MACHINE FOR MAKING TUBULAR BINDING.

1,348,051.

To all whom it may concern:

Be it known that I, PAUL D. REDCAY, a citizen of the United States, and a resident of Royersford, county of Montgomery, State of Pennsylvania, have invented certain Improvements in Machines for Making Tubular Binding, of which the following is a specification.

The object of my invention is to provide a machine for making tubular knitted fabrics which are used as binders and straps for underwear, and are made out of flat fabric folded and united at the edges and spoiled so that when the binder is applied to the goods it is free of twist and perfectly flat.

In the accompanying drawings:—

Figure 1, is a perspective view showing sufficient of the mechanism to illustrate my invention:

Fig. 2, is a front elevation of the spooling device;

Fig. 3, is an end view of the spooling device looking in the direction of the arrow, Fig. 2.

The numeral 1 indicates sufficient of a sewing machine head to illustrate my invention, having a presser foot 2 and needle 3 on the frame 4. The machine is mounted on a suitable table 5 located in front of the sewing machine and in line with the presser foot is a folder 6 which passes the fabric 7 from a roll 6 mounted on any suitable spool. This folder has a curved flat portion 7 around which the fabric 7 passes and has a portion 8 which folds the fabric 7, as clearly shown in Fig. 1. The two edges of the fabric are presented in line with the needle so that as the material passes under the presser foot the needle makes the overcasting stitch, fastening the two edges together, making a tubular strip. This tubular strip is then wound in a flat condition on a spool and the spool is removed from the machine and located by the operator in another machine for attaching the tubular fabric to underwear as a binding. The fabric can also be used in a single or double width as a shoulder strap for undergarments, if desired.

The spooling device is constructed as follows:—10 is a frame mounted on rollers 11 which are adapted to travel on a table 14. This frame has a fixed upright 12 and a movable upright 13 hinged at 14 to the base of the frame 10. On the upright 13 is a spring catch 15 which engages a notched plate 16 on the base and this holds the upright 13 in a vertical position. On releasing the spring catch from the plate 16, the upright 13 can be turned down on its pivot to allow for the removal of the spool. The spool is mounted on the shaft 17 adapted to bearings 18 and 19 carried by the uprights 12 and 13, respectively. On one end of this shaft is a grooved wheel 20 around which passes a belt 21 from a grooved wheel 22 arranged to slide on a shaft 23 adapted to bearings 24 secured to the under side of the table 4. The shaft has a spline 25 so that while the wheel 22 can slide on the shaft it can turn with 26 around which passes a belt from any suitable source of power.

On the frame 10 is a bracket 27 which engages the wheel 22 as shown in Fig. 2. This bracket 27 extends through a slot 28 in the table. There is a slot 29 on each side of the slot 28 for the passage of the belt 21. The operator can move the frame 10 over the table so as to allow the fabric 7 to be wound evenly on the spool 9. The spool 9 is detachably mounted on the shaft 17 and is driven by friction from the shaft. On the shaft is a friction disk 30, which bears against one end of the spool, and on the opposite side is a sleeve 31, and mounted between the sleeve 31 and a fixed collar 32 on the shaft is a spiral spring 33, which tends to keep the sleeve 31 against the end of the spool and presses the spool with sufficient force against the friction disk to allow the friction disk to drive the spool and wind the material thereon as it is received from the folding and stitching mechanism.

34 is a handle which projects laterally from the frame and within easy reach of the operator. When it is desired to remove the spool, after it has been filled, the movable upright 13 is released by pressing the catch 15 and it falls so that the collar, sleeve and spring can be withdrawn from the shaft 17, after which the spool can be detached and another spool placed in position.

By the above construction it will be seen that I am enabled to make a tubular fabric from flat knit goods, uniting the edges of the fabric by an overseam stitch. The fabric described above is of a given width and is taken from a coil and passed through a folding device and then under the presser.
foot of a sewing machine, and the needle mechanism makes an overseam stitch, attaching the two edges of the folded material together, forming a closed tube. This tubular fabric is then coiled flat, with the seam at one edge, on the spool and when the spool is filled it is removed from the machine and another spool is substituted for it.

I claim:

1. The combination in a machine for making tubular fabric, of a device for folding the fabric; a machine for uniting the edges of the fabric; a spool mounted to receive the fabric in a flat condition with the stitching at one edge; means for driving the spool so as to take up the fabric as it is stitched; and means for causing the spool to travel in the direction of its axis and transversely to the direction of feed of the fabric.

2. The combination in a machine for making a tubular fabric, of a device for folding the fabric; a machine for uniting the edges of the fabric; a spool mounted to receive the stitched fabric in a flat condition; means for driving the spool so as to take up the fabric as it is stitched; a reciprocable frame on which the spool is mounted; and means for moving the frame in the direction of its axis and transversely of the direction of feed of the fabric so as to allow the fabric to be wound evenly on the spool.

3. The combination in a machine for making a tubular fabric with a seam at one edge, of a reciprocable frame; a shaft mounted on the frame; a spool carried by the shaft; means for frictionally driving the spool from the shaft; a driving shaft; a pulley arranged to move longitudinally on and turn with the driving shaft; a belt passing around the pulley and around a pulley on the driven shaft; and means for allowing the frame to be moved laterally of the direction of travel of the fabric so that the fabric will be wound evenly on the spool.

4. The combination of a table; means for folding and stitching a fabric; a reciprocable frame; rollers supporting the frame on the table; uprights on the frame; a shaft carried by said uprights, one of said uprights being movable; a friction disk on the shaft; a spool carried by the shaft and driven by the disk; a spring mounted on the shaft on the opposite side of the spool for yieldingly holding the spool against the friction disk; a pulley on the shaft; a splined driving shaft under the table; a pulley slidably mounted on the said shaft; and means on the frame engaging the pulley so that when the frame is moved the pulley will move with it.

In witness whereof I affix my signature.

PAUL D. REDCAY.