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R. B. LUSE, C. E. DONLIN & P. H. STEWART.

CLOTH MEASURE.

(No Model.)

(Application filed Jan. 20, 1898.)

2 Sheets--Sheet 1.

Fig. 1.

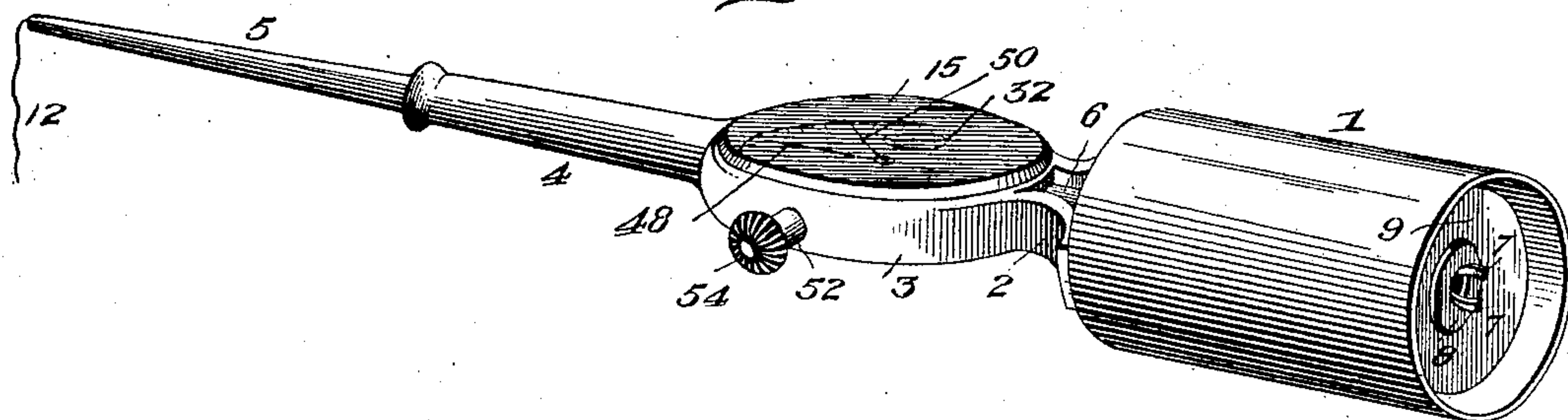


Fig. 2.

