No. 647,064.

Patented Apr. 10, 1900.

N. BAASHUUS.

DRAWING INSTRUMENT.

(Application filed Jan. 30, 1899.)

(No Model.)

2 Sheets—Sheet 1.

Fig. II.

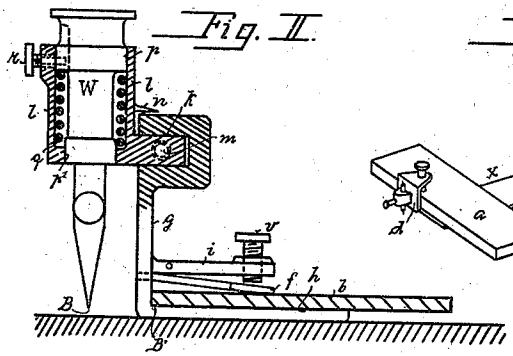


Fig. I.

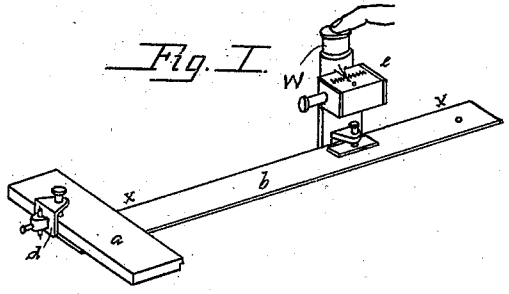


Fig. III.

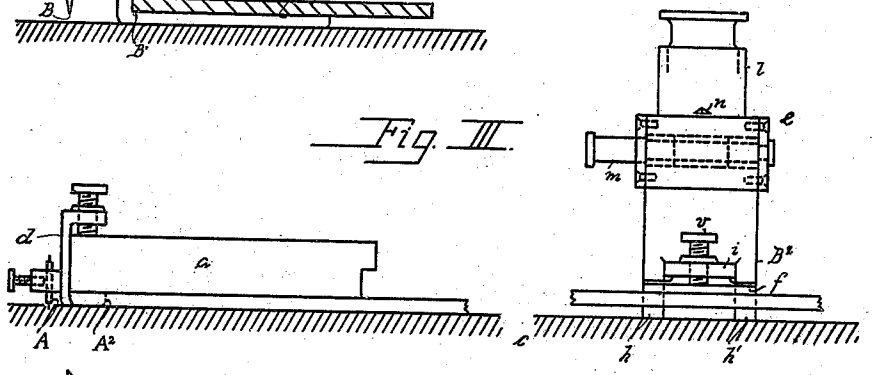
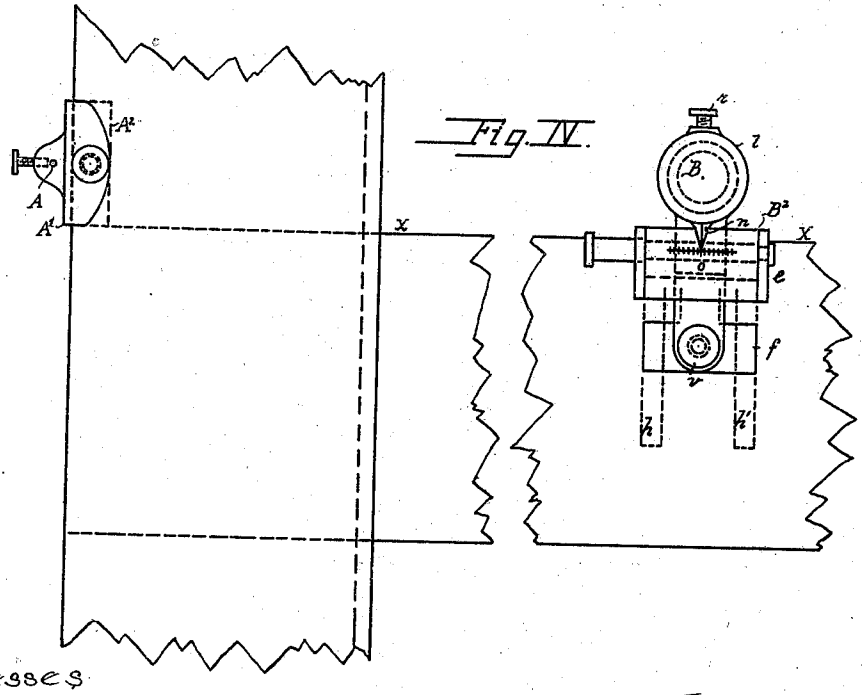


Fig. IV.



