

(No Model.)

C. L. HASTINGS.
LINE INDICATOR FOR COPYISTS.

No. 560,989.

Patented May 26, 1896.

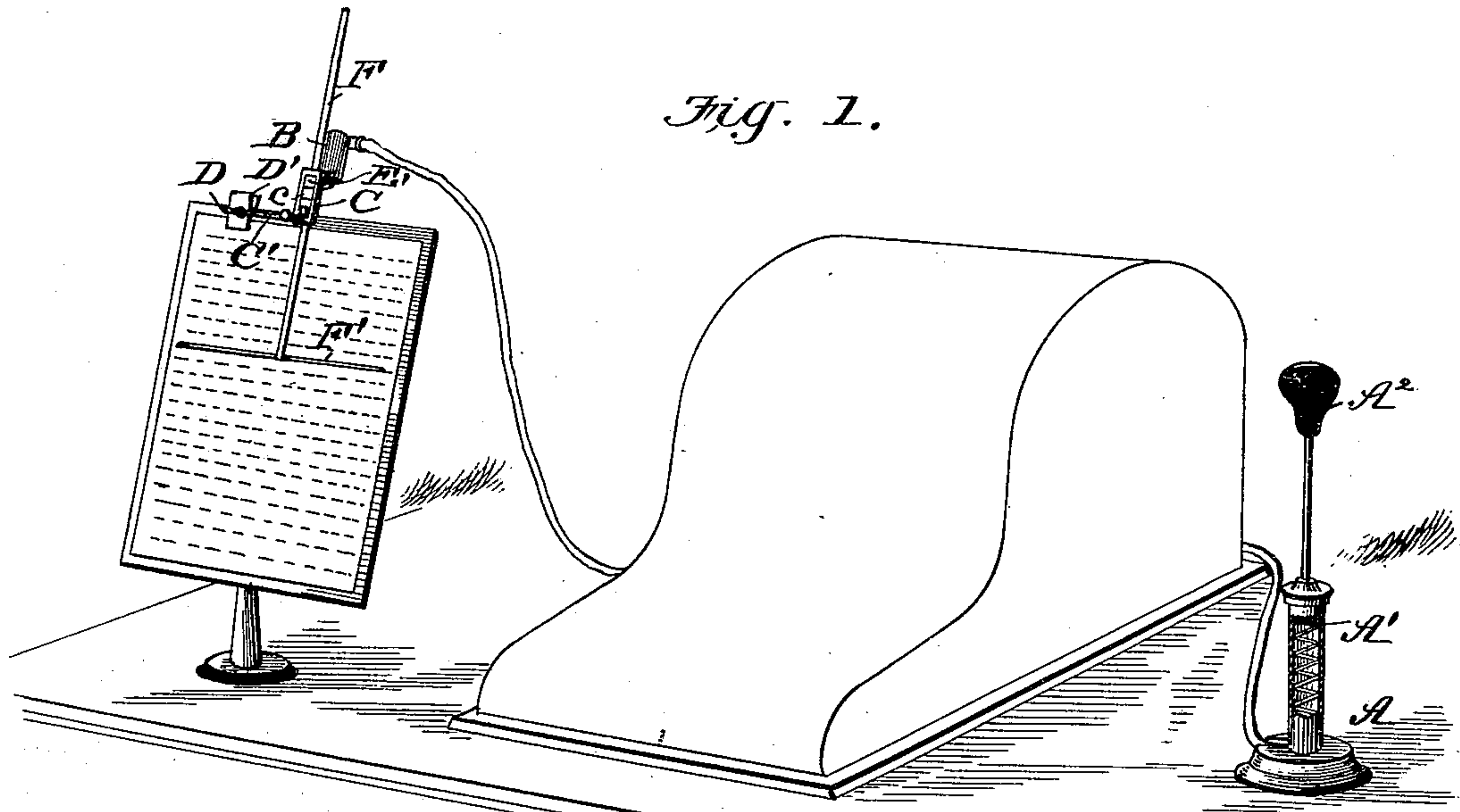


Fig. 1.

