

No. 630,923.

Patented Aug. 15, 1899.

J. E. PALMER.
SECTION LINER.

(Application filed Dec. 30, 1897.)

(No Model.)

Fig. 1.

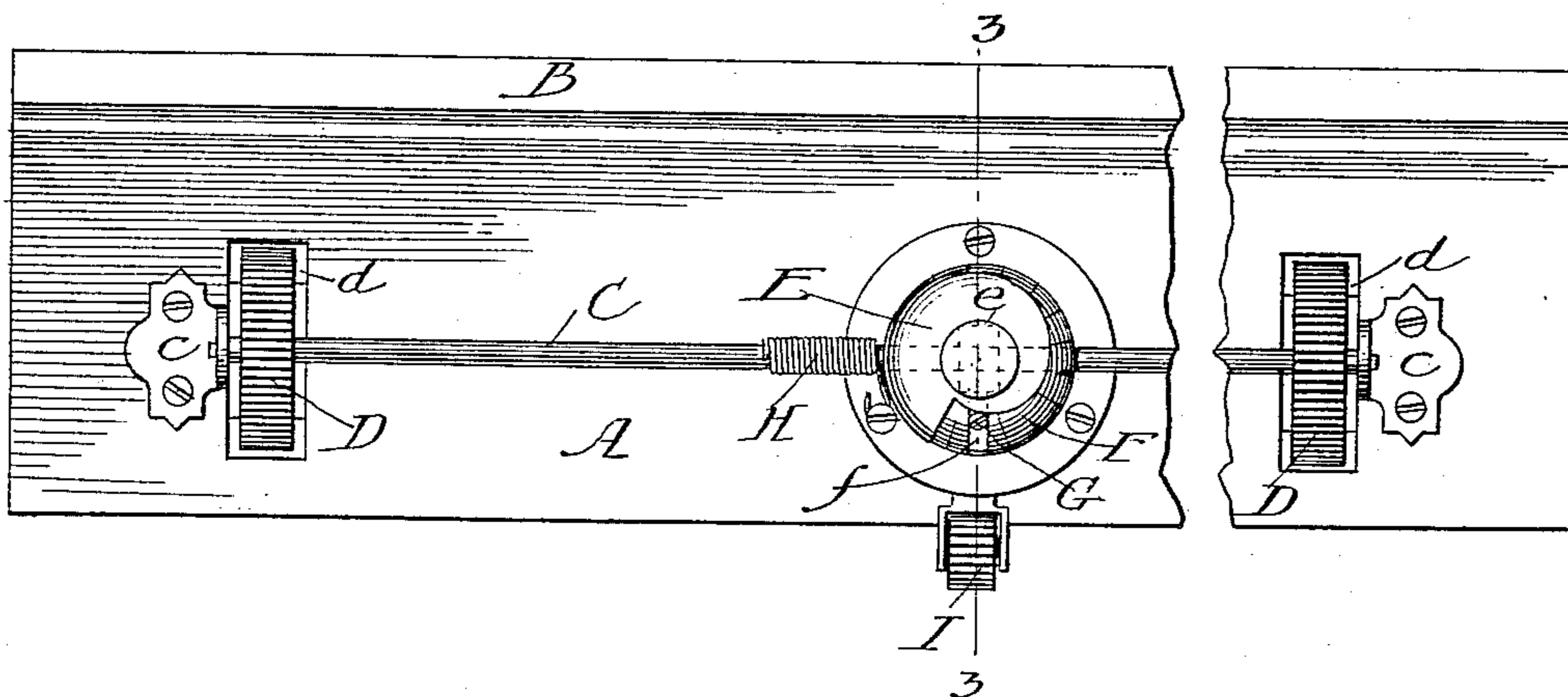


Fig. 2.

