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C. E. PINK

2,017,014

SPIRAL FABRIC

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Fig. 1.

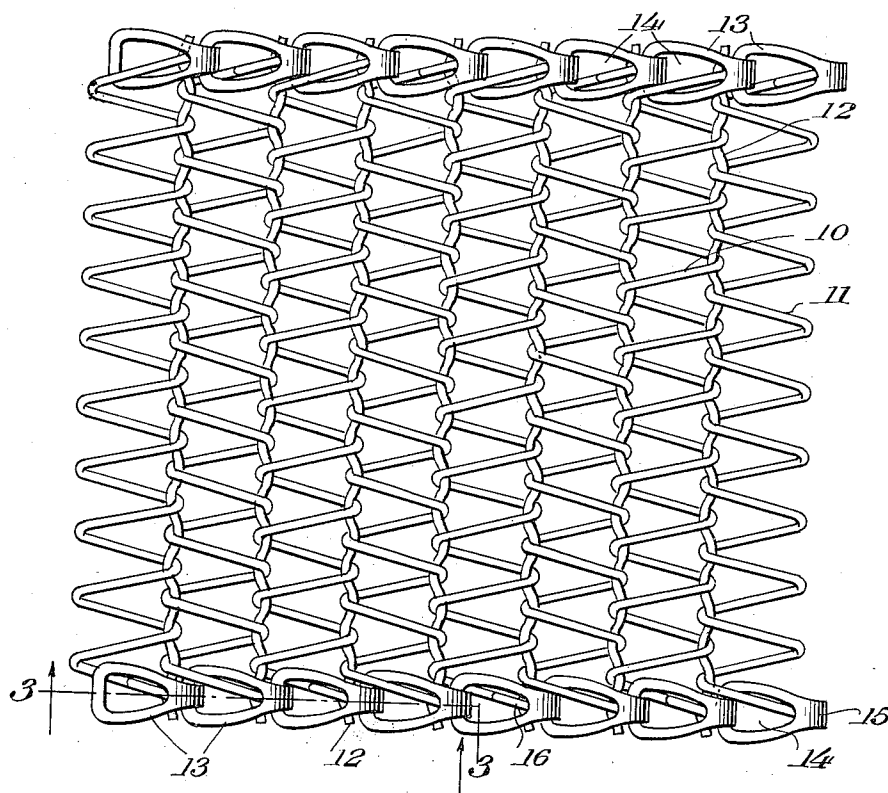


Fig. 2.

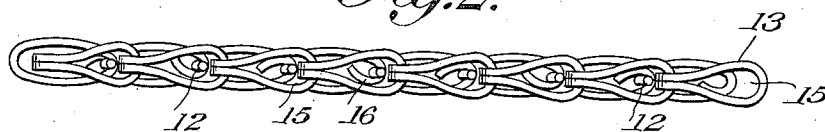
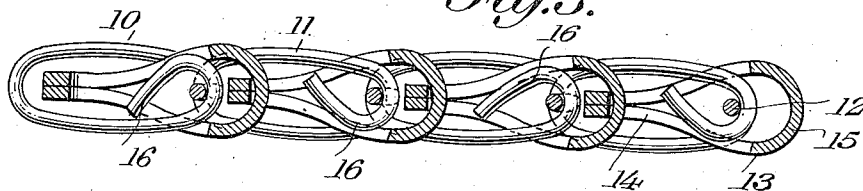


Fig. 3.



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SPIRAL FABRIC

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Application May 4, 1935, Serial No. 19,858

6 Claims. (Cl. 245—10)

The object of the invention is to provide a spiral fabric having a selvage which, while freely permitting flexing of the fabric at the juncture of its elements, will serve to maintain the relation of the parts under practically all conditions of use; to provide a spiral fabric in which the selvage consists of chain, in the links of which the spiral elements and their connecting means are interconnected; and to provide a selvaged spiral fabric which is of comparatively simple form and therefore susceptible of cheap manufacture.

With this object in view, the invention consists in a construction and combination of parts, of which a preferred embodiment is illustrated in the accompanying drawing, wherein:

Figure 1 is a plan view of a section of spiral fabric constructed in accordance with the invention.

Figure 2 is an edge elevational view.

Figure 3 is a sectional view on the plane indicated by the line 3—3 of Figure 1.

