue formed with a head on its inner end, and a plug arranged in the front end of the shank for cooperating with
 90 said head, said plug having prongs *c'* and *c*², the latter of which are notched as at *c*³, and projections *c*⁴; substantially as described.

6. In a snap-hook, the combination with a hollow shank, of a hook-tongue, a plug in-
 95 troduced into the front end of the bore of said shank for cooperating with the inner end of the hook-tongue, a plunger having a bifurcated forward end for cooperating with the hook-tongue, the rear end of said plunger hav-
 100 ing a centering projection *d* and a guiding projection *d'*, and a spring arranged behind said plunger; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, 105 this 18th day of February, 1901.

JOHN W. BOOTH.

Witnesses:

RALPH KALISH,
 WM. H. SCOTT.