

I. KINNEY.  
CURVE SCRIBER.

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963,445.

Patented July 5, 1910.

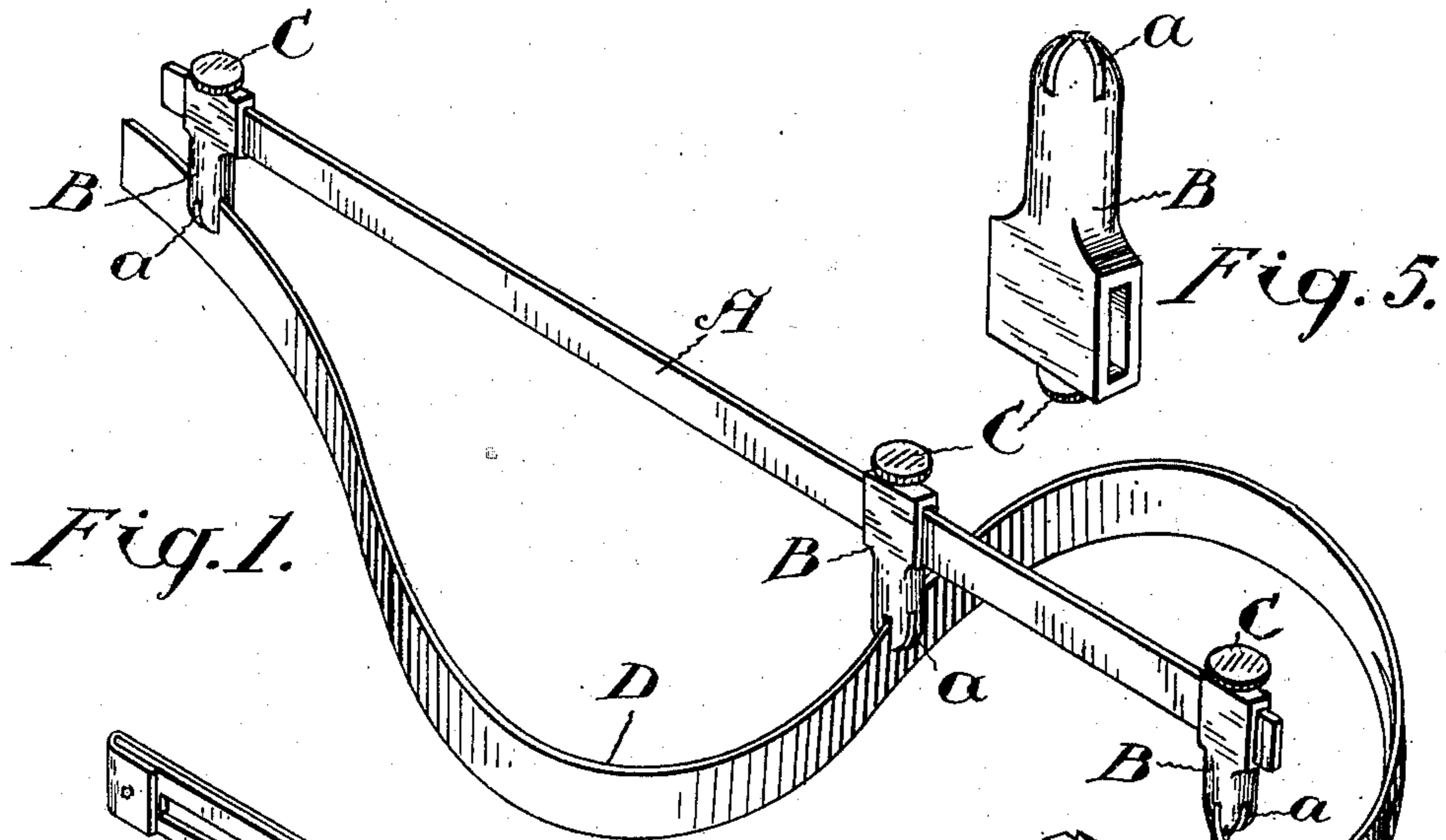


Fig. 1.

