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2,012,029

FABRIC WEAVE

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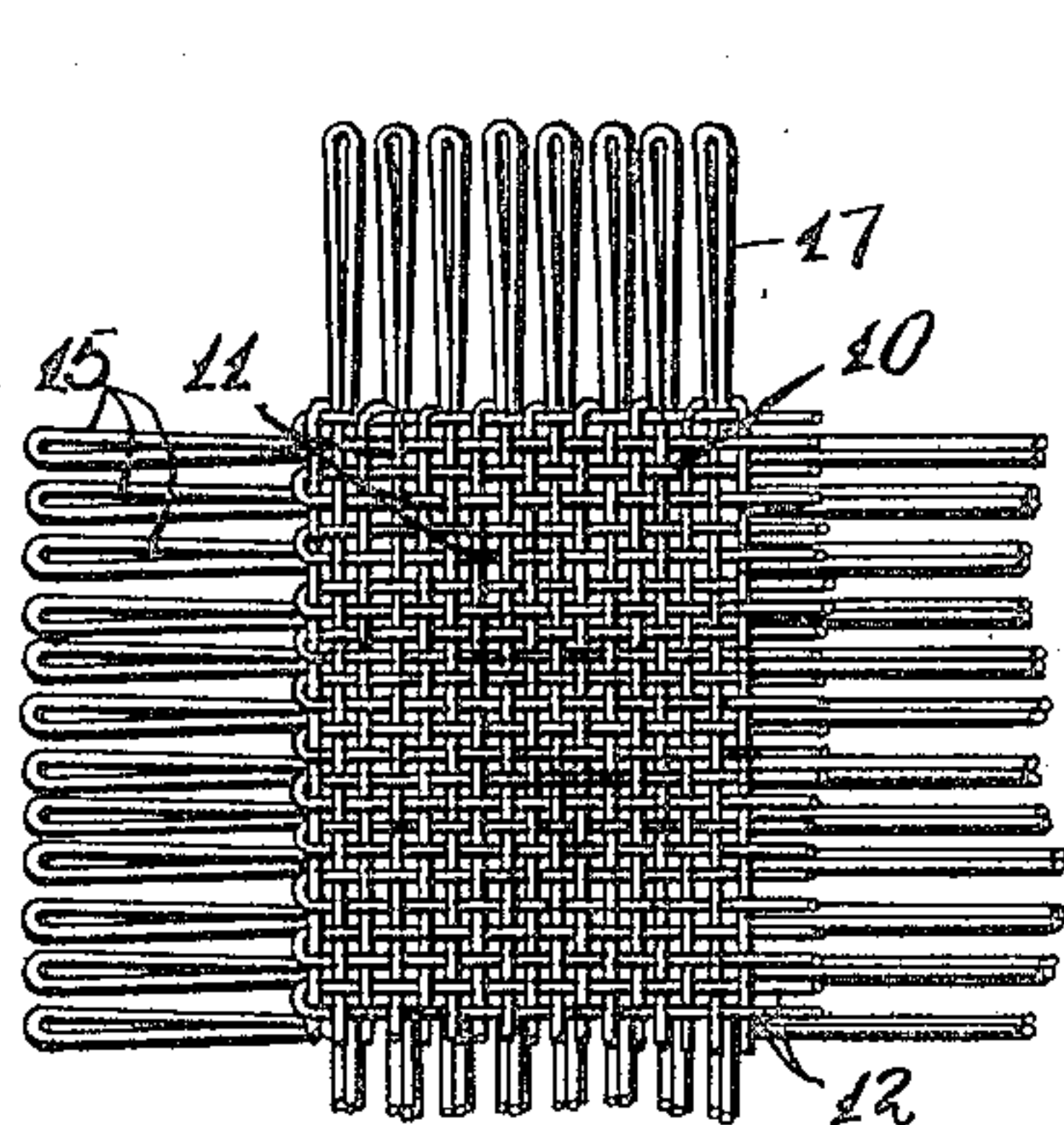


Fig. 1.

