

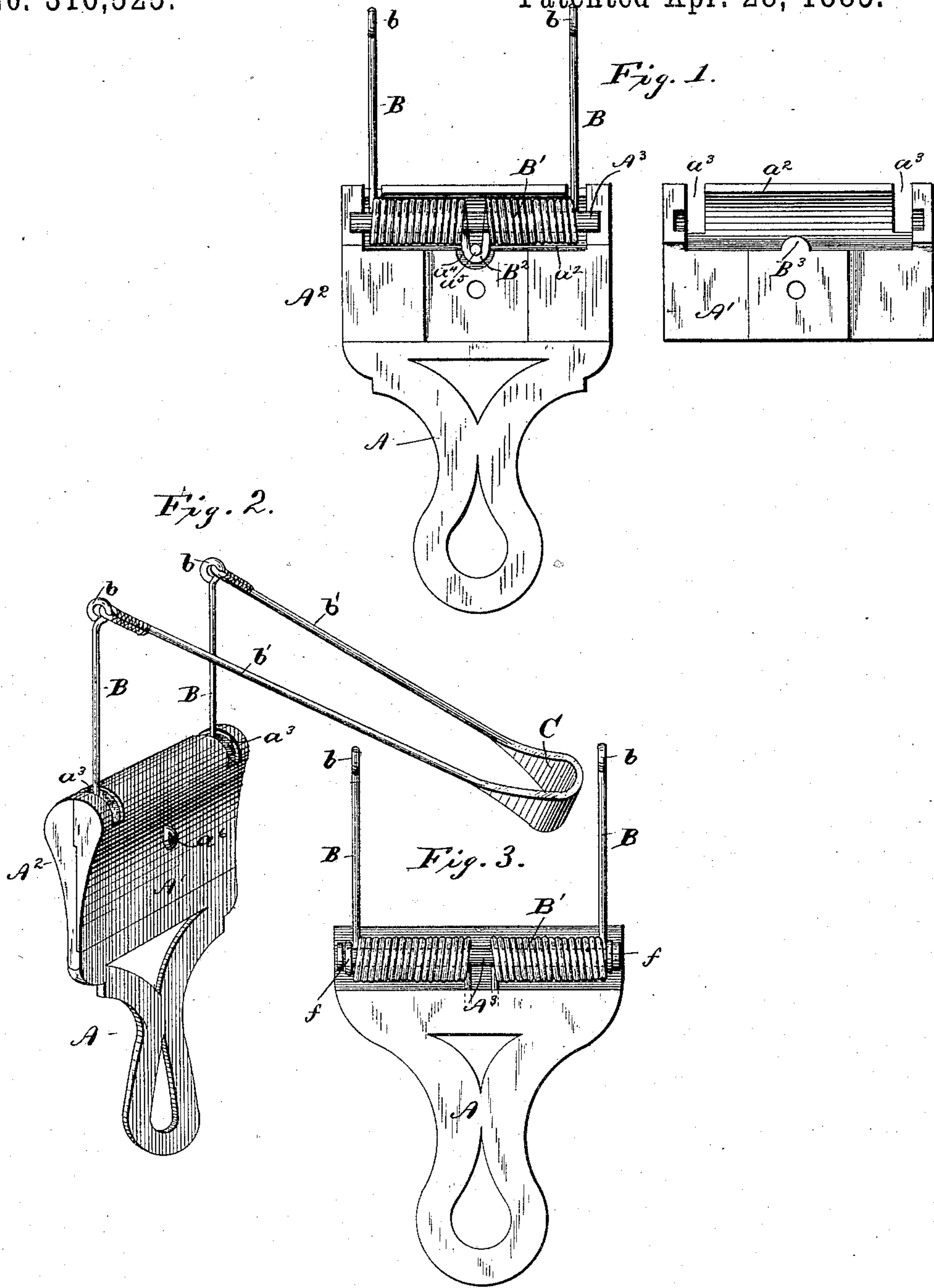
(No Model.)

I. W. COOPER.

SLING.

No. 316,525.

Patented Apr. 28, 1885.



Witnesses.

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UNITED STATES PATENT OFFICE.

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SLING.

SPECIFICATION forming part of Letters Patent No. 316,525, dated April 28, 1885.

Application filed February 20, 1885. (No model.)

To all whom it may concern:

Be it known that I, ISAAC W. COOPER, of Apollo, in the county of Armstrong and State of Pennsylvania, have invented certain new and useful Improvements in Slings; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, and to the figures and letters of reference marked thereon.

My present invention relates to certain improvements in slings, such as are employed for throwing stones, bullets, and other missiles; and it consists, essentially, in the combination, with a hand-piece or frame, of two spring-arms to which the strings carrying the holder, of leather or other suitable material, are attached; and it further consists in certain novel constructions and arrangements of these several parts as hereinafter fully described, and pointed out in the claims.

