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2,432,270

LOOM BEAM

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Fig. 1,

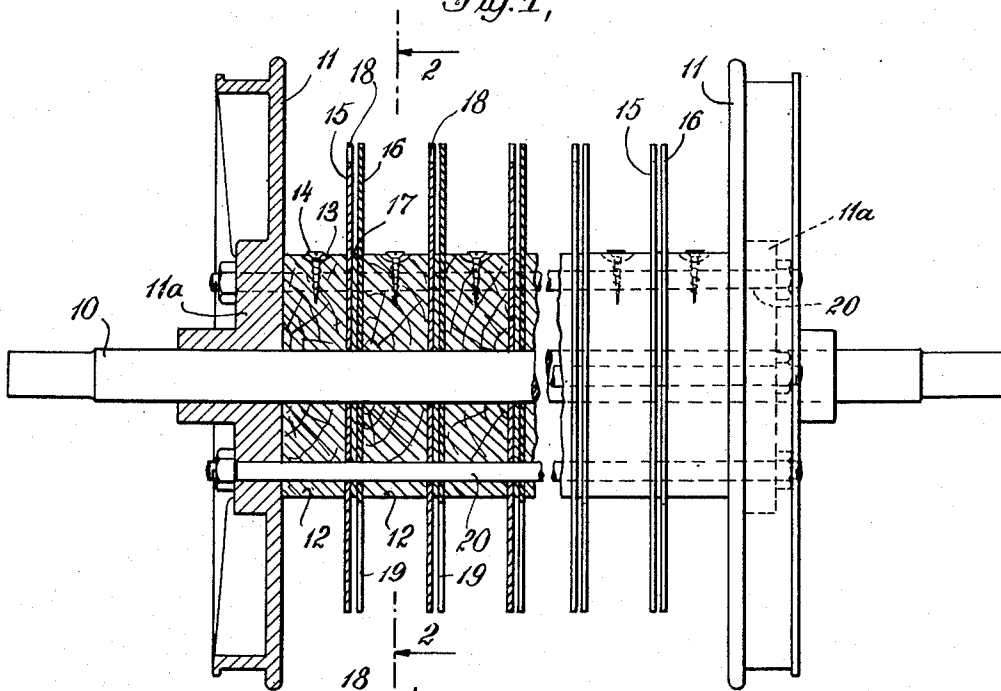


Fig. 2.

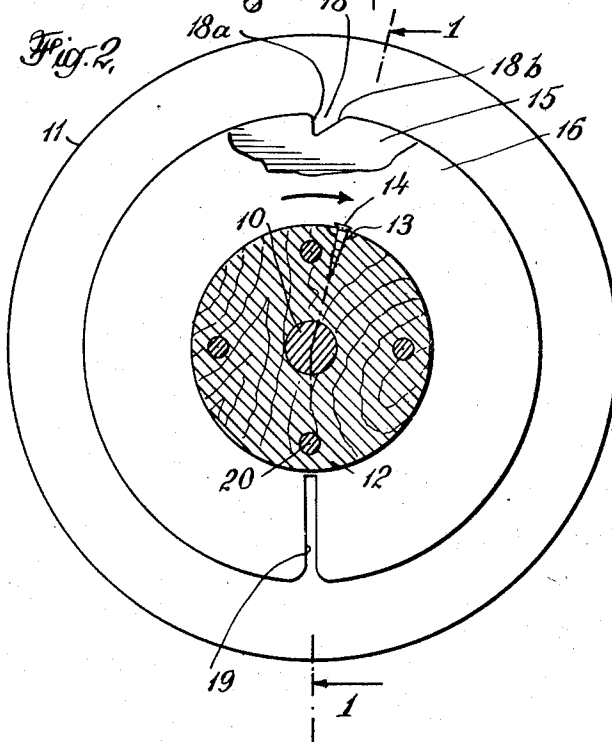
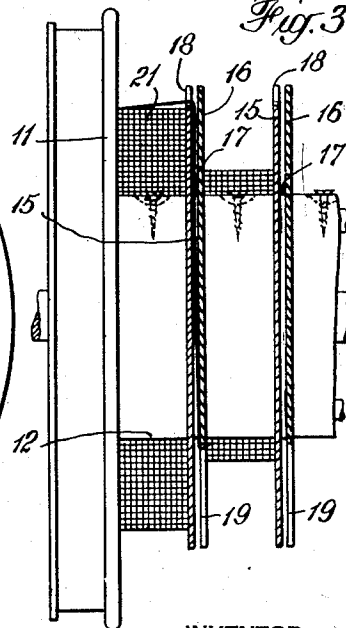


Fig. 3,



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LOOM BEAM

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9 Claims. (Cl. 242—161)

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This invention relates to loom beams, which are employed to take up sized warp yarns issuing from a slasher and are sectionalized by means of separator discs, so that lengths of the yarns may be separately wound on the several sections of the beam. More particularly, the invention resides in a novel sectionalized loom beam which is so constructed that the warp may be transferred from the top layer of a filled section to the bottom of an adjacent unfilled section without stopping the slasher or cutting the warp.

