The invention consists broadly in a rotating measuring roll having pins or other means for engaging the fabric, so that as the fabric strip is passed over the roll the roll will turn with the fabric strip without slipping thereon.

The strip preferably passes first through a tension device, then over the fabric-measuring roll. Associated with this fabric-measuring roll is a counting wheel which is actuated step by step first in one direction and then the other, through devices which in turn are operated by the measuring roll.

In the preferred form of the invention these actuating devices for the counting wheel are two pawls, first one of which becomes operative and then the other. The counting wheel is provided with a series of equally spaced openings, in any one of which a pin may be placed. A pin carried by the counting wheel in one of the openings, operates to shift the pawls to reverse the movement of the counting wheel and the time interval at which the counting wheel is reversed depends upon the placing of the pin. If only one pin is used, then a reversal will occur at each complete rotation of the counting wheel. If two pins are used then the reversal will occur at a time interval corresponding to the angular distance between the two pins, first one pin and then the other being effective to bring about the reversal.

These pins also operate a marker for placing a mark on the strip passing over the measuring roll when the reversal of the counting wheel takes place.

The invention will be better understood by a brief reference in detail to the accompanying drawings, wherein I have shown my improved marker as mounted on a supporting base having a standard rising therefrom. Said standard is provided with spaced arms in which is journaled a measuring roll. The measuring roll is provided with a series of pins, adapted to engage the fabric strip which is led over a measuring roll, so as to prevent any slippage between the fabric strip and the measuring roll.

The bracket arms carry a tension base at each end of this tension base are posts. Loosely mounted on the posts is a tension plate having openings adapted to receive the respective posts.
spring 8 encircles each post and a knurled nut 9 threaded on to the upper end of the post places the spring under tension. The plate 7 is forced downwardly against the tension base and the fabric strip runs underneath this plate 7, which places the tension on the fabric strip. The fabric strip then passes over the measuring roll 4 and then over a roll 10, which is journaled in the extreme outer ends of the arms 3, 3.

Mounted in the standard 2 is a fixed shaft 11. This shaft is secured to the standard by screws 12, 12. Freely journaled on this shaft is a ratchet wheel 13, a disk 14 and a second ratchet wheel 15. The ratchet wheels 13 and 15 are keyed to a sleeve which is freely journaled on the fixed shaft 12. The disk 14 is carried by a hub freely journaled on the sleeve carrying the ratchet wheels, so that the two ratchet wheels are fixed together and turned together, but the disk 14 operates freely independently of the ratchet wheels. The ratchet wheels are held from too free movement by means of a spring plate 16, provided with a friction pad 17 bearing against the outer face of the ratchet wheel. Said spring plate is secured to the fixed shaft 12 by means of a screw 18.

Mounted on the end of the measuring roll 4 is a gear wheel 19, which is fixed so as to rotate with the roll. This gear wheel 19 meshes with a gear wheel 20, shown in dotted lines in Fig. 2. The gear wheel 20 is journaled on one of the side arms 3 and carries a disk 21 provided with a crank pin 22. A link 23 is connected to the crank pin 22. The other end of the link 23 is connected to a pin 24 carried by an arm 25 projecting outwardly from the disk 14.

As the measuring roller rotates, it will impart a rotation to the gear wheel 20 and through the crank pin 22 the disk 14 will be oscillated about the center of the fixed shaft 11 as an axis. The gear wheels 19 and 20 are preferably proportioned so that one rotation of the gear wheel 19 causes four rotations of the gear wheel 20. The teeth of the ratchet wheel 15 are constructed so as to point in a direction opposite to the direction of the teeth of the ratchet wheel 13.

Mounted on a bracket 26 carried by the disk 14 is a shaft 27. A pawl 28 at one end of this shaft is adapted to engage the ratchet wheel 15 and a pawl 29 at the other end of this shaft is adapted to engage and actuate the ratchet wheel 13. These pawls are so fixed to the shaft, however, that only one pawl is effective to engage its associated ratchet wheel. The shaft 27 has a flat face 30 at one side thereof, and a flat face 31 at the other side thereof. A spring 32 is secured by screws 33 to the bracket 26. This spring presses against the shaft 27 and is adapted to engage either the face 30 or the face 31. When in engagement with the face 30, the pawl 28 is held in engagement by the spring with the ratchet wheel 15, and when in engagement with the flat face 31 then the pawl 29 is held in cooperative engagement with the ratchet wheel 13. Depending from the shaft 27 is an arm 34, which is for the purpose of shifting the shaft 27 to throw either the pawl 28 or 29 into operative relation with its respective ratchet wheel.

