

March 24, 1936.

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2,035,006

MEASURING DEVICE FOR TEXTILE MACHINES

Filed Oct. 22, 1930

2 Sheets-Sheet 1

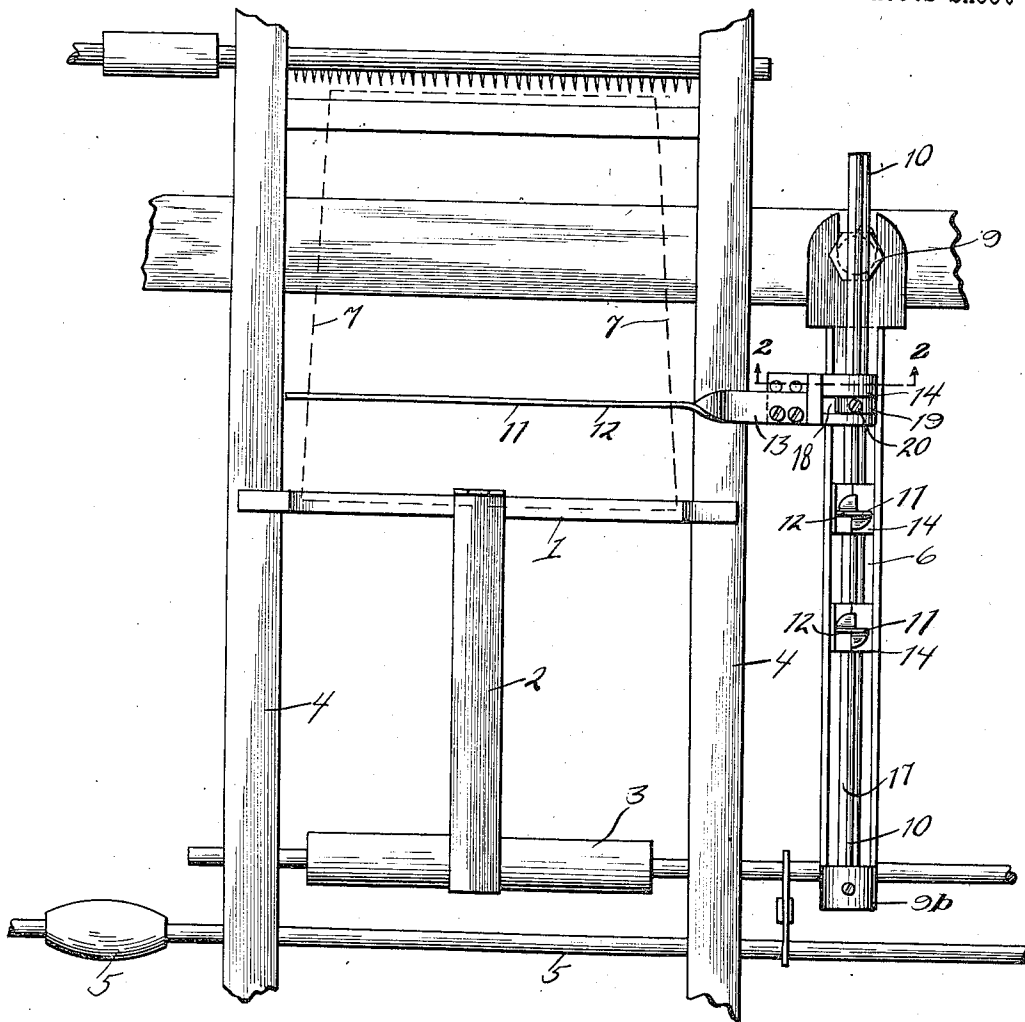


Fig. 1.

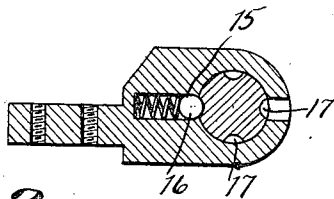


Fig. 2.