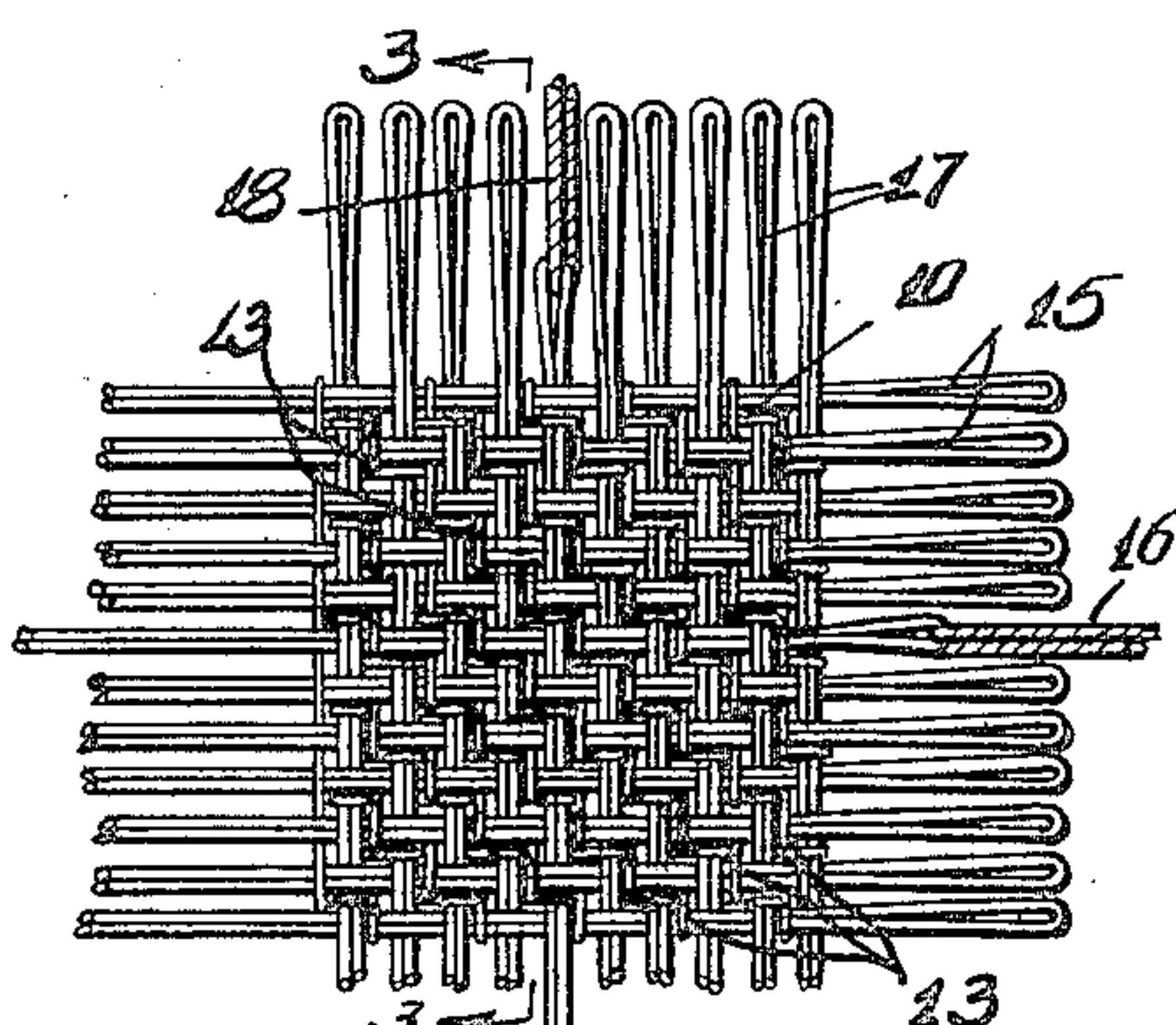


Fig. 2.

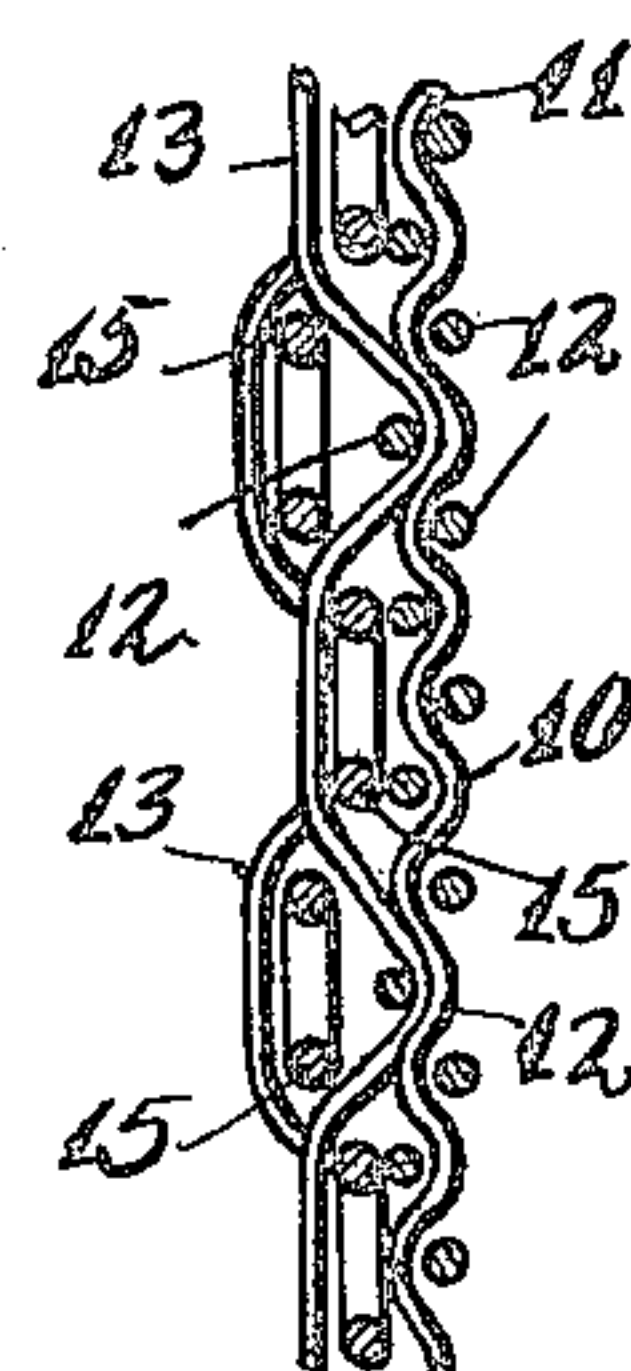


Fig. 3.

