

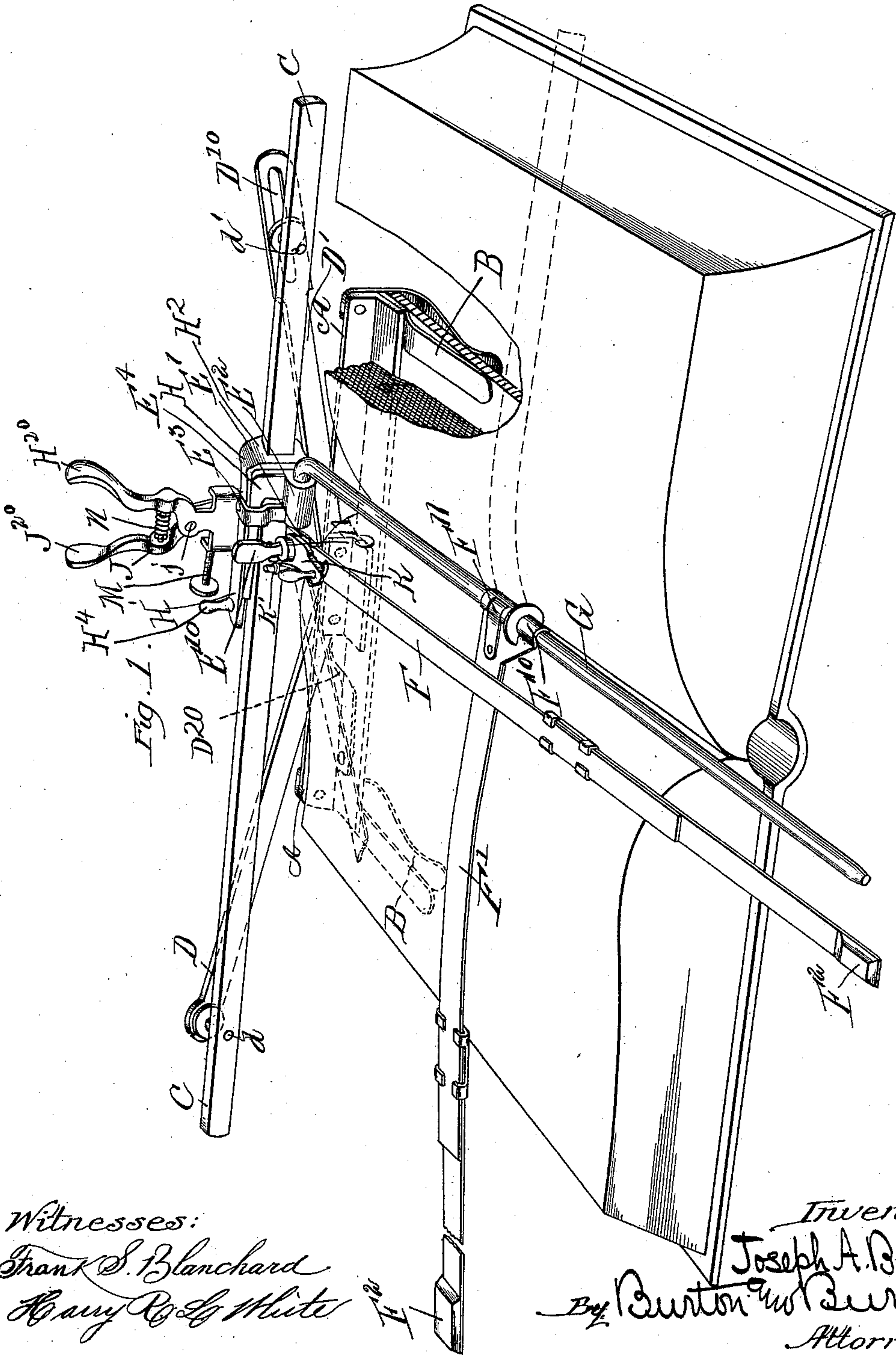
(No Model.)

