

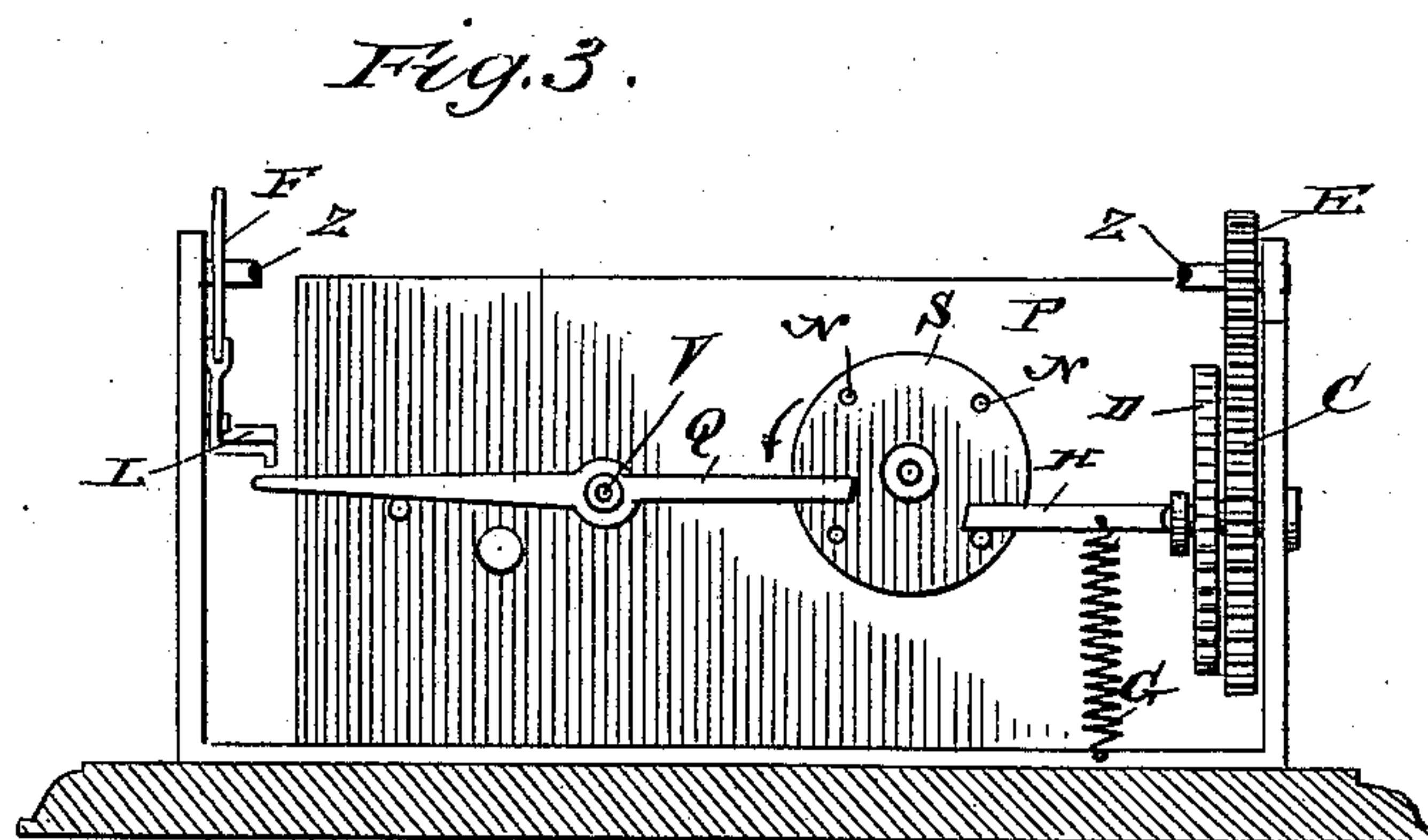
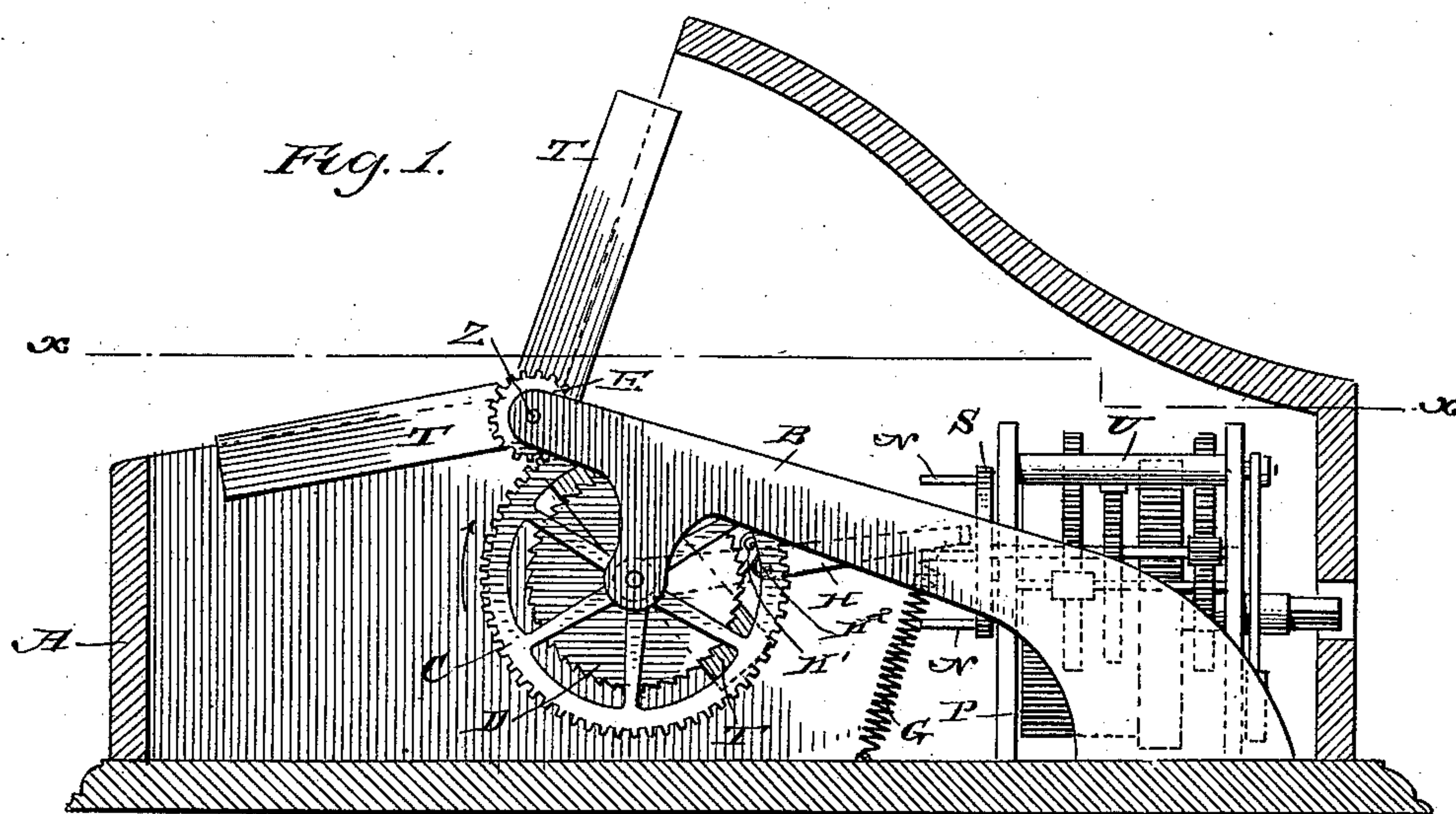
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3 Sheets—Sheet 1.

