

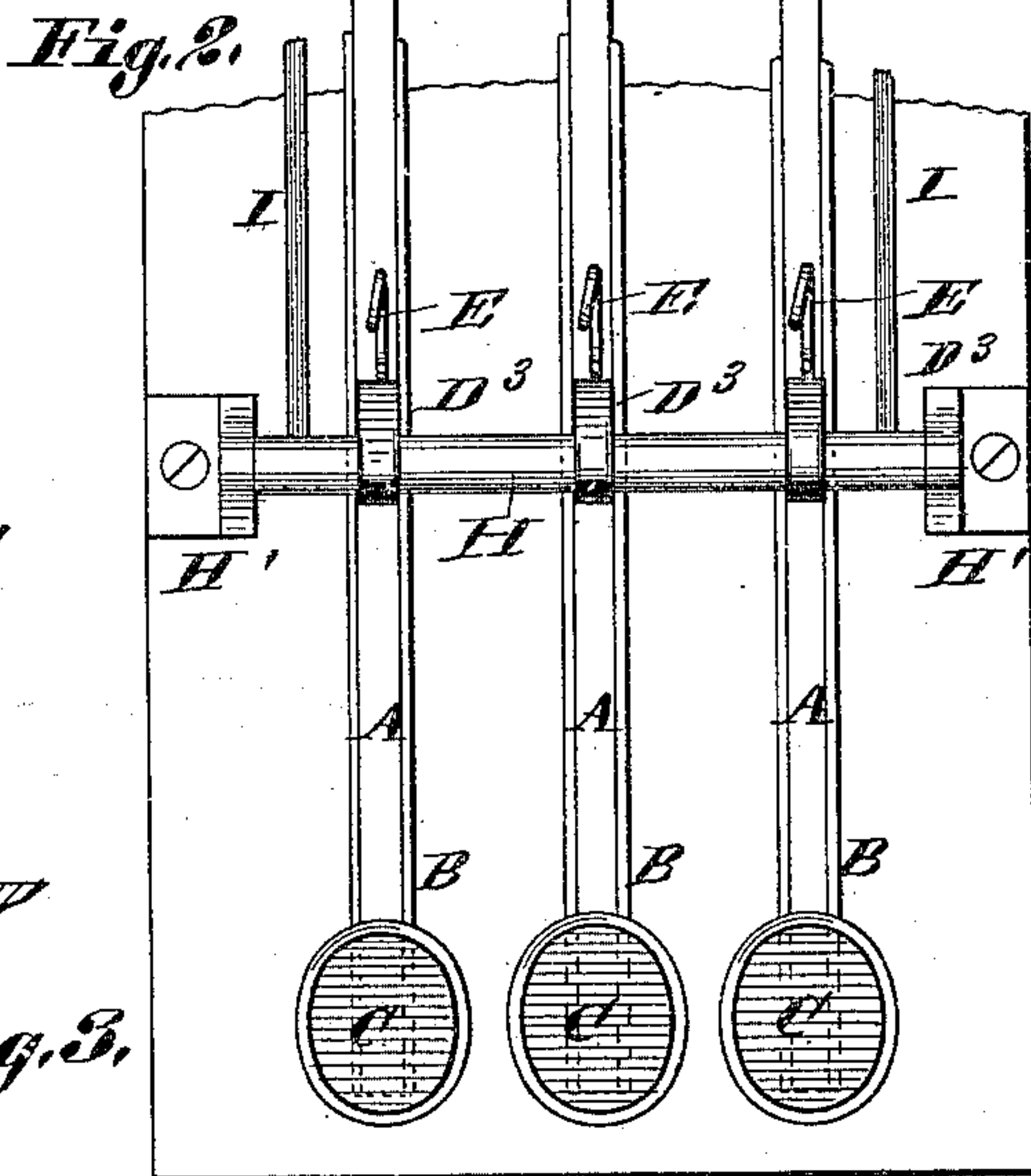
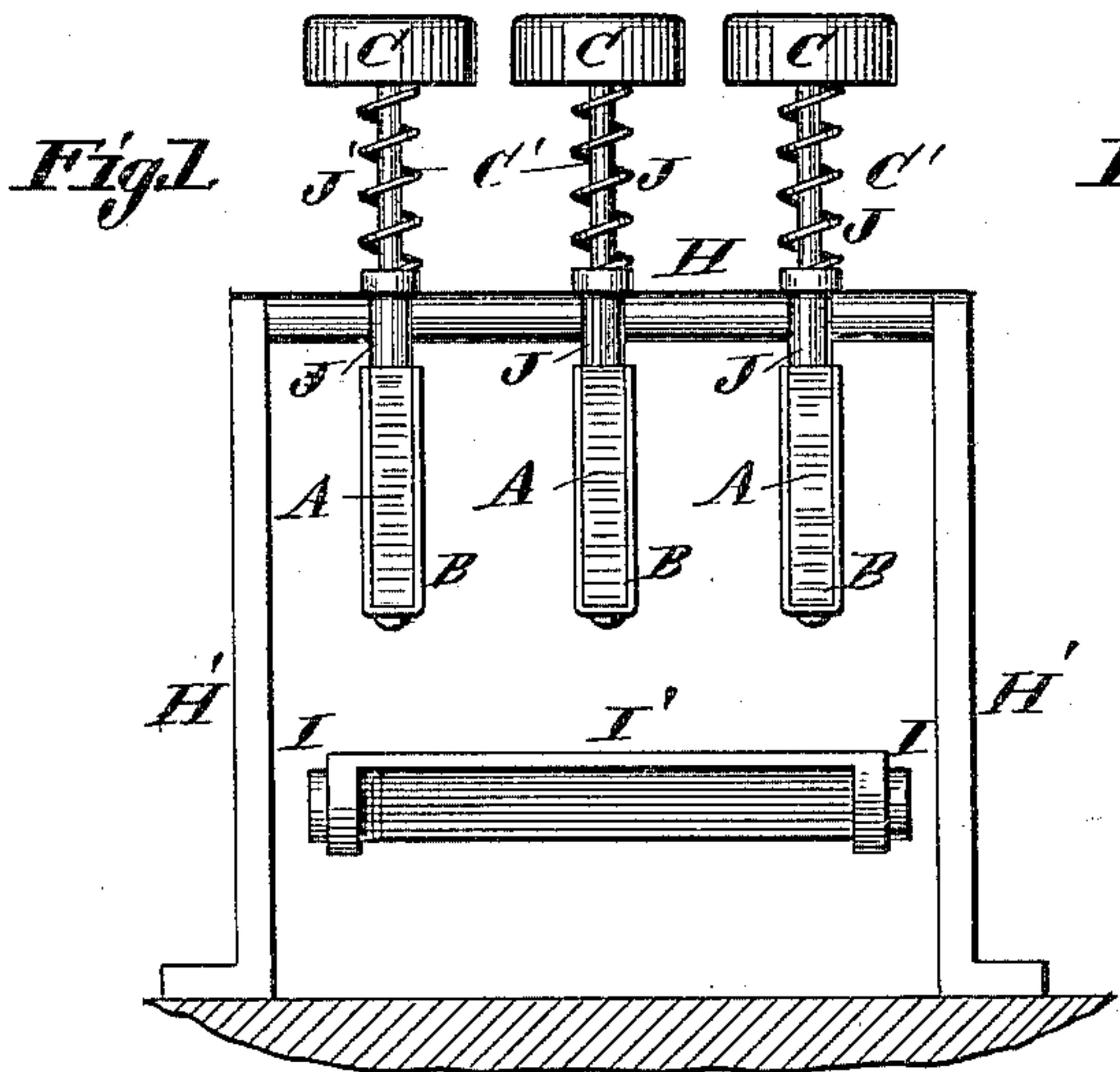
