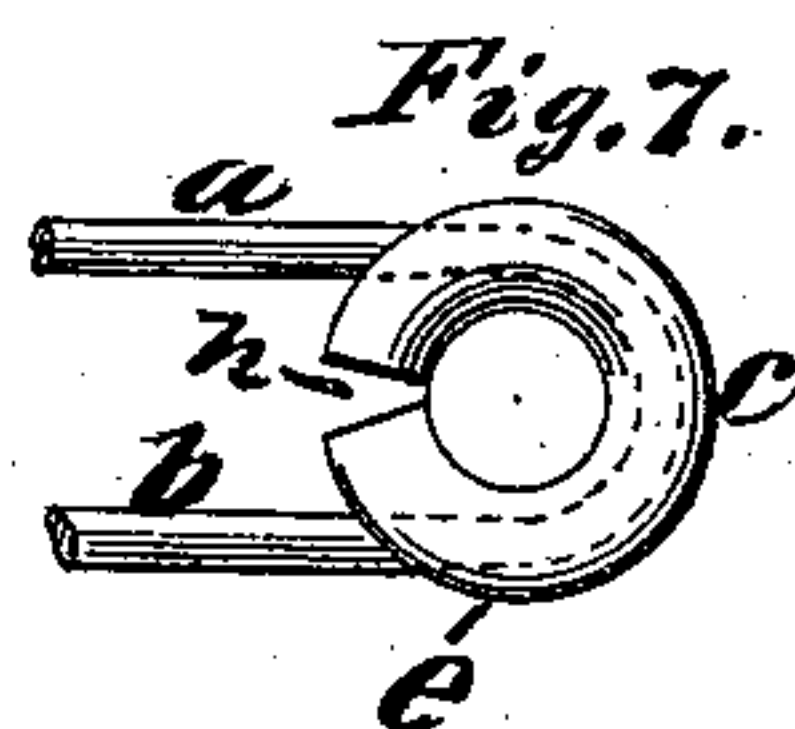
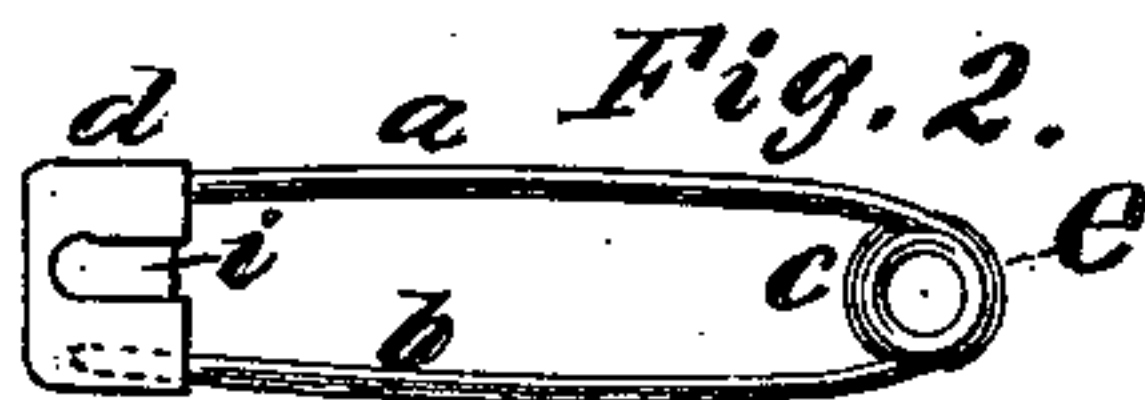
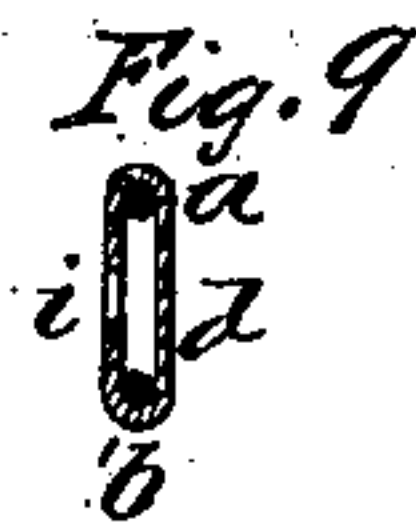
