

UNITED STATES PATENT OFFICE.

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CORSET-STIFFENER.

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To all whom it may concern:

Be it known that I, HEINRICH TORLEY, a citizen of the German Empire, residing at Ober-Kaufungen, near Cassel, in the Province of Hesse-Nassau, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Springs for Corset-Stiffeners and other Purposes; 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.

This invention relates to spirally-wound and flattened springs for corset-stiffeners and other uses; and it consists in the construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of my spirally-coiled spring before flattening. Fig. 2 represents the same after flattening. Fig. 3 represents the same after bending. Fig. 4 represents the same in the position shown in Fig. 2, but with two parallel wires for binding coils. Fig. 5 corresponds to Fig. 1, with two binding-wires arranged to cross each other. Fig. 6 corresponds to Fig. 2, but with two binding-wires, as in Fig. 5. Fig. 7 represents a spring similar to that shown in Fig. 6, but with a slightly-different appearance, owing to the wires having been wound on a semicylindrical mandrel instead of a cylindrical one. Fig. 8 represents another modification of form, owing to winding the wires on a wedge-shaped mandrel; and Fig. 9 represents another modification, the wires of which have been wound on a semicylindrical mandrel, such as that used in making the spring shown in Fig. 7, the coils being, however, closer and the spring more compact.

My improved spring consists of a wire coil *a* of three parallel wires bound together by a binding-wire *c*, passing in a zigzag line through each of their loops *b* on the side *m* of the spring, as shown in Fig. 1. This side *m* has an undulating border, as shown in Fig. 1, the other side *n* of the said spring being

smooth and even. The spring is then pressed flat, giving it the form shown in Fig. 2. The flattening of the wire *c* on itself forms the small loops *b'*, interlocking with loop *b*. The spring may then be bent, if desired, into the form shown in Fig. 3, but will be more often used as a corset-stiffener in the straight form illustrated by Figs. 2 and 4, bending into the form shown in Fig. 3 only by the strain of the garment or the flexure of the wearer's body.

In Fig. 4 two parallel binding-wires *e f* are wound through the loops *b* instead of the single wire *c* aforesaid.

In Fig. 5 two binding-wires *g h* are wound through the loops *b*, alternately crossing each other between them. Fig. 6 illustrates this same construction of Fig. 5 after flattening the spring, which forms the binding-wires into loops where they interlock with the coils *a*.

Figs. 7 and 9 illustrate forms of the spring corresponding to Figs. 2 and 4, but formed on a semicylindrical mandrel.

Fig. 8 represents a form corresponding to Figs. 2, 4, and 7, but formed on a wedge-shaped mandrel.

I claim—

1. A spring for corset-stiffeners and other purposes consisting of a series of parallel spiral spring-wires *a* wound to leave one edge of the spring undulating and open while the other is straight or closed, and a binding wire or wires passed through the loops of said coils on the open or undulating side, the whole being flattened substantially as set forth.

2. A flat corset-stiffener consisting of a series of parallel spiral spring-wires presenting a closed straight edge and an open undulating edge and a binding-wire forming loops which interlock with the loops of the said coils at the open or undulating edge of the spring substantially as set forth.

3. A flat corset-stiffener consisting of a series of parallel spiral spring-wires presenting a closed straight edge and an open undulat-

ing edge and a pair of binding-wires forming loops which interlock with the loops of the said coils substantially as set forth.

4. A flat corset-stiffener consisting of a series of parallel spiral spring-wires presenting a closed straight edge and an open undulating edge and a pair of binding-wires crossing each other and forming loops which interlock

alternately with the loops of the said coils substantially as set forth.

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

HEINRICH TORLEY.

Witnesses:

OTTO KÖNIG,

J. A. RITTERSHAUS.