B. HAMBURG & P. & E. KETTERER.  
AUTOMATIC EXHIBITING APPARATUS.

No. 393,898.

Patented Dec. 4, 1888.



WITNESSES:

*W. R. Davis.*  
*C. Sedgwick.*

INVENTOR:

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*Munn & Co.*

BY

ATTORNEYS.

(No Model.)

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Fig. 2.

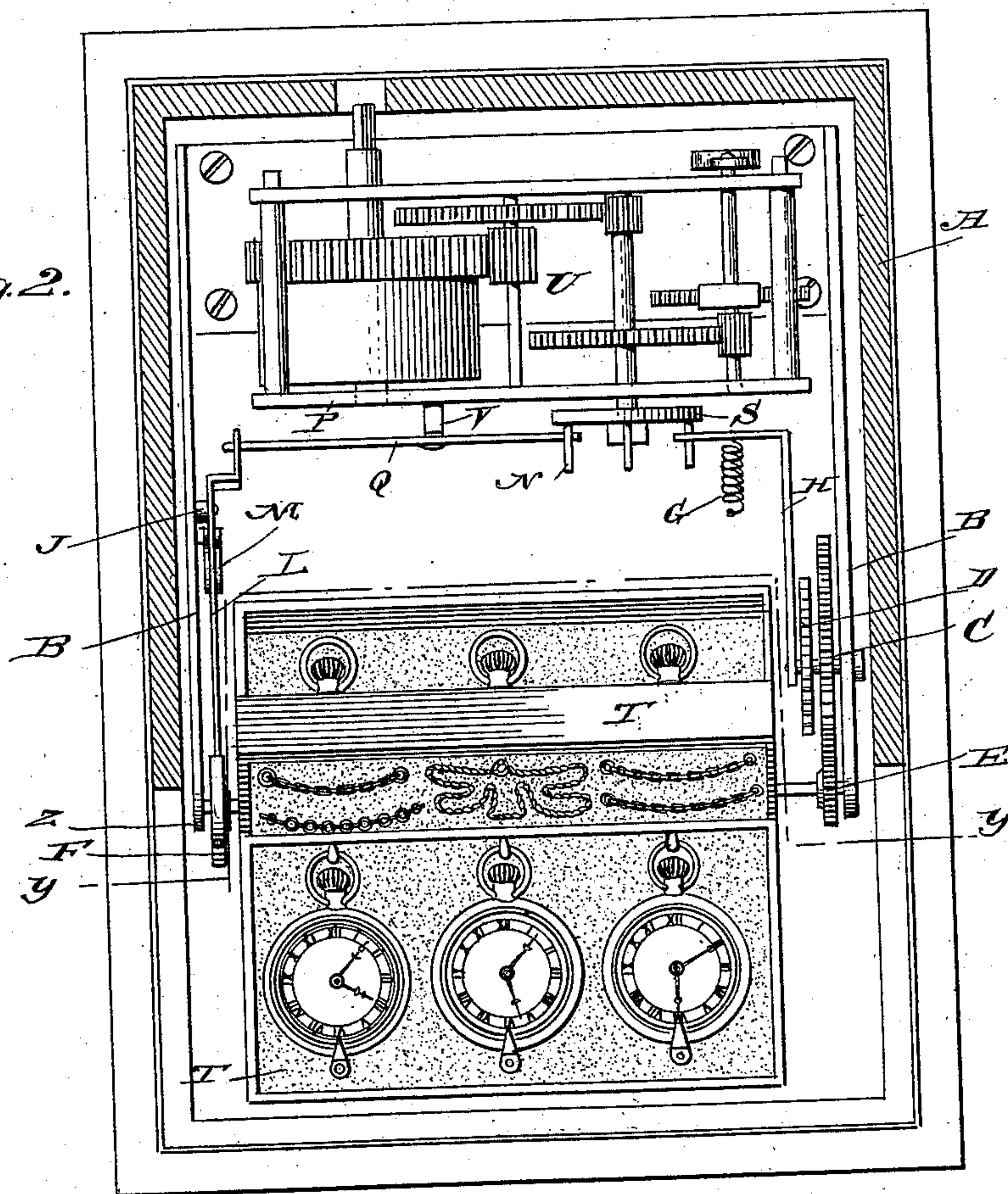
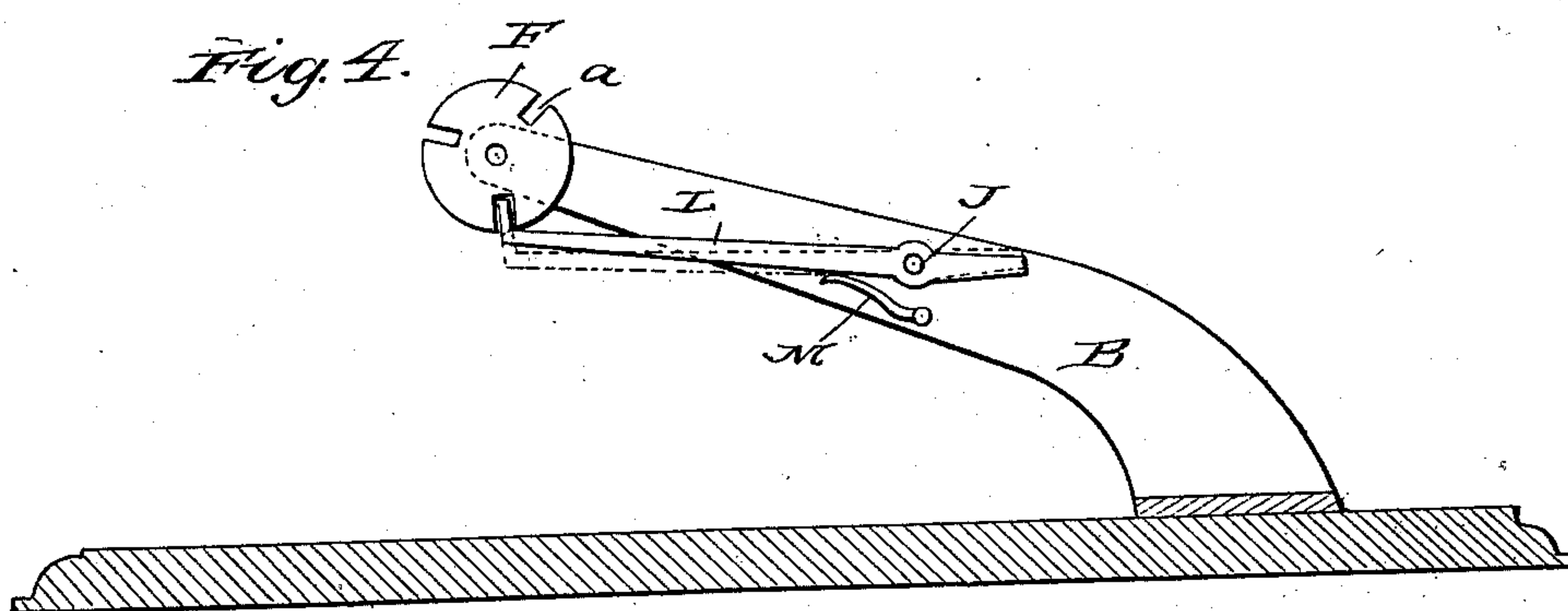


