W. BRIERLEY.

INSTRUMENT FOR DRAWING SPIRALS AND CIRCLES.

APPLICATION FILED APR. 24, 1908.

925,748. Patented June 22, 1909.

Fig.1.

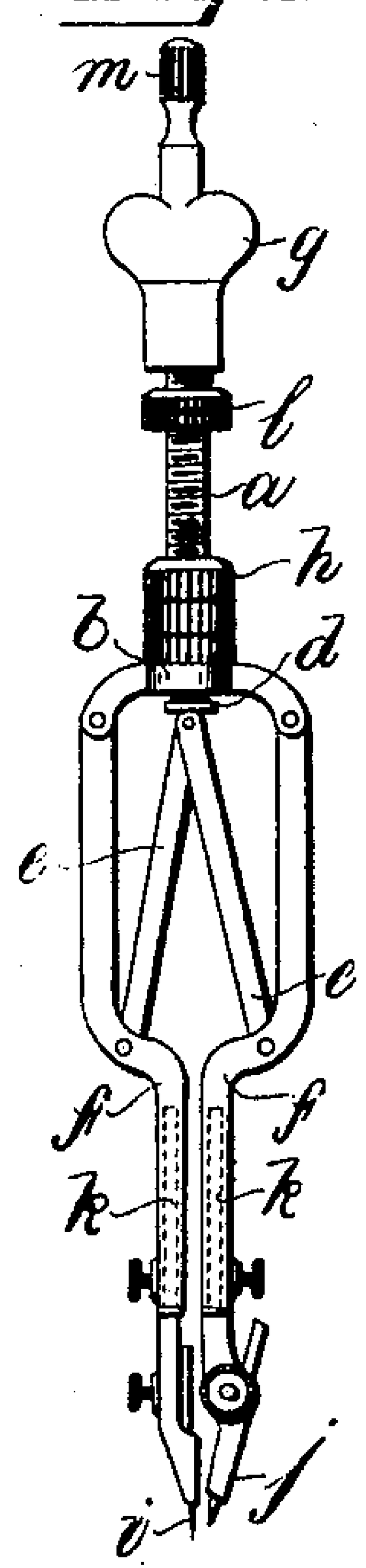


Fig.2.

