

(No Model.)

N. S. PHELPS & C. L. ELLIS.  
PARALLEL RULER.

No. 400,596.

Patented Apr. 2, 1889.

Fig. 1.

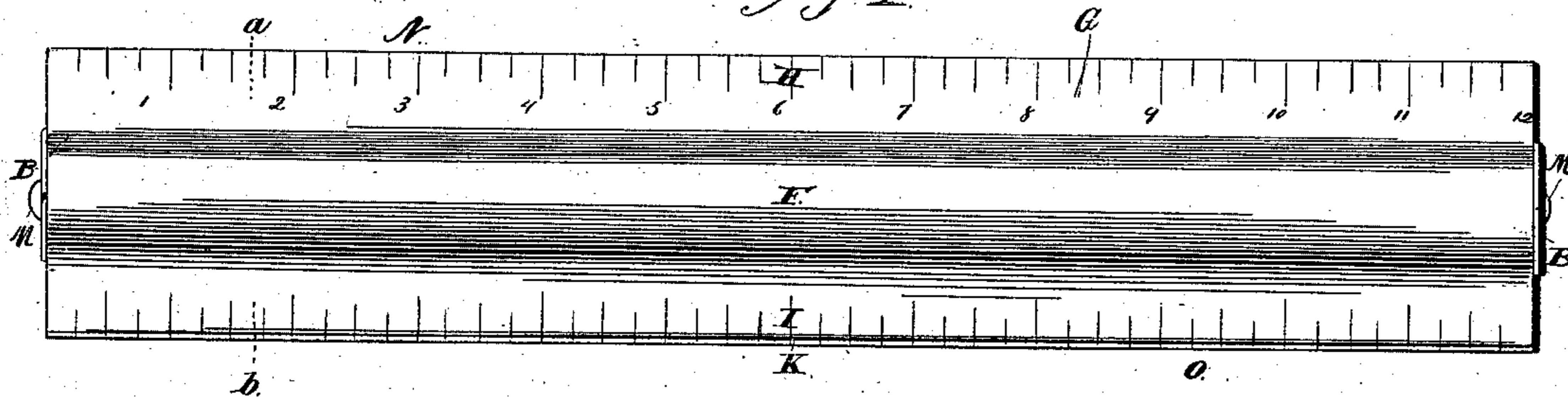


Fig. 2.

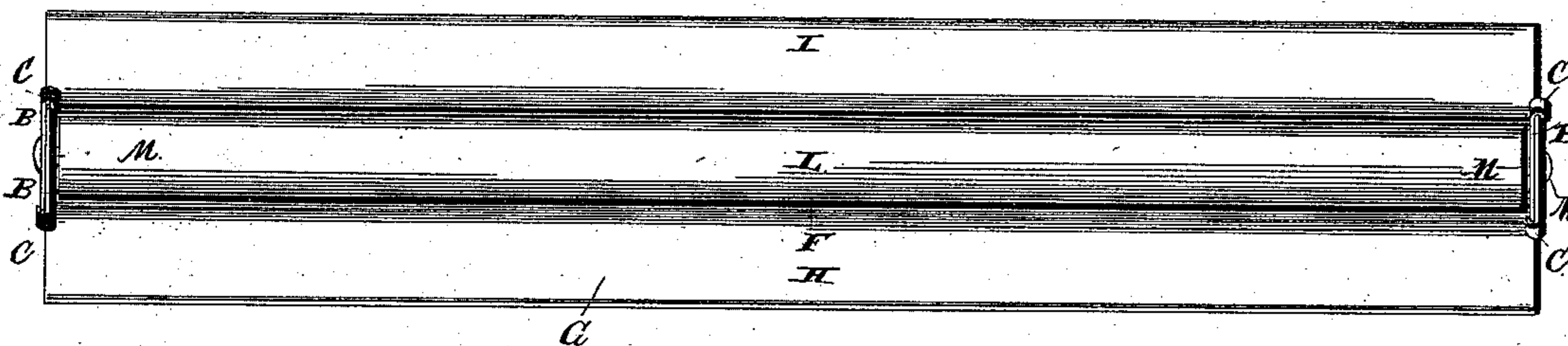


Fig. 3.