Fig. 4.



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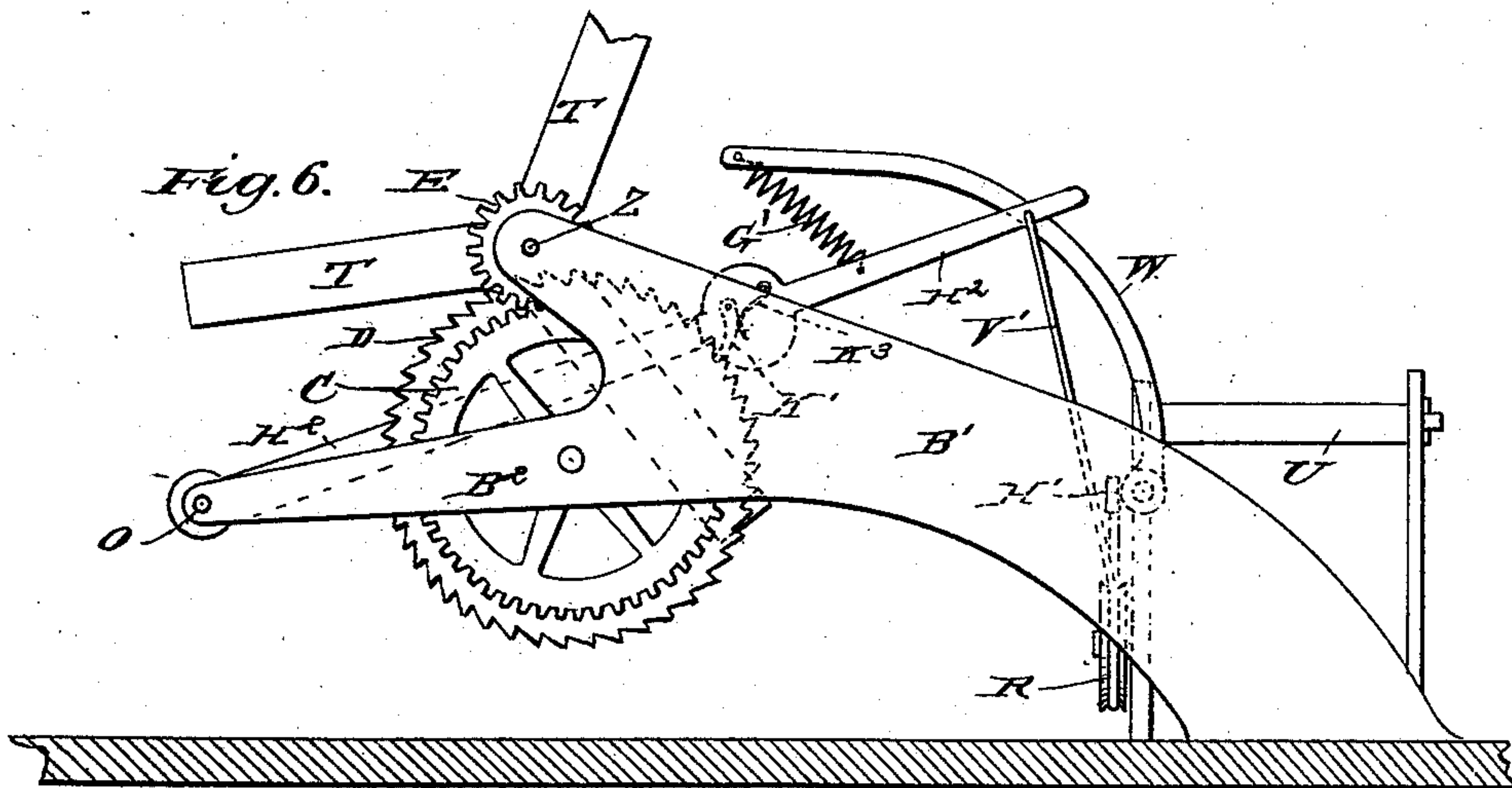