2 Sheets—Sheet 1.

J. A. BOEHLER.
COPY HOLDER.

No. 599,889.

Patented Mar. 1, 1898.



Witnesses:

Frank S. Blanchard.

Harry R. Ly White

Inventor:

Joseph A. Borchers

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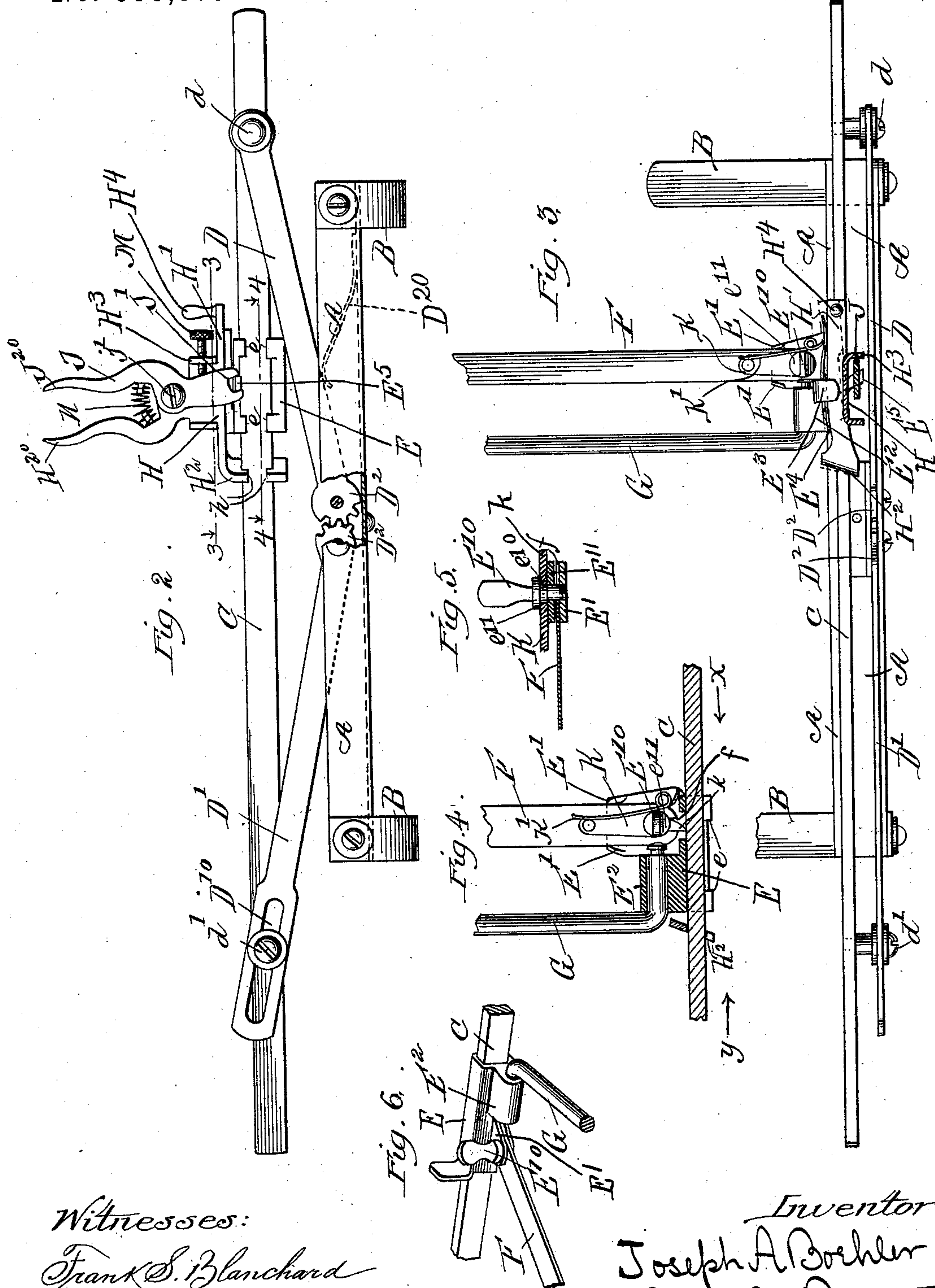
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UNITED STATES PATENT OFFICE.

