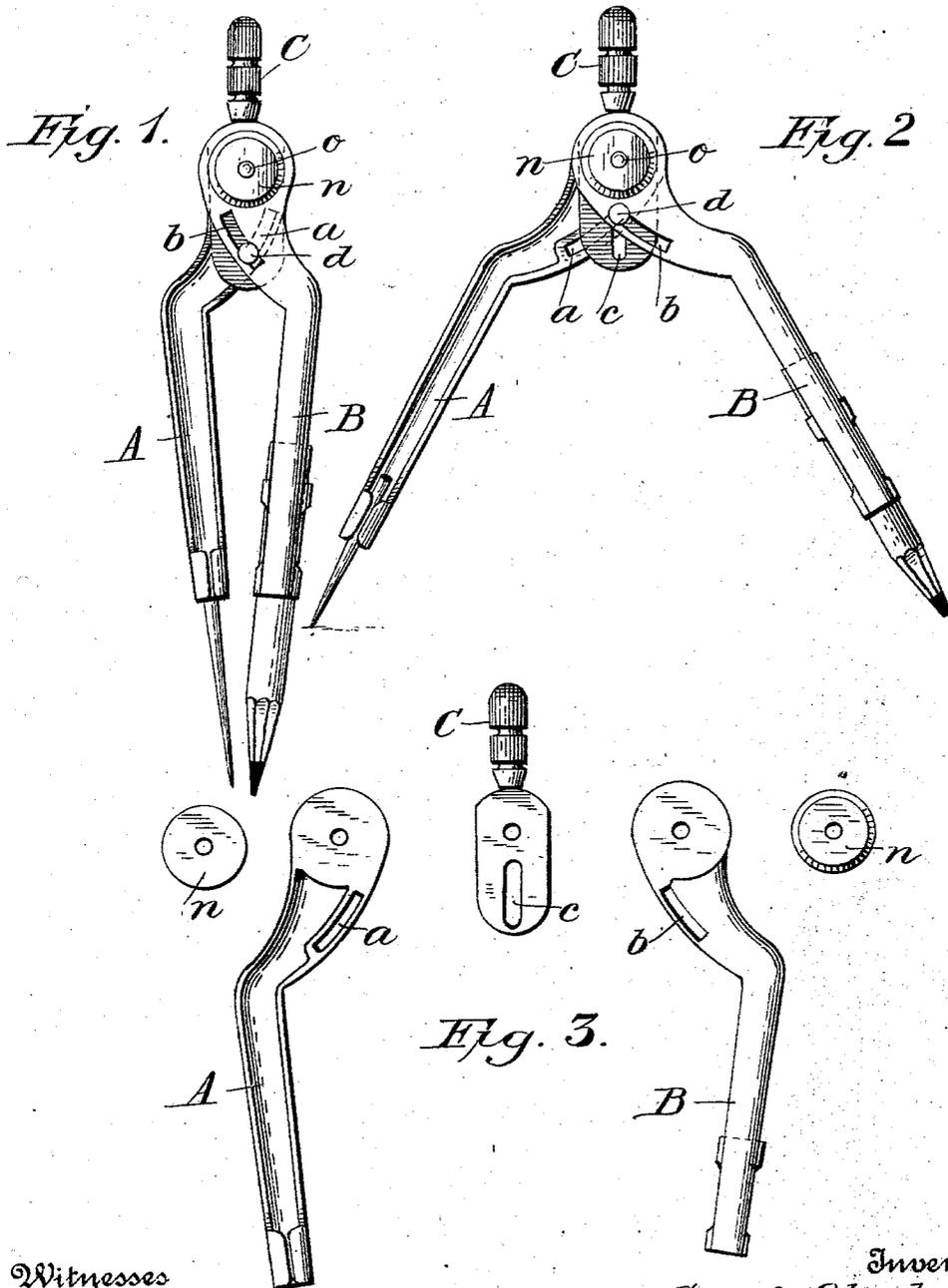


G. OBERBECK.
COMPASSES.

APPLICATION FILED JAN. 29, 1903.

2 SHEETS—SHEET 1.

NO MODEL.



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NO MODEL.

