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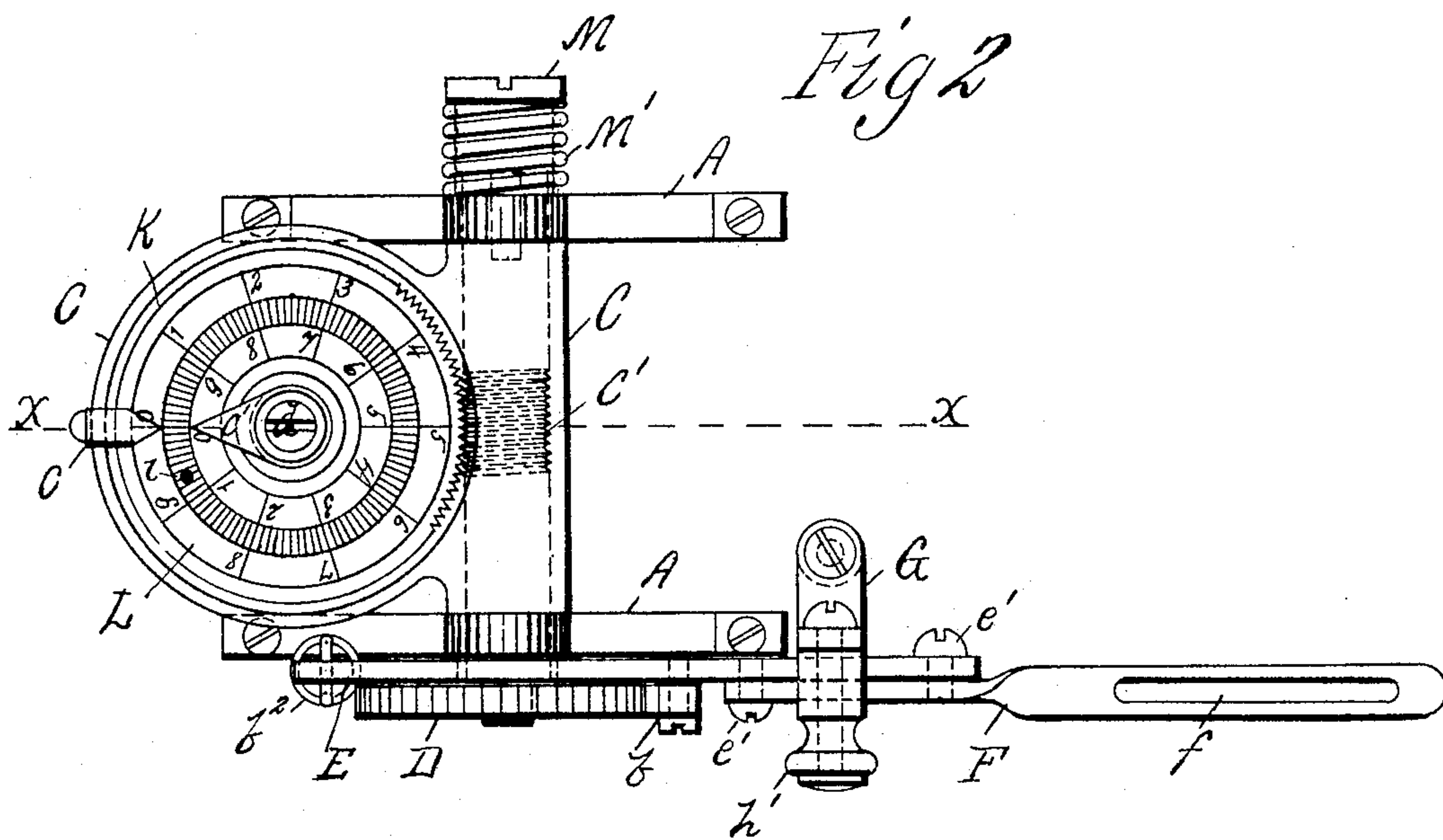
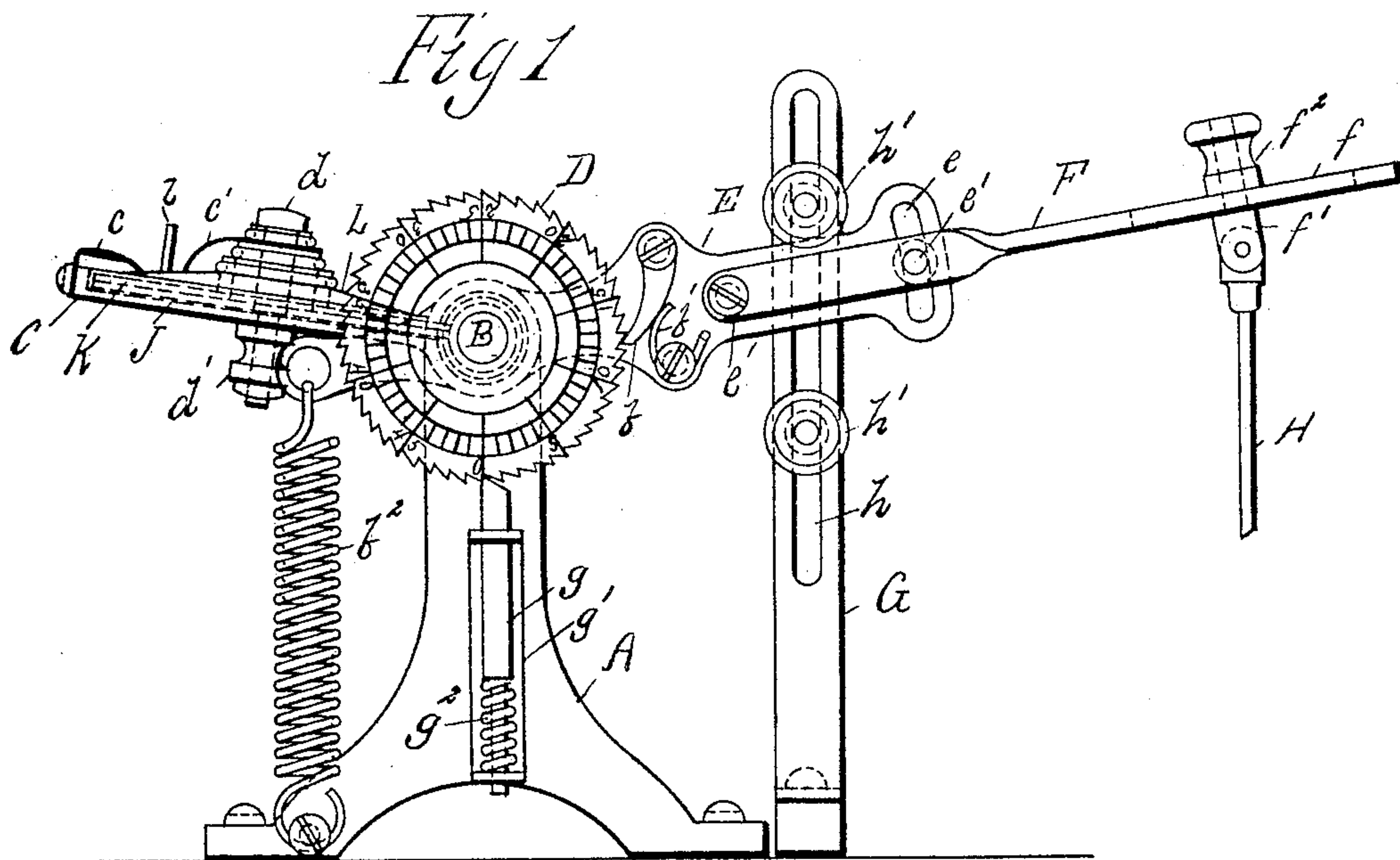
3 Sheets—Sheet 1.

