No. 782,662. PATENTED FEB. 14, 1905.

F. E. JENKINS.

DRAWING INSTRUMENT.

APPLICATION FILED AUG. 8, 1904.

Fig. 1,

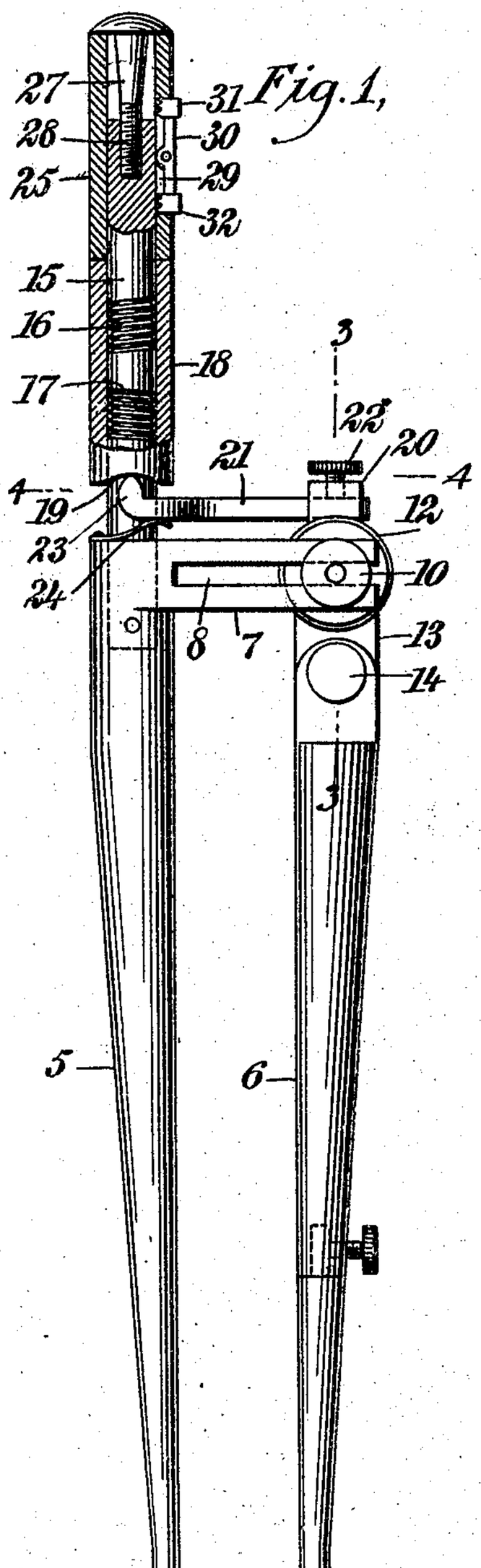


