

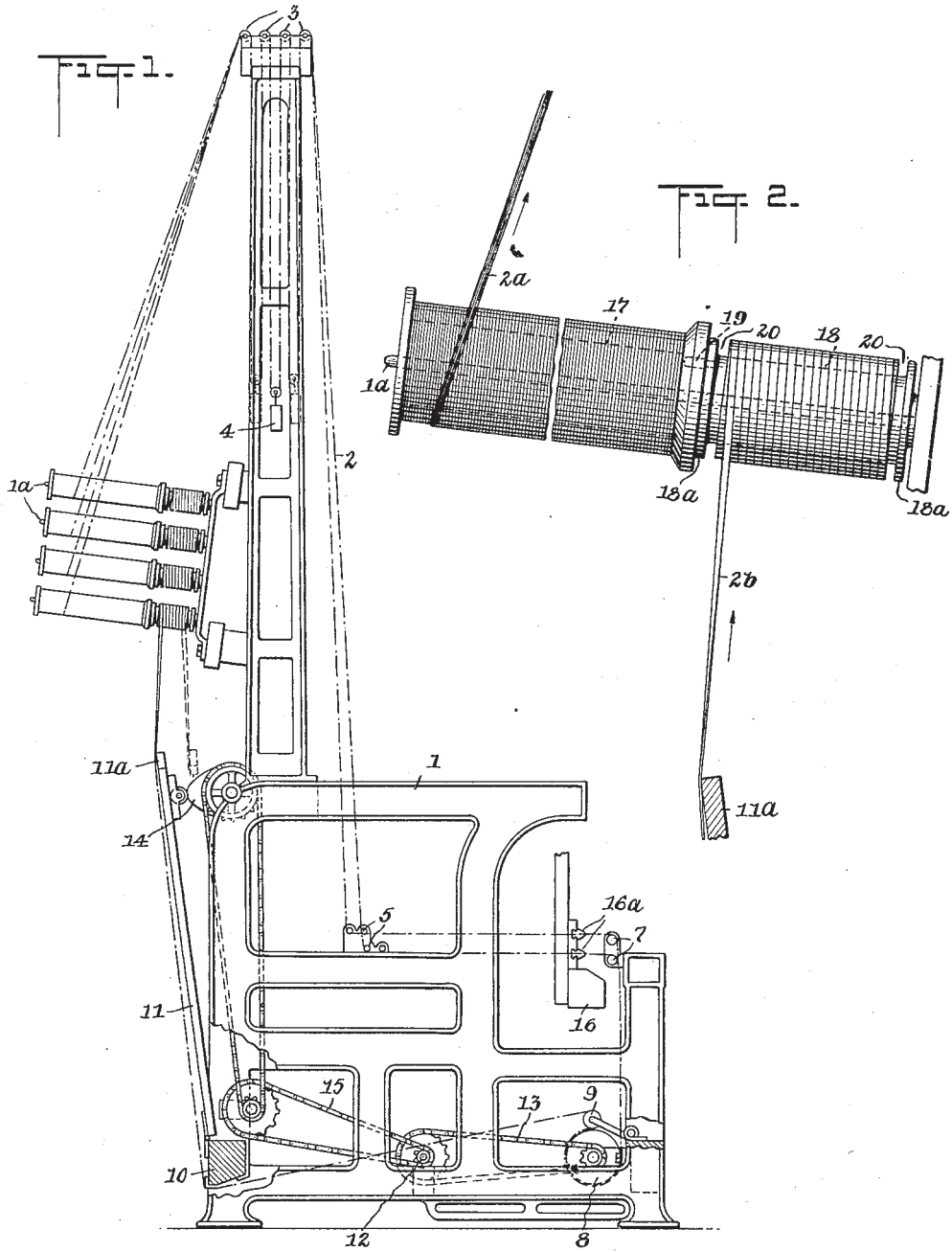
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LOOM

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LOOM

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This invention relates to narrow-ware looms of the class represented by my Letters Patent No. 1,589,073 and the patent to William Harris No. 950,021 and in which, given
 5 means for guiding the band of warp and finished fabric, a rotary supply device and a rotary receiving device on which the warp and finished fabric are respectively wound
 10 are coaxially related and separably intercoupled to rotate as a unit, so that as the band is advanced in the weaving and the warp supply device is consequently rotated to pay out the warp the fabric receiving device is rotated from the warp supply device to wind
 15 up the fabric. Some means is usually employed to cause traverse of the part of the band which adjoins and is about to be wound on the receiving device so that the windings of the band will form thereon a symmetrical
 20 package of layers of the band, and if this traverse is not of such extent that the ends of the package are well inward of the ends of the receiving device (at a sacrifice of space useful for the windings) and if in the winding
 25 a convolution slips off the package it will come to rest, not on the receiving device, where it still would be tractively active thereon, but on the spindle or equivalent on which the supply and receiving devices are journaled, and, in response to the tension maintained on the band, when the intercoupled
 30 devices are thus suddenly freed the two devices become twirled as one on the spindle with incidental wrapping of the band around the spindle, and the band snaps and the entire weaving unit is put out of commission. It is found impracticable merely to periph-
 35 erally flange the receiving device and cause the traverse to form the package so that its ends will abut such flanges because unless the flanges are unduly large in diameter the end convolutions are likely to climb over them and in any event those convolutions then become subject to cramping against the flanges
 40 and consequent wrinkling and other distortion detracting from the sale value of the finished fabric.

