

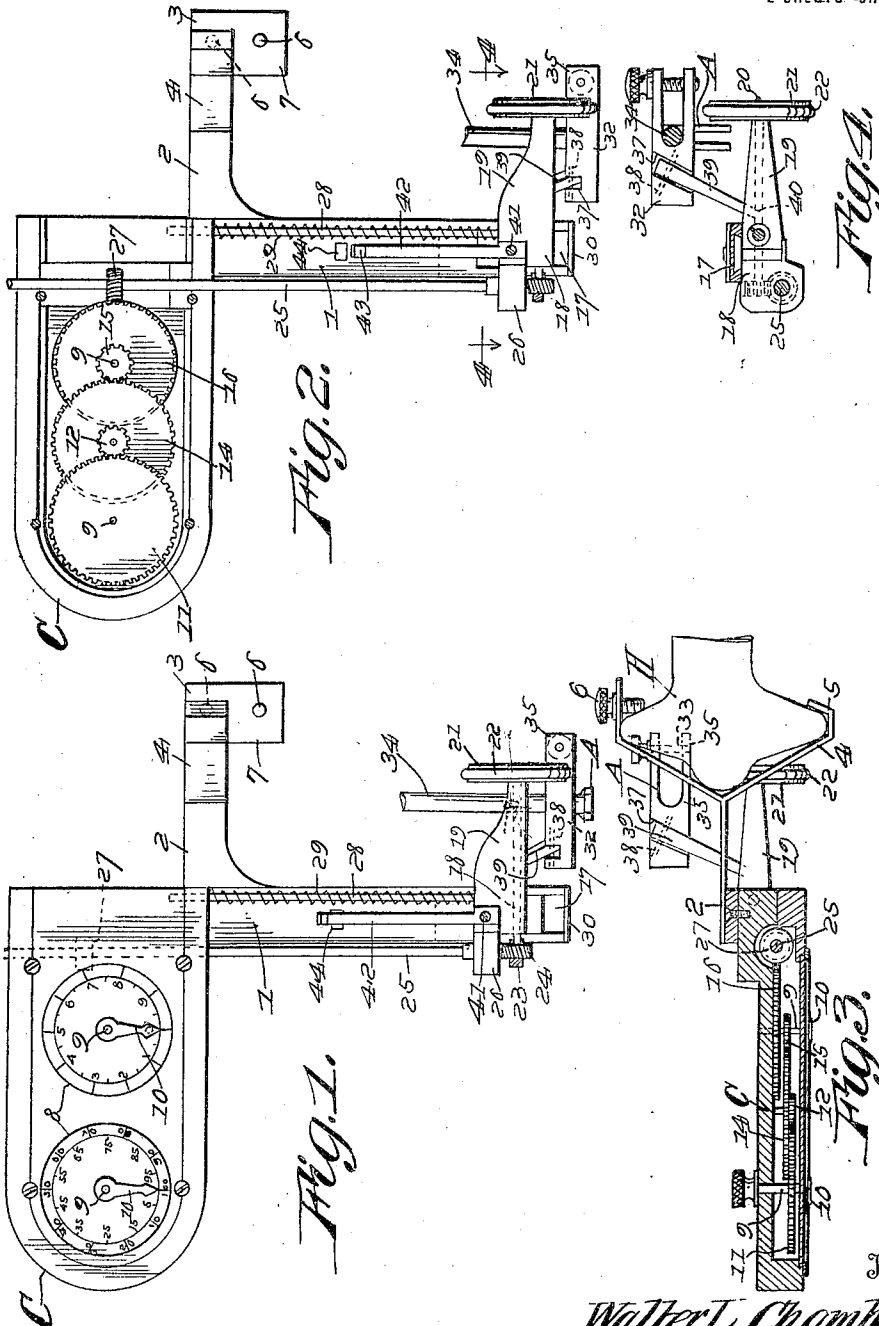
W. L. CHAMBERLIN.
MEASURING INSTRUMENT.

APPLICATION FILED SEPT. 3, 1921. RENEWED OCT. 7, 1922.

1,436,648.

Patented Nov. 28, 1922.

2 SHEETS—SHEET 1.



Inventor

Walter L. Chamberlin.

