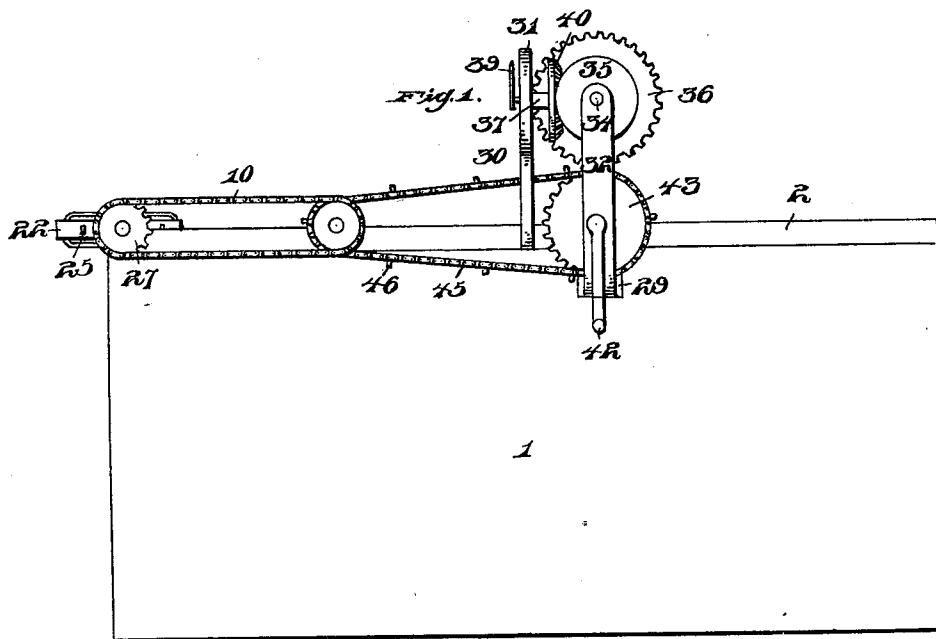


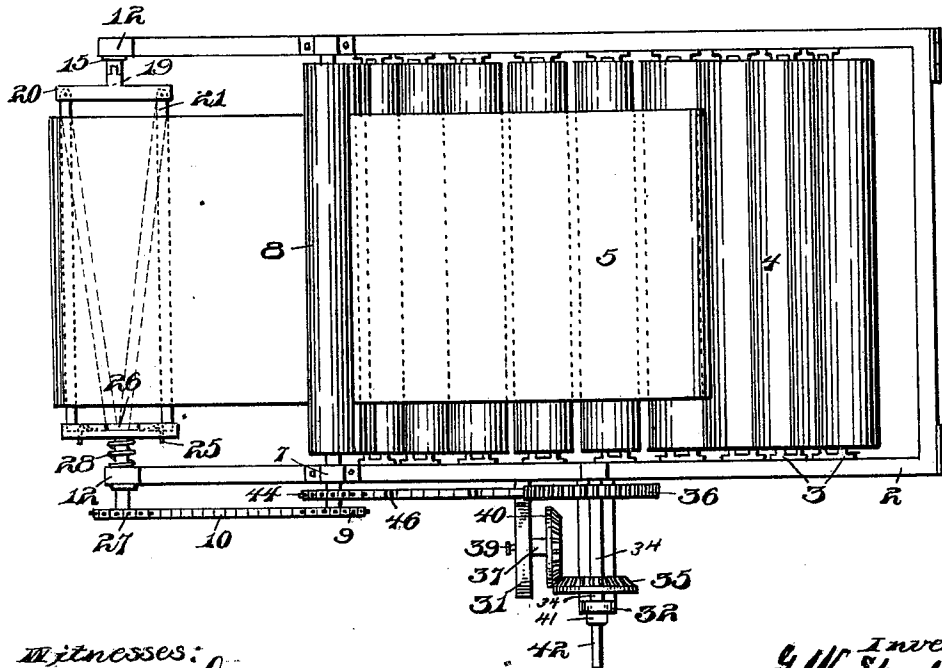
Patented June 4, 1901.

(Application filed Jan. 5, 1901.)

2 Sheets—Sheet 1.



Fing. R.



Witnesses:

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UNITED STATES PATENT OFFICE.

GEORGE W. SPECHT, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GEORGE J. J. HOELSCHKE, OF SAME PLACE.

CLOTH-MEASURING DEVICE.

SPECIFICATION forming part of Letters Patent No. 675,759, dated June 4, 1901.

Application filed January 5, 1901. Serial No. 42,156. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. SPECHT, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Measuring Devices; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in devices for measuring and wrapping cloth in bolts.

The invention has for its object to construct a device wherewith a bolt of cloth may be accurately measured as it is unwound from the bolt and simultaneously rewound into another bolt as the same is being measured.