JOSEPH A. BOEHLER, OF CHICAGO, ILLINOIS.

COPY-HOLDER.

SPECIFICATION forming part of Letters Patent No. 599,889, dated March 1, 1898.

Application filed January 18, 1897. Serial No. 619,581. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. BOEHLER, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in a Spacer, Guide, and Copy-Holder, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

The purpose of this invention is to provide a device adapted to be removably attached to a drawing-board, desk, or book-cover and provided with a guide or ruler which is adapted to be moved laterally, occupying a succession of parallel positions, so that it may serve (a) as a ruler for drawing parallel lines, (b) as a guide for tracing out lines or columns across or up and down a page for the purpose of drawing or making entries in the same line or column, and (c) as a guide to the eye in reading copy and keeping the place on the same. Specifically and by preference it consists also of devices for moving such guide step by step in its lateral adjustment, the extent of the step-by-step movement being controlled, whereby uniform spacing of ruled lines is obtained and whereby also the guide-finger may be adjusted from line to line of copy which is being followed or of tabular matter which is being examined, thus avoiding the danger of accidentally skipping a line either in reading or copying.

In the drawings, Figure 1 is a perspective of an open book having my device attached thereto, the book being partly broken away to disclose the means of attaching the device to the cover. Fig. 2 is a rear edge elevation of my improved device. Fig. 3 is a sectional top plan of the same with the several guides and fingers partly broken away to condense the view, section being made at the line 3 3 on Fig. 2. Fig. 4 is a detail section at the line 4 4 on Fig. 2. Fig. 5 is a detail section of the pivotal joint, at which an angularly-adjustable guide is secured to the slide. Fig. 6 is a detail perspective of a simple form of slide and attached parts without a step-by-step feed mechanism.

A is a bar which has secured to it two spring-clips B B, adapted to clasp the edge of a book-cover, drawing-board, or desk with sufficient firmness to hold the device in position.

C is a slide-bar which is connected to the bar A by two links D and D', which are pivoted to the latter bar near together and are provided with gear-segments $D^2 D^2$, which intermesh as the links turn about their respective pivots. The link D is pivotally connected at d to the slide-bar C, and the link D' has a pivotal sliding connection at d' to the slide-bar, said link D' having a long slot D^{10} , which slides on the pivot d' , as the link also swings about such pivot. The average length of the link D'—that is, the distance from its pivotal connection at the bar A to the middle point in the necessary length of the slot D^{10} —is substantially equal to the length of the link D, and this connection permits the slide-bar C to move laterally toward and from the bar A with but slight departure from parallelism to the latter bar throughout the range of such lateral movement. The links D and D' are in a plane at right angles to the plane in which the clips B project to clasp the edge of the book-cover, desk, or drawing-board.

E is a slide mounted on the bar C and having connected with it the guide or ruler F, which extends therefrom transversely with respect to the slide-bar C, so that as the slide is moved on the bar C the ruler F will stand successively at positions parallel to each other, extending across the page or sheet on the support, to which the device is attached by means of the clips B B.

In Figs. 1, 2, 3, and 4 a form of slide E, adapted to have and having adjustable space-feeding devices attached to it, is illustrated. This special form will be hereinafter particularly described.

In Fig. 6 a simpler form of slide is shown not provided with the space-feeding devices and consisting simply of a rectangular sleeve which slides on the rectangular bar C, the guide or ruler F being secured to a lug E' on the slide by means of a thumb-screw E^{10} , so that it may be set at any angle to the slide-bar C in both of the forms illustrated.

