

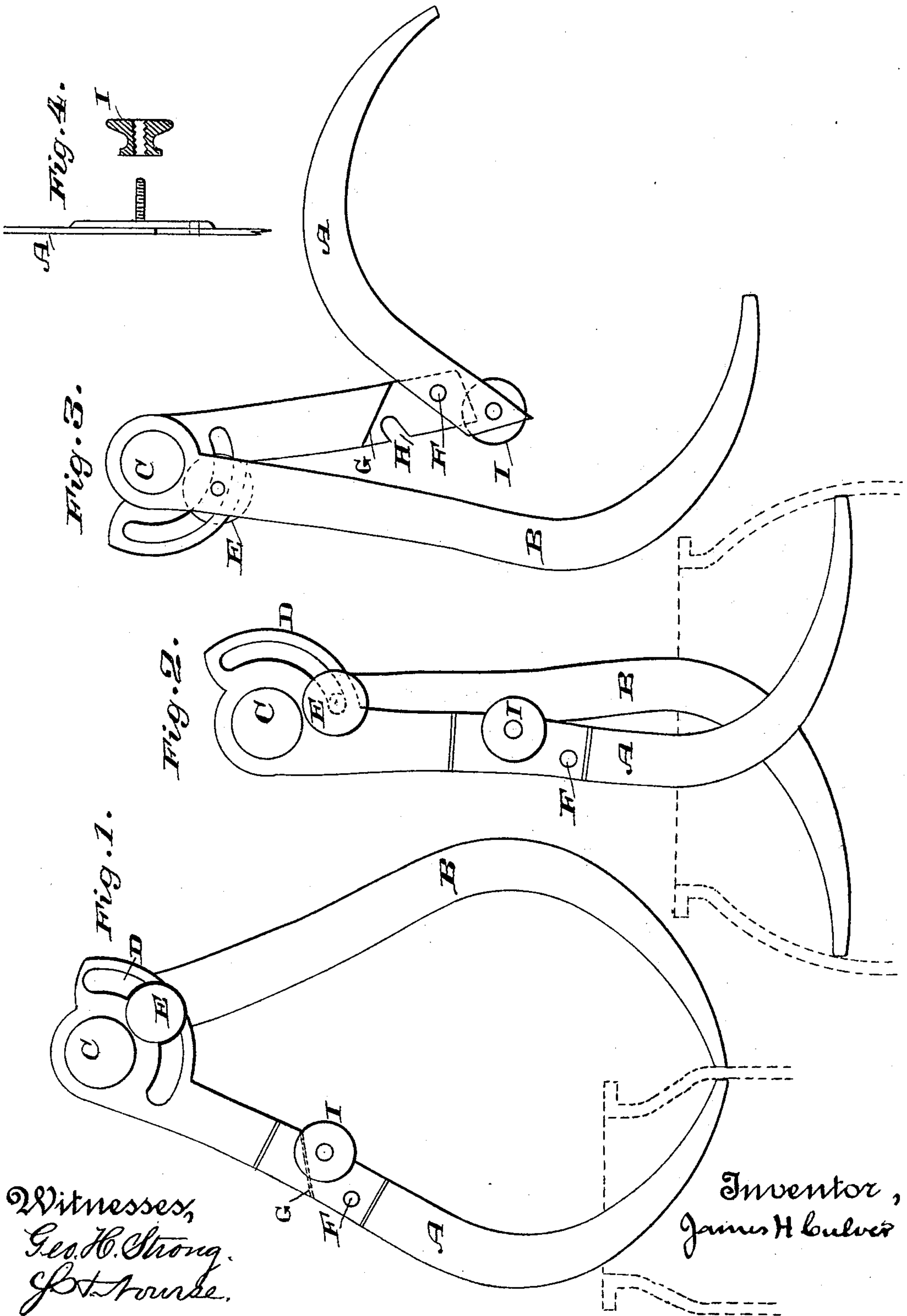
(No Model.)

