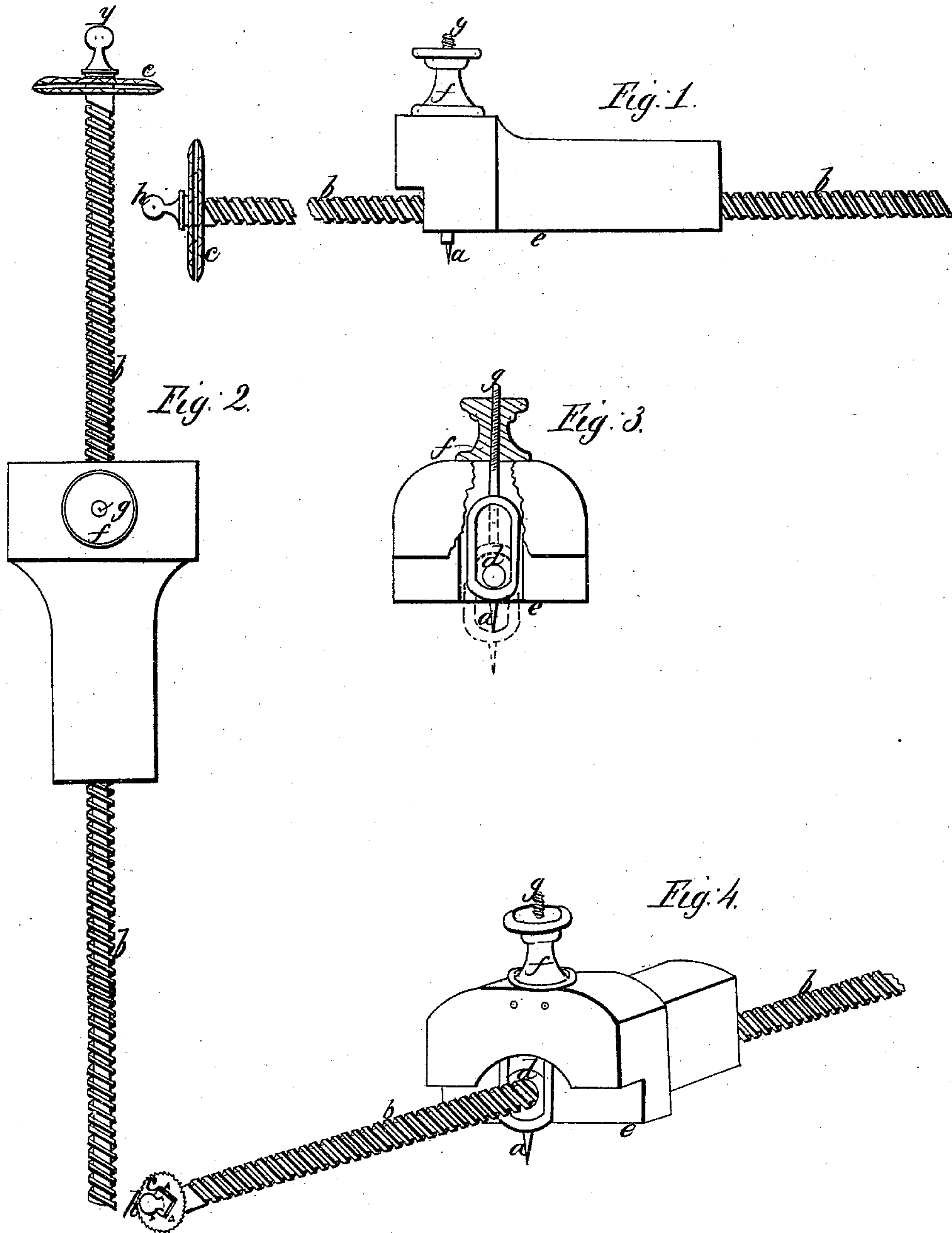


G. Crandell.

Drafting Scriber.

N^o 99,853.

Patented Feb. 15, 1870.



Witnesses;
August Bastert
Edw. F. Brown

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United States Patent Office.