In addition to the ruler F, I pivotally attach to the slide E a round rod G, bent at an angle at the end, and thereby pivoted in the eye E^2 , formed on the slide E, and adapted by swinging in said eye to come to a position projecting across the face of the work to be ruled or followed, and on this round rod G, I

mount a second ruler or guide F' , having an eye F^{10} , provided with the pressure-spring F^{11} , which causes the ruler to be held frictionally with some firmness on the rod, so that while it is adapted to be moved up and down on the rod it holds its position without danger of accidental displacement and is adapted to be swung over to the right or to the left of the rod G . This device is intended to be used when the entire appliance is mounted at the head or foot of the board, desk, or book with which it is to be used, being principally useful when it is attached to the head of a record-book, the slide E being then adjusted to bring the rod G over the middle of the book—that is, between the two outspread leaves—so that the ruler may be swung to the right or left over one page or the other and used to assist the eye in following, ruling, or writing a line across the two pages without danger of skipping a line and making thereby a misconnection in passing from one page to the other.

In order to adapt the device to be used by attachment to the cover of a book, either at the head or lateral edge, whether the book be thick or thin, the geared links D and D' , which connect the slide-bar C with the back or base of the angle-bar A , are provided and operate as above described, a spring D^2 being provided to counterpoise the weight of the links and slide-bar C and parts mounted thereon, so that the slide-bar will tend to keep its position whether adjusted high or low in respect to the base-bar A .

I will describe the form of clip having spacing devices associated with it illustrated in Figs. 1, 2, 3, and 4. It has a sleeve E fitted to the slide-bar, such sleeve being cut through upon the rear side, as seen most clearly in Fig. 2 at $e e$, to permit the slide to pass the pivot-pins d and d' , at which the levers D and D' are connected to the slide-bar. This feature pertains to the sleeve in both forms illustrated. For the purpose of spacing mechanism I provide a clutch H , having horizontal arm H' , which is guided in a sliding movement on the top of the sleeve E , being retained by an overhanging lug E^3 , which is added to the sleeve for that purpose. A spring E^4 , made of flat steel secured at one end to the forward face of the sleeve, conveniently just above the eye E^2 , extends between the lug E^3 and the edge of the arm H of the clutch-slide, and operates against said arm with a tendency to force it backward. The clutch comprises, in addition to the arm H^2 , a portion at right angles to said arm extending in a vertical plane oblique to the slide-bar which penetrates it, a rectangular eye being formed for this purpose, (cut away at h in the line with the openings $e e$ of the sleeve and for the same purpose.) The action of the spring E^4 , tending to force the end of the arm H' backward, clamps the obliquely-situated clutch-arm H^2 on the slide-bar and tends to prevent the clutch from sliding on the bar in the di-