In the accompanying drawings, Figure 1 illustrates the construction of the several parts, the cap-plate or retainer being removed. Fig. 2 illustrates the completed instrument. Fig. 3 illustrates a modification of the means employed for mounting the spring upon the handle.

Similar letters of reference in the several figures indicate like parts.

Upon a hand-piece or frame, A, are mounted or attached two carrying-arms, B B, preferably of spring-wire, so arranged as to be capable of being drawn backward in the direction in which the holder is drawn preparatory to the release of the projectile, and to the upper or free ends of these arms B B, preferably provided with eyes or loops, *b b*, for the purpose, are attached the strings or cords *b' b'*, carrying the holder C, of leather or other suitable material. The arms B B are preferably the terminals of a double coil, B', near whose central portion is formed a retaining loop or offset, B².

To make the spring, a piece of spring-wire is first bent to form the loop B², and the ends coiled around a mandrel, the coils being in the same direction but extending in opposite directions from the center. When a sufficiently long

coil is formed, the ends of the wire left projecting are bent to form the loops *b b*; (or the latter operation may be completed before, during, or subsequent to the making of the loop B².) The hand-piece or frame A, to which said spring is to be attached, may be made in two parts, A' A², each provided with a semi-circular or other shaped groove or recess, *a*², near its upper edge for the reception of the coiled portion of the spring, and with two slots, *a*³, in the upper edge through which project and vibrate the spring-arms B B. In one of the parts of the handle, preferably in A², is formed a lug, *a*⁵, and groove, *a*⁴, for the reception of the loop B², whereby the spring is retained in position. The part A', which forms the cap-piece, fits over the spring when placed in position in the part A², and the two parts are then united by a screw or rivet, *a*⁶.

In order to still further sustain the spring and increase its efficiency, a wire or pintle, A³, is passed through the coils and held at either end in grooves or bearings formed in the parts A' and A². It will be observed that the two coiled portions form torsional springs, which serve to supplement the action of the spring-arms B B.

I do not desire to limit myself to the exact means and manner of attaching and holding the spring upon the handle, as numerous modifications thereof will be at once perceived as soon as my invention is disclosed. Thus the form and proportion of the springs and grooves may be varied, as well as the shape and location of the retaining-offset B². The recess for the spring may be wholly formed in either of the sections A' A², and the opposite section be employed as a cap or retainer only; nor is it essential that the coiled portion of the spring should be wholly inclosed, it being only necessary to support and sustain the same firmly in position and at the same time allow the two arms to have free motion.

Instead of forming the spring-arms from a single piece of wire, they may be made separate, as shown in Fig. 3, wherein the two coils, instead of being united by the offset B², are each provided with a retaining point or offset, which is inserted in or otherwise fast-

ened to the handle. As shown in this figure, the coiled portions of the springs are located in an offset or groove formed near the top of the handle, and are held in position by two staples or eyes, *f f*, which embrace the ends of the pintle *A*³.

Having thus described my invention, what I claim as new is—

1. In a sling such as described, the combination of a hand-piece, two spring-arms mounted thereon, the holder, and cords connecting said holder to the spring-arms, substantially as described.

2. The hand-piece provided with a recess or shoulder near its upper edge, the torsional spring provided with carrying-arms located therein, and a holder attached to said arms, substantially as described.

3. The hand-piece or frame provided with a recess or socket near its upper edge for the reception of the torsional springs, and with grooves for the passage of the carrying-arms, in combination with said carrying-arms and a holder, and a cap-plate or retainer, substantially as described.

4. In combination with the hand-piece notched or grooved as described for the reception of the springs, the torsional springs provided with the carrying-arms and the retaining offset or loop, as set forth.

5. The improved spring consisting of the central loop, the two coiled sections, and the parallel carrying-arms, in combination with the handle, and means for securing the central loop to the handle, permitting the arms to move independently, and the holder and connecting-cords, substantially as described.

6. In combination with the hand-piece provided with a recess near its upper edge, the two carrying-arms, the holder connected thereto, the coiled torsional springs, and the retaining-pintle, substantially as described.

7. The combination, in a sling, of a hand-piece or holder and two torsional springs and two carrying-arms, said springs being secured within a cavity formed between the hand-piece and a retaining-cap, the carrying-arms attached to said springs passing through slots or openings in the holder, and the springs being anchored or held by a lateral offset or loop, substantially as described.

8. The combination, with two torsional springs mounted upon a frame or hand-piece, and provided with carrying-arms, of the holder, and the cords for attaching said holder to the arms, substantially as described.

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