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2 Sheets-Sheet 2

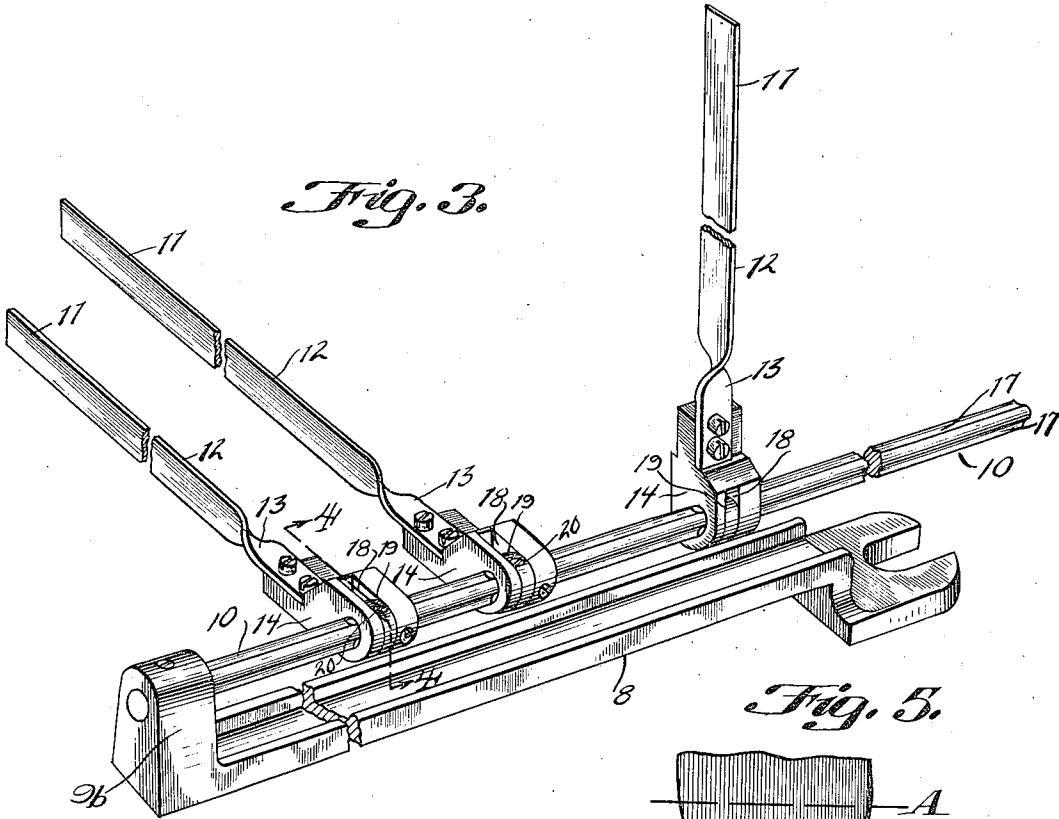


Fig. 5.

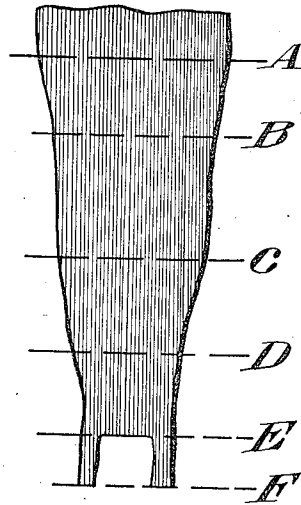
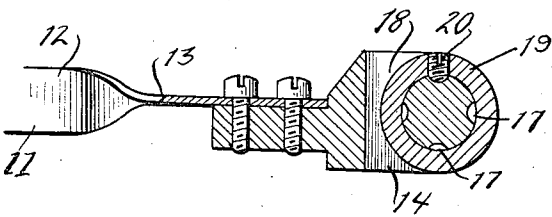


Fig. 4.



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MEASURING DEVICE FOR TEXTILE MACHINES

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3 Claims. (Cl. 66—147)

This invention relates to a measuring device for a textile machine and has for its primary object a design of device of this character that is of a simple construction and may be quickly connected to textile machines now in use to cooperate with the stocking being formed to give accurate visible indications to the operator when the machine is to be stopped.

