

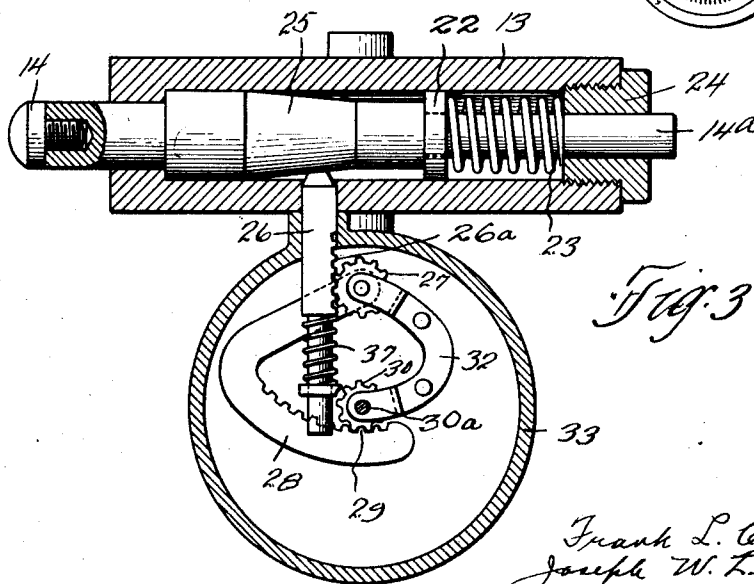
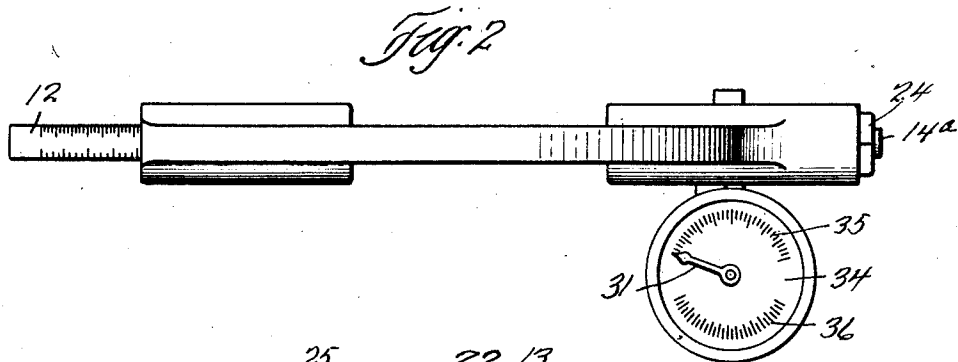
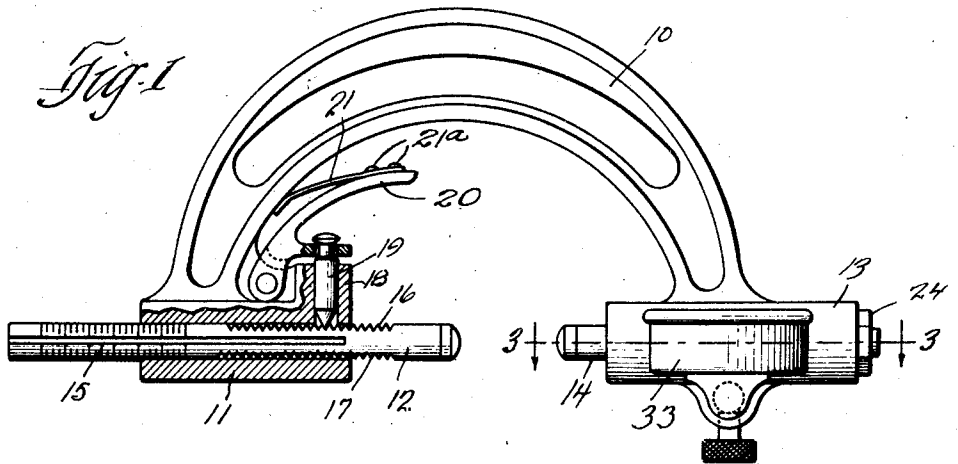
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F. L. CHAPERLO ET AL

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INDICATING CALIPER

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Inventor

Frank L. Chaperlo
Joseph W. Lungele

By: Hull Brock West Attorney

UNITED STATES PATENT OFFICE.

FRANK L. CHAPERLO AND JOSEPH W. ZENGERLE, OF CLEVELAND, OHIO.

INDICATING CALIPER.

Application filed August 15, 1927. Serial No. 212,878.

This invention is an improved construction of indicator caliper, the object being to provide a simple and highly efficient device which can be applied to the material to be measured while said material is in motion.

Another object of the invention is to provide a tool which can be used to indicate measurements in inches and measurements in the metric system.

Another object of the invention is to provide a tool in which it will only be necessary to apply the same to the article to be measured and the measurement in inches or millimeters will be indicated upon a dial, the movement of one of the parts serving to operate a pointer or hand for indicating upon the dial the measurement in external diameter of the article measured.