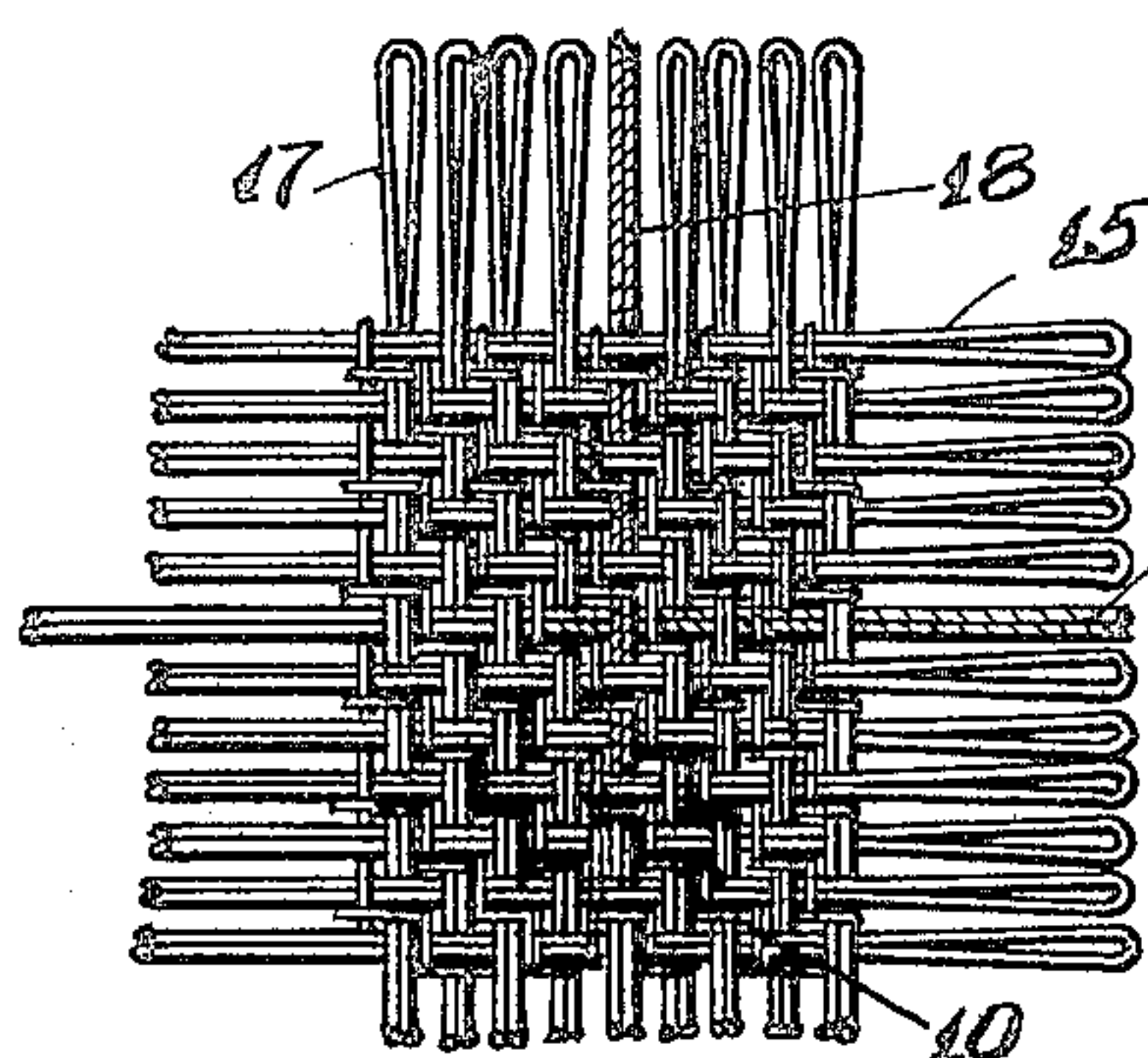


Fig. 4.