J. H. CULVER.

CALIPERS.

No. 371,489.

Patented Oct. 11, 1887.



Witnesses,  
Geo. H. Strong.  
J. H. Culver.

Inventor,  
James H. Culver

# UNITED STATES PATENT OFFICE.

JAMES H. CULVER, OF SAN FRANCISCO, CALIFORNIA.

## CALIPERS.

SPECIFICATION forming part of Letters Patent No. 371,489, dated October 11, 1887.

Application filed March 9, 1887. Serial No. 230,299. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES HENRY CULVER, of the city and county of San Francisco, State of California, have invented an Improvement in Calipers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in calipers for taking interior and exterior dimensions.

It consists of a jointed leg upon one side, which allows the leg to be opened or closed independently of the ordinary fulcrum-joint, a stop and holding screw by which it may be returned to exactly the same point and locked, as will be more fully described by reference to the accompanying drawings, in which—

Figure 1 is a view showing exterior measurement. Fig. 2 is a view showing the application to interior measurement. Fig. 3 is a view from the opposite side, showing the hinged leg turned back. Fig. 4 is a section showing the holding screw and nut.

In a former patent, issued to me April 30, 1867, I show the calipers having one leg movable upon a pivot-joint formed in a portion of the leg; but this device had no means for insuring the return of the leg to the exact point after being opened to remove it from the object which was being measured.

In my present invention A and B are the legs of a pair of calipers having the joints C, about which they may be opened and closed, and, if desired, the arc D and set-screw E, for holding the legs at any particular point when the size has been ascertained. In order to allow the point of the calipers to be applied to surfaces which are smaller than the outer ends or edges, and at the same time to retain the size after it has been measured, I make a joint at some portion of one of the legs A and pivot the outer end, so that it may swing about this joint independently of the main central joint by which the legs are united.

In the present case I have shown the upper portion of the leg formed so as to have a shoulder, and an extension through which the pivot-pin F passes into the outer or swinging portion of the leg. A beveled shoulder, G, is formed by this portion of the upper part of the leg, and the inner end of the swinging leg is correspondingly beveled, so that when closed the two shoulders come together and thus hold the leg exactly in its proper position. A slot, H, is made in the stationary

portion of the leg, and a pin or screw-shank is fixed in the inner end of the swinging portion of the leg, so as to just enter this slot when the leg is closed, so that the shoulders above described meet, and a nut, I, upon this screw is turned until it holds the two parts of the leg firmly together.

The operation will then be as follows: If the outside diameter or thickness of an article is to be taken where it is impossible to remove the calipers without changing their position, the legs are opened about the central joint and applied in the usual manner to obtain the size. The set-screw is then loosened and the swinging leg turned back, so as to remove the calipers, after which the leg is turned back to the proper place, which will be exactly determined by the shoulder and the rear end of the slot, before described. When the set-screw or nut is turned down until it holds the parts firmly together, the calipers may be used in the same manner. It will be manifest that inside measurements can be taken with the same facility, the legs of the calipers being crossed so that the points project in opposite directions in the usual way. By this construction I am enabled to take and retain accurately the sizes of parts which could not otherwise be measured.

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

1. The calipers having one leg jointed, the outer portion pivoted to the inner, so that it may be opened outwardly, and a shoulder against which it abuts when closed, in combination with a binding-screw by which it is locked when closed, substantially as herein described.

2. The calipers having one leg jointed, the outer portion pivoted to the inner, so that it may be opened outwardly, a shoulder against which it abuts when closed, an open-ended slot made in one portion, and a fixed pin projecting from the other so as to enter the slot, in combination with a holding or set nut, by which the parts are held together when closed, substantially as herein described.

In witness whereof I have hereunto set my hand.

JAMES H. CULVER.

Witnesses:

S. H. NOURSE,  
H. C. LEE.