May 26, 1936. A. LANZ 2,041,841

METHOD OF PRODUCING FABRICS OF MULTIPLE LOOM WIDTH

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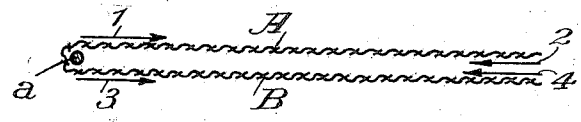


Fig. 1

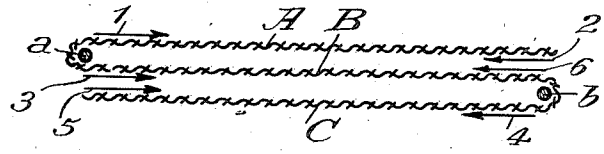


Fig. 2

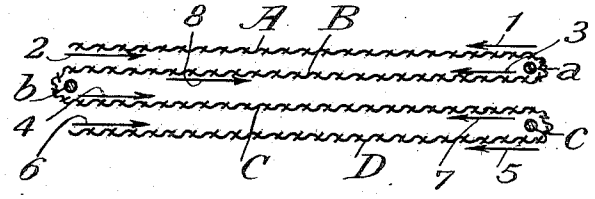


Fig. 3

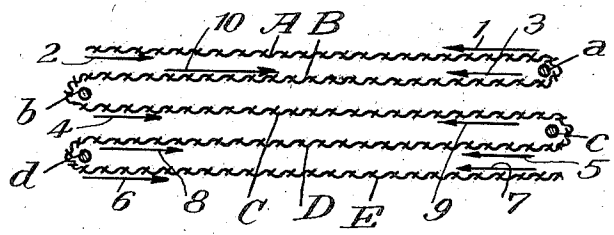


Fig. 4

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METHOD OF PRODUCING FABRICS OF MULTIPLE LOOM WIDTH

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3 Claims. (Cl. 139—20)

This invention relates to methods of producing fabrics of multiple loom width.

It is known, to produce in looms fabrics of a width two or more times that of the loom, namely in two or more superposed web sections of the fabric, so that through one or more upper warps and a lower warp one and the same weft thread is threaded. If to this end, in a known manner, one and the same shuttle is used, at the edges of the fabric, that is at the joining or folding line between each two superposed web sections, the density of the fabric is greater than at the other portions thereof, due to the tension prevailing in the weft thread, and the portion of greater density is perceptible in the form of a fin.

In order to avoid this drawback, according to the present invention, at the folding line forming during the weaving operation between two superposed web sections of the fabric a separating insert is provided around which the shuttle supplying the weft thread for the various web sections of the fabric is passed without the insert being bound in.

By this provision the separating insert is adapted to take the tension of the weft thread in which way a uniform fabric is obtained which can be smoothed throughout its surface and which thus presents neither denser nor looser portions at the fold or folds. Upon removal from the loom of the definitely woven folded fabric inclusive of the then released one or more separating inserts, depending on whether more than two web sections are provided, the fabric can be unfolded to its full width in which it is to be made.

The accompanying schematical drawing serves for illustratively exemplifying the method according to the invention, in which

Fig. 1 indicates the manner in which a fabric comprising two web sections A and B is effected;

Fig. 2 is a view similar to Fig. 1 for a fabric comprising three web sections A, B and C;

Fig. 3 is another similar view for a fabric comprising four web sections A, B, C and D, and

Fig. 4 is still another similar view for a fabric comprising five web sections A, B, C, D and E.

In Fig. 1, the character *a* indicates the separating insert which is situated in the joining and folding line forming during the weaving between the two fabric web sections A and B in the direction of the warp. At this joining and folding line of the two-ply or two-web section fabric the shuttle is passed through the warp at the beginning of inserting the weft thread in the direction of arrow 1, in order to effect the upper web section A of the fabric, whereupon the shuttle is moved back through the warp from the free selvedge of the fabric web section A in the direction of arrow 2.