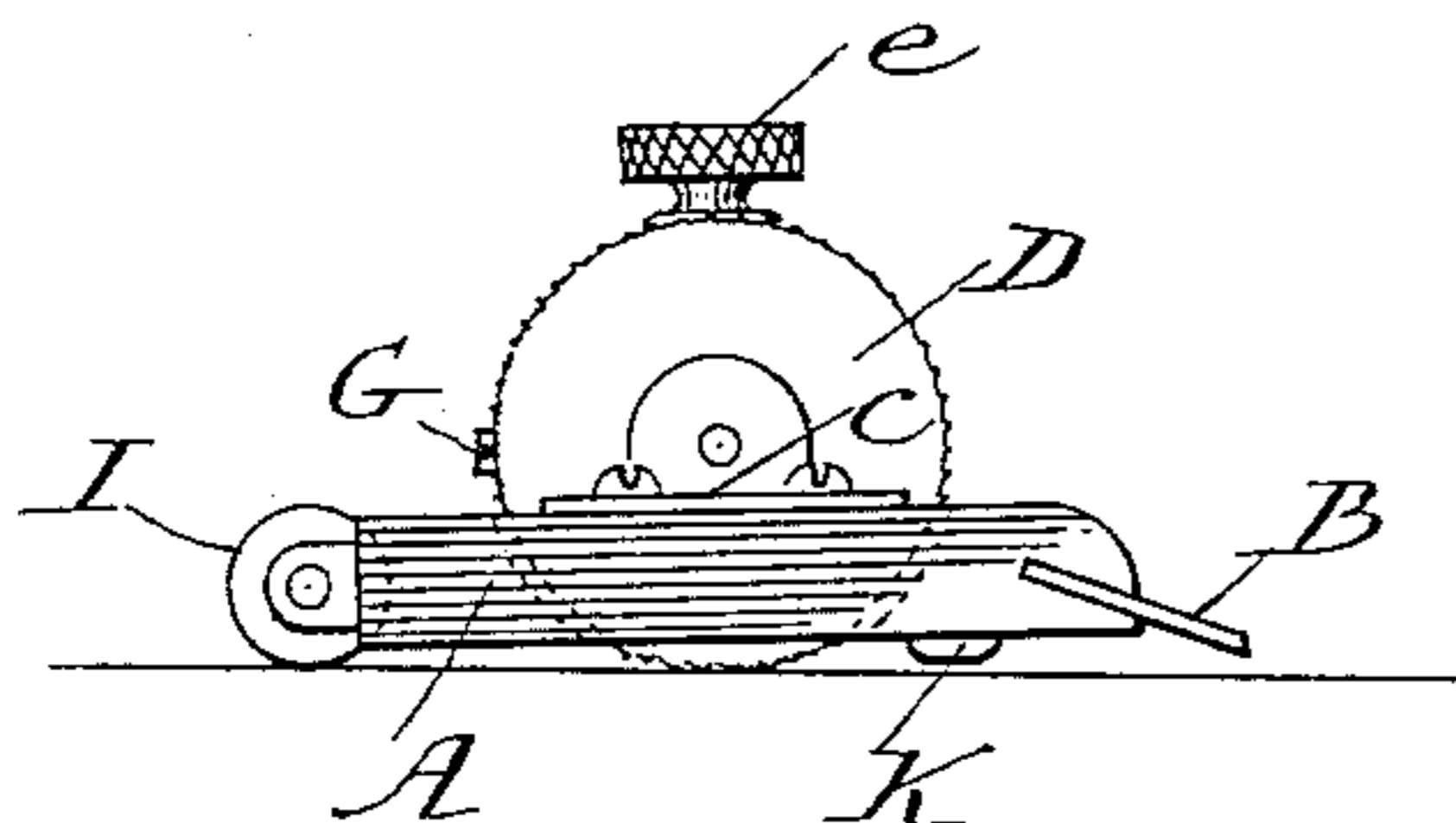


Fig. 3.