Witnesses

H. Lehmann.

F. Janssen.

Inventor.

Nic Baashuus.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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(No Model.) 2 Sheets—Sheet 2.

Fig. V

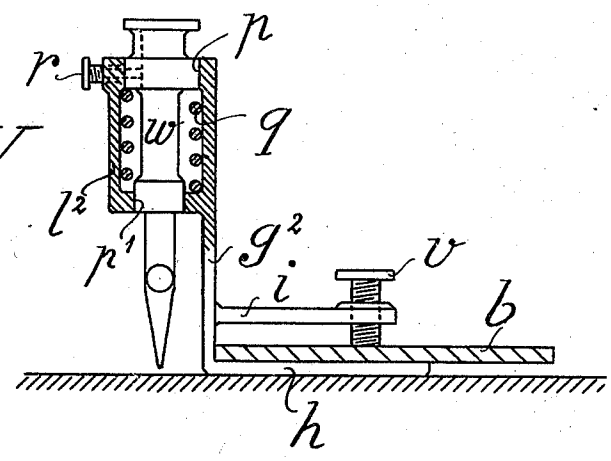
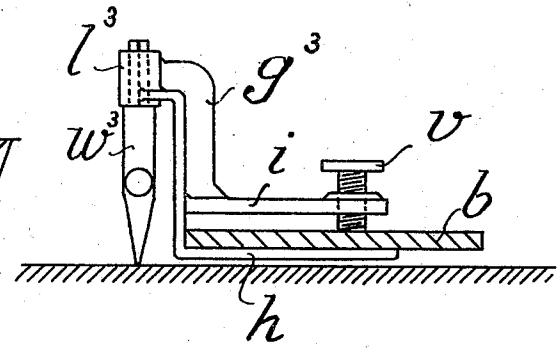


Fig. VI



Witnesses.
Fritz Jaussen.
Ad. Lehmann.

Inventor.
N. Baashuus

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NILS BAASHUUS, OF CHARLOTTENBURG, GERMANY.

DRAWING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 647,064, dated April 10, 1900.

Application filed January 30, 1899. Serial No. 703,942. (No model.)

To all whom it may concern:

Be it known that I, NILS BAASHUUS, engineer, of Charlottenburg, near Berlin, in the Empire of Germany, have invented Improvements in Drawing Instruments, of which the following is a specification.

The present invention relates to an improved drawing instrument consisting of two parts applied to an ordinary T-square. The instrument so constructed forms a cheap and convenient beam-compass which may be accurately and readily adjusted even for the largest radii by a single draftsman.

On the accompanying drawings, Figure 1 shows a view of the complete instrument in position for use. Fig. 2 shows a vertical section of the T-square with carrying device for the pen or pencil point attached. Fig. 3 is an edge view of the T-square, partly broken away, with center point and pen or pencil point attached. Fig. 4 is a plan view of the same. Fig. 5 shows a vertical section of a simpler form of the carrier g^2 applied to a T-square, and Fig. 6 shows the simplest form of carrier g^3.

To describe large circles, the T-square $a\ b$ is laid upon the drawing-paper c with its under side upward, the center point d screwed to the head a, and the adjustable device e, carrying the pen or pencil point, screwed to the blade b.