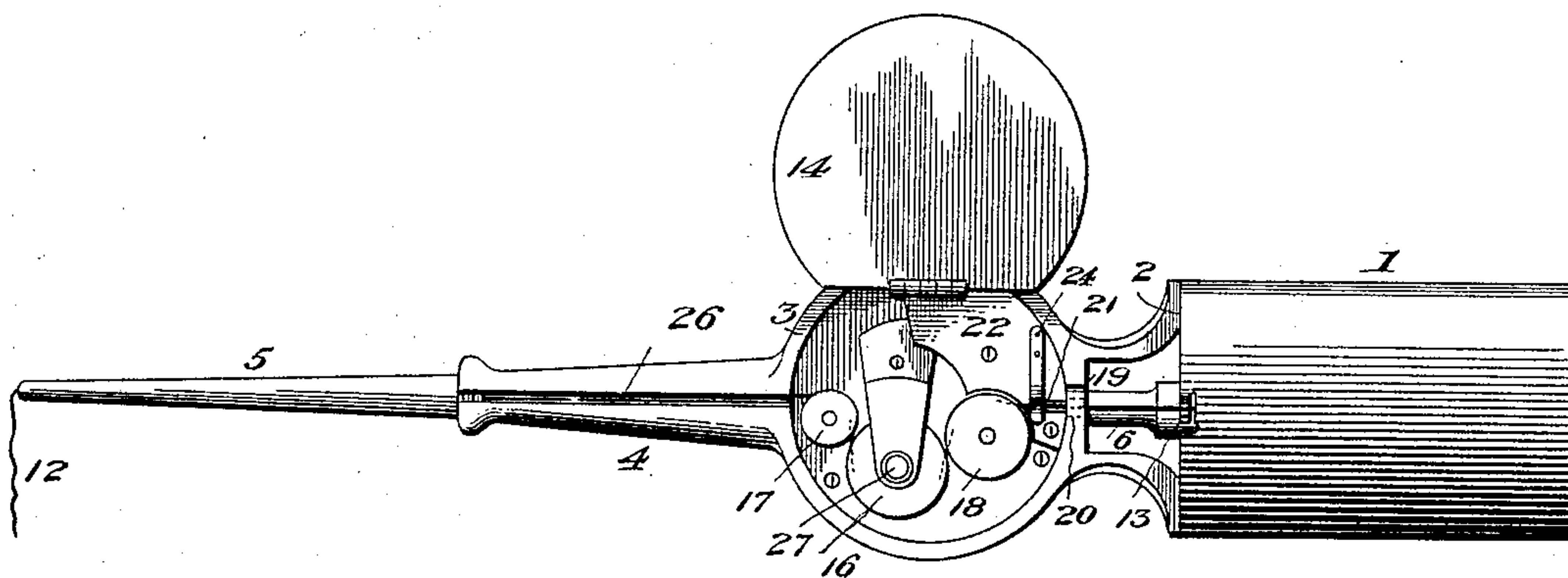
