

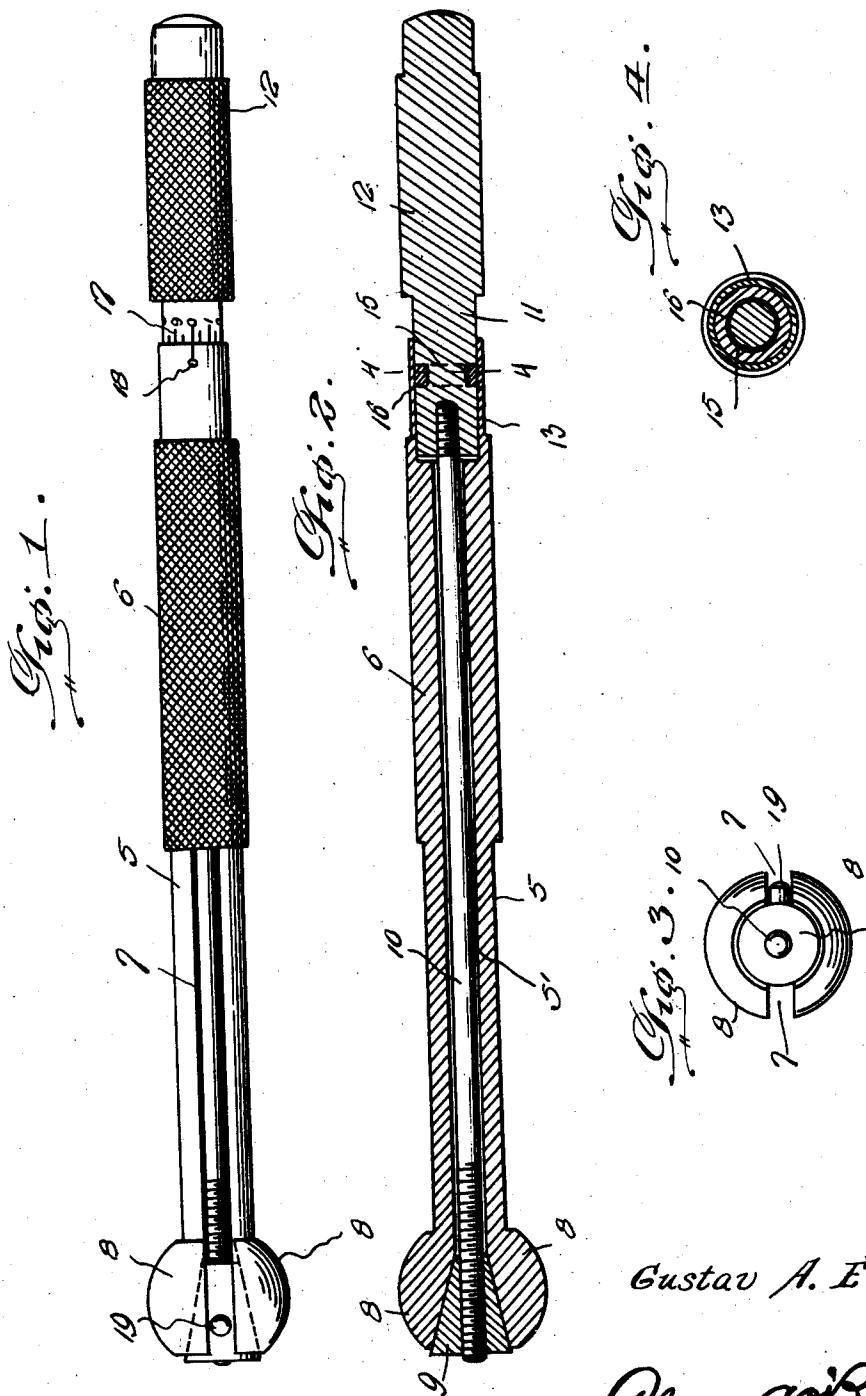
Jan. 17, 1928.

1,656,180

G. A. EISELE

MICROMETER EXPANSION GAUGE

Filed Jan. 26, 1927



Inventor
Gustav A. Eisele,
By Clarence A. O'Brien
Attorney

UNITED STATES PATENT OFFICE.

