

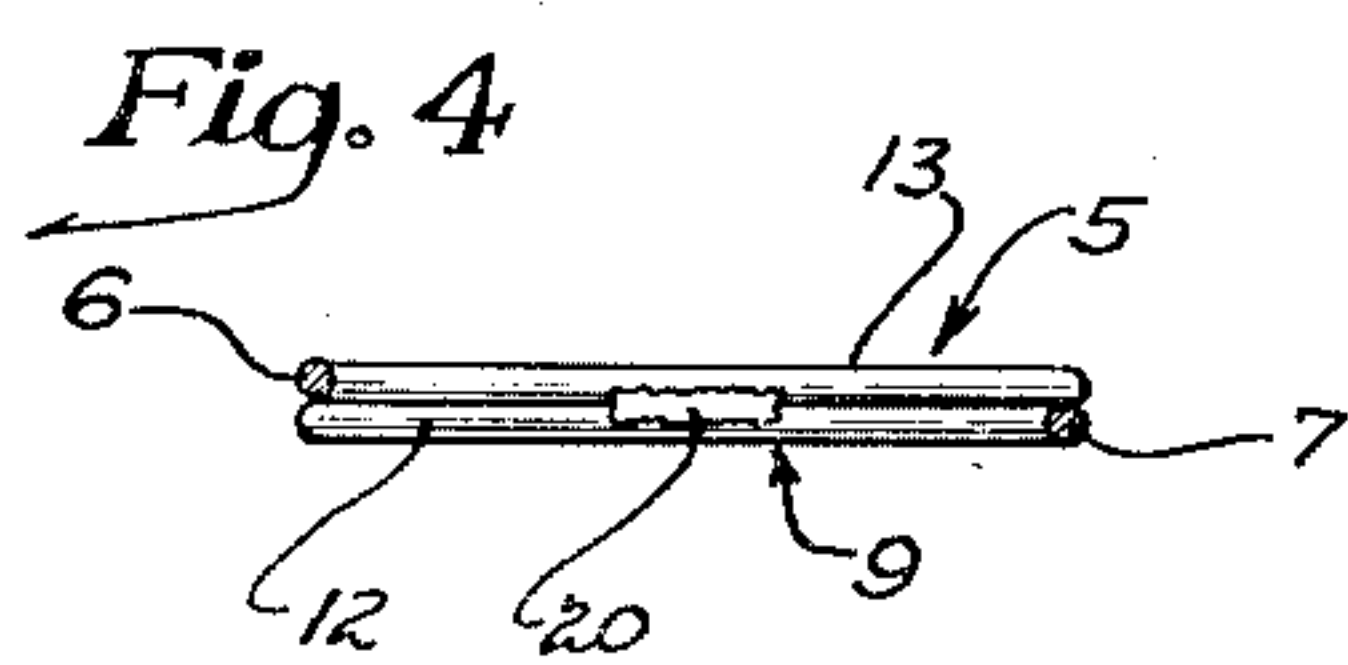
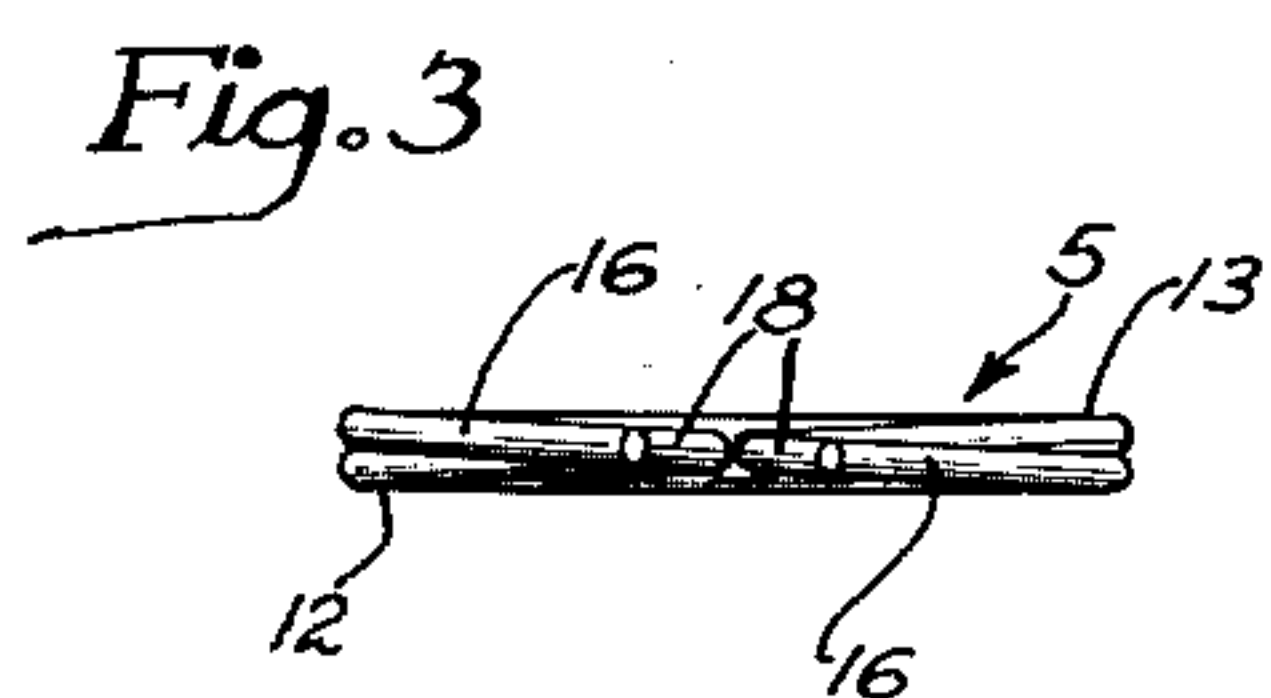
