

No. 692,346.

Patented Feb. 4, 1902.

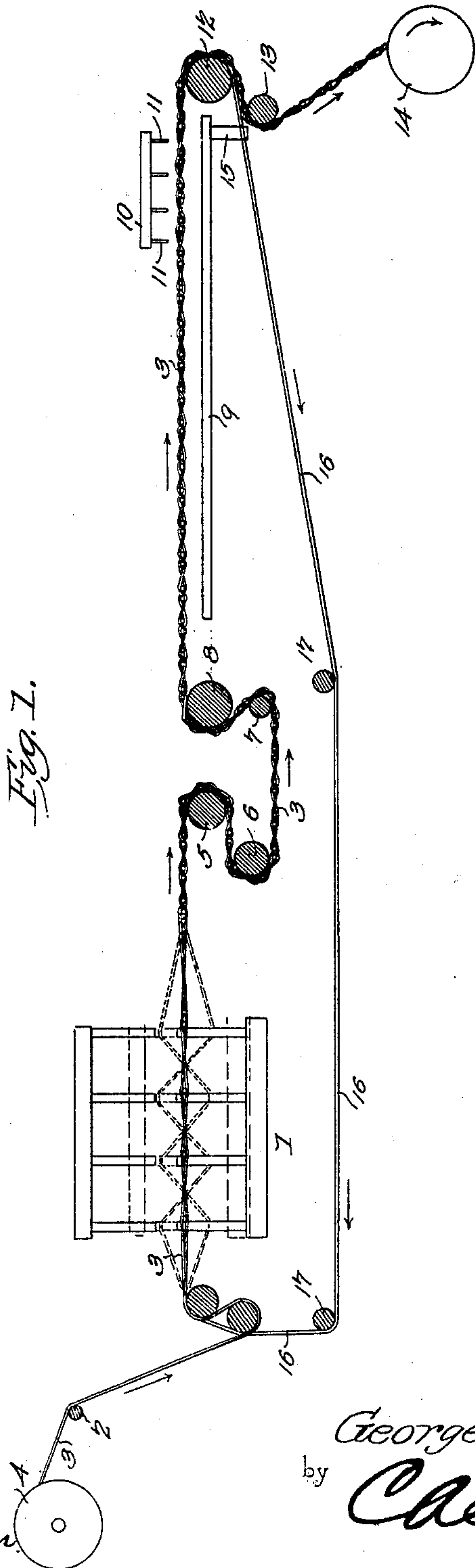
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METHOD OF WEAVING AND COMPLETING CANE OR RATAN FABRICS.

(Application filed Apr. 29, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses

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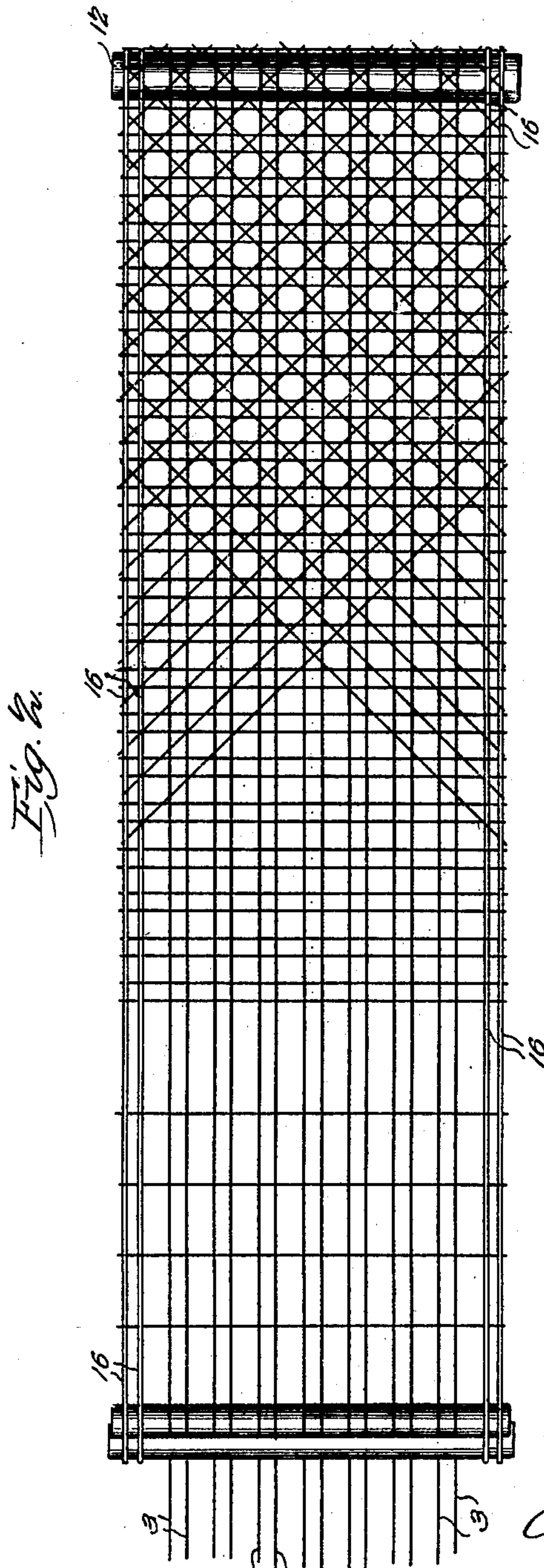
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UNITED STATES PATENT OFFICE.

