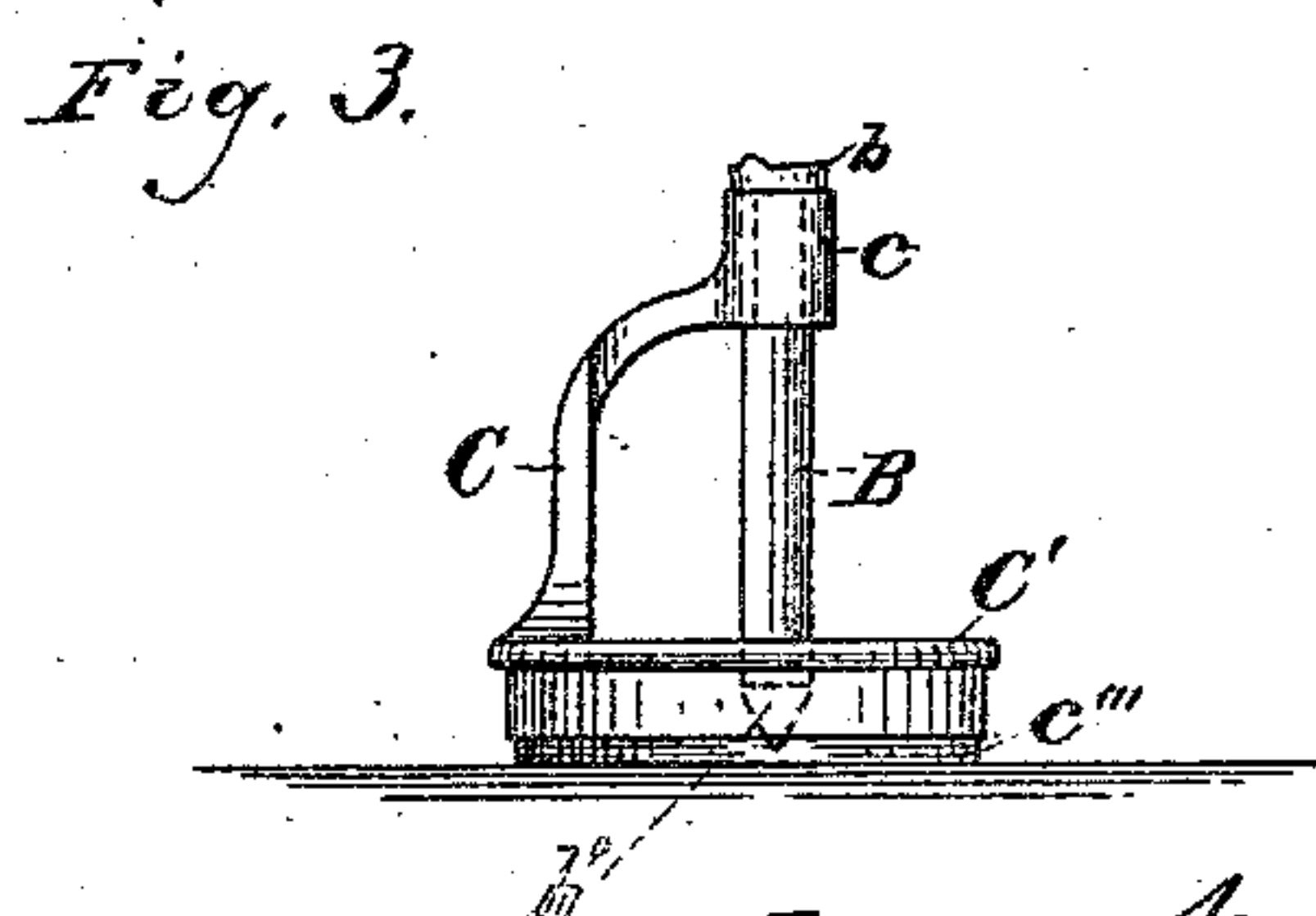