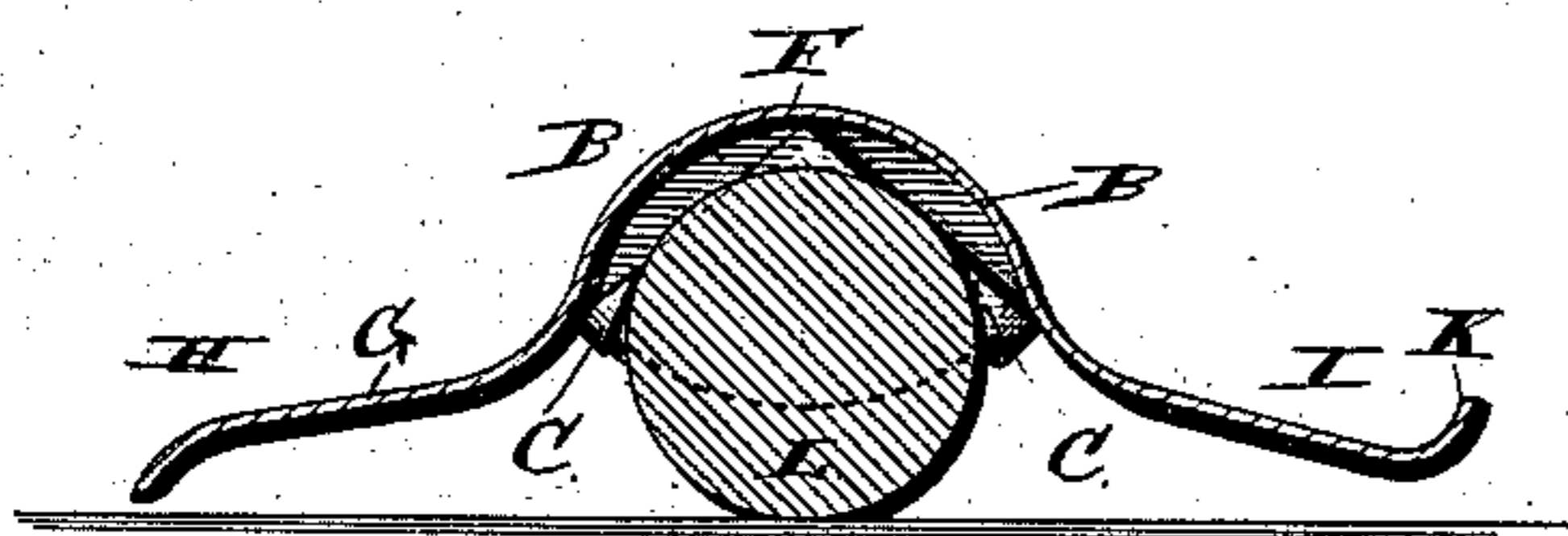


Fig. 4.