For the purpose of protecting the blade of the T-square a plate f, Fig. 2, is inserted between it and the set-screw. The device for holding the pen or pencil point consists of a sliding carrier g, embracing the blade b by means of three shanks $h\ h'\ i$. The carrier g has at its top a guide k for the pen or pencil point holder l, having a micrometer-screw m of ordinary construction for very accurate adjustment. The threaded portion of this screw passes through the parts $g\ l$ and is secured at its farther end. When, therefore, the screw is turned, the part l is caused to travel along on the screw, which is secured to the top portion of the carrier g. The holder l is provided with a pointer n, and the top portion of the carrier g has a scale engraved upon it, on which the divisions can be read off. The zero-point of the scale corresponds with the central position of the pen or pencil point, and the scale reads outwardly on each side. The pen or pencil point w is vertically adjustable in the guideway $p\ p'$, and a spiral spring q holds the pen or pencil point at a suitable distance from the paper. In drawing the point is depressed vertically by means of the finger or other appropriate device. The point w permits of being drawn out from above for the purpose of cleaning, filling, sharpening, or the like. To prevent the point w turning in its guideway $p\ p'$, a slot is provided in it, into which passes a set-screw r. By tightening up this screw the pen or pencil point can be held at any vertical height.

The distances A A′ and B B′ are precisely equal—that is, the devices for carrying center point and pen or pencil point are so constructed that the center of each lies in a line parallel to the edge $x\ x$ of the blade b. The radius to be described can thus be directly marked off on the blade b and the pen or pencil point adjusted accordingly. The distance A A^2 is likewise equal to the distance B B^2—*i. e.*, the distance from the edge B^2 to the pen or pencil point when the latter is in its central position. Thus instead of the distance between center point and the pen or pencil point the equal distance between A^2 and B^2 may be read off.

Fig. 5 shows a less elaborate form of the invention for use when exact adjustment to small fractions of a millimeter is not of moment. Here the micrometer-screw is dispensed with and the carrier g^2 formed in one with the holder l^2 for the pen or pencil point. All adjustments of the pen or pencil point are then effected by means of the whole carrying device g^2, which when the desired distance has been measured off between the center point and the pen or pencil point is secured to the blade by the set-screw v.

In the form shown in Fig. 5 the guard-plate f, Figs. 2 to 4, is also dispensed with, the pressure on the blade being of little consequence if the screw v is of adequate diameter.

Fig. 6 shows an extremely simple form of the invention. The holder l^3 is constructed in one piece with the carrier g^3 and is formed with a simple cylindrical head for the point w^3. The arrangement of the shanks and set-screw is the same as in Fig. 5.

An instrument constructed in accordance with the present invention possesses mani-

fold advantages over ordinary beam-compasses.

First. A special beam is dispensed with, an ordinary T-square, which every draftsman has always at hand, being used instead.

Second. The use of a T-square as beam prevents the instrument tipping over by reason of the broad surface presented to the paper. By this means even with the largest radii the instrument can be accurately and readily manipulated by a single draftsman.

Third. The center point and pen or pencil point lie on a line parallel to the edge of the T-square blade, and the distance from the center point to the pen or pencil point (when the pointer is at zero-point on the micrometer-scale) is equal to the distance from the edge A^2 to the edge B^2. Thus by laying the scale against the edge A^2 of the device carrying the center point and measuring off by the edge B^2 radii can readily be set off. There is thus the advantage of being able to adjust edges instead of points.

The pen or pencil point is vertically adjustable, so that the inconvenience of having to raise the whole apparatus from the paper at the part where marking is taking place is obviated. The arrangement also facilitates the operations of cleaning, filling, and sharpening the pen or pencil point.

I claim—

1. A drawing instrument consisting of a T-square *a b*, a device *d* carrying a center point attached to the head *a* of the said T-square, and a device *e* carrying a pen, pencil or like point attached to the blade *b* of said T-square by means of a holder *l* and shanks *h h' i* substantially as described, and for the purposes hereinbefore set forth.

2. A drawing instrument consisting of a T-square *a b*, a device *d* carrying a center point attached to the head *a* of said T-square, and a device *e* carrying a vertically-adjustable pen or pencil or like point *w* attached to the blade *b* of said T-square, and comprising a carrier *g* having shanks *h h' i* and a set-screw *v* and protection-plate *f*, a guide *k* with micrometer-scale and a holder *l* for the point *w* provided with a micrometer-screw *m*, a spiral spring *q*, a pointer *n* and a set-screw *r* screwing through the said holder *l* and passing into a slot in the point *w*, all substantially as and for the purposes hereinbefore set forth.

In witness whereof I have hereunto set my hand in presence of two witnesses.

NILS BAASHUUS.

Witnesses:
WOLDEMAR HAUPT,
ERWIN L. GOLDSCHMIDT.