The outer ratchet wheel 15 is provided with a series of equally spaced openings 35, which may be numbered from 1 to 50, certain of the numbers being indicated in Fig. 2 of the drawings. There is an opening for each tooth of the ratchet wheel. If the measuring roller 4 is proportioned so that it is four inches in circumference, then for every complete rotation of this roller the gear wheel 20 will be rotated four times and the ratchet wheel move a distance of four teeth, so that each step movement of the ratchet wheel counts or measures one inch of fabric passing over the roll.

A pin 36 is adapted to be inserted in these openings and said pin is provided at its outer end with a knurled washer 37 and a rounded head 38 and the pin projects some distance through the ratchet wheel, as indicated at 39. The projecting portion 39 on the ratchet wheel is adapted to strike the arm 34 and throw one pawl out of engagement with its ratchet wheel and the other pawl into engagement therewith.

Mounted on the arm 3 at one side of the 100 machine is an idler roll 40. Running over this idler roll 40 and the roller 10 is an inked ribbon 41. The roller 10 has a slightly reduced portion for engaging the ribbon and this roller shifts the ribbon as the fabric 105 passes through the marking machine. This presents a new portion of the ribbon to the marker.

Mounted on a bracket 42 carried by the side arm 3 is a lever 43, said lever being fulcrumed at 44. At the outer upper end of the lever 43 is a block 45. Said block is fulcrumed so as to turn freely on a pin 46 threaded into the end of the lever. A spring 47 is mounted on a screw 48 carried by the lever 43 and this spring bears against a pin 49 fixed in the upper face of the block 45. The spring tends to turn the upper end of the block toward the roller 10 and this throws the lower face of the block toward the measuring roller. The block 45 is provided with type 50, which as shown in Fig. 6 of the drawings, consists of a 5 and an 8 indicating 38 inches and also a line 51 which indicates the exact length. Of course, it is obvious that the type may be secured to the block in any desired way, so as to be interchangeable, and the number of inches being measured is stamped on the fabric itself.

The lower end of the lever 43 is formed
with a cam face 52, adapted to be engaged by the rounded end 38 of the pin 36. A spring 43 presses the cam face toward the end of the pin.

In the operation of my device, the fabric strip is drawn underneath the tension plate and then across the measuring roller and then across the roller 10, from which it is led to the source where it is to be used or is again folded or formed into a roll until it is desired to be used. The invention may be used in connection with a sewing machine and if desired the base may be set on a standard 53 and the strip led directly from the roll 10 to the stitching mechanism. After the strip passes through the machine, the roll 4 will be positively turned and this will through the pawl actuate the counting wheel. When the parts are in the position shown in Fig. 2, the pawl 28 is effective and for every inch of the cloth passing over the measuring roll the counting wheel will be turned one tooth or one inch. With one of the pins 36 set in the opening 50 and the other in the opening 52, as indicated in this view, when the counting wheel has been stepped around in the direction of the arrow 32 teeth or 32 inches of fabric have passed through the machine, then this pin at the 32 holes will strike the arm 34 and throw the pawl 28 out of engagement with the ratchet wheel and the pawl 29 into engagement with the ratchet wheel 13. This pin in the hole 32 will also engage the lever 43 and move the block 45, carrying the type down so as to press the fabric against the inked ribbon and thus produce a mark on the fabric.

The reversal of the pawls will cause the counting wheel to at once begin to step in the opposite direction and after the ratchet wheel 13 has been moved to a distance of 32 teeth, then the pin in the hole 50 comes into action, reverses the pawls and operates the type to mark the strips, so that the strip may be passed continuously or intermittently through the marking machine and the counting roll will be turned first in one direction to measure off a predetermined movement of the strip, mark the strip and then automatically reversed and turned in the opposite direction, measuring off the same predetermined amount the second time and marking the strip, and so on, as the strip continues to move through the machine.

