

Sept. 7, 1948.

F. FULLER

2,448,878

DRAFTSMAN'S COMPASS

Filed Nov. 17, 1944

FIG. 1.

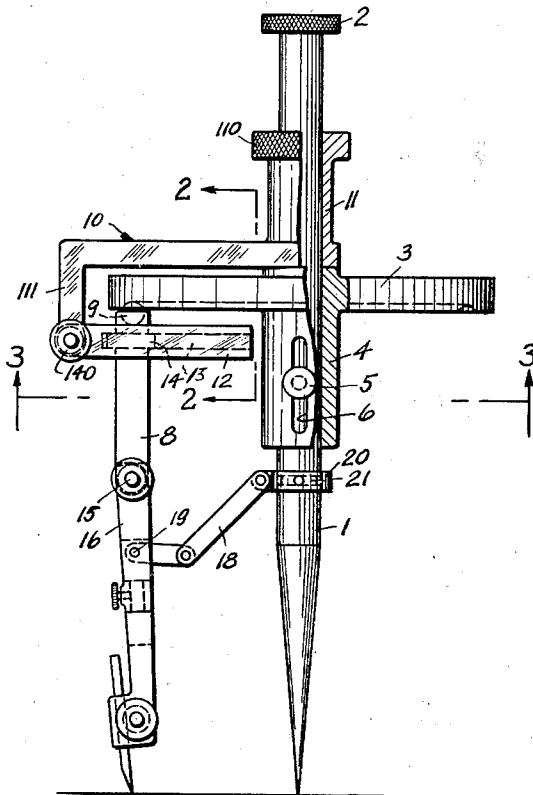


FIG. 2.

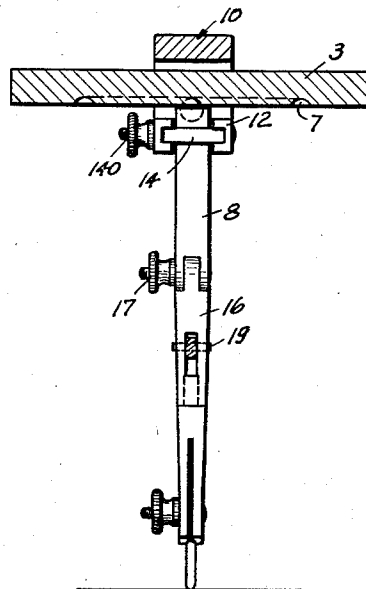
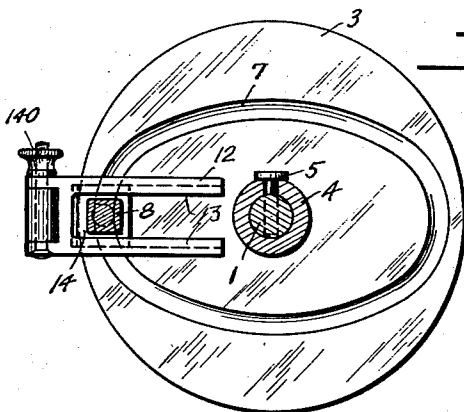


FIG. 3.



INVENTOR:
Frederick Fuller,
BY
Bodell & Thompson
ATTORNEYS.

UNITED STATES PATENT OFFICE

2,448,878

DRAFTSMAN'S COMPASS

Frederick Fuller, Middletown, N. Y.

Application November 17, 1944, Serial No. 563,824

2 Claims. (Cl. 33-27)

1

This invention relates to drawing instruments and particularly to draftsman's compasses, and has for its object a compass by which different forms, circular or non-circular, may be drawn from a templet or form plate applied to or embodied in the compass.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

Figure 1 is an elevation, partly in section, of a compass embodying this invention.

Figures 2 and 3 are sections taken respectively on the planes of lines 2-2 and 3-3, Figure 1.

The forms or figures to be drawn may be of various contours, that here shown being an ellipse.

The tool comprises, generally, a non-rotatable centering shaft or spindle pointed at its end for entering the paper or sheet on which the figure is to be drawn, a form plate mounted on the shaft and secured thereto, so as not to be rotatable relatively to the shaft, the form plate having a guide or cam of the contour of the figure to be drawn, a drawing point or stylus-carrying leg, that is, a pen or pencil-carrying leg, having a follower movable along the guide or cam during the revolution of the leg about the axis of the stationary shaft, and a support for the leg rotatably mounted on the shaft to hold the leg with its follower engaged with the guide of the form plate.

1 designates the centering shaft pointed at its lower end for pricking the paper on which the drawing is to be made, the shaft having a knurled head 2 at its upper end by which it can be easily held from turning or shifting about its axis. 3 designates the form plate or templet, this being shown as having a hub 4 slidably mounted to shift axially on the centering shaft 1 but held from relative rotary movement, by a suitable key, as a pin 5 extending through a lengthwise slot 6 in the hub 4 into the shaft 1. The form plate 3 is formed with a guide or cam 7 on its lower face of the contour of the figure to be reproduced. The guide, as here shown, is elliptical, but obviously it may be of any other shape.