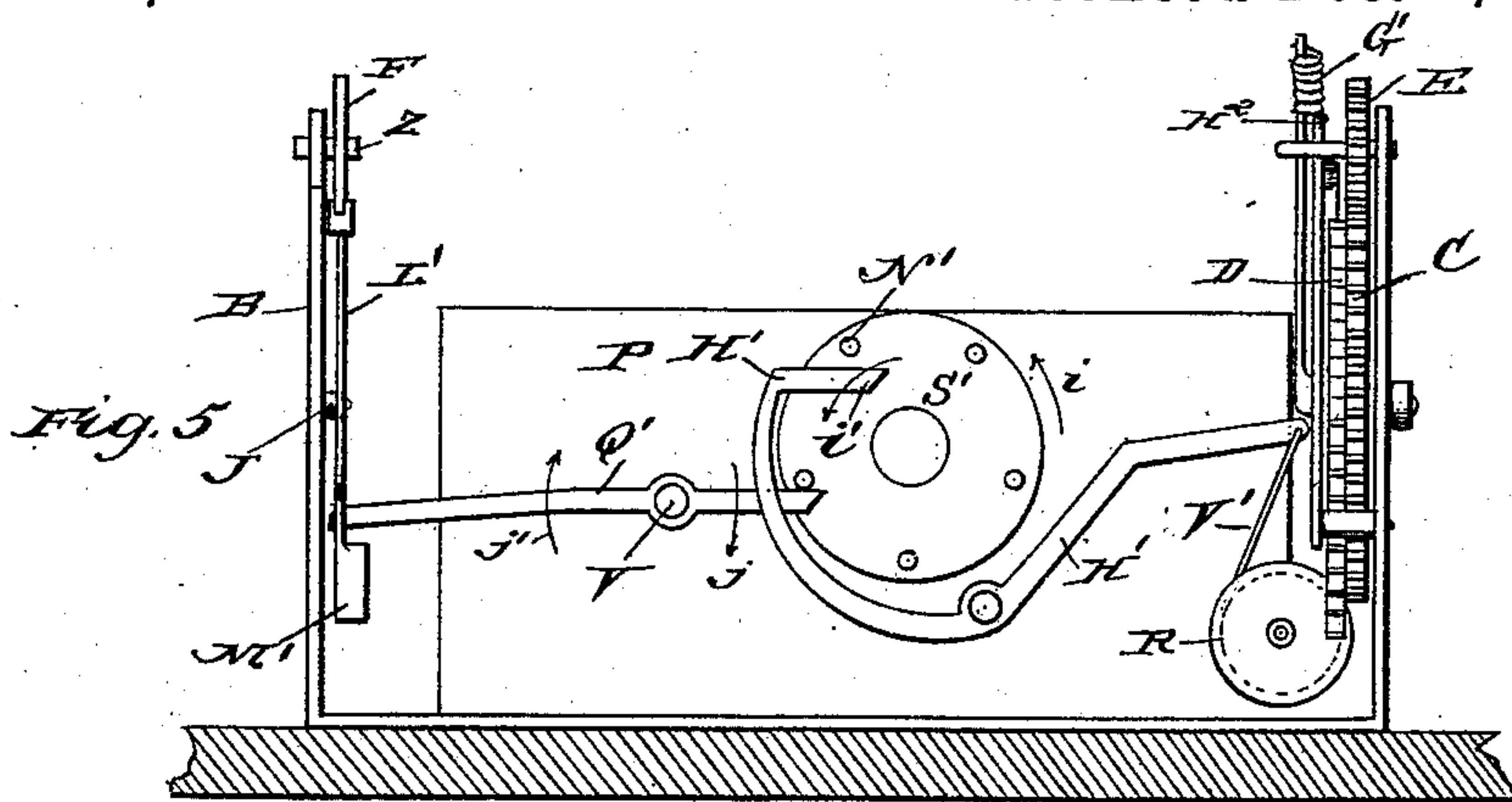
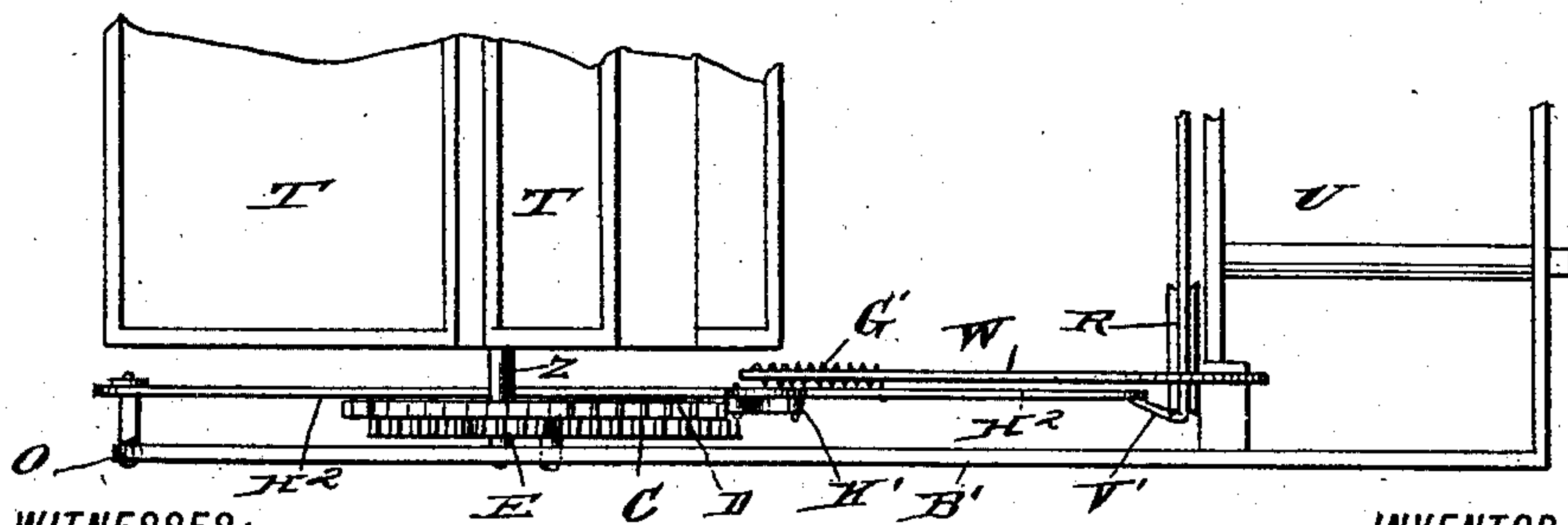