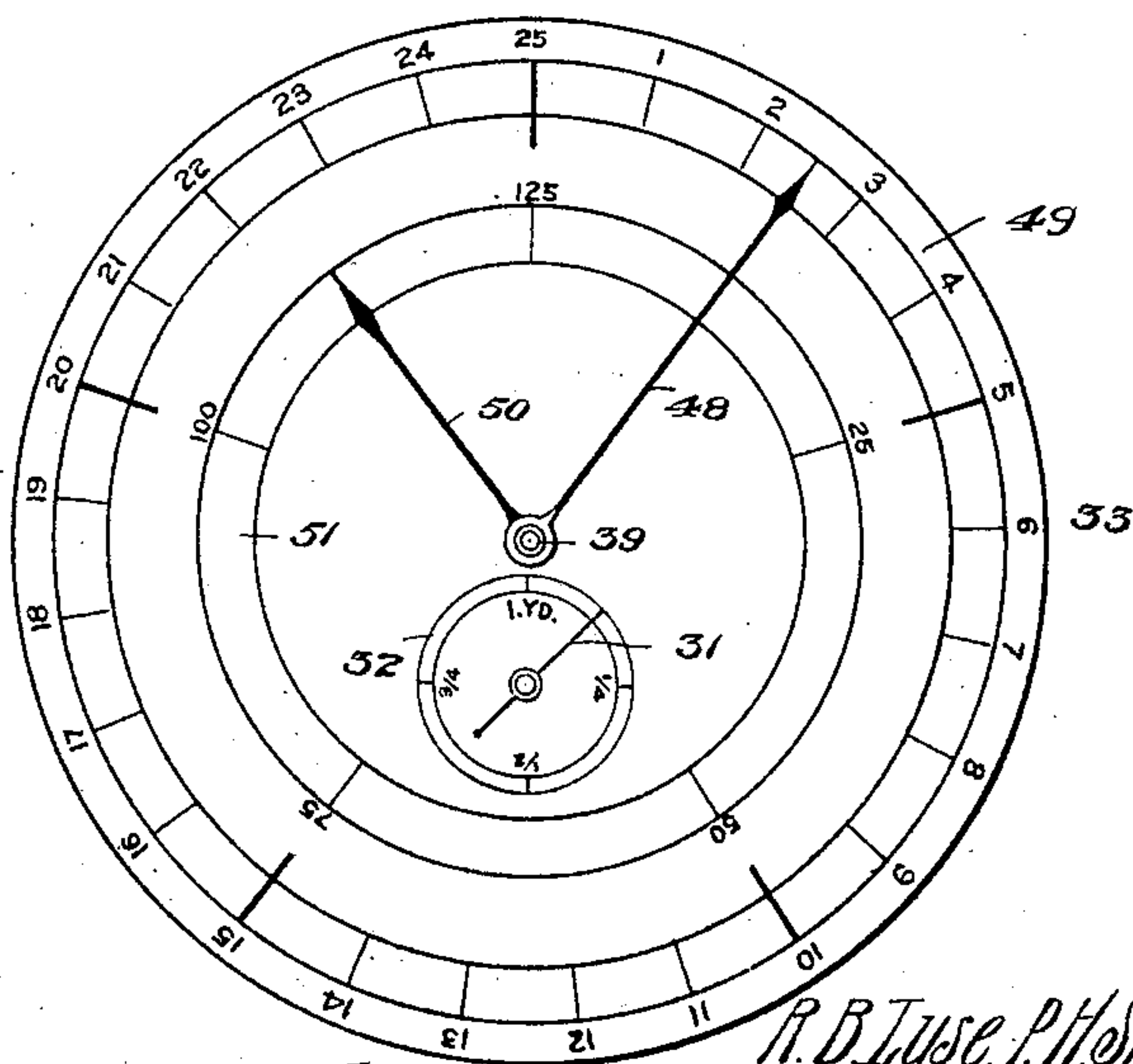