2 SHEETS—SHEET 2.

Fig. 4

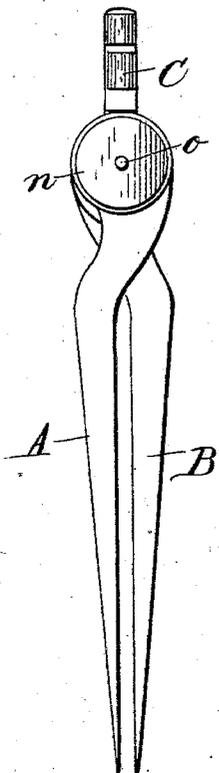


Fig. 5.

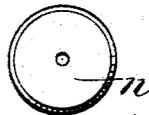
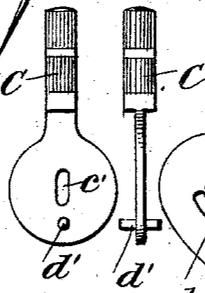
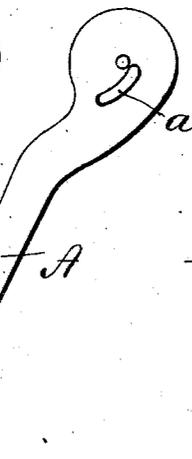
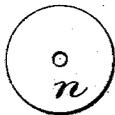
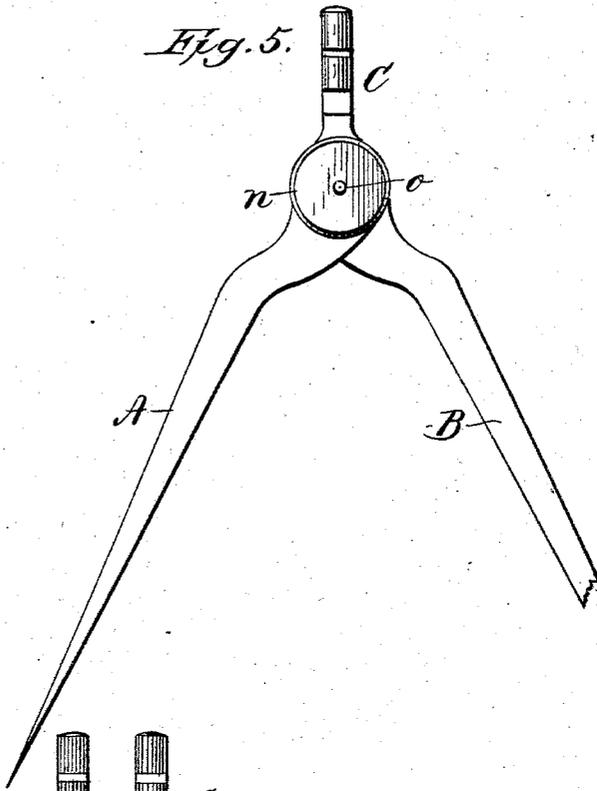


Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE OBERBECK, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO EAGLE PENCIL COMPANY, OF NEW YORK, N. Y.

COMPASSES.

SPECIFICATION forming part of Letters Patent No. 730,388, dated June 9, 1903.

Application filed January 29, 1903. Serial No. 141,067. (No model.)

To all whom it may concern:

Be it known that I, GEORGE OBERBECK, of Jersey City, New Jersey, have invented a new and useful Improvement in Compasses, of which the following is a specification.

The improvement in compasses which I have devised provides for a wide range or spread of the legs, while at the same time the handle or handpiece, which is grasped between the fingers in using the device, retains a vertical position in all positions of the legs, whether the latter are closed or more or less spread apart.

I shall first describe the improvement by reference to the accompanying drawings, which illustrate compasses embodying the improvement, and will then point out in the claims those features of the same which I believe to be new and of my own invention.

In the drawings, Figure 1 is a face view of a pair of compasses embodying my invention in its preferred form, the legs being closed. Fig. 2 is a like view of the same with the legs spread apart. Fig. 3 represents the two legs and the central handpiece detached from one another. Figs. 4, 5, and 6 are similar views of a modification hereinafter described.

The two legs are shown at A B. They may be of any suitable contour and made of any suitable material, preferably cast metal or sheet metal, one of them, A, having a metal point and the other having a pencil-receiving socket and clamp like that which is the subject of my Patent No. 665,259, of January 1, 1901.