Fig. 3,

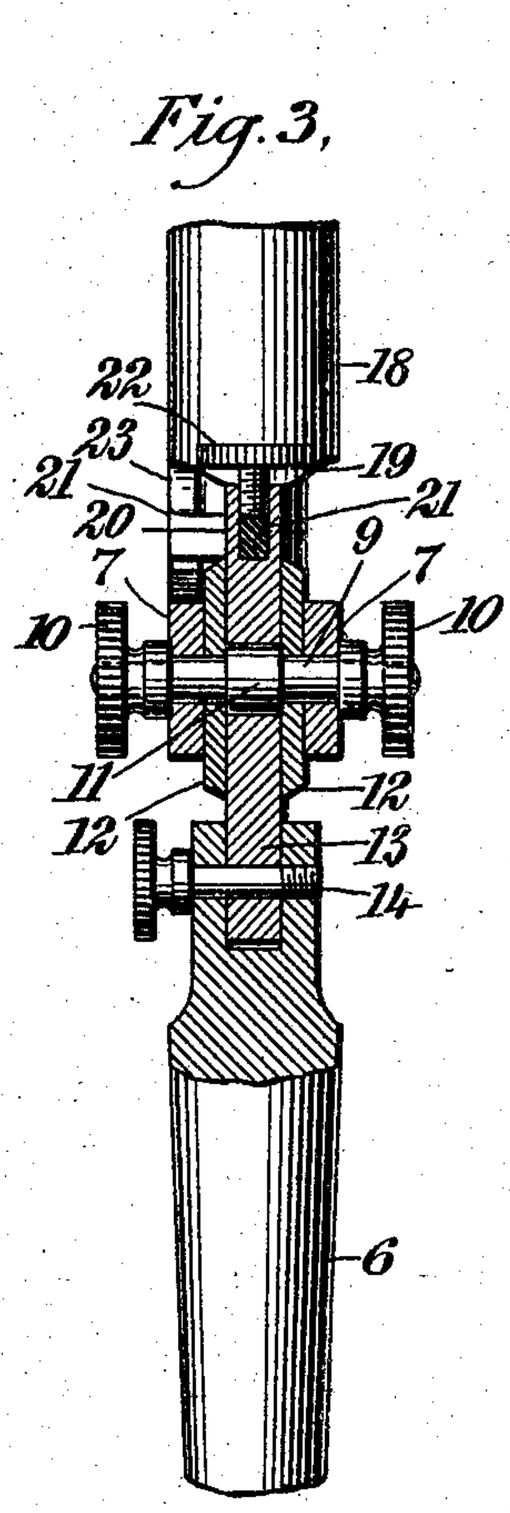


Fig. 2,

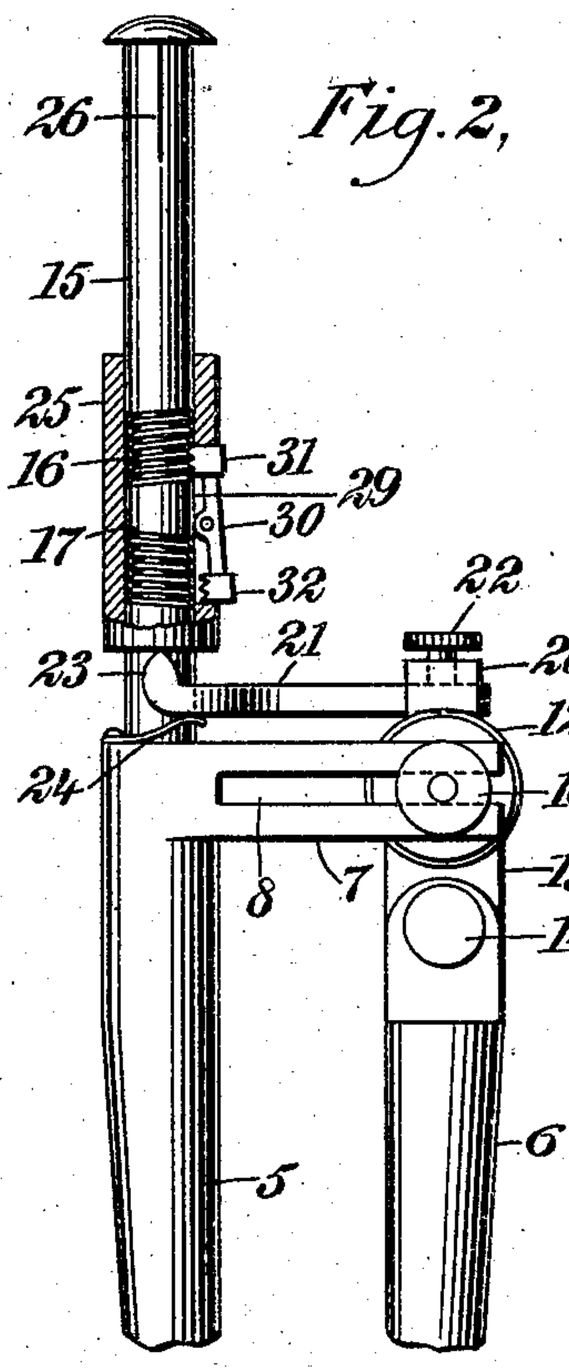
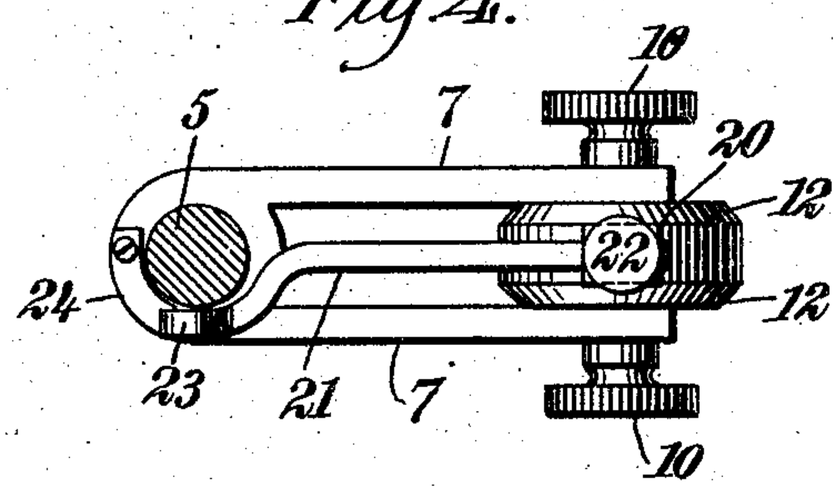