GEORGE O. REDPATH, OF FRANKFORT, KENTUCKY.

METHOD OF WEAVING AND COMPLETING CANE OR RATAN FABRICS.

SPECIFICATION forming part of Letters Patent No. 692,346, dated February 4, 1902.

Application filed April 29, 1901. Serial No. 57,983. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE O. REDPATH, a citizen of the United States, residing at Frankfort, in the county of Franklin and State of Kentucky, have invented a new and useful Method of Weaving and Completing Cane or Ratan Fabrics, of which the following is a specification.

This invention relates to a method of weaving and completing cane or ratan fabrics, and the intent and purpose of the same is to expedite such operation by avoiding stoppages to sever the fabric from a loom as now pursued when the winding roller or core is filled and to perform the several independent steps of inserting diagonal strands and combing to straighten the mesh in regular sequence without severing the woven fabric from the loom and while said fabric is continuously moving in a longitudinal direction to thereby materially increase the output or manufacture of the fabric within a given time and avoid the loss of time and waste of material experienced in the present mode of weaving and completing such fabrics and also to reduce the number of operatives at present required to carry out the several necessary steps in completing the fabric.

The present method contemplates the treatment of cane or ratan fabrics which are woven with regular open mesh; and the said method, broadly stated, primarily consists in first weaving the fabric and including therein a series of warp-strands and a corresponding number of weft-strands, feeding the fabric as completed by the weaving-machine away from the latter and movably disposing it with the required degree of tautness over a support to receive the diagonal strands while in motion, and then continuously moving it in sequence over a second supporting means, where it is combed while in motion to straighten the mesh, the now complete fabric being then rolled upon a winding-roller and ready for marketable use.

The method secondarily consists in weaving the fabric and simultaneously inserting a binding-tape in the opposite margins thereof, feeding the fabric direct from the weaving-machine and continuously moving it over a support to receive diagonal strands while in motion, conveying it to and continuously

feeding it over other supporting means, where it is combed while in motion to straighten the mesh, releasing the tape and allowing the latter to be conveyed back to the weaving-machine for subsequent similar use, and winding the complete fabric in a roll ready for marketable use.

There are many kinds of mechanisms for practically carrying the method into effect, and without entering into a disclosure of any specific construction for this purpose or limiting the method to the result of any precise machinery the accompanying drawings are utilized to illustrate the method, and therein—

Figure 1 is a diagrammatic view, in side elevation, showing sufficient mechanism which is conventionally indicated to illustrate the steps of the method. Fig. 2 is a diagrammatic view in plan of the same organization of devices shown by Fig. 1 and illustrating the fabric in its several stages of completion.

Similar numerals of reference are employed to indicate corresponding parts in both views.

The numeral 1 designates a loom organization of any suitable form which is adapted to weave a cane or ratan fabric and having at the rear, as usual, any suitable tension device 2, to which the warp-strands 3 are fed from supplying means 4, usually in the form of spools on which the prepared cane or ratan is wound. At the breast end of the loom organization is a roller 5, which is the usual winding-roller, to receive the fabric as woven by the loom; but in this instance said roller is used as a guide means to direct the fabric as it comes from the loom to a lower roller 6 and from the latter to an idle roller 7 in advance of the breast of the loom. After passing down around the roller 7 the fabric then moves over a larger roller 8 at one end of a support 9, the portion of the support nearest the said latter roller being employed for needling or inserting the diagonal strands in the moving fabric, as shown by Fig. 2. The portion of the support beyond that used for needling or inserting the diagonal strands is employed for combing the moving fabric to straighten the mesh of the same and which become slightly distorted by the insertion of the said diagonal strands, and movably suspended over the combing portion of the support is a comb 10 of suitable construction and

provided with lower teeth 11. This comb may have either a manual or power action and have such motions imparted thereto as to regularly clear the fabric and be replaced
 5 in operative relation to the latter and also be caused to move longitudinally proportionately to the similar movement of the fabric over the support. In operation the said comb is brought down to the moving fabric, so that
 10 the teeth thereof will enter the meshes of the fabric. The comb is then moved in opposite longitudinal directions relatively to the movement of the fabric, so as to properly space the said fabric mesh. At the end of the support opposite that at which the roller 8 is located a similar roller 12 is applied, and over
 15 said latter roller the completed fabric moves and then down over a small idle roller 13. From the latter roller, which serves as a guide or direction roller, the completed fabric runs
 20 to a winding-roll 14, preferably supplied with any suitable form of core. The winding-roll 14 is actuated by suitable mechanism from the loom organization or elsewhere and operates
 25 in timed relation to the loom or weaving-machine, so as not to interfere with the operation of the latter in primarily preparing the fabric for the steps of completion on the support 9, as heretofore noted. The roll 14
 30 is also held under suitable tension by any of the well-known appliances for this purpose, so that the fabric continually moving longitudinally of the support will be held down on the latter with a sufficient degree of tautness, the said tension being automatically
 35 regulable proportionately to the increase of bulk on the roll 14 for obvious reasons.