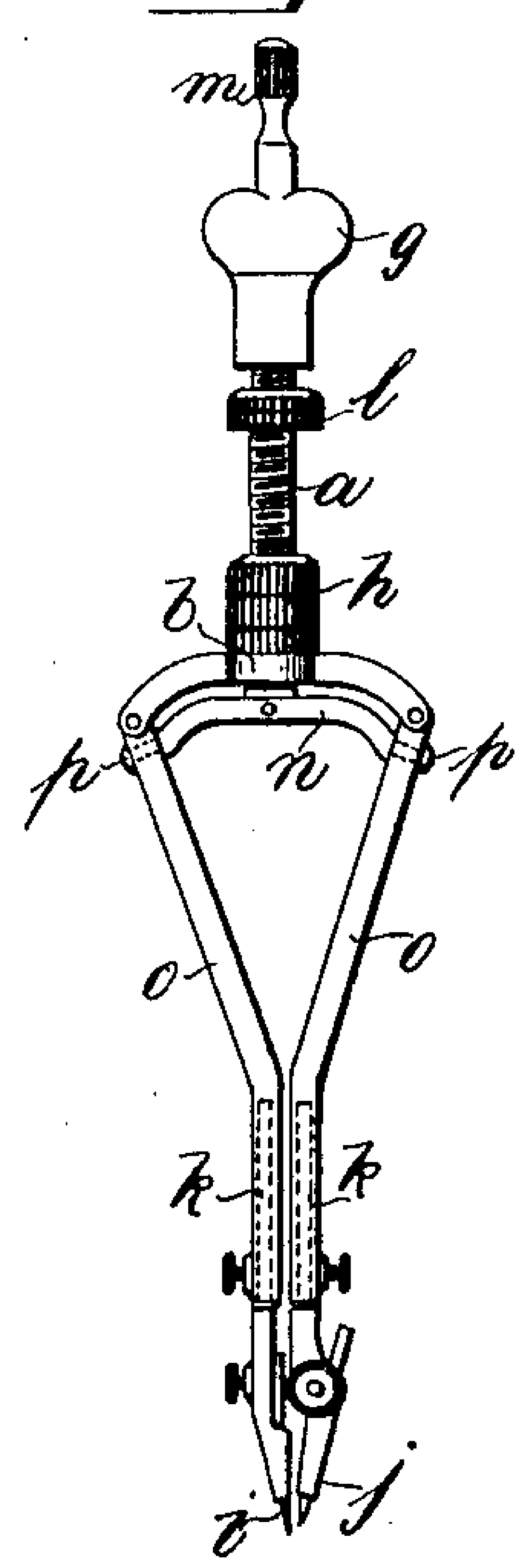
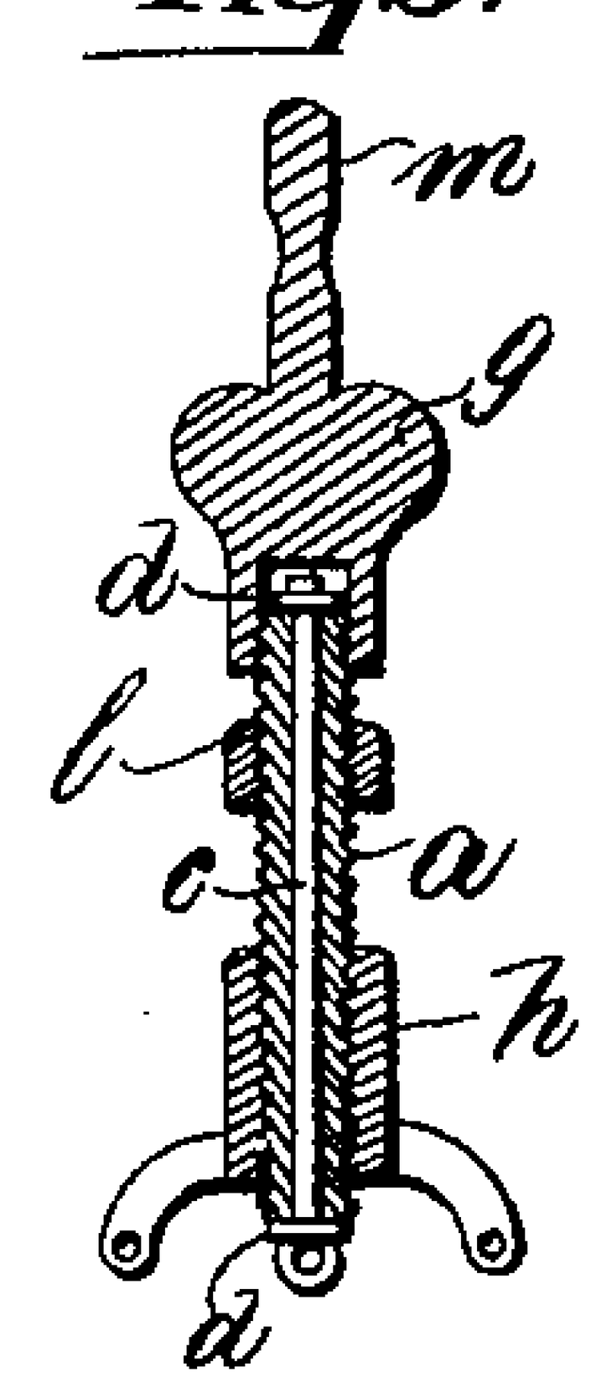


Fig.3.



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UNITED STATES PATENT OFFICE.

WYNFORD BRIERLEY, OF NEW MALDEN, ENGLAND.

INSTRUMENT FOR DRAWING SPIRALS AND CIRCLES.

No. 925,748. Specification of Letters Patent. Patented June 22, 1909.

Application filed April 24, 1908. Serial No. 429,022.

To all whom it may concern:

Be it known that I, WYNFORD BRIERLEY, a subject of the King of England, residing at "Parkstone," Coombe Road, New Malden, in the county of Surrey, England, have invented certain new and useful Improvements in Instruments for Drawing Spirals and Circles; and I do hereby 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.