Fig. 4.



WITNESSES:

Edward Thorpe

C. R. Ferguson

INVENTOR

Frederick E. Jenkins

BY Munn & Co

ATTORNEYS

No. 782,662. Patented February 14, 1905.

UNITED STATES PATENT OFFICE.

FREDERICK E. JENKINS, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO JAMES E. ZIESENITZ, OF NEW YORK, N. Y.

DRAWING INSTRUMENT.

SPECIFICATION forming part of Letters Patent No. 782,662, dated February 14, 1905.

Application filed August 8, 1904. Serial No. 219,885.

To all whom it may concern:

Be it known that I, FREDERICK E. JENKINS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Drawing Instrument, of which the following is a full, clear, and exact description.

This invention relates to improvements in drawing instruments particularly designed for describing ovals and other irregular or varying outlines, the object being to provide a tool for this purpose that will be simple in construction, inexpensive, and that may be quickly adjusted for the desired lines and easily manipulated.

I will describe a drawing instrument embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view, partly in section, of a drawing instrument embodying my invention. Fig. 2 is a similar view, but illustrating the position of parts for drawing coils. Fig. 3 is a section on the line 3 3 of Fig. 1, and Fig. 4 is a section on the line 4 4 of Fig. 1.

The instrument is made substantially in the form of compasses, and it comprises a pivot-leg 5 and a scribing-leg 6, with which a ruling pen, pencil, or other device may be engaged. Extended outward from the upper end of the leg 5 are arms 7, which are longitudinally slotted, as indicated at 8, and adjustable in these slots is a spindle 9, on which the leg 6 is designed to swing. This spindle is screw-threaded at its ends and provided with jam-nuts 10, and the central portion is somewhat enlarged, as indicated at 11, the ends of this enlarged portion bearing against washers 12, arranged between the arms 7 and a link 13, with which the leg 6 has swinging adjustable connection and is held as adjusted by a set-screw 14. This link 13, it will be understood, is practically a portion of the scribing-leg. By means of the slotted arms and the parts engaging therewith it is obvious that the scribing-leg may be adjusted toward and from the pivot-leg, and by means of the pivotal connection between the leg 6 and the link 13 a further adjustment may be made, if desired, than would be permitted by moving the leg 6 to the extreme outer end of the arms 7.

Extended upward from the leg 5 is a stem 15, having a right-hand screw-thread 16 and a left-hand screw-thread 17, the use of which will be hereinafter described. Arranged on the stem 15 is a sleeve 18, in which said stem may freely rotate, and the lower end of this sleeve 18 is circumferentially undulating or of cam form. In the present instance, as indicated in Fig. 1, there are two depressions and two extensions of this cam-surface 19, designed to move the leg 6 for describing ovals.