GERMOND CRANDELL, OF WASHINGTON, DISTRICT OF COLUMBIA.

Letters Patent No. 99,853, dated February 15, 1870.

IMPROVEMENT IN INSTRUMENT FOR DESCRIBING SPIRALS, &c.

The Schedule referred to in these Letters Patent and making part of the same

To all whom it may concern:

Be it known that I, GERMOND CRANDELL, of Washington, in the county of Washington, and District of Columbia, have invented a Machine for Drawing or Describing a Scroll; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in so combining a screw with a spur-wheel and a point or foot, that when the foot or point, which corresponds to one foot of a pair of dividers, is placed in position upon a plain, and the spur-wheel resting upon the same plain, the forward motion, as in describing a circle with dividers, turns the wheel which acts as one foot, and that turns the screw, which, passing through a nut above the point, constantly increases the distance between the two points, thereby describing a scroll instead of a circle.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation by referring to the drawing, in which—

a represents the point corresponding to one foot of a pair of dividers, when used in describing a circle.

b is a screw passing through the nut *d*, which is secured to the body of the instrument *e*, or may be made as a part of it.

c is a spur-wheel fastened to the end of the screw *b*, and corresponding to the other foot of a pair of dividers. This wheel is made so as to be taken off at pleasure, and replaced with different sizes, according to the plan of the scroll to be described, as shown in Figures 1, 2, and 4, like letters representing like parts in each figure.

g is the other end of the piece of which *a* is the first, on which is a screw which passes through the nut *f*, as shown at Figure 3. The nut *f* is attached to the body of the instrument, so that on turning it either way, it moves the point *a* up or down. The piece of which *a* and *g* are the two extremes is separated longitudinally a part of the way, so as to permit the body of the screw *b* to pass freely through it, as shown at fig. 3. By turning the nut *f* in the right direction, this piece may be brought up against the screw *b* and confine it, so that a circle may be described instead of a scroll, if desired. The body of the instrument may be made of metal or wood, and of any desired form. The screw, also, may be made with one or more threads and of different lengths, as required. The wheels, also, may be made of two pieces instead of one,

concave on the inside so as to leave a space there for ink in case of drawing on paper. These two adjustable wheels may be cut in points like the spur-wheel, solid, or they may be made without teeth, if a smooth continuous line is desired. They may also be attached to the screw by means of a set-screw, so that by loosening the set-screw, and confining the screw *b* by means of the nut *f*, the wheel *c* will turn on the screw *b*, and thus describe a dotted circle, if desired.

The large end of the body of the instrument *e* being a plain, perpendicular to the screw *b*, as shown in fig. 4, by placing this end against the edge of a board or other substance, and setting the spur or pointed tooth-wheel *c* at the desirable starting point, a departing dotted line may be drawn to said edge by the points of the wheel *c* penetrating the surface, if the solid wheel be used, or a dotted line if the hollow wheel with ink be used on paper, whose angle will be greater or lesser, according to the size of the wheel employed. By setting the wheel *c* at any desirable distance from the said edge, with one of its points down, and then confining the screw *b* by means of the clamping arrangement, shown in the same figure, parallel scribe lines may be drawn to the said edge, as with an ordinary gauge; and by loosening the set-screw *h*, dotted parallel lines instead of scribe lines may be drawn.

With the instrument thus adjusted, if the point *a* be placed at any desirable center, a circle may be described. The instrument is therefore adapted to four distinct purposes, viz: describing a scroll, a circle, and drawing angular and parallel lines.

I claim, the combination and arrangement of the screw *b*, carrying at one end the solid or hollow tracing wheel *c*, held in place rigidly or loosely by the clamp-screw *h*, with the square-faced center block *e*, having within it the nut *d*, through which the said screw *b* passes, and provided with the adjustable point *a* to a yoke or stirrup, which, by means of the screw nut *f*, may be made to clamp the through screw *b* when desired, the whole forming a drawing instrument capable of describing a spiral line or a circle, and also as a gauge, a parallel, or taper straight line, substantially in the manner shown and described.

GERMOND CRANDELL.

Witnesses:

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AUGUST BASTERT.