No. 731,018. PATENTED JUNE 16, 1903.

R. CARLTON.

ELLIPSOGRAPH.

APPLICATION FILED AUG. 30, 1902.

NO MODEL.

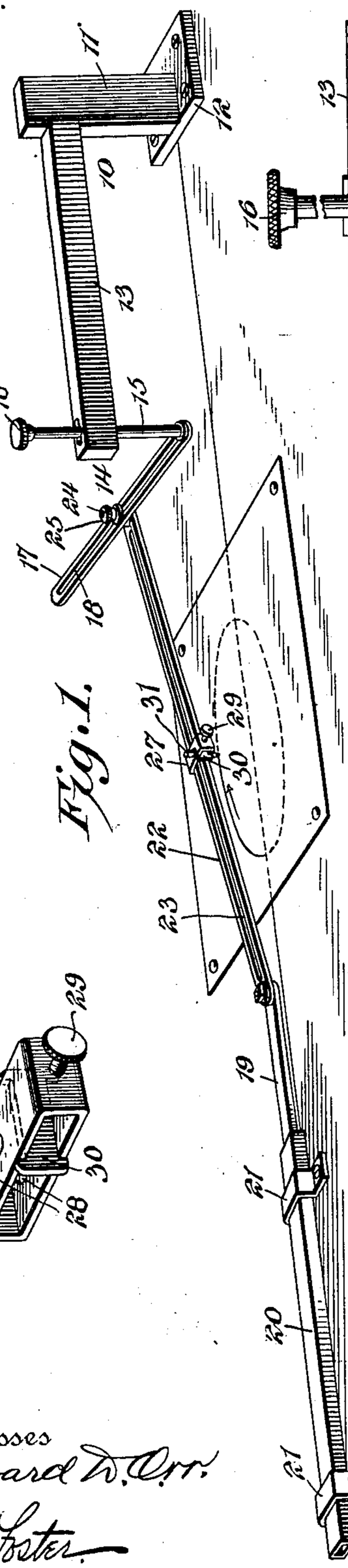

Fig. 1.

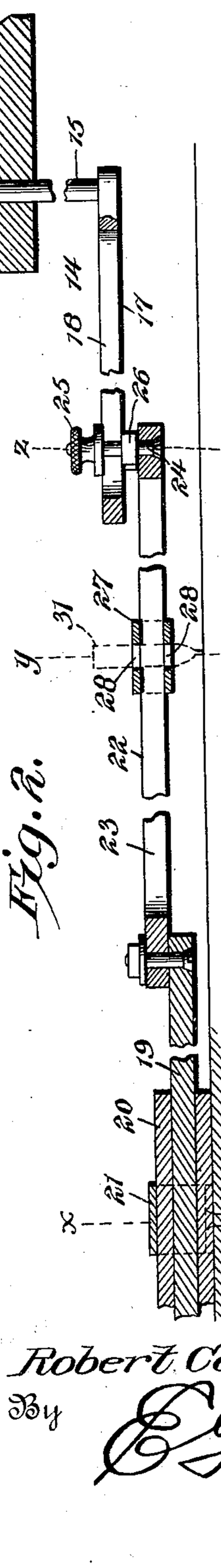

Fig. 2.

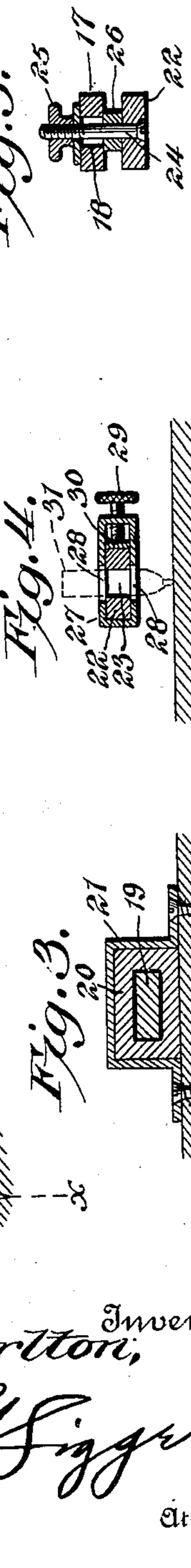

Fig. 5.

Fig. 4.

Fig. 3.

Fig. 6.

Witnesses
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No. 731,018. Patented June 16, 1903.

UNITED STATES PATENT OFFICE.

ROBERT CARLTON, OF JONESBORO, ARKANSAS.

ELLIPSOGRAPH.

SPECIFICATION forming part of Letters Patent No. 731,018, dated June 16, 1903.

Application filed August 30, 1902. Serial No. 121,640. (No model.)

To all whom it may concern:

Be it known that I, ROBERT CARLTON, a citizen of the United States, residing at Jonesboro, in the county of Craighead and State of Arkansas, have invented a new and useful Ellipsograph, of which the following is a specification.

The present invention relates to ellipsographs; and the object thereof is to provide a simple and readily-understood instrument of this character which will accurately describe an ellipse and can be adjusted to make them of different sizes and with various relative axes. The machine is especially useful in making picture-mats and trimming photographs, though it can be used for various other purposes.

