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Patented July 26, 1898.

C. F. FRANCISCO & E. E. SHAFFER.

SNAP HOOK.

(Application filed July 17, 1897.)

(No Model.)

Fig. 1.

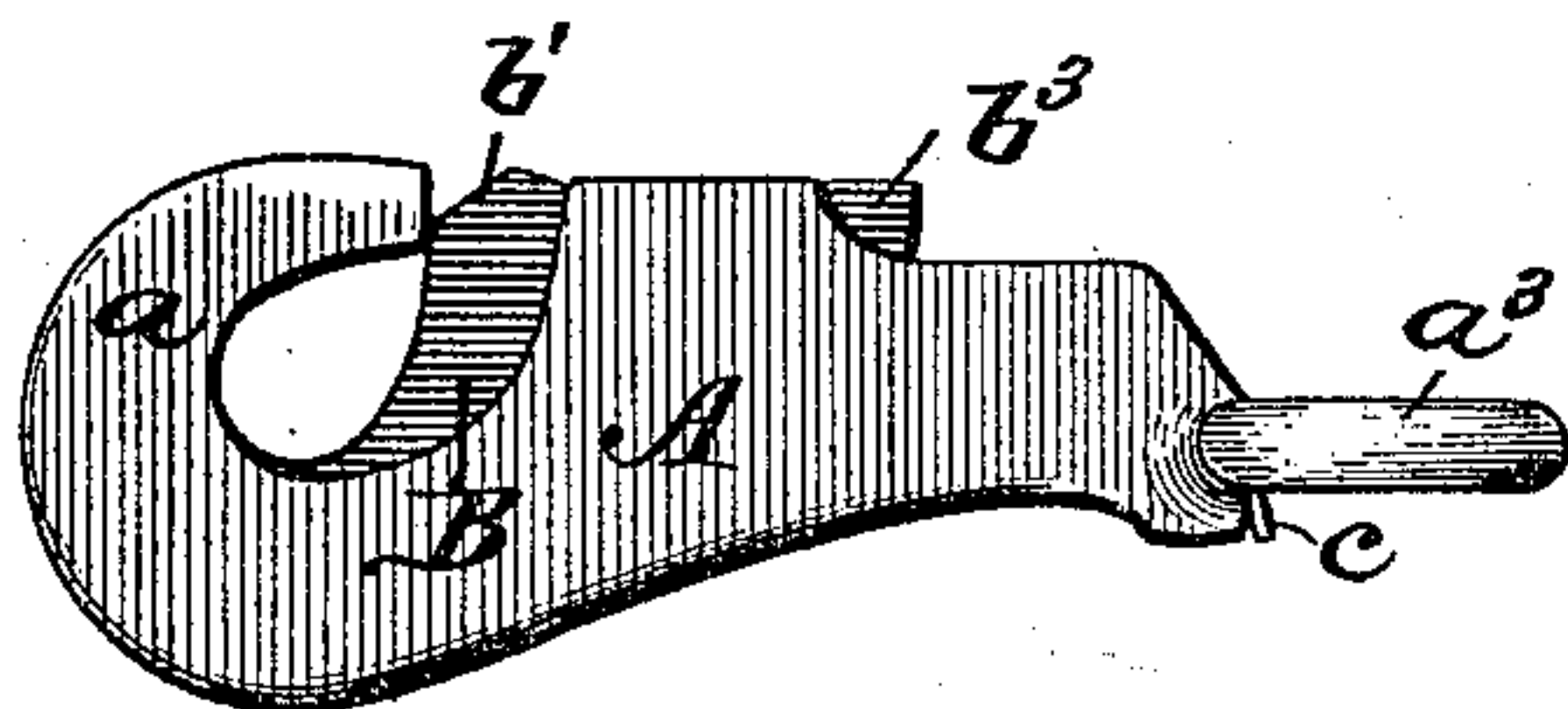


Fig. 2.

