Feb. 3, 1925. 1,524,707

M. K. GOLDEN

PINKING AND WINDING MACHINE

Filed July 2, 1924 3 Sheets-Sheet 1

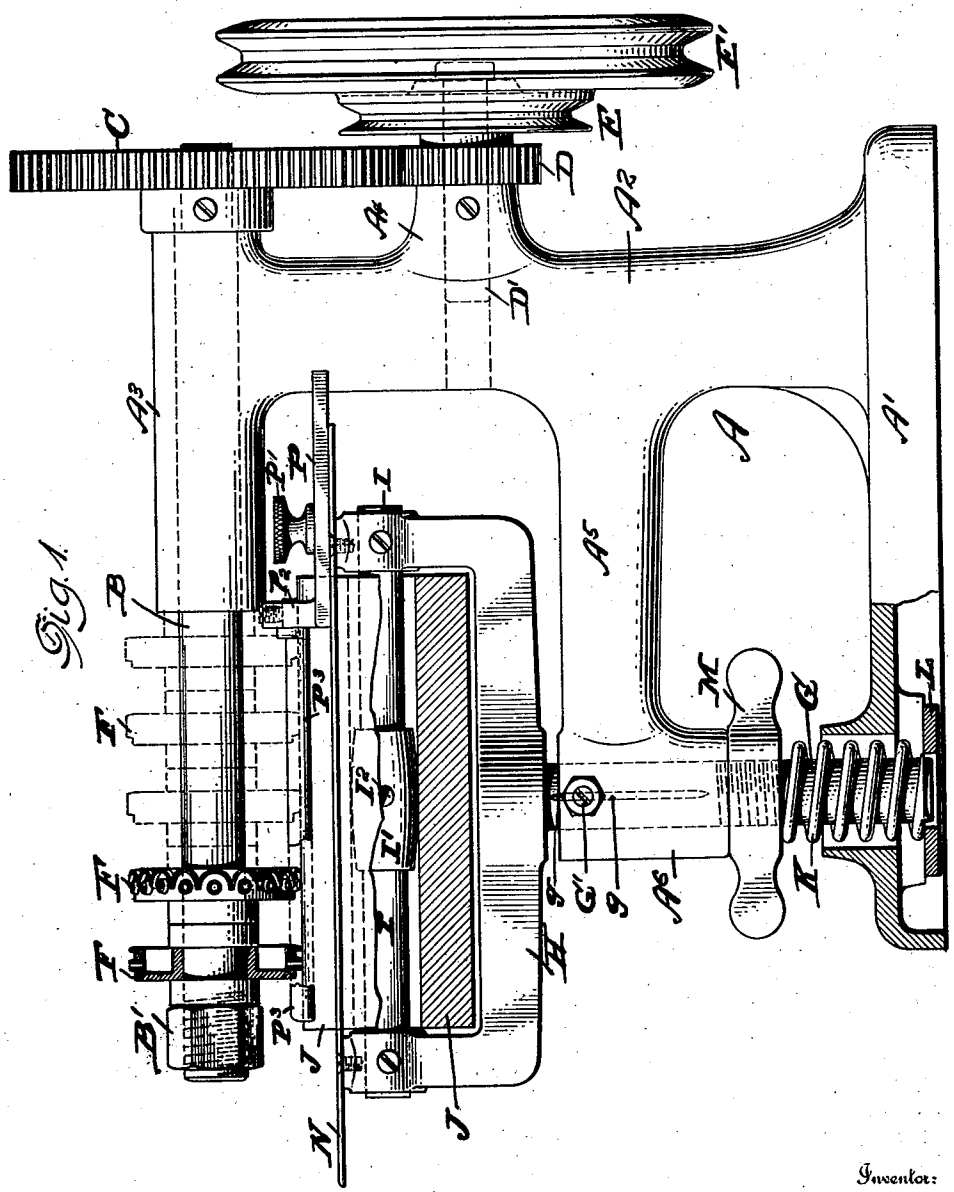


Fig. 1.