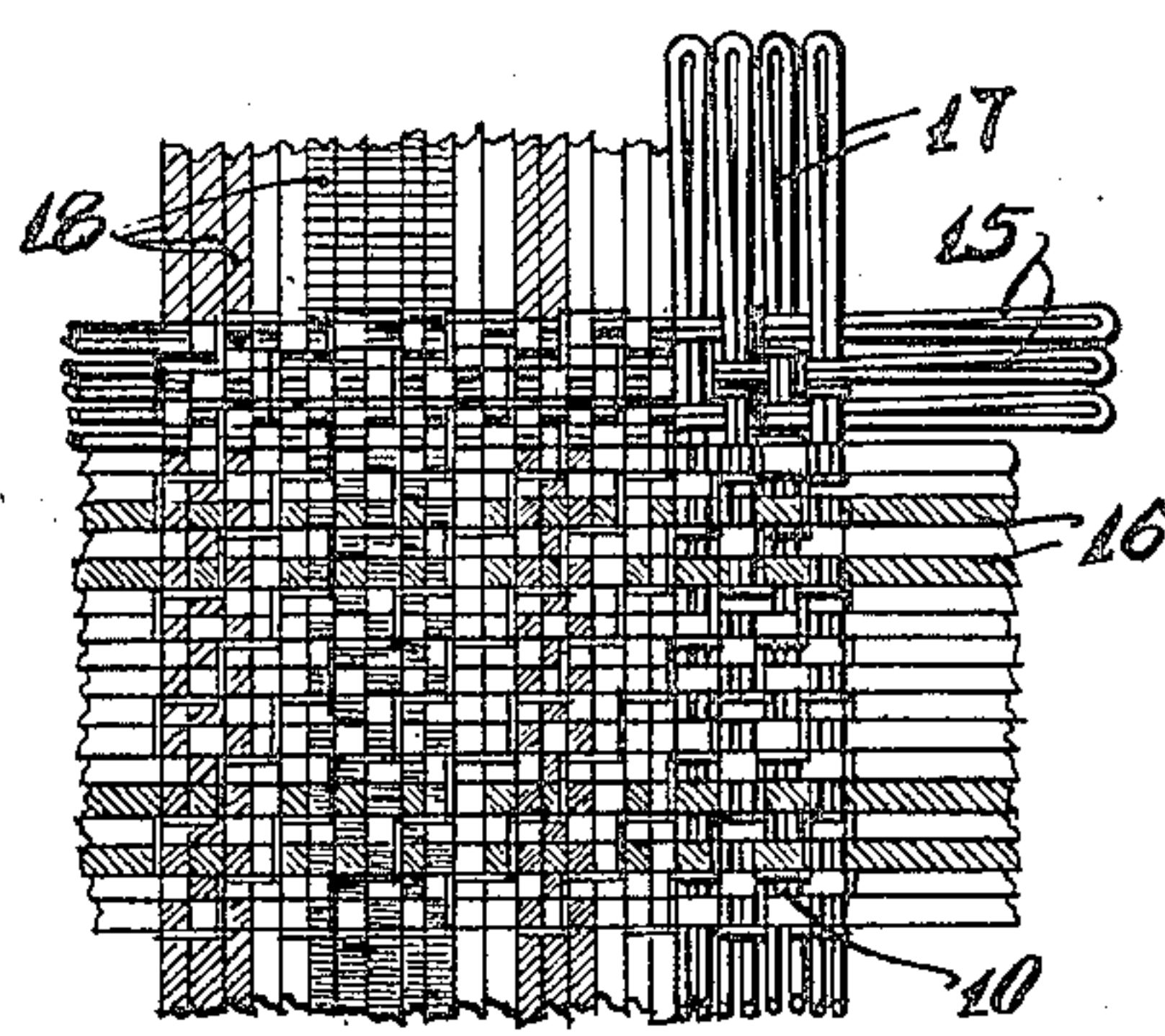


Fig. 5.