Briefly described, the invention comprises a receptacle in which is arranged a series of rollers for supporting the bolt of cloth to be measured, with two feed-rollers for unwinding the cloth from one bolt and feeding the same to another bolt. This latter bolt, constituting the measured bolt, is wound upon mechanism detachable from the receptacle in order that the measured and wound bolt of cloth may be detached therefrom. Gearing is provided for actuating the feed-rolls and for the support upon which the measured cloth is rewound into a bolt, while in connection with this gearing and actuated thereby is an indicator for registering the amount of cloth in the measured bolt, all of which construction will be hereinafter more specifically described and then particularly pointed out in the claims.

In describing the invention in detail reference will be had to the accompanying drawings, forming a part of this specification, and wherein like numerals of reference will be used to designate like parts throughout the several views of the drawings, in which—

Figure 1 is a side elevation of the device constructed and arranged in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a detail front elevation of the indicator, showing a part of the gearing therefor with a part of the support-

ing-casing in section. Fig. 5 is a detail perspective view of a part of the spool or bobbin upon which the measured cloth is rewound. Fig. 6 is a detail perspective view of another part of this spool or bobbin. Fig. 7 is a vertical sectional view of the indicator, showing a part of the gearing therefor. Fig. 8 is a longitudinal sectional view of a part of one of the supporting-rolls for the bolt of cloth, showing how the rolls are supported in their journals. Fig. 9 is a detail perspective view of one of the springs employed for holding the two parallel arms or bars of the rewinding spool or bobbin in position. Fig. 10 is a detail perspective view of one of the journals or bearings for the rolls.

To put my invention into practice, I provide a suitable support, which, as herein shown, consists of a substantially rectangular-shaped receptacle or casing closed at the sides, ends, and bottom and open at the top. To this support or casing 1 I hinge at the top of one end a skeleton frame 2, upon which the measuring and rewinding mechanism is supported. To the inner face of the two sides of the support or casing 1 I secure a series of journals or bearings 3, which are arranged in substantially semicircular shape and are adapted to receive the ends of the rolls 4, which form a support or basket for the bolt of cloth 5 to be measured. These rolls may be made of wood or other suitable material, and directly above and in line with the last roll of the series, near the front of the support or casing, I journal in like bearings those carrying the rolls 4 a feed-roll 6, preferably constructed of rubber or like material. The skeleton frame 2 has secured thereon directly above the roll 6 bearings 7, in which is journaled a feed or driving roll 8, which may be of a smaller diameter than the frictionally-driven feed-roll 6, as shown in the present illustrations, or of the same size, if desired, and is preferably constructed of rubber or like material, the same as the roller 6. The shaft of the roll 6 rests in a pair of the bearings 3, secured to the inner face of the sides of the support or casing, while the shaft of the roll 8 extends outwardly beyond the outer face of the casing or support, at one

side thereof, and has mounted thereon a sprocket-wheel 9 to receive the sprocket-chain 10 for driving said roll 8.

The front end of the casing or support is cut away, as shown at 11, and mounted in bearings 12, carried by the skeleton frame 2 at this front end of the box or casing 1, is the rewinding spool or bobbin, which I will now describe. This spool or bobbin has two separate members—one journaled in one bearing and the other in the other bearing. A short axle 14 is journaled in one bearing and carries a stop-collar 15 about centrally of its ends and has its one end bifurcated, as at 16. In this bifurcated end 16 is secured by a pin 17 a tongue 18, carried by a shank 19, which is formed integral with a grooved bar 20, the tongue, pin, and bifurcated end forming a hinge connection between the grooved bar 20 and the short axle, whereby said grooved bar may be raised for a purpose as will be hereinafter fully described. Secured near each end of the groove in the bar 20 is a bar 21, the opposite ends of these bars engaging in a grooved bar 22, which carries an axle 23, having a stop-collar 24, said axle being journaled in the opposite bearing 12. The ends of the bars 21 are held in the grooved bar 22 by means of springs 25, the bars fitting between these springs and the walls at the ends of the groove. These springs are of a form as shown in detail in Fig. 9, being secured at one end to the bar, with their opposite ends projecting through the rear wall of the bar and these projecting ends turned or bent at an angle, so as to be easily gripped for withdrawing the same to permit the removal of the bars 21. For this purpose the upper wall of the bar 22 is cut away centrally, as shown at 26, and when the springs are withdrawn the ends of the bars that engage within the bar 22 may be moved together by reason of their other ends being pivoted in the bar 20, and when these free ends have been moved to the cut-away portion 26 the bars 21 and bar 20 may be swung upwardly upon the hinge connection of the bar 20 with its axle and the cloth which has been wound in the form of a bolt upon the bars 21 readily removed therefrom. The opening 11 at the front end of the box or casing is to give free access to the bolt of cloth while being wound upon the spool or bobbin. The part of the axle 23 beyond the stop-collar 24 projects outwardly to the side of the casing or support and has mounted thereon a sprocket-wheel 27 to receive the sprocket-chain 10, so that motion is communicated to this spool or bobbin simultaneously with the rotating of the feed-rolls 6 and 8. For holding the bar 22 in engagement with the ends of the bars 21 a coil-spring is preferably arranged on the axle 23, between the bar 22 and the stop-collar 24, as shown at 28.

