

No. 677,574.

Patented July 2, 1901.

C. A. HUESTIS.
CALIPERS.

(Application filed Sept. 22, 1900.)

(No Model.)

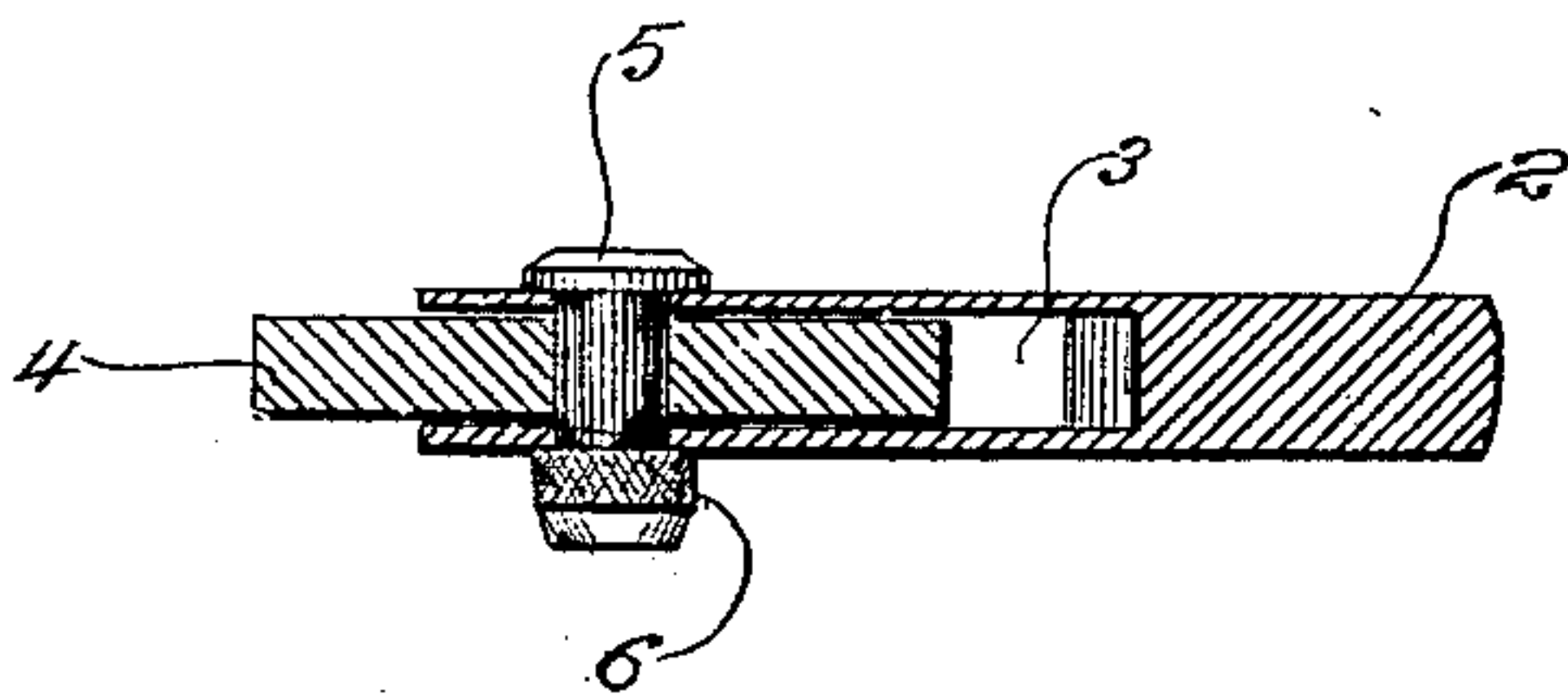
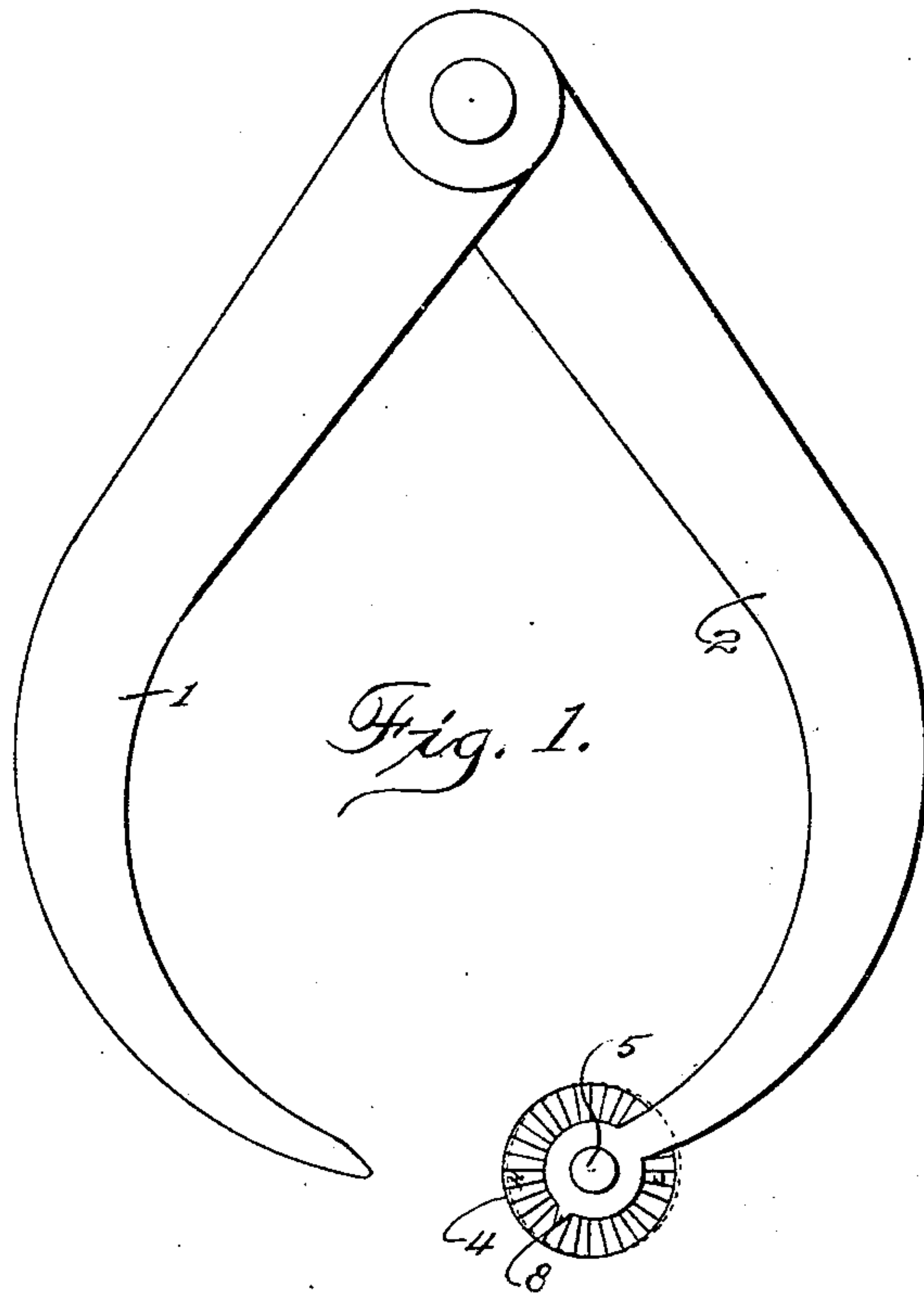