Sectionalized loom beams are used for test or experimental purposes in slashing operations, as, for example, when a section of the warp is to be cut out for sampling purposes, for determination of its moisture content, etc., or, when different sections of the warp are to be kept separate, because the yarns therein differ in yarn number or fibre content or in the size mixture applied thereto. Sectionalized beams, as constructed heretofore, have commonly included single separator discs lying between adjacent sections, and, with such a beam, it is necessary to stop the slasher after each section is filled and then cut the warp, fasten the trailing end to keep it from dangling, and attach the leading end of the warp to the beam in the bottom of the next section before the slasher can be started again. The intermittent operation of the slasher and the necessity of performing the various operations described during each of its periods of rest are obviously objectionable but can not be avoided, so long as the prior beams are employed.

The present invention is directed to the provision of a sectionalized loom beam, the use of which permits continuous operation of the slasher, until all sections of the beam are filled, and avoids the necessity of cutting the warp, etc., after the filling of a section is completed. The sections of the new beam are separated by pairs of discs, which are spaced apart a short distance, and one of the discs of each pair is provided near its periphery with means by which the warp from a filled section of the beam may be directed into the space between the discs as the beam rotates. The other disc of each pair is provided with a slot leading inwardly from its outer edge to the level of the bottom of the adjacent beam section. With this construction, the warp from a filled beam section may be caused to enter the space between the pair of discs at the end of the section and may pass therefrom through the slot into the next section to be wound, without stopping the rotation of the beam or interrupting the operation of the slasher. When the entire beam

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has been wound, the warp ends in each space between a pair of discs may be easily cut by a knife, and this makes the ends of the warp in the several sections available for placing in the loom.

For a better understanding of the invention, reference may be made to the accompanying drawing in which

Fig. 1 is a view, partly in longitudinal section on the line 1—1 of Fig. 2, and partly in elevation, of a loom beam embodying the invention;

Fig. 2 is a sectional view on the line 2—2 of Fig. 1; and

Fig. 3 is a fragmentary elevational view showing the use of the new beam.

The sectionalized beam embodying the invention, which is illustrated in the drawing, includes a metal spindle or shaft 10, on which a pair of metal heads or flanges 11 are mounted in spaced relation. A core or barrel is mounted on the spindle between the heads and, in the construction shown, the core is made up of a plurality of similar members 12, which have the form of sections of a cylinder and may be made of wood or other suitable material. The core members have central bores through which the spindle passes and each member has a depression 13 in its surface, into the bottom of which is driven a screw 14. The heads of the screws serve as means for attaching the knotted end of the warp to each section of the core, although ordinarily the warp will be attached to an end section of the core only.

Adjacent core members 12 are separated by a pair of separate discs 15, 16 which have openings for the passage of the spindle and are of a diameter substantially greater than the core members. The discs of each pair are kept apart by a spacer member 17, which is mounted on the spindle and is of the same diameter as the core members. The disc 15 of each pair is provided at its periphery with means for engaging warp threads and, in the construction shown, such means take the form of a notch 18 having a radial trailing edge 18a and an edge 18b leading at an angle from the lower end of edge 18a. The disc 16 of each pair has a narrow slot 19 leading inwardly from its periphery to the surface of the spacer member 17. The slot may be radial, or at an angle to a radius of the disc 16. The discs 15, 16 of each pair may be arranged with their respective notch and slot in any desired arrangement, but preferably the notch and the entrance to the slot are angularly offset 180° and the notches in the several discs 15 are aligned lengthwise of the beam, as are also the slots in discs 16.

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The heads, core members, separator discs, and spacer members are assembled on the spindle in proper relation and then held in place by tie rods 20 passed through openings through the hubs 11a of the discs and through the core members, discs, and spacer members.

In the use of the new beam, it is mounted at the delivery end of the slasher and the ends of the warp to be wound are knotted together and attached to the screw 13 threaded into the core member in the first section of the beam at the left, as shown in Fig. 1. The beam is then rotated in the direction indicated by the arrow, Fig. 2, until the warp has built up to form the mass 21. The warp is then guided by hand or an appropriate mechanism into the notch 18 in the disc 15 and is thence directed into the space between disc 15 and the adjacent disc 16. The warp is next guided through the slot 19 in disc 16 to the bottom of the next section of the beam between disc 16 and the second disc 15. The winding continues until the second section of the beam is filled, whereupon the operations are repeated and the warp is led into the third section of the beam. After the several sections of the beam have been filled, the warp ends extending through the spaces between discs 15, 16 of a pair may be severed by a knife inserted between those discs and the warp ends in each section of the beam are thus made available for placing in the loom.

By the use of the new beam, it is possible, therefore, to wind a warp on the beam in sections without stopping the slasher after each section is filled, cutting the warp, and fastening the trailing end of the warp to prevent it from dangling, and then attaching the leading end of the warp to the next section of the beam. The new beam thus permits sectionalized winding of a warp during a continuous slashing operation.

