United States Patent

Deborde

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[54] DEVICE FOR THE RECOVERY AND REMOVAL OF A FALSE SELVEDGE IN A SHUTTLELESS LOOM

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[52] **U.S. Cl.** **139/304**, 242/47

[51] **Int. Cl.** **D03d 49/20**

[58] **Field of Search** 139/291, 302, 304, 305; 242/47, 54, 82

[56] **References Cited**

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[57] **ABSTRACT**

A false selvedge in a shuttleless loom is recovered by continuously winding the false selvedge under tension on the larger end of a conical bobbin, the wound selvedge moving progressively to the narrower end of the bobbin at which it progressively falls on to the floor or into a storage receptacle.

2 Claims, 4 Drawing Figures

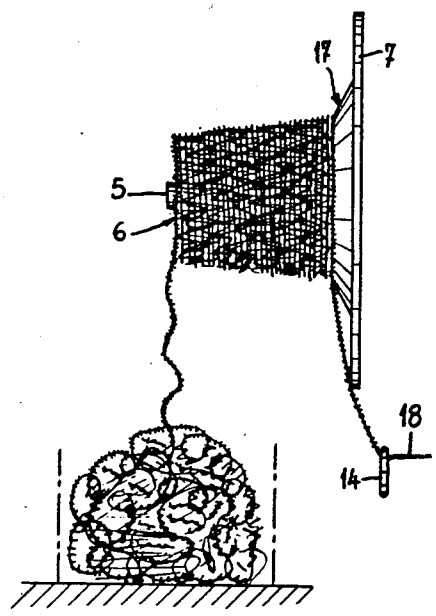


FIG. 1

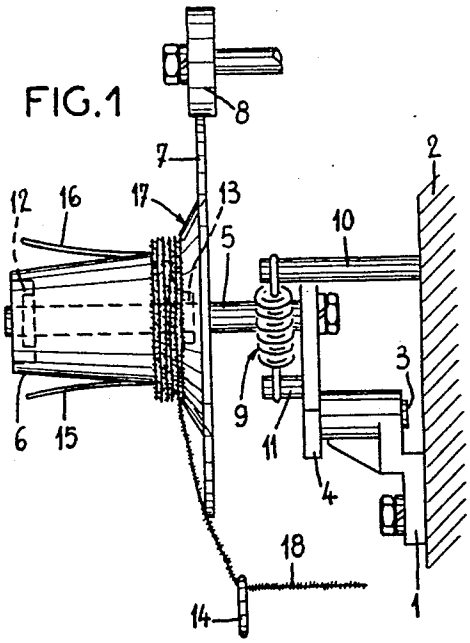


FIG. 2

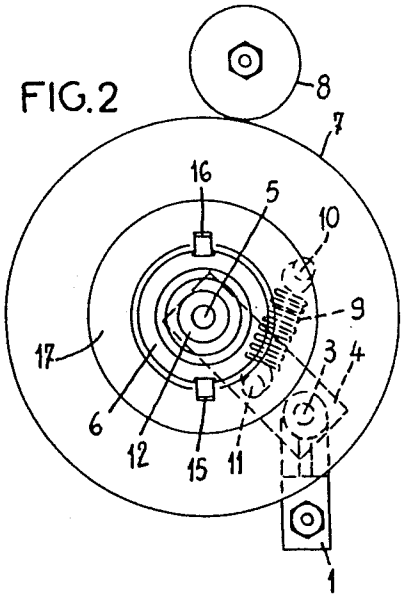


FIG. 3

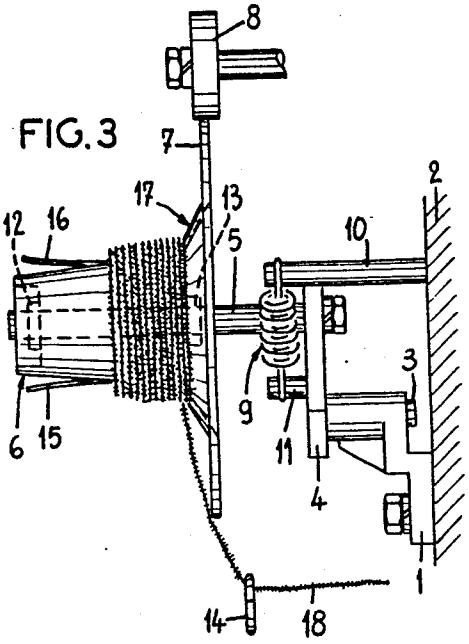
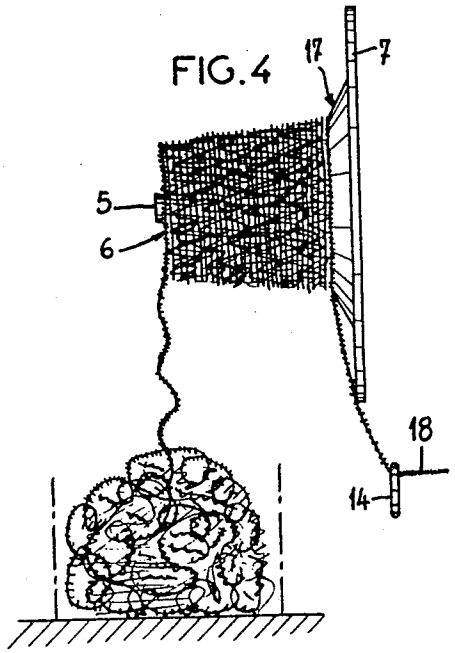


