(No Model.) 2 Sheets—Sheet 1.

C. WILSON & J. S. FOSTER.

ELLIPSOGRAPH.

No. 386,619. Patented July 24, 1888.

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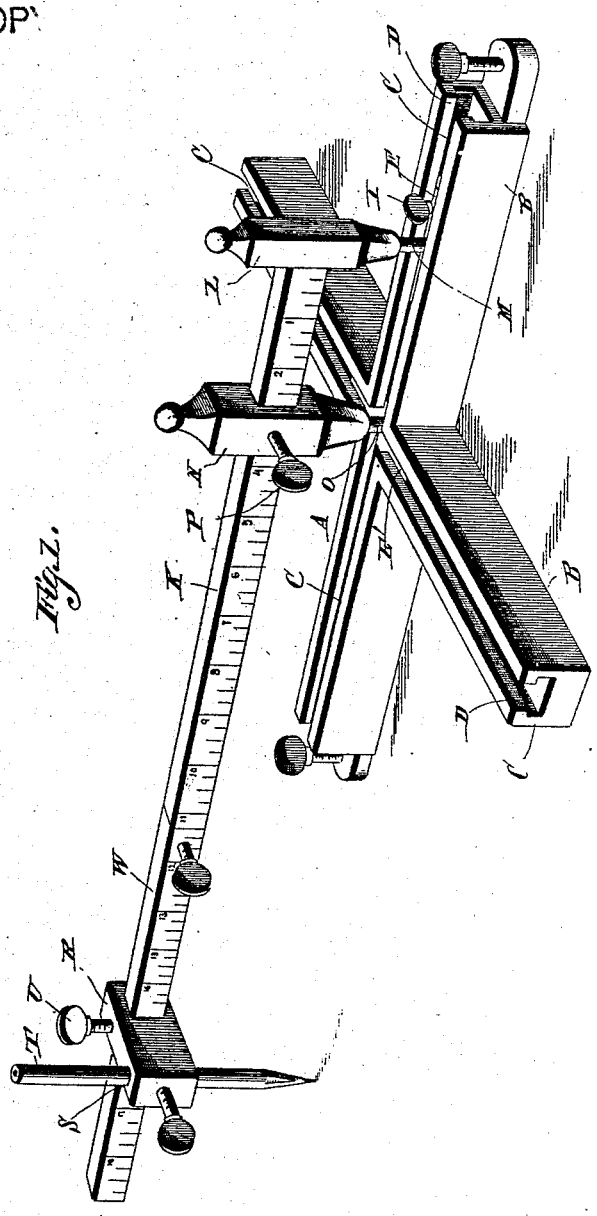

Fig. 2.

Witnesses.
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C. E. Hoyle.

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By their Attorneys
C. A. Snow & Co.

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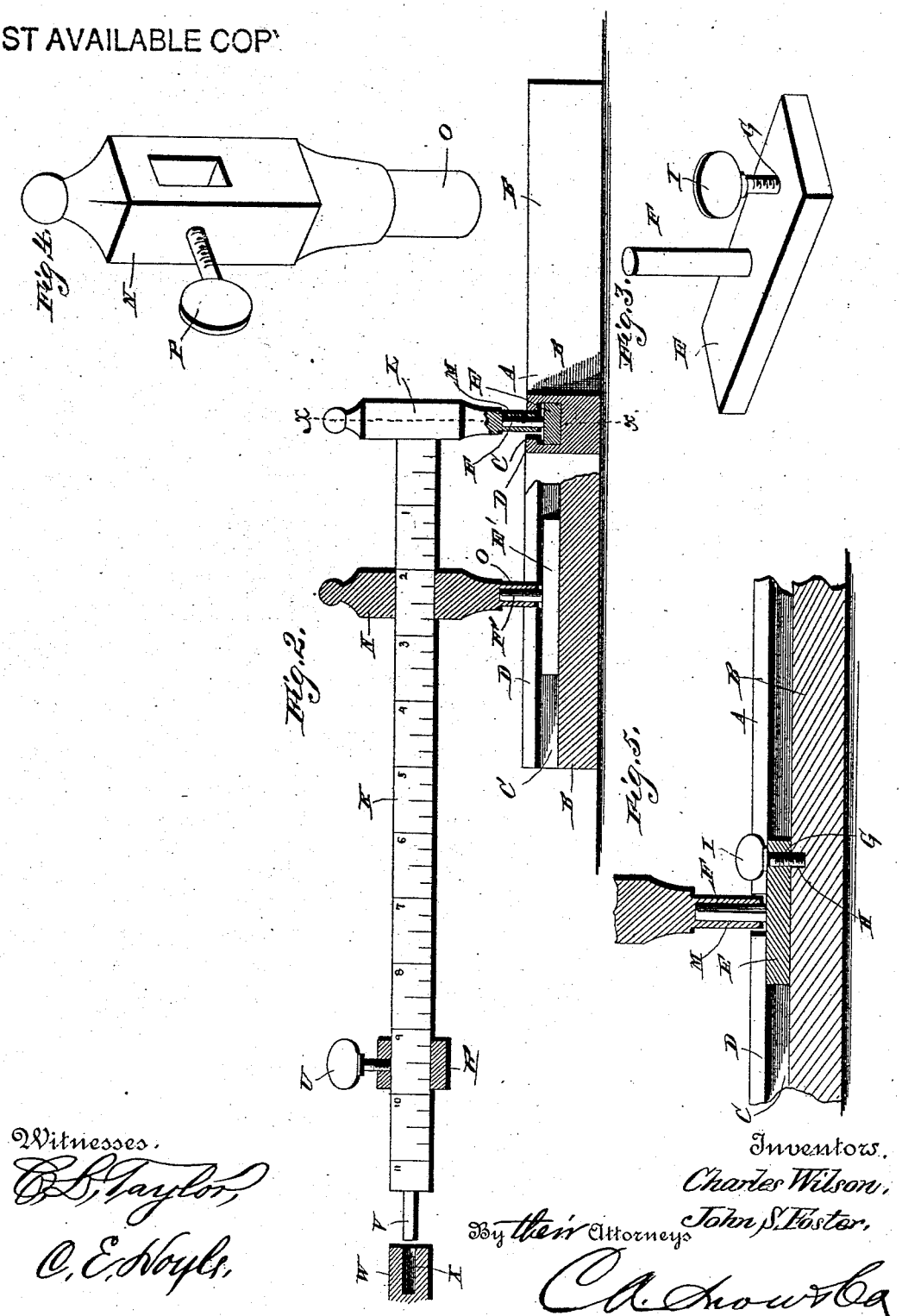

