W. A. BUTLER.
Safety-Pin.

No. 198,912. Patented Jan. 1, 1878.

Fig. 1.

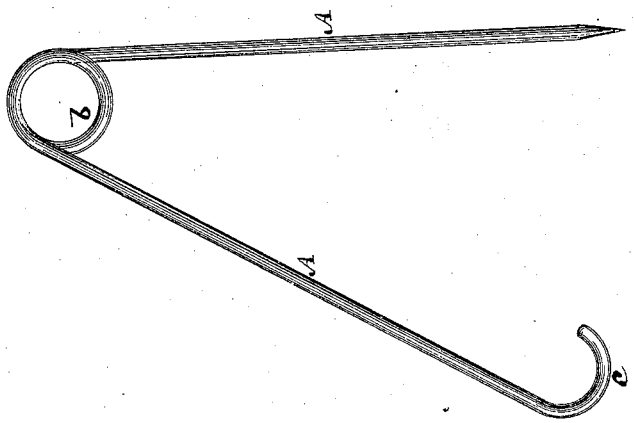

Fig. 3.

Fig. 2.

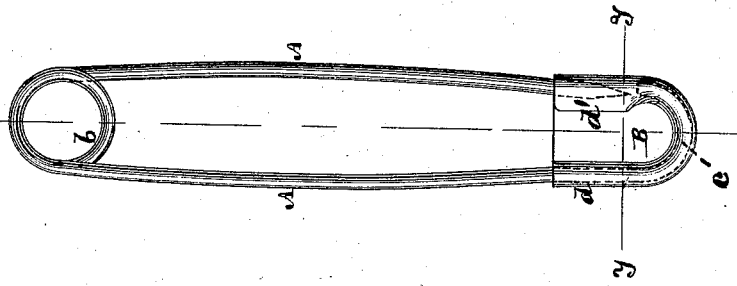

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM A. BUTLER, OF NEW YORK, N. Y., ASSIGNOR TO THOMAS L. BUTLER, OF SAME PLACE.

IMPROVEMENT IN SAFETY-PINS.

Specification forming part of Letters Patent No. **198,912**, dated January 1, 1878; application filed September 14, 1877.

To all whom it may concern:

Be it known that I, WILLIAM A. BUTLER, of the city and State of New York, have invented a new and useful Improvement in Safety or Diaper Pins, of which the following is a description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to the shields of safety-pins, and the manner of attaching the unpointed ends of the wire portions of said pins thereto.

The object of the invention is to provide a simple, rapid, and secure mode of uniting the root or unpointed end of the wire portion of the pin with a shield, having no sharp angles or corners, which latter are liable to scratch and injure the skin, or to injure or tear the clothing of the infant or person to which the safety-pin is applied.

The invention consists in the combination, with a shield-plate, having an U-shaped inwardly-curved flange, of a wire or pin proper, either bent or coiled intermediately of its length, to give it the necessary elasticity, and having its root or unpointed end bent into semicircular shape, and attached to the shield-plate by simply folding or bending the flange of the shield over the semicircular bent portion, whereby all soldering, riveting, or like expensive and insecure mode of attaching the pin and shield are avoided, and sharp angles or corners on the shield are obviated. The curved end of the pin thus occupies the whole of one side and curved end of the shield and a portion of the other side, firmly bracing said shield and preventing its detachment.

Figure 1 represents a side view of the pin proper or wire before its attachment to the shield. Fig. 2 is a side view, showing the wire as connected with the shield, and as closed in the latter. Fig. 3 is a longitudinal section on the line *x x;* and Fig. 4, a transverse section on the line *y y.*

A is the pin, and B the shield, which together form a safety-pin. The pin A, which is suitably bent to form two arms or legs, may or may not have a coil, *b*, to give it elasticity. The root or unpointed end of said pin is bent into semicircular form, as at *c*.

The shield B, which is struck up from sheet metal, is formed on its one side with a turned-over flange, *d*, of U shape, to which figure the outer margin of the shield corresponds.

The crooked or bent terminal portion *c* of the pin A is readily made by bending it over a mandrel without risk of breaking the wire, which it would be liable to do if bent to form a sharp angle. The semicircular curvature of the bent portion *c* corresponds with the U form of the flange *d*, within which said bent portion of the pin is inserted, and the flange *d* afterward closed over the bent portion, as shown in Figs. 2, 3, and 4, thereby securely attaching the shield B to the unpointed end of the pin, free from any abrupt or angular contact of the pin and shield or outer angular construction of the shield. The portion *d'* of the flange *d*, within which the pointed end of the pin A springs, and from which it is disconnected or released, as required, is not made to close with the inner face of the shield, but is left open to form a pocket for reception of the pointed end of the pin.

The curved end of the wire, it will be seen, forms a hook, which cannot be withdrawn from the shield-plate when the flange has been bent inward over the wire closely, as it should be, while at the same time the hook or curved part of the wire so braces and sustains the plate at almost its entire outer edge that it is prevented from being bent out of shape.

I do not claim, broadly, a safety-pin having the unsharpened end bent at right angles, and extending across the bottom part of a shield to re-enforce the latter, as such is not new; but

I claim—

In a safety-pin, the shield B, having the U-shaped turned-over flange *d d'*, in combination with the pin A, having a semicircular curved end, *c*, confined within said U-shaped turned-over flange of the shield, and extending entirely along one side and the curved end and a portion of the other side of said shield, substantially as and for the purpose set forth.

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Witnesses:

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