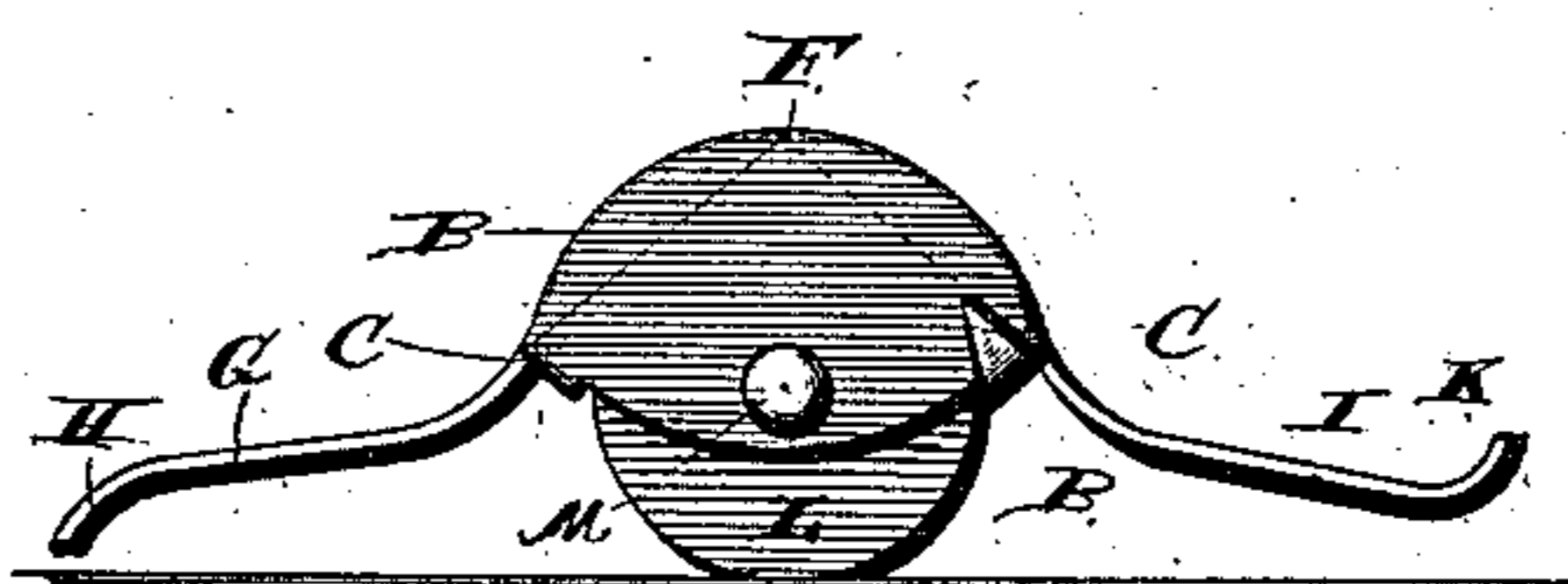
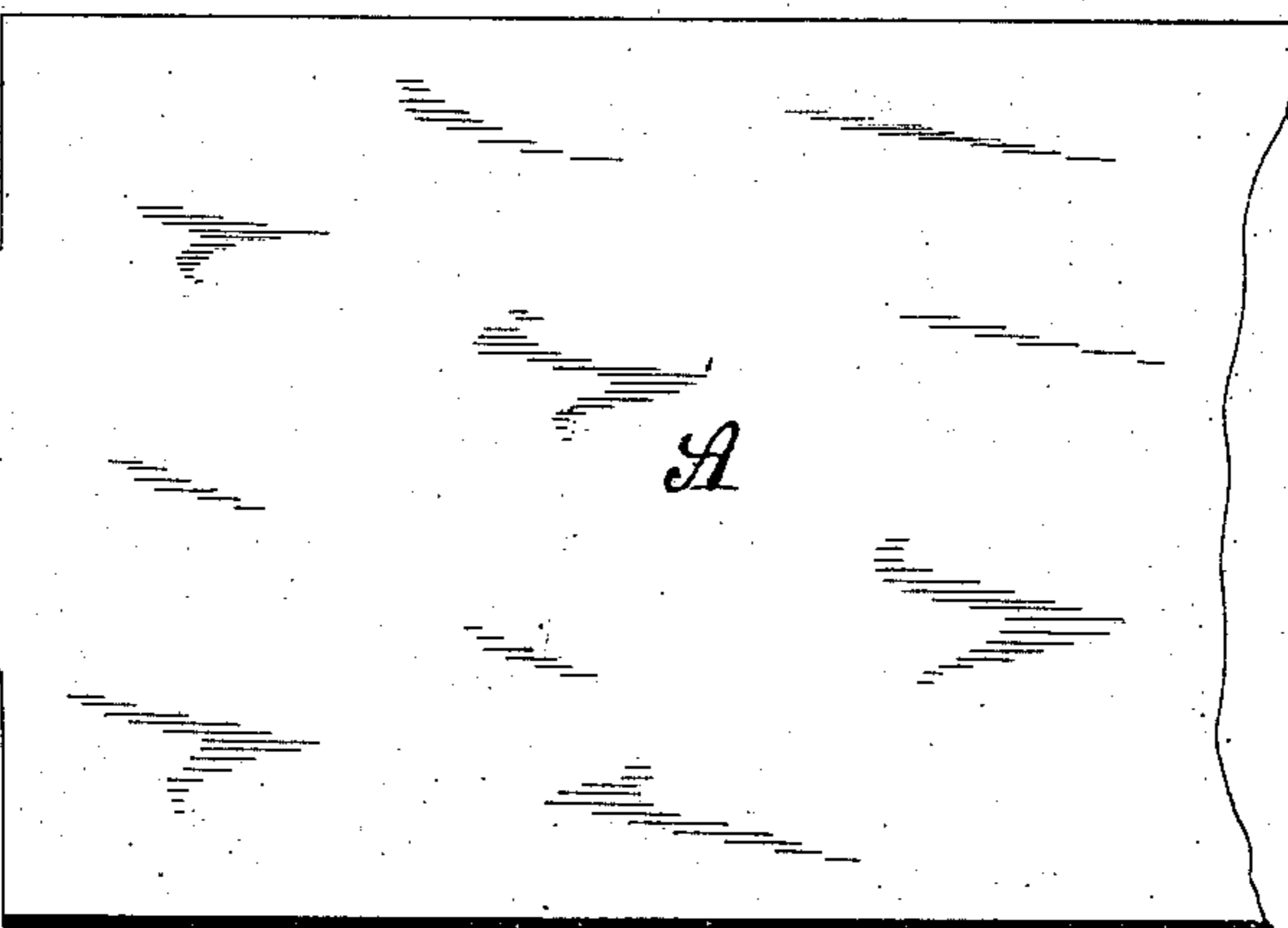
