

A. H. DE VOE.
STRIP WINDING DEVICE.
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1,334,652.

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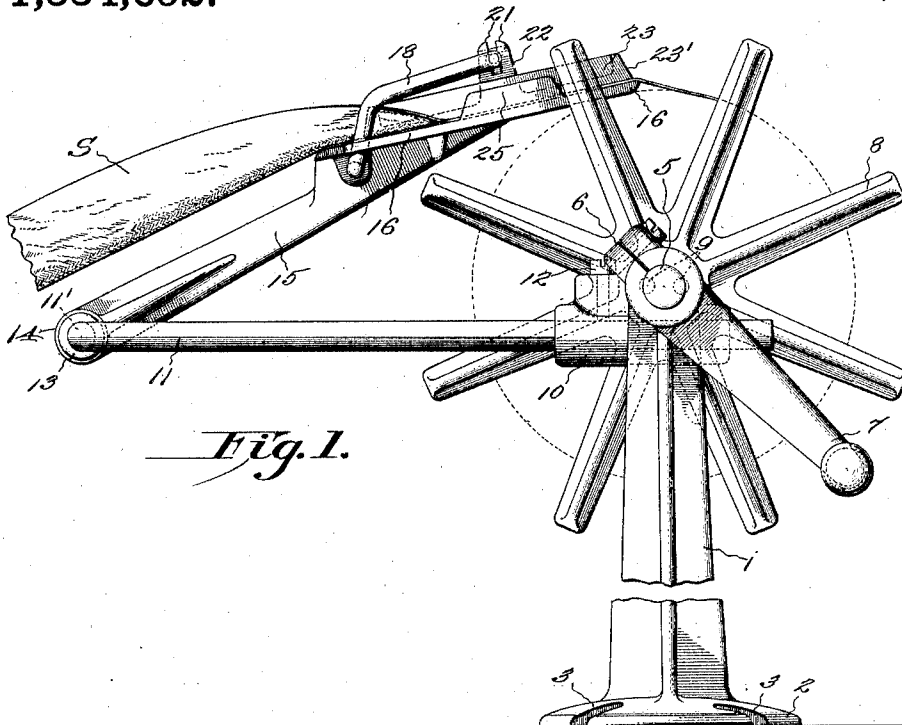


Fig. 1.

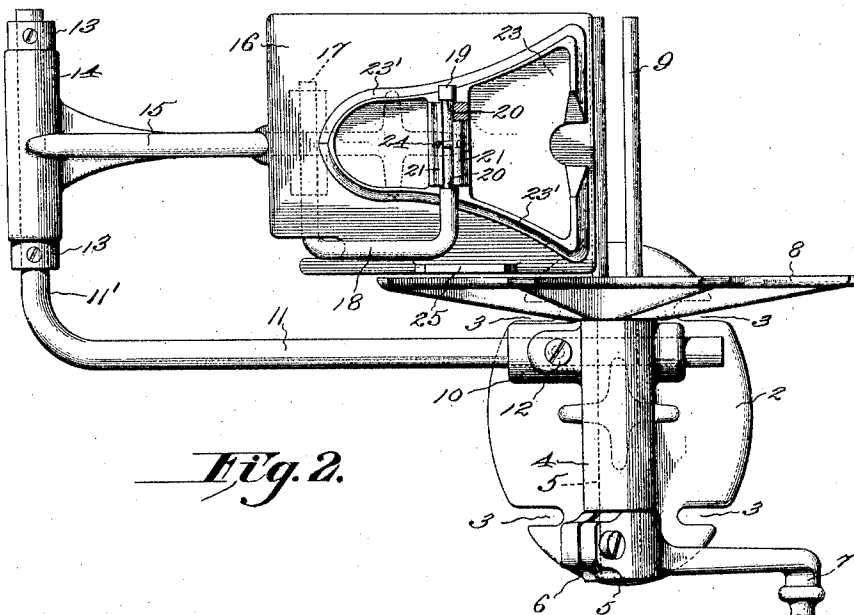


Fig. 2.

WITNESSES:

Wm. M. D. Durrall
Walter L. Tipton

INVENTOR

Albert H. De Voe
BY *Henry J. Miller*
ATTORNEY

UNITED STATES PATENT OFFICE.

ALBERT H. DE VOE, OF WESTFIELD, NEW JERSEY, ASSIGNOR TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

STRIP-WINDING DEVICE.