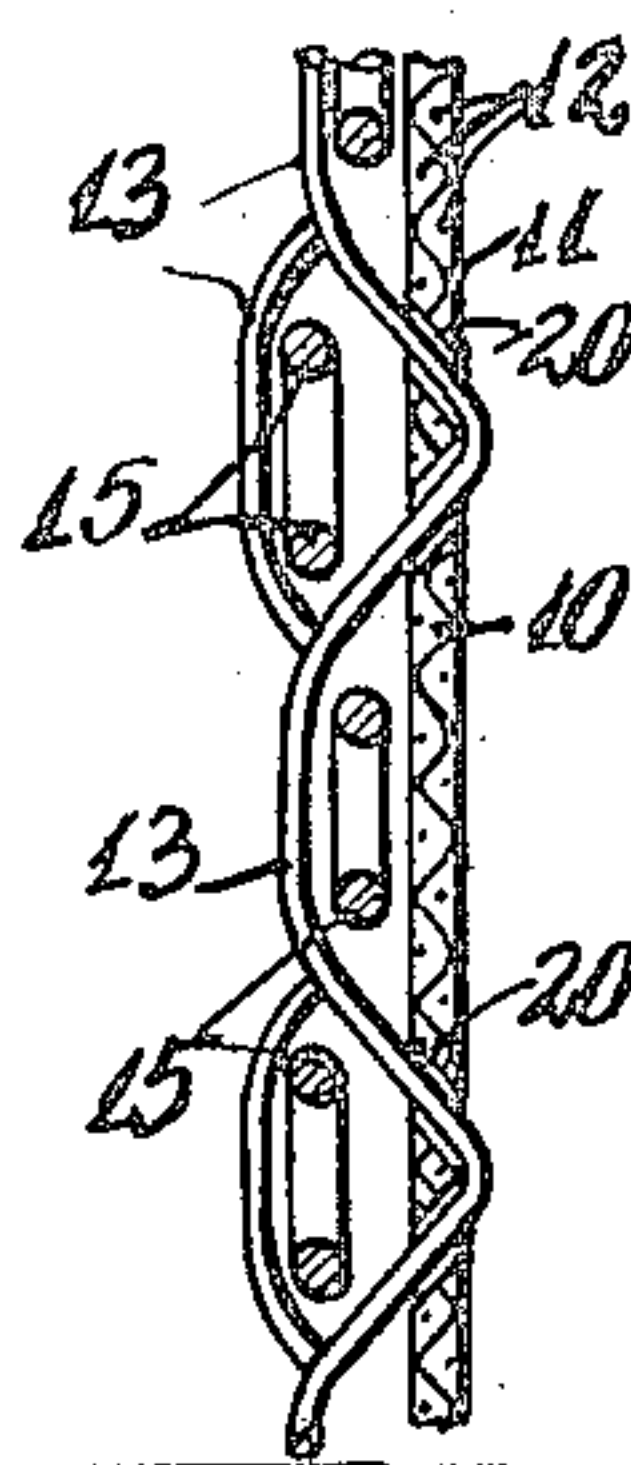


Fig. 6.

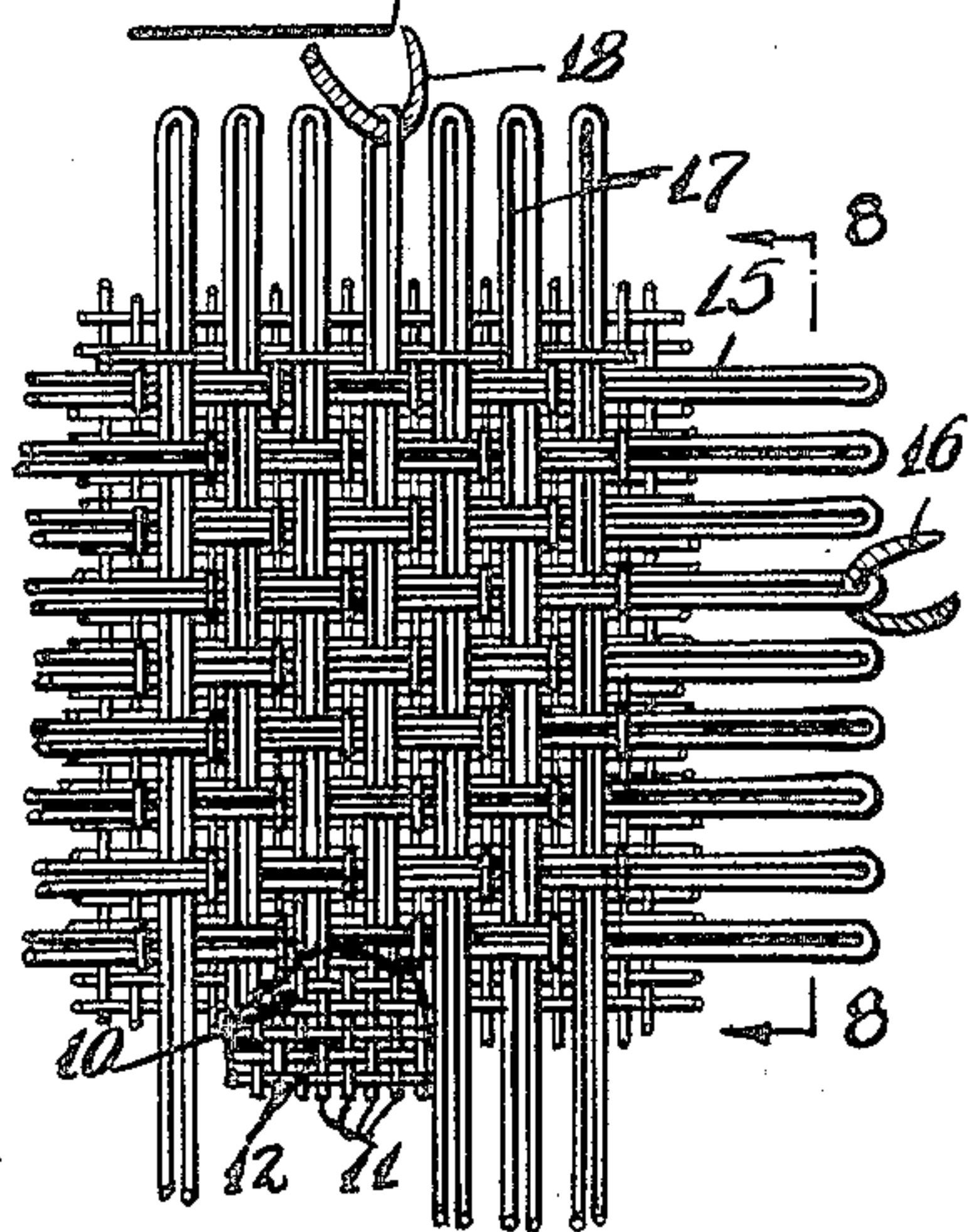


Fig. 7.

