No. 827,487. PATENTED JULY 31, 1906.

E. WEST.

SPACING AND MARKING DEVICE.

APPLICATION FILED JAN. 2, 1904. RENEWED JULY 25, 1905.

Fig. 1.

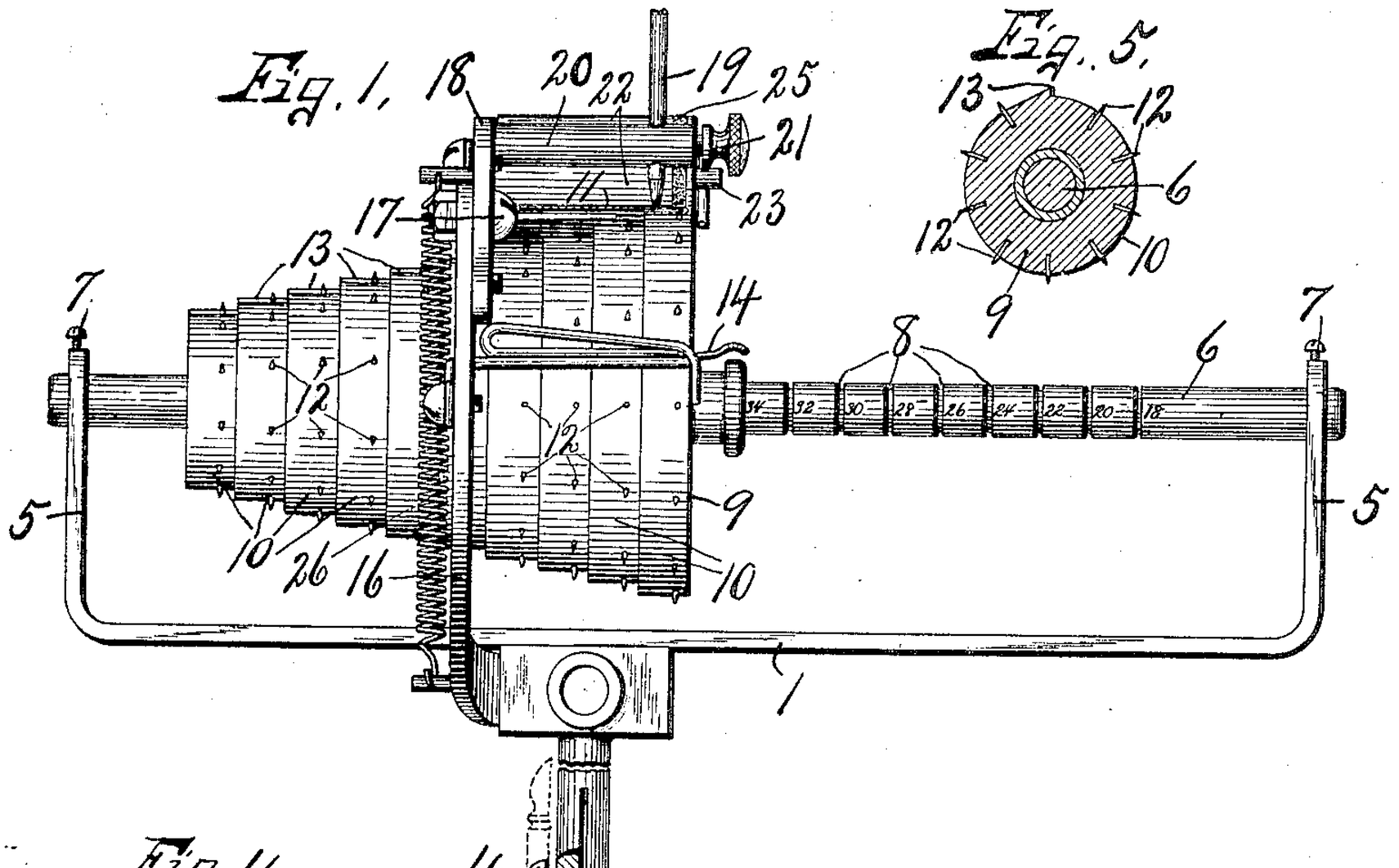


Fig. 5.

Fig. 4.

