May 17, 1932. E. H. ALDEBORGH 1,859,063

ADJUSTABLE PLUG GAUGE

Filed May 28, 1930

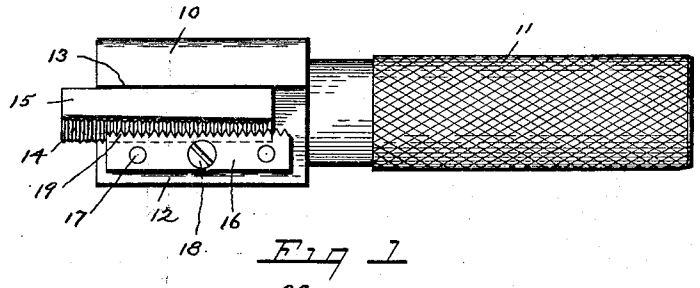


Fig 1

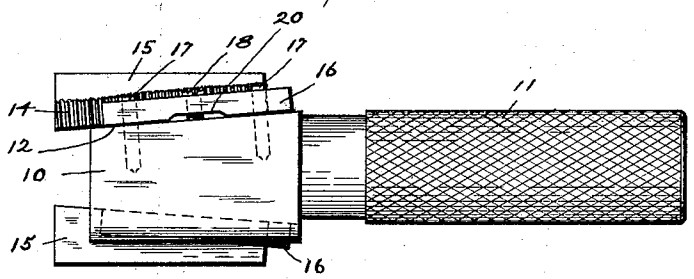


Fig 2

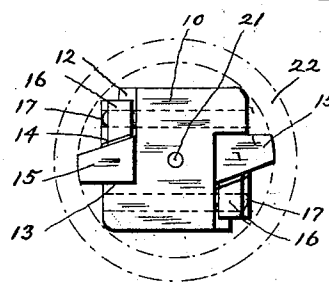


Fig 3

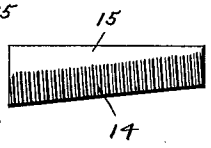


Fig 4

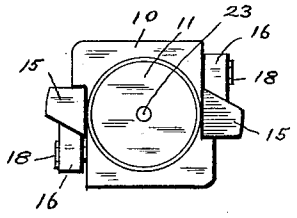


Fig 5

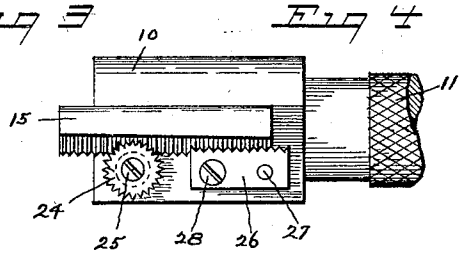


Fig 6

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Patented May 17, 1932 1,859,063

UNITED STATES PATENT OFFICE

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ADJUSTABLE PLUG GAUGE

Application filed May 28, 1930. Serial No. 456,585.

This invention relates to an adjustable plug gauge of that class which is used in the gauging and checking of internal measurements, such as the diameter of cylinders, rings, etc.

The object of the invention is to provide a plug gauge in which the gauging faces may be so adjusted as to provide a change in dimensions within certain limits.

Another object being to provide means whereby the gauging members may be adjusted to compensate for wear.

Still a further object being to provide means whereby the gauging members may be interchanged for those of a greater or less capacity.

A further object being to provide a positive locking means for the gauging members, whereby after being adjusted it will be rigid and withstand hard usage.

Another object being that the gauging members may be replaced and renewed without having to discard the handle and retaining heads.

With these and other objects in view, my invention consists in certain novel construction and combination of parts as will be fully described and claimed and illustrated in the accompanying drawings which form a part hereof and in which like figures of reference refer to corresponding parts in all of the views, but it is understood that slight changes may be made without departing from the spirit of the invention.

In the drawings:—

Figure 1 is a top plan view of my adjustable plug gauge.

Figure 2 is a side elevation of the same.

Figure 3 is an end view.

