

Feb. 2, 1926.

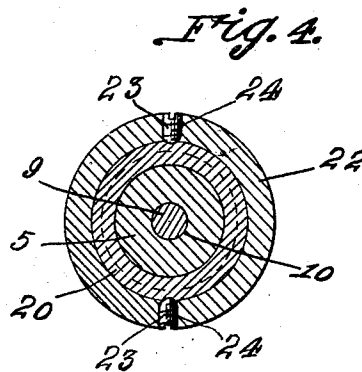
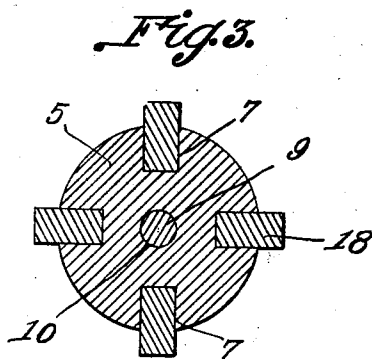
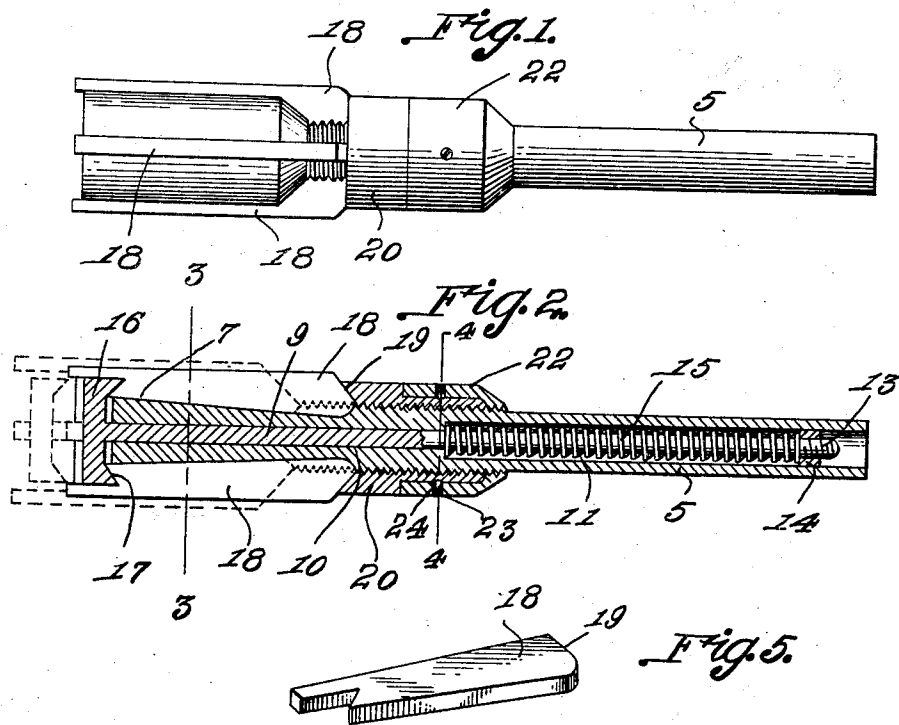
J. R. AULENBACK

1,571,783

ADJUSTABLE GAUGE

Filed Feb. 13, 1925

2. Sheets-Sheet 1



Leahurst,

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Feb. 2, 1926.

