Nov. 26, 1929. L. E. MEYER 1,737,258

WINDING MACHINE

Filed June 4, 1928

Fig. 1.

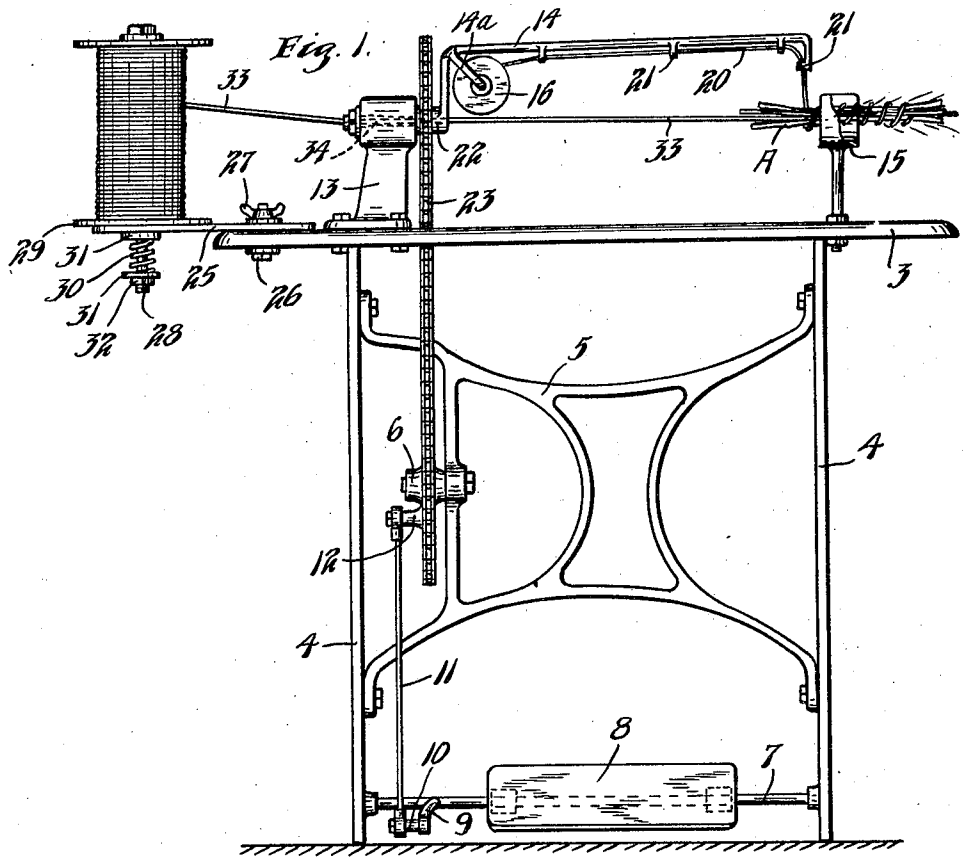
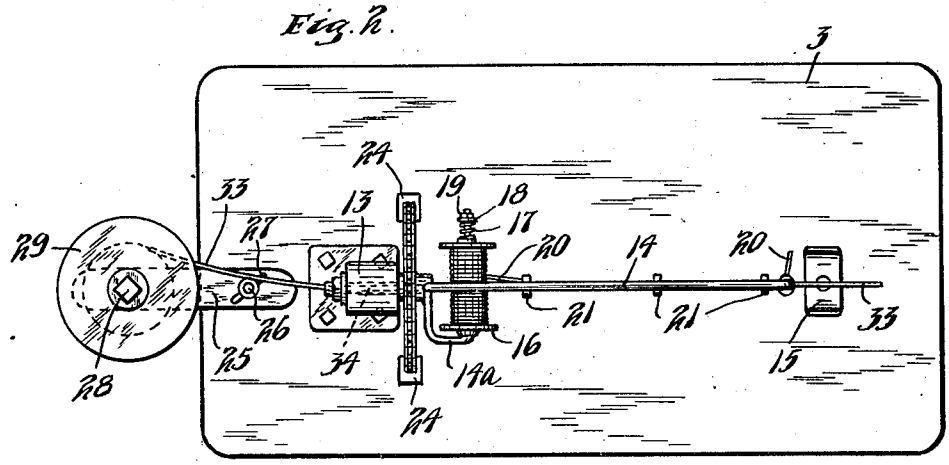


Fig. 2.