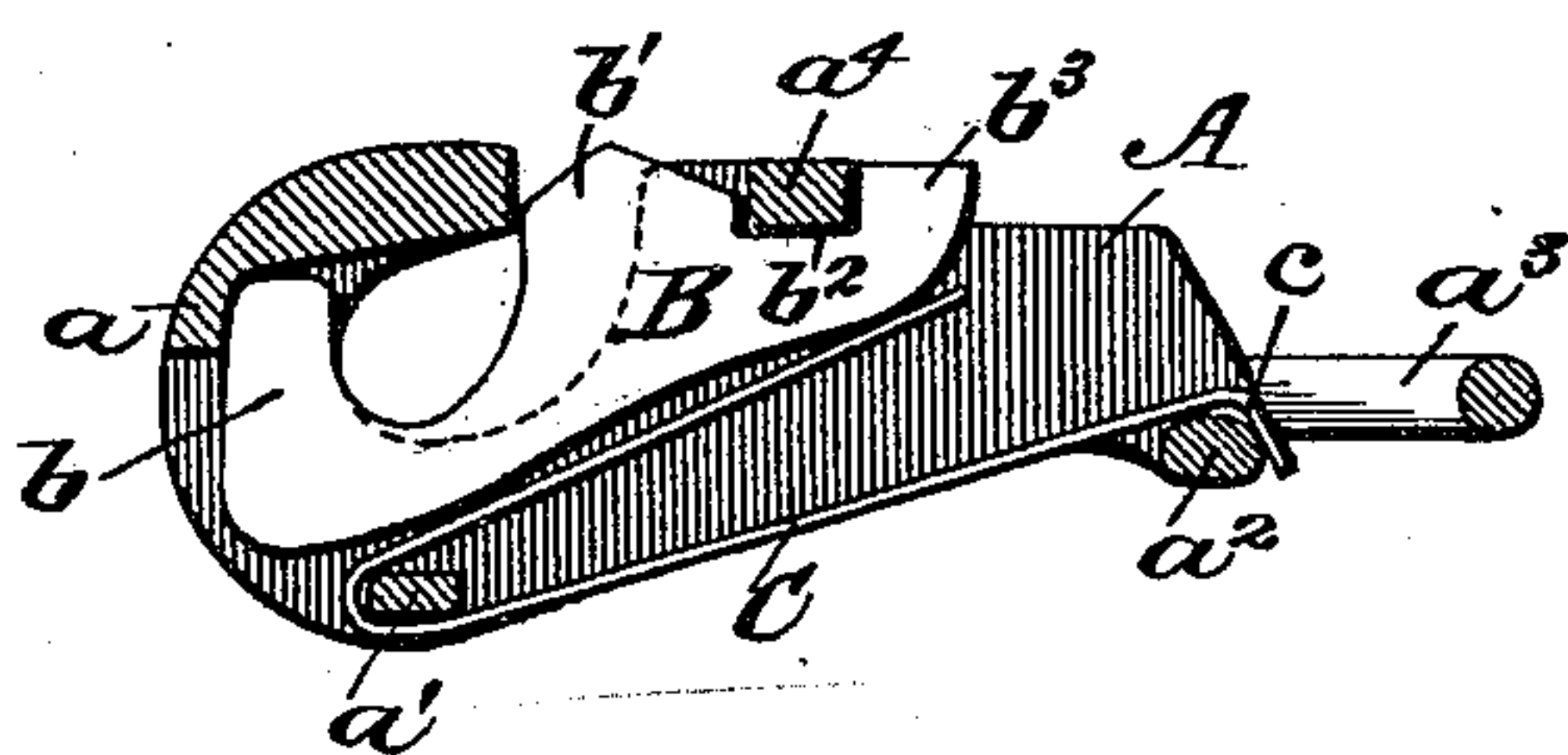
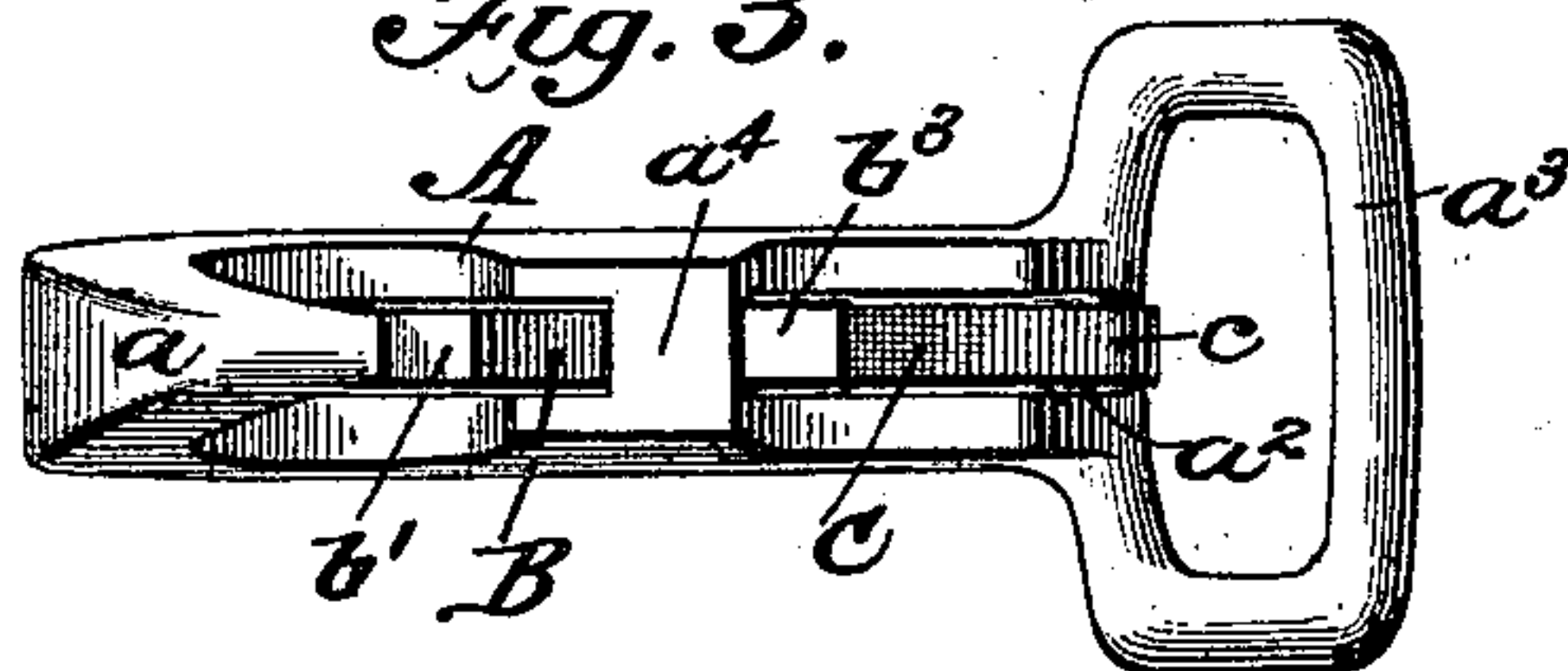