8 designates the drawing-point leg of the compass, that is, the leg carrying the stylus, pencil or pen, this having a follower, as a ball 9 at its upper end movable in the guide 7 of the form plate. The leg is rotatably supported from

2

the centering shaft 1 and the leg 8 coacts with its support to have a radial shifting movement, as the follower moves radially in conforming with the major and minor dimensions or diameters of the cam guide of the form plate. 10 designates the support, this including a hub 11 rotatably mounted on the centering shaft 1 above the form plate 3 and having a radial arm extending over the form plate, an angular arm 111 extending crosswise of the edge of the form plate, and a radial arm 12 extending inwardly under the form plate from the angular arm, the arm 12 being formed with a lengthwise guide slot or groove 13 for receiving a sliding head 14 on the leg 8 to permit and guide the radial shifting movement of the leg 8. The hub 11 is provided with a knurled head 115 for facilitating the turning of the support about the shaft 1.

For the purpose of locating the follower 9 in the guide of the form plate or removing it therefrom, the arm 12 is adjustably mounted on the angular arm to move toward and from the form plate 3, and as here shown, the arm 12 is pivoted to the lower end of the angular arm and held in its adjusted position, as by a clamp screw 140.

The leg 8 is composed of sections hinged together at 15, the lower section being adjustable about the pivot 15 radially, in order to vary the scale or size of the figure to be drawn with respect to that of the guide 7. The lower section 16 of the leg is held in its adjusted position, as by a screw and nut at 17. The lower section 16 of the leg is braced during its revolution about the centering shaft 1 by an adjustable or folding brace 18 secured at 19 to the lower section of the leg and having a collar 20 rotatably mounted on the centering shaft 1 but held from endwise movement, the shaft being here shown as formed with a circumferential groove 21 and the collar as with a pin or follower movable into the groove. The brace 18 steadies the leg 8 or holds it from lateral movement, but permits the leg to shift radially as the follower or ball 9 follows the guide or cam of the form plate.

In operation, with the centering shaft 1 properly located on the paper and a form plate with a guide of the form to be reproduced, the lower section of the stylus-carrying leg being adjusted radially to produce the figure of the desired size the operator applies some axial pressure to the shaft 1 and holds it from turning, while turning the hub 11 by means of its knurled head, thus moving the support 10 and hence the leg 8 about the centering shaft 1 to reproduce on the paper a figure of the contour of the guide of the form

3

plate. Obviously, form plates with guides of various contours are interchangeably mountable on the shaft 1.

What I claim is:

1. A draftsman's compass comprising a centering shaft pointed at its end, a form plate mounted on the shaft and having a guide of the contour of the figure to be drawn and being non-rotatable relatively to the shaft, a stylus-carrying leg having a follower movable along the guide during revolution of the leg around the axis of the shaft, a support for the leg rotatably mounted on the shaft to revolve the leg around the shaft, said supporting including a guide for permitting radial shifting of the leg as the follower moves along portions of the guide of the form plate nearer or farther from the axis of the shaft, said support including a hub rotatably mounted on the shaft, an arm extending radially from the hub and having an angular portion extending crosswise of the edge of the form plate and an inwardly extending arm extending under the form plate and formed with a slot, said leg having a follower movable in the slot, the inwardly extending arm being adjustable toward and from the form plate to permit the follower to be located in and removed from the guide of the form plate.

2. A draftsman's compass comprising a centering shaft pointed at its end, a form plate mounted on the shaft and having a guide of the contour of the figure to be drawn and being non-rotatable relatively to the shaft, a stylus-carrying leg having a follower movable along the guide during revolution of the leg around the axis of the shaft, a support for the leg rotatably mounted on the shaft to revolve the leg

4

around the shaft, said shaft including a guide for permitting radial shifting of the leg as the follower moves along portions of the guide of the form plate nearer or farther from the axis of the shaft, said support including a hub rotatably mounted on the shaft, an arm extending radially from the hub and having an angular portion extending crosswise of the edge of the form plate and an inwardly extending arm extending under the form plate and formed with a slot, said leg having a movable follower in the slot, the inwardly extending arm being adjustable toward and from the form plate to permit the follower to be located in and removed from the guide of the form plate, the leg including upper and lower sections, the lower section being adjustable radially relatively to the upper section, and a folding brace connected to the lower section and having a bearing rotatably mounted on the shaft.

FREDERICK FULLER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
324,395	Marichal	Aug. 18, 1885
552,293	Kuhn	Dec. 31, 1895
646,329	Tintanne	Mar. 27, 1900
877,710	Goodale	Jan. 28, 1908

FOREIGN PATENTS

Number	Country	Date
105,735	Switzerland	1924