J. L. MOORE.

GARTERS.

No. 193,987. Patented Aug. 7, 1877.

Fig. 1.

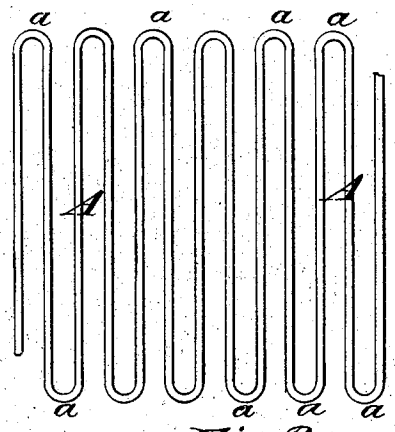


Fig. 2.

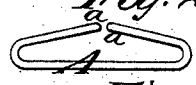


Fig. 3.

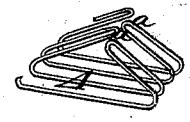


Fig. 4



Fig. 5.

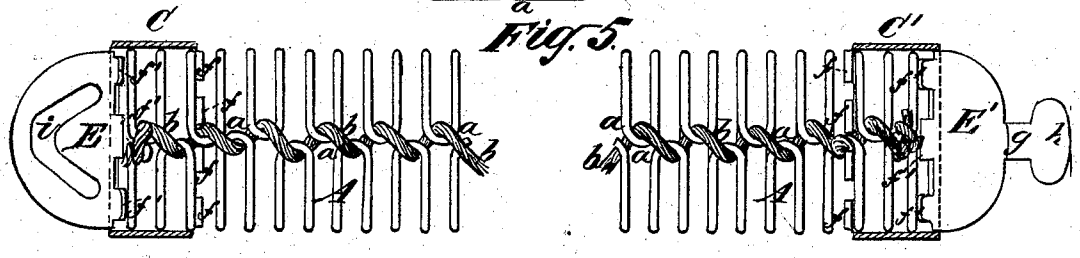


Fig. 6.

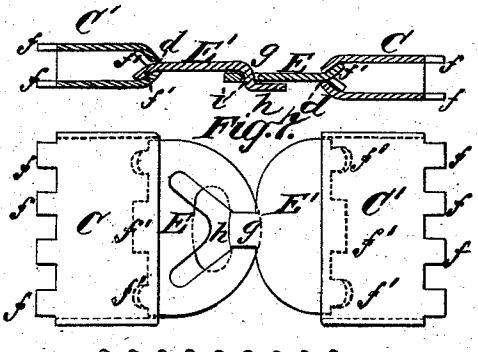
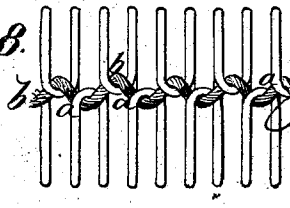


Fig. 7.



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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN GARTERS.

Specification forming part of Letters Patent No. **193,987**, dated August 7, 1877; application filed May 2, 1877.

To all whom it may concern:

Be it known that I, JAMES L. MOORE, of Bridgeport, in the county of Fairfield and State of Connecticut, have invented an Improvement in Elastic Bands for Garters and other purposes; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to that class of elastic bands made of wire coiled or bent to form a spring, and employed for garters for hose or as clasps to hold the sleeves of under-clothing, for bracelets, belts, suspenders, &c.

This invention consists partly in a novel construction of the spring; partly in the combination with the spring of a flexible check attached to said spring in a novel manner; partly in a novel construction of the clasp, to provide for the more secure locking of the two parts of the same together; and partly in a novel construction of both parts of the clasp, for attaching them to the caps covering the ends of the spring.

Figure 1 in the drawing is a diagram illustrating the method of bending the wire for the spring in one stage of the manufacture of the same. Figs. 2 and 3 are diagrams illustrating the form of the spring at a more advanced stage in the manufacture of the same. Fig. 4 illustrates a modification in the method of bending the wire for the spring. Fig. 5 represents a completed band with a portion broken away in the middle thereof. Fig. 6 is a longitudinal section through the clasp, and the caps to which the two parts of the clasp are attached. Fig. 7 is an outside face view of the clasp and the caps. Fig. 8 illustrates a modification of the invention as regards the attachment of the flexible check to the spring.