C. C. E. VAN ALSTINE.

WORD REGISTER FOR TYPE WRITING MACHINES.

No. 584,715.

Patented June 15, 1897.



WITNESSES:

*Wm M. Drew*  
*John Scattergood*

INVENTOR

*C. C. E. Van Alstine*

BY

*John F. Kerr*

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(No Model.)

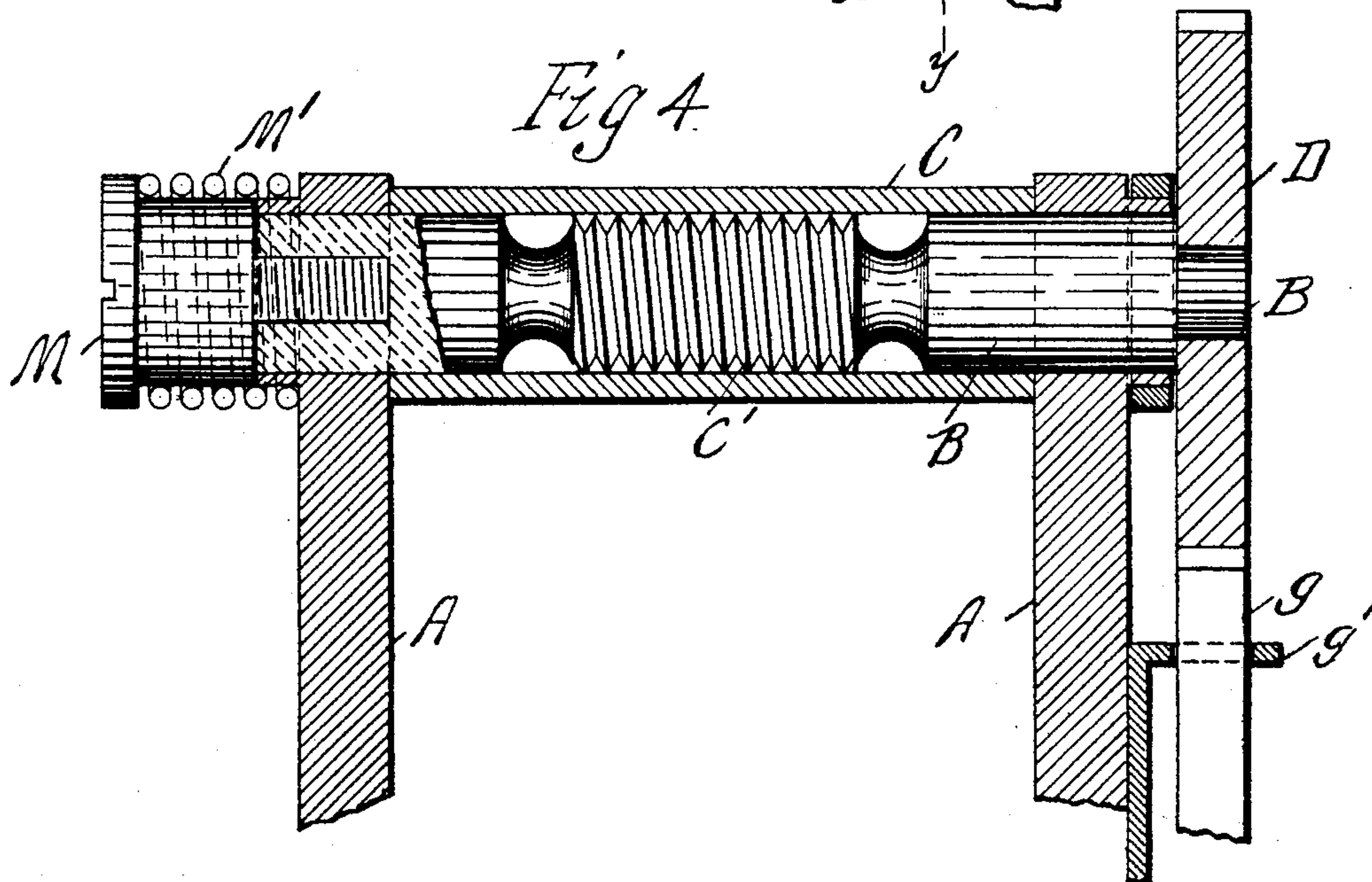
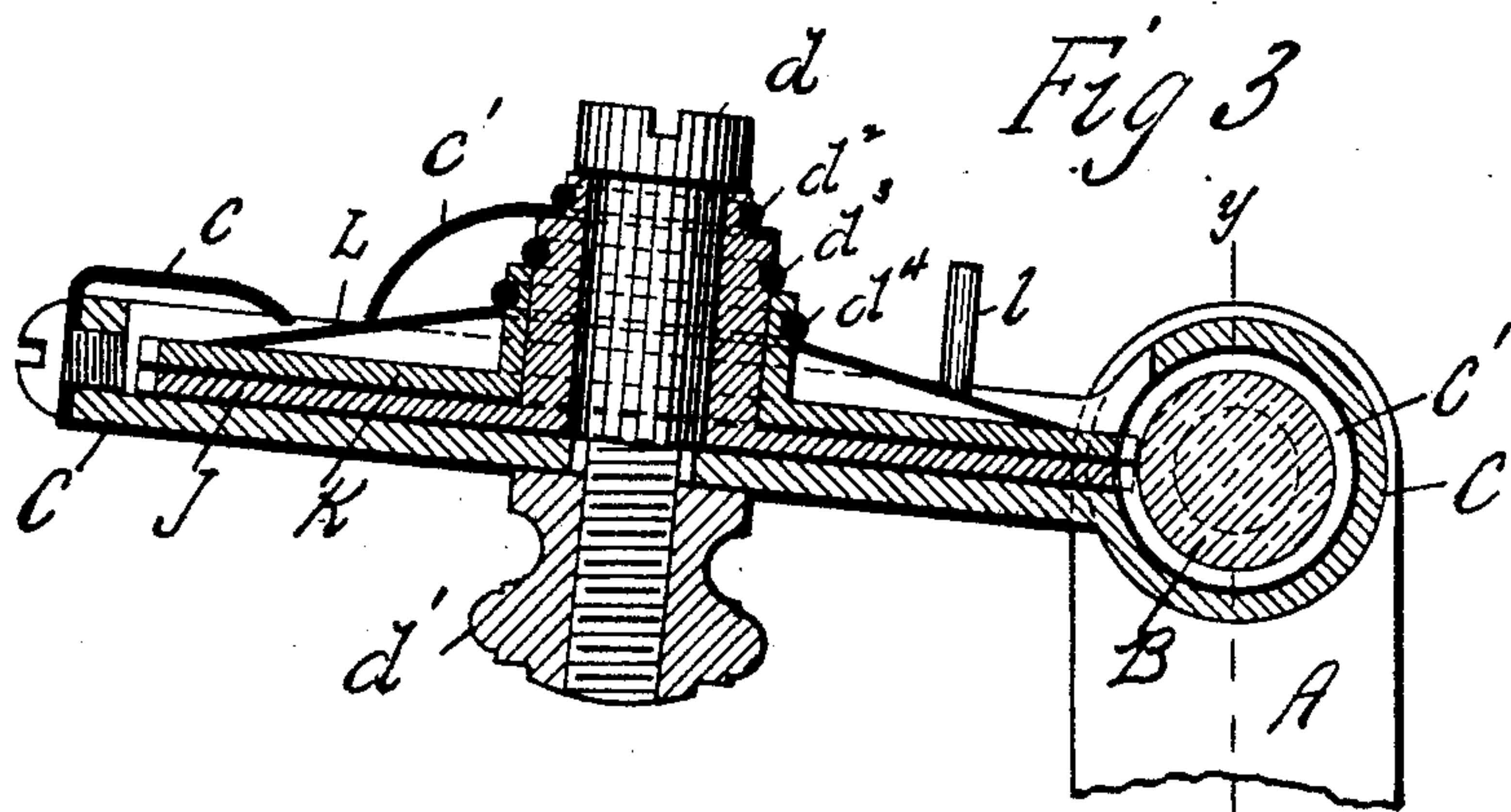
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Fig 5:

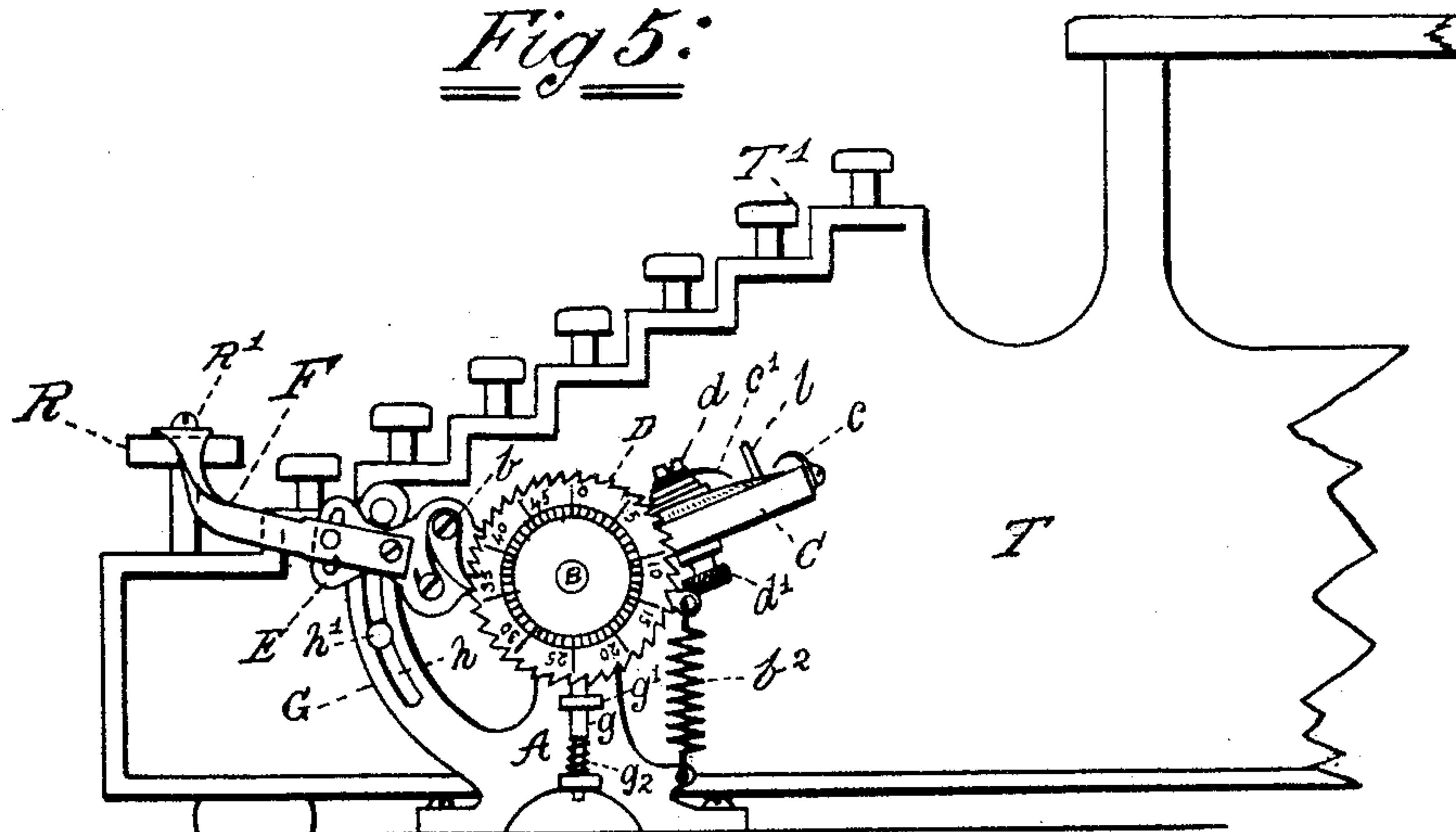