Adjustable in a loop 20 on the upper end of the link 13 is an arm 21, which is held as adjusted by means of a set-nut 22. The inner end of this arm 21 has an upward projection 23 for engaging with the cam-surface 19, and it is held yieldingly against the same by means of a spring 24. By adjustably engaging the arm 21 with the link 13 it is obvious that the scribing leg may be moved inward or outward without changing the position of the engaging-point 23 of said arm.

Removably engaging with the stem 15 above the cam-surface 19 is another sleeve 25, which when the device is used for certain purposes serves as a finger-piece for imparting rotary motion to the instrument, and at this time it is obvious that the sleeve 25 must be held in close contact with the same. As a means for thus holding the sleeve the upper end of the stem 15 is slitted, as indicated at 26, so that it may be forced upward against the inner surface of the sleeve 25 by the tapered portion 27 of a screw 28, which engages in a tapped hole in the stem and as its head turns engages against the upper end of the sleeve 25. Mounted to swing in a slot 29, formed in one side of the sleeve 25, is an arm 30, on the upper end of which is a threaded block 31 for engaging with the thread 16, and on the lower end is a threaded block 32 for engaging with the thread 17.

In the operation when the device is used for

describing ovals the leg 6 is to be adjusted to the proper position with relation to the pivot-leg, and then the operator is to hold the sleeve 18 from rotary movement, and then with one hand grasping the sleeve 25 the device is to be rotated. As the leg 6 moves around it is obvious that it will be swung inward and outward by means of the cam 19. When the device is used for marking out a coil, the sleeve 18 is to be removed and the sleeve 25 moved down, as indicated in Fig. 2. This sleeve 25 is to be held from rotary motion and the screw-block 31 held in engagement with the thread 16 or the block 32 held in engagement with the thread 17, depending upon the direction of rotation of the instrument—that is, to the right or left. While moving in one direction it is obvious that the coil-line will be made from the outer side inward, and when moving in the other direction the line will be made from the center outward. By means of the block engaging with the thread on the stem it is obvious that by rotating the stem there will be a relative longitudinal movement between the sleeve 25 and the stem. If this movement is downward or toward the leg 5, it is obvious that the leg 6 will be gradually swung outward to varying radial movements. When moving in the reverse direction, the spring 24 will swing the arm 21 upward, consequently moving thg 6 toward the leg 5.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A drawing instrument comprising a pivot-leg, a scribing-leg carried by the pivot-leg, and means for causing a varying radial movement of the scribing-leg relatively to the pivot-leg during the rotary movement of the pivot-leg.

2. A drawing instrument comprising a pivot-leg, a scribing-leg having swinging connection with the pivot-leg and adjustable toward and from the same, and means for causing a variable radial movement of the scribing-leg during the rotary movement of the pivot-leg.

3. A drawing instrument comprising a pivot-leg, a cam carried by said leg, a scribing-leg having swinging relation to the pivot-leg, and an arm carried by the scribing-leg for engaging with said cam.

4. A drawing instrument comprising a pivot-leg, a cam carried by said leg, a scribing-leg having swinging connection with the pivot-leg, an arm having adjustable connection with the scribing-leg and adapted for engagement with said cam, and a spring for holding the arm yieldingly in engagement with the cam.

5. A drawing instrument comprising a pivot-leg, arms extended outward therefrom and longitudinally slotted, a spindle extended through said slots, a scribing-leg mounted to swing on said spindle, a stem extended upward from the pivot-leg, a sleeve for engaging on said stem, the said sleeve having a cam-shaped lower end, and an arm carried by the scribing-leg for engaging with said cam end.

6. A drawing instrument comprising a pivot-leg, arms extended outward from the upper end thereof, a scribing-leg adjustable along said arms, a stem extended upward from the pivot-leg, a sleeve in which said stem is adapted to rotate, the said sleeve having a cam-shaped lower end, an arm having adjustable connection with the scribing-leg and engaging with the same cam end, and a spring for yieldingly holding the arm against said cam end.

7. A drawing instrument comprising a pivot-leg, a scribe-leg carried by the pivot-leg, and means for causing the scribe-leg to move toward and from the pivot-leg during the rotary movement of the pivot-leg.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK E. JENKINS.

Witnesses:
JNO. M. RITTER,
C. R. FERGUSON.