Fig. 5.



Witnesses

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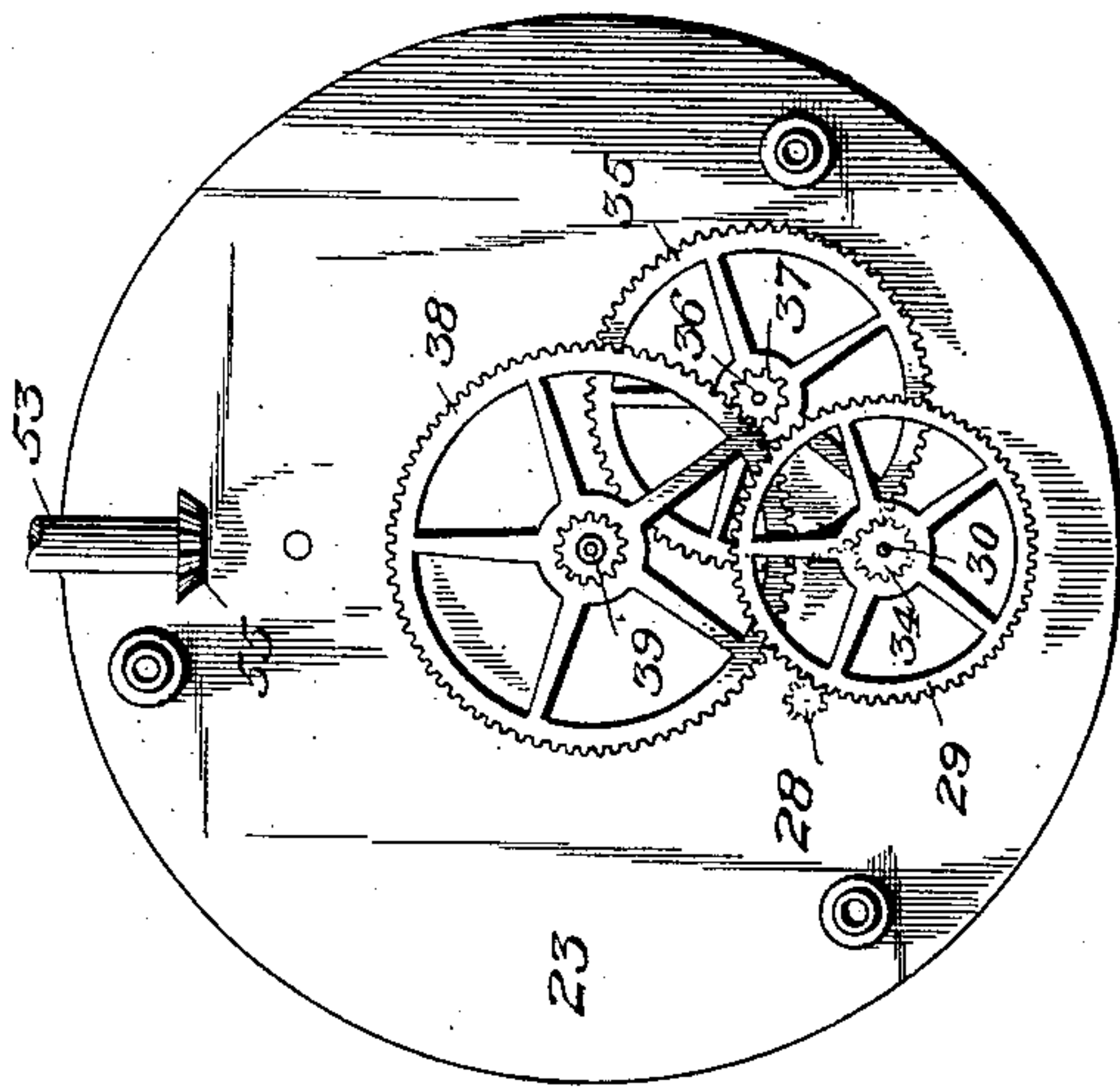
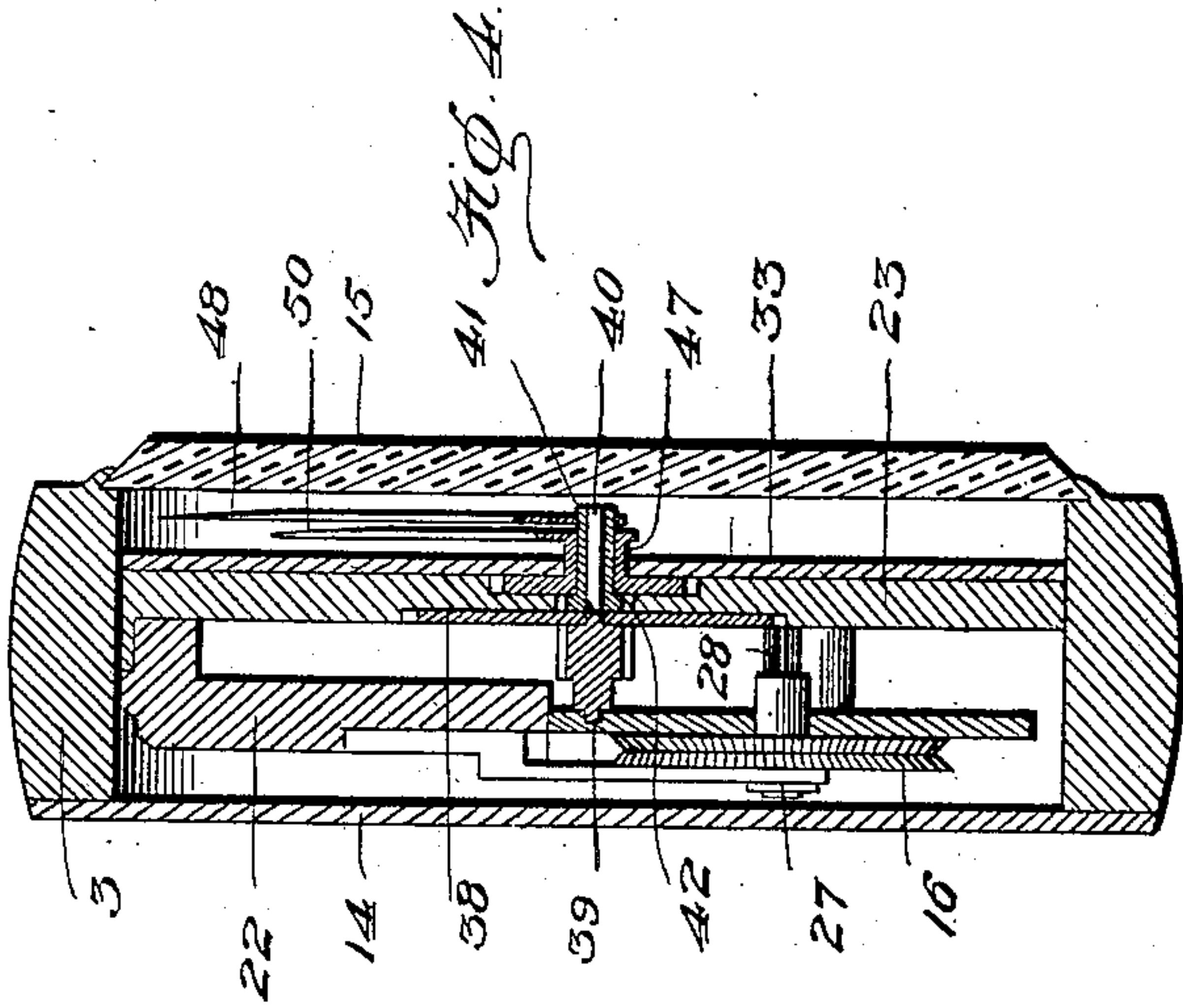