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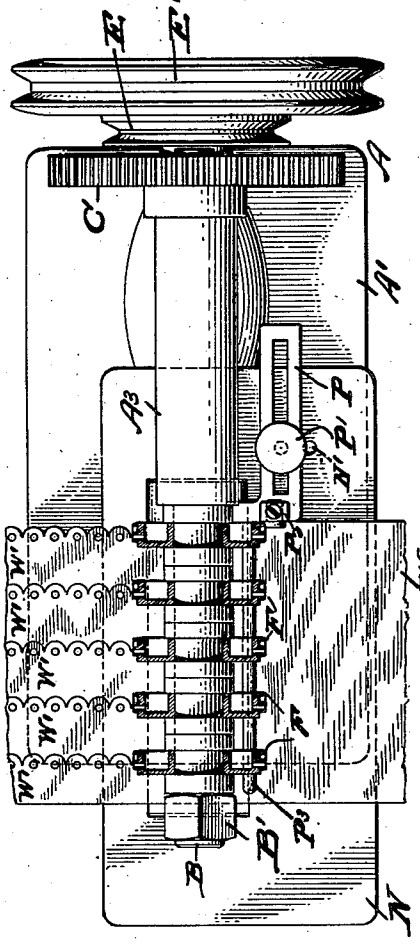


Fig. 2.

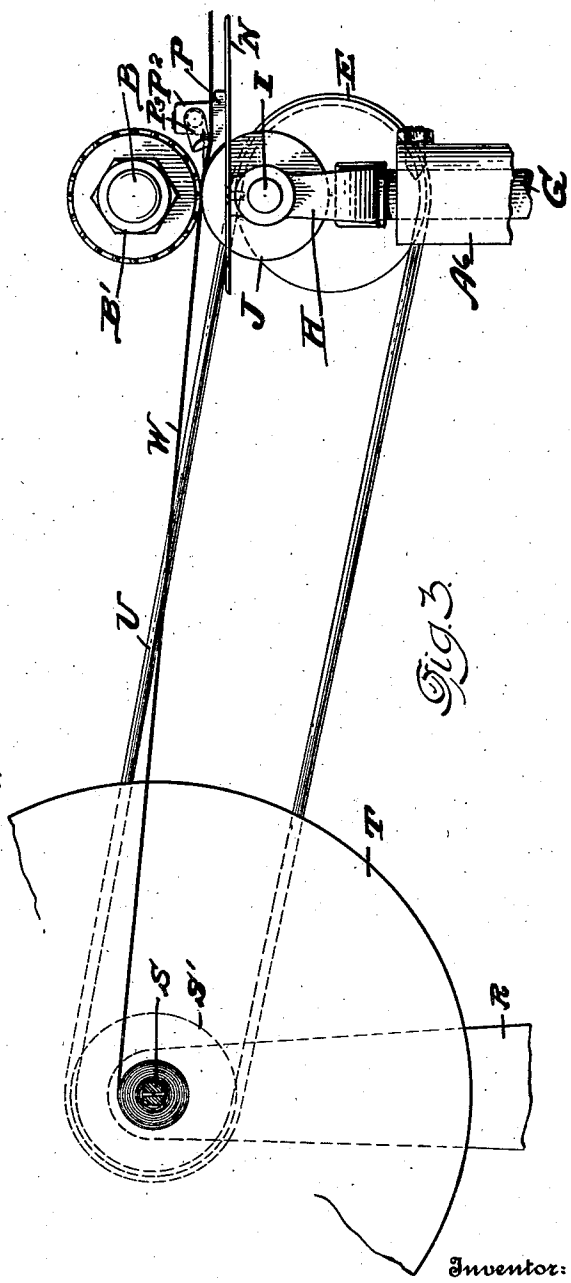


Fig. 3.