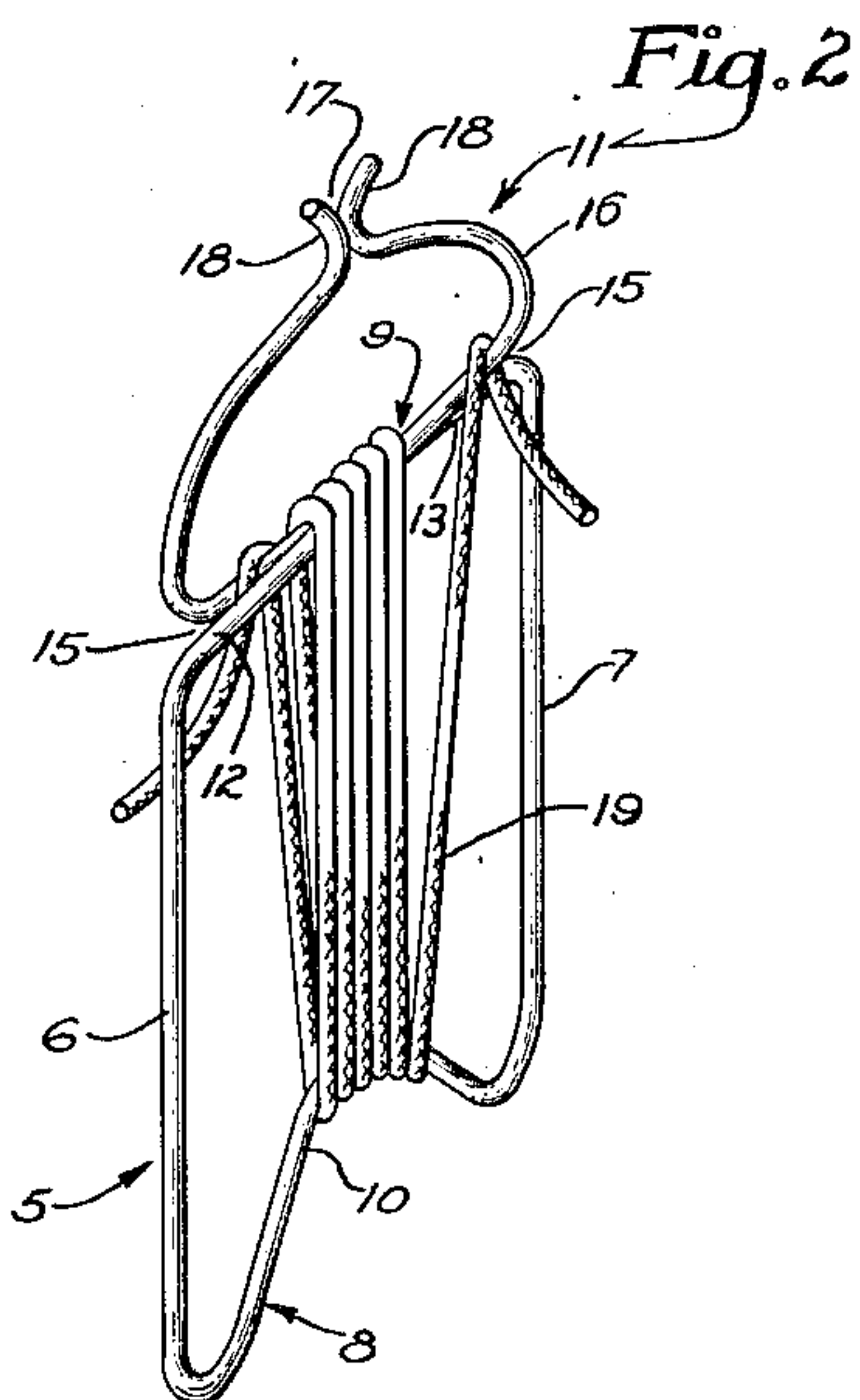
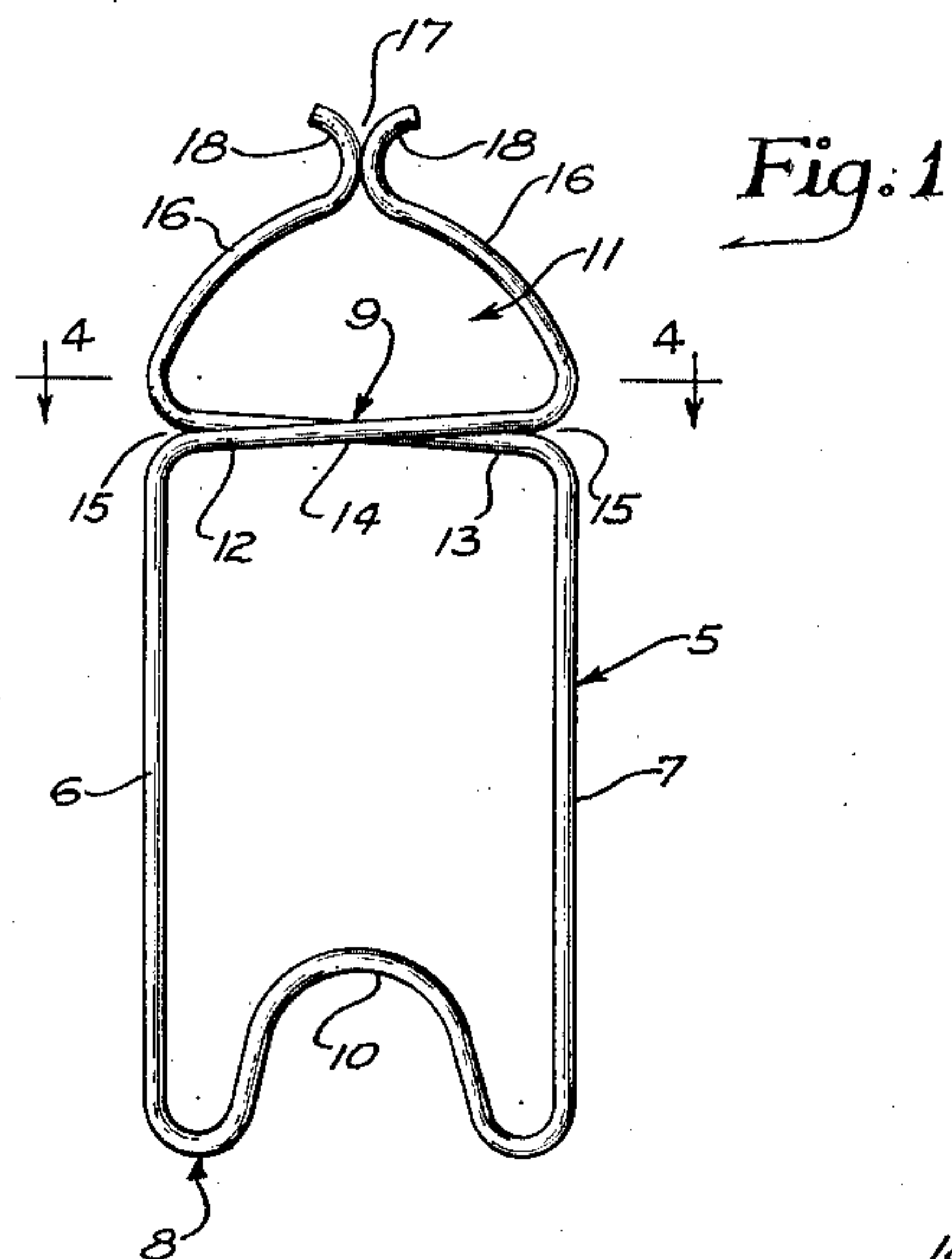
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BOBBIN DEVICE

