

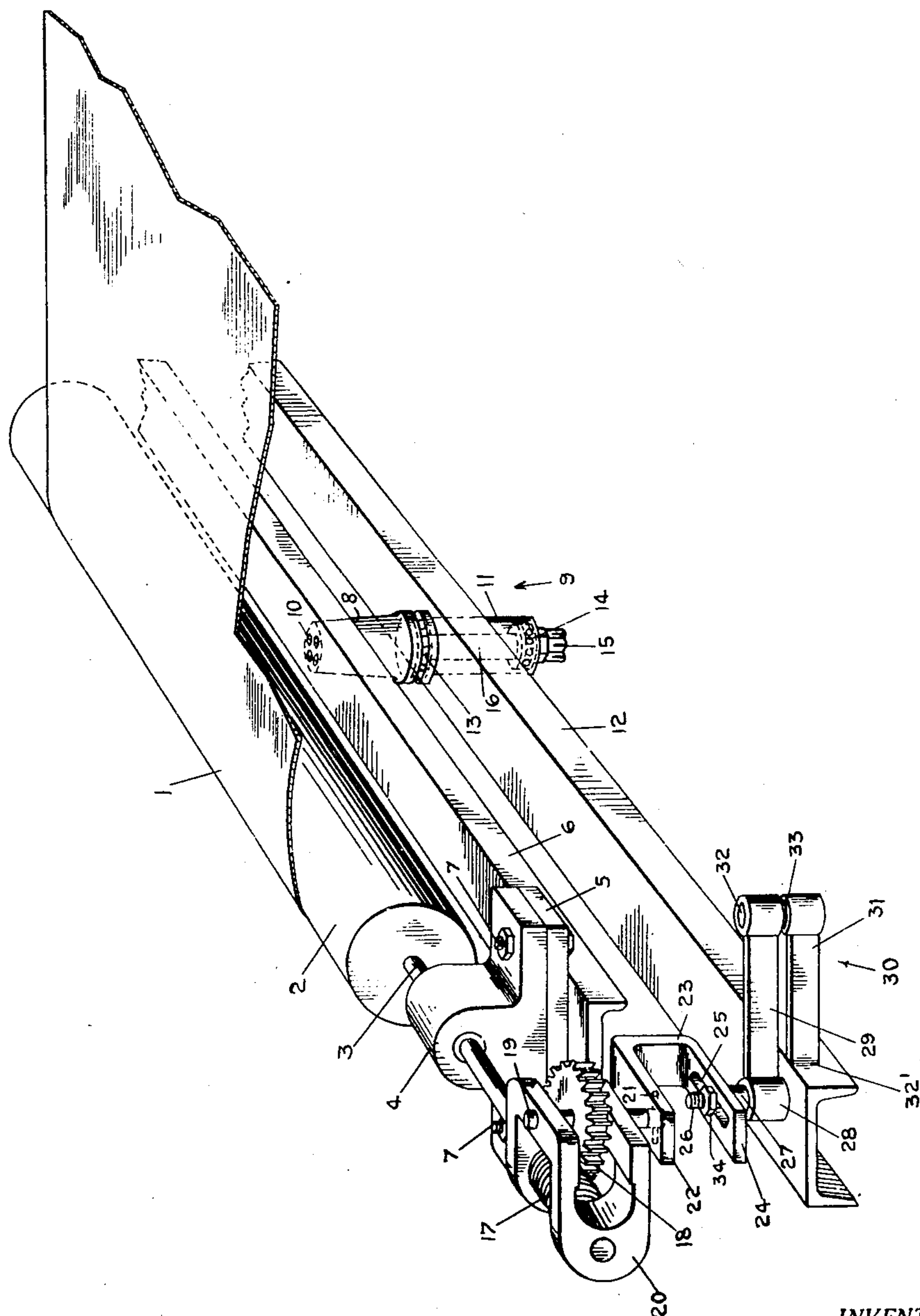
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LAPPING DEVICE

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LAPPING DEVICE

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This invention relates to a textile winding apparatus and relates more particularly to means for winding or batching fabrics on to a take-up roll or shell.

During the processing of fabrics as in dyeing, printing, finishing or the like, the fabrics are normally taken up or wound on rolls or shells. Where no means are provided to avoid it, the fabrics are so wound that the selvages of the fabric are in register and, therefore, tend to pile up to form banks at the ends of the roll of fabric. The piling up of the selvages not only causes a certain amount of undesirable stretching in the selvages but also makes them liable to turn or fall over with the result that the fabric may be excessively creased.

It is, therefore, an important object of this invention to provide improved fabric batching means for feeding a fabric from an idler guide roll to a driven fabric take-up roll or shell whereby the fabric will be shifted from side to side by the guide roll during the operation causing the selvages to be staggered out of register on the take-up roll or shell.

Another object of this invention is the provision of adjusting means whereby the extent of the side-to-side throw of the selvages by the shifting idler guide roll may be increased or decreased, as desired.

Other objects of this invention will appear from the following detailed description and the accompanying drawing.

In the drawing, the figure is a perspective view of a guide roll and a fabric passing over said guide roll showing the means employed for shifting said guide roll from side to side as the fabric is guided to a take-up roll.