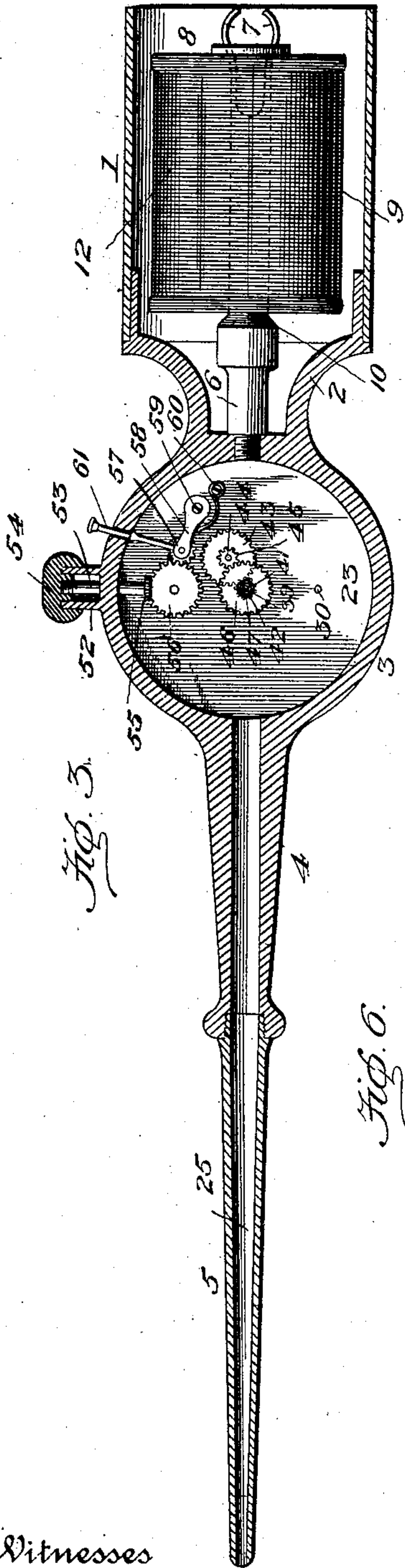
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# UNITED STATES PATENT OFFICE.