The transfer of the fabric direct to the support 9 from the loom organization without
 40 stopping the movement of the latter and without severing the fabric saves a material delay and reduces the number of operatives to such an extent that a great many more feet of the fabric can be completed within a
 45 given time than by the present method of procedure, which requires a severance of the fabric at the loom, a conveyance of the separated quantity of fabric from the loom to a distance for disposal on needling or diagonal-
 50 strand-threading supports, and the application of clamps and the like, and the after step of combing, and, above all, overcomes the disadvantage of having the fabric completed in comparatively short lengths, which are gov-
 55 erned by the capacity of the winding-roller of the loom or weaving-machine. Moreover, the operatives stationed at the support 9 will be required to work faster in the steps of needling or insertion of the diagonal strands and
 60 combing the completed fabric to straighten the mesh in view of the movement of the latter over the said support, and, furthermore, it will be seen that the loom and other operatives will be required to remain at their places at
 65 all times during the movement of the fabric

in order to properly prepare and complete the fabric.

Adjacent to the roller 12 the opposite sides of the support are provided with cast-off fingers 15, which catch the opposite binder-
 70 tapes 16, that are woven in the opposite side margins of the fabric as formed by the loom or weaving-machine, the said tapes running over the said roller 12, down over direction
 75 or guide rollers 17, and back to the tension device 2 of the loom or weaving-machine, where they are woven in with the fabric and pass along in connected relation to the latter until they reach the said fingers and are
 80 thrown out, as set forth. These tapes are endless and are continually used for a long period of time. This mode of using the same continuous tapes or margin-binders for the
 85 fabric until the latter is completed is a great saving in expense in the manufacture of this class of fabrics, for the reason that twine
 and other material is now used a single time and cut off from the supply thereof proportionate to the length of fabric severed from
 90 the loom, and it is therefore impossible to practically use such twine lengths for subsequent weaving operations. It will be understood that these marginal binders are only
 95 retained in connection with the fabric long enough to prevent disarrangement of the strands thereof until the diagonal strands are inserted and the subsequent step of combing is completed, when the mesh of the fabric will be firmly locked and will resist accidental
 100 misplacement or disorder.

As before indicated, a multiplicity of mechanism can be employed for carrying out the present method, and the latter is not in the
 105 least dependent on any precise or actual function of mechanical devices, as part of the operation is effected by the extraneous manipulations of operatives. In some instances it may only be necessary to insert the diagonal
 110 strands without combing, and in forming certain kinds of open fabrics it may be only necessary to comb the fabric without previously inserting the diagonal strands. The present method contemplates these changes or requirements.

Having thus described the invention, what is claimed as new is—

1. The method of weaving and completing cane or ratan fabrics consisting in weaving the warp and weft strands in intersecting relation, feeding the continuous fabric thus
 120 formed direct from the weaving organization to and continuously moving it longitudinally over a support, and successively inserting diagonal strands and spacing the meshes of the fabric while in motion.

2. The method of weaving and completing cane or ratan fabrics consisting in weaving warp and weft strands in intersecting relation, feeding the continuous fabric direct from the
 125 weaving organization to and continuously

moving it longitudinally over a support, successively inserting diagonal strands and spacing the meshes of the fabric while in motion, and winding the completed fabric in rolls in marketable condition.

3. The method of weaving and completing cane or ratan fabrics consisting in weaving warp and weft strands in intersecting meshed relation, feeding the continuous fabric direct from the weaving organization to and continuously moving it longitudinally over a support, and inserting diagonal strands in the fabric while in motion to complete the same.

4. The method of weaving and completing cane or ratan fabrics consisting in weaving warp and weft strands in intersecting meshed relation, feeding the continuous fabric direct from the weaving organization to and continuously moving it longitudinally over a support, and adjusting the weft-strands of the fabric while in motion to properly space the mesh of the same.

5. The method of weaving and completing cane or ratan fabrics consisting in weaving warp and weft strands in intersecting meshed relation, simultaneously weaving continuous marginal binders in the opposite sides of the fabric thus formed, feeding the fabric and binders direct to and continuously moving it longitudinally over a support from the weaving organization, successively inserting diagonal strands and spacing the meshes of the continuous fabric while the latter is in motion, and withdrawing the marginal binders after the fabric has been spaced and permitting them to run back to the weaving organization for subsequent similar use.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEO. O. REDPATH.

Witnesses:

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CHAS. S. HYER.