Fig. 3.

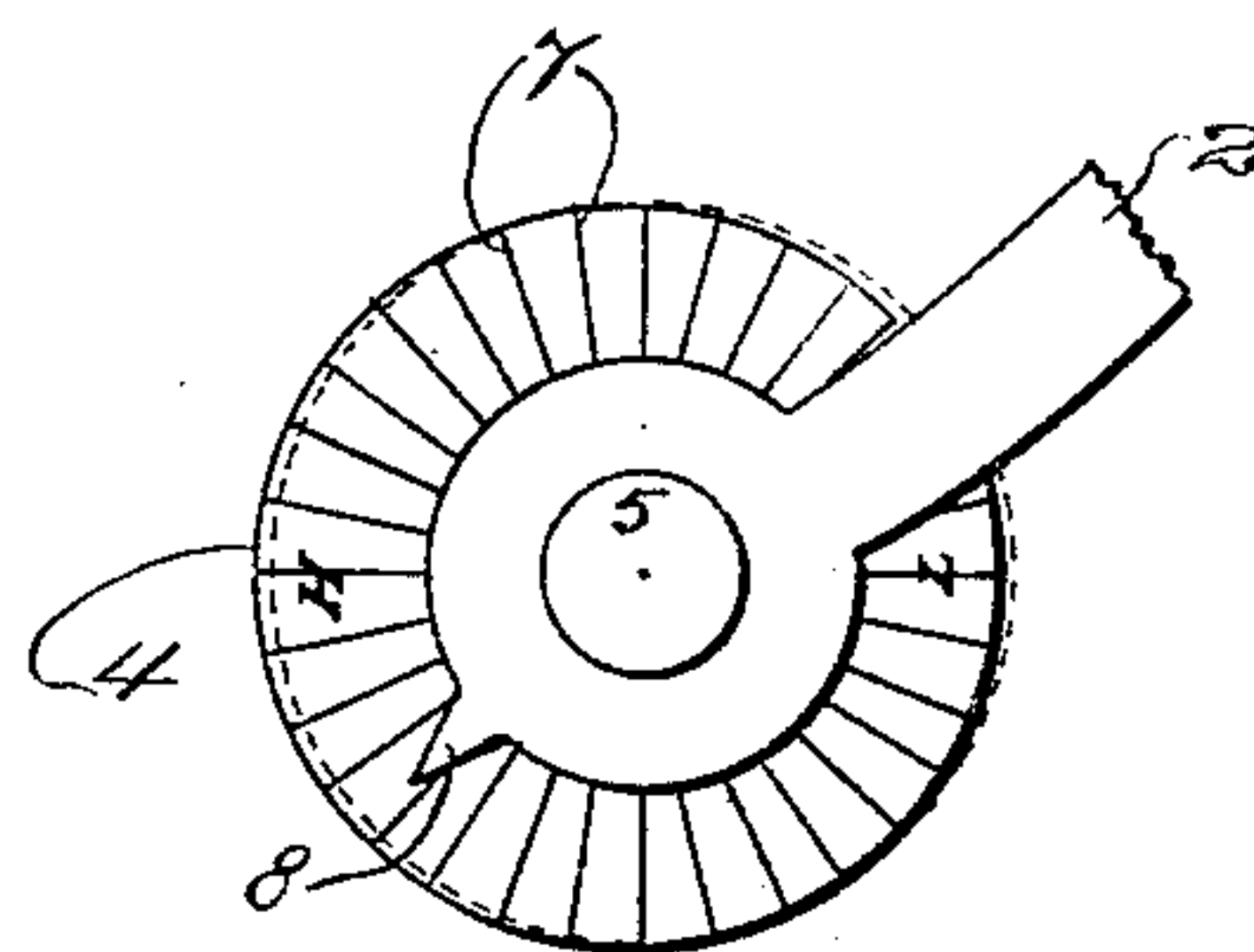


Fig. 2.

Witnesses
Fred. E. Maynard.
W. J. Shepard.

C. A. Huestis, Inventor,
By *C. A. Snow & Co.*
Attorneys

UNITED STATES PATENT OFFICE.

CHARLES AGUSTUS HUESTIS, OF YONKERS, NEW YORK.

CALIPERS.

SPECIFICATION forming part of Letters Patent No. 677,574, dated July 2, 1901.

Application filed September 22, 1900. Serial No. 30,804. (No model.)

To all whom it may concern:

Be it known that I, CHARLES AGUSTUS HUESTIS, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented a new and useful Calipers, of which the following is a specification.