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WINDING MACHINE

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This invention relates to winding machines and particularly to machines for constructing festooning.

It is the object of this invention to provide a novel and improved machine which is of cheap and simple construction and can be conveniently and readily operated for binding flowers, twigs, leaves and other small articles together into festoons.

To this end the invention consists in the novel parts and novel combinations of parts, hereinafter defined in the claims and described in the following specification, made in connection with the accompanying drawings, wherein like reference characters refer to the same or similar parts throughout the various views and, in which,

Fig. 1 is a view in side elevation of the machine, and

Fig. 2 is a plan view of the machine.

Referring to the drawings, a suitable supporting table is provided comprising the top 3, legs 4 and the center yoke 5 binding the legs together and affording a bearing for a large sprocket wheel 6. A treadle shaft 7 is journaled adjacent the lower ends of the legs 4, has a treadle 8 mounted thereon and is provided with an arm 9 adjacent one end carrying a pin 10. A pitman rod 11 pivoted at its lower end on the pin 10 extends upwardly therefrom, and is pivoted at its upper end on a pin 12 eccentrically mounted on the sprocket 6. The construction thus far described is quite similar to the operating mechanism for a treadle operated sewing machine. A bracket 13 is secured to the top 3 adjacent one end thereof, and projects upwardly a short distance from the top to form a bearing for the rear end of a crank shaped arm 14. The arm 14 projects forwardly from the bracket 13 for a short distance, then extends normal to the journaled portion and then projects forwardly parallel to the journaled portion for a considerable distance, and at its extreme forward end the arm is bent normal to the long forwardly extending portion toward the axis about which the arm may turn. A work support 15 is secured to the top 3 of the table adjacent its forward end and extends upwardly from the top of the table to a point about level with the axis about which the arm 14 may turn. The work support 15 includes a standard bolted to the table top 3 and a concave upwardly extending work holding portion. Mounted adjacent the rear end of the arm 14 is a reel spindle 14^a carrying a reel 16 thereon. A coiled spring 17 extends around and reacts between one side of the reel 16 and a washer 18 held in place on the end of the reel spindle 14^a by means of a nut 19. A cord 20 is wound at one end on the reel 16 and extends forwardly along the arm 14 through guides 21 formed at spaced intervals throughout the length of the arm and at the forward end thereof. A small sprocket 22 is secured to the arm 14 immediately forward of the bracket 13, and an endless sprocket chain 23 runs over the two sprocket wheels 6 and 22 and through small aperture 24 provided in the proper positions in the table top 3.

An arm 25 is pivotally mounted on a bolt 26 on the table top 3 at its rear end immediately behind the bracket 13, and the outer end of the said arm may be held in a desired adjusted position laterally from the bracket 13 by means of a wing nut 27 threaded on the upper end of the bolt 26 and acting against a washer placed above the arm 25. The outer end of the arm 25 carries a vertical bolt 28 which forms a spindle shaft for a reel 29. Friction is placed on the reel to prevent the free rotation thereof, by means of a coiled spring 30 extending about the lower portion of the bolt 28 below the arm 25 and reacting between two washers 31, one of which abuts the lower side of the arm 25 and the other of which abuts a nut 32 threaded on the lower end of the bolt 28. A cord 33 is wound at one end on the reel 29 and extends forwardly therefrom through an axial opening 34, in the journaled portion of the arm 14, to the work holder 15.

The letter A indicates a number of small twigs which have been partially bound together by the machine to form a festoon. In using the machine, an operator will sit at the table with his feet on the treadle 8 in the manner of an operator for a sewing machine. A number of twigs, small branches or other

