P. L. PAGE.
Pantograph.

No. 197,885. Patented Dec. 4, 1877

Fig. 1

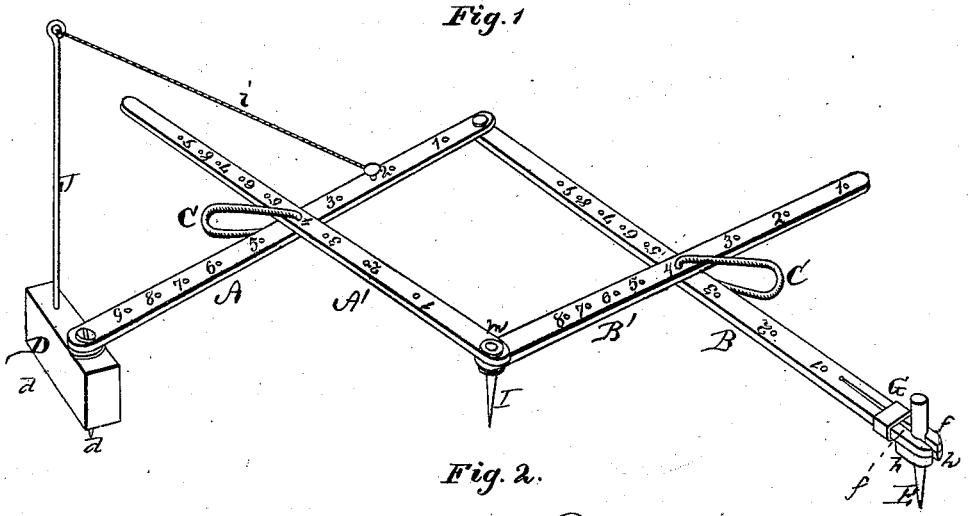
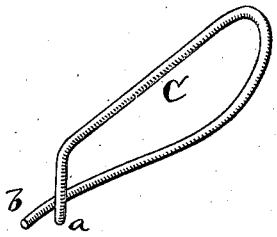


Fig. 2.



WITNESSES

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IMPROVEMENT IN PANTOGRAPHS.

Specification forming part of Letters Patent No. **197,885**, dated December 4, 1877; application filed November 17, 1877.

To all whom it may concern:

Be it known that I, PRESTON L. PAGE, of Minneapolis, in the county of Hennepin, and in the State of Minnesota, have invented certain new and useful Improvements in Pantographs; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction and arrangement of a pantograph, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a perspective view of my improved pantograph. Fig. 2 is an enlarged perspective view of one of the spring-fasteners used therein.

The body or main part of my pantograph is composed of four graduated bars, A A′ and B B′. The inner ends of the bars A A′ are permanently pivoted to the inner ends of the bars B B′, respectively, while the bars A and A′ and the bars B and B′ are pivoted together by means of spring-clamps C C. These clamps are made of wire, in the form shown in Fig. 2, one end, *a*, being bent vertically to pass through holes in the bars, and the other end, *b*, of the clamp bears against the under side of the bars, for holding the end *a* therein, said part *a* acting as a pivot on which the bars may turn. All the bars are perforated at the graduations, so that they may be set by means of the spring-clamps to make the copy of any desired size as compared with the original to be traced.

The bars A and B are made longer than the bars A′ and B′, and at the outer end of the bar A is pivoted a block, D, having points *d d* projecting from its under side, for fastening into the board or table. The outer end of the bar B is split longitudinally for a suitable distance, forming two spring-jaws, *f f*, with suitable recesses in their inner sides to receive the pencil E, which is held by means of a band, G, surrounding and sliding outward on the jaws *f f*. These jaws are re-enforced on their under sides, as shown at *h*, to form a wider bearing for the pencil.

At the point *m*, where the bars A′ and B′ are pivoted together, is attached the style or tracer I.

The pantograph thus constructed is to be used in the ordinary manner, and it is held level, as it moves in different positions, by means of a wire-spring support, J, inserted in the block D, and connected with the instrument by a string, *i*.

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

1. In a pantograph consisting of the graduated perforated bars A A′ and B B′, the spring-clamps C C, constructed as described, with vertical parts *a* and spring ends *b*, substantially as and for the purposes herein set forth.

2. The combination of the bars A, A′, and B′, spring-clamps C C, constructed as described, the slotted bar B, with pencil E, pivoted block D, spring-support J, and cord *i*, all constructed substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of October, 1875.

PRESTON L. PAGE.

Witnesses:

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