Witnesses.
C. S. Taylor,
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Inventors.
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UNITED STATES PATENT OFFICE.

RLES WILSON AND JOHN S. FOSTER, OF ROCKPORT, MAINE.

ELLIPSOGRAPH.

ECIFICATION forming part of Letters Patent No. 386,619, dated July 24, 1888.

Application filed January 14, 1888. Serial No. 260,693. (No model.)

To a ! whom it may concern:

Be it known that we, CHARLES WILSON and JOHN S. FOSTER, citizens of the United States, residing at Rockport, in the county of Knox, and State of Maine, have invented a new and useful Improvement in Ellipsographs, of which the following is a specification.

Our invention relates to improvements in ellipsographs; and it has for its object to provide a device which may be used either as an ellipsograph or as a beam-compass.

With this object in view the invention consists in a certain novel construction and arrangement of devices, which is fully set forth hereinafter in connection with the accompanying drawings, wherein—

Figure 1 is a perspective view of the device. Fig. 2 is a side view, partly in section, of the same. Fig. 3 is a detail view of one of the slides. Fig. 4 is a similar view of the adjustable post. Fig. 5 is a sectional view on the line *x x* of Fig. 2.

Referring by letter to the drawings, A designates the trammel consisting of the crossed bars B B, having grooves C C in their upper sides and D D represent inward-extending flanges which reach partly over the said grooves.

E and E′ represent, respectively, the slides which operate in the said grooves, and they are provided on their upper sides with the vertical spindles F F′, which operate between the flanges D D. The slide E is provided with a tapped aperture, G, near one end, which aligns with a socket, H, in the grooved bar, when the spindle F is exactly at the intersection of lines drawn through the centers of the grooves B. A set-screw, I, is arranged in the aperture G, and it is adapted to engage the socket H to lock the slide E rigidly in position.

K represents the beam, which is provided at its inner end with a rigid vertical post, L, having a socket, M, in its lower end to receive and rotate on the spindle F. This beam, as will be seen, is graduated for a purpose, which will be readily understood by those acquainted with the art. An adjustable post, N, is provided with a socket, O, in its lower end, which fits and rotates on the spindle F′, and the post slides longitudinally on the beam. A set-screw, P, is secured in the side of the post to enable the latter to be adjusted at any point in the length of the beam.

R represents the pencil-slide, which is provided with a socket, S, for the pencil T, and is also provided with a set-screw, U, to enable the slide to be adjusted as desired on the beam.

The outer end of the beam is provided with an integral pin, V, and the extension-bar W is provided in its inner end with a socket, X, to receive the said pin. It will be seen that the pencil-slide may be moved outward and adjusted on the extension bar, which is the same size and shape as the beam.

The operation of this device as an ellipsograph will be readily understood, and therefore there will be no necessity for a further description thereof herein.

When it is desired to use the device as a beam-compass, remove the adjustable post from the beam, move the slide E to the intersection of the grooves, and secure it in the place in the manner hereinbefore described. The rigid post is now capable of rotary movement around the spindle F, but the latter is fixed rigidly in position. Therefore, when the beam is moved around the spindle as a center, the pencil which is attached to the slide R describes a circle. This change from an ellipsograph to a beam-compass is very readily and quickly accomplished, and the means which we provide for connecting the parts of the device are calculated to withstand wear and rough usage. The attachment of the posts to the slides is also very simple, strong, and durable, and the detachment of the beam from the trammel is thus easily accomplished.

Having thus described our invention, we claim—

The improved ellipsograph herein described and shown, comprising the trammel A, having the intersecting ways C C, provided with the inwardly-projecting flanges D D, a socket, H, being formed in the base of one of the ways near the point of intersection of the ways, the slides E E′, fitted in the ways and provided with the spindles F F′, the slide E being further provided with a tapped aperture, G, adapted to align with the socket H when the said slide is at the point of intersection of the ways, a set-screw mounted in said aperture and adapted to engage the socket H, the beam

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K, having a rigid post, I, at its inner end provided with a socket-fitting on the spindle F, the beam being provided at its outer end with a pin, V, the extension-beam having a socket to fit over said pin V, the post N, adjustably mounted on the beam and having a socket in its lower end fitting over the spindle F', and the pencil-slide adjustably mounted on the beam and provided with a socket, S, for the pencil, and a lateral set-screw entering said socket to secure the pencil, substantially as specified.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in presence of two witnesses.

CHARLES WILSON.
JOHN S. FOSTER.

Witnesses:
J. E. ANDREWS,
C. F. RICHARDS.