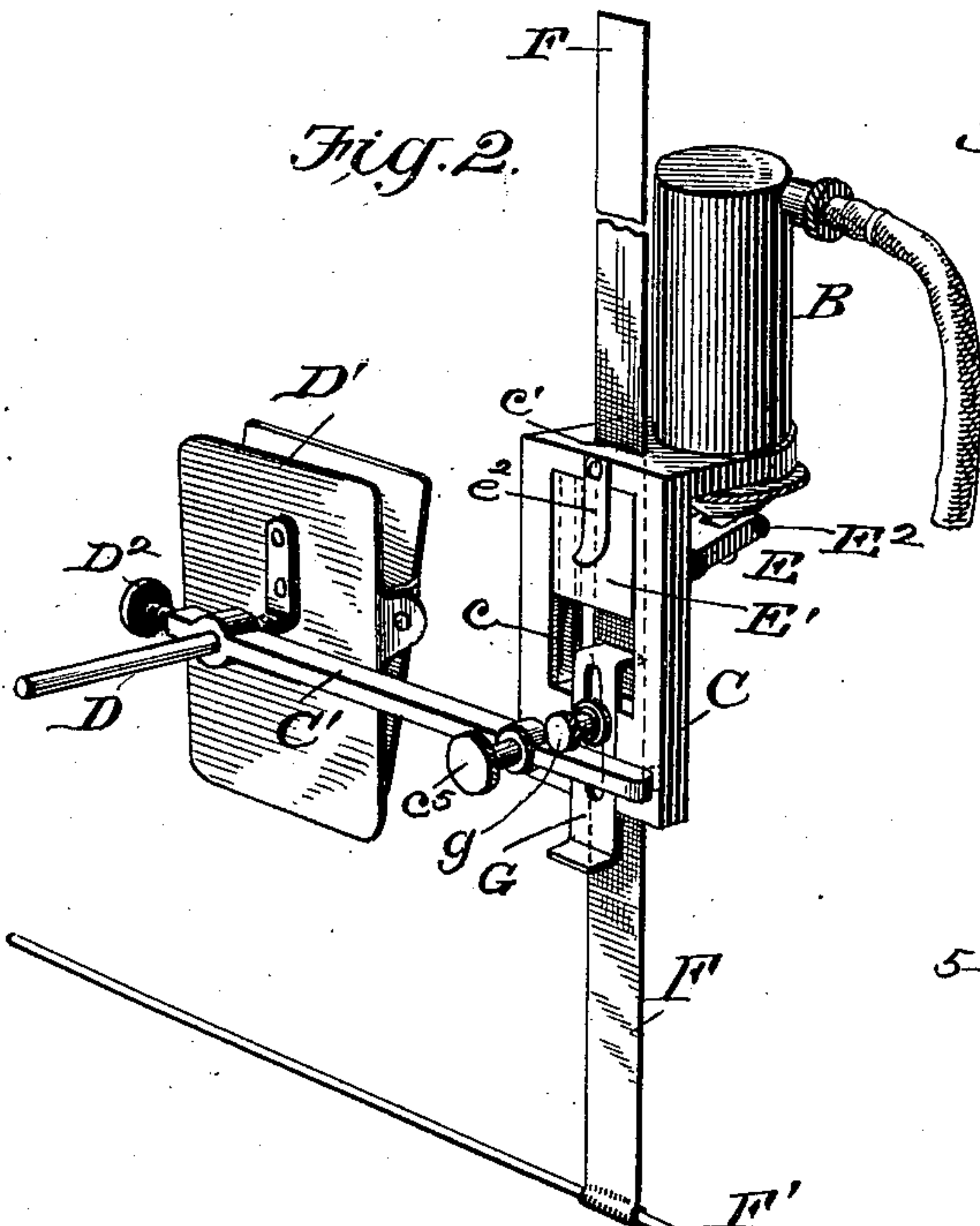


Fig. 2.

Fig. 3.