C is the handpiece, having its upper end of convenient shape to be taken between the fingers and its lower portion as a flat piece of metal, which is placed between the upper ends of the two legs A B, the parts being held together by the pivot-pin *o*, which passes through them, and washers *n*, one on each side, the pivot-pin being headed down upon the washers. The handpiece C is capable of turning on the pivot-pin *o* just as the legs do, and as it will be liable to follow the movement of one or the other of the legs it will thus be inclined from the vertical central position which it ought to occupy and must be brought back to that central position by hand before the compasses can be conveniently

manipulated. To remedy this objection, I provide means by which the handpiece shall always be maintained in one and the same vertical central position whether the legs be open or shut. The preferred means for this purpose (shown in Figs. 1, 2, and 3) consists of a curved outwardly and downwardly extending slot *a* in the leg A, a correspondingly shaped and located slot *b* in leg B, a vertical central slot *c* in that portion of the handpiece C below the pivot-pin *o*, and a pin *d*, which passes loosely through both slots *a b* and the intermediate straight slot *c* and has its ends headed, so that while it may move in said slots it cannot escape therefrom. When the legs A B are closed, as in Fig. 1, the handpiece C is vertical and the pin *d* is at the lowest ends of the three slots *a b c* and vertically under the pivot *o*. When the legs are spread apart, the pin *d* will rise in the slots *a b c*, and by reason of its engagement with these parts will at all times maintain the handpiece in its upright central position no matter what may be the spread of the compass-legs. This I believe to be new with me beyond its particular structural embodiment herein illustrated.

In the figures thus far described the pin *d*, whose engagement with the handpiece maintains the latter in its vertical central position, rises and falls in a slot in the handpiece; but the same result can be reached by having the pin fixedly engage the handpiece, and to make the handpiece itself capable of moving bodily up and down all that is needed being that the pin should have the capacity of moving up and down, (whether independently of or bodily with the handpiece,) so as to permit it to be actuated by the slots *a b* in the legs. This modification is represented in Figs. 4, 5, and 6. In these figures A B are the compass-legs, and C is the handpiece. In the legs are slots *a b*, curved outwardly and downwardly in opposite directions, as in the other case. The handpiece has a pin *d'*, which extends through the lower part of the handpiece and projects from each face thereof into slots *a b* of the legs. This pin, while located vertically under the pivot *o* and corresponding in function to the pin *d* in the structure illustrated in Figs. 1 to 3, is, how-

ever, a fixture in the handpiece and incapable of movement independently of the latter. Inasmuch as the pin by reason of its engagement with the legs A B must move up or down, according as they open or close, it becomes necessary to provide that the handpiece itself may be capable of such movement. To this end the handpiece at the point where the pivot-pin *o* passes through it has a vertical slot *c'*, (corresponding in function to the slot *c* in Figs. 1 to 3,) whereby the handpiece itself can rise and fall along with the pin *d'*. The pivot-pin *o* is at the upper end of the slot *c'* when the legs are closed, as in Fig. 4. When, however, the legs are opened, the pin *d'* will be forced straight upwardly and the handpiece will rise with it, the slot *c'* permitting these movements, the parts then occupying the position shown in Fig. 5.

Having described my improvement in compasses and the best way now known to me of carrying the same into practical effect, I state in conclusion that I do not restrict myself to the structural details hereinbefore set forth in illustration of the improvement, for manifestly the same can be varied without departure from my invention; but

What I claim as new, and desire to secure by Letters Patent, is—

1. In compasses, compass-legs having outwardly and downwardly extending slots, a handpiece interposed between, and hung upon a common axis with, said legs, a pin engaging the handpiece and entering the slots in the compass-legs, and provisions for permitting the said pin to move in a right line up and down to and from the pivot, as the compass-legs are opened and closed, substantially as and for the purposes hereinbefore set forth.

2. In compasses, and in combination, compass-legs and a handpiece interposed between, and pivoted upon a common axis with, said legs, slots *a, b* in the compass-legs, a slot *c* in the handpiece, and a pin *d* extending through and engaging all three of said slots *a, b, c*, substantially as and for the purposes hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 27th day of January, 1903.

GEORGE OBERBECK.

Witnesses:

SAMUEL KRAUS,
P. H. BUCKMASTER.