work to be bound together into a single festoon is then placed on the concave portion of the work holder 15. This work will be disposed substantially axially respective to the axis about which the arm 14 may rotate. The forward end of the cord 33, if not already extending through the opening 34, will be threaded therethrough and will be pulled forwardly to the work holder 15 and the work A to be operated upon will be placed about the cord 33. The forward end of the cord 20, if not already extending through guides 21, will be so extended and will be pulled downwardly and twisted once or twice about the cord 33 and the work A extending thereabout. The operator may now rotate the arm 14 by pressing on the treadle 8 in the usual manner, whereupon the forward end of the arm 14 will rotate about the cord 33 and the work A as an axis, thereby causing the cord 20 to be wound about the work to bind the different portions of the work together. As rotation of the arm 14 continues, the operator will place additional twigs or other portions of work on the work holder 15 so that the stems extend rearwardly toward the bracket 34, and at the same time the operator will pull on the bound up portion of the work to cause the bound portion or festoon to move forwardly to pay out the cord 33. When a sufficient quantity of twigs or other work A have been bound together into a single long festoon, the operator will cut the two cords 33 and 20 close to the rear end of the festoon to permit the removal thereof.

The inventor particularly contemplates using cords 20 and 33 which are composed from semi-flexible wire. She prefers to form the cord 33 of stiffer and heavier wire than the cord 20. If desired, however, rope, twine or similar flexible material may be substituted for the cords 20 and 33. The inventor also contemplates the use of a rigid rod which will extend through the opening 34 in place of the cord 33. When such a rod is used, the arm 25 will be swung to one side of the axial center of the bracket 13. Where a flexible cord 33 is utilized, or a semi-flexible cord, such as wire, is used, it is quite desirable that the cord be tightly stretched between the bracket 13 and the work holder 15. By swinging the arm 25 relative to the bolt 26 and securing the outer end of the arm at various positions laterally, in respect to the bracket 13, the friction on the cord 33 may be varied considerably due to the fact that the direction of extension of the cord may be varied relative to the direction of extension of the opening 34 through the journaled end of the arm 14. The tension of the spring 30 may be varied by tightening or loosening the nut 28 to vary the ease with which the cord 33 will be payed out from the reel 29. Similarly, the tension of the spring 17, situated about the spindle 14a, may be varied by loosening or tightening the nut 19 to vary the ease with which the cord 20 may be payed out from the reel 16.

It will be seen that the cord 33 will form a central directrix and guide member about which the cord 20 may be wound. The number of turns of the cord 20, which may be taken about a given portion of the work, may be varied by varying the pull on the festoon in an outward direction.

The inventor has successfully demonstrated the device in actual practice and has found the machine to be most efficient for the purposes described. It will, of course, be understood that various changes may be made in the form, details, arrangement and proportions of the various parts without departing from the scope of the present invention.

What is claimed is:

1. A winding machine for constructing festooning and the like, comprising a supporting table, a work support secured to the top of said table to extend above the same, a bearing secured to the upper side of said table to extend above the same and in spaced relation from said work support, an arm journaled in said bearing and having a portion projecting to a point adjacent said work support in eccentric relation to the axis about which said arm may rotate, said bearing having a central opening therethrough to permit a central guide member to be projected through the opening and from said bearing to said work support, means on said arm permitting a cord to be extended therethrough and to be carried from the portion of said arm adjacent said work support downwardly to said work support, a treadle mounted in said table, a sprocket mounted in said table, a sprocket mounted on said arm, a pitman connecting said treadle and said first mentioned sprocket and a sprocket chain running over said sprockets.

2. A winding machine for constructing festooning and the like, comprising a support upon which various pieces of work to be bound together may be held, a bearing mounted in spaced arrangement from said support and having its axial center substantially coincident with the central work supporting surface of said support, an arm journaled in said bearing and extending therefrom eccentric to its axis to a point adjacent said support, said arm having an axial opening extending through its journaled portion, an arm adjustably mounted rearwardly of said bearing for variably positioning of its outer end laterally relative to said bearing, a reel mounted on the outer end of said second mentioned arm, said reel being adapted to support a cord to permit the same to be extended through said axial opening in said first mentioned arm to said support, a reel

mounted on said first mentioned arm to permit a cord to be wound thereon and extended through the eccentric portion of said first mentioned arm to be secured to work carried on said work support, means for rotating said first mentioned arm, said second mentioned arm being adjustable laterally relative to said bearing to vary the ease with which the first mentioned cord when wound on said first mentioned reel may run through said axial opening.

In testimony whereof I affix my signature.

LIZZIE E. MEYER.