Fig. 7.



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# UNITED STATES PATENT OFFICE.

BERTRAND HAMBURG, PAUL KETTERER, AND EDUARD KETTERER, OF  
FRANKFORT-ON-THE-MAIN, GERMANY.

## AUTOMATIC EXHIBITING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 393,898, dated December 4, 1888.

Application filed October 16, 1888. Serial No. 288,245. (No model.)

*To all whom it may concern:*

Be it known that we, BERTRAND HAMBURG, PAUL KETTERER and EDUARD KETTERER, all subjects of the Emperor of Germany, residents at Frankfort-on-the-Main, Germany, have invented new and useful Improvements in Automatic Exhibiting Apparatus, of which the following is a specification.

Our invention relates to devices for displaying watches, jewelry, and other articles; and its object is to provide an apparatus whereby such articles are automatically caused to pass before the eyes of the spectator intermittently, thus allowing a closer inspection thereof than is possible in apparatus wherein the articles pass continuously before the observer on trays or tables revolving on a vertical axis.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference designate corresponding parts in the several views.

Figure 1 is a sectional side elevation of a machine constructed in accordance with our invention. Fig. 2 is a plan view thereof, partly in section, on the line *x x* in Fig. 1. Fig. 3 is a broken front elevation thereof with the cover of the casing removed. Fig. 4 is a detail side elevation of the locking and releasing mechanism for the tables; and Figs. 5, 6, and 7 are respectively a front elevation, a side elevation, and a partial plan view of a modified construction and arrangement of the lever mechanism for operating the tables.

The casing A, of any preferred dimensions, has a suitable opening at its front through which the articles to be displayed therein may be seen, said articles being attached in any proper manner upon both sides of tables T, radially arranged in connection with each other upon a transverse shaft, Z, journaled in the extremities of upwardly and forwardly projecting brackets B, supported on the base of the casing. Upon the shaft Z, at the right-hand side of said tables, is mounted a gear-wheel, E, while at the left-hand side of said tables is mounted on said shaft a disk, F, provided with radial slots *a* in its periphery, three of such slots being shown in the drawings.