With these various objects in view, the invention consists in the novel features of construction and in the manner of constructing and arranging the same, all of which will be fully described hereinafter and set forth in the appended claims.

In the drawings forming part of this specification, Fig. 1 is a side elevation of the device partly in section; Fig. 2 is a top plan view of the same and Fig. 3 is an enlarged sectional view of the pointer operating mechanism.

In the practical embodiment of our invention, we employ a yoke shaped handle portion 10 having a tubular portion 11 at one end in which is mounted the manually adjusted spindle 12 while at the other end of the handle shaped yoke is the tubular portion 13 in which works the adjustable spindle 14 which actuates the indicating pointer. The manually operated spindle 12 may be round or square in cross section being provided with a keyway 15 to prevent turning. One face of this spindle 12 is provided with serrations 16 which are graduated according to the fractions of an inch while upon the other side there are provided serrations 17 which are graduated according to the metric system. The tubular portion 11 is provided with a vertical extension 18 in which works the pin 19 the inner end of which engages the serrated face of the spindle and holds the spindle against longitudinal movement. This pin is operated by means of the trigger 20 normally held depressed by means of the spring 21 secured to said trigger by rivets 21^a.

The spindle 12 is removable longitudinally for the purpose of reversing the same from the side graduated in inches to that graduated according to the metric system and vice versa.

The adjustable spindle 14 is movable in the tubular housing 13 and is provided with a collar 22 against which bears a coil spring 23 contained within the tubular housing and tensioned by means of screw plug 24 screwed into the end of the tubular housing, said screw plug being apertured for the reduced end 14^a of the adjustable spindle to work through.

The adjustable spindle is formed with a tapered portion 25 with which contacts the end of a plunger 26, said plunger having rack teeth 26^a cut therein and adapted to engage a toothed pinion 27 which is secured to and operates the curved arm 28 provided with a toothed arc 29 which in turn meshes with a pinion 30 secured on the shaft 30^a on which is fixed the indicating pointer or hand 31. The pinion 27 and pinion 30 are carried by a frame 32 arranged within a substantially cylindrical shaped casing 33 connected to one side of the tubular housing 13 and through which the plunger 26 works. The casing 33 may be made integral with or attached to the tubular housing as preferred.

The casing is provided with a dial 34 having graduations 35 and 36, one being in inches and the other according to the metric system and this dial is rotatable in the casing 33 so as to bring either set of graduations next to the tubular housing 13 and in position for indicating with the hand or pointer 31 the measurement of the article being measured. The casing 33 is provided with the usual dial seat on which the dial 34 is free to be rotated about the pin 30^a.

In operation the spindle 12 is adjusted at any desired point with the proper graduated side uppermost and the dial 34 will be fixed to correspond with the scale of graduations on the spindle 12. The device as a whole is then placed on the article to be measured and inasmuch as the post or spindle 12 is fixed the adjustable spindle will be moved and this movement of the adjustable spindle 14 will on account of the tapered portion 25 thereof operate the plunger 26 which in turn meshing with the toothed pinion 27 will cause the arm 28 to move rotating the pinion 29 and moving the pointer

or hand 31 a distance indicating the external diameter of the article being measured.

When the device is removed from the article being measured, the spring 23 will return the adjustable spindle to its normal position and the coil spring 37 surrounding the reduced end of the post 26 will cause this post to resume its normal position, bringing back the pointer 31 and the arm 28 to their normal position.

It will thus be seen that by means of a device constructed as herein shown and described the external diameter of the article can be measured while said article is being rotated as it is only necessary to force the device down upon said article and read the measurement upon the dial thereby avoiding the necessity of stopping the machine for the purpose of calipering the article being turned.

Having thus described our invention, what we claim is:

1. In a device of the kind described, a yoke having a tubular housing at each end thereof, a graduated spindle fixed in one housing and capable of adjustment with reference thereto, a spring actuated spindle movable in the other housing, a casing con-

nected to said housing which carries the spring actuated spindle, said casing having a dial and pointer, the movable spindle having a tapered portion, a spring actuated plunger contacting with said tapered portion and means operated by said plunger for moving said pointer.

2. In a device of the kind described, a yoke having a tubular housing at each end thereof, a graduated spindle fixed in one housing, and adjustable with reference thereto, a spring actuated locking pin for holding said spindle in its adjusted position, a spring actuated spindle arranged in the other housing and having a tapered portion, a casing connected to the said housing which carries the spring actuated spindle and provided with a graduated dial and a pointer, a spring actuated plunger arranged in said casing and contacting with said tapered portion of the spindle and means contained within said casing whereby the movement of the plunger is communicated to the indicating pointer.

In testimony whereof, we hereunto affix our signature.

FRANK L. CHAPERLO.
JOSEPH W. ZENGERLE.