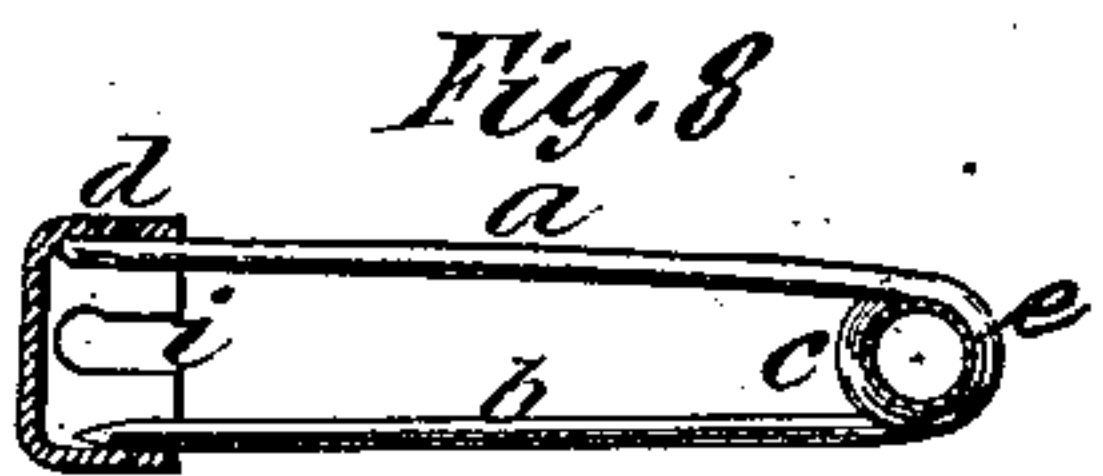
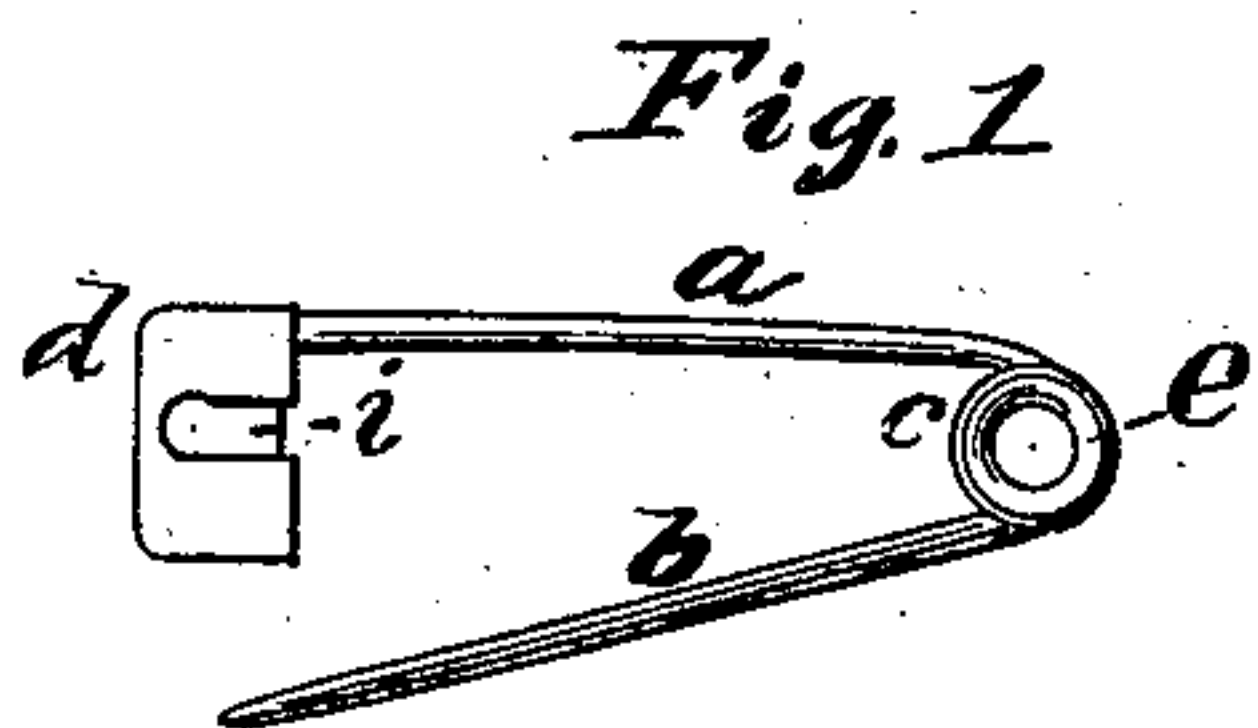