The bolt of cloth is placed in the basket formed by the series of semicircular-shaped rolls 4, fed between the feed-rolls 6 and 8, and wound upon the bobbin or spool, as shown in

Figs. 2 and 3. The cloth is automatically measured by mechanism during this operation, which I will now describe. The skeleton frame 2 carries a downwardly-extending block or projection 29, which fits into a recess provided therefor in the one side wall of the casing or support. To the inner face of this block or projection I attach a bracket or arm 30, which supports a dial or register 31, having on the face thereof suitable indicating or registering marks or inscriptions. Also attached to the inner face of the block or projection 29 is an L-shaped standard 32, and in the upper end of this standard 32 and the upper end of a standard 33, carried by the skeleton frame 2, is a shaft 34, carrying a bevel-gear 35, adjacent to the L-shaped standard 32, and a gear or spur wheel 36, adjacent to the standard 33. The bracket 30, which carries the dial or indicator, also has on its rear face a bushing 37, and journaled in this bushing and passing centrally through the dial or indicator is a short shaft 38, which carries on its outer end an indicating hand or pointer 39 and on its other end a bevel-gear 40, adapted to mesh with the bevel-gear 35. Journaled in the standards 32 and 33 or in the standard 32 and in a bearing carried by the skeleton frame 2 is a shaft 41, that extends outwardly beyond the standard 32 and carries a crank 42, and also has mounted thereon, directly underneath the sprocket-wheel 36, a sprocket-wheel 43, over which and over a smaller sprocket-wheel 44, carried by the shaft of the roller 8, is a sprocket-chain 45, which is provided with a series of projections or teeth 46, as shown, for engagement with the spur-gear 36 to actuate the latter and move the indicating hand or pointer.

The operation may be briefly described as follows: The bolt of cloth being placed in the basket composed of the rollers 4, the end of the web of cloth is fed between the feed-rollers 6 and 8 and engaged with the spool or bobbin. By operating the crank 42 motion is communicated through the sprocket-wheel 43, chain 45, and sprocket-wheel 44 to the feed-rolls 6 and 8 (the roll 6 turning the roll 8 by frictional engagement therewith) and through sprocket-chain 10 and sprocket-wheels 9 and 27 to the spool or bobbin. As the sprocket-chain 45 is driven the teeth or projections 46 thereon engage the spur-gear 36 and move the latter, so as to cause the bevel-gears to correspondingly move the hand or pointer to register or indicate the amount of cloth unwound from the web in the basket and wound upon the bobbin. As the skeleton frame is hinged to the box and carries the driving mechanism, it will be observed that the frame and attachments may be readily swung up out of the way when it may be desired to have access to the interior of the box.

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

1. A cloth-winding apparatus, comprising

a box having a semicircular series of rollers mounted in bearings fastened to the inner faces of the walls of the box, one of said rollers at the end of the series, serving as a frictionally-driven feed-roller, combined with a driving-roller adapted to be held in frictional contact with said feed-roller, a winding-bobbin, and means for rotating said driving-roller and bobbin, as set forth.

2. A cloth-winding apparatus comprising a box, a series of rollers arranged in a semicircle and mounted in suitable bearings on the inner faces of the opposite walls of the box, the roller at one end of said series serving as a friction feed-roller, a skeleton frame hinged to said box, a bobbin and a driving-roller mounted on said frame, said driving-roller adapted to be held in frictional contact with said feed-roller, and means for rotating the bobbin and driving-roller, as set forth.

3. A cloth-winding apparatus, comprising a box, a semicircular series of rollers mounted therein, a friction feed-roller, a skeleton frame hinged at one end to said box, a driving-roller journaled on said frame and designed to be held in frictional contact with said feed-roller, a winding-bobbin and an indicator also mounted upon said frame and connections between the driving-roller, bobbin and indicator for simultaneously operating the three, as set forth.

4. In combination with the box, the hinged frame mounted thereon, the rotatable stub-shaft journaled in said frame, a bobbin piv-

oted to said stub-shaft, a spring-actuated bobbin-head having a shank portion journaled in the opposite side of the frame and detachably held to the bobbin, and means for rotating the bobbin, as set forth.

5. In combination with the frame, the stub-shaft 14 with collar 15, the recessed member 20 pivoted to said stub-shaft, the bobbin-bars 21, pivoted at corresponding ends in said recessed member, the spring-actuated bobbin-head journaled in said frame opposite the said stub-shaft, said head being recessed to receive the free ends of the bobbin-bars, and means for rotating the bobbin, as set forth.

6. In combination with the frame, the stub-shaft 14, journaled in said frame, the recessed member 20, pivoted to said stub-shaft, the bobbin-bars 21 pivoted in said recessed member, a spring-actuated recessed bobbin-head having a shank portion journaled in said frame opposite the stub-shaft, one of the side walls of said head having an offset 26, and the springs 25 secured to the bobbin-head and designed to hold the free ends of said bobbin-bars against the end walls of the recessed bobbin-head, as set forth.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

GEORGE W. SPECHT.

Witnesses:

JOHN GROETZINGER,
M. HUNTER.