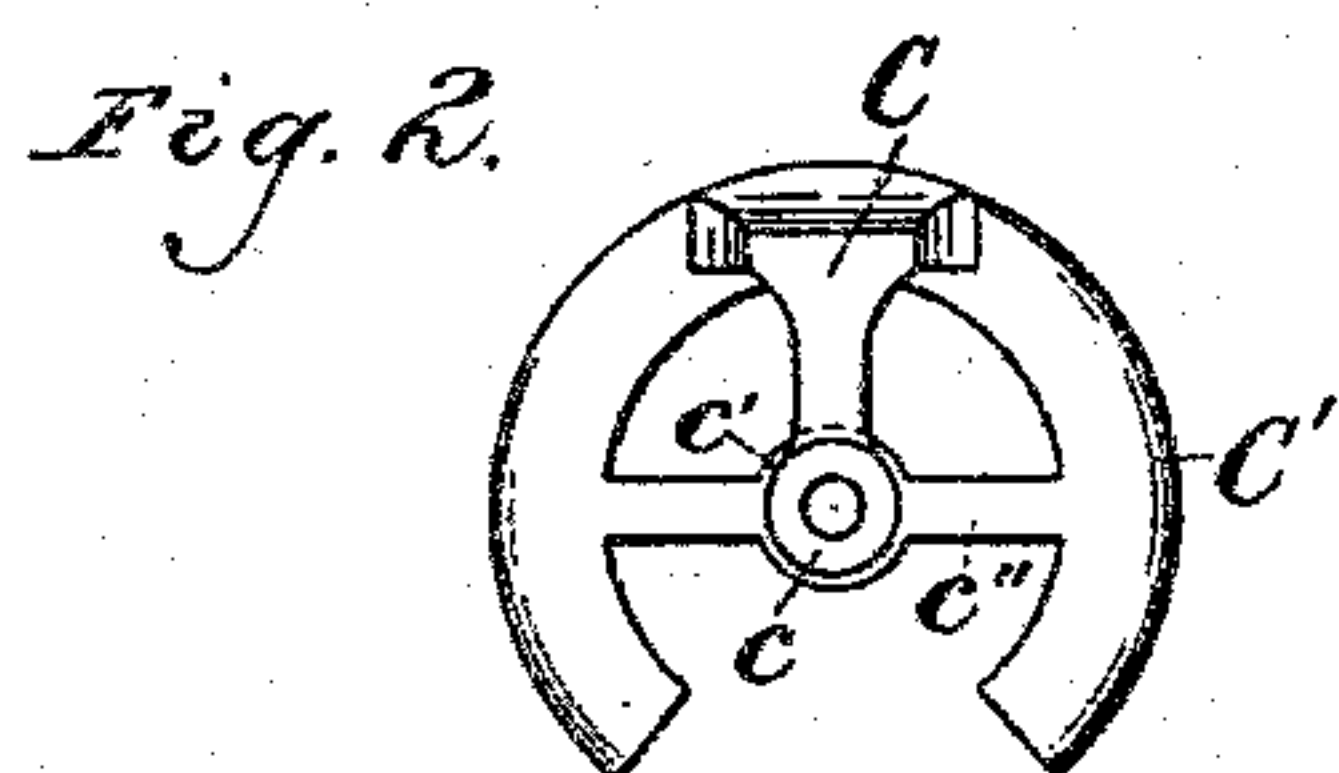