By *Watson E. Coleman*
Attorney

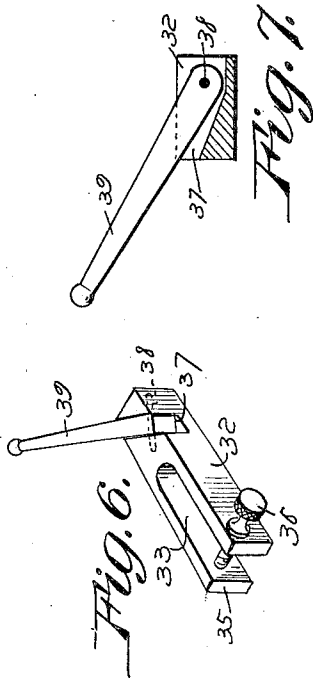
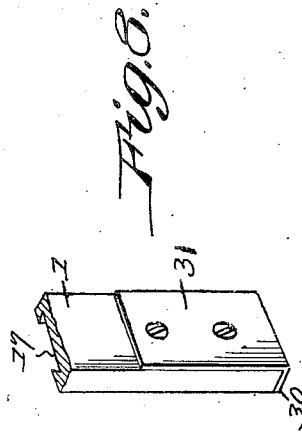
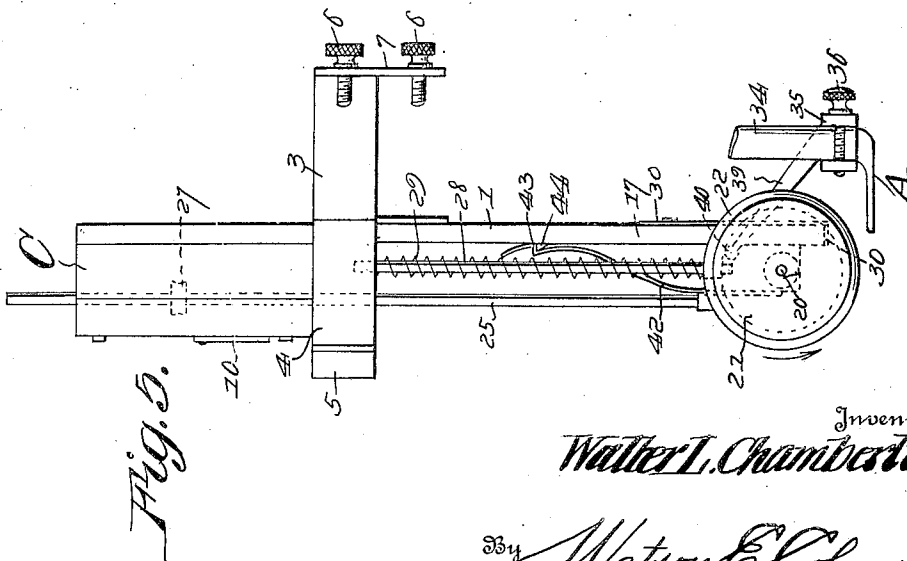
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UNITED STATES PATENT OFFICE.

WALTER L. CHAMBERLIN, OF LAUREL, MONTANA.

MEASURING INSTRUMENT.

Application filed September 3, 1921, Serial No. 498,317. Renewed October 7, 1922. Serial No. 593,146.

To all whom it may concern:

Be it known that I, WALTER L. CHAMBERLIN, a citizen of the United States, residing at Laurel, in the county of Yellowstone and State of Montana, have invented certain new and useful Improvements in Measuring Instruments, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in measuring instruments, and it is an object of the invention to provide a novel and improved device of this general character adapted to be associated with a sewing machine to indicate by linear measure the amount of work done by an operator.

Another object of the invention is to provide a novel and improved device of this general character embodying a roller positioned for contact with the work passing therebeneath, together with an indicating means operatively connected with said roller.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved measuring instrument whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in front elevation, as facing the operator illustrating a measuring device constructed in accordance with an embodiment of my invention, the foot of the sewing machine associated therewith being shown in fragment;

Figure 2 is a view similar to Figure 1 with certain of the parts removed;

Figure 3 is a view partly in section and partly in top plan of the device as herein disclosed, an adjacent portion of the sewing machine being fragmentarily indicated;

Figure 4 is a horizontal sectional view taken substantially on the line 4—4 of Figure 2;

Figure 5 is a view in side elevation of the device as herein disclosed;

Figure 6 is a view in perspective of the

member adapted for engagement with the foot of a sewing machine;

Figure 7 is a sectional view taken transversely of Figure 6; and

Figure 8 is a fragmentary view in perspective of the vertically disposed elongated member.