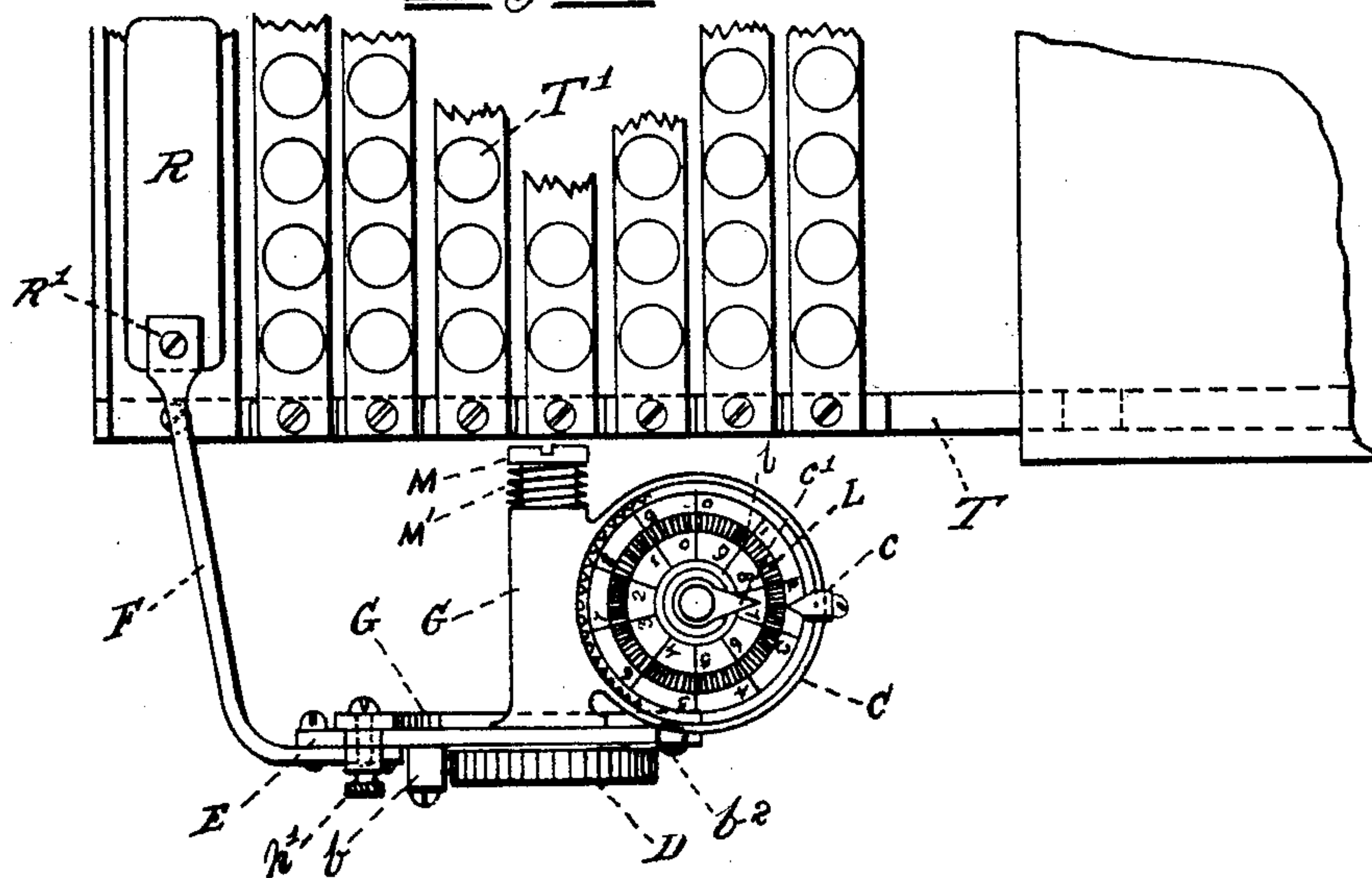