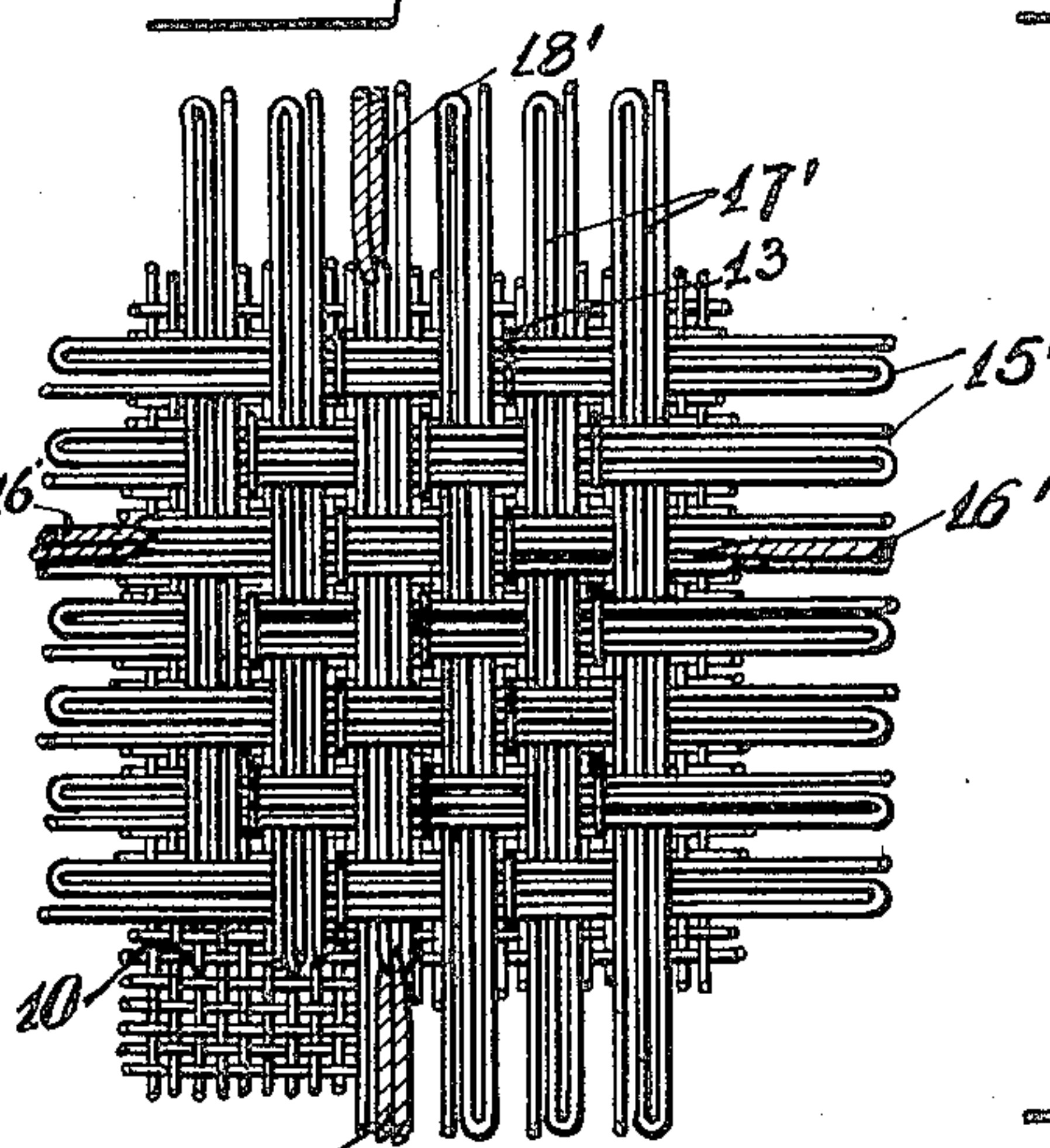


Fig. 9.

