No. 77123

Hugh Stewarts. Combination Dividers.

Fig. 1

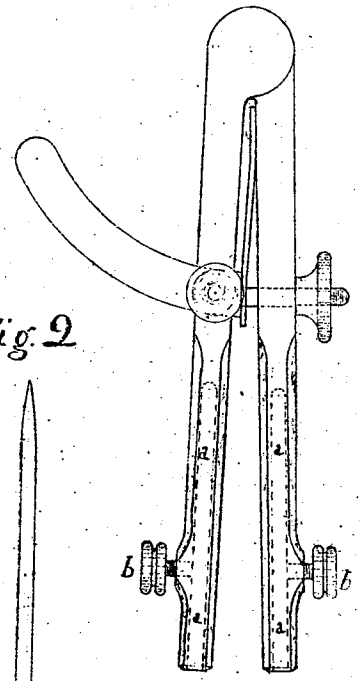
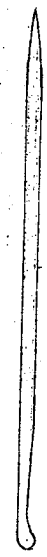


Fig. 2

Fig. 2



Witnesses

C. F. W. Burkhardt

H. H. Bates.

Inventor

Hugh Stewart

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HUGH STEWART, OF CLINTON, MASSACHUSETTS, ASSIGNOR TO GEORGE F. WRIGHT AND WILLIAM ORR, JR., OF SAME PLACE.

Letters Patent No. 77,123, *dated April* 21, 1868.

IMPROVEMENT IN COMPASSES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, HUGH STEWART, of Clinton, in the county of Worcester, in the State of Massachusetts, have invented new and useful Improvements in Dividers or Compasses, whereby they can be used not only for dividers, but also for inside and outside calipers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The present invention relates to certain new and useful improvements in the points of dividers, whereby they are not only made adjustable to each other, but also, by reversing the points, may be used for ascertaining the exact diameter of holes, and of shafts, or any turned work which requires the use of either inside or outside calipers.

The ordinary dividers used for mechanical purposes are so made that should either point be broken, the other would have to be ground off to equalize them, thus, in a short time, rendering them unfit for service. Sometimes two dividers are wanted that may be used with one point longer than the other; for instance, in measuring, dividing, or striking a circle upon work which has different elevations, the common dividers cannot be used without great difficulty, if at all; but by these improved dividers it is evident that all these difficulties will be overcome.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

Figure 1 is a view of the ordinary dividers cut off at some distance from the point, so that there may be metal enough left around the hole to be of sufficient strength to receive the points and sustain the strain they may be subjected to. The dotted lines, *a a*, represent the holes drilled in the dividers to receive the adjustable points.

Figure 2 represents the adjustable combination-points, which are made of steel, and so shaped that they may be used either for dividers or calipers, simply by reversing the points, and fixing them in position by means of the thumb-screws *b b*, fig. 1.

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

The combination, in one instrument, of dividers and inside and outside calipers, by use of the adjustable combination-points, used in the manner and for the purpose herein described and set forth.

HUGH STEWART.

Witnesses:

C. F. W. PARKHURST,

H. H. WATERS.