As disclosed in the accompanying drawings, 1 denotes an elongated member which, when the device is in applied position, is vertically disposed and substantially in parallelism with the head H of a sewing machine, and the upper portion of said member is provided with a laterally directed arm 2, Figs. 1 and 3, terminating in the diverging arms 3 and 4. The arm 4 is provided at its outer end with an inwardly facing hook 5 which engages a side portion of the head H of the sewing machine and the outer portion of the arm 3 is provided with the spaced clamping screws 6 engageable with the head H, whereby the measuring device is supported in working position. In order to provide for the requisite positioning of the screws 6, the outer or free end portion of the arm 3 is provided with a lateral extension 7 disposed downwardly when the device is in applied position.

Secured to the upper portion of the elongated member 1 and extending therefrom in a direction opposite to the arm 2 is a casing C provided on its outer face, or the face disposed toward the operator, with the dials 8, the graduations of the inner dial indicating units of feet from "1" to "10" and the outer dial indicating tens of feet from "10" to "100".

Positioned axially of each of the dials 8 is a shaft 9, said shaft extending beyond the forward or front face of the casing C and having fixed thereto a pointer or index 10 for coaction with the graduations of the dial. The shaft 9 of the outer dial within the casing C is provided with a gear wheel 11 meshing with an intermediate pinion 12. The pinion 12 rotates with a gear wheel 14 in mesh with a pinion 15 carried by the inner shaft 9. The inner shaft 9 also has fixed thereto a worm wheel 16. The ratio of the pinion 15 and the gear 11 is ten to one, so that upon ten revolutions of the pinion 15, the gear 11 will make one revolution.

The outer face, or the face disposed toward the operator, of the member 1 is provided with a longitudinally disposed dove-

tailed groove 17 open at its lower end and slidably mounted within said groove 17 is a block 18 Figs. 1 and 2. The block 18 is provided with an extension 19 disposed inwardly or toward the head H and terminates in close proximity to the presser foot A of the sewing machine.

Extending through the extension 19 and the block 18 is a shaft 20, Fig. 4, said shaft extending beyond the outer end of the extension 19 and having fixed thereto a roller or wheel 21. The wheel 21 is provided with a tread 22 preferably of rubber and said wheel preferably has a circumferential dimension of three inches, so that four revolutions will equal one foot of material passing below the wheel and which the tread 22 contacts.

The shaft 20 also extends to one side of the block 18 and said last named extended portion has fixed thereto a worm 23 meshing with a worm 24 carried by a vertically disposed shaft 25. The shaft 25 has its lower portion mounted in a bearing 26 carried by the block 18 and the upper end portion of said shaft extends through and is rotatably supported by the casing C, said shaft being capable of endwise movement independently of the casing.

The shaft 25 within the casing C has fixed thereto a worm 27, adapted, when the block 18 is in its normal or lowermost position, to mesh with the worm gear 16 hereinbefore referred to so that as the wheel 21 rotates, the worm wheel 16 and the gear 11 are caused to rotate to effect the desired register of the material passing below the wheel 21 and with which the tread 22 contacts.

Extending upwardly from the block 18 is a rod 28, the upper end portion of which is slidably engaged with the casing C. Encircling the rod 28 and interposed between the block 18 and the inner or lower face of the casing C is a coil spring 29 which serves to constantly urge the block 18 downwardly, the limit of said downward movement being effected by contact of the wheel 21, or more particularly the tread 22 thereof, with the work passing therebelow. The block 18 is held against passing out of the dove-tailed groove 17 by a flange 30 underlying the lower and open end of said groove, said flange being carried by a plate 31 suitably secured to the rear face of the member 1.

32 denotes a block having one end portion bifurcated, as at 33, so that the same may straddle the bar 34 of the presser foot A and associated with the arms 35 afforded by the bifurcation 33 is a screw member 36 whereby the block 32 may be effectively held in applied position upon the bar 34.

The opposite end portion of the block 32 is provided with a transversely directed but obliquely disposed channel or groove 37 in which is pivotally engaged, as at 38, Fig.

7, an end portion of an elongated arm 39. The free end portion of the arm 39 extends within an opening 40, Fig. 4, produced in the extension 19 of the block 18 so that the block 18 and the parts carried thereby will rise and fall with the presser foot and as may be occasioned during a sewing operation. The block 18 will also be raised to bring the wheel 21 into a raised or inoperative position when the presser foot is raised. By this latter operation, the registering mechanism is rendered inoperative during the periods that the wheel 21, or more particularly the tread 22 thereof, is out of contact with the work passing therebeneath. As the block 18 is moved upwardly, the shaft 25 is also lifted, resulting in the worm 27 being disengaged from the worm wheel 16.