An object of the invention relates to the novel design and correlation of a plurality of measuring arms that will enable the eye of the operator to be aligned with the measuring arms and the stocking being formed to accurately determine when the textile machine is to be stopped.

Another object of my invention resides in the use of a plurality of arms that may be quickly thrown to a horizontal or vertical position, the former an operative position, the latter an in-operative position.

A feature of my invention resides in the supporting of a measuring device contiguous to each individual knitting mechanism and including measuring elements that may be manually adjusted to accommodate variations in the size of stockings being manufactured.

Besides the above my invention is distinguished in the provision of a simplified device that is used individually with each stocking being formed, so that an accurate determination can be made as to the area or length of the various portions of the stocking being formed.

With these and other objects in view the invention will be better understood from the following detailed description taken in connection with the accompanying drawings wherein—

Figure 1 is a diagrammatic view illustrating my invention arranged in place.

Figure 2 is a cross sectional view on a line 2—2, Figure 1.

Figure 3 is a perspective view of the device removed from a textile machine.

Figure 4 is a sectional view on a line 4—4, Figure 3.

Figure 5 is a diagrammatic view of a stocking blank.

Again referring to the drawings illustrating one of the many constructions of my invention and more particularly to Figure 1 of the drawings, I have illustrated in a somewhat diagrammatic manner a portion of a textile machine including the usual stocking clamp 1, take up shaft 2, and take up roll 3. The frame of the machine includes the cross bars 4 upon which the stocking clamp 1 slides. The control rod 5 is arranged in a predetermined relation with my improved

device so that the operator when viewing my device may immediately reach the control rod for starting or stopping the machine.

My improved measuring device indicated in its entirety by the numeral 6, is arranged contiguous to the control rod 5 and take up roll 3 so that the various measuring elements thereof may be readily moved into co-operative relation with the stocking blank being formed as diagrammatically designated by the dotted line 7.

This measuring device in one of its many constructions as illustrated consists of a bracket 8 that is clamped to one of the usual bolts 9 carried by the frame of the textile machine. This bracket is provided with a bearing 9b in which is mounted at one end a rod 10, the bearing 9b spacing the rod 10 from the body of the bracket for a purpose hereinafter described.

The measuring elements or arms that are slidably mounted on the rod 10, and designated by the numeral 11, may be of any required number to correspond to the stop positions of the machine as indicated in Figure 5 at A, B, C, D, E and F. Of course it is to be understood that the number of stops may be increased or decreased according to requirements but for the purpose of illustration I have only shown three arms mounted upon the rod 10. Each measuring element arm 11 consists of a strip 12 having a shank 13 that is detachably secured to a head 14 slidably mounted on the rod 10. This head 14 carries a retainer 15 in the form of a spring pressed ball 16 that co-acts with the grooves 17 in the rod 10 to yieldably hold the arm either in a horizontal position or in a vertical position. Each head is further provided with a slot 18 receiving a stop collar 19 adjustably mounted on the rod 10 and effectively held in any one of its positions by a set screw 20.

In the use of the device the bracket 8 is clamped to the frame of a textile machine in a position to allow the arms to extend over the stocking being formed when the arms are thrown to a horizontal position. As the rod in this position will extend in parallel relation with the direction of travel of the stocking, it will be appreciated that by loosening set screw 20 a head may be adjusted along the rod so as to position the arm or strip carried thereby in proper position in relation to the clamp 1 and the stocking being formed. Tightening of the set screw fixes the position of the arm on the rod but enables the arm to readily swing to a vertical position which is an in-operative position. With this design of construction it will be appreciated that the arms