W. A. BUTLER.
SAFETY-PINS.

No. 190,281.

Patented May 1, 1877.



Witnesses:
Michael Ryan
Fred. Haynes

William A. Butler
by his Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

WILLIAM A. BUTLER, OF NEW YORK, N. Y.

IMPROVEMENT IN SAFETY-PINS.

Specification forming part of Letters Patent No. 190,281, dated May 1, 1877; application filed March 3, 1877.

To all whom it may concern:

Be it known that I, WILLIAM A. BUTLER, of the city, county, and State of New York, have invented certain Improvements in Safety-Pins; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, forming part of this specification.

My invention has for its objects the prevention of injury to the fabrics or tissues in which safety-pins are inserted in use, and to generally improve and cheapen the manufacture of such pins.

The invention consists in a re-enforcing-ring placed between the bifurcations of such pin for the above-mentioned purpose.

Figure 1 in the accompanying drawing is a side view of a safety-pin constructed in accordance with my improvements, with the pointed bifurcation of said pin disengaged from the shield thereof. Fig. 2 is a side view of the pin with its pointed bifurcation engaged in and covered by the shield. Figs. 3 to 7, inclusive, represent details of the pin, and modifications of the re-enforcing-ring employed in carrying out my invention. Fig. 8 is a longitudinal section through the ring and shield of the pin.

A serious defect in safety-pins avoided by my invention is the liability of injury to fabrics and tissues, caused by a portion of the same working in between the coils of the spring which connects the bifurcations of the pin. In adjusting such pins in portions of the dress the turning of the pin longitudinally after the pointed bifurcation is inserted in the fabric frequently forces a portion (perhaps consisting of a few threads only) in between the coils of the spring, which hold such engaged portion of the fabric so forcibly that it is only by great care disengagement can be effected without breaking out the portion so engaged, which breaking and injury often result in spite of all efforts to prevent it.

I obviate this action and defect by my re-enforcing-ring, which not only strengthens the pin, but prevents any portion of the fabric from engaging with the coils of the bent part when the same is coiled, and which also enables me to obtain sufficient resilience in the spring without coiling the bent portion of the

same for a spring between the bifurcations of the pin.

In the drawing, *a* represents the unpointed bifurcation of the pin, *b* the pointed bifurcation, *c* the re-enforcing-ring, and *d* the shield.

The re-enforcing-ring *c* in one method of carrying out my invention is formed like an eyelet, with rims *e* on the outside of the same, as shown in Figs. 1, 2, 4, 7, and 8. The bent portion *f* of the pin being placed between said rims *e*, the latter may be either neatly turned down over the outer part of said bent portion *f*, as shown in Figs. 4 and 5, which would be preferable when a coiled bend is dispensed with, or by soldering, or other suitable means, attached to the pin between the bifurcations, and in the said bent part of the same.

When the bent portion of the pin is coiled, as shown at *f' f''* in Fig. 3, a ring with a single rim, *e*, may be inserted through the coiled portion *f' f''*, and the cylindrical part of the ring turned up outwardly, as shown at *e'*, on the side opposite that from which the said cylindrical part of the ring is inserted.

Or whether the pin is coiled or singly bent, two eyelet-shaped rings with single rims may be used, one inserted through and turned down over the other, as shown in Fig. 5; or a single-rimmed eyelet-shaped ring may be used, and turned down over a washer, *g*, as shown in Fig. 6.

The said re-enforcing-ring *c*, however formed and attached to the bent portion of the pin, acts as a support for said bent portion, and prevents the permanent bending or setting of said bent portion when the bifurcated portions of the pin are pressed toward each other in use, and obviates the necessity of coiling said bent portion to obtain sufficient resilience, the said coiled portion not acting as a spring when the said ring is fastened within it, but simply as an attaching device for said ring.

A portion of the ring may be cut away on the side opposite the bend in the pin, as shown in Fig. 7, at *h*, in which case the said ring may itself act as a spring to increase the resilience of the pin.

To the end of the bifurcation *a*, opposite the point of the bifurcation *b*, I attach a shield, *d*, consisting of a flattened cup having in it a slot, *i*, for the entrance of the said point.

It will be seen that the re-enforcing-ring *c* effectually prevents any entanglement in the coils of the bent portion of a safety-pin when said bent portion is coiled, and that it renders the use of such coils for the purposes of a spring unnecessary.

The pin constructed as described can also be manufactured more cheaply than other safety-pins now in use.

I claim—

In a safety-pin, the re-enforcing-ring *c*, placed and fastened in the bent portion of said pin, substantially as and for the purpose specified.

WM. A. BUTLER.

Witnesses:

MICHAEL RYAN,
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