Figure 5 shows a view of the opposite end.

Figure 4 shows a side view of the engaging member.

Figure 6 shows a partial top plan view, showing a modified form of adjusting and locking means.

In the usual style of flat or paddle plug gauge, after the same has become worn and undersize, it is necessary to enlarge the same by peening the gauging portion and regrinding, but this may only be done a few times when the gauge has to be discarded.

In my invention the gauging surfaces are formed on a pair of adjustable gauging members which are adjustably mounted on a body portion having a handle, and these gauging members are provided with a positive locking means, whereby they may be moved to increase or decrease the diameter of the gauge and then reground while in place, and this may be repeated many times, and also gauging members of different sizes may be used with the same handle.

In the drawings:—

A body portion approximately square in cross section is secured to or integral with a handle 11, or in the case of a double end gauge, there may be a body portion 10 secured on each end of the handle 11.

This body portion on two of its opposite sides or faces is formed with cut-away or tapered surface 12 having a shoulder 13, shown here as at right angles to said tapered surface 12 but which may be slightly undercut if desired.

On these tapered or inclined surfaces and in contact with the shoulder 13 are adjustably mounted the gauging members 15, which have a tapered base to correspond to the taper surface 12, and a side at right angles thereto to contact with the shoulder 13; while the other side is beveled and provided with the serrations 14 which are formed at right angles to its base, there being a predetermined number of serrations to the inch in length and the degree of taper being such that for every serration which the gauging member is moved upon the tapered surface, the distance between the two gauging faces will be increased a predetermined amount.

The gauge is provided with the two center

holes 21 and 23 by which it may be placed in a grinder for grinding and lapping.

For retaining the gauging members in an adjusted and locked position with respect to the body portion 10, there are provided the locking plates 16 which are provided with an inner beveled edge having serrations 19 to correspond and register with the serrations 14 on the gauging members 15 and to also act as a clamp.

Said locking plate 16 is provided with a hole for the locking screw 18 which is threaded into the body portion 10, and one or more holes for the dowel pins 17 which are also secured in the body portion 10; and further said locking plate 16 is formed with a notch 20 by which it may be lifted from the pins 17, or raised sufficiently to allow the gauging member 15 to be moved in or out.

The serrations not only provide a positive means of locking the gauging members against movement, but they act as a graduation so that each of the gauging members may be moved an equal amount.

In Figure 3, the work to be gauged is indicated by the broken lines 22.

As shown in the modification in Figure 6, the serrations are employed as a rack and meshed therewith is a wheel 24 which may be used to move the gauging member 15 and be locked from rotation by a screw 25 upon which it runs. The gauging member is also locked by a clamp 26 which is held by a dowel pin 27 and a screw 28.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. An adjustable plug gauge comprising a body portion provided with tapered faces, adjustable gauging members formed with a tapered base corresponding to the tapered faces of said body portion, said gauging members formed with a gauging face and a beveled side and adapted to be mounted upon the tapered faces of said body portion with their gauging faces in opposed parallel relation with each other, a locking plate formed with a corresponding bevel and adapted to be secured upon the tapered face of said body portion and in locking relation with said gauging members.

2. An adjustable plug gauge, comprising a body portion formed with tapered sides having an adjacent shoulder at right angles thereto, adjustable gauging members formed with a tapered base and a beveled side, serrations formed on said beveled side, a locking plate formed with a beveled side, serrations formed thereon and adapted to register with the serrations on said gauging member, and means for securing said locking plate upon said body portion to prevent movement of said gauging member.

3. An adjustable plug gauge, comprising a body portion formed with opposed faces inclined at an angle with respect to the axis thereof, adjustable gauging members formed with bases having the same inclination and capable of movement thereon with their gauging surfaces in parallel relation with each other, serrations formed on said gauging members, and means for locking said gauging members to said body portion to prevent movement thereon, comprising clamps formed with serrations adapted to engage with the serrations on said gauging members.

In testimony whereof I affix my signature.

ERIK H. ALDEBORGH.