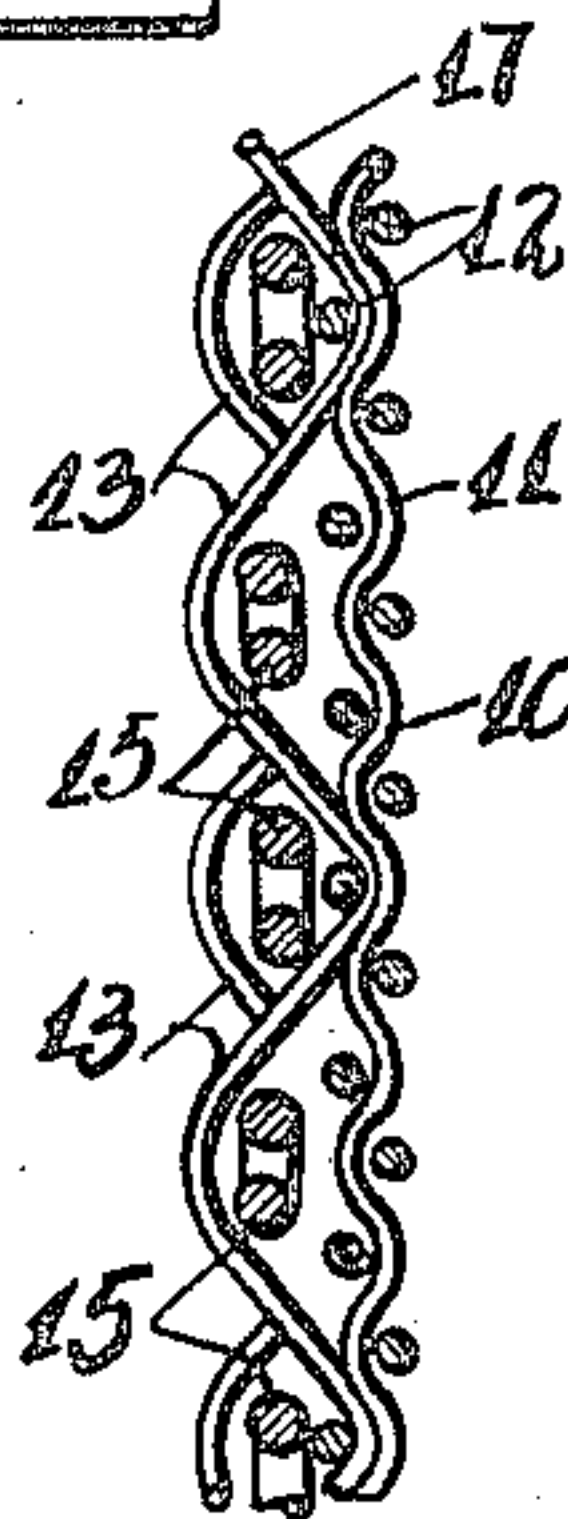


Fig. 8.

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FABRIC WEAVE

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Application February 2, 1934, Serial No. 709,439

2 Claims. (Cl. 139—383)

This invention relates to new and useful improvements in woven fabrics, and methods for making the same.

The invention has for an object the construction of a material for producing woven fabrics which is characterized by the provision of loose threads coactable with decorative yarn in a manner so that the yarn may be drawn through by pulling the threads out and so decorate the material.

Still further the invention proposes the production of material as mentioned in the previous paragraph by which the public may easily decorate it in various designs according to their own fancies.

Still further the invention proposes constructing the material as mentioned which is adapted to be used for articles of clothing, pillow cases, hand bags, etc.

Still further the invention proposes arranging the thread which may be drawn out (for drawing the decorative yarns in position) in a manner so that they are exposed in the direction of the warp and in the direction of the weft to provide for decorative yarns in both of these directions.

Still further the invention proposes the construction of material for producing woven fabrics which is characterized by a double weave fabric with loose warp threads knitted on one side thereof uniformly spaced from each other and each loose warp thread uniformly engaging weft threads of said double weave fabric at points midway between the points of adjacent loose warp threads, loose removable weft filler threads for the drawing of decorative yarns arranged or laid under said loose weft threads, and loose removable warp filler threads woven together with said weft filler threads in a manner so as to be connectible with decorative yarns for drawing the yarns in weave formation through decorative yarns drawn into the material by said weft filler threads.

Still further the invention proposes constructing the material in a manner so that the removable warp filler threads are themselves woven or connected with the double weave fabric in a manner so as to be connectible with decorative yarns for drawing the decorative yarns through the fabric.

Still further the invention proposes arranging the filler threads previously mentioned in such a manner that they are of double layers, bent upon themselves so that the bend occurs at one end and the two free ends at the other end, in

a manner so that the yarn may be looped through the bent portions of the filler threads and in this manner be drawn through the fabric.

Still further the invention also proposes teaching the arrangement of filler threads of triple layers, of substantially S-shape having a bend and an end at each end so that decorative yarns may be engaged in the bends and the ends drawn for simultaneously drawing the decorative yarns through as previously described.

Still further the invention proposes the construction of an article as mentioned which is simple and durable and which may be manufactured and sold at a reasonable cost.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a rear elevational view of a piece of woven fabric for producing a woven fabric according to this invention.

Fig. 2 is a front elevational view of Fig. 1.

Fig. 3 is a fragmentary enlarged sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a view similar to Fig. 2 but illustrating colored yarns partially drawn into the woven fabric according to this invention.

Fig. 5 is a plan view of a piece of material decorated according to this invention.

Fig. 6 is a sectional view similar to Fig. 3 but illustrating another embodiment of the invention.

Fig. 7 is a fragmentary view similar to Fig. 2 but illustrating a modification of the invention.

Fig. 8 is a fragmentary enlarged sectional view taken on the line 8—8 of Fig. 7.

Fig. 9 is another view similar to Fig. 2 but illustrating a still further embodiment of the invention.

The material for making woven fabrics according to this invention comprises a base of double weave fabric 10 having conventional warp threads 11 and weft threads 12. This material is furthermore provided during the weaving operation with loose warp threads 13 woven on one side thereof and uniformly spaced from each other, and each loose warp thread 13 uniformly engaging certain of the weft threads 12 at points midway between points of adjacent loose warp threads 13. Preferably the loose warp threads 13 should be spaced approximately $\frac{1}{8}$ of an inch from each other, and each thread should be en-

gaged through certain of the weft threads 12 at distances substantially $\frac{1}{8}$ of an inch from each other. With this construction it is then necessary that the decorative yarns of a diameter of substantially $\frac{1}{16}$ of an inch be used for the purpose of producing a close weave so that the base material 10 cannot be seen through the front face after the pattern has been completed.

