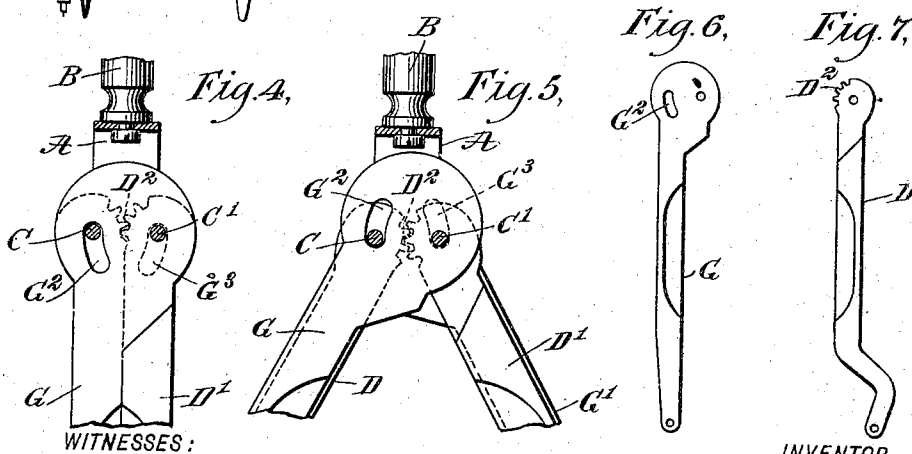
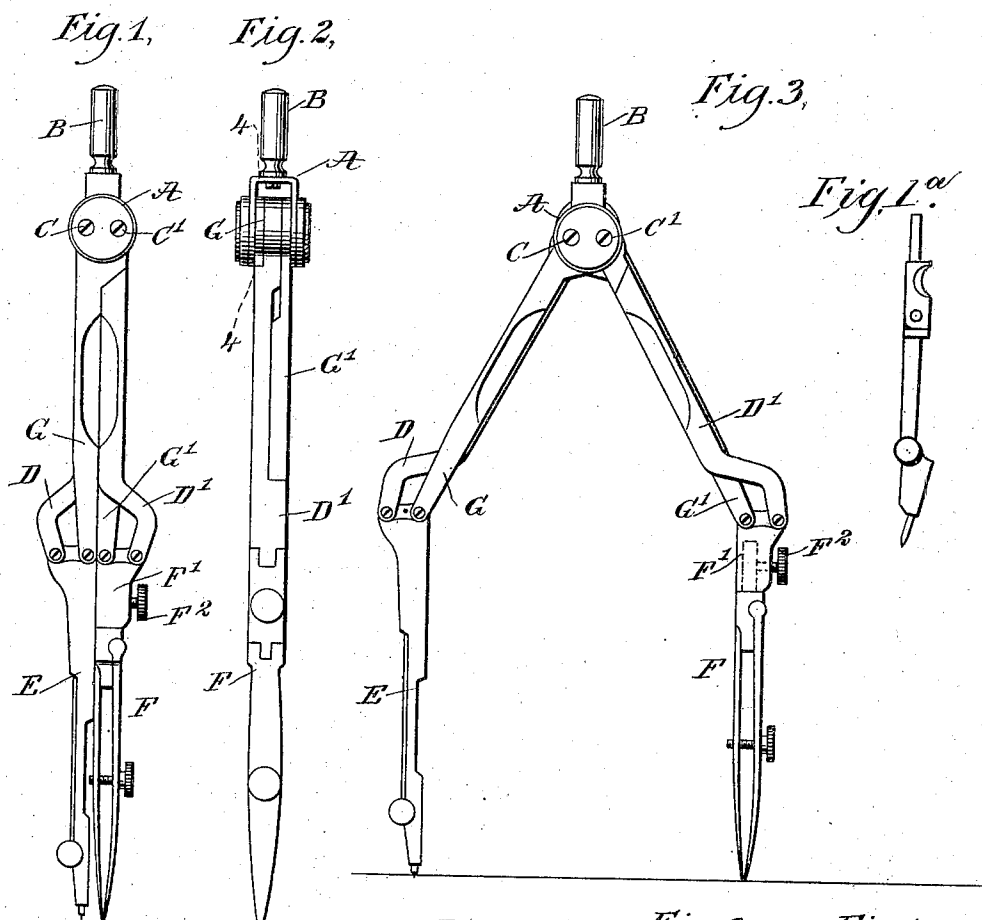


C. BRANDELL.
COMPASSES.

(Application filed Apr. 8, 1902.)

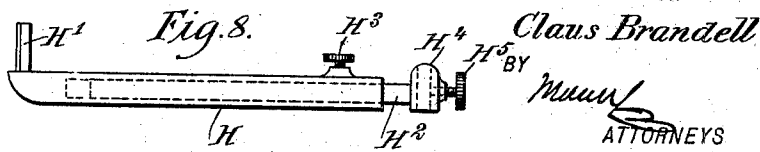
(No Model.)



WITNESSES:

INVENTOR

Edw. Thorpe
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Claus Brandell
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ATTORNEYS

UNITED STATES PATENT OFFICE.

CLAUS BRANDELL, OF CHICAGO, ILLINOIS.

COMPASSES.

SPECIFICATION forming part of Letters Patent No. 709,738, dated September 23, 1902.

Application filed April 8, 1902. Serial No. 101,974. (No model.)

To all whom it may concern:

Be it known that I, CLAUS BRANDELL, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented new and Improved Compasses, of which the following is a full, clear, and exact description.

The invention relates to drawing instruments; and its object is to provide a new and improved drawing-compass arranged to insure a uniform opening and closing of the legs and to cause the needle-point to stand in any position of the compass parallel to the pen or pencil.

