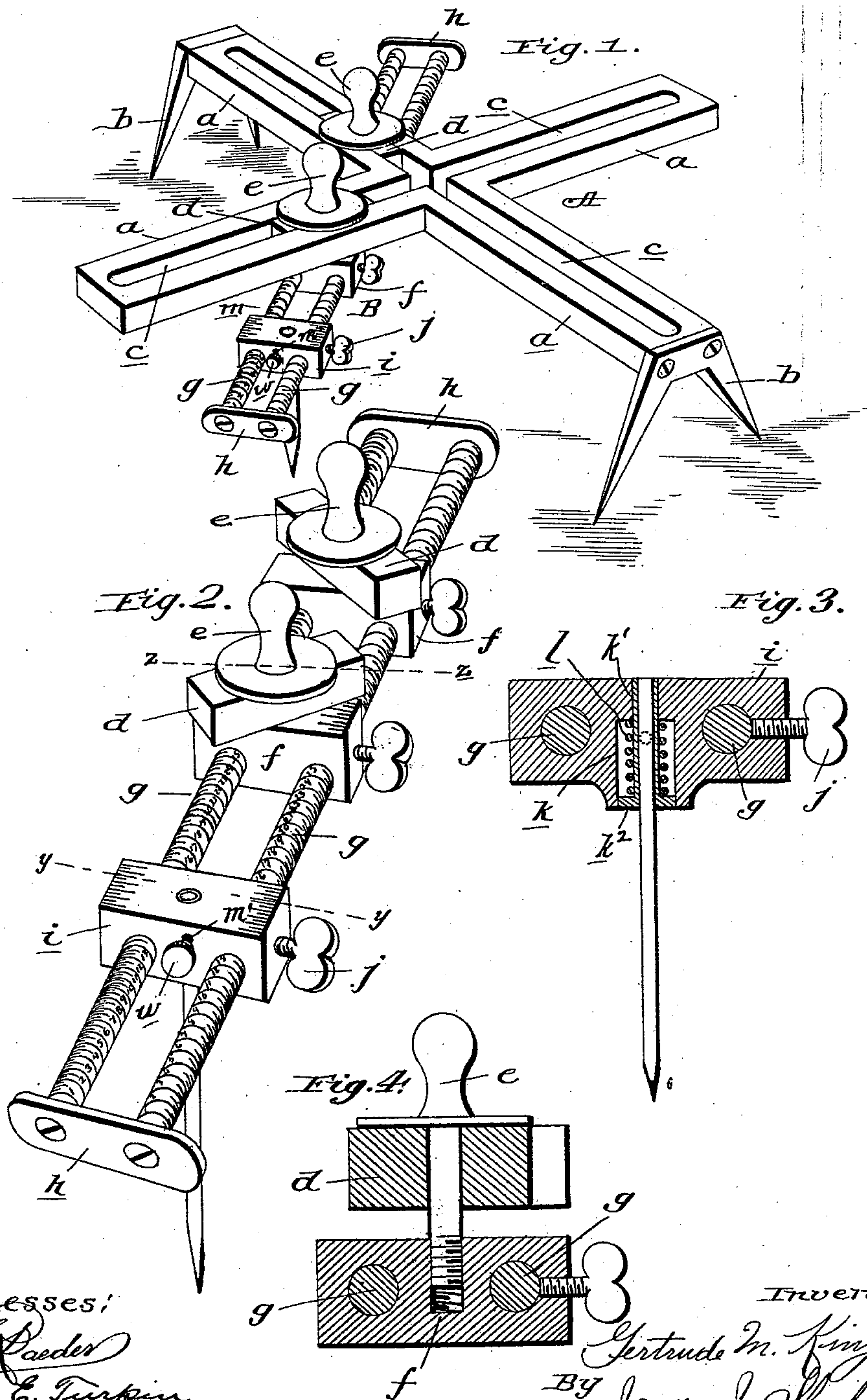


(No Model.)

G. M. KING.
ELLIPSOGRAPH.

No. 517,522.

Patented Apr. 3, 1894.



Witnesses:
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UNITED STATES PATENT OFFICE.

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ELLIPSOGRAPH.

SPECIFICATION forming part of Letters Patent No. 517,522, dated April 3, 1894.

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To all whom it may concern:

Be it known that I, GERTRUDE M. KING, a citizen of the United States, residing at Nantucket, in the county of Nantucket and State of Massachusetts, have invented certain new and useful Improvements in Ellipsographs; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in trammels or ellipsographs; and it has for its general object to provide such an instrument of a simple, compact and advantageous construction and one which may be quickly and conveniently adjusted and manipulated to effect the purpose for which it is designed.