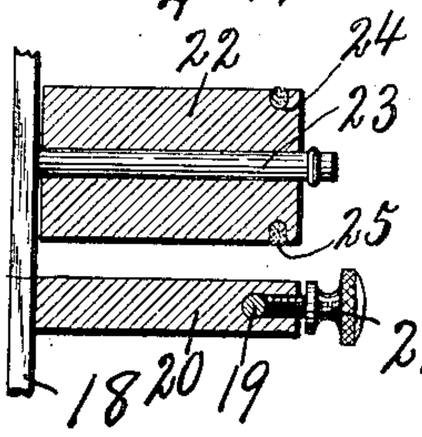


Fig. 2.

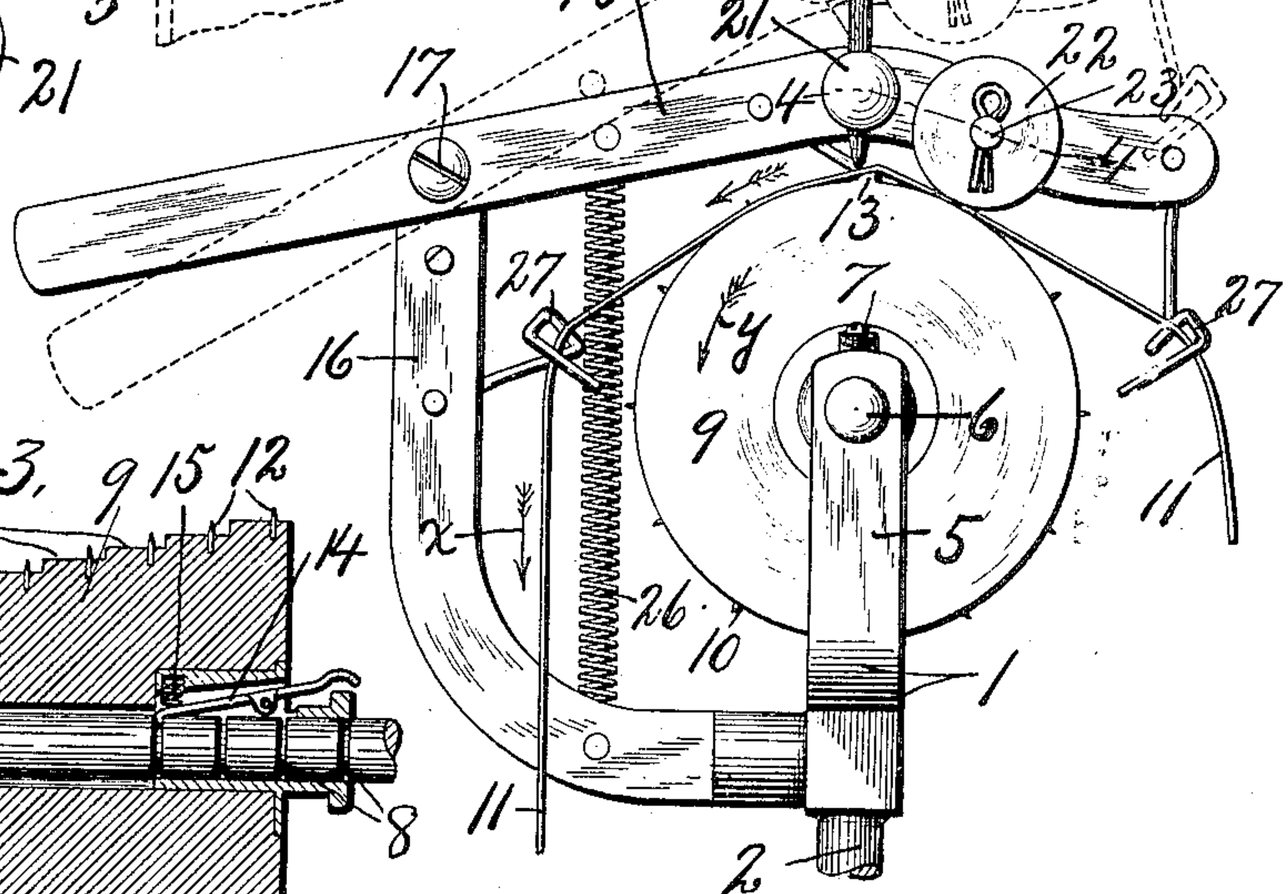
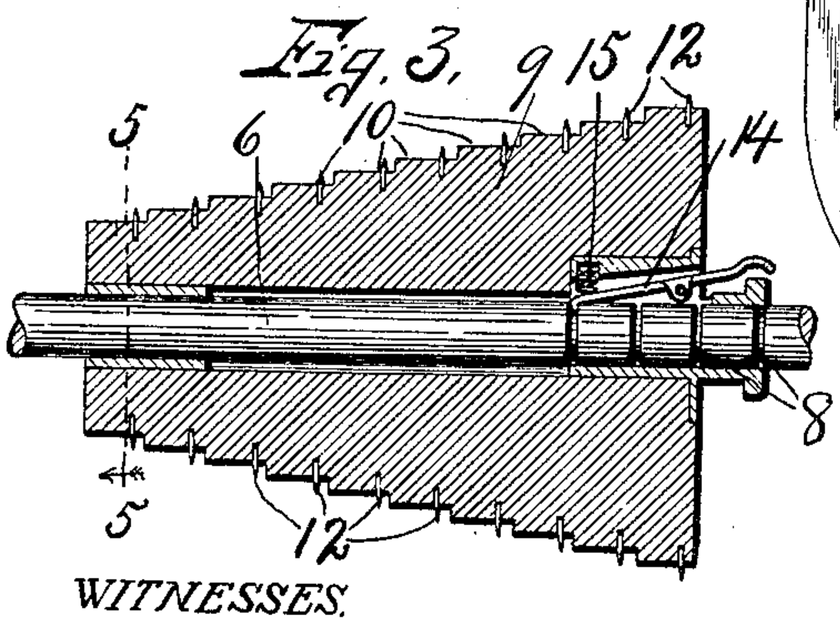