The material according to this invention is also provided with weft filler threads 15 which are laid under the loose warp threads 13 during the weaving operation and are adapted to be connected with decorative yarns as for example, the yarn 16 so that the filler threads may be withdrawn through their other ends for pulling the decorative yarns through the warp threads 13. Other removable filler warp threads 17 are woven together with the weft filler 15 and are adapted to be connected with decorative yarns such as the yarn 18 for drawing the yarn through the yarns placed by the filler threads 15, when the filler threads 17 are drawn from their free ends.

A plurality of decorative yarns such as 16 and 18, of various colors and designs may be those woven upon the fabric 10 for producing a decorative design. Such a design is clearly illustrated in Fig. 5. Attention is called to the fact that this particular design is a checkered design since decorative yarns are drawn in at right angles from each other. A variation of the arrangement would be to provide only the filler threads in one direction so that decorative designs are produced in which the decorative yarns are parallel to each other in straight lines and in intimate contact.

This invention proposes supplying the material such as illustrated in Figs. 1-3 to the public and furthermore supplying yarns of decorative colors and designs to be drawn by the public beneath the loose warp threads and the yarns engaged beneath said warp threads. Each of the filler threads 15 and 17 is of a double layer bent at its center with the bends at one end and with free ends at the other. The decorative yarns may then be looped through the bent ends as shown in Fig. 2 and thus conveniently drawn by drawing the free ends of the filler threads.

In Fig. 4 the yarns 16 and 18 are shown drawn partially through the fabric by extending the filler threads. Other arrangements may be provided for connecting the decorative yarns with the filler threads to permit drawing of the yarns through as proposed. In Fig. 9 a modification of the invention has been disclosed in which filler threads 15' and 17' are provided functioning in a slightly different manner to the filler threads previously described. More particularly each of these filler threads are of triple layers, and substantially of S-shape with one bend and one end at each of its ends. With this arrangement it is possible to simultaneously draw the yarns 16 and 16' and 18 and 18' from opposite sides of the fabric. The yarns should be engaged through the bends of the filler threads and then opposite free ends simultaneously drawn so as to cause the yarns to simultaneously engage from each end into the fabric material. With this arrangement it is possible to vary the colors of a particular line of yarn, for example, to have one half one color and the other half another color. The filler threads may be left in the fabric itself or may be drawn from the fabric. The first case is more advisable in that then the filler threads serve to hold the adjacent ends of the yarn in position, while if they are drawn out then frictional engagement of the yarns must be de-

pendent upon to maintain their position. The extended ends of the filler threads may be cut off. It is necessary that the filler threads be much thinner than the yarns so that they may assume an obscure position beneath the yarns themselves.

In Fig. 6 a modified form of the invention has been disclosed which is very similar to that illustrated in Figs. 1-5 except for the manner in which the warp threads 13 are connected with the fabric 10. According to this arrangement the warp threads 13 are shown engaged through openings 20 in the material 10 instead of beneath weft threads. In other respects this form of the invention is identical to the previous form and corresponding parts may be recognized by the same reference numerals.

In Figs. 7 and 8 a still further modified form of the invention has been disclosed in which the warp filler threads 17 themselves constitute the warp woven upon the base material 10, that is, engaging the weft thread 12. This may be readily seen by closely inspecting Figs. 7 and 8 and noticing that the warp filler threads 17 are properly spaced from each other and at predetermined points are woven beneath the weft threads 12. The weft filler threads 15 are woven together with the warp filler threads 17. In other respects this form of the invention is similar to that previously described. Attention is called to the distinction in the finished cloth in that when the yarn 18 is drawn through by pulling the warp filler threads 17, the yarn 18 will be drawn beneath certain of the filler threads 12, thus distinguishes from the previous arrangement. The weft yarn will be drawn by the filler threads 15 so as to be interwoven with the yarn drawn in by the filler threads 17.

While I have shown and described the preferred embodiment of my invention, it is to be understood that I do not limit myself to the precise construction herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by United States Letters Patent is:—

1. Material for producing a woven fabric, comprising a double weave fabric, loose warp threads woven at one side thereof uniformly spaced from each other, each loose warp thread uniformly engaging weft threads of said double weave fabric at points midway between points of adjacent loose warp threads, loose removable weft filler threads laid under said loose warp threads and adapted to be connected with decorative yarns for drawing in the yarns through and beneath said warp threads, and loose removable warp filler threads woven together with said weft filler threads and adapted to be connected with decorative yarns for drawing the yarns through the yarns placed by said weft filler threads, each of said filler threads being of double layer having a bend at one end and free ends at the other end whereby the bent ends may be used as loops for receiving the decorative yarns.

2. Material for producing a woven fabric, comprising a double weave fabric, loose warp threads woven at one side thereof uniformly spaced from each other, each loose warp thread uniformly engaging weft threads of said double weave fabric at points midway between points of adjacent loose warp threads, loose removable weft filler threads laid under said loose warp threads and

adapted to be connected with decorative yarns for drawing in the yarns through and beneath said warp threads, and loose removable warp filler threads woven together with said weft filler threads and adapted to be connected with decorative yarns for drawing the yarns through the
5 yarns placed by said weft filler threads, each of

said filler threads being of triple layers and of substantially S-shape, thus having a bend and an end at each end for simultaneously drawing decorative yarns from opposite sides upon drawing apart of the ends thereof.

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