

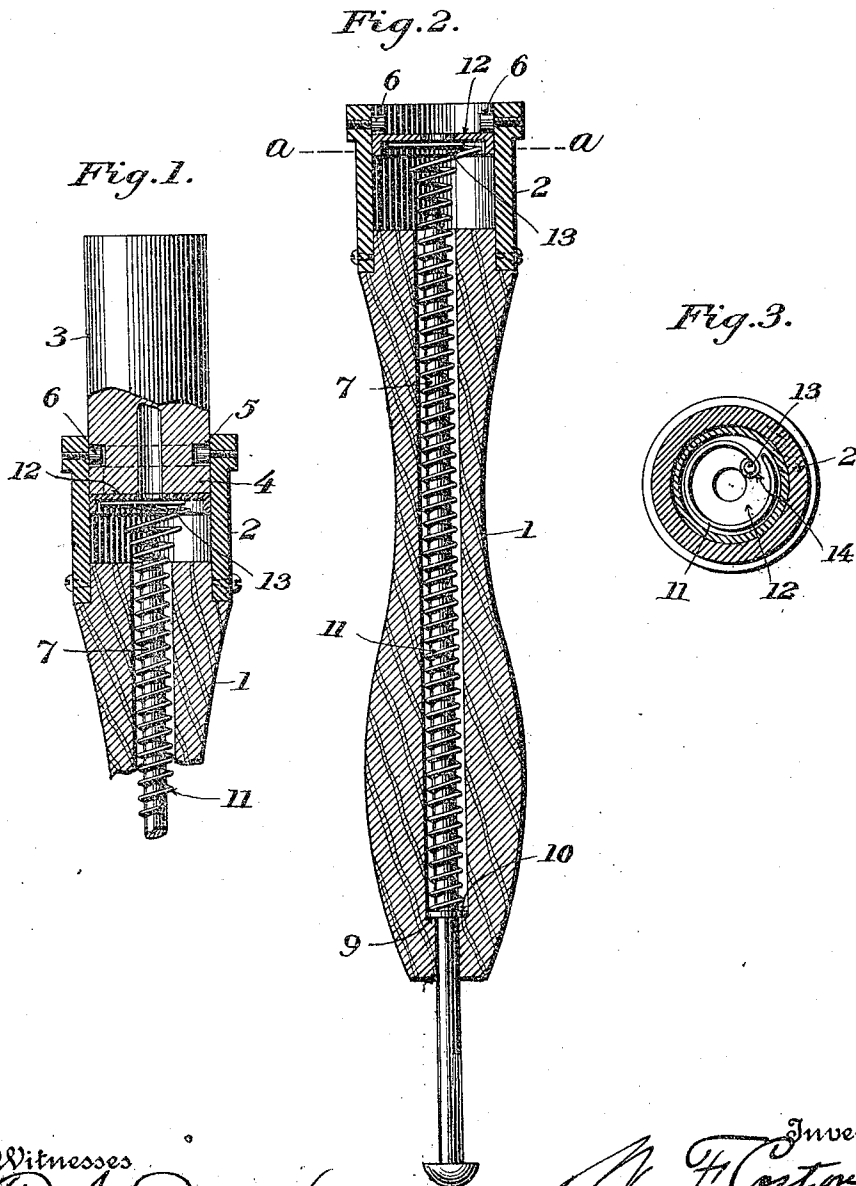
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Patented May 21, 1901.

W. F. COSTON.
SIGNAL HOLDER.

(Application filed Feb. 28, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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SIGNAL-HOLDER.

SPECIFICATION forming part of Letters Patent No. 874,400, dated May 21, 1901.

Application filed February 28, 1901. Serial No. 49,328. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. COSTON, of New York, county of New York, and State of New York, have invented a new and useful Improvement in Signal-Holders, of which the following is a specification.

This invention has reference to what are commonly known in the art as "Coston signals," in which a signal-cartridge is adapted to be temporarily held in a socket or handle provided with a firing-pin for the purpose of igniting the cartridge. As heretofore constructed the handle has been formed with a longitudinal passage-way extending through it, in which was mounted a firing-pin encircled by a spiral spring bearing at one end on the pin and at its opposite end against a bearing or pressure plate seated loosely within the socket. Under this arrangement the spring served to normally hold the firing-pin in a retracted position and at the same time urged the bearing-plate forward, so that when the cartridge was inserted the plate would yield until the former was secured in place, when the plate would exert a pressure thereon and hold the cartridge firmly in position. The cartridge was locked in the socket by means of studs or pins projecting inwardly from the inner surface of the socket and adapted to enter a peripheral groove in the cartridge, the construction constituting a form of the familiar bayonet-joint. These pins served also to limit the forward movement of the bearing-plate under the influence of the spring when the cartridge was removed and under ordinary circumstances prevented the escape of the plate. In the use of the device it has been found that the bearing-plate in some way frequently escapes from the socket, either in the act of removing the cartridge or in the handling of the device when the cartridge is not in place. This is the cause of much annoyance and surrounds the use of the handles with objections and uncertainty. It is the aim of the invention to overcome these objections; and the invention consists in a bearing-plate of improved form arranged in the socket in such manner that it will be prevented from escaping therefrom and this without interfering in any manner with its function or that of the spring.