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## CLOTH-MEASURE.

SPECIFICATION forming part of Letters Patent No. 615,290, dated December 6, 1898.

Application filed January 20, 1898. Serial No. 667,335. (No model.)

*To all whom it may concern:*

Be it known that we, RILEY B. LUSE, CHARLES E. DONLIN, and PERRY H. STEWART, citizens of the United States, residing at Hopkins, in the county of Nodaway and State of Missouri, have invented certain new and useful Improvements in Cloth-Measures; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

Our invention relates to improvements in cloth-measuring devices, and more particularly to that class wherein a thread actuating a train of self-registering gearing is inserted by means of a guide-sleeve or hollow finger between the fold of the end of the bolt and, beginning at the inner end of the cloth, is carried around the folds backward and forward until the opposite end of the cloth is reached, so that the amount or length of the thread required to traverse the cloth will be registered by the gearing, and thereby indicate the length of the cloth in the bolt; and the object is to provide a simple, effective, and reliable device of this class.

To this end the invention consists in the construction, combination, and arrangement of the several elements of the device, as will be hereinafter more fully described, and particularly pointed out in the claim.

The accompanying drawings show our invention in the best form now known to us; but many changes in the details might be made within the skill of a good mechanic without departing from the spirit of our invention, as set forth in the claim at the end of this specification.

The same reference characters in the drawings indicate the same parts of the invention.

Figure 1 is a perspective view of our improved cloth-measure. Fig. 2 is a rear view with the cover open. Fig. 3 is a longitudinal section taken behind the dial. Fig. 4 is a central longitudinal section taken at a right angle to the view shown in Fig. 3. Fig. 5 is an enlarged plan view of the dial and registering-hands. Fig. 6 is a plan view of the gear system.

1 represents the hollow cylindrical handle, provided at one end with the yoke 2, formed

with the circular casing 3, from which the integral socket 4 extends in the same longitudinal line with the handle 1, and 5 represents the tubular needle for carrying the thread between the folds of the bolt, and it is screw-threaded at its inner end, so as to be detachably secured in the outer end of the socket 4, as shown.

6 represents a spindle fixed in the casing 3 and extending centrally through the axis of the handle 1, its outer end terminating in integral diverging tension spring-fingers 7 7, on which is removably secured the friction-washer 8.

9 represents the spool, mounted so as to freely revolve on the spindle, its inner end being held in frictional contact with the conical shoulder 10 on the spindle by means of the washer 8, which is pressed against the opposite end of the spool by the spring-fingers 7 7, so as to keep the thread 12 on the spool from overriding when the tool is in use.

13 represents a guard-guide for the thread 12 as it leaves the spool, and it consists of a curved finger formed integral with the inner edge of the cylindrical shell which forms the handle 1, so as to conduct the thread outwardly and prevent it from coming in frictional contact with the spool.

14 represents the hinged cover by means of which access is had to the registering mechanism, and 15 denotes the fixed glass protecting-cover for the dial.

16 represents the thread-actuated wheel, which is formed with a circumferential groove transversely serrated or milled to facilitate its engagement with and prevent the thread slipping.

17 18 represent the grooved guide-rollers, journaled in the same plane with the wheel 16, and which serve to conduct the thread to and from said wheel. The thread passes from the spool through the guide 13, thence through a diagonal slot 19, which communicates with a guide-orifice 20 in the casing, thence through a radial groove 21 formed in the circular plate 22 and alined with the groove in the perimeter of the guide-roller 18.

24 represents a tension-spring fixed at one end to said plate 22, and its free end extends transversely across the face of said groove to



retain the thread therein and also create sufficient friction on the thread to enable it to operate the wheel 16. From the roller 18 the thread 12 passes part way around the wheel 16, thence to the guide-roller 17, the periphery of which is alined with the longitudinal guide-orifice 26 in the socket 4, and from the socket 4 through the alined guide-orifice 25 in the needle 5. The socket 4 is formed with a longitudinal groove which communicates with the guide-orifice 25 to facilitate the insertion of the thread. The wheel 16 is fixed on the projecting end of the shaft 27, journaled in the plates 22 23, and said shaft is provided with a pinion 28, which meshes with a gear-wheel 29, fixed on the shaft 30, the end of which extends through the plate 23 to receive the hand 31, which registers the fractions of a yard on the scale 32 of the dial 33.

