

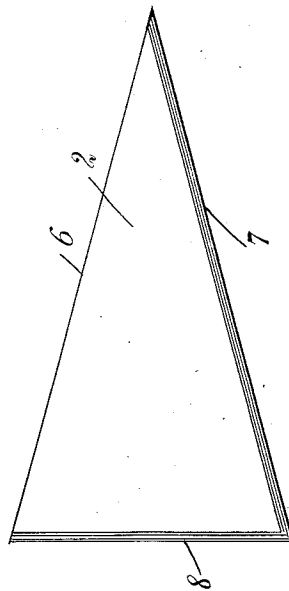
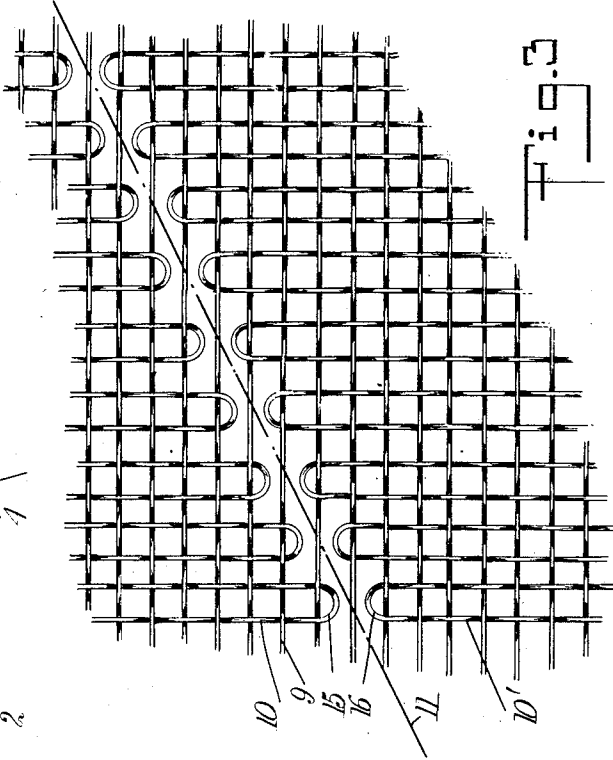
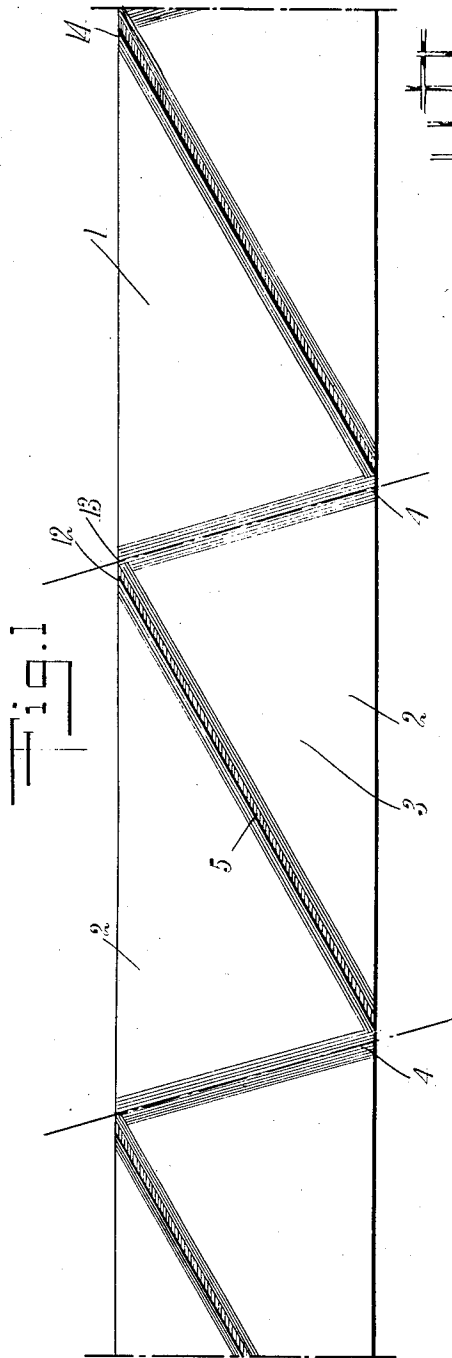
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WEAVE.

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1,037,752.

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WEAVE.

1,037,752.

Specification of Letters Patent.

Patented Sept. 3, 1912.

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To all whom it may concern:

Be it known that I, JAMES C. GAYNOR, a citizen of the United States, and a resident of Paterson, in the county of Passaic and State of New Jersey, have invented a new and Improved Weave, of which the following is a full, clear, and exact description.

This invention relates to improvements in weaves, and particularly to weaves designed to permit sections of the cloth woven to be cut without presenting an edge which will ravel.

The object in view is to provide a weave arranged at any angle across a given piece of cloth, which will permit the cloth to be cut without presenting a raveling edge.

A further object of the invention is to provide a weave which will permit cloth to be woven in strips and arranged with certain parts designed to be severed without causing a raveling edge whereby independent sections may be woven in a continuous strip, each section having any configuration desired.