While the selvage constituting the main feature of the invention may be applied to various forms of spiral fabric, it is particularly applicable to that form in which the elements consist of successive dextrorsal and sinistrorsal wire coils 10 and 11 where the convolutions of the coils are spaced, so that those of one coil may be arranged in intercurrent relation with those of the next to permit coupling of adjacent coils, which is accomplished by means of cross wires 12. The cross wires are crimped so as to provide a successive series of right and left-hand seats for the respective convolutions of the connected coils. The pitch of the seats in the cross wires is half the spacing of the convolutions in the coils, in order that the convolutions of the dextrorsal coils may be positioned intermediately and between the convolutions of the sinistrorsal coils.

The selvage is formed preferably from chain conventionally known as plumber's, sash or punch chain, wherein the links 13, after having been punched to provide eyes 14, are folded with the eyes in registration, leaving a loop or bight 15, successive links being connected by the eyes of one engaging the bight of the next.

While the coils 10 and 11 may be cross-sectionally circular, they are preferably oval, and this formation, when the cross wires are inserted to couple them together, results in the disposition of their major axes in the plane of the fabric. Also, the coils are preferably formed to have their minor axes approximately the diameter of the loops or bights 15.

The chain is interlocked with the fabric by

having the extremities of the cross wires enter the bights 15 in which they are terminally connected with the extremities of the terminal convolutions of the coils, which are passed through the eyes of the links and therein formed into eyes 16 which are disposed within the bights.

The terminal convolutions of the dextrorsal coils enter the eyes of the links through one side of the chain, while the corresponding convolutions of the oppositely wound coils enter the chain links through the opposite side, and this relation obtains at both edges of the fabric, although in the case of each coil, the terminal convolution at one edge enters the chain link from the opposite side of the fabric than that from which it enters the corresponding link at the other edge.

Each coil, by reason of the terminal eye 16, is interlocked with its attendant cross wire and becomes in effect a single unit of the fabric with which the adjacent unit is swingingly connected. This arrangement positions the points of flexure of the fabric at the cross wires and these, being disposed in the bights of the chain links, position the lines of fabric flexure substantially at the points of connection between the chain links, so that there is no undue strain on either fabric or chain during periods of flexure, as in passing around a pulley or drum. Also, the interlocking of the coils with the cross wires within the bights of the chain links not only serves to interlock the chain and fabric but adapts the former as a means to maintain the elements of the fabric intact under substantially all conditions of service.

Having described the invention, what is claimed as new and useful is:

1. A spiral fabric comprising wire coils disposed with their axes transversely of the fabric and with the convolutions of adjacent coils in overlapping intercurrent relation, cross wires coupling adjacent coils, and a chain selvage of folded links of which the bights of one engage the eyes of the next, the terminal convolutions of the coils passing through the eyes of the links, and the cross wires entering the bights and being interlocked with the terminal convolutions therein.

2. A spiral fabric comprising laterally connected wire coils having their convolutions arranged in overlapping intercurrent relation, cross wires extending through the coils at the points of overlap, and a chain selvage of which the successive links are engaged by connected eyes and bights, the cross wires terminating in the bights and the terminal convolutions of the coils ex-

tending through the eyes and being interlocked with the cross wires in the bights.

3. A spiral fabric comprising a series of laterally arranged wire coils of which the convolutions of one overlap and are arranged in intercurrent relation with the coils of the next, cross wires extending through the coils at the points of overlap, and a selvage consisting of a chain whose links approximate in length that diameter of the coils lying in the plane of the fabric, the coils and the cross wires being terminally interlocked within the links.

4. A spiral fabric comprising a series of laterally arranged wire coils of which the convolutions of adjacent coils are arranged in overlapping intercurrent relation, cross wires extending through the coils at the points of overlap to couple adjacent coils, and a selvage consisting of a chain whose links approximate in length that diameter of the coils lying in the plane of the fabric, the coils and the cross wires being terminally interlocked within the links adjacent their points of connection with each other.

5. A spiral fabric comprising wire coils dis-

posed with their axes transversely of the fabric and with the convolutions of adjacent coils in overlapping intercurrent relation, cross wires extending through the coils at the points of overlap to couple adjacent coils, and a chain selvage of folded links of which the bights of one engage the eyes of the next, the cross wires entering the bights, the coils being successively of dextrorsal and sinistrorsal form and having their terminal convolutions extended through the eyes of the links and interlocked with the cross wires in the bights, reversely formed coils connecting with the links from respective opposite sides.

6. A spiral fabric comprising a series of laterally arranged wire coils of which the convolutions of one overlap and are arranged in intercurrent relation with the coils of the next, cross wires extending through the coils at the points of overlap, and a selvage consisting of a chain whose links lie in the plane of the fabric, the coils and the cross wires being terminally interlocked within the links.

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