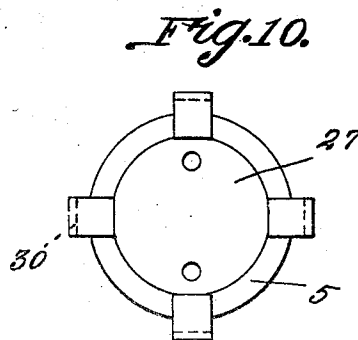
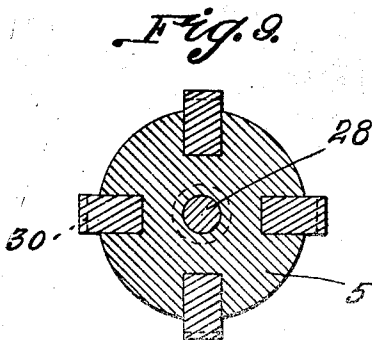
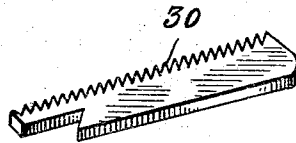
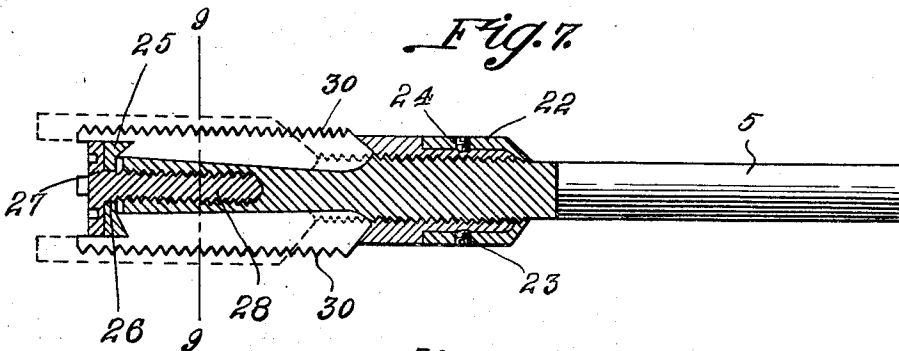
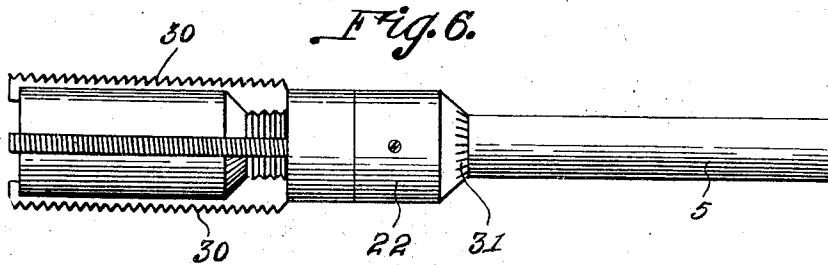
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ADJUSTABLE GAUGE

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2 Sheets-Sheet 2



Leahy

WITNESS:

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Patented Feb. 2, 1926.

1,571,783

UNITED STATES PATENT OFFICE.

JAMES ROY AULENBACH, OF WORCESTER, MASSACHUSETTS.

ADJUSTABLE GAUGE.

Application filed February 13, 1925. Serial No. 9,001.

To all whom it may concern:

Be it known that I, JAMES ROY AULENBACH, a subject of the King of Great Britain, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented new and useful Improvements in Adjustable Gauges, of which the following is a specification.

This invention relates to adjustable gauges and its principal object is to provide a gauge which can be readily and quickly adjusted to holes of different diameters to ascertain the diameter of the hole.

A further object of the invention is to provide a device for measuring or ascertaining the diameter of openings which consist of a series of longitudinally adjustable blades to engage the walls of the hole which after being adjusted to the walls of the hole will be positively locked in such position so that an accurate reading will be had.

The invention also contemplates an adjustable tool which can be readily set at a predetermined measurement to gauge finished tools and thereby ascertain whether or not the same are of the correct measurement.

With the preceding and other objects and advantages in view, the invention consists in the novel combination of elements, arrangement of parts and operations to be hereinafter specifically referred to, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings:

Figure 1 is a side elevation of a gauge embodying my invention.

Figure 2 is a longitudinal sectional view of the same.

Figure 3 is a sectional view taken on line 3—3 of Figure 2.

Figure 4 is a sectional view taken on line 4—4 of Figure 2.

Figure 5 is a perspective of one of the blades embodying the invention.

Figure 6 is an elevation of a modified embodiment of the invention.

Figure 7 is a longitudinal sectional view of the same.

Figure 8 is a perspective of one of the blades used in the modified embodiment of the invention.

Figure 9 is a sectional view taken on line 9—9 of Figure 7, and Figure 10 is an end elevation of the device.

