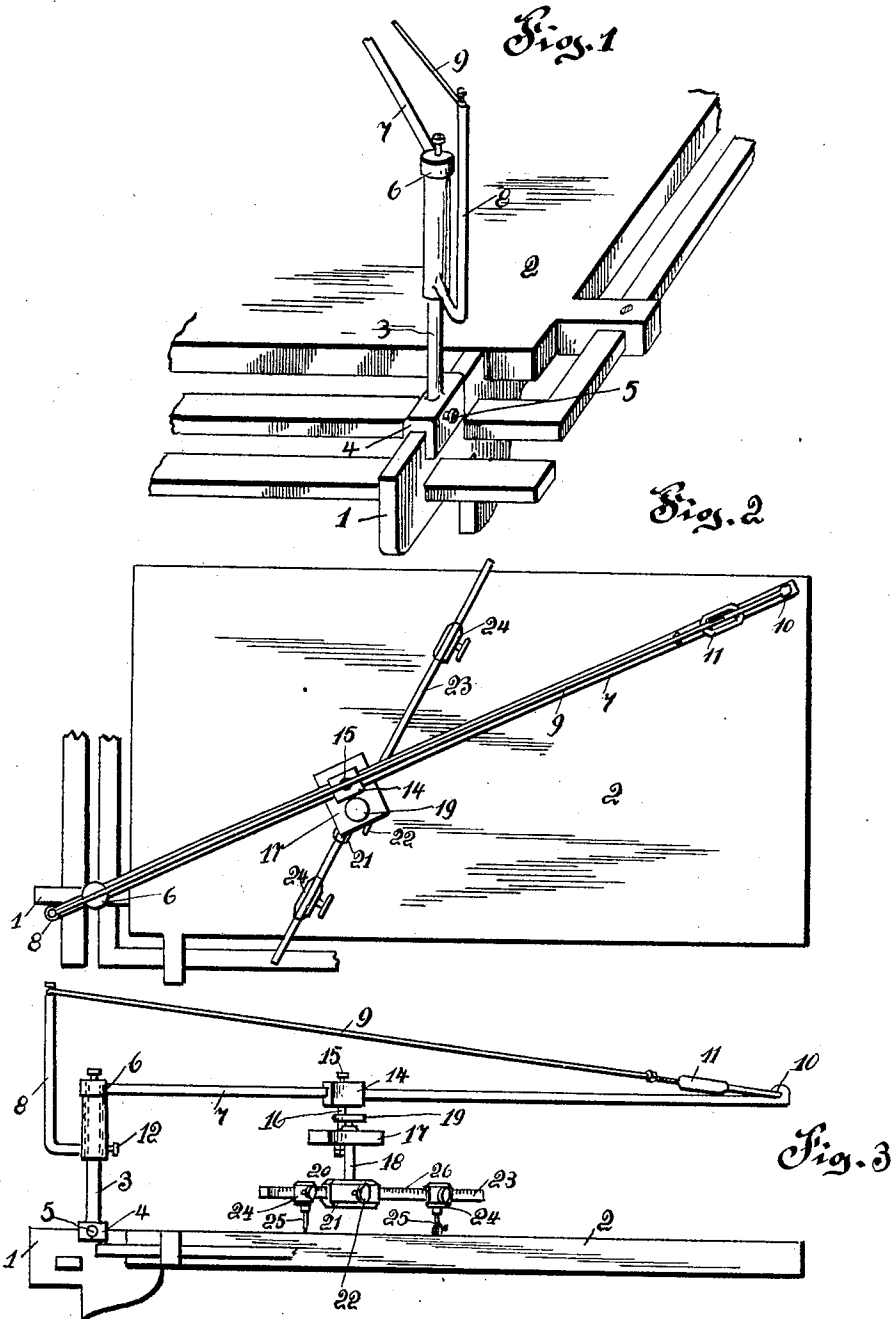


No. 813,827.

PATENTED FEB. 27, 1906.

G. RING.
DRAFTING INSTRUMENT.
APPLICATION FILED JUNE 13, 1905.



Witnesses:
W. H. Butler
E. E. Potter

Inventor.
G. Ring.
by *A. C. Everett & Co.*
Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE RING, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-THIRD
TO HARVEY H. SMITH, OF PITTSBURG, PENNSYLVANIA.

DRAFTING INSTRUMENT.

No. 813,827.

Specification of Letters Patent.

Patented Feb. 27, 1906.

Application filed June 13, 1905. Serial No. 265,057.

To all whom it may concern:

Be it known that I, GEORGE RING, a citizen of the United States of America, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Drafting Instruments, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in drafting instruments; and the object of the invention is to provide an instrument adapted to be used in connection with a table for describing circles at any point upon the table. In this connection my improved drafting instrument is adapted to be used with my improved drafting-table, an application for patent for which was filed March 18, 1905, Serial No. 250,711, allowed June 2, 1905. While the instrument is particularly adapted for use in connection with the type of table illustrated and described in the above-mentioned application, it is nevertheless applicable to other tables used for drafting purposes.

It is a well-known fact that upon very large drafting-tables it is extremely difficult to properly manipulate an instrument for describing large circles or small circles in the center of the board, and for this reason I have devised an instrument which is pivotally mounted above the table and can be adjusted for manipulation upon any part of the table.

With the above and other objects in view the invention consists in the novel construction, combination, and arrangement of parts, which will be hereinafter more fully described and then specifically pointed out in the claims, and referring to the drawings accompanying this application, like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a perspective view of a portion of a table equipped with my improved instrument, the table and the instrument being partly broken away. Fig. 2 is a top plan view of a table equipped with the instrument, and Fig. 3 is a side elevation of the same.