The object of this invention, then, is to provide for the forming of the fabric mass or
 50 package on the receiving device so as to uti-

lize as much as possible of the length thereof for reception of the package without the risk of the band if it slips off of either end of the package losing tractive control of said device and to accomplish this result without incidentally deforming the end convolutions of the package.

In the drawing,

Fig. 1 is a side elevation of so much of a loom embodying the invention as is necessary
 60 to illustrate the same; and

Fig. 2 is a side elevation of the intercoupled warp supply and fabric receiving devices and the windings thereon and illustrates my invention in detail.

1 is the frame of the loom. The mentioned band of warp and finished fabric is indicated generally in Fig. 1 by the character 2 and in Fig. 2 by the characters 2^a and 2^b of which 2^a applies to the warp portion thereof
 70 and 2^b to the finished fabric. This band is by means of rollers 3 at the top of the loom hung in loops as shown in Fig. 1 each suspending a weight 4, which weights afford the necessary tension on the band. The band further
 75 extends under guide bar 5, then forward over a guide bar 7 at the front of the loom, then down around the sand roller 8 and pressure roller 9 of a take-up mechanism, then back under a beam 10 serving as a guide and then
 80 up in contact with the bar 11^a of a fulcrumed traverse-effecting structure 11 pivoted on a horizontal axis at its base to the back of the loom. The take-up or advance of the band as the weaving proceeds is effected by rotating
 85 the sand-roller 8 from a going shaft 12 through the sprocket-and-chain drive 13. The structure 11 is moved back and forth to cause traverse of the fabric portion of the band by a cam 14 which is rotated from shaft
 90 12 by the sprocket-and-chain drive 15. The means for forming sheds in the warp portion of the band is omitted, and the batten 16 and the shuttle 16^a thereon are only shown in a general way, as these are not material to
 95 my invention. What has so far been described is substantially the same as in the patents already noted, as is also the spindle 1^a projecting from the frame and forming the axial support for the separably inter-
 100

coupled rotary supply and receiving devices on which the warp and fabric end portions of the band are wound.

5 The supply device, 17, may as usual be a spool. The receiving device, 18, may also be a spool. (It is separably intercoupled with the supply device, so as to rotate therewith, by a pin 19 in one engaged in a hole in the other, and it is arranged over the traverse-
10 effecting structure 11 so that as the band is advanced in the direction of the arrows in Fig. 2 and so the warp 2^a unwinds from the supply device and the fabric winds on the receiving device the convolutions of the latter
15 will be laid in successive layers, all as heretofore.) But whether it be a spool, to wit, a core having peripheral spaced flanges, or any other revoluble barrel having some other form of spaced barriers between which the
20 windings of the fabric are to be located is not material. What is material, according to this invention, is that the spacing of these barriers 18^a, and the extent of traverse imparted to the part of the band which adjoins
25 the receiving device are such, relatively to each other, that a space 20 is left between each end of each layer of fabric wound on said device and the adjoining barrier.

In consequence of this, while I avoid the
30 faults incidental to the end convolutions of the fabric end portion of the band building up against flanges or other barriers on the receiving device, if an end convolution slips off it remains in tractive control of the rotary
35 body formed by the two devices and their windings and it is retained in such control by the barrier until the attendant observes its abnormal condition and replaces it; and yet all but a very small portion of the length
40 of the receiving device (to wit, represented by the spaces) can be filled with the windings.

Having thus fully described my invention what I claim is:

45 In a loom, the combination of a frame, means for guiding the band of warp and finished fabric, means for tensioning said band, rotary supply and receiving devices on
50 which the warp and finished fabric are respectively wound journaled in the frame coaxial with each other and separably intercoupled to rotate together, and means, while the band is being advanced in the direction to
55 unwind the warp and wind up the fabric, to cause traverse of the part of the band which adjoins the receiving device back and forth on and lengthwise of the latter between definite limits, said receiving device having a barrier on its periphery arranged relatively out-
30 ward of and spaced from each such limit.

In testimony whereof I affix my signature.

ARTHUR J. HARRIS.