GUSTAV A. EISELE, OF BELLMAWR, NEW JERSEY.

MICROMETER EXPANSION GAUGE.

Application filed January 26, 1927. Serial No. 163,715.

This invention relates to new and useful improvements in gauges, and has for its primary object to provide a tool which has been designed to take measurements of holes of small diameter ranging from one-half inch and under.

It is believed that there is no tool now in existence for measuring holes of small diameters which is as of simple construction as the present invention, or that has the range of usefulness as well as forming practically a solid gauge or measurement that will not give, slip or spring when in use, by pressure upon the same.

In the drawing wherein like reference characters indicate corresponding parts throughout the several views:

Figure 1 is an elevation of a micrometer expansion gauge constructed in accordance with the present invention.

Figure 2 is a detail longitudinal section thereof.

Figure 3 is a front end elevation and

Figure 4 is a section taken substantially upon the line 4—4 of Figure 2.

Now having particular reference to the drawing, my novel tool consists of a solid bar 5 of high grade tool steel, a predetermined area of which is milled so as to provide a handle 6. The bar 5 is provided with a longitudinal bore 5'. From this milled portion 6 to the front end of the tool, said bar 5 is longitudinally slotted as at 7—7, while the ends of the bar at opposite sides of the slot are formed or provided with semi-spherical shaped heads 8—8 for disposition within the hole being measured. The opposed faces of these semi-spherical heads are formed with tapered channels for receiving a circular tapered expansion head 9 that is threaded upon the adjacent threaded end of an elongated rod 10, that extends rearwardly through the bore 5' of the bar 5 and that is connected at its opposite end to a reduced neck portion 11 of a milled turning handle 12, which neck portion is rotatable within the socketed end 13 of said bar 5, as shown in Figure 2. Within the socket of the bar, said neck is formed with a circumferential channel 15 within which is arranged a split collar 16 for the purpose of retaining the handle in proper position with respect to the bar 5.

The neck 11 of said handle at the edge of the socketed end of the bar 5 is provided

with micrometric indicating characters 17 cooperating with a zero point 18 on the end of the bar 5 so that the degree of expansion of the gauge heads 8—8 may be readily determined.

The expanding head 9 operable by the turning of the rod 10 is formed with a pin 19 for engagement between the heads 8—8 to prevent the turning of the expansion head upon said rod and obviously when the handle 12 is turned in one direction the wedge 9 will be drawn rearwardly for causing the heads 8—8 to move outwardly of each other, this being permitted by the flexibility of bar 5 which has been hardened and tempered to spring temper, having obtained its proper form by the slot therein, with the result that the hole within which the heads have been disposed may be properly gauged. When the handle is rotated in a reverse direction, the wedge head 9 will be moved outwardly so that the heads 8—8 will move together in an obvious manner. While I have shown spherical shaped heads as associated with the tool, I may employ rectangular or any other shaped heads.

It will thus be seen that I have provided a highly novel, simple, and efficient micrometer expansion gauge, that is well adapted for all the purposes heretofore designated, even though I have herein shown and described the invention as consisting of certain detail structural elements, it is nevertheless to be understood that minor changes may be made therein without affecting the spirit and scope of the appended claim.

Having thus described the invention, what I claim is:—

In an expansion gauge of the class described, an elongated hollow bar formed at one end with a handle, said hollow bar being split longitudinally from the handle portion to the other end thereof to provide a pair of spaced legs, head sections on the ends of the legs remote from the handle for engagement within a hole to be gauged, a socket formed on the end of the handle remote from the spaced legs, an elongated rod extending longitudinally through the hollow bar, the ends of the elongated rod being threaded, a wedge threaded on one end of the rod for disposition between the head sections, said head sections having their inner opposed faces cut out to receive the wedge, a turning handle formed with a reduced

neck for disposition in the socket, the end of the neck portion being provided with a threaded opening to receive the other threaded end of the rod whereby the rod
5 will be actuated to move the wedge member when the turning handle is rotated, a pin projecting laterally from the wedge for disposition between the head sections to prevent rotation of the wedge, said socket member and the reduced neck of the turning 10 handle being provided with cooperating indicating indicia.

In testimony whereof I affix my signature.

GUSTAV A. EISELE.