1,334,652.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT H. DE VOE, a citizen of the United States, residing at Westfield, in the county of Union and State

of New Jersey, have invented certain new and useful Improvements in Strip-Winding Devices, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to strip winding devices for rolling up bias cut strips of material in a smooth compact condition convenient for subsequent use on a sewing machine in binding or other operations. Bias cut strips curl and rope up when free to assume whatever condition they will and for this reason it is desirable to iron them flat and to wind them under a moderate amount of tension into a compact roll. The present invention provides a simple and inexpensive construction for doing so with little or no more skill on the part of the operator than is required to handle non-bias cut strips or tape. It also aims to expedite removal of the roll when completely wound and to capacitate the device for strips of different widths, from the widest to the narrowest that are likely to be used in subsequent stitching operations.

In its embodied form the invention comprises a one-sided reel on opposite sides of whose axis are disposed a pair of pins. The reel is rotatably supported in a standard sustaining horizontally a rod at the free end of which is pivoted an arm movable in a plane transverse the axis of the reel. On the arm is conveniently secured a base-plate having a smooth upper surface for coöperation with an ironing plate of nearly triangular form which is articulated to a link for movement relative to the base-plate about angularly disposed axes parallel therewith, while the link is hinged to the arm supporting the base-plate to permit separation of the ironing and base-plates for convenient introduction between them of a bias cut strip. The base and ironing plates are adapted to move outward in a nearly radial direction as the material accumulates, constantly maintaining a light pressure on the material already wound as well as uncurling and applying tension to the strip in its passage to the reel. An edge-guide is provided on the base-plate adjacent the spider forming the side of the reel and the

rod, to which the arm carrying the base-plate is pivoted, is adjustable in the standard for convenience in locating the ends of the base and ironing plates relative to the axis of the reel.

The invention is illustrated in the accompanying drawings in which, Figures 1 and 2 are side and plan views respectively of the attachment.

The reel is supported by a standard 1 having a foot 2 notched as indicated at 3 to receive suitable fastening screws. At the upper end of the standard 1 a bearing 4 is provided for a shaft 5 embraced at one end by the split collar 6 of a crank 7 and carrying at its other end a spider 8 which constitutes one side of the reel. Pins 9 project laterally from the spider 8 in parallelism a short distance on either side of the axis of the shaft 5 prolonged.

Beneath the bearing 4 is transversely disposed a boss 10 apertured horizontally to receive a rod 11 adjustably secured therein at one end by the screw 12. The other end of the rod 11 is bent as indicated at 11' into parallelism with the axis of the reel and adjustably secured thereon are the spaced collars 13 between which is confined the elongated sleeve 14 of an arm 15 carrying at its free end a base-plate 16 having a smooth upper surface.

Beneath the base-plate 16 the arm is drilled in a direction parallel to the axis of the reel to receive the bent end 17 of a U-shaped link 18 whose other bent end 19 is also arranged in parallelism with the axis of the reel and is reduced to form the restraining shoulders 20 between which are loosely confined the ears 21 of a lug 22 integral with an ironing plate 23 which is substantially triangular and has its sides 23' inclined upwardly toward each other. A pin 24 passed through the ears 21 holds the ironing plate loosely in place. Preferably the shoulders 20 are farther apart than the width of the ears 21 to permit movement of the ironing plate 23 about angularly disposed axes which are parallel to the base-plate 16. By hinging the end 17 of the link 18 to the arm 15 in the manner disclosed, separation of the ironing plate 23 from the base-plate 16 is permitted for convenient introduction of the strip between them and for the accommodation of different thicknesses of material. An edge-guide 25 integral with the

base-plate 16 is also provided for guiding one edge of the tape while it is being wound.

In the use of the attachment the operator lifts on the link 18 to separate the ironing plate 23 from the base-plate 16 and introduces the strip therebetween with a short length projecting. This short projecting end is inserted between the pins 9 and the crank 7 rotated to wind the strip into a roll. As the strip accumulates the base-plate which rests upon the already wound strip and the ironing plate which rests upon the strip passing to the reel both move in a nearly radial direction away from the axis of the reel. Thus in a neat and efficient manner the operator is enabled to wind bias cut strips into a roll simultaneously uncurling and tensioning the strip as it passes to the reel. After the roll is wound the strip may be cut off from the supply. Then the operator may grasp the roll and pull it off of the pins 9 having previously swung the arm 15 up out of the way if desired.