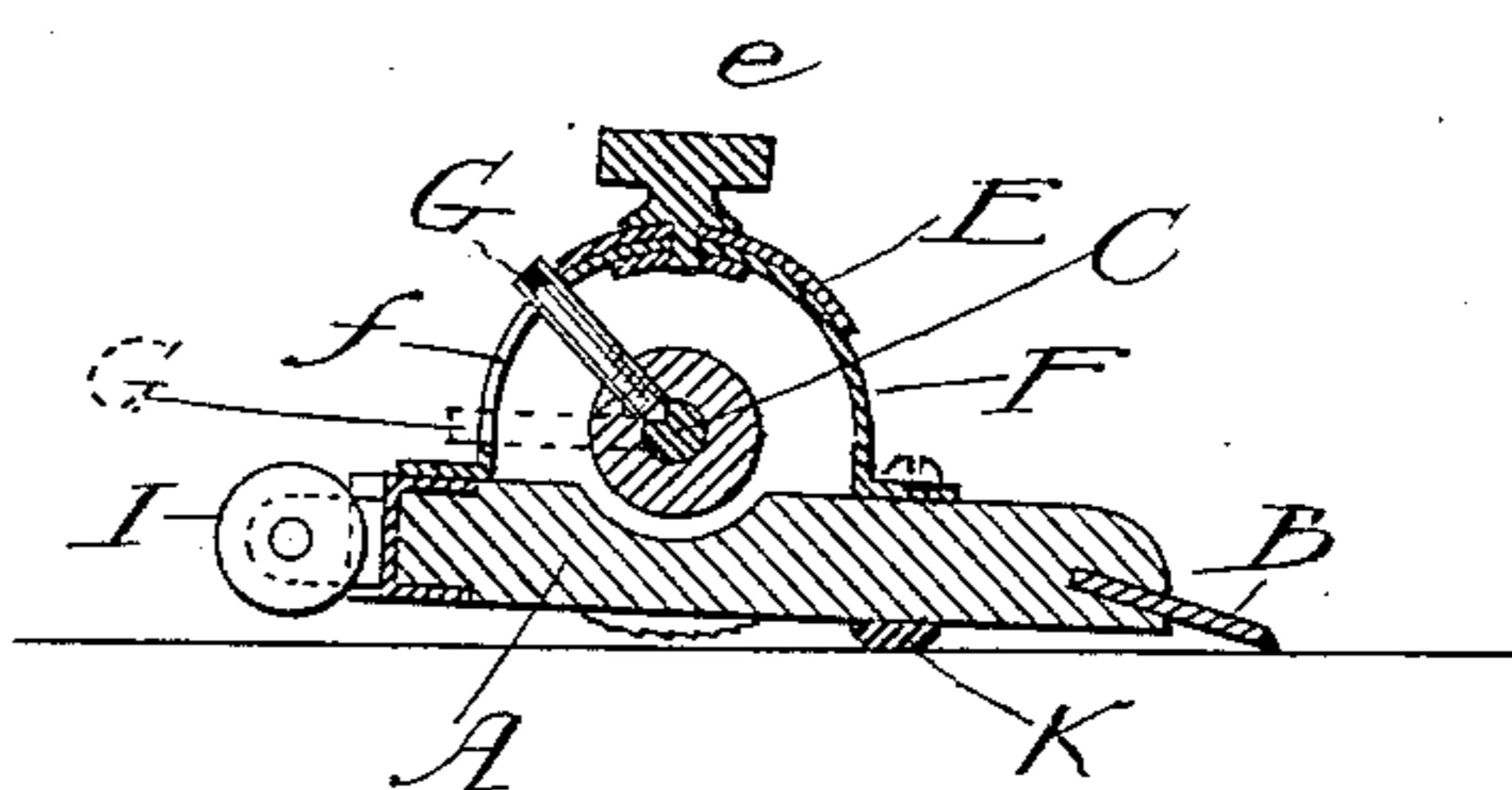
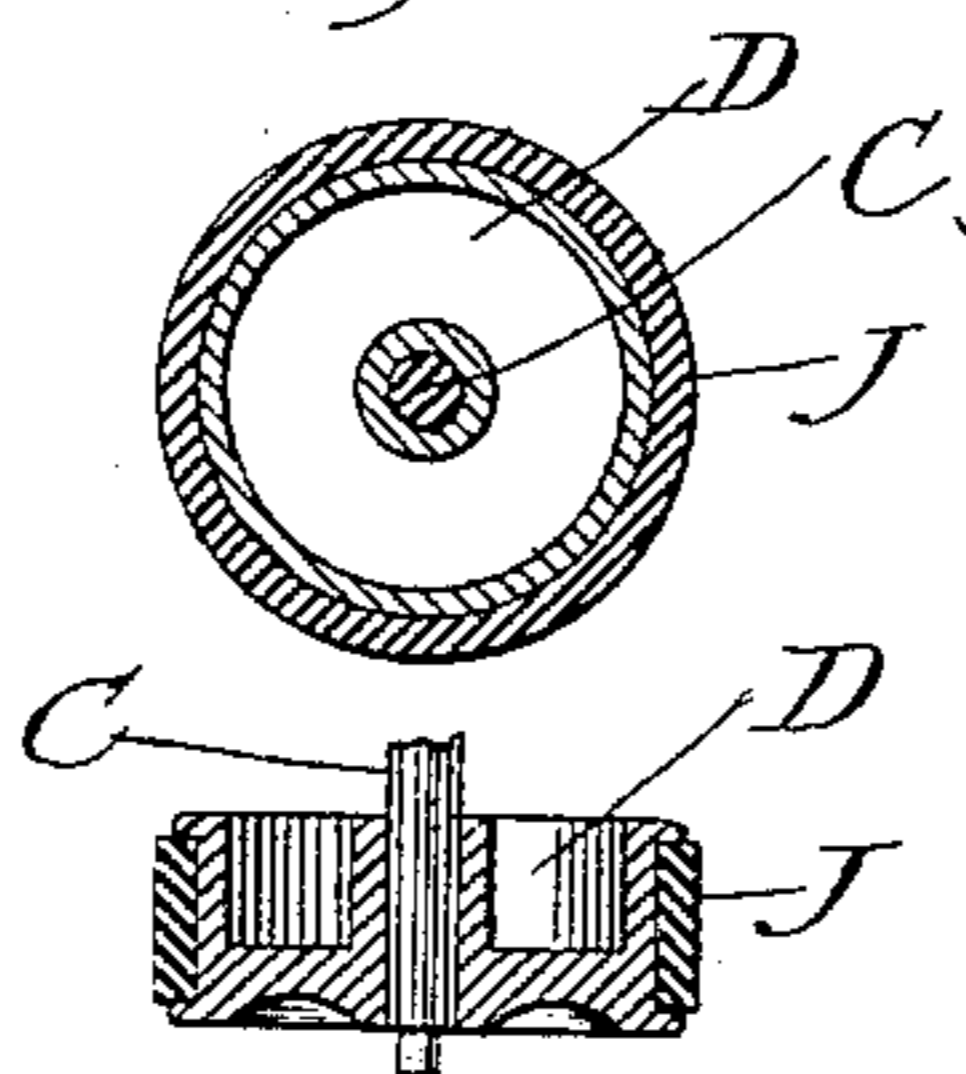