The preferred embodiment of the invention is fully illustrated in the accompanying drawings and is described in the following specification; but an inspection of the claims will show that the structure is open to various changes and modifications.

In the drawings, Figure 1 is a perspective view of the ellipsograph. Fig. 2 is a longitudinal sectional view through the same, parts thereof being broken away. Fig. 3 is a cross-sectional view taken on the line $x\ x$ of Fig. 2. Fig. 4 is a vertical sectional view taken on the line $y\ y$ of Fig. 2. Fig. 5 is a transverse sectional view taken on the line $z\ z$ of Fig. 2, and Fig 6 is a detail perspective view of the tool-holder.

Similar numerals of reference designate corresponding parts in all the figures of the drawings.

In the embodiment shown a supporting-bracket 10 is employed comprising a standard 11, having a foot 12, by means of which it may be secured to a platform or table. This standard carries at its upper end an outstanding substantially horizontal arm 13, in the free end of which is journaled a rotatable member 14. This member comprises a vertically-disposed stem 15, that is journaled in the arm 13 and has at its upper end a suitable handle-knob 16, while its lower end carries an outstanding substantially horizontal crank-arm 17, that is provided with a longitudinally-disposed slot, as 18. There is also employed a reciprocatory element in the form of a slide-bar 19, slidably mounted in a guide-box 20, which box is attached to the platform or table by means of holding-stirrups 21. The box is so arranged that the slide-bar 19 is in alinement with the pivot-axis of the rotatable member, and said bar is movable toward and from the same. This bar is connected with the crank-arm by means of a pitman 22, which is provided with a longitudinally-disposed slot 23. The end of the pitman which is connected to the crank-arm is adjustable toward and from the stem 15, and therefore said pitman is provided with a pivot-bolt 24, which extends through the slot 18, a thumb-nut 25 being threaded upon the upper end of the bolt, while a clamping-block 26 is arranged beneath the same.

Adjustably mounted on the pitman is a tool-holder shown in the form of a clip or loop 27, that surrounds said pitman and is provided with openings 28, that aline with the slot 23. A set-screw 29, threaded through one side of the clip or loop, bears against a wear-plate 30, which in turn is arranged to force the walls of the pitman toward each other and contract the slot. as will be readily understood. While this device is intended particularly to hold a pencil, as 31, it will be seen that a suitable cutter may be employed, if desired.

In preparing to describe an ellipse of a desired size the crank-arm is first alined with the pivot-axis of the stem and with the slide-bar, whereupon the bolt 24 is adjusted a distance away from the stem 15 equal to one-half the length of the major axis of the desired ellipse. The rotatable member is then turned until the crank-arm is at right angles to the median line of the slide-bar, which is preferably inscribed on the supporting-platform, as shown. The tool-holder is then adjusted along the pitman until the tool is at a distance from said median line that is equal to one-half the minor axis of the ellipse. The various parts are then clamped, and the sheet upon which the ellipse is to be drawn is fastened by a suitable means beneath the pitman. This sheet can be readily placed beneath the pencil by elevating the stem, which, as will be noted by reference to Fig. 1, is made long enough for this purpose, thus carrying the crank-arm and pitman upwardly and raising the pencil from the table or platform. The rotatable member is then re-

volved, whereupon a perfect ellipse will be described by the tool.

It will be apparent from an inspection of the drawings that this implement can be constructed at extremely small cost and that ellipses of various sizes and different relative axes may be made. For instance, a long and narrow one can be drawn by moving the tool-holder near to the slide-bar and by arranging the outer end of the pitman contiguous to the free end of the crank-arm. On the other hand, a broad ellipse may be obtained by moving the tool-holder close to the crank-arm, and, indeed, a true circle may be described by removing the tool holder from the pitman and placing it upon the crank-arm.

From the foregoing it is thought that the construction, operation, and many advantages of the herein-described invention will be apparent to those skilled in the art without further description, and it will be understood that various changes in the size, shape, and proportion and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In an instrument of the class described, the combination with an overhanging support, of an upright stem revolubly journaled in the support and projecting above and below the same, said stem having a vertical movement in the support, a pitman having an eccentric connection with the lower end of the stem, means for directing the movement of the pitman, and a tool-holder carried by the pitman, said tool-holder and pitman being vertically movable with the stem, the upper end of the stem forming an actuating-handle whereby the instrument may be operated.

2. In an instrument of the class described, the combination with a rotatable member, of a pitman eccentrically connected to the rotatable member and having a longitudinally-disposed slot, means for guiding the pitman, and a tool-holder comprising a clip that is longitudinally movable upon the pitman and is provided with a tool-receiving opening that alines with the slot, and means carried by the clip for forcing a portion of the pitman into engagement with a tool passed through the opening and the slot.

3. In an instrument of the class described, the combination with a rotatable member, of a pitman eccentrically connected to the rotatable member and having a longitudinally-disposed slot, means for guiding the pitman, and a tool-holder comprising a clip that surrounds and is longitudinally slidable upon the pitman, said clip being provided with tool-receiving openings that aline with the slot, and a set-screw passing through the clip and bearing against the pitman to force a portion thereof into engagement with a tool passed through the slot.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ROBERT CARLTON.

Witnesses:
T. D. KINMAN, Jr.,
C. J. SAENGER.