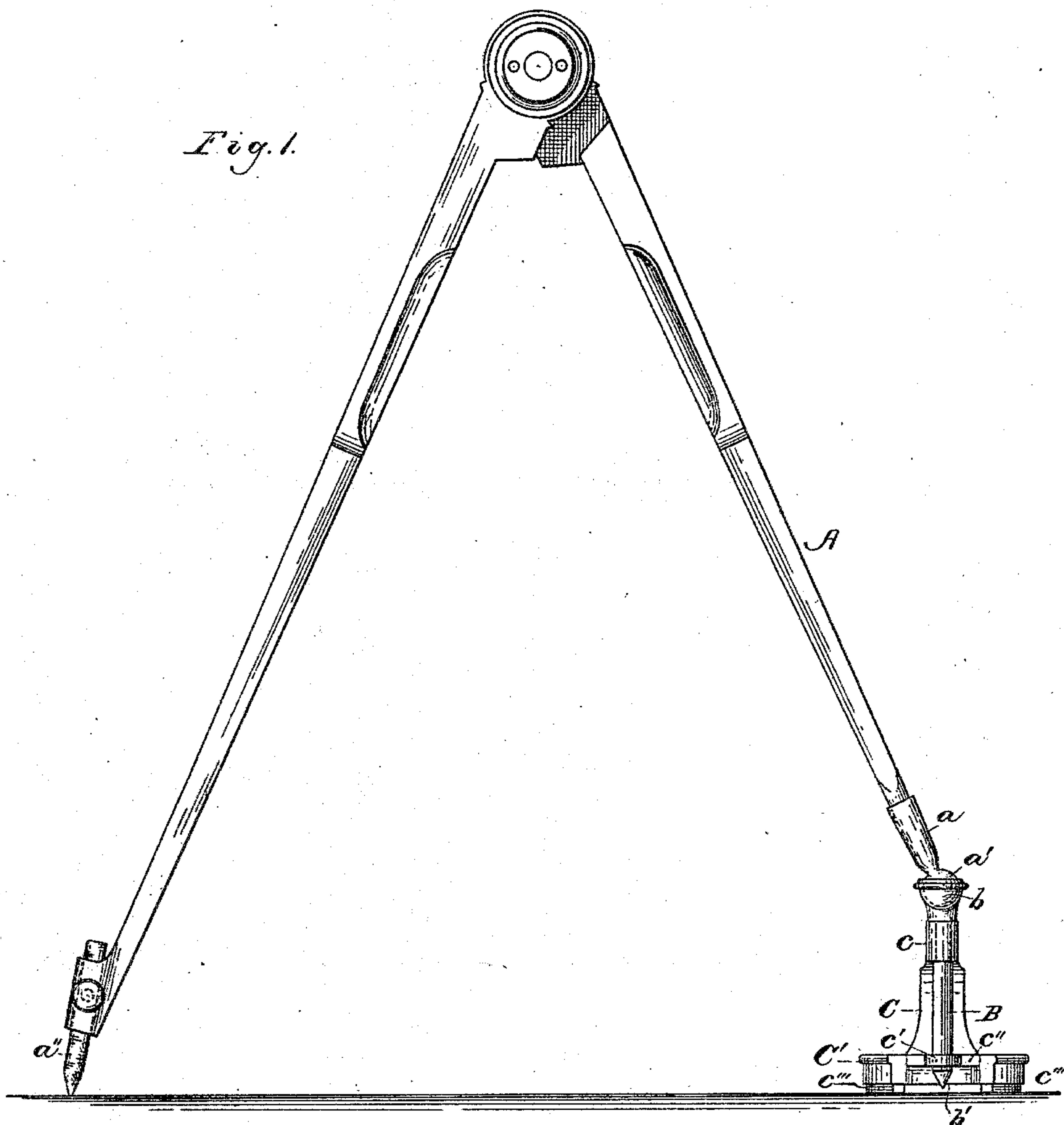