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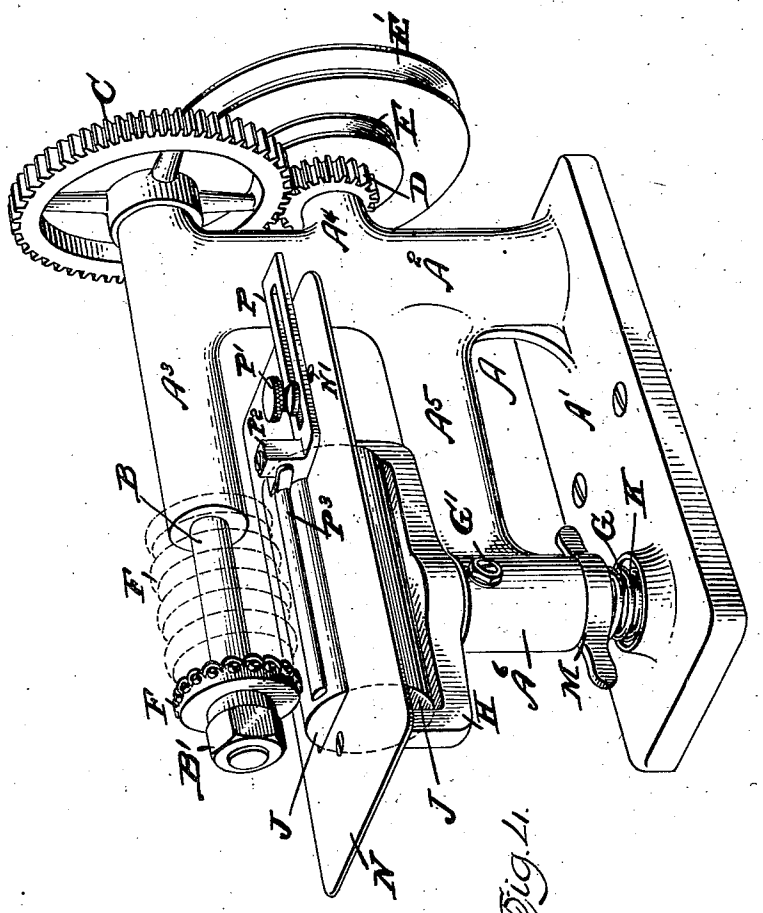


Fig. 4.

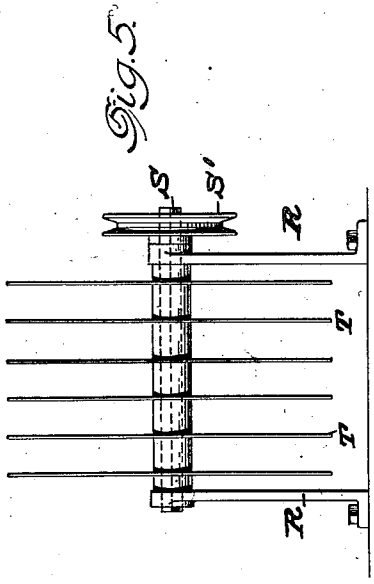


Fig. 5.

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Patented Feb. 3, 1925. 1,524,707

UNITED STATES PATENT OFFICE.

MAXIMILIAN K. GOLDEN, OF DETROIT, MICHIGAN, ASSIGNOR TO DAVID SCHUFF, OF DETROIT, MICHIGAN.

PINKING AND WINDING MACHINE.

Application filed July 2, 1924. Serial No. 723,619.

To all whom it may concern:

Be it known that I, MAXIMILIAN K. GOLDEN, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Pinking and Winding Machines, and declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to a machine for pinking and rewinding fabrics, shown in the accompanying drawings and described in the following specification and claims.

The primary object of this invention is to construct a machine provided with a plurality of detachable rotary pinking or cutting rolls assembled on a shaft in contiguous relation to each other but which may be spaced apart to provide a plurality of relatively wider, respectively pinked, strips of fabric.

A further object of the invention is to provide an adjustably yieldable and rotatable pressure sleeve adapted to bear upon the underside of the fabric to force the latter into contact with the pinking rolls;—the construction being such that the pressure sleeve is adapted to tilt longitudinally to insure the fabric being brought into contact with the several pinking rolls assembled upon the shaft.

A further object of the invention is to provide an adjustable guide arm adapted to overlap the fabric as it is fed to the pinking rolls to guide and direct the same properly thereto.

A further object of the invention is to provide a plurality of winding spools assembled in adjacent relation to each other upon a shaft driven from the pinking machine proper to wind several strips or tapes of fabric thereon, whereby upon the rolls of fabric being completed they may be removed for sale, or use upon other machines—for example sewing machines as employed to sew the strips in forming articles of apparel.