rection indicated by the arrow x in Fig. 4, but permits it to slide in the direction of the arrow y . K is a dog pivoted on the sleeve at the forward side and projecting through an opening in the sleeve against the face of the slide-bar. It is provided with a spring K' , tending to hold it with its acute nose k against the face of the slide-bar, whereby it tends to operate as a clutch to prevent the sleeve from sliding in one direction—that is, with the nose of the dog on the slide-bar—but permits it to slide in the opposite direction. The lever-key J is fulcrumed at j on the clutch H , and extends from its fulcrum, which is some distance above the horizontal arm H' , down past the arm, and having at its lower end a notch J' , engages thereby the tooth E^5 , which projects rearward from the sleeve E past the upper edge of the slide-bar. This tooth is oblique to the direction of the length of the slide-bar, and the sides of the notch in the lever J are correspondingly oblique, so that when the lever is swung about its fulcrum in the direction which, if the fulcrum were stationary, would tend to move the sleeve on the slide-bar in the direction in which movement is resisted by the clutch-dog K , the oblique edge of the notch pressing against the oblique edges of the tooth tends to swing the horizontal arm H' of the clutch-slide forward against the pressure of the spring E^4 , thereby swinging a clutch slightly in a direction tending to release the bite on the slide-bar of the edges of the eye through the oblique arm H^2 . The same movement which thus releases the grip of the clutch on the slide-bar tends to move the clutch in the direction in which it is adapted to slide most easily when thus released—viz., toward the sleeve. A coil-spring N is provided, acting upon the lever with a tendency to give this movement. The lever has a finger-piece J^{20} , opposed to a similar finger-piece H^{20} on the clutch H , and the spring N reacts between these finger-pieces. When the finger-pieces are pressed toward each other, the tendency being to push the clutch-lever arm H^2 back on the slide-bar in the direction resisted by the bite of the arm on the slide-bar and to move the slide forward in a direction in which the dog K does not resist movement, the resulting action is the movement of the sleeve forward on the slide-bar, the clutch-arm H^2 remaining stationary. When the operator releases the finger-piece J^{20} , the spring restores it to the position first described, bringing the clutch-arm H^2 back toward the sleeve, where it is in position to take a new bite on the slide-bar ready for the next spacing movement. To regulate the extent of this step-spacing movement, I provide a thumb-screw M , set through a lug H^3 on the clutch H in the plane of the toothed arm of the lever J and adapted to arrest the edge of the lever as it swings in one direction, and by the extent of its protrusion through the lug to limit the range of movement of said lever when the finger-piece is depressed by the operator.

Proper adjustment of this thumb-screw will therefore enable the operator to regulate the movement of the sleeve to adapt the step movement to any space required, either for the purpose of ruling equally-spaced parallel lines or following equally-spaced lines of copy. In order to set the sleeve back to the operating-point or to any distance on the slide-bar after it has been fed up step by step, it is necessary at the same time to hold both the clutch-dog K and the clutch-arm H' released from the slide-bar. This can be done by pressing to the left the outer end of the dog K and simultaneously pressing forward the left-hand end of the arm H' of the clutch, and for this purpose I turn up a finger-piece H⁴ at the left-hand end of the clutch H and provide a similar finger-piece at the forward end of the dog K, both of said finger-pieces being oblique to the parts in which they are formed, but approximately parallel to each other, so that they may be readily grasped between the thumb and finger of one hand and pressed together to simultaneously release both devices.

The rulers F and F' are preferably thin spring-steel bars, and they are each preferably provided at the free end with the weight F², tending to hold them down on the page or sheet to be ruled or whose lines are to be followed, and thereby they are caused to conform substantially to the page, which in case of a book will often be curved from the back to the edge, and without such conformity of the ruler thereto the lines could not be accurately traced or ruled.

When the spacing-feed device is employed, as in Figs. 1, 2, 3, and 4, compactness of structure is obtained by securing the ruler F by the screw which serves as the pivot of the dog, and it is also advantageous to make such ruler removable without disengaging any other parts. This I accomplish by the employment of the thumb-screw E¹⁰, having the shoulder e¹⁰ immediately under the guard-flange e¹¹ of the thumb-screw, said shoulder portion e¹⁰ operating to bind the washer E¹¹, under which is the ruler F, resting on the lug E', into which the screw E¹⁰ takes. (See Fig. 5.) The ruler F, instead of having a mere aperture for the screw, is notched from the end, as seen at f in Figs. 4 and 5, so that it can be inserted endwise between the washer and the lug and tightly bound by the thumb-screw E¹⁰, whose shoulder, effecting this binding, leaves the dog K practically free to have its pivotal action on the shoulder portion e¹⁰ under the guard-flange e¹¹.

I claim—

1. In combination with the slide-bar and clasps adapted to clasp a book-cover, board or desk, and a bar on which such clasps are mounted, links pivoted on one of said bars and geared together and provided with pivotal connections to the other bar, one of said lateral connections being a sliding pivotal

joint, and a guide or ruler mounted transversely with respect to the slide-bar and adapted to slide laterally thereon.