(No Model.)

H. HANSTEIN.
ATTACHMENT TO DIVIDERS.

No. 288,235.

Patented Nov. 13, 1883.



Witnesses.
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UNITED STATES PATENT OFFICE.

HERMANN HANSTEIN, OF CHICAGO, ILLINOIS.

ATTACHMENT TO DIVIDERS.

SPECIFICATION forming part of Letters Patent No. 288,235, dated November 12, 1883.

Application filed August 10, 1883. (No model.)

To all whom it may concern:

Be it known that I, HERMANN HANSTEIN, of Chicago, in the county of Cook and State of Illinois, have invented a new, useful, and Improved Attachment to Dividers, of which the following is a description, reference being had to the accompanying drawings, in which—

Figure 1 is a view of a pair of dividers, showing the manner of using the same in connection with my improved attachment. Fig. 2 is a plan view, and Fig. 3 is a side view in elevation, of said attachment.

Like letters of reference indicate like parts in the different figures.

The object of my invention is to provide an attachment to dividers or compasses of such construction that any given point upon a writing or drawing surface may be located and lines struck or measurements made therefrom without bringing the point of said dividers with which said given point has been located in contact with the drawing-surface, and thus preventing injury thereto. Moreover, while said attachment may be applied to dividers as used for all ordinary purposes, my especial object is to provide a device for use upon slates and school black-boards and other like surfaces, to which the ordinary dividers are not adapted. It is well known that in teaching descriptive geometry, for example, no satisfactory device has been obtained for drawing circles and curved lines upon a blackboard. The ordinary compass either slips upon or injures the writing-surface and is therefore practically useless, so that the old and crude device of a string attached to a crayon is the only one in general use. Attempts to utilize dividers by attaching blocks of wood, rubber, or leather to the end of one of the legs has proven equally unsatisfactory. I am enabled to accomplish said objects and overcome said difficulties in the following manner:

Upon the leg of a pair of dividers or beam-compasses I place a sleeve or its equivalent, to which is secured, preferably by a ball-and-socket joint, a pin or rod of suitable length, the lower extremity of which is pointed, said pin being loosely secured or pivoted in bearings upon a standard or base in such manner that it may revolve therein, and, when said standard is placed upon the drawing-surface,

may stand preferably in a position perpendicular to said writing-surface, with the point very near to the same. I prefer to tip said base with rubber or other like material to prevent slipping, and to so construct the same that the point of said rod may be readily seen by the operator, and thus accurately placed by him wherever desired, all of which will be hereinafter more particularly described, and definitely pointed out in the claims.

In the drawings, Fig. 1 represents a pair of dividers, to the leg A of which is secured, by means of a sleeve, *a*, or by any well-known construction, the ball *a'*, fitted in the usual manner into a socket, *b*, of the pin or rod B, which in turn is loosely fitted in the bearings *c c'* of the standard C. Said standard is provided with a broad base, *C'*, having a portion of the same preferably cut away, as shown in Figs. 1 and 2. A cross-piece or tongue, *c''*, Fig. 2, secured to said base *C'* in any convenient manner, may serve to form the bearing *c'*.

To the bottom of the base *C'*, I secure a shoe or plate of rubber, *c'''*, Figs. 1 and 3, to prevent said base from slipping when placed upon any smooth surface. The pin B should be of such a length and so adjusted with reference to said base *C'* that its point *b'* may, when said base is placed in position, be brought as near to the writing-surface as practicable without touching the same, as clearly shown in Fig. 1.

In using said dividers the point *b'* should be placed directly over the given point from which a circle or arc is to be struck or a measurement made. The base *C'* is then held firmly against the writing-surface with one hand, while the desired circle is struck by the dividers with the other, said dividers being provided with a suitable crayon or pencil, *a''*, for that purpose.

Instead of the ball-and-socket joint, a double or universal joint may be used with a like result, in which event it is essential that the rod B shall be loosely pivoted, though it is obvious that when the ball-joint is used said pin may be rigid with the frame or base.

With this device, it is obvious that said dividers may be operated with the utmost freedom and accuracy upon any smooth or hard surface without injury thereto. Said device

may be made detachable by means of a screw secured to the lower end of the sleeve; or said sleeve may be secured to the dividers by a set-screw.

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

1. An attachment for dividers, consisting of a pointed pin or rod attached by means of a
10 universal joint to one leg of said dividers, so as to form a continuation of the same, and provided with a circular base for supporting said pin perpendicularly over a given point, said
15 base having secured thereto a shoe of rubber or other like material, to prevent slipping, substantially as described.

2. An attachment for dividers, consisting of

a pointed pin or rod forming a part of one leg of said dividers attached thereto by means of a universal joint, and supported in a frame or
20 standard having a rubber-tipped base, a portion of which is cut away to enable said point to be readily seen and located and maintained at will over any part of a given surface without actual contact therewith, substantially as
25 described.

3. In an attachment for dividers, the jointed pin B, pivoted in a supporting device, C C', provided with a rubber plate or shoe, c³, substantially as described.

HERM. HANSTEIN.

Witnesses:

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