34 denotes a pinion on the shaft 30, which meshes with a gear-wheel 35 on a shaft 36, which in turn is provided with a pinion 37, meshing with a gear-wheel 38 on the central shaft 39, one end 40 of which extends through the plate 23.

41 denotes a sleeve snugly encompassing said projecting end 40, so as to be carried by said shaft by friction; but if pressure be applied to said sleeve, as will be hereinafter more fully described, then the sleeve can be rotated independently of said shaft.

42 represents a pinion fixed on the inner end of said sleeve, which meshes with a gear-wheel 43, journaled on a stud 44, fixed in the plate 23, and 45 represents a pinion carried by the gear-wheel 43, which in turn meshes with a gear-wheel 46, fixed on the lower end of a sleeve 47, loosely rotating on the sleeve 41, the agreement of the gearing being such that one complete revolution of the shaft 30 is made for each yard of thread passing over the wheel 16, and twenty-five revolutions of the shaft 30 cause one revolution of the shaft 39, and twenty-five revolutions of the said shaft 39 cause one revolution of the sleeve 47. Of course this system of gearing is optional and may be varied at will in the construction of the measure, preference only being had for the decimal system of registering.

The sleeve 41 carries a hand 48, which registers on the outer scale 49 on the dial 33, and the sleeve 47 carries a shorter hand 50, which registers on the inner concentric scale 51.

52 represents a hollow post extending radially from the casing 3, in which is journaled the shaft 53, on the outer end of which is fixed the milled-head button 54. The inner end of

this shaft carries a bevel-gear 55, which meshes with a spur-gear 56, which in turn meshes with an idler 57, journaled in an oscillating plate 58, which is pivoted on the screw 59, fixed in the frame-plate 23. The idler also meshes with the gear-wheel 43 on the stud 44, so that the hands 48 and 50 may be quickly returned to the unison or zero point by means of the milled-head button 54. The idler 57 is normally held out of mesh with the gear-wheel 43 by the spring 60, and 61 represents a rod fixed at its inner end to the free end of the plate 58 and extending through the casing, so that when said rod is pushed in the idler will be thrown into engagement with the gear-wheel 43.

The manner of using the measure is very simple, and may be briefly described as by inserting the needle at the inner end of the bolt and securing the end of the thread, then passing the needle back and forth between the folds until the outer end of the cloth is reached. The thread as it is paid out rotates the wheel 16, which in turn operates the hands, and thus indicates or registers the length of the thread paid out, which of course conforms to the length of the cloth in the bolt.

Having thus fully described our invention, what we claim as new and useful, and desire to secure by Letters Patent of the United States, is—

In a cloth-measure, the combination with the cylindrical handle 1 formed with the integral guard-guide finger 13, the yoke 2, the casing 3 formed with the guide-orifice 20, and the diagonal slot 19 communicating with said orifice, the longitudinally-slotted socket 4 formed with the central longitudinal orifice 26, and the needle 5 formed with the alined guide-orifice 25, of the spindle 6 fixed at one end in said casing and extending axially through said handle and terminating in the diverging tension spring-fingers 7, 7, the washer 8 removably engaging said fingers, the thread-actuated wheel 16, and the grooved guide-rollers 17 and 18 journaled in the same plane with said wheel, the dial-scale, the hands 48 and 50 and a train of gearing connecting said wheel 16 and hands 48 and 50, substantially as shown and described.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

RILEY B. LUSE.  
CHAS. E. DONLIN.  
PERRY H. STEWART.

Witnesses:

N. H. HERBERT,  
K. BECKWITH.