The invention consists also in the details

of construction and combination of parts hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal sectional elevation of a handle or holder embodying my invention, showing the signal-cartridge in place therein. Fig. 2 is a similar view with the cartridge removed. Fig. 3 is a transverse sectional elevation through the socket on the line *a a* of Fig. 2, showing how the spring is permanently secured to the bearing-plate.

Referring to the drawings, 1 represents a suitable handle, preferably of wood and adapted to be grasped in the hand, and 2 represents a tubular socket projecting from its forward end and adapted to receive and hold a signal-cartridge 3, which is provided with a base-block 4, having a peripheral groove 5, which when the cartridge is in the socket receives pins 6, projecting inwardly from the inner surface of the socket. The said block is formed with vertical grooves to permit it to be inserted in the socket past the fastening-pins, after which it may be turned to lock it in place, as clearly shown in Fig. 1. The cartridge is, as usual, provided with a suitable primer adapted to be ignited by a firing-pin 7, slidably mounted in a longitudinal passage-way in the handle, with its rear end exposed at the rear end of the handle and its other end pointed and adapted to be driven forward by the hand through a hole in the base-block in the cartridge in order to act on the primer.

The passage-way in the handle is reduced in diameter at its rear end, forming a shoulder 9, against which abuts a washer-plate 10, fixed to the firing-pin in the passage-way and serving to limit the retraction of the pin. The pin is encircled by a spiral spring 11, bearing at its rear end against the washer-plate and tending to hold the pin retracted and acting at its opposite end on a bearing-plate 12, formed with an annular flange and mounted loosely in the socket in rear of the fastening-pin. The bearing-plate is provided with a central hole through which the pointed end of the firing-pin may be thrust to reach the primer, and when the cartridge is inserted in place in the socket the bearing-plate is forced backward against the pressure of the spring, and thus serves when the cartridge is

in place to press thereon and hold it firmly in position, subject to the action of the locking-pin. As heretofore constructed this plate has been in the form of a disk acted on by the spring, and as a result the plate was capable of tipping in the socket and in the use of the device frequently escaped therefrom. The present form of the plate with the annular flange thereon prevents the same from tipping in the socket, so that its escape therefrom is impossible. As a further means of preventing the escape of the plate the end of the spring is permanently secured thereto, preferably by means of a rivet 13, Figs. 2 and 3, which is passed through an eye 14 formed on the end of the spring and firmly riveted to the plate, or, if preferred, the end of the spring may be soldered to the plate or any other mode of attachment adopted which will secure the permanent attachment of the spring to the plate. When thus arranged, it is not possible for the plate to leave the socket under any circumstances, and its function is not impaired or interfered with in any manner. The end coil of the spring where the latter is secured to the bearing-plate is preferably enlarged, as shown, to fit within the annular flange on the plate and facilitate the connection of the spring therewith.

In the use of the device the cartridge is inserted in the socket, pressing the plate backward, and then turned to lock it in position. The spring fixed to and bearing at one end on the plate and at its other end on the washer-plate on the pin holds the latter yieldingly in a retracted position, as shown in Fig. 1, with its rear end exposed. When the primer is to be ignited and the cartridge fired, the rear end of the pin is forcibly struck and driven forward, its pointed end passing through the bearing-plate and base-block and acting on the primer in the cartridge. The

shoulder 9, against which the washer-plate abuts, is formed by first boring a hole from the front end of the handle nearly through the same and then forming a second hole of reduced diameter through the remaining portion of the handle. This construction obviates the necessity of a special and separate sleeve, which it has been the practice to fix in the rear end of the handle.

It will be noted that the rear end of the firing-pin is free from slots or notches with which they have been heretofore provided to guide or lock them and which have been found to weaken the pin at the point where the greatest strength is desired.

Having thus described my invention, what I claim is—

1. In a signal the combination of a socket adapted to receive the signal-cartridge, a bearing-plate mounted in the socket and formed with an annular flange fitting snugly within the socket, a spring permanently fastened to the plate and serving to urge the same forward and means for firing the cartridge.

2. In a signal the combination with a cylindrical socket adapted to receive the signal-cartridge and provided with cartridge-locking pins projecting inwardly from the inner surface of the socket, of a bearing-plate slidingly mounted in the socket in rear of the locking-pins and formed with a rearward annular flange fitting snugly but loosely within the socket, a spring acting on the plate and serving to urge the same forward, and means for firing the cartridge.

In testimony whereof I hereunto set my hand, this 16th day of February, 1901, in the presence of two attesting witnesses.

WM. F. COSTON.

Witnesses:

JOHN F. GEORGE,

W. A. McCALL.