Thereupon the weft thread is passed round the separating insert *a* exteriorly thereof and then the shuttle is moved through the warp threads in the direction of arrow 3 in order to effect the lower fabric web section B. Afterwards the shuttle is moved back from the free selvedge of the web section B of the fabric through the warp in the direction of arrow 4 up to the joining and folding line between the two fabric web sections A and B. The same cycle of operations as explained is then repeated until the full length of fabric is finished.

The separating insert *a* is included in the reed together with the adjacent exteriormost warp threads (at the joining and folding line) of the two-ply fabric to be produced and threaded through the eyelet of a heald which during the weaving operation is controlled separately, viz. moved up and down, in such manner, that this insert is interwoven neither with the warp threads of the upper fabric web section A nor the warp threads of the lower fabric web section B. The separating insert *a* may, for example, consist of a wire, gut-string, strong twisted string or cord fed through the loom in accordance with the warp and be passed to each joining line separately by unwinding from a special supply spool. The web of fabric, in order to be maintained stretched across the width of the loom, is passed together with the separating inserts between auxiliary tensioning rollers, known as such, prior to arriving at the piece beam. On the fabric being definitely finished, the separating insert incorporated therein is cut off from the loom together with the fabric, whereupon the severed separating insert can be readily detached and the fabric unfolded to its full width.

When a three-ply fabric, as indicated in Fig. 2, is to be produced, obviously at each of the two longitudinal margins of the fabric being formed a joining and folding line obtains to each of which a separating insert *a* and *b* respectively is correlated. The separating insert *b* is advanced similarly as the separating insert *a* so as to avoid of its being interwoven neither with the warp threads of the fabric web section B nor those of the fabric web section C. The arrows 1 to 6 indicate the course of the shuttle so as to define the same completely. While the shuttle passes from the fabric web section B over to the fabric web section C and vice versa, the weft thread is carried round the separating insert *b* outside thereof

in a similar fashion as at the separating insert *a*.

During the manufacture of a four-ply fabric, as indicated in Fig. 3, three joining and folding lines are obtained, two such lines being situated in superposed position on the same longitudinal margin of the fabric as being formed. To each fold a separating insert *a*, *b*, and *c* respectively is correlated. All the three separating inserts *a*, *b*, and *c* are moved or advanced in the requisite manner, so that none of them is interwoven with the warp threads. The course of the shuttle is evident from the arrows 1 to 6 shown and needs no further comment. While the shuttle passes over from the fabric web section C to the fabric web section D and vice versa the weft thread is slung round the outer side of the separating insert *c* similarly as round the other separating inserts.

In producing a five-ply fabric, as indicated in Fig. 4, on both longitudinal margins of the fabric being formed two joining and folding lines are obtained in superposed position to each of which one of the separating inserts *a*, *b*, *c* and *d* is correlated. All four separating inserts *a*, *b*, *c* and *d* are moved as required, so as to avoid interweaving the same with the warp threads. The course of the shuttle is indicated by arrows 1 to 10. While changing over from the fabric web section D to the fabric web section B and vice versa the weft thread is passed exteriorly round the separating insert *d* similarly as explained for the other separating inserts.

I claim:

1. In a method of producing fabrics of multiple loom width, the steps of arranging the warp in a number of superposed sections corresponding to the sub-multiple of the width in which the fabric is to be produced, providing a separating insert at each folding line to be formed in said fabric between adjacent warp sections, adapting said insert to take the weft tension, and inserting the weft in adjacent warp sections by passing the weft thread round the intervening separating insert.

2. In a method of producing fabrics of multiple loom width, the steps of arranging the warp in a number of superposed sections corresponding to the sub-multiple of the width in which the fabric is to be produced, providing a separating insert at each folding line to be formed in said fabric between adjacent warp sections, advancing said insert together with said warp, adapting said insert to take the weft tension, and inserting the weft in adjacent warp sections by passing the weft thread round the intervening separating insert.

3. In a method of producing fabrics of multiple loom width, the steps of arranging the warp in a number of superposed sections corresponding to the sub-multiple of the width in which the fabric is to be produced, providing a separating insert at each folding line to be formed in said fabric between adjacent warp sections, winding said insert off a special supply spool together with advancing said warp, adapting said insert to take the weft tension, and inserting the weft in adjacent warp sections by passing the weft thread round the intervening separating insert.

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