Fig. 4.



Witnesses:

Frank S. Blanchard
Wm. O. Bell.

Inventor:

Jerome C. Palmer
By Attorneys,
Raymond & Amundson

UNITED STATES PATENT OFFICE.

JEROME E. PALMER, OF CHICAGO, ILLINOIS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE EUGENE DIETZGEN COMPANY, OF SAME PLACE.

SECTION-LINER.

SPECIFICATION forming part of Letters Patent No. 630,923, dated August 15, 1899.

Application filed December 30, 1897. Serial No. 664,642. (No model.)

To all whom it may concern:

Be it known that I, JEROME E. PALMER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Section-Liners, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to certain new and useful improvements in drawing instruments and particularly to section-liners.

The object of the invention is to provide a simple device comprising a ruling edge, which can be easily manipulated to advance the ruling edge over a sheet of paper by regular and even degrees.

Another object of the invention is to provide adjusting means for a section-liner whereby the limit of movement of the device may be variously regulated, so as to provide for spacing the lines as desired.

A further object of the invention is to provide a device of this character which has an intermittent and successive horizontal movement and fulcrum movement to advance the device at regular stages over the sheet of paper and bring the ruling edge into operative position and return the carrying-rollers to their proper position.

My invention also has other objects in view which will be fully and clearly brought out in the detail description of the drawings forming part of this invention, in which—

Figure 1 is a top plan view of the section-liner. Fig. 2 is a side elevation. Fig. 3 is a sectional view on the line 3 3 of Fig. 1. Fig. 4 illustrates in vertical and transverse section a carrying-roller having a rubber contact-surface.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the base-plate of the section-liner device, to which a ruling edge B is secured in some suitable manner. A rock-shaft C is journaled in bearings c on the plate, and carrying-rollers D are secured on said rock-shaft adjacent to the ends thereof and are arranged to operate through open-

ings d in the base-plate. These rollers project through said openings d a sufficient distance to form a support for the base-plate at times in order that the device may be moved easily to its proper position.

At or about the center of the base-plate a circular cam E is secured upon a cam-base F, which base is of hemispherical form and provided with a slot f in one side thereof. An arm G is secured to the rock-shaft within the cam-base and projects out through the slot f therein and is engaged by the cam E, which is manipulated by means of the thumb-hold e. A spring H is arranged on the rock-shaft and has one end secured thereto and its other end secured to the cam-base or the base-plate.

On the bottom of the base-plate and between the carrying-rollers and the ruling edge I provide a fulcrum K, which preferably consists of a strip of rubber secured to the plate. A supplemental roller I is located at or about the middle of the base-plate and on its rear edge to form a supplemental carrying-roller and also to prevent the rear edge of the base-plate from coming into contact with the paper.