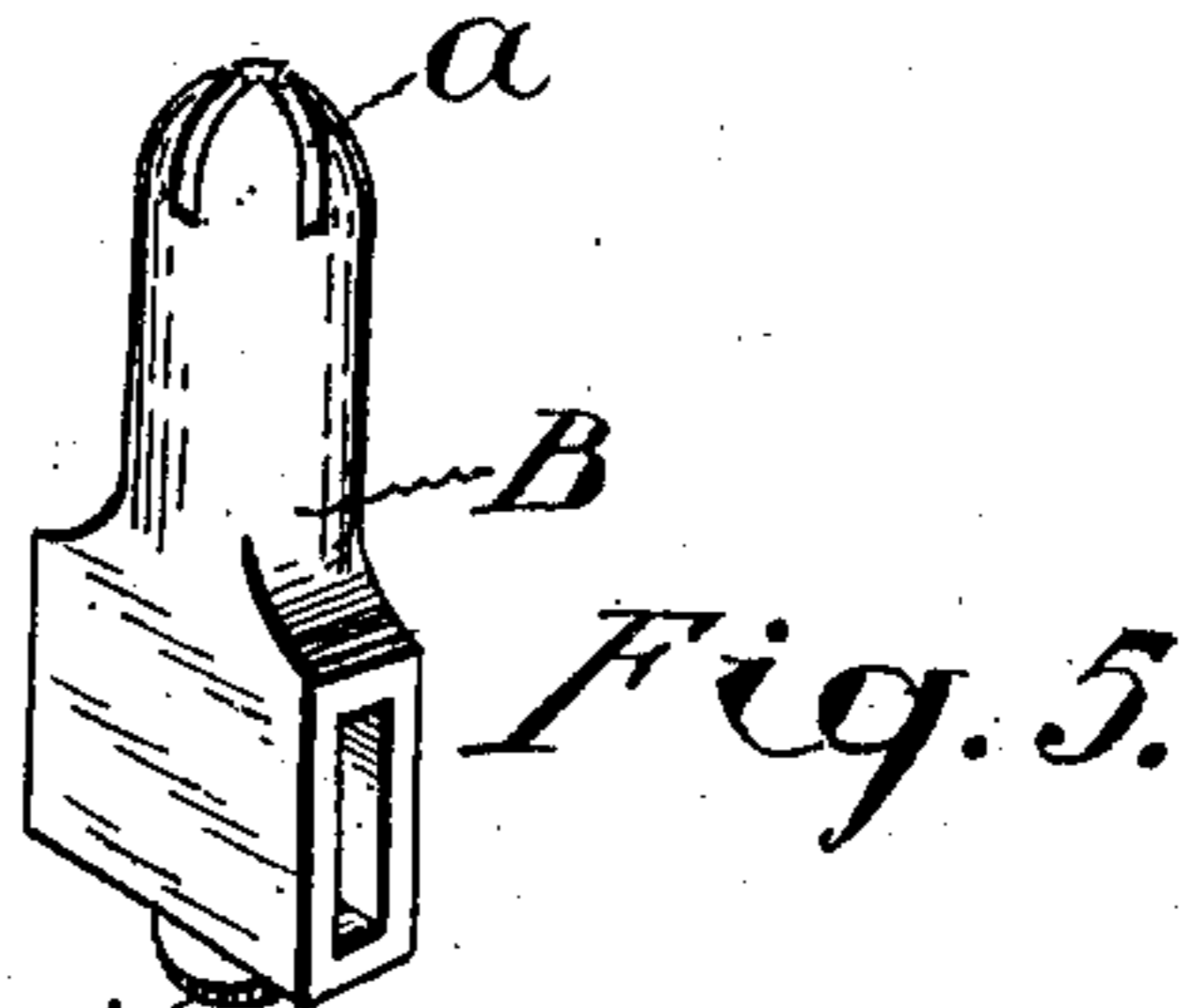


Fig. 5.