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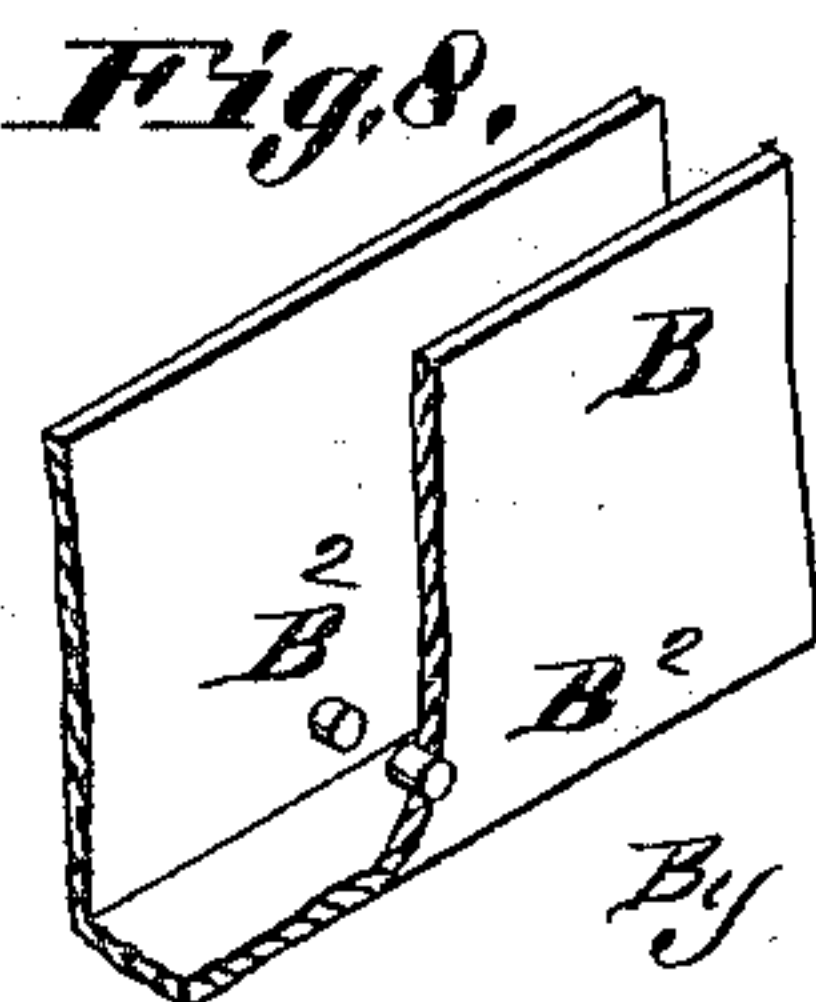
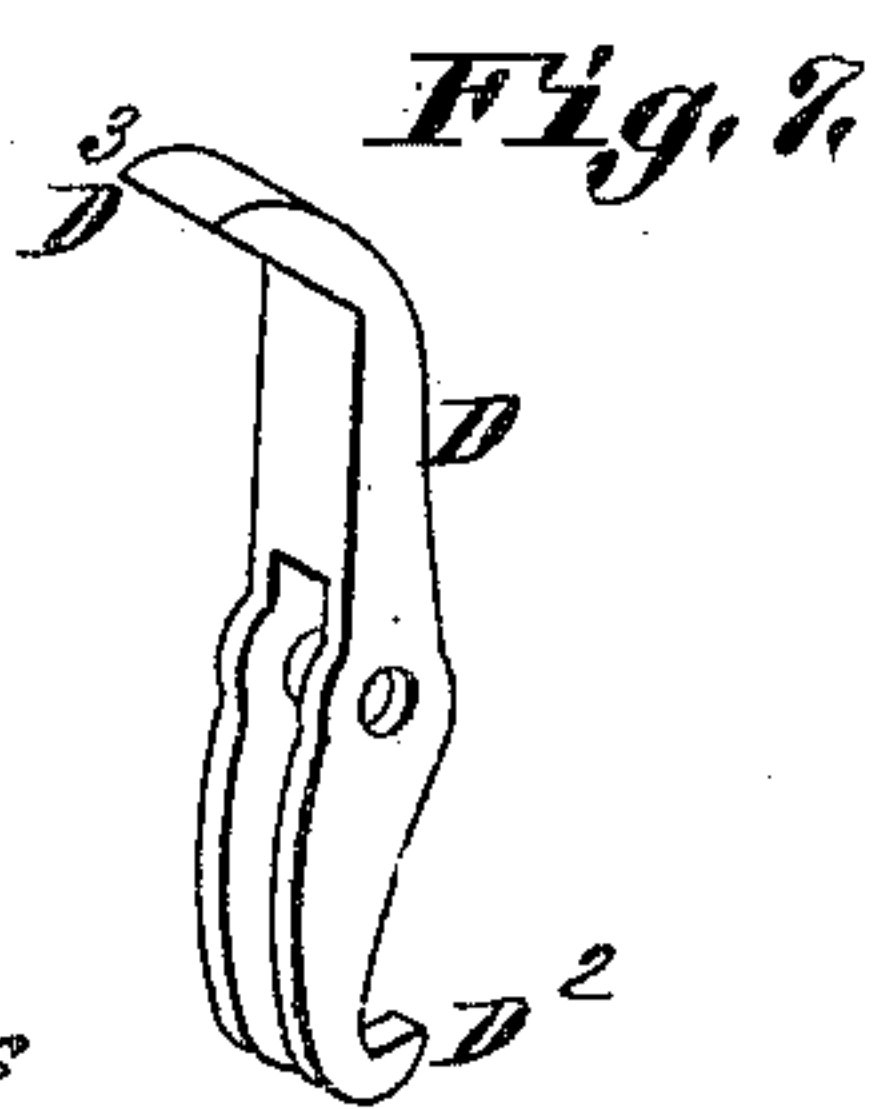