Fig. 3.



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SPACING AND MARKING DEVICE.

No. 827,487. Specification of Letters Patent. Patented July 31, 1906.

Application filed January 2, 1904. Renewed July 25, 1905. Serial No. 271,263.

To all whom it may concern:

Be it known that I, EUGENE WEST, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Spacing and Marking Devices, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to a combined spacing and marking device for making impressions or marks at regular predetermined intervals upon a continuous moving band of fabric or other material as it is fed through the device.

It is used more specifically as an attachment for sewing-machines in applying waistbands to knit garments, such as pantalettes, which are usually slit at the sides to form front and rear flaps, said flaps being generally formed with central vertical seams. These pantalettes are made in many different sizes or girth measurements, and heretofore the practice has been to space and mark off separate strips for forming the bands of certain sizes, after which the marked strips were rolled and placed upon a suitable reel, from which it was fed through the sewing-machine and stitched to the flaps of a succession of the garments, care being taken to register the edges and center of the flap with the marks upon the band to give a definite size or girth to each garment.

It frequently happens that the stock or supply of garments of a certain size runs out before the strip which is marked for that size is exhausted from the reel, and therefore it becomes necessary to remove the former strip and to replace it by another roll which is marked for a different size of garment which may be in stock. This practice of marking the bands previous to being stitched to the garment is found to cause a considerable waste of time and material; and the object of my present invention is to obviate this waste by marking the band as it is stitched to the garment to permit the operator to readily change from one size to another without removing the roll or strip from which the bands are formed from the reel or from the machine.

Other objects will appear in the subsequent description.

In the drawings, Figure 1 is a front elevation of my improved spacing and marking device shown as attached to the head of a sewing-machine. Fig. 2 is an end view of the parts seen in Fig. 1. Fig. 3 is a longitudinal sectional view through the spacing-roll or drum, showing its supporting-spindle and also the means for holding the roll from longitudinal movement. Figs. 4 and 5 are sectional views taken, respectively, on line 4 4, Fig. 2, and line 5 5, Fig. 3.

Similar reference characters indicate corresponding parts in all the views.

In carrying out the objects of my invention I provide a U-shaped bar or frame 1 with a depending split shank 2, which is adapted to be inserted in a socket in a suitable support—as, for instance, the head 3 of a sewing-machine—the shank 2 being provided with a screw 4, by which the split shank is expanded in the socket for holding the frame 1 in a fixed position. The bar is disposed substantially horizontal and its opposite ends are provided with upturned arms 5, in which is secured the opposite ends of the shaft or spindle 6 by set-screws, as 7. The intermediate portions of this spindle are provided with a series of annular grooves 8, which are spaced equidistant from each other, and upon this spindle is rotatingly mounted a conical drum 9, which is also movable axially on the spindle and is provided with a series of circular beds or faces 10 of different diameters, gradually increasing in size from one end to the other and corresponding to the different sizes or girth measurements of the garment, or rather to the different spaces to be marked on the strips, which are to form the bands for the garments. The circumferential measurement of each of these faces 10 is in this instance equal to one-half the width of a flap of a certain dimension, and the strip, as 11, which forms the bands, is reeled over and upon the periphery of one of these faces 10, and an impression or mark is made on the band at each revolution of the drum, and these marks correspond, respectively, with the ends and center of the flap of the garment.