Referring to the drawing in detail, and particularly to Figures 1 to 5 inclusive, the

numeral 5 designates a shank having one end tapered from a point intermediate its ends to its outer end and provided with a plurality of grooves 7 which diverge to the wider or outer end of the tapered part. This shank 5 is formed with a continuous bore which is of increased diameter from a point intermediate its ends to its inner end. This bore is designated generally at 10 and the wider end thereof is indicated at 11. A longitudinally adjustable rod 12 extends through the bore and has its inner end threaded as at 13 and engaged with a longitudinally movable nut 14 which is received in the part 11 of the bore 10. An expandible coil spring 15 encircles the part 10 and has one end positioned against the nut 14 and its other end bearing against the shoulder afforded by the formation of the bore.

A head 16 is formed upon the outer end of the rod 9 and has its inner end bevelled as at 17. Longitudinally movable in the groove 6 is a plurality of blades 18 having their inner faces inclined in the same direction as the faces of the groove 6. The forward ends of these blades are provided with notches, the inner walls of which are bevelled in the same plane as the bevelled edge 17 on the head 16 so that the bevel face 17 will interlock with the notches. The opposite ends of the blades are bevelled as at 19 and are engaged by the bevelled inner end of an adjusting sleeve 20 threaded on the threaded surface 21 of the shank 5. A thimble 22 is received on the threaded sleeve 20 and the shank 5 and is locked thereto by diametrically opposite pins 23 extending from the sleeve 20 and engaged in openings 24 in the thimble.

In the use of the invention disclosed in Figures 1 to 5, the thimble 22 is rotated to move the sleeve 20 toward the outer end of the shank and the contacting of the beveled end of the sleeve 20 with the beveled ends 19 of the blades 18 will move the same longitudinally in their grooves, until the outer edges of these shanks contact the walls of an opening whose diameter is to be ascertained. With the device thus operating, the spring 15 normally moves the rod 10 in a direction causing the bevelled surfaces 17 and 19 to interlock, which will hold the blades in the adjusted position.

In the form of the invention shown in Figures 6 to 10, the rod and spring are eliminated. In lieu of these parts, I em-

ploy a head 25 having a central opening 26. A locking plate 27 is positioned against this head and is formed with a screw or threaded shank 28 which passes through this opening 26 and is received in an internally threaded bore provided in the shank 5. In this form of the invention, the blades are provided with serrations or teeth 30 and the thimble 22 is provided with graduations 31 to indicate the adjustment of the device.

In this embodiment of the invention, the device is used for the purpose of measuring tools which is to ascertain whether or not they are of the correct diameter whereas the device shown in Figures 1 to 5 is used to ascertain the diameter of an opening.

While I have shown and described the preferred embodiment of the invention, I desire to have it understood that such changes may be made in the form, construction and arrangement of parts, and operations as will not depart from the spirit of the invention or the scope of the subjoined claims.

What is claimed is:—

1. An adjustable gauge comprising a shank, having one end tapered from a point intermediate its ends to its outer end and further provided with grooves extending longitudinally of the shank and inclined to

the axis thereof, a series of blades adjustable in the grooves and having notches at their outer ends, adjusting elements threaded on the shank and having one end bearing against the inner ends of the blades, a longitudinally movable rod slidably carried by the shank, a head carried thereby and engaging the outer ends of the blades and an expansible coil spring normally urging the rod in a direction to cause the head to engage the blades.

2. A device of the character described comprising a hollow shank, a frusto conical member formed therewith and having a series of grooves extending longitudinally of the shank and inclined to the axis thereof, a threaded sleeve on the shank, a series of blades adjustable in the grooves and having notches in their outer ends, a head, a shank formed with the head passing through the frusto conical member and hollow shank and capable of longitudinal movement therein, said head having inclined surfaces on its inner face and engaged in the notches, and an expansible coil spring encircling the shank, and a nut on the shank and received in the hollow shank and with which one end of the coil spring engages.

In testimony whereof I affix my signature.

JAMES R. AULENBACK.