It will be noticed that the attachment is capable of handling various widths of bias cut strips and that the edge-guide carried by the base-plate will space one edge of the strip as it is being wound a sufficient distance from the spokes of the spider 8 to prevent the raw edges curling about the sides of the spokes in a manner likely to resist removal of the wound roll from off the pins 9.

Having thus set forth the nature of the invention, what I claim herein is—

1. In a strip winding device, in combination, a reel, a standard supporting said reel, an arm sustained by said standard and adjustable thereon, and means pivoted to the arm at one side of the axis of the reel for uncurling and tensioning a strip while it is being wound.

2. In a strip winding device, in combination, a reel, a standard supporting said reel, an arm sustained by said standard, and means pivoted to the arm at one side of the axis of the reel for uncurling and tensioning a strip while it is being wound, said means comprising a base-plate and an ironing plate pivoted to the base-plate.

3. In a strip winding device, in combination, a reel, a standard supporting said reel, an arm sustained by said standard, and means pivoted to the arm at one side of the axis of the reel for uncurling and tensioning a strip while it is being wound, said means comprising articulated base and ironing plates, the latter of which is movable about angularly disposed axes parallel with the axis of the reel.

4. In a strip winding device, in combination, a reel, a standard supporting said reel, an arm sustained by said standard, and means pivoted to the arm at one side of the axis of the reel for uncurling and tensioning a strip while it is being wound, said means

comprising a base-plate and an ironing plate pivoted to the base-plate, and means preventing substantial endwise displacement of one plate relative to the other.

5. In a strip winding device, in combination, a reel, a standard supporting said reel, an arm sustained by said standard, means pivoted to the arm at one side of the axis of the reel for uncurling and tensioning a strip while it is being wound, said means comprising base and ironing plates, and a link hinged to both plates for permitting separation thereof.

6. In a strip winding device, in combination, a one-sided reel having a bifurcated arbor, a supporting standard in which said reel is rotatably mounted, an arm secured transversely in said supporting standard and adjustable both radially and longitudinally, an uncurling and ironing device pivoted to said arm and movable nearly radially of the reel whereby a strip of bias material may be wound smooth and firm into a roll.

7. In a strip winding device, in combination, a one-sided reel having a pair of pins disposed on opposite sides of its axis, means for rotating said reel, a standard in which said reel is rotatably supported, a rod supported by said standard and having a bent end disposed in parallelism with the axis of the reel, an arm pivoted on the bent end of said rod, a base-plate carried by said arm, a link at one end journaled in said arm, and an ironing plate articulated to the other end of said link and movable thereon about angularly disposed axes parallel to the base-plate, the ends of said base and ironing plates being movable in a substantially radial direction relative to the axis of the reel.

8. In a strip winding device, in combination, a one-sided reel, a standard rotatably supporting said reel, means for uncurling and ironing the strip while it is being wound, and means mounted on the first said means for guiding an edge of the strip while it is being wound, said uncurling and ironing means being governed by the accumulating material.

9. In a strip winding device, in combination, a reel, a standard rotatably supporting the reel, a rod sustained transversely of and by the standard, an arm pivoted to said rod for movement in a plane at right angles to the axis of the reel, and means carried by said arm for uncurling and tensioning the strip while it is being wound including articulated base and ironing plates, said ironing plate being approximately triangular in shape and having its sides inclined upwardly toward each other.

10. In a strip-winding device, in combination, a supporting standard, a reel supported by said standard, an arm supported by said

standard and provided with a bearing disposed substantially parallel with the axis of the reel, a base-plate pivoted on said bearing, an ironing plate adapted to cooperate
5 with said base-plate, and a link pivoted at one end to said base-plate and at the other end to said ironing plate.

11. In a strip-winding device, in combination, a support, a reel pivoted to said support, a base-plate pivoted at one side of the
10 axis of the reel, an ironing plate, and a substantially U-shaped link pivoted at one end

to the base-plate and at the other end to the ironing plate.

12. In a strip-winding device, in combination, a reel, a support for said reel, means
1 pivoted at one side of the axis of the reel for uncurling and tensioning a strip while it is being wound, said means comprising base
and ironing plates, and a link pivoted to both
20 plates for permitting separation thereof.

In testimony whereof, I have signed my name to this specification.

ALBERT H. DE VOE.