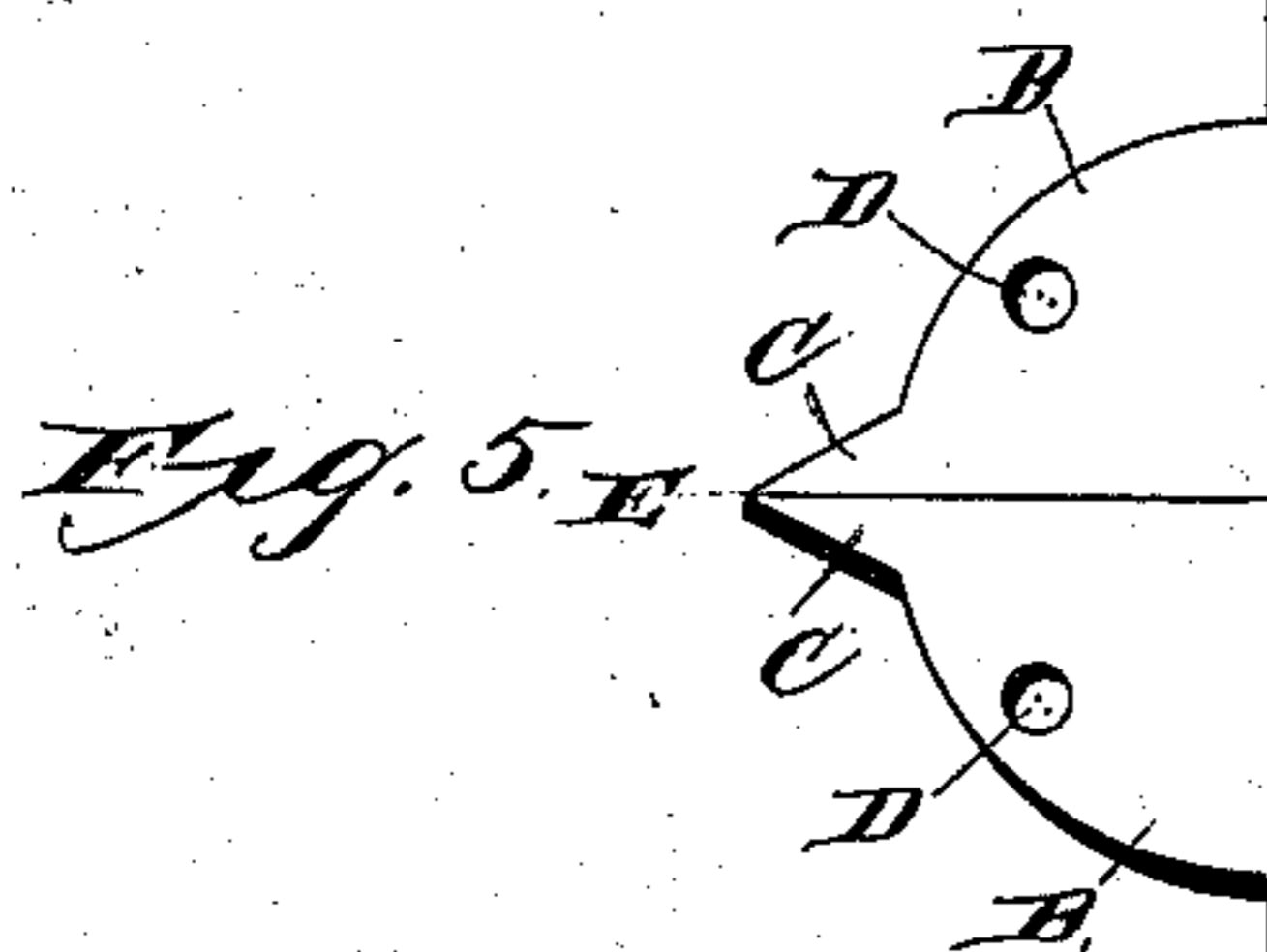