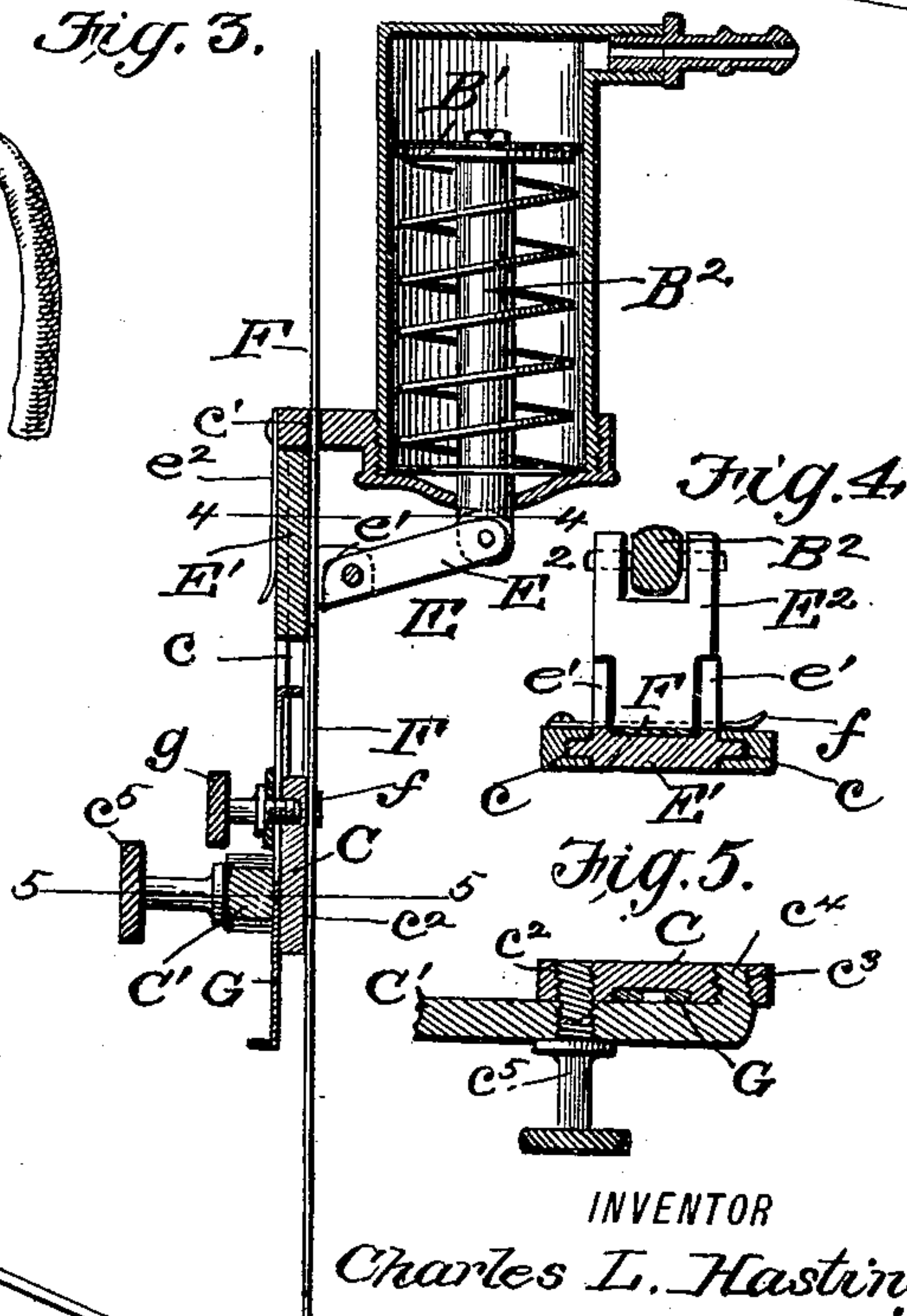


Fig. 4.

Fig. 5.

WITNESSES:

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LINE-INDICATOR FOR COPYISTS.

SPECIFICATION forming part of Letters Patent No. 560,989, dated May 26, 1896.

Application filed February 3, 1896. Serial No. 577,883. (No model.)