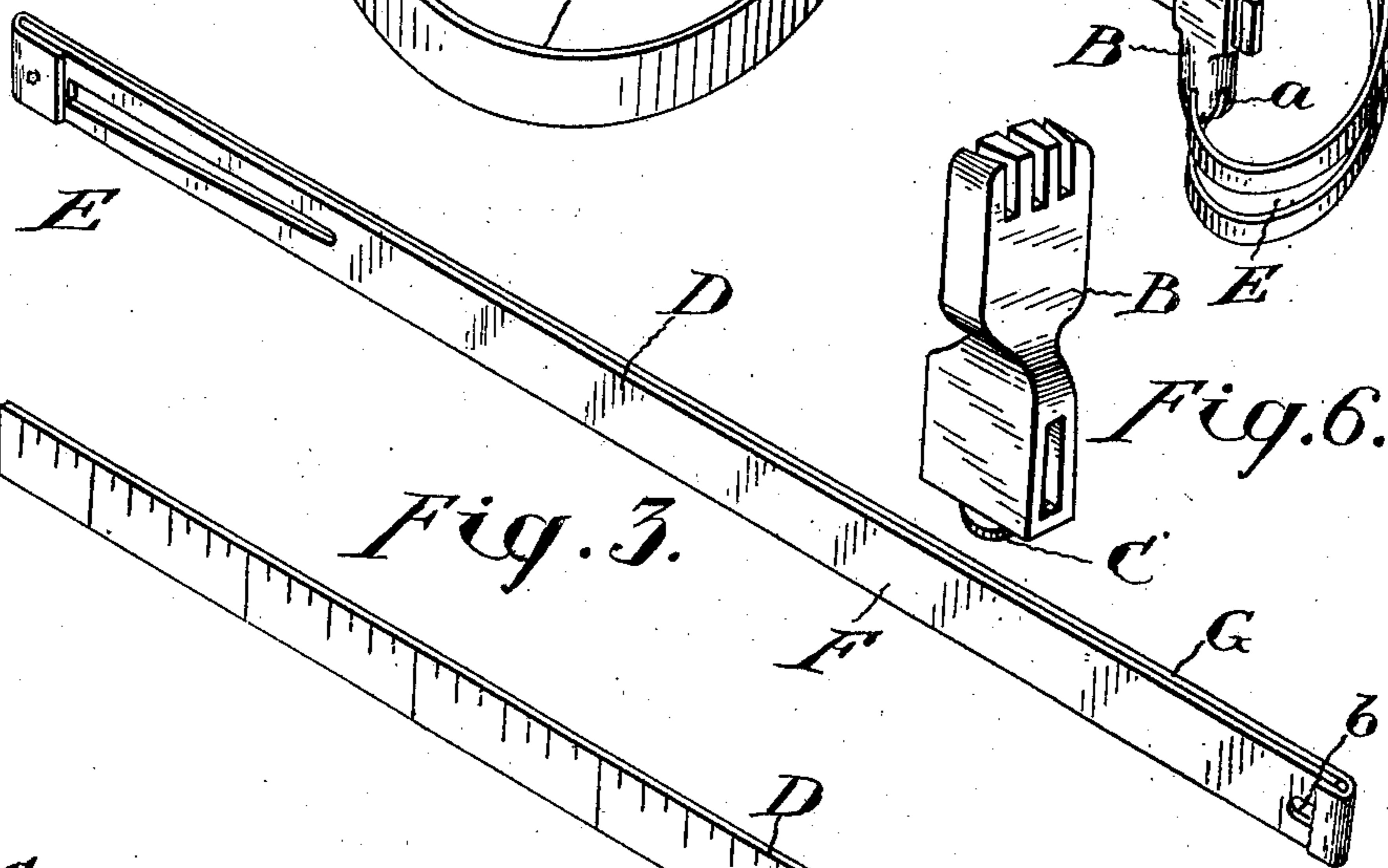


Fig. 3.