Referring now to the drawing, there is shown a fabric 1 passing over a guide roll 2 mounted on a shaft 3 which rotates in bearings 4, only one of which is shown. Bearings 4 are attached to a block 5 which is attached to channel-iron support 6 by means of bolts 7. Support 6 is mounted on the upper portion 8 of a pivot assembly generally indicated by reference numeral 9 by means of screws 10. The lower portion 11 of pivot assembly 8 is set in a second channel-iron support 12. Between the upper portion 8 and the lower portion 11 of said pivot assembly 9 there is provided a suitable ball thrust bearing 13, and a radial ball bearing 14, the bearings being so situated as to allow free pivotal movement between supports 6 and 12. The pivot assembly is held together by a nut 15 threaded on to a shank 16 integral with the upper portion 8 of pivot as-

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sembly 9. Support 12 is suitably supported by the machine frame (not shown).

Shaft 3 carries a worm 17 keyed thereto which meshes with a worm gear 18, keyed to a shaft 19, rotatably mounted in a bracket 20 which also serves as an auxiliary bearing for shaft 3. Fixed to shaft 19, as by a pin 21, is the upper arm 22 of a U-shaped connecting link 23. The other arm 24 of link 23 is provided with a slot 25 through which is adapted to pass the threaded end 26 of a shaft 27 rotatably mounted in a bearing 28 which is part of the upper arm 29 of a hinge linkage generally indicated by reference numeral 30. The lower arm 31 of said linkage is welded at 32' to support 12. Upper arm 29 of hinge linkage 30 is pivotally mounted in the fixed lower arm 31 by means of a pin 32 press-fitted into said upper arm and projecting into a suitable recess or bearing 33 provided in lower arm 31. The position in the slot 25 of threaded end 26 of shaft 27 may be adjusted and held in adjusted position by means of a locknut 34.

The staggering of the fabric selvedge is effected automatically by our novel device during the normal rotation of guide roll 2 as fabric 1 passes over said guide roll on the way to the take-up roll (not shown). The rotation of guide roll 2 rotates shaft 3 and worm 17 keyed thereto, which causes worm gear 18 and shaft 19 on which it is mounted to rotate also. Shaft 19 is pinned to link 23 and the rotation of shaft 19 rotates the latter. When shaft 27 is so adjusted in slot 25 that it is in line with rotating shaft 19, link 23 merely rotates and no throw of guide roll 2 about pivot 8 is produced. When, however, the axis of shaft 27 is out of line with the axis of shaft 19, the rotation of link 23 caused by the rotation of guide roll 2 produces an eccentric motion which causes guide roll 2 to oscillate back and forth on pivot 9 while remaining in the same plane. This oscillating movement of guide roll 2 gives a side-to-side movement to fabric 1 passing over the guide roll 2 and, therefore, staggers the selvages as the fabric is batched on the take-up roll so that stretched or turned selvages are avoided. The extent of the oscillating movement of guide roll 2 is determined by the position at which shaft 27 is fixed in slot 25 by locknut 34.

It is to be understood that the foregoing detailed description is given merely by way of illustration and that many variations may be made therein without departing from the spirit of our invention.

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Having described our invention, what we desire to secure by Letters Patent is:

1. In a device for winding fabrics on to a driven take-up roll, means for shifting the fabric laterally during the winding thereof comprising a guide roll movable by the moving fabric, a shaft for said guide roll, bearings for journaling said shaft, a support for said bearings, a pivot intermediate said bearings on which said support is mounted, and means actuated by the rotation of said guide roll for rocking said support and guide roll in a horizontal plane, said latter means including a worm fixed to and rotatable with said shaft, a worm gear meshing with said worm and an eccentric link operably connected to said worm gear.

2. In a device for winding fabrics on to a driven take-up roll, means for shifting the fabric laterally during the winding thereof comprising a guide roll movable by the moving fabric, a shaft for said guide roll, bearings for journaling said shaft, a support for said bearings, a pivot on which said support is mounted, and means actuated by the rotation of said guide roll for rocking said support and guide roll in a horizontal plane, said latter means including a worm fixed to and rotatable with said shaft, a worm gear meshing with said worm, a shaft supporting said worm gear and rotatable therewith, a rotatably mounted U-shape link having one arm attached to said latter shaft and means adjustably connected to the other arm of said link for producing a crank motion on rotation of said guide roll.

3. In a device for winding fabrics on to a driven

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take-up roll, means for shifting the fabric laterally during the winding thereof comprising a guide roll movable by the moving fabric, a shaft for said guide roll, bearings for journaling said shaft, a support for said bearings, a pivot on which said support is mounted, a relatively fixed support for said pivot, and means actuated by the rotation of said guide roll for rocking said support and guide roll in a horizontal plane, said latter means including a worm fixed to and rotatable with said shaft, a worm gear meshing with said worm, a shaft supporting said worm gear and rotatable therewith, a rotatably mounted U-shape link having one arm attached to said latter shaft, and a lever arm having one end adjustably attached to the other arm of said link, the other end of said lever arm being operatively connected to said fixed support whereby on the rotation of said guide roll by the moving fabric, a crank motion is produced.

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REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
1,958,692	Besal et al. _____	May 15, 1934
2,037,086	Nash _____	Apr. 14, 1936
2,220,613	Parkes et al. _____	Nov. 5, 1940
2,353,653	Croft et al. _____	July 18, 1944