Fig. 3.



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SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 607,844, dated July 26, 1898.

Application filed July 17, 1897. Serial No. 644,986. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. FRANCISCO, of Lakeside, and EUGENE E. SHAFFER, of San Diego, in the county of San Diego and State of California, have invented a new and useful Improvement in Snap-Hooks, of which the following is a specification.

The object of our invention is to provide a simple, cheap, and practical snap-hook which firmly and safely remains in locked engagement with the ring or buckle to which it is to be coupled and which is not liable to become accidentally uncoupled from the weakening or breaking of its spring or an undue projection of its locking-latch; and to this end it consists in the peculiar construction and arrangement of the various parts of the same, which we will now proceed to describe with reference to the drawings, in which—

Figure 1 is a side view; Fig. 2, a longitudinal section, and Fig. 3 a top plan view.

In the drawings, A represents the main frame of the snap-hook, which is made of malleable cast-iron and is formed with a hook portion a and two sides that are connected by cross-bars a' a^2 a^4 and a terminal loop a^3 to receive the strap, all of which parts are made in one piece.

B is the locking-latch. This is a relatively thin plate which fits between the two sides of the main frame and is formed with a hook portion b , a shoulder b' , a depression b^2 , and a terminal lug b^3 . The hook portion b of the latch lies within a recess in the hook portion a of the main frame and the recess b^2 of the latch, receiving the cross-bar a^4 of the main frame, with the shoulder b' in front of said cross-bar and the lug b^3 behind it.

C is a flat U-shaped spring whose middle bend passes around the cross-bar a' , whose shorter and upper portion presses against the bottom of latch B and whose longer portion is formed with a terminal bend c , that hooks around the rear cross-bar a^2 of the main frame. This spring, it will be seen, is securely held in place against displacement in all directions, the cross-bar a' preventing its movement to the right and the cross-bar a^2 and bend c preventing movement to the left. This spring has a very long leverage and great

strength and elasticity, and it holds the latch up and to the front, entirely closing the outlet of the hook by projecting the shoulder b' of the latch against the point of the hook a of the main frame. When, however, the snap-hook is to be opened, the lug b^3 is pressed upon by the thumb and the latch is moved downwardly and backward until the hook-opening of the latch registers with the hook-opening in the main frame.

We are aware that a snap-hook having a latch somewhat similar to ours has been provided with a spring which is rigidly attached to the latch and slides with it, and we make no claim to this construction. Our invention is distinctive in the fact that the case A is formed with the three cross-pieces a' , a^2 , and a^4 , a' and a^2 being at the bottom and a^4 at the top and between a' and a^2 , with an open space below it, so that the frame may be easily cast, and also in the special form and arrangement of the spring C, which is stationary with the frame A and does not move with the latch. The advantages of this construction are cheapness of manufacture and the fact that the spring always bears upwardly in the same relation to the cross-piece a^4 independent of the position of the latch. Another peculiarity of our snap-hook is that between the shoulder b' and the notch b^2 the latch is cut away at an incline, and this incline, in connection with the direction of the pressure of the relatively stationary free end of spring C, causes the latch B to always close outwardly, so that it cannot be left in open position, but always requires to be held open.

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

1. The snap-hook herein described comprising the frame portion having the hooked portion a , and three cross-pieces a' a^2 a^4 , the cross-pieces a' and a^2 being at the lower side with an open space between them, and cross-piece a^4 being arranged at the upper side and between cross-pieces a' and a^2 , the U-shaped spring C having its lower bent end c hooked over cross-piece a^2 , its middle bend surrounding cross-piece a' , and its free end pressing upwardly, and a latch B arranged within the

frame and above the free end of said spring substantially as shown and described.

2. The combination of the frame having a hook at one end, and cross-pieces a' a^2 and a^4 5 arranged as described, the U-shaped spring anchored in fixed relation to the frame, and the latch B having shoulder b' and notch b^2 with its upper surface cut away to an incline be-

tween these points substantially as and for the purpose described.

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