The gear-wheel E meshes with a gear-wheel,

C, journaled below it on the adjacent bracket, B, and having fixed to its shaft next its inner face a ratchet-wheel, D, adapted to be engaged by a pawl, K, pivoted upon a lever, H, and pressed upon by a spring, K<sup>2</sup>, thereon, which lever is pivoted at its outer end upon the shaft which carries the wheels C D, the inner end of said lever being bent horizontally at a right angle and normally drawn downward by a spring, G, attached, respectively, to said lever and the base of the casing, as shown in Figs. 1, 2, and 3 of the drawings.

A lever, L, fulcrumed at J on the bracket B at the left-hand side of the casing, having its outer end bent upward at a right angle and its inner end bent twice at right angles, as shown, respectively, in Figs. 4 and 2 of the drawings, is normally pressed upward by a flat spring, M, secured beneath it to said bracket B, so as to cause the outer bent end of said lever to enter one of the slots *a* in the disk F, as shown in Fig. 4.

The apparatus is actuated by any suitable clock-work mechanism, U. A disk, S, mounted on a shaft constituting a part of said clock-work and adapted to be rotated in the direction of the arrow shown in Fig. 3, carries on its face a series of pins, N, four being shown in the drawings, which pins are adapted to engage the bent end of the lever H and one member of a double-armed lever, Q, fulcrumed at V on the face of the plate P at the front of the clock-work U.

In operation, as the disk S rotates, the arm of the lever Q adjacent thereto is pressed downward by one of the pins, N, causing the other arm of said lever to rise and lift the adjacent inner end of the lever L, thus disengaging the forward bent end of said lever from the disk F, as shown in dotted lines in Fig. 4. Simultaneously with the disengagement of said disk the inner end of the lever H is raised by the engagement therewith of another of the pins on the disk S against the tension of the spring G, which spring, as the disk further rotates and said pin is disengaged from the lever H, exerts its tension and draws said lever downward to its normal position. (Indicated in full lines in Fig. 1.) As the lever is thus drawn down, the pawl K en-



gages one of the teeth of the ratchet-wheel D, causing said wheel and the gear-wheel C on the same shaft to make a partial rotation, and the wheel C, being meshed with the wheel E on the axis of the tables T, transmits a similar range of motion to said tables. When the tables have made a third of a revolution, the lever L, which has in the meantime been again released from the disk F, as above described, is pressed upward by the spring M, causing its bent end to slip into the next slot in the disk and arrest its motion and that of the tables until the next succeeding pins on the disk S again engage the levers Q and II and cause the disk F to be released and the tables to be rotated again, as above described. These operations are repeated at regular intervals, according to the number of the pins on the disk S and their relation to each other, so as to successively display the articles on both sides of the tables.

In Figs. 5, 6, and 7 of the drawings we show a modified construction of the lever mechanism for effecting the intermittent rotation of the tables T. The disk S', which is mounted to rotate on a shaft connected with the clock-work U, carries a series of pins, N', five being shown in Fig. 5. The lever II' is fulcrumed to the plate P below and slightly at one side of the vertical center of the disk S', and at one side of its fulcrum projects upward and then outward at a slight incline, and is connected by a cord, V', passing therefrom to and over a pulley, R, journaled on the plate P to a lever, II<sup>2</sup>, fulcrumed at O on the outer extremity of a projection, B<sup>2</sup>, of the bracket B', in which are journaled the shafts which carry the tables T and the gear-wheels and ratchet-wheels E C D, respectively. Said lever II' at the other side of its fulcrum curves upwardly, and is then bent inwardly at a right angle partially over the face of the disk S'. The lever Q' is fulcrumed at V on the plate P, but instead of being straight is slightly bent downward at the left of its fulcrum. The lever II<sup>2</sup> carries a pawl, K', normally pressed by a spring, K<sup>3</sup>, on said lever into engagement with the teeth of the ratchet-wheel D, and the inner arm of said lever is connected by a spring, G', to the outer extremity of an upwardly and forwardly projecting arm, W, secured to the end of the plate P. The lever L', which engages with the slots in the disk F, has fixed to its inner end a weight, M'.