Fig. 5.



Witnesses,

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Inventors,

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Chas. L. Ellis.

By their Attorneys,

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# UNITED STATES PATENT OFFICE.

NIEL S. PHELPS AND CHARLES L. ELLIS, OF EUREKA, CALIFORNIA.

## PARALLEL-RULER.

SPECIFICATION forming part of Letters Patent No. 400,596, dated April 2, 1889.

Application filed October 26, 1888. Serial No. 289,570. (No model.)

*To all whom it may concern:*

Be it known that we, NIEL S. PHELPS and CHARLES L. ELLIS, citizens of the United States, residing at Eureka, in the county of Humboldt and State of California, have invented a new and useful Improvement in Parallel-Rulers, of which the following is a specification.

Our invention relates to an improvement in parallel-rulers; and it consists in the peculiar construction and combination of devices that will be more fully set forth hereinafter, and particularly pointed out in the claims.

The object of our invention is to provide a light, cheap, and simple ruler which is adapted for use in drawing parallel lines.

In the drawings, Figure 1 is a top plan view of a parallel-ruler embodying our improvements. Fig. 2 is an inverted plan view of the same. Fig. 3 is a vertical transverse section taken on the line *a b* of Fig. 1. Fig. 4 is an end elevation. Fig. 5 is a plan view of one end of the blank from which the ruler is formed.

A represents a rectangular blank of suitable length and width, which is made of tin or other suitable sheet metal, and has substantially semicircular extensions B at its ends in line with its center and salient-angled portions, C, which project from the centers of the semicircular portions B. The latter are each provided with a pair of openings, D, and the said extensions B and angled portions C are divided by aligned longitudinal slits E of suitable length.

In the formation of our improved ruler the blank is curved longitudinally in its center to form the concavo-convex central portion, F, and the opposite sides are curved, as shown in Fig. 3, one of the said sides, G, having its outer edge curved downward, as at H, to provide a straight-edge or ruler, and the opposite side, I, has its outer edge curved upward, as at K, to form a flange, which is adapted to retain a pen or pencil on its curved side.

The extensions B at the ends of the blank or body are bent downward at right angles and caused to overlap each other, so that their openings D register with each other, and the angular extensions C form ears or clamps, which are bent around the proximate over-

lapping portions B, as shown in Fig. 3, and thereby secure the said portions B together. The latter constitute brackets or bearings, and serve to partly close the ends of the central concavo-convex portion, F, of the ruler or body.

L represents a cylindrical roller of suitable length, which is arranged in the said concavo-convex portion of the body, and is provided with bearings or spindles M, which are journaled in the openings D, and are secured in the ends of the roller in the center of the same and thereby adapt the roller to revolve under the concavo-convex center of the ruler. The diameter of the roller is such that the edge H comes in contact with the plane on which the ruler is supported when the latter is arranged at a slight inclination on the axis of the roller. The function of the roller is to enable the ruler to be readily moved over the paper any desired distance and to cause the lines which are drawn on the straight edge H to be perfectly parallel, as will be readily understood.

In order to enhance the utility of the ruler, the straight edge H thereof may be inscribed with a measuring-scale, N, and the edge K may be also inscribed with a measuring-scale, O.

Having thus described our invention, we claim—

1. The ruler A, having the concavo-convex longitudinal central portion, F, the bearings at the ends of said portion F, the downwardly-curved sides G I, extending in opposite directions from portion F, the said side G having the downwardly-inclined straight edge H, and said side I having the upwardly-curved straight edge K, and the cylindrical roller arranged under the portion F and having journals at its ends mounted in the bearings of the ruler, substantially as described.

2. The ruler A, having the concavo-convex longitudinal central portion, F, and the downwardly-curved sides G I, the former having the downwardly-inclined straight edge H and the latter having the upwardly-curved straight edge K, substantially as described.

3. The blank rectangular in shape and of suitable length and width, and having the extensions B at its ends provided with the open-

ings D and the salient-angle portions C, the latter and said extensions B being divided by aligned longitudinal slits E, substantially as described.

- 5 4. The ruler having the concavo-convex central portion, F, the overlapping end portions, B, having the aligned openings D, and the lips C, the latter being clinched on the overlapping portions B to secure the same to-  
10 gether, in combination with the cylindrical

roller having its journals engaging the openings B, substantially as described.

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

NIEL S. PHELPS.

CHARLES L. ELLIS.

Witnesses:

J. K. DOLLISON,

R. W. RIDEOUT.