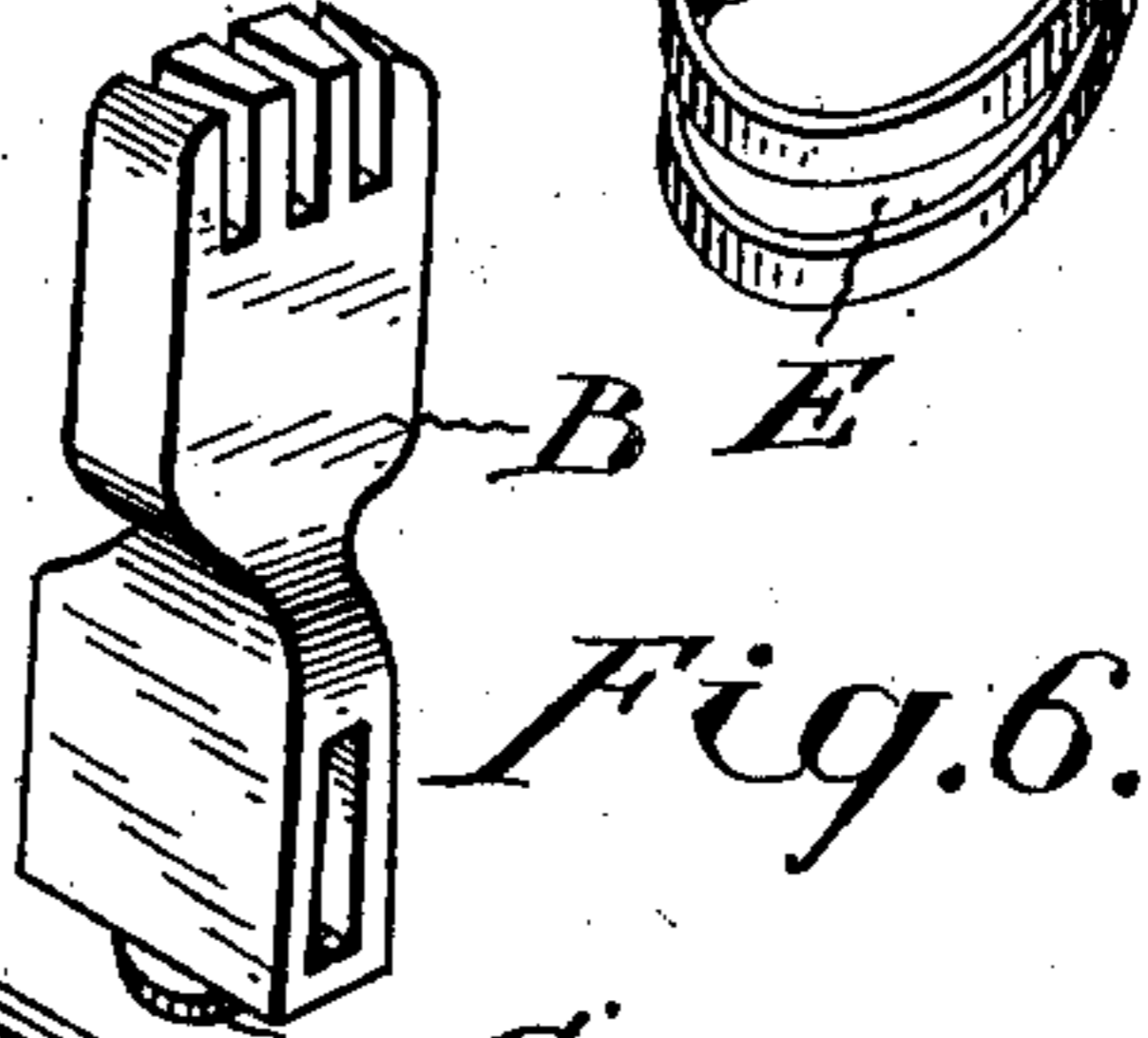


Fig. 6.