Fig 6:



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# UNITED STATES PATENT OFFICE.

CORNELIUS C. E. VAN ALSTINE, OF PATERSON, NEW JERSEY, ASSIGNOR OF  
THREE-FOURTHS TO JOHN G. STEAD, ALBERT D. WINFIELD, AND BEN-  
JAMIN CARLEY, OF SAME PLACE.

## WORD-REGISTER FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 584,715, dated June 15, 1897.

Application filed April 4, 1896. Serial No. 586,174. (No model.)

*To all whom it may concern:*

Be it known that I, CORNELIUS C. E. VAN ALSTINE, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Word-Registers for Type-Writing Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of the invention is to provide a device for registering the number of words written by a type-writer and to enable the operator to ascertain by a glance at the indicator just how many words or folios have been written or what amount of work has been done by the machine.

With these objects in view the invention consists in a novel construction and combination of parts of a word-register for type-writing machines, as will be hereinafter fully described and claimed.

I have illustrated my invention in the accompanying drawings, in which—

Figure 1 is a view in end elevation of the register, showing the means for connecting it with the space-bar of a type-writing machine. Fig. 2 is a view in plan. Fig. 3 is a view in longitudinal section, on an enlarged scale, taken on the line *xx*, Fig. 2. Fig. 4 is a view in transverse section, on an enlarged scale, taken on the line *yy*, Fig. 3. Fig. 5 is a view in side elevation of a type-writing machine, partly broken away to show the manner of connecting the register with the space-bar of the machine. Fig. 6 is a view in plan of the same.

Referring to the drawings, A designates a stand or support for the registering device, and mounted in suitable bearings on this support is a worm-shaft B, to one end of which is secured a lever E, connected at its outer end by an arm F in any suitable manner with the space-bar R of the type-writing machine and at its inner end by a tension-spring *b*<sup>2</sup> with the base of the stand A.

A tension-screw M is screwed into one end of the worm-shaft B, and a spiral spring M' is placed around the neck of the said screw be-

tween the head thereof and the stand A for the purpose of preserving the proper tension between the worm-shaft and the worm-wheels J and K.