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BOBBIN DEVICE

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The present invention relates generally to improvements in bobbin devices, and has particular reference to a bobbin device for holding a quantity of yarn, twine, cord or other similar material which is adapted to be wound thereon and to be payed out in hand-knitting.

One of the objects of the present invention is to provide a bobbin device on which a quantity of yarn, twine, cord, or other similar material may be easily and conveniently wound and removed as required.

Another object is to provide a bobbin device which is unusually simple and inexpensive in construction, and which is susceptible of ready and convenient manipulation.

Other objects and advantages will become apparent as the description proceeds.

In the accompanying drawings,

Figure 1 is a side elevational view of a bobbin device embodying the features of the invention.

Fig. 2 is a perspective view of the device.

Fig. 3 is a top end view.

Fig. 4 is a transverse sectional view taken substantially along line 4—4 of Fig. 1.

Referring more particularly to the drawings, the bobbin device, constituting the exemplary embodiment of the invention, comprises a frame 5 formed to receive and confine a line of material, such as yarn, twine, or cord, normally wound thereabout to provide a stock quantity readily available as required in handwork, such as knitting. Within the broad aspects of the invention, the frame 5 may be constructed of any suitable metal or plastic material, in the form of a single piece or multiple pieces of wire or tubing fabricated to the desired shape. In the preferred form, the frame 5 is fabricated from a single length of metal wire bent into an elongated one-piece flat openwork structure. The frame is thus of generally rectangular outline, having spaced parallel side members 6 and 7 connected at opposite ends by cross members 8 and 9 about which the line material is adapted to be wound.

The cross members 8 and 9 are constructed to confine the respective turns of line material on the frame 5. Thus, the cross member 8 may consist merely of an intermediate integral section of the wire stock bent transversely of the members 6 and 7 and then inwardly into the space therebetween to define a concave recess 10. Preferably, the cross member 8 constitutes the medial portion of the wire stock, and the terminal ends of the latter are located at the opposite end of the frame 5.

The other cross member 9 forms part of a nor-

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mally closed exterior loop 11 into which the contiguous turns of the line material are inserted. More particularly, the cross member 9 is formed by bending the opposite side portions of the wire stock at the adjacent ends of the side members 6 and 7 transversely of the latter to define intercrossing wire elements 12 and 13. In the present instance, the elements 12 and 13 are relatively inclined equally but oppositely to each other so as to cross at a medial point 14 and thus define wedge notches 15 in at least one side and preferably opposite sides of the frame 5. The elements 12 and 13 are normally maintained in side contact. If the natural resiliency of the wire stock should not be sufficiently strong, the elements 12 and 13 may be positively tied together in any suitable manner, as by soldering, welding, brazing or wrapping.

The terminal end portions of the wire stock beyond the wire elements 12 and 13 are curved outwardly and oppositely toward each other to provide prongs 16 which are normally in contact to complete the closed loop 11, and which are separable against their natural resiliency to provide an inlet 17 for passage of the successive flights of material into and out of the loop. To facilitate forcing of the flights of material in either direction past the prongs 16, the latter are provided with curved ends 18.