Other objects and advantages will appear from the following description and claims when taken in connection with the annexed drawings, in which—

Figure 1, is a perspective view of my improved instrument in an operative position. Fig. 2, is an enlarged perspective view of the scribing beam, &c., removed from the main frame or table. Fig. 3, is a detail transverse section taken in the plane indicated by the line *y, y*, of Fig. 2; and Fig. 4, is a similar view taken in the plane indicated by the line *z, z*, of Fig. 2.

Referring by letter to the said drawings: A, indicates the main frame or table of the instrument which is preferably made in the form of a Greek cross, and comprises the four arms or branches *a*, as shown; and B, indicates the scribing beam which has a movement with respect to the main frame or table as will be presently described.

The frame or table A, is provided at the outer ends of two aligned arms or branches *a*, with divergent and pointed legs *b*, whereby it may be securely mounted upon a board, table or the like, and the said frame or table is also provided with two vertically-disposed slots *c*, which extend to points adjacent to the outer ends of the arms or branches *a*, and intersect each other at the center of the table as shown. These slots *c*, are designed to receive the slidable blocks *d*, which are preferably of an elongated, rectangular form as shown, and are supported in the said slots by

the headed or shouldered screws *e*, which extend through the said blocks and take into the adjustable blocks *f*, of the scribing beam B, as better illustrated in Fig. 4, of the drawings.

The beam B, comprises two parallel bars *g*, which are preferably of a circular form in cross section and have their ends connected by plates as *h*. These bars *g*, serve as runners for the adjustable blocks *f*, and the adjustable pencil block *i*, which may be secured at various points by the binding screws *j*, and each of the said bars is provided as illustrated with a graduated scale whereby the several blocks *f*, *i*, which are also provided with graduated scales, may be accurately adjusted so as to form an ellipse of the desired proportions.

As better shown in Fig. 3, of the drawings, the block *i*, of the scribing beam is provided with a vertically disposed aperture or bore *k*, which has its lower portion enlarged and is designed to receive a pencil holder *k'*, and a spring *l*, as illustrated. The pencil holder is tubular as shown and the pencil is held therein by a screw *w*, which takes through a vertical slot *m'*, in the block *i*, and into the holder as shown. The said holder is provided at its lower end with a preferably integral, horizontal flange *k''*, as illustrated for the engagement of the spring *l*, which serves to press the pencil against the paper so that it will form an even line regardless of variations in the paper or drawing board, which is a desideratum.

In using my improved instrument, the operator places the table or frame A, upon the paper so that the arms or branches carrying the legs *b*, will extend in the direction of the minor axis of the projected ellipse. The blocks *f*, *i*, are then adjusted and adjustably fixed so that the distance between the block *i*, and the nearest block *f*, is equal to one half the minor axis of the size of ellipse desired, while the distance between the block *i*, and the farthest block *f*, is equal to one half the length of the major axis. The operator then holds the table or frame with one hand, while he manipulates the scribing beam with the other, in the ordinary manner.

It will be seen by reference to the drawings that my improved instrument is very simple,

compact and easy of adjustment and manipulation; and it will also be seen that it may be readily taken apart for transportation and that the parts subject to wear may be removed
5 when worn or damaged, and new parts placed and secured in position without the necessity of employing skilled labor.

In some cases it is desirable to form ellipses from stiff paper, pasteboard, and the
10 like, and to this end, I contemplate providing the instrument with a suitable cutter which may be carried by the block *i*, in the same manner as the pencil.

Having described my invention, what I
15 claim is—

1. The herein described trammel or ellipsograph, comprising a cross shaped frame or table having divergent and pointed legs at the
20 outer ends of two of its aligned arms or branches and also having the vertically disposed and intersected slots *c*, the rectangular blocks *d*, arranged to slide in the slots of the table or frame, the scribing beam disposed below the table or frame and formed by two
25 parallel bars connected at their opposite ends, the blocks *f*, *i*, mounted and adapted to be

adjusted upon the beam and having set screws whereby they may be fixed at various points, and the headed screws taking through the blocks *d*, and into the blocks *f*, and bearing
30 upon the table or frame, all adapted to operate, substantially as set forth.

2. In a trammel or ellipsograph, the combination with a block provided with a vertical bore *k*, having its lower portion enlarged and
35 also provided with a vertical slot *m'*, communicating with said bore; of a tubular pencil holder arranged in the bore *k*, and having a flange at its lower end, a screw taking
40 through the slot *m'*, and the pencil holder and adapted to fix a pencil therein, and a spring arranged in the enlarged portion of the bore *k*, and adapted to exert a pressure
45 against the flange of the pencil holder, substantially as specified.

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

GERTRUDE M. KING.

Witnesses:

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