may be adjusted relative to each other for accommodating different size stockings and variations in the area of the different portions or sections of the stocking being formed. During the manufacturing of a stocking blank on a full fashioned knitting machine, it becomes necessary at certain definite points in the knitting process to arrest the machine in order to perform different manual operations either on the fabric or on the machine. For instance, when enough fabric has been knitted to form the welt, the operator stops the machine and manually transfers the setting up loops back to the needles and frees the welt transfer bar from the fabric; again, when a determined number of courses following the welt have been knitted to form the so-called welt extension, which is usually knitted of a relatively heavy yarn, the operator stops the machine in order to make the required adjustment for effecting a change of carriers whereby the proper carrier may be brought into action for the subsequent knitting of the sheer leg portion of the stocking. As is known in the art, it may also become desirable or necessary to stop the machine at other points during the making of the stocking. By using my improved device, it will be appreciated that the exact moment when the machine should be stopped may be accurately ascertained. Due to the fact that the arms when in operative position lie directly over the traveling stocking it will be appreciated that when the operator looks down on the stocking with the arms or blades properly aligning with the knitted fabric of the stocking, visible indications will be given to the operator as to when the control rod 5 is to be operated for stopping the machine. In the knitting of a stocking blank on a full fashion knitting machine, the stocking as knitted travels in a horizontal plane and in a direction at right angles to the direction of extension of the arms 11. As the stocking in its travel as knitted passes directly under the arms 11, it will be appreciated that the cross edge or free end of the stocking successively travels under the various arms so as to successively register with the arms when viewed from above. More specifically stated, the free edge of the stocking blank will first pass under the first arm, then after leaving the first arm will pass under the second arm and so on, thereby giving definite indications as set forth in the specification.

From the foregoing, it will be understood that in the examples given the spacing between the bank of needles and the first arm when not in operative position will be equal to the length of fabric necessary to form the welt, and that the spacing between the bank of needles and the second arm when in operative position will be equivalent to the combined length of the welt and welt extension. It is, of course, to be understood that the third, or subsequent arm, when required, may be adjusted likewise. Therefore, whenever the drawn edge of the fabric comes in parallel registration with one of the arms, the operator, upon viewing such registration, will know that it is time to stop the machine.

Of course it is to be understood that various other forms of supports may be utilized with my

group of measuring arms and various designs of measuring arms may be used in other arrangements and therefore I do not desire to be limited in protection in any manner whatsoever except as set forth in the following claims.

What I claim is:

1. In combination with the fabric take-up clamp of a full fashioned knitting machine, a measuring device comprising a rod rigidly supported in paralleling relation to the path of travel of said clamp; a plurality of relatively spaced heads freely received on said rod for longitudinal adjustment and capable of transversal, pivotal movement thereon, each of said heads having a slot cut therein to extend across the rod; a locking collar received within the slot in each head and engageable with the rod for securely positioning the heads in their respective longitudinal adjustment; a measuring arm projecting from each head to swing with the pivotal movement of the latter into and out of operative relation with said clamp; and means between each head and the rod operable to normally maintain in place the heads and measuring arms when pivoted from one position to another.

2. In combination with the fabric take-up clamp of a full fashioned knitting machine, a measuring device comprising a rod rigidly supported in paralleling relation to the path of travel of said clamp; a plurality of relatively spaced heads freely received on said rod for longitudinal adjustment and capable of transversal, pivotal movement thereon, each of said heads having a slot cut therein to extend across the rod; a locking collar received within the slot in each head and engageable with the rod for securely positioning the heads in their respective longitudinal adjustment; a measuring arm projecting from each head to swing with the pivotal movement of the latter into and out of operative relation with said clamp; and resilient means carried by the head and engageable with the rod operable to normally maintain in place the heads and measuring arms when pivoted from one position to another.

3. In combination with the fabric take-up clamp of a full fashioned knitting machine, a measuring arm comprising a rod rigidly supported in paralleling relation to the path of travel of said clamp and having spaced grooves extending throughout its length; a plurality of relatively spaced heads freely received on said rod for longitudinal adjustment and capable of transversal, pivotal movement thereon; said heads having a slot cut therein to extend across the rod; a locking collar received within the slot in said heads and engageable with the rod for securely positioning the heads in their respective longitudinal adjustment; a measuring arm projecting from each head to swing with the pivotal movement of the latter into and out of operative relation with said clamp; and a spring pressed ball carried by each of said heads and urged against the rod for selective engagement within said grooves in the latter, to normally maintain in place the heads and measuring arms when pivoted from one position to another.

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