In order that those not conversant with the general construction and objects of my improved table upon which I intend to use the instrument to be herein described, a brief description is here given. I employed an ordi-

nary drafting-table, the edges of which were provided with a rectangular frame upon which were slidably mounted hinged rules, whereby vertical and horizontal lines could be drawn upon a piece of paper placed upon the table. The ends of the table were provided with guide-strips upon which were slidably mounted outwardly-extending arms carrying pivoted rods which were employed for obtaining lines of perspective, the pivotal points of the rods serving as vanishing-points. By this table I was enabled to correctly and accurately draw a perspective view.

It is the object of the present invention (which is wholly generic to the drafting apparatus above mentioned) to provide novel means for describing circles at any desired place upon a drafting-table.

In Fig. 1 of the drawings I have illustrated one corner of a drafting-table constructed in accordance with the drafting apparatus heretofore mentioned, and to one of the corner-brackets 1 of the table 2 I secure my improved instrument. The instrument consists of a standard 2, the lower end of which is provided with a bifurcated member 4, that serves as a clamp to secure the standard to the bracket 1, a set-screw 5 being employed to retain the member 4 in engagement with the bracket. Upon the upper end of the standard 3 I mount a revoluble sleeve 6, which carries an outwardly-extending arm or beam 7, the end of which is adapted to reach the farthest corner of the table 2. In order that the outer end of the arm or beam 7 may be supported, I provide the sleeve with an upwardly-extending arm 8, to the top of which is pivotally connected a wire 9, that extends outwardly and is connected to the outer end of the arm or beam 7, as indicated at 10, the wire 9 being provided with a suitable "take-up" or turnbuckle 11, whereby the length of the wire may be adjusted at any desired time to elevate or lower the end of the arm or beam 7. The sleeve 6 is provided with a suitable set-screw 12, whereby the arm or beam 7 can be secured in a fixed position relative to the standard 3. Upon the arm or beam 7 is slidably mounted a sleeve 14, capable of being fixed to the beam or arm 7 by a set-screw 15. This sleeve carries a depending rod or hanger 16, which supports a platform or plate 17. Revolvably retained within the outer end of the plate or platform 17 is a vertically-disposed shaft 18,

the upper end of said shaft being provided with a knurled thumb-wheel 19 to facilitate the rotation of said shaft. The lower end of the shaft 18 is provided with a conventional
 5 form of beam-compass 20, which in this instance consists of a member 21, capable of being vertically adjusted upon the shaft 18 by a set-screw 22. A beam 23 passes through the member 21, and adjustably mounted
 10 upon the ends of the beam are heads 24 24, which carry depending markers 25 25. These markers may be either pencil or inking instruments, and in order that they may be manipulated to describe a circle of a given
 15 diameter I provide the beam 23 with graduations 26. By the construction of the instrument it will be observed that a circle of any diameter less than the width of the board can be described, also arcs having radii not greater
 20 than the beam 23 or the beam or arm 7. By the use of my improved instrument I am also enabled to describe small circles at any desired point upon the table 2.

I do not care to confine myself to any particular type of beam-compass that I may employ in connection with my improved instrument or to the material from which I may make the instrument, brass or German silver being preferably employed on account of being
 25 less affected by atmospheric conditions that may surround the instrument.

By providing the shaft 18 with the knurled wheel 19 a draftsman or person using my improved instrument can readily rotate the
 35 beam-compass 21 to describe a circle or any part thereof, the location of this shaft not interfering with the sleeve 14 or its depending rod or hanger 16.

It is thought from the foregoing that the construction, operation, and advantages of the herein-described drafting instrument will be apparent without further description, and various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit
 40 of the invention or sacrificing any of the advantages thereof.

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

50 1. The combination with a drafting-table, of a bracket carried by one edge thereof, a

standard detachably connected to said bracket, a beam revolvably attached to said standard, an upwardly-extending arm carried by said standard adjacent to said standard, an adjustable wire connecting the top of said arm and the outer end of said beam, a sleeve adjustably mounted upon said beam, a plate carried by said sleeve, a shaft rotatably mounted in said plate, and a beam-compass carried by the lower end of said shaft, substantially as described. 55 60

2. The combination with a drafting-table having an upwardly-extending bracket, of a standard detachably secured to said bracket, a beam pivotally connected to said standard, a sleeve slidably mounted upon said beam, a plate carried by said sleeve, a shaft journaled in said plate, a beam-compass carried by the lower end of said shaft, means to adjustably support the outer end of the first-named beam, means to revolve said shaft, and means to lock said sleeve in engagement with said beam, substantially as described. 65 70

3. The combination with a table, of a bracket carried by one edge of said table, a standard detachably secured to said bracket, a beam pivotally mounted upon said standard, an adjustable beam-compass slidably mounted upon said beam, means to rotate said beam-compass, and means to support the outer end of the first-named beam, substantially as described. 75 80

4. The combination with a table, of a bracket mounted at one edge of the table, a standard detachably mounted on said bracket, a beam pivotally mounted upon said standard, a sleeve slidably mounted on said beam, a horizontal plate carried by said sleeve, a vertically-disposed rotary shaft carried by said plate, a member carried by said shaft and adjustable thereon, a beam passing through said member, adjustable heads mounted on said last-named beam, and markers carried by said heads. 85 90 95

In testimony whereof I affix my signature in the presence of two witnesses.

GEORGE RING.

Witnesses:

K. H. BUTLER,
 E. E. POTTER.