In operation, as the disk S' rotates in the direction of the arrow *i*, (shown in Fig. 5,) the levers II' and Q' are engaged by the pins N' adjacent thereto, one arm of the former lever being pressed downward in the direction of the arrow *i'* and one arm of the latter lever in the direction of the arrow *j*. The depression of the arm of the lever Q', as above described, raises its other arm in the direction of the arrow *j'*, thereby raising the weighted end of the lever L and disengaging its other end from the disk F. Simultaneously the other arm of the

lever II' is raised, and through its connection by the cord V' with the lever II<sup>2</sup> draws the latter lever downward against the tension of the spring G', whereupon the pawl K' engages with a tooth of the ratchet-wheel D and turns the same, which motion is transmitted by the gear-wheel C to the gear-wheel E on the axis of the tables T and turns them correspondingly. As the pins N' pass and are disengaged from the levers II' and Q', the spring G' reacts to raise the lever II<sup>2</sup>, its pawl rises and engages the next tooth on the ratchet-wheel D, and the long arm of the lever Q' falls, allowing the weighted end of the lever L to fall again and carry the other end of said lever into engagement with the disk F and arrest the rotation of the tables until the succeeding pins on the disk S' again operate on said levers Q' and II', as above described, the range of rotation of the tables depending, as in the former construction and arrangement, upon the number of pins in the disk S' and their relation to each other.

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

1. An apparatus for exhibiting merchandise, consisting of a casing having a front opening, tables therein radially arranged on a common horizontal axis, a spring-pressed locking-lever engaging a stop on said axis, a ratchet-wheel and a gear-wheel mounted on a shaft below said axis, a spring-controlled lever carrying a pawl engaging said ratchet-wheel, a gear-wheel on said axis meshing with the gear-wheel below the axis, a rotatable disk carrying pins engaging the pawl-lever and also engaging a lever which engages the locking-lever, and clock-work mechanism actuating said disk, substantially as shown and described.

2. In an automatic apparatus for exhibiting merchandise, the combination, with the revoluble shaft Z, the tables T, radially arranged thereon, and the slotted disk F on said shaft, of the lever L, engaging said disk, the lever Q, engaging the lever L, the pin-carrying disk S, engaging the lever Q, and clock-work actuating the disk S, substantially as shown and described, for the purpose set forth.

3. In an automatic apparatus for exhibiting merchandise, the combination, with the revoluble shaft Z, the tables T, radially arranged thereon, and the gear-wheel E on said shaft, of the gear-wheel C and ratchet-wheel D, mounted below said shaft, the lever II, carrying a pawl engaging said ratchet-wheel and normally held down by the spring G, the pin-carrying disk S, engaging said lever, and clock-work actuating said disk, substantially as shown and described, for the purpose set forth.

4. In an automatic apparatus for exhibiting merchandise, the combination, with the revoluble shaft Z, the tables T, radially arranged thereon, and the slotted disk F and gear-wheel E on said shaft, of the lever L, en-



gaging said disk F, the gear-wheel C and ratchet-wheel D, mounted below said shaft, the lever H, carrying a pawl engaging said ratchet-wheel and normally held down by the  
 5 spring G, the lever Q, engaging the lever L, the pin-carrying disk S, engaging the levers H and Q, and clock-work actuating the disk S, substantially as shown and described, for the purposes set forth.

10 5. In an automatic apparatus for exhibiting merchandise, the combination, with the revoluble shaft Z, the tables T, radially arranged thereon, and the slotted disk F on said shaft, of the lever L', engaging said disk, the  
 15 lever Q', engaging the lever L', the pin-carrying disk S', engaging the lever Q', and clock-work actuating the disk S', substantially as shown and described, for the purpose set forth.

20 6. In an automatic apparatus for exhibiting merchandise, the combination, with the revoluble shaft Z, the tables T, radially arranged thereon, and the gear-wheel E on said shaft, of the gear-wheel C and ratchet-wheel D, mounted below said shaft, the lever H<sup>2</sup>,  
 25 carrying a pawl engaging said ratchet-wheel and normally held up by the spring G' and connected to the arm W, the lever H', connected by a cord to the lever H<sup>2</sup>, the pin-car-

rying disk S', engaging the lever H', and clock-work actuating said disk, substantially as  
 30 shown and described, for the purpose set forth.

7. In an automatic apparatus for exhibiting merchandise, the combination, with the revoluble shaft Z, the tables T, radially arranged thereon, and the slotted disk F and  
 35 gear-wheel E on said shaft, of the lever L', engaging said disk F, the gear-wheel C and ratchet-wheel D, mounted below said shaft, the lever Q', engaging the lever L', the lever H<sup>2</sup>, carrying a pawl engaging said ratchet-  
 40 wheel and normally held up by the spring G', connected to the arm W, the lever H', connected by a cord to the lever H<sup>2</sup>, the pin-carrying disk S', engaging the levers Q' and H', and clock-work actuating said disk, substan-  
 45 tially as shown and described, for the purposes set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

BERTRAND HAMBURG.  
 PAUL KETTERER.  
 EDUARD KETTERER.

Witnesses:

FRANZ HASSACHER,  
 JOSEPH PATRICK.