The carrying-rollers may have serrated contact-surfaces, as shown in Fig. 1, or they may have rubber contact-surfaces J, as shown in Fig. 4, these two constructions being obvious equivalents adapted to accomplish the same end.

This being the general construction of the preferred embodiment of my invention the operation thereof is as follows: The device is placed on a sheet of paper on which the section-lines are to be applied, and when the character of the lining has been determined the cam E is set so that the movement of the rollers during each operation will be limited by the movement of the arm G to carry the ruling edge the proper distance, so that the lines will be spaced evenly and regularly. The first line having been ruled, the device is rocked backward on its fulcrum to bring the carrying-rollers into contact with the paper and lift the ruling edge and fulcrum-strip K therefrom. The rearward movement of the device continues until the arm G has been carried to the position shown in dotted lines

in Fig. 3 and reached the limit of its movement against the lower wall of the slot *f*, which indicates that the ruling edge has been carried the proper distance. The base-plate 5 is then rocked forward on its fulcrum *K* to bring the ruling edge into contact with the paper and lift the rollers therefrom and at this time, the weight of the device having been transferred from the carrying-rollers 10 to the fulcrum and ruling edge, the spring *H* will return the rock-shaft and rollers to their initial positions. The line having been ruled, the base-plate is again rocked backward on its fulcrum to bring the rollers into 15 contact with the paper and the same operation is repeated.

The device can be adjusted to space the lines farther apart or closer together, as desired, by simply manipulating the cam *E*, and 20 as this cam absolutely regulates the movement of the rock-shaft and through the rock-shaft the entire device the spacing of the lines will necessarily be even and regular at all times.

25 I am aware that changes in the form and proportion of parts and details of construction of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve 30 the right to make all such changes as fall within the spirit and scope of the invention.

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

35 1. In a section-liner, the combination with a base-plate provided with a ruling edge, of a rock-shaft mounted on said plate, rollers carried by said shaft, a fulcrum extending longitudinally on the under side of the base- 40 plate between the rollers and ruling edge, means for limiting the movement of said rollers, and means on the shaft for automatically returning the shaft and roller to initial position.

45 2. In a section-liner, the combination with a base-plate, and a ruling edge, of a rock-shaft mounted on said plate, rollers carried by said shaft, and forming a temporary support for the base-plate, and means for limit- 50 ing the movement of said rollers, comprising a cam-base, a cam supported thereon, and a

stop device engaging said cam, substantially as described.

3. In a section-liner, the combination with a base-plate and a ruling edge, of a rock-shaft 55 mounted on said plate, rollers carried by said rock-shaft and forming a temporary support for the base-plate, a device for limiting the movement of said rollers comprising a cam-base, a cam supported thereon, and a stop 60 device engaging said cam and a spring for returning the rollers and rock-shaft to their initial position, substantially as described.

4. In a section-liner, the combination with a base-plate and a ruling edge, of a rock-shaft 65 mounted on the plate, rollers carried by said shaft and forming a temporary support for the base-plate, a fulcrum on the under side of the plate for temporarily supporting the device and a spring on the rock-shaft for re- 70 turning the rollers and said shaft to their initial positions when the device is supported on the fulcrum, substantially as described.

5. In a section-liner, the combination with a base-plate and a ruling edge, of a rock- 75 shaft mounted on the plate, rollers carried by said shaft and adapted to form a temporary support for the plate, a cam-base, a cam arranged on said base and an arm secured to the rock-shaft and projecting through an 80 opening in said cam-base and limited in its movement by the cam and the lower end wall of the opening in the cam-base, substantially as and for the purpose described.

6. In a section-liner, the combination with 85 a base-plate and a ruling edge, of a rock-shaft mounted on said plate, rollers carried by said shaft and forming a temporary support for the plate, a cam-base, a cam adjust- 90 ably secured on said base, an arm secured to the rock-shaft and projecting through an opening in the side of the cam-base, a fulcrum on the under side of the base-plate between the rollers and the ruling edge, and a spring on the rock-shaft adapted to return said shaft 95 and the rollers to their initial positions while the device is temporarily supported on the fulcrum, substantially as described.

JEROME E. PALMER.

Witnesses:

FRANK S. BLANCHARD,
WALTER C. LAIDLEY.