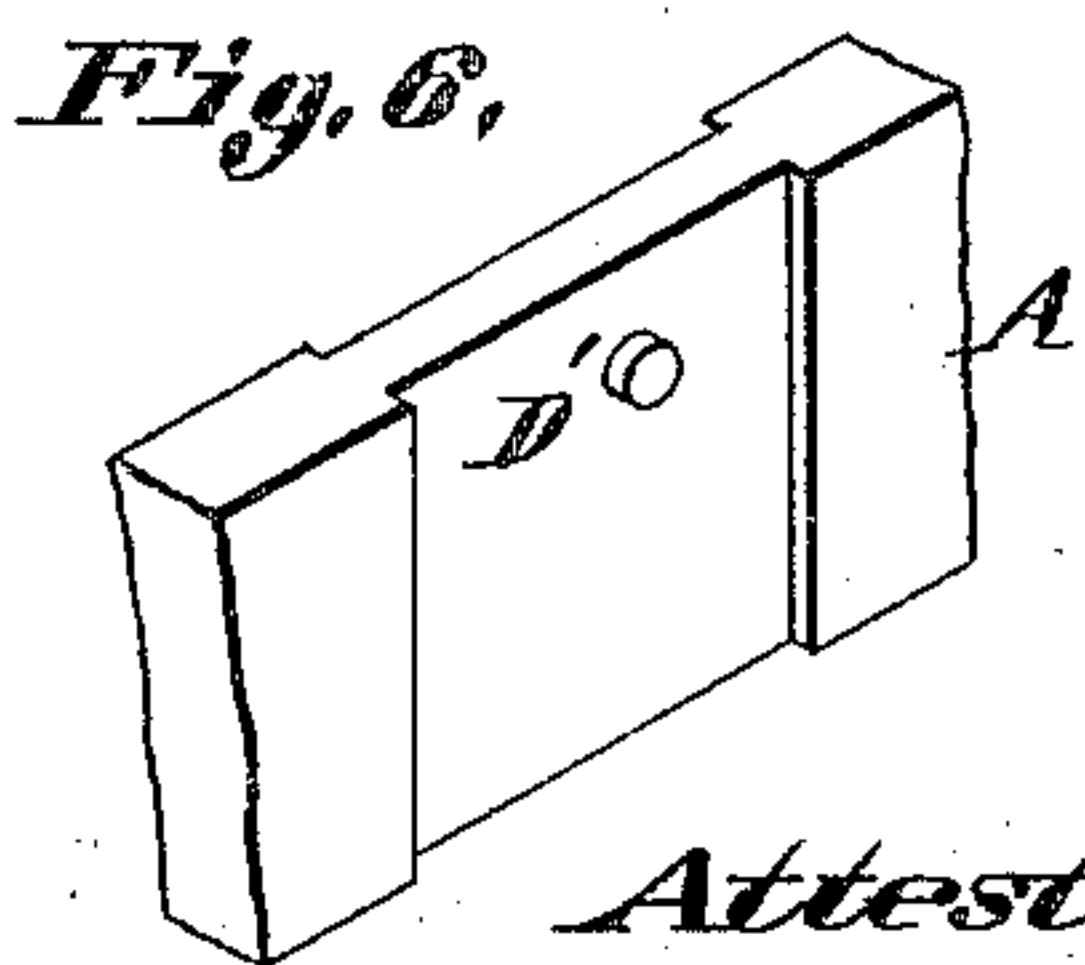
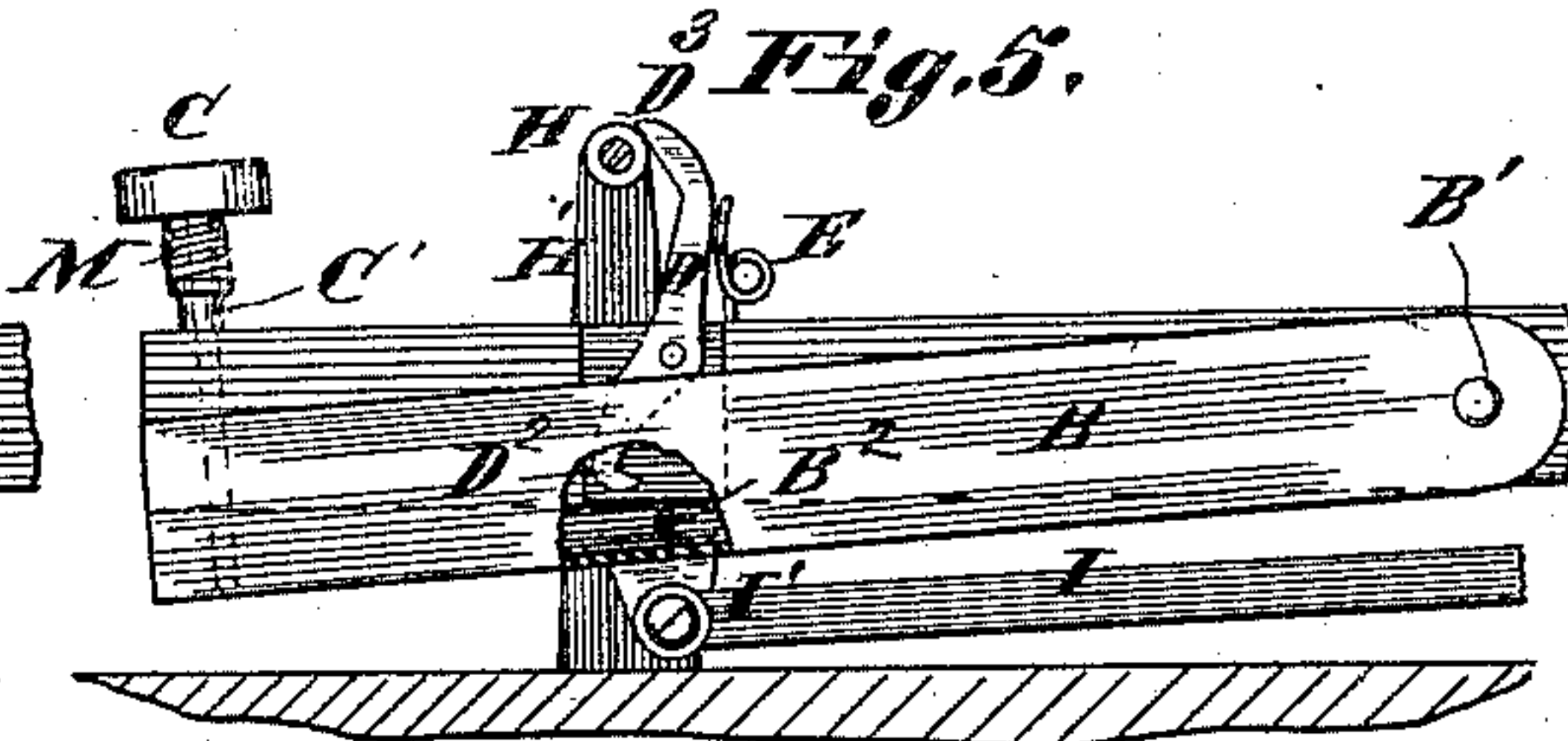