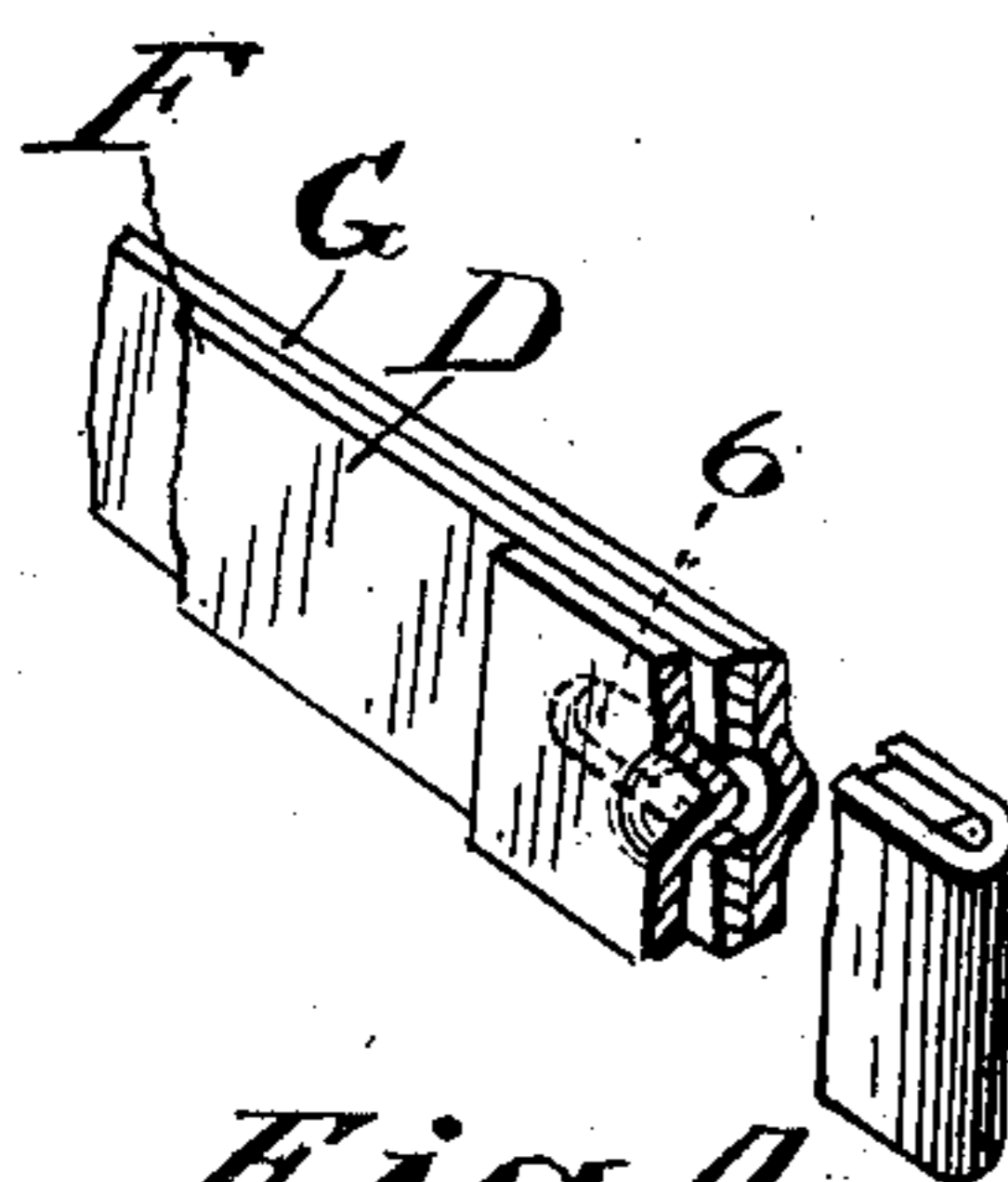


Fig. 4.

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# UNITED STATES PATENT OFFICE.

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## CURVE-SCRIBER.

963,445.

Specification of Letters Patent.

Patented July 5, 1910.

Application filed September 27, 1909. Serial No. 519,855.

*To all whom it may concern:*

Be it known that I, ISRAEL KINNEY, of the town of Paris, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Curve-Scribers, of which the following is a specification.

This invention relates to improvements in curve scribes of the type in which a flexible strip of material normally substantially straight is flexed to the desired form and held to shape, and my object is to devise a curve scribe of this type which is adapted to the formation of compound curves and of scroll shaped curves of all kinds.

I attain my object by providing a straight bar with sliding posts projecting downwardly, when the device is in use, and adapted to engage the flexible strip at different points in its length in such a manner that the strip may cross under the bar.

In constructing the device certain details of construction are necessary to secure the best results, as hereinafter described.