The invention consists of novel features and parts and combinations of the same, as will be more fully described hereinafter and then pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement in a closed position. Fig. 1^a is a like view of the pencil for use in the instrument shown in Fig. 1. Fig. 2 is an edge view of the same. Fig. 3 is a side elevation of the same in an open position. Fig. 4 is an enlarged sectional side elevation of the same in a closed position substantially on the line 4-4 of Fig. 2. Fig. 5 is a similar view of the same in an open position. Fig. 6 is a side elevation of one of the parallel bars. Fig. 7 is a similar view of one of the legs, and Fig. 8 is a side elevation of the extension-bar.

The head of the compass is preferably made in inverted-U shape, and to the top of the head is secured an upwardly-extending handle D, and in the sides of the head are fastened the spaced transverse pivots C C', on which are pivoted the legs D D', respectively, of which the leg D is pivotally connected with the needle-point E and the leg D' is pivotally connected with the head F', carrying the pen or pencil F or other marking device. The heel or pivotal ends of the legs D and D' are provided with segmental gear-wheels D², in mesh with each other, as plainly illustrated in Figs. 4, 5, and 7, so that the legs move simultaneously into an open or closed position. On the pivot C' is also pivoted the parallel

bar G, pivotally connected with the point E, adjacent to the pivotal connection of the leg D with the said point, and the said parallel bar G is provided with a segmental slot G², through which extends the pivot C. A parallel bar G' is pivotally connected with the head F' and pivoted on the pivot C and is provided with a segmental slot G³, through which extends loosely the pivot C'. Now by reference to Figs. 1 and 3 it will be seen that the pivotal connections between the legs D D' and the parallel bars G G' with the needle-point E and the head F' are arranged in the same horizontal plane, so that when the legs D D' are swung apart the parallel bars G G' hold the needle-point E and the pen or pencil F in parallel positions, as will be readily understood by reference to Fig. 3. Thus when the legs are in an open or closed position the pen or pencil F stands at all times parallel to the needle-point E.

The shank of the pen or pencil F is secured in the head F' in the usual manner by a set-screw F², and when it is desired to employ a lengthening bar H then the pen or pencil is removed from the head F' and the latter is engaged by the shank H' of the lengthening bar H, secured in position by the set-screw F². The lengthening bar H is preferably of the extension kind—that is, is provided with a bar H², slidable in the tubular lengthening bar H and adapted to be secured therein by a set-screw H³. On the outer end of the lengthening bar H² is formed a head or socket H⁴ for receiving the shank of a pen or pencil similar to the pen or pencil F, but somewhat shorter, the said shank being adapted to be engaged by a set-screw H⁵ to secure the pen or pencil in position on the head H⁴. Now the lengthening bar H stands at right angles to its shank H', and the pen or pencil secured to the head H⁴ stands at right angles to the lengthening bar H, and when the compass is opened or closed the pen or pencil will stand parallel to the needle-point E, the same as if the lengthening bar had not been used. It will further be seen that by the arrangement described the handle B stands parallel at all times to the needle-point and pen to allow convenient turning to describe the desired circle or segment.

From the foregoing it will be seen that the compass is very simple and durable in con-

struction and can be readily opened and closed, with the needle standing at all times parallel to the pen or pencil employed.

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

1. A compass comprising a head having spaced transverse pivots, legs pivoted on the said pivots and mounted to swing in unison, a point pivoted on one leg, a bar pivotally connecting the said point with the said head, a marking device pivoted on the other leg, and a second bar pivotally connecting the marking device with the said head, as set forth.

2. A compass comprising a head carrying spaced pivots, legs pivoted on the pivots and having gear-segments in mesh with each other, a point pivoted on one leg, a bar connecting the said point with one of the pivots, a marking device pivoted on the other leg, and a second bar connecting the said marking device with the other pivot, as set forth.

3. A compass, comprising a head carrying spaced pivots, legs pivoted thereon and having their heels in mesh with each other, a point pivoted on one of the legs, a marking device pivoted on the other leg, and bars, of which one is pivotally connected with the needle-point and with the pivot for the other leg, and the other bar is pivoted on the pivot for the leg carrying the needle-point and is pivotally connected with the marking device, as set forth.

4. A compass, comprising a head carrying spaced pivots, legs pivoted thereon and having their heels in mesh with each other, a point pivoted on one of the legs, a marking device pivoted on the other leg, and bars, of which one is pivotally connected with the needle-point and with the pivot for the other leg, and the other bar is pivoted on the pivot for the leg carrying the needle-point and is pivotally connected with the marking device, as set forth.

dle-point and with the pivot for the other leg, and the other bar is pivoted on the pivot for the leg carrying the needle-point and is pivotally connected with the marking device, the pivotal ends of the said bars having segmental slots for engaging the pivots, as set forth.

5. A compass, comprising a head carrying spaced pivots, legs pivoted thereon and having their heels in mesh with each other, a point pivoted on one of the legs, a marking device pivoted on the other leg, bars, of which one is pivotally connected with the needle-point and with the pivot for the other leg, and the other bar is pivoted on the pivot for the leg carrying the needle-point and is pivotally connected with the marking device, and a horizontal lengthening bar for the marking device, as set forth.

6. A compass, comprising a head carrying spaced pivots, legs pivoted thereon and having their heels in mesh with each other, a point pivoted on one of the legs, a marking device pivoted on the other leg, bars, of which one is pivotally connected with the needle-point and with the pivot for the other leg, and the other bar is pivoted on the pivot for the leg carrying the needle-point and is pivotally connected with the marking device, and a horizontal lengthening bar for the marking device, the lengthening bar having an extension-bar, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CLAUS BRANDELL.

Witnesses:

GEORGE A. SWANSON,
GUSTAVE A. PETERSON.