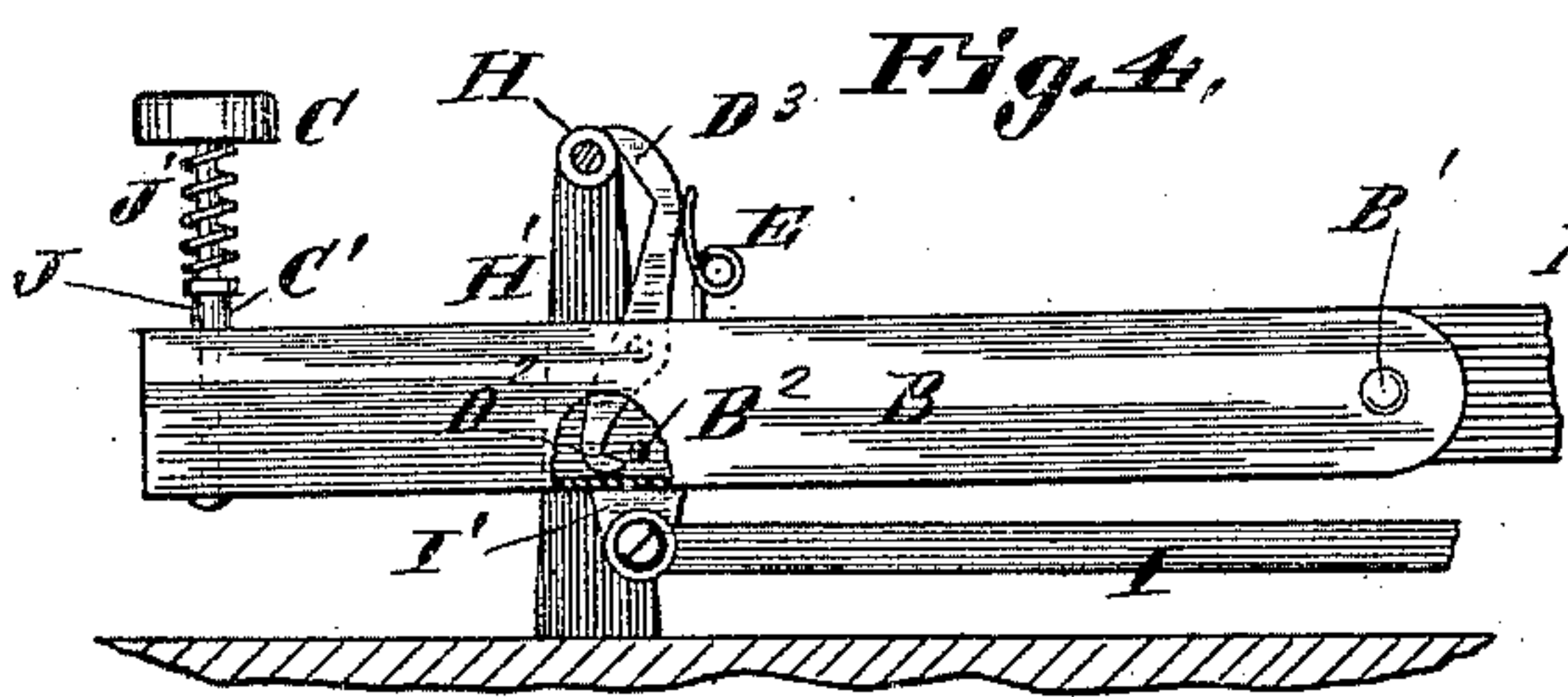