Figure 1 is a perspective view of my improved curve scribe. Fig. 2 is perspective view of a simple flexible strip to be used therein. Fig. 3 is a similar view of a compound flexible strip. Fig. 4 is a perspective detail showing the method of connecting the ends of the compound flexible strip. Fig. 5 is a perspective detail of one of the posts. Fig. 6 is a perspective detail of a modified form of post.

In the drawings like letters of reference indicate corresponding parts in the different figures.

A is a stiff metal bar preferably though not necessarily straight. On this bar are adapted to slide the posts B. These posts have a sufficient bearing on the bar to prevent any wobbling movement. They are also preferably provided with set screws C by means of which they may be clamped in position on the bar. These set screws will not be in every case essential as the spring of the flexible strip used therewith will in most cases cause the posts to bind on the bar. The lower ends of these posts are provided with the notches *a* adapted to engage the upper edge of the flexible strip D, as shown. The notches in each post are preferably at right angles to one another, as shown in Fig. 5, the notches being respectively substantially parallel to and at right angles to the length of the bar A. By inserting the flexible strip in the notches in

these posts, and by using two or more posts as may be necessary, almost any desired curve may be obtained. I also prefer to employ a post such as shown in Fig. 6, in which in addition to a notch substantially parallel to the direction of the bar A notches are formed at angles thereto other than right angles. This post is useful in many cases where comparatively flat curves are required.

As it is desired to draw scroll shaped figures with the instrument and as it is difficult to bend the end of the flexible strip into short curves I preferably form in one or both ends of the flexible strip a slot E widest adjacent to the end and gradually decreasing in width distant from the end. This enables the end to be flexed readily into short curves as shown at the right hand end of Fig. 1. In order to aid in the formation of scroll shaped figures the end of the flexible strip might also be given a permanent set. From the arrangement described scroll shaped figures of different sizes are readily produced by different settings of two of the posts and the adjustment of the flexible strip relative thereto. The giving of the end or ends of the flexible strip an increased flexibility in the manner described also enables me to readily produce elliptical and ellipsoidal curves in which, of course, the curvature of the ends of the curves is much sharper than the curve of the rest of the figure.

As I sometimes find that a flexible strip if sufficiently flexible to be bent into the desired curves is not stiff enough to withstand the pressure of a pen or pencil in tracing around it and as a very stiff flexible strip will not take the desired curves I find it necessary for many purposes to use a compound flexible strip such as shown in Fig. 3. In this figure the strip is shown formed of two pieces F and G placed together and so held as to have a sliding connection with one another at the ends.

In the preferred construction shown it will be seen that the strip F has slots *b* formed therein, and the ends of the strip G are bent around to engage the ends of the strip F and cover the slot. The strip G is arranged to engage these slots to prevent displacement of the strips relative to one another. For this purpose I show the metal of the strip G indented by a punch to project into the slots. Such a strip bends much

more readily than a simple strip of the same thickness as its two parts and at the same time possesses much greater stiffness to resist the pressure of the pencil than a simple strip possessing the same flexibility.

What I claim as my invention is:—

1. A curve scribe comprising a bar; posts movable on the bar and notched in their ends; and a flexible strip adapted to be engaged in the notches in the ends of the posts below the plane of the underside of the bar.

2. A curve scribe comprising a bar; posts movable on the bar and each provided in its end with a plurality of notches at different angles to the length of the bar; and a flexible strip adapted to be engaged in the notches in the ends of the posts.

3. In a curve scribe a flexible strip formed of two superimposed contacting strips one of which has its ends slotted and

the other its ends bent over the other to inclose the slotted ends, projections being formed on the strip with the bent ends only to engage in said slots.

4. A curve scribe comprising a bar; a flexible strip; means for holding one end of the strip to and below the bar; and a post movable on the bar and notched in its end to engage the flexible strip.

5. A curve scribe comprising a bar; a flexible strip bent into a permanent scroll at one end and secured by said end to and below the bar; and a post movable on the bar and notched in its end to engage the flexible strip.

Toronto this 3rd day of Sept. 1909.

ISRAEL KINNEY.

Signed in the presence of—

J. EDW. MAYBEE,

F. W. McKENDRICK.