

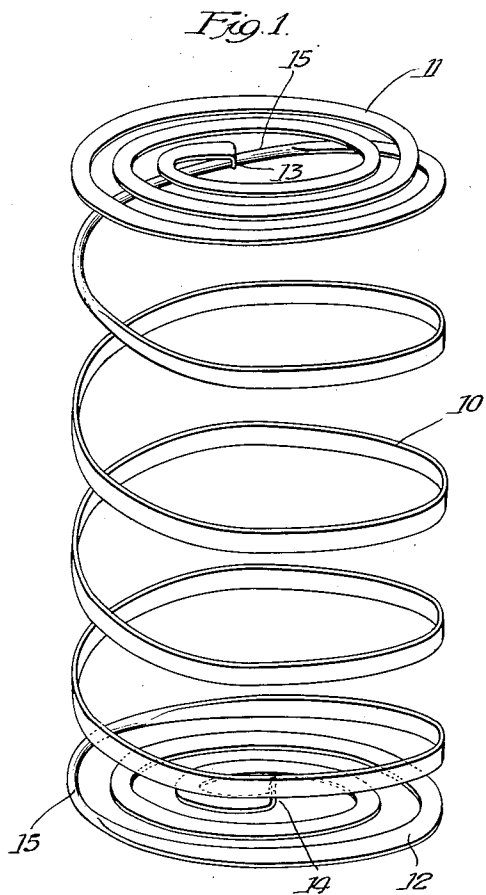
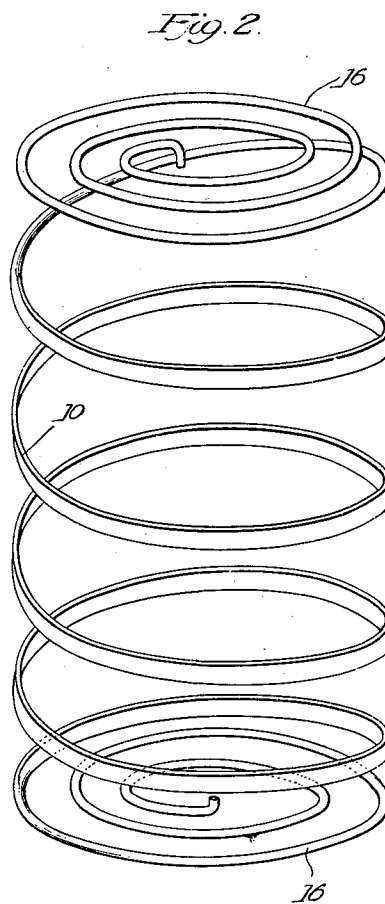
June 12, 1934.

G. G. POWERS

1,963,055

WIRE SPRING

Filed Aug. 14, 1933



Witness:
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UNITED STATES PATENT OFFICE

1,963,055

WIRE SPRING

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Application August 14, 1933, Serial No. 685,009

1 Claim. (Cl. 5—256)

My invention relates to springs and particularly to a spring intended for use in inner spring mattresses and similar structures where the spring is encased in a fabric pocket or sleeve.

An object of my invention is to produce a spring for the described use, in which the element of resistance to vertically imposed load may be augmented by the use of flat wire with the flat arranged in a plane parallel to the longitudinal axis of the spring. By this means I am able to provide a spring having requisite resistance by the use of a wire of smaller gauge than would be necessary where a round wire was used. This serves to reduce the cost of construction and to reduce the weight of the finished structure. In addition I may prefer to construct the spring entirely of flat wire, the coils constituting the internal volute closure for the ends being arranged with the flat in a horizontal plane, while in the body structure the flat is arranged in a vertical plane.

A machine adapted to produce a spring such as described herein is disclosed and claimed in the co-pending application of myself and C. A. Rhinevault, Serial No. 684,092 filed August 7, 1933. A spring of the general type disclosed herein was first shown in my co-pending application, Serial No. 644,254, filed November 25, 1932.

The invention will be more readily understood by reference to the accompanying drawing, in which:

Fig. 1 is a perspective view of a spring constructed in accordance with my invention, and

Fig. 2 is a perspective view of a modification thereof.

Springs of the type disclosed herein are intended to be encased within a fabric pocket to be incorporated in the finished structure in an approved manner by attachment of the adjacent pockets in the structure. Such construction calls for a spring of general uniform diameter from

top to bottom and preferably an arrangement whereby the otherwise open ends of the spring are reinforced by arranging the end coils in the form of a flat internal volute.

In the structure of Figs. 1 and 2 the body of the spring is composed of a plurality of coils 10, composed of flat wire with the major axis of the flat arranged parallel to the longitudinal axis of the spring. While it is not shown, I also contemplate a variation of this structure in which a portion of the body may be composed either of round wire or of flat wire arranged in a plane transverse to that shown; this in order to secure varying degrees of resistance to vertical loads.

In the structure shown in Fig. 1, the respective ends of the spring are composed of a plurality of turns 11, 12 of flat wire arranged in a horizontal plane, the respective turns being arranged substantially in a plane. The terminal ends 13, 14 are turned inward as shown. At the point of junction of the flat horizontal with the flat vertical wire, I provide a section of round wire 15.

In the construction shown in Fig. 2 the respective ends are composed of round wire 16, the round wire portions merging into the vertical flat portions 10. In this instance also the respective turns of round wire are arranged substantially in a plane. The forms shown in the drawing are representative only, and other modifications and variations may be made without departure from the spirit of my invention.

I claim:

A spring of substantially uniform diameter from end to end, an otherwise open end of the spring containing a plurality of turns of flat wire in substantially the same plane, the body of the spring being composed of flat wire with its major axis arranged parallel to the longitudinal axis of the spring.

GEORGE G. POWERS. 95