2. In combination with a slide-bar, a slide thereon carrying a guide or ruler mounted transversely with respect to the slide-bar and adapted to slide laterally thereon, and a clutch device also mounted on the slide and adapted to prevent motion in one direction on the bar; and a clutch feeding device connected with the bar and with the slide, adapted, when actuated, to feed the slide on the bar in the direction permitted by the first-mentioned clutch device.

3. In combination with the slide-bar and means for supporting it on a book-cover, board or desk, a slide on said bar carrying a guide or ruler transversely to the slide-bar and adapted to slide laterally and overhang the book, board or desk, a friction-clutch device operating in connection with the slide-bar and the slide to give the latter a step-by-step sliding motion on the bar.

4. In combination with the slide-bar and means for supporting it on a book-cover, board or desk, a slide on said bar carrying a guide or ruler transversely to the slide-bar and adapted to slide laterally and overhang the book, board or desk, a friction-clutch mechanism operating in connection with the slide-bar and the slide to give the latter a step-by-step sliding motion on the bar; such mechanism comprising a lever adapted to be actuated in one direction by the operator and a spring to retract or restore the lever, and an adjustable stop to limit the range of such motion of the lever, whereby the length of the steps of such step-by-step motion is regulated at will.

5. In combination with a slide-bar and means for supporting the same in connection with a book, board or desk, a slide operating thereon and a guide or ruler pivotally attached to the slide and adapted to be set and secured about its pivot to project in any direction off from the slide.

6. In combination with the slide-bar and means for supporting the same in relation to a book, board or desk, a slide thereon, the rod G pivoted to the slide adapted to swing about its pivot in a plane transverse to the slide-bar, and a guide or ruler mounted on the pivoted rod adapted to slide thereon and also to be rotated thereabout.

7. In combination with a slide-bar and the slide-sleeve thereon, the dog K pivoted on the sleeve and adapted to impinge against the face of the slide-bar at an angle slightly variant from a right angle thereto, and a spring tending to hold it so impinged, whereby it tends to prevent the sleeve from sliding on the bar in one direction without preventing such sliding in the opposite direction, and a friction-clutch device connected with the sleeve and adapted to bite the slide-bar, when moved in the direction in which the dog

prevents the sleeve from moving; and a suitable lever connecting the sleeve and clutch device.

8. In combination substantially as set forth, 5 the slide-bar, sliding sleeve thereon, and the spring-actuated clutch-dog K adapted to engage the bar and resist the sliding movement of the sleeve in one direction, the clutch H having the arm H' penetrated by the slide- 10 bar, and the spring E³ tending to hold said arm in position to bite the bar in one direction, a lever fulcrumed on the clutch, the sleeve having an oblique tooth engaged by the lever and adapted by such engagement 15 to cause the lever when actuated in a direction to move the clutch forward on the bar in the direction in which the slide is permitted by the dog to move, to crowd the clutch laterally against the spring and release the bar 20 from the bite of the clutch.

9. In combination with a slide-bar, the slide-sleeve thereon having the finger-piece H²⁰,

the clutch mounted on the slide-sleeve and the lever adapted to engage said clutch and having the finger-piece J²⁰ opposed to the finger-piece H²⁰, and a spring interposed between such finger-pieces. 25

10. In combination with the spacing-clutch device comprising the pivoted and spring-actuated dog K, the lug to which such dog is 30 pivoted and the ruler F pivotally attached to the same lug; the screw which serves to so attach it having a shoulder portion e¹⁰ above the portion which penetrates the ruler, said shoulder serving as the pivot-bearing for the 35 dog.

In testimony whereof I have hereunto set my hand, in the presence of two witnesses, at Chicago, Illinois, this 14th day of January, 1897.

JOSEPH A. BOEHLER.

Witnesses:

CHAS. S. BURTON,
JEAN ELLIOTT.