To all whom it may concern:

Be it known that I, CHARLES L. HASTINGS, a citizen of the United States, residing at Jacksonville, in the county of Morgan and State of Illinois, have invented certain new and useful Improvements in Line-Indicators for Copyists, of which the following specification contains a full, clear, and exact description, reference being had to the accompanying drawings, forming part thereof, in which—

Figure 1 is a perspective view illustrating my improvement. Fig. 2 is a detail perspective view of the same. Fig. 3 is a vertical section thereof. Fig. 4 is a detail section on line 4 4, Fig. 3. Fig. 5 is a detail section on line 5 5, Fig. 3.

The invention relates to that class of devices known as "line-indicators" for copyists.

The main object of the invention is to provide a line-indicator with a pneumatic operating mechanism.

A further object is to provide the rod of the operating-piston with a clamp which will engage the indicator-carrier strip in the forward throw of the piston, but disengage itself in the rearward throw and thus impart a step-by-step feed to the carrier bar or strip and the indicator carried thereby.

A further object is to regulate the length of this step-by-step feed to agree with the lines of the matter being copied; also to provide such an apparatus which will be simple and comparatively inexpensive.

The invention will be first described, and then specifically pointed out in the claims.

A represents a simple form of air-compressor mounted on a suitable base adapted to rest on the desk or table so that its spring-seated piston A' may be forced down by the hand of the operator by a light blow on the head A² of the piston-rod. This air-compressor is connected by a piece of rubber tubing with the upper end of the cylinder of the air-engine B, which is mounted on a suitable standard C, provided with a transverse reversible arm C', mounted adjustably on the post D of the attaching-clamp D'.

The air-engine is provided with a piston B', the rod B² of which projects down through the lower end of the cylinder, where it is pivotally connected to a friction feeding clamp or grip E, which grasps and slides the carrier strip

or bar F, which carries the indicator F', as will be presently described. This clamp E is formed in two parts E' E², the section E' sliding in ways c in the slotted standard C, and provided with ears e', between which the adjacent inclined end of the clamp-section E² is pivoted, the opposite end of the section E² being pivoted to the piston-rod B².

The carrier strip or bar F slides longitudinally along the standard C, which has an opening c' in its upper end and a groove in its lower portion to guide said strip or bar. The strip or bar passes between the two clamp sections or members E' E² and under a friction-spring f, which prevents any accidental slipping. A similar spring e² is secured upon the opposite side of the standard C and bears upon the clamp-section E' and slightly retards its action, so that when the piston-rod B² is forced down it will tilt the clamp-section E² and cause its inner end to bind the indicator-carrier F to the section E', and then the clamp will be forced down and carry the carrier F along with it. As soon as the piston-rod B² starts upwardly the clamp E will release the carrier F and move upwardly, and the carrier will remain stationary during such movement of the clamp.

The throw of the clamp E is limited by the slotted adjustable gage G, mounted on the standard B² and having a set-screw g.

The lower end of the standard C is provided with two screw-threaded apertures c² c³, and the arm C' has a lateral projection c⁴ at its inner end which enters either one of said apertures, while a screw c⁵, passing through the arm, enters the other aperture, c³, and secures the arm in place, the projection c⁴ preventing the arm from turning on the screw. Thus the arm C' may be made to project to the right or the left of the standard C. The attaching-clamp D' may be adjusted in the arm C' by means of the set-screw D². By these several adjustments the indicator may be attached to a copy-holder at the right or left of the copyist, or it may be attached directly to a book.

The air-compressor may be arranged for operation by the foot of the copyist instead of the hand, if desired, and any suitable compressor may be used—such as a simple bulb, for instance.

The operation is as follows: The attaching-clamp D' is secured to the upper edge of a book or copy holder, so that the line-indicating rod or bar F' will register with the upper
 5 line of the matter being copied. The gage G is then adjusted so that the piston-rod B² can only have a movement sufficient to move the indicator down the distance of one line. Now by a light tap on the piston-rod of the
 10 air-compressor the operating piston-rod B² will be forced down, and its clamp or gripper E will seize the carrier-strip F and force it down as far as stop G will permit. The spring of the air-compressor piston will re-
 15 turn it to its normal position, and this action will also raise or retract the piston B', rod B², and the clamp E, the carrier F being released and remaining in its adjusted position, and so on a step-by-step or line-by-line feed will
 20 be given the indicator F'. After the indicator has reached the last line being copied it may be slid upward again by simply pulling on its upper end or pushing from its lower end.