It is now apparent that when the strip or band is fed in the direction indicated by X, Fig. 2—as, for instance, when being fed by the sewing machine (not shown)—its contact with the periphery of the drum 9 causes said drum to rotate in the direction indicated by arrow *y*, Fig. 2, and in order that this rotation of the drum 9 may be positive I provide each of the faces 10 with a circular row of small spurs 12, which are engaged by the fabric, and therefore transmit a positive rotary movement to the drum as the strip

is fed in the direction indicated by arrow *x*. Each of these circular faces 10 is provided with a radially-projecting tooth 13, and these teeth are preferably alined with each other axially for causing the impression or mark to be made on the strip at each revolution of the drum by suitable marking or impression-making device presently described.

The drum 9 is adjustable axially on the shaft 6 to bring either of the faces into registration with the marker and is held in its adjusted position by a detent 14, which is movable into and out of the grooves 8, being held in the groove by a spring 15, while its outer end is extended beyond the end of the drum to be engaged by the operator for forcing the detent out of one groove, whereupon the drum may be moved axially to bring the detent into registration with any one of the other grooves, which operation also brings one of the faces 10 into registration with the marker.

Secured to the frame 1 is an upwardly-extending arm 16, and to this arm is pivoted at 17 a rocking support 18, which extends rearwardly over the drum 9 and carries an impression-making device or marker, such as a pencil 19. This pencil is secured in an aperture in a laterally-projecting stud 20 and is adjustable radially toward and from the periphery of the drum and held in its adjustable position by clamping-screw 21.

The strip of fabric for the bands is fed between the periphery of the drum and this marker, the latter being adjustable, so that its marking-point is out of contact with the strip while being reeled over the periphery of the drum, except at the point of projection of the teeth 13, at which point the strip is forced into contact with the point of the marker, and thus produces an impression or short mark on the strip at each revolution of the drum. It is apparent that the distance between these marks may be varied by simply shifting the drum axially, so as to bring one or other of the faces 10 into alinement with the marker, and in order that the marks on the strip may be properly spaced to equal the circumference of the circular bed or face 10, upon which it rests, I provide the rock-arm 18 with a presser-roller 22, which is journaled on a spindle 23 at the rear of, but in close proximity to, the marker 19, and this roller is provided with an annular groove 24, in which is inserted a felt or other similar annulus 25 to register with the spurs in the faces 10, and thereby prevent dulling of the spurs and at the same time facilitating synchronous movement of the strip and surface of the drum with which it contacts. This presser-roller 22 also serves to hold the point of the marker out of contact with the strip, except when the teeth 13 are registered with said marker and the lever 13, overhanging the drum 9, together with the parts which are mounted on said overhanging portions of the lever, are usually sufficient to press the strips 11 into contact with the periphery of the drum 9; but in order to further insure this contact I connect the rear end of the lever 18 with the arm 16 by a spring 26.

In order that the strip may be properly guided on the periphery of any one of the surfaces 10, I provide suitable guides 27 at the front and rear of the drum 9. It is now apparent that as the strip 11 is fed in the direction indicated by arrow *x*—as, for instance, while being fed through the sewing-machine in the act of stitching said strip to the garment—the drum is caused to rotate, whereby a mark or impression is made by the marker 19 at each revolution of the drum or as the tooth 13 is successively registered with said marker.