I claim:

1. A sectionalized yarn beam, which comprises a spindle, a pair of heads mounted in spaced relation on the spindle, a plurality of core members mounted on the spindle between the heads, a pair of discs of greater diameter than the core members mounted between the ends of each pair of adjacent core members, and a spacer mounted on the spindle between the discs of each pair, the spacer being of less diameter than the discs, one disc of each pair having yarn engaging means adjacent its periphery and the other disc of the pair having a slot leading inwardly from its periphery substantially to the surface of the adjacent core member.

2. A sectionalized yarn beam, which comprises a spindle, a pair of heads mounted in spaced relation on the spindle, a plurality of core members mounted on the spindle between the heads, a pair of discs of greater diameter than the core members mounted between the ends of each pair of adjacent core members, a spacer mounted on the spindle between the discs of each pair, the spacer being of less diameter than the discs, one disc of each pair having yarn engaging means adjacent its periphery and the other disc of the pair having a slot leading inwardly from its periphery substantially to the surface of the adjacent core member, and means engaging the heads for drawing them together to hold the core members, discs, and spacers securely in place between them.

3. A sectionalized yarn beam, which comprises a spindle, a pair of heads mounted in spaced relation on the spindle, a plurality of core mem-

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bers mounted on the spindle between the heads, a pair of discs of greater diameter than the core members mounted between the ends of each pair of adjacent core members, a spacer mounted on the spindle between the discs of each pair, the spacer being of less diameter than the discs, one disc of each pair having yarn engaging means adjacent its periphery and the other disc of the pair having a slot leading inwardly from its periphery substantially to the surface of the adjacent core member, and yarn attaching means mounted on at least one of the core members adjacent a head.

4. In a sectionalized yarn beam, the combination of a plurality of yarn-receiving sections, each section consisting of a core and a pair of discs of greater diameter than the core and lying at opposite ends thereof, one disc of each section having a slot extending inwardly from its periphery to the surface of the core, spacers of less diameter than the discs separating adjacent sections, the slotted discs all lying at the same side of the spacers adjacent thereto, and means for holding the sections and spacers in axial alignment.

5. In a sectionalized yarn beam, the combination of a plurality of yarn-receiving sections, each section consisting of a core and a pair of discs of greater diameter than the core and lying at opposite ends thereof, one disc of each section having a slot extending inwardly from its periphery to the surface of the core, and the other disc of the section having yarn-engaging means near its periphery, spacers of less diameter than the discs separating adjacent sections, the sections being similarly disposed with a slotted disc and a disc having yarn-engaging means at opposite sides of each spacer, and means for holding the sections and spacers axially aligned.

6. In a sectionalized yarn beam, the combination of a plurality of yarn-receiving sections, each section consisting of a core and a pair of discs of greater diameter than the core and lying at opposite ends thereof, one disc of each section having a slot extending inwardly from its periphery to the surface of the core, and the other disc of the section having a notch for engaging yarn in its periphery, spacers of less diameter than the discs separating adjacent sections, the sections being similarly disposed with a slotted disc and a notched disc at opposite sides of each spacer, and means for holding the sections and spacers axially aligned.

7. In a sectionalized yarn beam, the combination of a plurality of yarn-receiving sections, each section consisting of a core and a pair of discs of greater diameter than the core and lying at opposite ends thereof, one disc of each section having a slot extending inwardly from its periphery to the surface of the core, and the other disc of the section having yarn-engaging means near its periphery, said yarn-engaging means being angularly offset from the open end of the slot in the related disc, spacers of less diameter than the discs separating adjacent sections, the sections being similarly disposed with a slotted disc and a disc having yarn-engaging means at opposite sides of each spacer, and means for holding the sections and spacers axially aligned.

8. In a sectionalized yarn beam, the combination of a plurality of yarn-receiving sections, each section consisting of a core and a pair of discs of greater diameter than the core and lying at opposite ends thereof, one disc of each section having a slot extending inwardly from its

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periphery to the surface of the core, and the other disc of the section having yarn-engaging means near its periphery, spacers of less diameter than the discs separating adjacent sections, the sections being similarly disposed with a slotted disc and a disc having yarn-engaging means at opposite sides of each spacer, and means for holding the sections and spacers axially aligned, with the open ends of the slots aligned and the yarn-engaging means aligned and angularly offset from the open ends of the slots.

9. A sectionalized yarn beam which comprises a spindle, a pair of heads mounted on the spindle near opposite ends thereof, a plurality of yarn-receiving sections mounted on the spindle between the heads, at least some of the sections each comprising a core and a pair of discs at opposite ends of the core and of greater diameter than the core, one of the discs having a slot extending inwardly from its periphery to the surface of the core, and spacers on the spindle of less diameter than the discs and separating adjacent discs of each pair of adjacent sections,

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the sections being similarly disposed on the spindle so that the slotted discs thereof all have the same relation to the cores of their respective sections.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,468,994	Cook	Sept. 25, 1923
1,559,561	Edinger et al.	Nov. 3, 1925
305,935	Landis	Sept. 30, 1884
956,284	Chaffee	Apr. 26, 1910
2,283,710	Waterbury	May 19, 1942
678,540	Chase	July 16, 1901

FOREIGN PATENTS

Number	Country	Date
340,978	Great Britain	June 18, 1929