This invention relates to calipers, and has for its object to provide improved means for adjusting the relation of the contact-points thereof. It is furthermore designed to provide one of the caliper-legs with an improved adjustable contact-point, so as to conveniently and accurately increase and diminish the distance between the contact-points to any desired degree.

In providing an opening for the reception of a shaft it is the common practice to caliper the shaft and then apply inside calipers to the outside calipers, and the latter are applied to the opening, so that they may be slightly shaken in order that the opening may be large enough to give the shaft a running fit. It is apparent that this method is unsatisfactory and unreliable, and to overcome these disadvantages I have provided means for accurately adjusting the caliper-legs, so as to properly gage the opening for a shaft and similar work.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a plan view of a pair of calipers provided with the improved adjusting means. Fig. 2 is a detail view of one of the contact-points which carries the adjusting device. Fig. 3 is a transverse sectional view thereof.

Corresponding parts are designated by like characters of reference in all of the figures of the drawings.

Referring to the drawings, 1 and 2 designate the opposite legs of a pair of ordinary outside calipers, one of which has its outer end or contact-point end provided with a lon-

gitudinal bifurcation 3, as plainly shown in Fig. 3 of the drawings, and mounted within this bifurcation is a cam or eccentric 4, which projects at the outer end of the bifurcation, so that its peripheral edge is designed to form the contact-point for the adjacent caliper-leg. This cam or eccentric is mounted upon a fixed pivot-pin 5, which passes through the cam and both sides of the bifurcation and has its projecting end screw-threaded for the reception of an adjusting-nut 6, whereby the cam may be held at any circular adjustment upon the pivot-pin as a center. That face of the cam which is opposite the adjusting-nut is provided with a graduated scale, formed by means of radial lines or marks 7, which are designed to cooperate with an index or projection 8, carried by one side of the bifurcation in the adjacent caliper-leg.

From the foregoing description it will be apparent that by turning the cam or eccentric the distance between the contact-point of the leg 1 and the nearest point on the periphery of the cam will be varied so as to increase or diminish the distance, according to the direction in which the cam is turned. It will be understood that the graduation-marks are arranged at regular intervals, so as to cooperate with the index or pointer, whereby the cam may be adjusted to vary the distance between the contact-points to any desired degree.

In using the calipers to gage an opening for a shaft the latter is calipered in the usual manner, after which the cam is turned so as to increase the distance between the contact-points by one-half of a degree or more, as may be desired, and then inside calipers are applied to the contact-points of the outside calipers, so as to obtain the diameter for the shaft-opening, which is slightly greater than that of the shaft and varies according to the adjustment of the cam. Should it be desired to have the opening smaller than the shaft, the cam is turned in the opposite direction, so as to diminish the distance between the contact-points, as will be readily understood.

In order that the cam may be quickly adjusted to bring either its longest radius or its shortest radius next to the contact-point of the opposite leg, the same are provided with suitable distinguishing-marks—as, for instance, the letters “H” and “L” for the longest radius

and the shortest radius, respectively. When the longest radius is next to the opposite contact-point, the greatest amount of adjustment may be had in either direction. It will be understood that the number of radial degree-marks may be varied according to the unit of adjustment, which latter may be a one-hundredth or a one-thousandth of an inch, according to the size and use to which the calipers may be designed.

It will of course be understood that the adjustable contact or indicator point feature of the present invention, although shown in the drawings as applied to calipers, may be applied to other characters of measuring instruments in view of the fact that this application for patent illustrates the invention of a measuring instrument having a plurality of indicator-points, one of which has an eccentric adjustment about its relatively fixed center.

What is claimed is—

A pair of calipers, having one contact-point end bifurcated, a cam received within the bifurcation and projecting at the outer end thereof, radial scale-marks upon one face of the cam, a fixed pivot-pin passing through the cam and the sides of the bifurcation, an adjusting binding-nut upon that end of the pivot-pin which is opposite the scale-marks, and an index or pointer upon one side of the bifurcation and coöperating with the scale-marks of the cam.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES AGUSTUS HUESTIS.

Witnesses:

DAVID ANDERSON,
RALPH E. SHERRY.