In carrying out the objects of the invention, any desired kind of cloth may be woven and any desired kind of weave may be used to form the body of the cloth. At intervals, however, a special arrangement of weave is provided which may be set diagonally across a strip of cloth or at any angle which will permit the severing of the cloth at that particular angle without causing a raveling edge. To accomplish this purpose the threads or yarns making up the weft are caused to be looped at or near the line of severance, while the warp threads are caused to extend in a continuous line in the usual manner. In forming a diagonal weave designed to be severed, the weft thread is brought up to the point where it is designed to sever the cloth and then turned and caused to return. The next movement of the weft thread is shortened, and so on until that particular weft thread ceases to operate entirely. The opposite weft thread operates in an opposite manner, that is, each back and forth movement is lengthened, but is not caused to overlap the weft threads of the opposing shuttle, whereby there is a line in the cloth in which there is located no weft threads but simply the usual warp threads. This will permit the cloth to be cut at this point and in cutting only the warp threads are cut. The result is naturally that the

edge will not ravel even though the same is diagonally arranged across the cloth.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of part of a strip of cloth or ribbon showing an embodiment of the invention; Fig. 2 shows a triangular piece of cloth cut out; and Fig. 3 is an enlarged fragmentary view of a piece of cloth disclosing the diagonal weave.

Referring to the accompanying drawings by numerals, 1 indicates a continuous strip of cloth or ribbon which may be of any desired width, but preferably is made of suitable widths so that triangular pieces 2 may be cut therefrom for forming flags or banners. The body 3 of the triangular pieces 2 may be formed in any desired manner having, of course, weft and warp threads. The strip 1 is woven at lines 4 with the ordinary tight weave for forming substantially non-raveling edges. The lines of weaving 4 are preferably arranged at a slight angle to the general direction of the strip 1. Extending from one end of one of the lines 4 to the opposite end of the next adjoining line 4, is a diagonal arrangement of weave 5 which is adapted to be severed centrally when the pieces 2 are cut from the strip 1. The weave 5 is arranged to be non-raveling so that when the pieces 2 are cut from the strip 1 and formed into banners, the banner will have non-raveling edges 6 and 7 without the necessity of binding the banner. The edge 8 may be secured to the staff in any desired manner, or the pieces 2 may be used independent of staffs of any kind.

The particular way the warp and weft threads are arranged to form the weave 5 is shown more specifically in Fig. 3, wherein it will be observed that the warp threads 9 extend longitudinally of the cloth in the usual manner, while the weft threads 10 extend to an imaginary line 11 and then go back to the edge of the cloth. The oppositely positioned weft threads 10' are similarly arranged. In order to provide this weave it will be evident that at least two shuttles are necessary, one for the weft threads 10 and the other for the weft threads 10'. The shuttle carrying the weft threads 10' goes from the edge of thread to the line

11 and then back to the edge of the thread, after which it again moves toward the line 11 and engages the next warp thread beyond the previously laid weft thread, and then
 5 goes back to the edge of the cloth. The shuttle continues this action back and forth to the part near the imaginary line 11, gradually extending its movement until the movement is entirely across the cloth 1.
 10 The action of the shuttle carrying the thread 10 is just the reverse, the movement becoming less and less until the shuttle ceases to operate at the point 12 (Fig. 1). The shuttle carrying the thread 10 ceases to op-
 15 erate only until the cloth has advanced a short distance whereupon the shuttle carrying the thread 10 will begin to operate at the point 13 and will continue to operate until it reaches the point 14. This action
 20 is continued for the full length of the strip 1, the shuttle carrying the thread 10' acting in the same manner but in opposition; when the shuttle carrying the thread 10 is having a long stroke, the shuttle carrying the
 25 thread 10' is having a short stroke, and vice versa. By forming the loops 15 and 16 on opposite sides of the imaginary line 11, there is left a space in the fabric or cloth 1 between the weft threads which carries only
 30 warp threads. If these warp threads are severed on this line, namely the imaginary line 11, a non-raveling edge will result.

Having thus described my invention I claim as new and desire to secure by Letters
 35 Patent:

1. A fabric formed with a plurality of sections arranged with diagonally juxtapositioned parallel edges connected by the warp threads of the fabric.
- 40 2. A fabric formed of longitudinally arranged warp threads, and transversely arranged weft threads, the weft threads being looped at the outer edges of the fabric and at a diagonal line across the fabric, some of
 45 the weft threads extending from one edge to said diagonal line and the remaining weft threads extending from the opposite edge to said diagonal line whereby the fabric may

be cut diagonally without presenting a raveling edge.

3. A fabric formed of warp and weft threads arranged with a selvage edge on each side, a tightly woven portion arranged diagonally at spaced intervals, and abutting
 55 selvage edges arranged diagonally of said fabric and extending substantially at a right angle to said tightly woven edges, whereby at one end the same contact with one end of
 said tightly woven portion and the opposite edge engages the next succeeding woven
 60 portion at the opposite side of the fabric, whereby when the fabric is cut along said tightly woven portion and said diagonally arranged selvage edge, a triangular shaped
 65 piece of fabric is presented having selvages on both sides.

4. A piece of fabric formed triangular in shape and with a closely woven end portion extending at an angle to the direction of the
 70 weft threads, and a pair of selvage edges extending from said end to a point, one of said edges being arranged at substantially right angles to the direction of weft threads and the other of said edges being arranged
 75 at substantially a right angle to said closely woven end portion.

5. A fabric comprising a strip of material having a selvage edge on each side, a closely woven diagonally arranged portion, and a
 80 diagonally arranged portion having abutting selvage edges, said abutting edges being connected by the warp threads of said fabric.

6. A fabric comprising a strip of material having a selvage edge on each side, and a
 85 diagonally arranged portion having abutting selvage edges, said abutting edges being connected by the warp threads of said fabric.

In testimony whereof I have signed my
 90 name to this specification in the presence of two subscribing witnesses.

JAMES C. GAYNOR.

Witnesses:

A. L. KITCHIN,
 PHILIP D. ROLLHAUS.