The lever E is provided with a pawl *b*, adapted to engage the teeth of an index ratchet-wheel D, secured to one end of the worm-shaft B, a spring *b*<sup>1</sup> serving to keep the pawl in engagement with this ratchet-wheel, and arranged below this wheel D and working in a guide *g*<sup>1</sup> on the stand A is a vertically-disposed pawl or catch *g*, which is held normally in engagement with the ratchet-wheel by means of a spring *g*<sup>2</sup> and operates to prevent backlash thereof. Arranged adjacent to the stand A is a bracket G, having a vertical slot *h* therein, in which regulating stop-pins *h*<sup>1</sup> are secured to limit the sweep of the arm F and lever E, to which it is secured. The spring *b*<sup>2</sup> at the outer end of the lever holds it and the arm F normally up against the upper stop-pin *h*<sup>1</sup>, which is secured by a nut in the slot *h*, and when the arm F is forced down by the operator striking the space-bar R it contacts with the lower regulating stop-pin *h*<sup>1</sup> and is thereby regulated in its movement.

When the lever E is moved by the motion of the space-bar, the pawl *b* thereon moves the ratchet-wheel D a distance equal to one tooth and at the same time rotates the worm-shaft a short distance, and when the space-bar is released the tension-spring *b*<sup>2</sup> causes the lever E and arm F to resume their normal positions. The ratchet-wheel D is here shown as provided with fifty teeth; but the number of teeth may be increased or diminished according to the requirements of the case. In this instance the wheel K has one hundred teeth and the wheel J one hundred and one teeth.

The worm C' of the worm-shaft engages the teeth formed in the periphery of the two index worm-wheels J and K, which are arranged one above the other in a worm-wheel holder C, supported on the stand A. The worm and worm-shaft are incased or covered except at the point where the worm-wheels engage the worm, by which arrangement they are effectively protected from dust and dirt.



The worm-wheels are each provided with a hub, the hub of the upper wheel K fitting snugly around the upward-extending hub of the lower wheel J, a stud  $d$ , extending through the hub of this latter wheel, serving to hold the two wheels in operative position with relation to the worm. The opening in the holder C through which the stud  $d$  passes is oblong in order to permit of the worm-wheels being moved to or from the worm to effect the proper adjustment between these parts, a nut  $d'$  on the lower end of the stud serving to hold the stud in its adjusted position.

Fitting around the hub of the upper worm-wheel K is an inverted saucer or dish-shaped dial-plate L, which is held in place by a lock-ring  $d^4$ , sprung into an annular recess formed in the hub of this wheel, the wheel K being held in place by a lock-ring  $d^3$ , sprung into an annular recess formed in the hub of the lower worm-wheel J, which projects above the hub of the wheel K' for this purpose. An indicator-finger  $c'$  fits around the hub of the wheel J and rests on a shoulder formed thereon and is held in place by a lock-ring  $d^2$ , sprung into an annular recess in the upper portion of the hub of the lower wheel J. The dial is provided with a stud  $l$ , by which it may be turned to set it by moving it to the starting or zero point. In addition to the indicator-finger  $c'$  there is a second finger  $c$ , secured to the edge of the shell or worm-wheel holder C, the function of which will presently appear. The lower wheel J drives the finger  $c'$  and the upper wheel K drives the dial L.

The dial L bears two graduated circles, the outer one of which registers the hundreds and the inner one the thousands, the finger  $c$  pointing to the outer circle and the finger  $c'$  pointing to the inner circle. As the lower worm-wheel J has one more tooth than the upper worm K, when the latter has completed one revolution the former has gone one tooth farther and the finger  $c'$  will indicate or point out one space on the inner circle of the dial, which means that as many words have been registered as there are indicated by the finger  $c$  or that ten thousand words have been written. The finger  $c$ , having indicated ten spaces or ten thousand words, will begin again at zero, and so on. It is obvious that when the ratchet-wheel D has fifty teeth I can register up to five hundred thousand words. If the wheel D has one hundred teeth, I can register one million words.

The register may be secured on either side of a type-writing machine, or it may be placed behind the same, or it may be a detachable and complete piece of mechanism, which may be attached to and detached from a type-writing machine at will—as, for instance, by a rod H, Fig. 1. Whether the attachment of the device to the machine be permanent or otherwise is immaterial, as either may be adopted without departing from the spirit of the invention. The lever E is provided with

a slot  $e$ , and a screw  $e'$  is passed through this slot and through the arm F, securing the arm and the lever in any desired position along the slot  $e$ , which permits of adjustment of the arm F, according to the height of the type-writing machine space-bar, as shown in Figs. 1, 5, and 6.