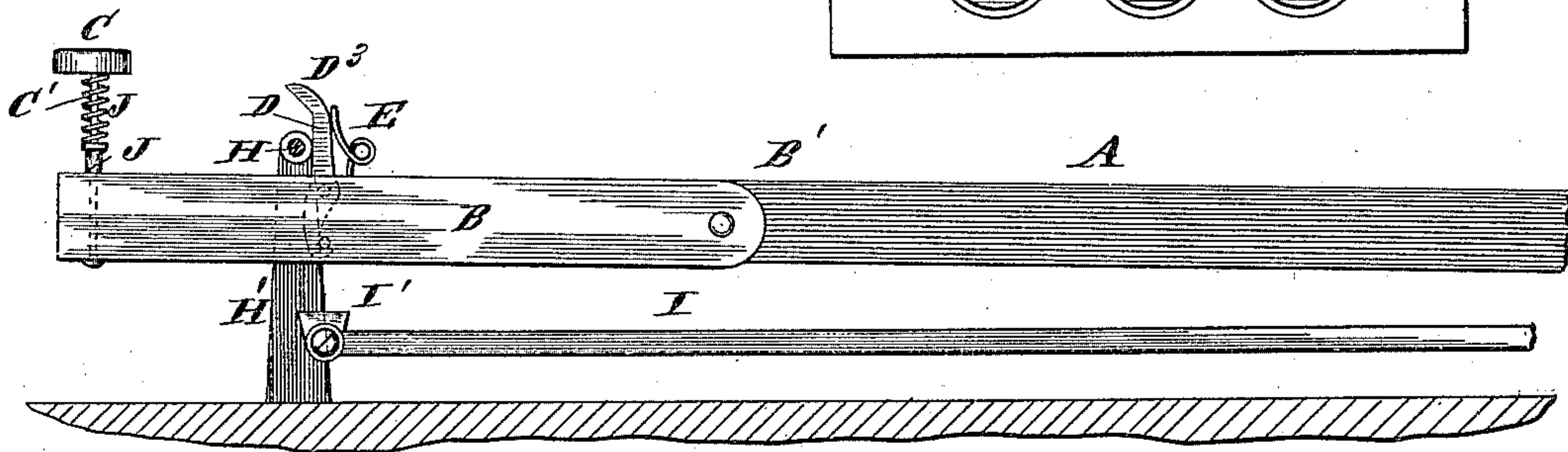
G. H. LASAR.  
TYPE WRITING MACHINE.