With the foregoing and other objects in view which will appear as the description proceeds the invention further resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed it being understood that changes may be made in the precise embodiment of the invention herein disclosed without departing from the spirit of the same.

In the drawings accompanying this specification:

Figure 1 is a side elevation of the device with the pressure sleeve broken away and in section to disclose a centrally disposed arc-shaped hump on which the pressure sleeve is adapted to tilt longitudinally.

Figure 2 is a plan view of the device showing the pinking rolls in section and a fragmentary strip of material as it is pinked by passing through the machine.

Figure 3 is a detail view in side elevation showing a fragment of the upper portion of the pinking machine,—one of the winding spools and its driving belt connection with one of the driving pulleys of the pinking machine, also the fabric as it is fed beneath the guide arm and between the pinking rolls and pressure sleeve to the rewinding spools.

Figure 4 is a perspective view of the machine showing one of the pinking rolls mounted upon its operating shafts, with a plurality of pinking rolls in adjacent relation—indicated in dotted lines.

Figure 5 is a front elevation of a group of the rewinding rolls mounted upon a shaft driven from one of the pulleys of the pinking machine.

Referring now to the letters of reference placed upon the drawings:

A denotes a suitable frame comprising a base plate A^1, adapted to be attached to a supporting table (not shown) and a standard A^2 upon which extends an overhanging tubular arm A^3 in which is journalled a shaft B, fitted with a gear wheel C, in mesh with a driving pinion D, carried upon a shaft D^1, journalled in the projecting arm A^4 of the frame. Mounted on the shaft carrying the pinion D are driving pulleys E, E^1.

F indicates a plurality of removable pinking or cutter rolls adapted to be adjustably mounted upon the shaft B to rotate therewith. The pinking or cutting rolls are arranged in contiguous relation or they may be spaced apart as required to provide relatively different widths of braid.

B^1 represents a nut mounted upon the end of the shaft to secure the pinking rolls thereon. Extending from the standard A^2

beneath the arm A^3 is an arm A^5, having a bearing A^6 at its outer end to receive and support an upright shaft G, on the upper end of which is mounted a yoke H. Rigidly secured in the end walls of the yoke H is a shaft I, upon which is mounted an enlarged arc-shaped hub I^1 longitudinally adjustable upon the shaft to which it is secured by a set screw I^2.

Mounted upon the shaft I and adapted to rock longitudinally upon its arc-shaped hub I^1, is a rotatable sleeve J adapted to force the fabric fed between it and the pinking rolls into shearing contact with the latter due to the pressure of a spring K, mounted on the lower end of the shaft G, and bearing upon a cross plate L, forming part of the frame of the machine.

The shaft G is screw-threaded to receive a rotatable collar M, which in turn receives the thrust of the spring K. By adjusting the collar M upon the shaft the tension of the spring may be regulated as required. To provide against the shaft on which the yoke is mounted turning on is axis, a longitudinal groove *g* is formed in the shaft into which the end of a bolt G^1 supported in the wall of the frame projects and while the shaft is free to move vertically it cannot rotate,—thus the pressure sleeve is maintained always in alignment with the axis of the shaft on which the pinking or cutting rolls are mounted.

Secured to the end walls of the yoke is a platform N, upon which is adjustably mounted a slotted bar P, which is adapted to be rigidly secured to the frame by means of a thumb nut P^1. Attached to an upstanding lug P^2 on the slotted bar is an adjustable guide arm P^3 adapted to overlap the fabric and guide the latter as it passes over the platform N and between the pinking rolls and pressure sleeve. To provide for a further adjustment of the slotted bar the platform is supplied with a screw-threaded aperture N^1 to receive the thumb screw P^1,—the guide bar may thus be further adjusted relatively to the pinking rolls and pressure sleeve to conform to the requirements of the fabric.

R, R, indicate standards in which is journallel a shaft S, carrying a driving pulley S^1.

T, denotes a plurality of discs fitting with hubs for mounting upon the shaft S.

U represents a belt connecting the pulley S^1 with the pulley E, on the pinking machine. As the fabric W is delivered to and cut by the pinking rolls the several tapes W^1 are wound upon the hubs of the respective discs and when the rolls of tape are completed they may be removed to be sold, or for use upon a sewing machine in the construction of wearing apparel.