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

1. A word-register for type-writing machines, comprising a worm-shaft having a ratchet index-wheel thereon operated by suitable interposed mechanism from the spacing-bar of the type-writer, two worm-wheels in mesh with the worm, and having unequal numbers of teeth, a dial arranged above the upper worm-wheel and secured to the lower worm-wheel, a pointer carried by the lower worm-wheel and arranged above the said dial, and means for holding the parts assembled, substantially as described.

2. A word-register for type-writing machines, comprising a worm-shaft having a ratchet index-wheel thereon operated by suitable interposed mechanism from the spacing-bar of the type-writer, two worm-wheels in mesh with the worm, and having unequal numbers of teeth, a dial arranged above the upper worm-wheel and secured to the lower worm-wheel, a pointer carried by the lower worm-wheel and arranged above the said dial, means for holding the parts assembled, and a stationary pointer supported adjacent to the dial and independently of the worm-wheels, substantially as described.

3. The combination with a stand arranged adjacent to a type-writing machine, of a disk or plate supported by the stand and constituting a holder, worm-wheels arranged in the holder, said wheels having unequal numbers of teeth and provided each with a hollow hub adapted to fit one within the other, means for locking each wheel in place independently of the other, a worm-shaft having a ratchet index-wheel thereon operated by suitable interposed mechanism from the spacing-bar of the type-writer, a dial arranged above the upper worm-wheel and secured to the lower worm-wheel, a pointer carried by the lower worm-wheel and arranged above the said dial, and a stationary pointer supported adjacent to the dial and independently of the worm-wheels, substantially as described.

4. A word-register for type-writing machines, comprising a frame, a worm-shaft and a worm-wheel holder mounted on the frame, a ratchet index-wheel on the shaft, a lever carrying a pawl to operate the index-wheel, a series of worm-wheels mounted in the holder or shell, and provided with different numbers of teeth, a dial-plate marked off for hundreds, thousands and hundreds of thousands, secured to and adapted to rotate with the upper worm-wheel, a center dial-finger secured to the upper portion of the hub of the lower worm-wheel and adapted to



turn therewith, a stud passing axially through openings in hubs of the worm-wheels and worm-wheel holder, a securing-nut screwed on the bottom of said stud below the worm-wheel holder, a dial-finger secured to the rim of the said holder, lock-rings engaging annular grooves in the worm-wheel hubs, said rings being adapted to hold the dial-plate, the upper worm-wheel and center dial-finger in position, a tension-spring having one end secured to the base of the frame, and the other end attached to the outer end of said lever, an upright or bracket having a slot, stop-pins adapted to be secured at any points in said slot to regulate the sweep of the lever, and a guide-catch secured to the frame in position to engage the ratchet index-wheel, in combination with the spacing mechanism of the type-writing machine, and means for connecting the lever with the said spacing mechanism, substantially as described.

5. An attachment for type-writing machines, consisting of a frame, a worm-shaft and an index ratchet-wheel mounted thereon, a lever fulcrumed on the shaft and carrying a pawl for operating the ratchet-wheel and shaft, a worm-wheel holder attached to said frame and provided with an oblong slot in its bottom, two worm-wheels, having different numbers of teeth, placed in said holder one above the other, and adapted to be engaged and turned by said worm, a dial-plate and dial-fingers, a stud passing axially through said dial-finger, dial-plate, hubs of worm-wheels and shell or holder, a nut secured to

the bottom of said stud beneath the holder to hold the parts assembled, a spring stop-catch secured to frame to engage said ratchet index-wheel as described, and mechanism connecting the lever with the space-bar of a type-writing machine, substantially as described. 40

6. In a word-registering device for type-writing machines, the combination of the space-bar-operating mechanism, means for connecting the space-bar with a lever of a word-registering device, a shaft provided with a worm and an index ratchet-wheel, a spring-pressed pawl on the lever to engage the said ratchet-wheel, a frame to support the worm-shaft, worm-wheels operated by the worm, said worm-wheels having different numbers of teeth, a holder or shell for the worm-wheels mounted on said frame and covering parts of the worm-shaft, a tension-screw surrounded by a spring screwed into one end of the worm-shaft to keep the worm-wheels in proper operative position with relation to the worm, a tension-spring, one end of which is attached to the outer end of lever and the other end to the base of frame, a slotted bracket, stop-pins in the slot of the bracket to regulate the sweep of the said lever, a pin passing through the lever and slot in the bracket, and means for varying the plane of lever, as desired, substantially as described. 50 55 60 65

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Witnesses:

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M. W. MAGUIRE.