In making the spring A, Figs. 1, 2, 3, and 5, I take wire of the proper temper and of the proper size and bend the same into the form shown in Fig. 1, consisting of a series of uniform U-shaped bends lying in the same plane, the length of each bend being about two times the width of the elastic band it is proposed to make.

I next bend the entire series over a former, preferably as shown in Figs. 2 and 3, and bring the ends *a* of the U-shaped loops over, or nearly over, the central longitudinal axis of the spring on the same side, as also shown in Fig. 5.

Or I may bend the said loops over alternately first on one side and then on the other, as indicated in the diagram in Fig. 4; but in such case each loop has to be bent in the middle, as shown at *c*, Fig. 4, the side contour of each loop then resembling an elongated letter S in its general form. But I regard the first described way of bending the loops as preferable.

To the spring, formed as described, I attach a check, *b*, Fig. 5, preferably an inelastic cord of suitable material, the attachment being performed as follows: I take a length of unextended spring, say eight inches, and extend the same to the limit I desire it to extend in use, and within which it may be extended without risk of its setting, say twelve inches. The flexible check *b* is then passed spirally around and through the bent ends *a* of the U-shaped loops of the spring A, as shown in Fig. 5, the check being wound around spirally or passed through the ends *a* of the loops; or I may wind the check or pass the same through the loops, as shown in Fig. 8, so that it passes alternately from the outside of one loop to the inside of the next consecutive loop. In either case, when the spring A is, after winding, released from tension, it contracts and slackens the said check, which does not affect the extension of the spring within the prescribed limits. To the extremities of the said spring I attach caps C C′, Figs. 5, 6, and 7. Said caps are nearly rectangular in cross-section, and are closed at their outer ends, except that a narrow slot, *d*, Fig. 6, is formed in each for the insertion of one part of the clasp, as hereinafter described, the parts of the clasp being inserted in their respective caps previous to the attachment of the caps to the spring. The inner edges of the said caps have formed on them the tongues *f*, Figs. 5, 6, and 7, and the extremities of the spring being inserted in the said caps, the tongues *f* are bent down over the part of the spring lying under said tongues, the caps being thus firmly attached to the spring.

The clasp is formed of two parts, E E′, the part E′ having formed thereon the neck *g* and head *h*. The part E of said clasp has formed in it a V-shaped locking-slot, *i*, the head *h* of the part E′ entering one or other of the branches of said slot when the two parts are united, and the neck *g* being drawn down into the apex of said slot, which in use renders the locking of the parts very much more secure than when other forms of slots are used. But the slot *i* may have its branches curved inwardly or outwardly, the general form thereof approximating more or less the shape of the letter V.

The inner edge of each of the parts E E′ is provided with tongues *f*′, Figs. 5, 6, and 7, which, being alternately bent outward, preferably in opposite directions, on the inside of the caps C C′, firmly attach the said parts of said clasp to the said caps.

The terminal coils of the spring A abut against the tongues *f*′ when the caps are applied to the spring, and thus hold the parts of the clasp firmly in their places. I thus form a band which is very durable and convenient in use, very secure in its attachment, and which can be manufactured at less cost than other bands employing a wire spring.

I claim—

1. A spring for an elastic band, constructed by bending an elastic wire first in parallel loops, and then bending the loops upon a former in such manner that the ends *a* of said loops lie over, or nearly over, the central longitudinal axis of the spring, substantially as and for the purpose specified.

2. The combination, with the spring A, of the flexible check *b*, applied to said band by winding it in or passing it through the ends *a* of the loops of the spring, substantially as and for the purpose set forth.

3. The combination, with the caps C C′, of the clasp E E′, respectively inserted in the slots *d* of said caps, and having attached tongues *f*′, for fastening either part of the clasp in one or other of the said caps, substantially as and for the purpose set forth.

4. The combination, with the spring A and caps C C′, of the clasp E E′, the part E having formed therein the locking-slot *i*, and the part E′ having on it the locking-head *h* and neck *g*, substantially as and for the purpose specified.

JAMES L. MOORE.

Witnesses:
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