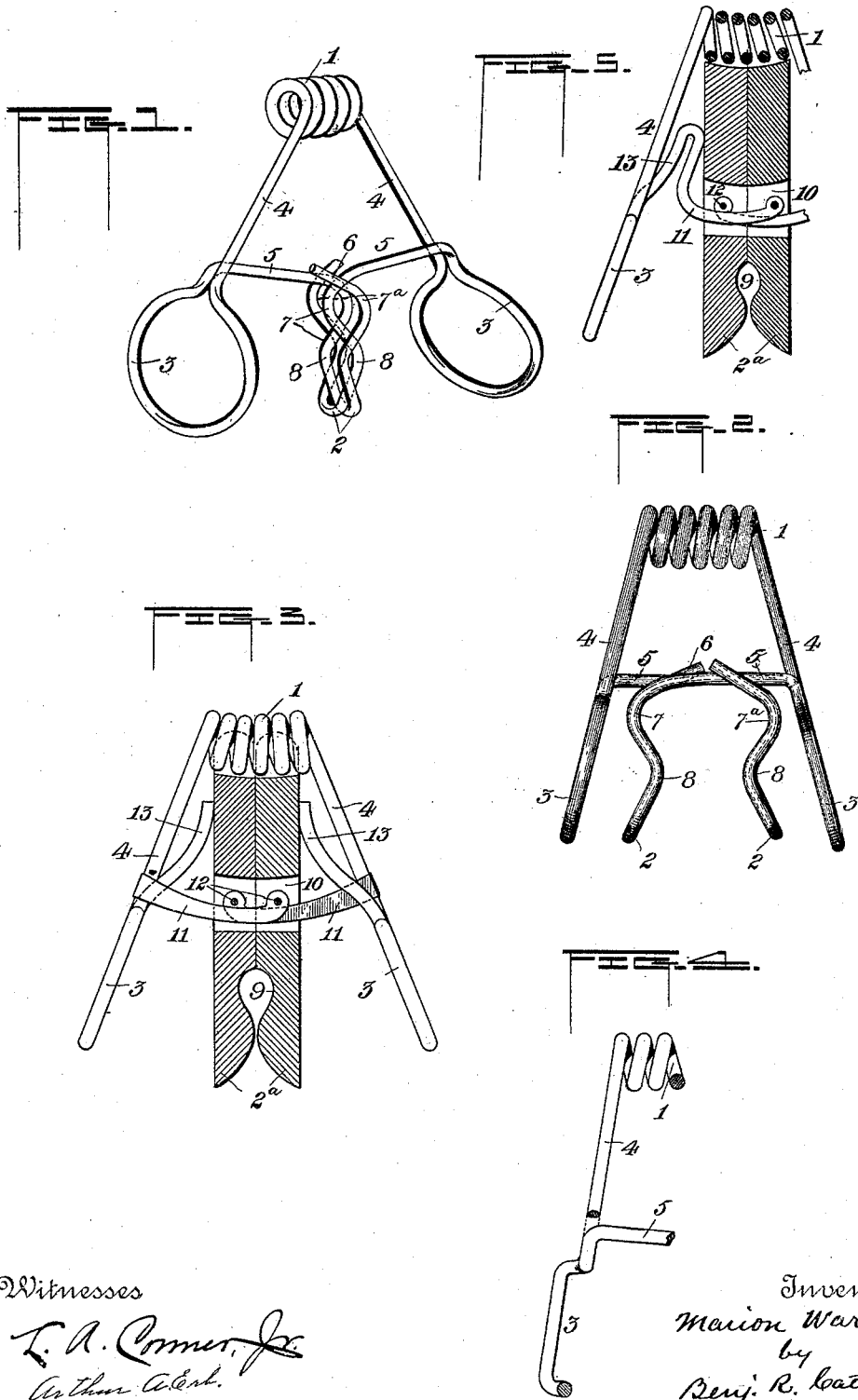


(No Model.)

M. WARREN.
CLOTHES PIN.

No. 417,847.

Patented Dec. 24, 1889.



Witnesses

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MARION WARREN, OF ROCHESTER, NEW YORK.

CLOTHES-PIN.

SPECIFICATION forming part of Letters Patent No. 417,847, dated December 24, 1889.

Application filed January 2, 1889. Serial No. 295,210. (No model.)

To all whom it may concern:

Be it known that I, MARION WARREN, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Clothes-Pins; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a clothes-pin that will be certain in its action and that can be readily applied to or detached from lines of various sizes under all conditions and that can be cheaply made; and it consists in the matters hereinafter described and particularly pointed out.

In the accompanying drawings, Figure 1 is a perspective view of my improved clothes-pin made of a single piece of wire. Fig. 2 is a side view of the same, the spring-coil being compressed, as when the pin is being applied to a line. Fig. 3 is a side view, partly in section, of a modified form. Fig. 4 is a view of a modified detail in section with a part of a finger-piece shown in dotted line, and Fig. 5 is a section showing another modified detail.