Inasmuch as the type block is pivotally mounted upon its supporting lever, it is free to rotate or move with the fabric as the fabric is being marked, and this insures that a clear cut distinct mark will be printed upon the fabric and at the exact measured point. A roller 10 backs up the ribbon at the marking station. The type and block are curved. While I have described my invention as adapted for measuring and marking fabric strips, the device is particularly adapted for marking drawer bands. These drawer bands vary in length and my marking device may be set for any desired length and attached to a sewing machine so that the strip from which the drawer bands are made will pass directly from the marking device to the sewing machine. The strip is marked as shown for example in Fig. 7 for a 38-inch drawer-band. As the strip from which the 75 drawer-band is made, passes in front of the operator, said operator may readily see where the exact end of the 38-inch drawer-band should be, and control the body fabric to which the drawer-band is attached so that the body fabric will end at the desired point. In this figure of the drawing, the drawer-band is indicated at D and the garment at G. The line 51 is the measured line for the 38-inch drawer-band and it will be noted that the extreme edge of the garment indicated at G is at this line.

It is obvious that minor changes in the details of construction and the arrangements of the parts may be made, without departing from the spirit of the invention as set forth in the appended claims. Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A fabric-marker comprising a measuring roll, a counting wheel including connected ratchet wheels, a pawl for each ratchet wheel, said pawls being disposed so as to turn the ratchet wheels in opposite directions, means for shifting the pawl so as to turn the counting wheel first in one direction and then the other, a marker, and means actuated by the counting wheel for operating the marker at predetermined intervals.

2. A fabric-marker comprising a measuring roller, a counting wheel including ratchet wheels, having their teeth facing in opposite directions, a pawl cooperating with each ratchet wheel, a shaft carrying the pawls, said pawls being disposed so that first one pawl and then the other may be effective to operate the ratchet wheels, a spring for holding the pawls in engagement with the ratchet wheels, adjustable means carried by one of the ratchet wheels for shifting the pawls at predetermined intervals, a marker, and means actuated by the counting wheels for operating the marker upon a shifting of the pawls.

3. A fabric marker comprising a measuring roller, pins carried by said roller for engaging the fabric to be marked, a counting wheel including spaced ratchet wheels, a disk mounted to turn about the axis of said wheels, means for oscillating the disk from the counting roller, shiftable pawls carried by the disk and adapted to cooperate with the respective ratchet wheels, a spring for holding the operating pawl in engagement
with its ratchet wheel, means carried by one of the ratchet wheels for shifting the pawls at predetermined intervals, said means being adjustable whereby the time of shifting the pawls may be varied, a marker, a swinging lever, a type block carried thereby, and means actuated by the counting wheel for swinging the lever to mark the fabric upon the shifting of the pawls.

4. A fabric-marker comprising a measuring roller, pins carried by said roller for engaging the fabric to be marked, a counting wheel including spaced ratchet wheels, a disk mounted to turn about the axis of said wheels, means for oscillating the disk from the counting roller, shiftable pawls carried by the disk and adapted to cooperate with the respective ratchet wheels, a spring for holding the operating pawl in engagement with its ratchet wheel, means carried by one of the ratchet wheels for shifting the pawls at predetermined intervals, said means being adjustable whereby the time of shifting the pawls may be varied, a marker, a swinging lever, a type block carried thereby, and means actuated by the counting wheel for swinging the lever to mark the fabric upon the shifting of the pawls.

5. A fabric-marker comprising a measuring roll, a fabric-guiding roll parallel with the measuring roll, an inked ribbon located beneath the fabric strip and operated by said fabric-guiding roll, a type block disposed above the fabric strip, and means operated by the measuring roll for actuating the type block at measured intervals for pressing the fabric strip against the inked ribbon for marking the fabric.

In testimony whereof I affix my signature in the presence of two witnesses.

ROBERT R. HUGHES, Jr.

Witnesses:

ARTHUR F. LARRABEE,
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