Pivotally engaged, as at 41, Fig. 1, with the block 18 is the lower end portion of an elongated resilient arm 42. The opposite end portion of the arm 42 is provided with a hook or catch 43, Fig. 5, adapted to engage a lug 44 carried by the member 1, said hook or catch 43 being engaged with the lug 44 when the block is in its lower normal position.

The resiliency of the arm 42 is sufficient to permit the upward movement of the block 18 under the influence of the presser foot A or the bar 34. However, when it is desired to raise the block 18 a distance further than that effected by the raising of the presser foot, this additional movement of the block may be conveniently had by taking hold of the arm 42. It is to be understood that when the presser foot A is raised, the catch 43 disengages the lug 44 but with the presser foot A and the block 18 down, the resiliency of the arm 42 permits sufficient play to compensate for the up and down movement of the presser foot as the work passes therebelow.

From the foregoing description it is thought to be obvious that a measuring instrument constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. In combination with a sewing machine including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser foot, a registering mechanism carried by the

member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the presser foot, a wheel carried by the block
 5 for contact with the work, and means for operatively connecting the wheel and the registering mechanism.

2. In combination with a sewing machine including a presser foot, a measuring device
 10 comprising a member adapted to be supported by the machine adjacent the presser foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the
 15 block toward the work passing beneath the presser foot, a wheel carried by the block for contact with the work, means for operatively connecting the wheel and the registering mechanism, and means for rendering
 20 the registering mechanism inoperative.

3. In combination with a sewing machine including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser
 25 foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the presser foot, a wheel carried by the block
 30 for contact with the work, means for operatively connecting the wheel and the registering mechanism, an operative connection between the presser foot and the block for moving the block upwardly upon upward
 35 movement of the presser foot, and means operating upon upward movement of the block to render the registering mechanism inoperative.

4. In combination with a sewing machine including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser
 40 foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the presser foot, a wheel carried by the block
 45 for contact with the work, means for operatively connecting the wheel and the registering mechanism, and an operative connection between the presser foot and the block to
 50 cause said block to have up and down movement with the presser foot.

5. In combination with a sewing machine including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser
 55 foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the presser foot, a wheel carried by the block
 60 for contact with the work, means for operatively connecting the wheel and the registering mechanism, a member operatively en-

gaged with the presser foot for movement therewith, and an arm connecting said last named member and block to cause the block to have movement with the presser foot.

6. In combination with a sewing machine
 70 including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser foot, a registering mechanism carried by the
 75 member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the presser foot, a wheel carried by the block for contact with the work, means for operatively connecting the wheel and the registering
 80 mechanism, a member operatively engaged with the presser foot for movement therewith, and an arm pivotally engaged with the second named member and operatively connected with the block to cause the
 85 block to have upward movement with the presser foot.

7. In combination with a sewing machine including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser
 90 foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the
 95 presser foot, a wheel carried by the block for contact with the work, means for operatively connecting the wheel and the registering mechanism, an operative connection between the presser foot and the block for moving
 100 the block upwardly upon upward movement of the presser foot, means operating upon upward movement of the block to render the registering mechanism inoperative, and co-acting means carried by the block and mem-
 105 ber for holding said block against undue movement independently of the member.

8. In combination with a sewing machine including a presser foot, a measuring device comprising a member adapted to be supported by the machine adjacent the presser
 110 foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the
 115 presser foot, a wheel carried by the block for contact with the work, means for operatively connecting the wheel and the registering mechanism, an operative connection between the presser foot and the block for
 120 moving the block upwardly upon upward movement of the presser foot, means operating upon upward movement of the block to render the registering mechanism inoperative, and a resilient arm normally connect-
 125 ing the block and the member to normally hold said block against undue movement independently of the member.

9. In combination with a sewing machine including a presser foot, a measuring device
 130

comprising a member adapted to be supported by the machine adjacent the presser foot, a registering mechanism carried by the member, a block slidably supported by the member, means for constantly urging the block toward the work passing beneath the presser foot, a wheel carried by the block for contact with the work, means for operatively connecting the wheel and the registering mechanism, an operative connection between the presser foot and the block for moving the block upwardly upon upward movement of the presser foot, means operating upon upward movement of the block to render the registering mechanism inoperative, and a resilient arm normally connecting the block and the member to normally hold said block against undue movement independently of the member, said arm being releasably engaged with the member.

In testimony whereof I hereunto affix my signature.

WALTER L. CHAMBERLIN.