The clothes-pin consists of a coiled spring 1, line clasp or gripper 2, and finger-pieces 3, connected and arranged substantially as shown. The coil is connected with each finger-piece 3 by a continuation 4 of the wire, and on the other side of each finger-piece the wire is continued at 5 and bent in such manner that each member overlaps the other and is continued in downward direction, being curved to form a seat for a line or wire at 7, and then oppositely curved at 8 and then bent back at the bottom upon itself. The end of the wire thus bent is curved in similar manner, so that the two portions of each wire are parallel to each other—that is, each end 7^a is parallel to the part 7—and these parts are arranged in alternate order in lateral direction, so that they may pass by each other when the spring is compressed. Their movement in the opposite direction under the free influence of the spring is limited by the engagement of the bends or loops at the bottom, as shown in Fig. 1.

The arrangement of the wires above described adapts the parts to act to some extent as guides, each for the other, when the spring is compressed and then relaxed. The bending or duplication of the wires affords a wider bearing to the clasping or gripping portion of the pin, it being obvious that in use two parallel members 7 and 7^a will embrace the line, and it is further obvious that the wire might be made longer and similar additional members provided by suitably bending it.

The device would operate even though the parts of the wire were not alternated, the part 7 and its counterpart 7^a of each wire being placed immediately adjacent to each other. The arrangement described is, however, preferred.

In Fig. 3 is illustrated a form in which the clasp or gripping part of the device is made of wood, being shown in vertical section in said figure. In this form two pieces of wood or other material are shaped, as at 9, to embrace a line. They are transversely slotted at 10 to receive the arms 11, secured to the wires 4 above the finger-pieces 3. These arms are at their ends secured to the parts of the clasp by pins 12, which pass through them and the walls of the slot 10. These arms overlap and have substantially the same relation to the device as do the overlapping members 5 above described. The arrangement is such as shown, whereby when the coiled spring is compressed the said arms pass longitudinally by each other in the slots 10, and by reason of their connection with the wooden clasps or fingers at the pins 12 force the clasps apart to receive a clothes-line, as will readily be understood. These wooden fingers may each be hollowed out at its upper end to partially embrace the coil, as indicated by dotted lines. The wire part of the device is extended beyond the finger-pieces in manner to bear upon the wooden parts, as shown at 13. It is obvious that instead of terminating as illustrated the wire might be bent back upon itself, and then curved at each extremity in the direction of the slots 10, to act as substitutes for the arms 11, as indicated in Fig. 5.

Any suitable wire may be employed in the manufacture of the improved clothes-pin.

The article will of course be formed and the metal tempered in suitable manner. If the material is not non-corrodible, it should receive an approved coating or treatment to protect it from corrosion.

The finger-pieces, which may be varied in size and form, if desired, are so arranged with relation to the spring that they afford a leverage, and the latter can be easily compressed to open the clasping-fingers to engage a line or to permit their removal therefrom. The finger-pieces also afford means for detaching the pin when frozen to an article without danger of tearing the latter.

The improved clothes-pin described can be very cheaply made and is very durable. Moreover, it can be applied and removed with great ease and convenience and without danger of tearing the most delicate fabrics.

In Fig. 4 is shown in section a modified form of the finger-pieces. According to this construction they are made oblong and bent so as to produce a concavity, whereby they fit the thumb and forefinger and protect them against slipping.

It will be understood that the spring in a pin constructed as described is not liable to be overtaxed, as its action is limited in both directions. Thus when the spring is compressed sufficiently the two members of the gripper come against the finger-pieces and further compression of it is arrested, and on the other hand as the spring expands the members of the gripper engage so as to limit the movement. This is a feature of practical importance, as springs which are liable to be overtaxed are soon weakened by usage and become worthless.

While it is practicable to form the pins and temper them as above described, it is also practicable to make the pins or their metal parts out of Bessemer steel without subsequent tempering. They may be either tinned or nickeled.

It will be understood that the size and proportions of the parts may be varied and that equivalent forms may be substituted without departure from the invention, provided the operation of the device is not substantially changed.

It is noted that the spring-coil is located at one end of the device and that the wire extends from such coil on each side to finger-

pieces which are located at the other end of the pin, and that they are in the same plane or at the side of the grippers about equidistant with them from the coil. This construction provides a strong and conveniently-arranged spring, which can be made, if desired, of a single piece of wire, and the location of the finger-pieces in the same plane with the grippers or at about an equal distance therewith from the coil increases their leverage, the whole arrangement being efficient and economical.

Having thus described my invention, what I desire to secure by Letters Patent is as follows:

1. The clothes-pin herein described, consisting of the wire-spring coil at one end thereof having the wire of the coil extended downwardly on both sides to the opposite end of the device and then bent or curved into finger-pieces, said pieces having overlapping connections with grippers situated in the same plane or equidistant therewith from the coil, substantially as specified.

2. The clothes-pin herein described, consisting of the wire-spring coil at one end thereof having the wire of the coil extended downwardly on both sides to the opposite end of the device and there bent or curved into finger-pieces, the wire of each finger-piece being extended and said extensions overlapping each other and bent downwardly to form grippers, the finger-pieces being situated in the same plane as the grippers or equidistant therewith from the coil, substantially as specified.

3. In a clothes-pin, the combination of a coiled spring, finger-pieces formed of downward extensions of the wire of the coil, and the overlapping connections and grippers, said finger-pieces being in the same plane as the grippers or equidistant therewith from the coil and adapted to be arrested by the same when the coiled spring is compressed, and said grippers being adapted to engage each other under the influence of the coil to arrest its expansion, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

MARION WARREN.

Witnesses:

F. B. HUTCHINSON,
E. N. ADAMS.