This invention relates to drawing instruments and particularly that class known as "curve scribers."

The object of the invention is to provide a mechanism of the character named wherein are employed two pivoted legs of the common divider type adapted to be moved in a radial and rotary direction for the purpose of producing a spiral but which may be locked against such radial movement at the will of the user and utilized to produce a circle.

A further object of the invention is the production of a mechanism of the type set forth and for the purpose named, which will be simple of construction, easy of operation and comparatively inexpensive to manufacture.

With the above and other objects in view the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully described and claimed.

Referring to the drawings:—Figure 1 is a front elevation of my improved mechanism. Fig. 2 is a similar view of a modified form of same, and Fig. 3 is a fragment of the mechanism showing the operating stem in section.

In the drawings *b* is a cross head which is formed of the threaded milled boss *h* provided with depending curved arms as shown. A threaded shaft *a* passes through the boss *h* and operatively engages the threads thereof. The threaded shaft *a* is bored out longitudinally to receive the spindle *c* adapted to work freely in said shaft and held in place by collars *d*. Secured to the outer end of the threaded shaft *a* is a thumb piece *g* provided with a small milled head *m*. A locking nut *l* is mounted to travel on the shaft *a* between the boss *h* and thumb piece *g*. Pivoted to the arms *r* are legs *f* which are bent inwardly at their lower end whereby said ends are brought close together. Secured in the lower ends of the legs *f* are the lengthening bars *k* (shown in dotted lines) which in turn have secured in their respective ends pin *i* and pencil or marker *j* for engagement with the work in operating the mechanism. Secured to the lower end of the spindle *c* through the medium of a common pivot are the levers or links *e* which have their outer ends pivoted to the legs *f*.

The operation of the mechanism illustrated in Figs. 1 and 3 it is believed will be obvious. When it is desired to draw a spiral the pin *i* is embedded in the work, the thumb piece *g* held firmly in one hand and the milled boss *h* rotated to the left with the other hand with the result that the legs *f* will be not only rotated but also moved radially due to the fact that the shaft *a* will move downwardly with relation to the legs *f*, and thereby force the links *e* to move apart at their outer ends and produce a radial movement of the legs *f* in addition to their rotary movement such simultaneous radial and rotary movement of said legs causing the marker *j* to trace a spiral. To draw a circle it is only necessary to lock the boss *h* through the medium of the nut *l* and rotate the device by the head *m*.

In Fig. 2, which shows a modified structure embodying my invention the various parts are the same with the exception that the levers *e* of Fig. 1 are dispensed with and an angular bar *n* substituted at the end of the spindle *c*. This bar is so arranged that its ends are diminished, and said diminished portions travel in slots in the legs *o* being held in place by the enlarged head *p*. In this construction the downward movement of the shaft and angular bar *n* with relation to the legs *o* when the boss *h* is rotated impart a rotary and radial movement to said legs simultaneously; in other respects the operation is the same as that described with relation to the structure shown in Fig. 1.

I claim:—

1. An instrument of the character described comprising a shaft, a member rotatable on said shaft having a pair of legs pivoted thereto and means whereby the rotation of the member on said shaft imparts a simultaneous radial and rotary movement to said legs.

2. An instrument of the character described comprising a threaded shaft, a

threaded member traveling on said shaft having a pair of legs pivoted thereto and means whereby the movement of the member on said shaft imparts a simultaneous radial and rotary movement to the legs.

3. An instrument of the character described comprising a plurality of legs, a threaded shaft, a threaded member traveling on said shaft, and a pair of links having their outer ends pivoted to the respective legs and their inner ends to said threaded shaft, whereby the travel of the threaded member on the shaft imparts a simultaneous radial and rotary movement to the legs.

4. An instrument of the character described comprising a threaded shaft, a threaded member traveling on said shaft having a pair of legs pivoted thereto, means whereby the movement of the member on the shaft imparts a simultaneous radial and rotary movement to the legs, and means for locking the threaded member against movement on said shaft and radial movement of the legs prevented.

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

WYNFORD BRIERLEY.

Witnesses:

A. E. VIDAL,

L. SIMMONDS.