FIG. 4



DEVICE FOR THE RECOVERY AND REMOVAL OF A FALSE SELVEDGE IN A SHUTTLELESS LOOM

Certain elements of looms for weaving without shuttles make it necessary to have at one or both sides of the woven width an excess length of weft forming threads or filaments which extend beyond the said width, i.e. the woven width, and which are linked by threads coming from independent bobbins and controlled by a suitable binding device.

The bound threads are separated from the fabric by any suitable means, mechanical or thermal, and thus form a kind of wick, or roving.

This wick or roving, thus separated, should have a tension more or less equal to that of the fabric and to obtain this tension, the easiest way is to cause the wick to follow the same course, during its winding, as the fabric.

At the outlet from the winding this wick, which constitutes a waste, may be allowed to fall straight on to the floor, or indeed be rolled on to a recovery or salvage bobbin.

In the first case, due to the slight density of this wick and to its adhering structure, there is the risk of it being taken up by the rollers winding up the fabric.

In the second case it is necessary to empty the recovery bobbin periodically.

According to the invention a device for the recovery and removal of a false selvedge in the shuttle-less loom comprises a conical bobbin arranged to be driven in continuous rotation so as to ensure the winding up of the false selvedge under tension, the false selvedge having a stepped distribution on the said bobbin being removed at the side of the said bobbin having the smallest diameter.

One embodiment of the invention ensures the automatic elimination of the said false selvedge or selvedges, which after having been separated from the fabric, mechanically or thermally, follow the fabric in the winding up and accumulate, provisionally, under tension, on a conical bobbin whose rotation is controlled by subsidiary means, before being ejected to the floor.

The invention may be performed in various ways and one specific embodiment will now be described by way of example with reference to the accompanying drawings, in which:

FIG. 1 shows a front elevation of a device in relation to the front of a loom with some winding turns of the false selvedge (wick) on the conical bobbin;

FIG. 2 shows a side elevation thereof;

FIG. 3 is a view similar to FIG. 1 but with the bobbin half full;

FIG. 4 is again a similar view to FIG. 1 but with the bobbin completely full and a certain length of the wick evacuated to the floor.

In order to make the explanation of the invention more easy, only the case of the winding up of a single wick is considered in detail.

A support 1 fixed to the frame 2 of a loom receives an axle 3 integral with a crank 4 which carries a rod 5 on which a conical bobbin 6 can rotate.

This bobbin 6 is provided with a disc 7 which ensures its rotation by contact with a pulley 8 itself driven by an existing motion of the machine or by an independent system.

The pressure of the disc 7 necessary for its drive by the pulley 8 is caused by the action of a spring 9 attached, on the one hand, to a fixed position member 10, and on the other hand to a position member 11 on the crank 4.

The bobbin 6 is positioned laterally by means of stop rings 12 and 13.

The bobbin 6 is provided with flat cambered springs 15 and 16 as well as a conical check 17 connecting it to the disc 7.

To start the drive of the wick 18 it is sufficient, to wind several trims on the bobbin 6 by hand (FIG. 1) after having passed it through a guide ring 14.

The pulley 8 driving, by pressure on the disc 7, the bobbin 6, the wick 18 accumulates in thickness but due to the conical part of the disc 7, this thickness is limited and the wick is distributed over the bobbin 6 (FIG. 3) until it occupies the whole length (FIG. 4).

Due to the fact of the winding, the flat springs 15 and 16 apply themselves against the bobbin 6 and their resilient reaction ensures the maintenance of this winding.

The speed of rotation of the bobbin 6 should be such that it allows a tight winding of the wick 18. This is obtained by means of a suitable speed of the pulley 8, any excess speed being compensated by slipping on the disc 7.

The wick is arranged in stepped fashion on the bobbin. The wick 18 being thus stocked on the bobbin has the tendency of being compressed towards the end thereof, on the one hand, due to the conicity of this bobbin and on the other to the inclined check 17.

Thus, the evacuation or removal of this wick, which may fall directly on to the floor or into a salvage bin, takes place automatically.

I claim:

1. A device for the recovery and removal of a false selvedge in a shuttleless loom comprising a conical bobbin arranged to be driven in continuous rotation so as to insure the winding up of the false selvedge under tension, the false selvedge having a stepped distribution on the said bobbin and being removed at the side of the said bobbin having the smallest diameter, said bobbin being provided with at least one flat spring extending longitudinally thereof and which, under the action of the winding up of the false selvedge, is yieldingly applied against the periphery of said bobbin and insures by reaction the maintenance of the winding on.

2. A device according to claim 1, in which the bobbin is provided with a driving disc arranged to be maintained in resilient contact with a driving pulley, said bobbin and driving disc carried by a crank and urged by a spring towards the pulley so that the pulley resiliently supports the driving disc.

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