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

1. A portable pneumatic line-indicating apparatus, consisting of an air-cylinder, provided with a piston and adapted for attach-
 30 ment to a copy-holder; a line-indicator, connected with the piston-rod; an air-compressor, composed of a cylinder and base adapted for self-support; and a spring-supported piston, working therein, and having a projecting
 35 head; and a flexible tube which connects the said cylinder and air-compressor; as shown and described.

2. A line-indicating mechanism, comprising an attaching or supporting means, a cylinder
 40 mounted thereon and provided with a piston, a compressor connected with the cylinder for operating its piston, a carrier operatively connected with said piston to be fed step by step in one direction thereby and a line-indicator
 45 carried by said carrier, substantially as set forth.

3. A line-indicating mechanism, comprising a standard or support, a cylinder mounted thereon and having a piston, a feed clamp or
 50 grip connected to the piston-rod, an indicator carrier strip or bar engaged by said clamp or grip and slid longitudinally step by step in one direction thereby; the rearward movement of the piston causing the grip or clamp
 55 to release the said carrier-strip, and means for operating said piston, substantially as set forth.

4. The combination with the supporting standard or frame and its attaching or sup-
 60 porting means, of a cylinder mounted on said standard, a piston in said cylinder, a feed grip or clamp comprising two members pivoted together, one of said members sliding in ways on the standard and the other pivoted to the
 65 piston-rod for operation as described, a carrier strip or bar sliding along the standard and passing between the two members of the clamp

or grip to receive a step-by-step feed thereby in one direction, and a fluid-compressor connected with said cylinder for operating its
 70 piston, substantially as set forth.

5. The combination with the standard or frame and its attaching or supporting means, of a sliding carrier strip or bar provided with the line-indicator, a spring frictionally engag-
 75 ing the said carrier, a feed clamp or grip comprising a sliding member mounted on the said standard and crossed by the said carrier-strip, and a pivoted member pivoted to the sliding member to engage said carrier when moved
 80 in one direction and bind it to said sliding section, and mechanism for operating the said feeding clamp or grip, substantially as set forth.

6. The combination with the standard or
 85 frame and its attaching or supporting means, of a sliding carrier strip or bar provided with a line-indicator, a feed clamp or grip comprising a sliding and a pivoted member between the adjacent surfaces of which the car-
 90 rier passes to receive a step-by-step feed therefrom, an operating mechanism connected with the said pivoted member, and a gage for limiting the throw of the feed clamp or grip the distance between two lines, substantially as
 95 set forth.

7. The combination with the slotted stand-
 ard, of the feed clamp or grip having a slid-
 ing section mounted in said slot and a pivoted section pivoted to said sliding section and op-
 100 erating mechanism connected with the outer end of said pivoted section, a friction-spring bearing on said sliding section, and a sliding carrier bar or strip passed between the two
 105 clamp or grip members, receiving a forward step-by-step feed therefrom and provided with an indicator bar or rod, substantially as set forth.

8. The combination with the standard or frame having two threaded apertures, a trans-
 110 verse reversible arm having a lateral projection and a set-screw engaging said apertures, and an attaching-clamp having a post on which the outer end of said arm is mounted, of the carrier-strip having an indicator bar
 115 or arm, and a step-by-step feed mechanism for said strip, substantially as set forth.

9. A line-indicator comprising a frame or standard, an attaching or supporting means therefor a carrier-strip and its indicator-bar,
 120 a sliding clamp or grip mounted on the said frame or standard and imparting a step-by-step feed to the said carrier-strip, a cylinder having a piston connected with said feed clamp or grip, a compressor having a spring-
 125 seated plunger or piston and a length of flexible tubing connecting the compressor with said cylinder to project and retract its piston and the grip or clamp connected therewith, substantially as set forth.

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Witnesses:

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