No. 415,527.

Patented Nov. 19, 1889.



*Fig. 3.*



Attest:  
Charles Pickles  
*F. A. [Signature]*

Inventor;  
Godfrey H. Lasar  
By *Knight Bros*  
attys

(No Model.)

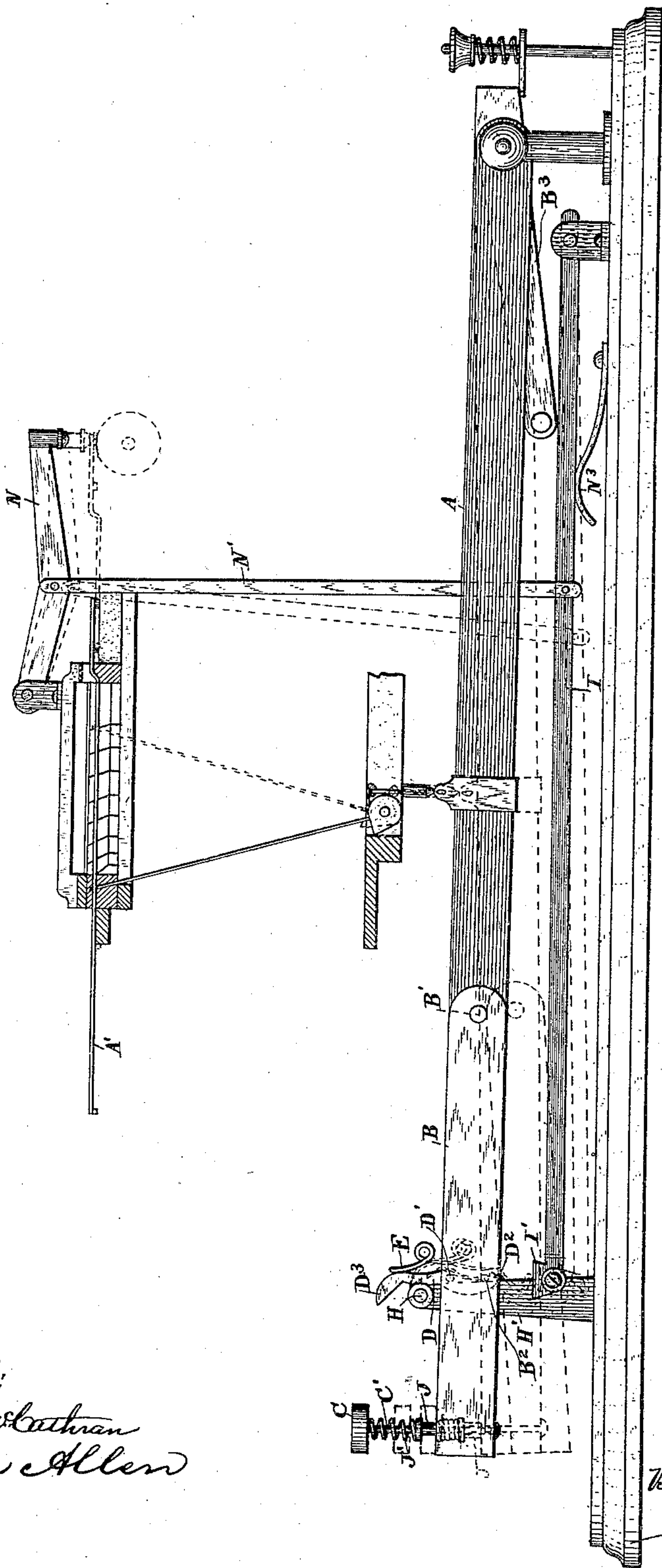
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TYPE WRITING MACHINE.

No. 415,527.

Patented Nov. 19, 1889.

Fig. 9.



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By *Ernie H. H. H.*  
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# UNITED STATES PATENT OFFICE.

GODFREY H. LASAR, OF ST. LOUIS, MISSOURI.

## TYPE-WRITING MACHINE.

**SPECIFICATION** forming part of Letters Patent No. 415,527, dated November 19, 1889.

Application filed October 11, 1886. Renewed July 23, 1888. Again renewed May 16, 1889. Serial No. 311,007. (No model.)

*To all whom it may concern:*

Be it known that I, GODFREY H. LASAR, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Type-Writing Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a front elevation of a key-board with my improvement applied, only three keys and the front portion of the key-board and key-levers being shown. Fig. 2 is a detail top view of same. Fig. 3 is a detail vertical section of same. Figs. 4 and 5 are detail sections of same, illustrating the operation of the key-lever. Figs. 6, 7, and 8 are enlarged perspective views of different parts of one of the key-levers. Fig. 9 is a side elevation, part in section, showing the application of my invention to a type-bar, operating rod or lever therefor, and hammer and operating-rod therefor, the operation of the parts being shown in dotted lines.

My invention relates to certain improvements in that class of type-writers in which a hammer is employed to strike the type-bars after they have been brought into printing position to produce the printing—such form of type-writer, for instance, as is shown and described in my application Serial No. 215,911—this invention relating entirely to the form or construction of the key-levers whereby the type-bars are first brought into position for printing and the hammer then brought down upon the bars to effect the printing.

This invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Referring to the drawings, A represents the key-levers of a type-writer, only three keys and key-levers being shown. Pivoted to the front end of each key-lever at B' is a strap or piece B, preferably made U-shaped in cross-section, as shown in Fig. 8. To the forward ends of these straps the stems C' of the keys C are secured, the stems passing through the outer ends of the levers A.

D represents a dog pivoted at D' to each key-lever inside the strap B, the inner end of the dog having hooks D<sup>2</sup>, engaging pins or projections B<sup>2</sup> on the lower part of the strap

or piece B. The projections D<sup>2</sup> are held into engagement with the pins B<sup>2</sup> by a spring E on each key-lever pressing against the upper part of the dog, as shown in Figs. 3, 4, and 5. The dog thus serves to connect the piece or strap B to its key-lever, and until it is moved (as hereinafter described) forms virtually one member of the two pieces or parts. Thus when a key is depressed the movement of the key-lever causes the type-bar A' to be brought into printing position, as shown in dotted lines in Fig. 9, and as soon as this is done the upper overhanging end D<sup>3</sup> of the dog D comes against a rod or bar H, supported on the upper ends of standards H', and the dog is forced from the position shown in Fig. 3 to the position shown in Figs. 4 and 5, the projections D<sup>2</sup> being thrown out of engagement with the pins B<sup>2</sup>, thus unlocking the strap or part B from the key-lever A except at the pivot-point B', the key-lever being sustained, as usual, by a spring-frame B<sup>3</sup>. The part B is now allowed or permitted to be moved downward from the position shown in Fig. 4 to the position shown in Fig. 5 by a further depression of the key. This movement causes a depression of a hinged frame I, having a cross-bar I' arranged beneath the parts B of the key-levers, and, the frame I being supported on a spring N<sup>3</sup> and connected to the hammer N by a rod or bar N', (shown in my application above referred to, though the upper end of the bar N' is connected to the hammer on the rear side of the pivot-point of the hammer from that shown in said application,) it will be seen that the hammer will be brought down on the type-bar by this additional movement of the part B of the key-lever. This device provides a simple and effective method of causing the descent of the hammer after the type-bars have been moved to printing position, and it is done by the simple depression of a single key.

In order to bring the part B back into line with the key-lever A automatically and cause it to be connected again to the key-lever by the dog D, I place a sleeve J around the stem C' of each key and locate a spring J' between the sleeve and the head of each key, the sleeve fitting between the spring and the upper edge of its key-lever, and it is compressed in the movement of the part B from the po-



sition shown in Fig. 4 to the position shown in Fig. 5, as shown at M, Fig. 5. As soon as the pressure is removed from the key and the key-lever commences to rise this spring J' restores the part B of the key-lever to its normal position and causes the pins B<sup>2</sup> to be again engaged by the dog D.

I have shown the lower end of the dog D bifurcated, so as to straddle the part A of the key-lever, which is mortised, as shown in Fig. 6, to receive it.

I have shown the keys C of novel construction or form in that they are oval in shape, and the object of thus forming them is partly to produce a better striking or bearing surface for the fingers and partly for the purpose of rendering them more compact and giving more room with the same area of surface upon which to mark the letters, characters, or figures.

I claim as my invention—

1. In a type-writer, in combination with a key-lever, the piece B, pivoted to the key-lever and provided with a pin or projection, spring-dog pivoted to the key-lever and arranged to engage said projection, rod or bar against which the upper end of the dog impinges, a key for operating the key-lever and piece B, and a frame I, substantially as set forth.

2. In a type-writer, in combination with a key-lever and piece B, hinged to the key-le-

ver and provided with a projection, a spring-dog arranged to engage the projection on the piece B and having a projection on its upper end, a stationary rod or bar against which the projection on the upper end of the dog engages, a frame I, arranged beneath the piece B, a key for operating the key-lever and piece B, and a spring for restoring the piece B to its normal position, substantially as set forth.

3. In a type-writer, in combination with a key-lever and piece B, provided with a projection and hinged to the key-lever, a dog pivoted to the key-lever and having upper and lower projections, a rod or bar against which the projection on the upper end of the dog impinges, a frame I beneath the piece B, a key having a stem passing through the key-lever and connected to the piece B, a collar surrounding the stem above the key-lever, and a spring located between the collar and the finger-piece, substantially as and for the purpose set forth.

4. In a type-writer, in combination with a key-lever and a frame I, a piece B, pivoted to the key-lever, and mechanism, substantially as described, for disconnecting the piece B from the key-lever automatically, substantially as and for the purpose set forth.

GODFREY H. LASAR.

Witnesses:

SAML. KNIGHT,  
GEO. H. KNIGHT.