In use, a line of material 19, such as yarn, twine, cord, or the like, is wound endwise about the frame 5. As the bobbin device is being wound, each turn of the line 19 is readily inserted between the diverging ends 18 and forced by a light pressure past the prongs 16 through the inlet 17 into the loop 11. Conversely, in paying out the line, as for example when knitting, each turn is as readily forced outwardly from the loop 11 past the prongs 16. When the wound device is not in immediate use, the free end of the line of material 19 may be inserted in one of the notches 15 and held against unwinding.

The bobbin device, although not limited thereto, is especially advantageous for use in making garments, such as socks and sweaters, of a checkered or variegated color pattern. In such instances, quantities of yarn of different selected colors are wound respectively on separate bobbin devices, and these devices are kept individually at hand so as to provide the differently colored yarns as required. During the use of any one bobbin device with a particularly colored yarn, the yarns on the other device or devices not in immediate use may be held against loosening or unraveling by insertion of the free end thereof in

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each instance into one of the wedge notches 15.

It will be evident that I have provided a new and useful bobbin device which may be readily and conveniently wound and unwound without side distortion. Each turn of the line material 19 may be simply and easily guided to and forced between the contacting ends 18 of the prongs 16, which will spread apart sufficiently to allow such passage either into or out of the loop 11. When the device is laid aside, the free end of the material may be clamped against unraveling. The weld or tie 20 serves to fasten or positively prevent the members 12 and 13 from spreading apart so that a secure clamp is obtained.

I claim as my invention:

1. A bobbin device comprising, in combination, an elongated frame having spaced parallel longitudinal side members connected at opposite ends by cross members, the cross member at one end being bent inwardly between said side members to define a recess for receiving the successive turns of a line of material wound endwise about said frame, the cross member at the other end comprising diagonally intercrossing elements in side engagement and then struck outwardly to provide normally contacting yieldable prongs defining the sides of an external loop, said prongs being separable in the general plane of said frame to receive and pass said turns either into or out of said loop.

2. A bobbin device comprising, in combination, an elongated frame having spaced parallel longitudinal side members connected at opposite ends by cross members, the cross member at one end being bent inwardly between said side members to define a recess for receiving the successive turns of a line of material wound endwise about said frame, the cross member at the other end comprising intercrossing elements in side engagement and then struck outwardly to provide normally contacting curved prongs defining with said last mentioned cross member an external loop, the contacting ends of said prongs being laterally separable against their natural resiliency in a spreading action to permit the turns of the material to be forced therebetween either into or out of said loop.

3. A bobbin device comprising, in combination, an elongated wire frame having spaced parallel longitudinal side members connected at opposite ends by cross members, the cross member at one end being bent inwardly between said side members to define a concave recess for receiving the successive turns of a line of material wound endwise about said frame, the cross member at the other end comprising intercrossing elements in side engagement at a medial point and then struck outwardly to provide normally contacting prongs forming an external loop, the contacting ends of said prongs being laterally separable against their natural resiliency to permit the turns of the material to be forced therebetween either into or out of said loop, and means for fastening said elements against separation, said

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elements defining a notch in one side of said frame for releasably clamping the free end of the line.

4. A bobbin device comprising in combination, an elongated frame having spaced longitudinal side members interconnected at one end by a first cross element, said side members at the other end having bent extensions extending oppositely of each other through oblique intercrossing relation at an acute angle in side engagement collectively to define a second cross element, said first and second cross elements being adapted to have a line of material wound thereabout longitudinally of said frame, the members of said second cross element having further extensions curved outwardly and toward each other to define a loop for receiving successive turns of said material, the outer ends of said last mentioned extensions being reversely curved to define prongs normally in separable contact so as to close said loop and operable as a gate to guide and pass said turns either into or out of said loop.

5. A bobbin device for winding a line of material thereon and comprising, in combination, an elongated frame including two generally parallel side members disposed in opposed spaced relation to each other, a cross member at one end of said frame interconnecting two adjacent ends of said side members and defining an outwardly facing recess, second cross member means at the other end of said frame comprising two transverse elements connected to the adjacent ends of said respective side members and disposed in intercrossing relation to each other, the free ends of said transverse elements having extensions projecting outwardly and toward each other to define a loop for receiving successive turns of material wound about said frame, the outer ends of said last mentioned extensions projecting toward each other and being reversely curved to define a narrowed inlet providing for the restricted passage of individual turns of line into and out of said loop.

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