In the operation of my invention it may be assumed that it is desired to space and mark a strip or band to be applied to garments of a certain size—as, for instance, a thirty-four-inch-waist girth, which of course means that the width of each flap is seventeen inches and that the distance between the edges of each flap and the center seam is eight and one-half inches, which is in this instance the circumferential measurement of the largest surface 10 of the drum 9. Then the drum 9 is set to the reading "34" upon the spindle 6, which reading indicates the waist measurement and also indicates that the circular bed 10 of greatest diameter is registered with the marker 19, after which the detent 14 is released, and the spring 15 forces it into the proper groove 8 to hold the drum from endwise movement, it being understood that the detent revolves with the drum and that the teeth 13 are registered with the point of the marker at the start to avoid waste. The front end of the strip 11 is then inserted between the band of the marker and the drum upon the bed 10, which is alined with the marker, and is then reeled over the surface of the drum, thereby rotating the same until the front end of the strip is caught by the needles of the machine, (not shown,) care being taken to aline the first marker with the advance edge of the flap of the garment, and as the machine is operated the succeeding marks on the strip are carefully registered with the center and opposite edge of the flap as the machine continues to stitch the strip to the flap. The adjacent edge of the other flap of the same garment is then brought to the corresponding edge of the former flap, and the stitching of the strip thereto continues in the same manner as that described for the former flap—that is, the edges and center of the latter flap are carefully registered with the marks on the strip. In like manner the strip is stitched successively to the flaps of any number of garments until the strip is exhausted, or if the strip is not ex-

hausted and the supply of garments of this dimension runs out and another lot of a different size is at hand the operator simply shifts the drum endwise to bring the face 10 corresponding to that size into registration with the marker and continues the work of applying the bands to the garments. It is evident that the strip is spaced and marked according to the size of the garment to which it is applied and that this is done while the strip is being applied to the garment, so that the operator changes work from one size garment to another and also changes the spacing and marking of the strip to correspond to such size, which is obviously a great saving of labor and material. It is also apparent that the rolls of strips which form the bands are placed upon the reels in the blank without being marked and are only marked as they are applied to the garment, which obviates the necessity of first marking the strip and then rolling the same. It now appears that the strip is stitched continuously to the flaps of a series of garments, and when it is desired to finish the garment the strip is severed where it joins the flaps of the same garment and also where it joins the flaps of different garments, after which the edges of the flaps are finished in the usual manner to prevent unraveling or raw edges of the fabric.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A spacing and marking device comprising a marker, and a series of rotary beds of different diameters adjustable axially with reference to the marker, each of said beds having a projecting tooth for the purpose described.

2. A spacing and marking device comprising a plurality of rotary beds of different diameters, for supporting the article to be marked, said article and beds moving together, a marker and means to cause the marker to make an impression upon the article at each revolution of the beds.

3. A spacing and marking device comprising a marker and a drum having a series of circular faces of different diameters, one of the parts being adjustable axially to bring the marker into registration with one or the other of said faces.

4. In a spacing and marking device, the combination of a rotary drum adjustable axially and having different measuring-surfaces, a marker, and means to bring the marker into action at regular intervals during the rotation of the drum.

5. In a spacing and marking device, the combination of a shaft or spindle, a rotary drum mounted on the spindle and adjustable axially thereon, means for holding the drum in its adjusted position, said drum having a plurality of circular faces of different diameters, each face being provided with a projection, and a marker brought into action by said projection to mark the article at regular intervals.

6. In a spacing and marking device, the combination of a marker and a plurality of circular rotary beds of different diameters movable in one direction by the articles to be marked, said beds having an axial movement to bring each into registration with the marker, and means to actuate the marker to make an impression on said article.

7. In a spacing and marking device, the combination of a marker and revoluble bearing-faces of different diameters to support the article to be marked, one of the parts being movable to bring the marker into coaction with the different faces separately, and means to cause the marker to make an impression on the article at each revolution of the face with which the article is engaged.

8. In a spacing and marking device, the combination of a marker, and a rotary drum having spurs engaged by the article to be marked, said drum being movable axially and provided with means coacting with the marker to make an impression on the article.

9. In a spacing and marking device, the combination of a marker, a rotary conical drum movable axially and provided with projections at different lengthwise points on its periphery coacting with the marker to make an impression on the article to be marked.

10. In a spacing and marking device, a marker, a series of movable supporting-beds of different lengths for the article to be marked movable into and out of registration with the marker and means moving with each movable bed when it is brought into registration with the marker for actuating said marker.

11. In a spacing and marking device, a marker, a plurality of rotary beds of different lengths each movable into and out of registration with the marker and actuated by the article to be marked and means on each bed for actuating the marker.

In witness whereof I have hereunto set my hand this 30th day of December, 1903.

EUGENE WEST.

Witnesses:
H. E. CHASE,
HOWARD P. DENISON