Having indicated the several parts by reference letters the construction and operation of the device will be readily understood.

A fabric of suitable width and length is fed between the pinking roll and pressure sleeve, the latter tilting upon the arc-shaped hub (which may be longitudinally adjusted along the shaft as required) so that the pressure sleeve may force the fabric into proper cutting relation with the several pinking or cutting rolls as the fabric is fed thereto. Upon being cut into strips the several tapes are wound upon the winding drums, previously described. The tension of the spring acting upon the pressure sleeve may be increased or diminished by adjusting the collar M carried by the shaft.

Having thus described my invention what I claim:

1. In a machine of the character described, a shaft journalled in the frame, means for rotating said shaft, a plurality of removable and longitudinally adjustable pinking rolls mounted upon the shaft, a resiliently supported pressure roll adapted to tilt longitudinally to conform to the cutting plane of the several pinking rolls, adjustable means for guiding the fabric between the pinking and pressure rolls and means for receiving and rewinding the tapes delivered from the pinking rolls.

2. In a machine of the character described, a shaft journalled in the frame of the machine, means for rotating said shaft, a plurality of removable pinking rolls mounted upon said shaft, a vertically disposed shaft slidable in the frame fitted with a yoke at its upper end, a shaft secured to the arms of the yoke, a rotatable sleeve mounted upon the last named shaft and longitudinally tiltable thereon, whereby it may conform to the cutting surfaces of the respective pinking rolls grouped upon the first named shaft, a spring adapted to maintain the rotatable sleeve in yieldable contact with the fabric fed between it and the pinking rolls, and means for adjusting the tension of the spring.

3. In a machine of the character described, a shaft journalled in the frame of the machine, means for rotating said shaft, a plurality of removable pinking rolls mounted upon said shaft, a vertically disposed shaft slidable in the frame fitted with a yoke at its upper end, a shaft secured to the arms of the yoke having an enlarged hump-shaped portion between the supporting arms of the yoke, a rotatable sleeve mounted upon the last named shaft and longitudinally tiltable upon said hump-shaped portion, whereby it may conform to the cutting surfaces of the respective pinking rolls grouped upon the first named shaft, a spring mounted upon the shaft carrying the yoke adapted to maintain the rotatable sleeve in yieldable contact with

the fabric fed between it and the pinking rolls, and means for adjusting the tension of the spring.

4. In a machine of the character described, a shaft journalled in the frame of the machine, means for rotating said shaft, a plurality of removable pinking rolls mounted upon said shaft, a vertically disposed shaft slidable in the frame fitted with a yoke at its upper end, a shaft secured to the arms of the yoke, a longitudinally adjustable hump-shaped element adapted to be secured to said last named shaft, a rotatable sleeve mounted upon the last named shaft and longitudinally tiltable upon said hump-shaped element, whereby it may conform to the cutting surfaces of the respective pinking rolls grouped upon the first named shaft, a spring mounted upon the shaft carrying the yoke adapted to maintain the rotatable sleeve in yieldable contact with the fabric fed between it and the pinking rolls, and means for adjusting the tension of the spring.

5. In a machine of the character described, a shaft journalled in the frame of the machine, means for rotating said shaft, a plurality of removable pinking rolls mounted upon the shaft, a vertically disposed non-rotatable shaft slidable in the frame fitted with a yoke carrying a fixed shaft at its upper end in longitudinal alignment with the pinking rolls above, a rotatable sleeve mounted upon the shaft carried by the yoke and longitudinally tiltable thereon to conform to the cutting plane of the several assembled pinking rolls, a spring adapted to act upon the vertical shaft to maintain the rotatable sleeve in yieldable contact with the fabric fed to the pinking rolls, means for adjusting the tension of the spring, a plurality of detachably mounted spools adapted to respectively receive the tapes as delivered from the pinking rolls and means for rotating said spools to wind the fabric thereon.

In testimony whereof, I sign this specification in the presence of two witnesses.

MAXIMILIAN K. GOLDEN.

Witnesses:

S. E. THOMAS,

VICTOR K. GOLDEN.