No. 784,253. PATENTED MAR. 7, 1905.

P. T. DODGE.

LINOTYPE MACHINE.

APPLICATION FILED DEC. 1, 1904.

3 SHEETS—SHEET 1.

Fig. 1.

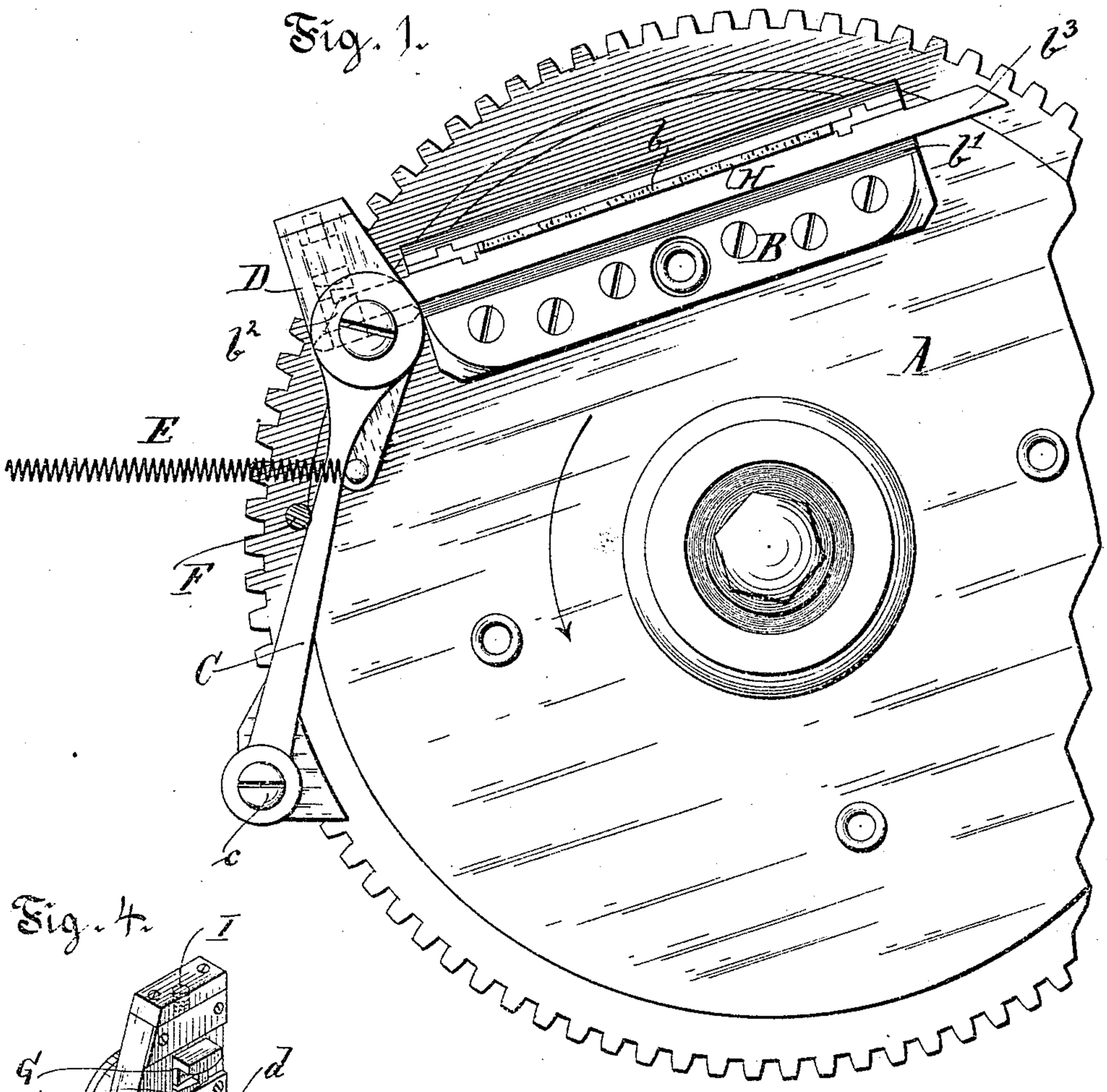


Fig. 4.

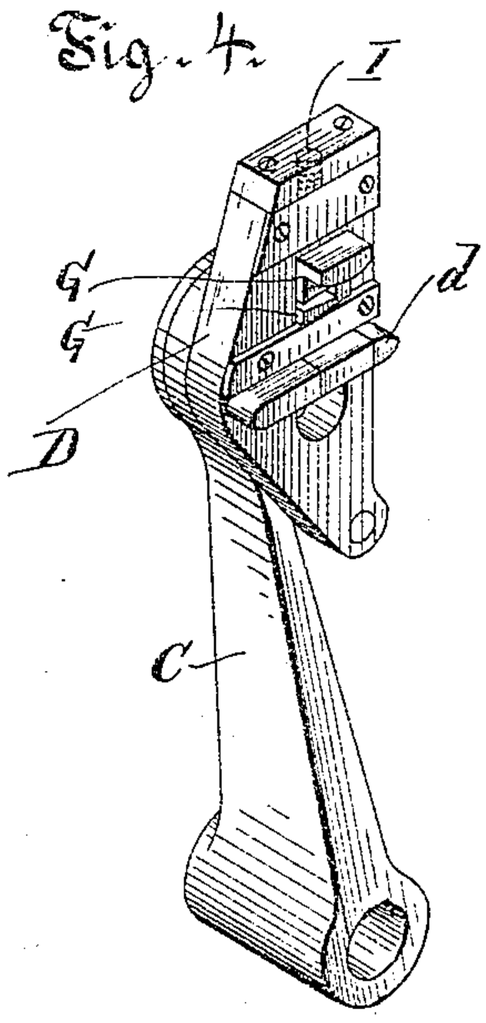


Fig. 5.

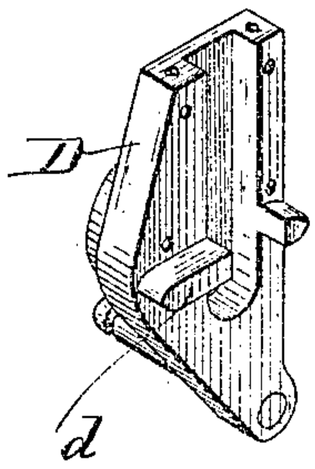
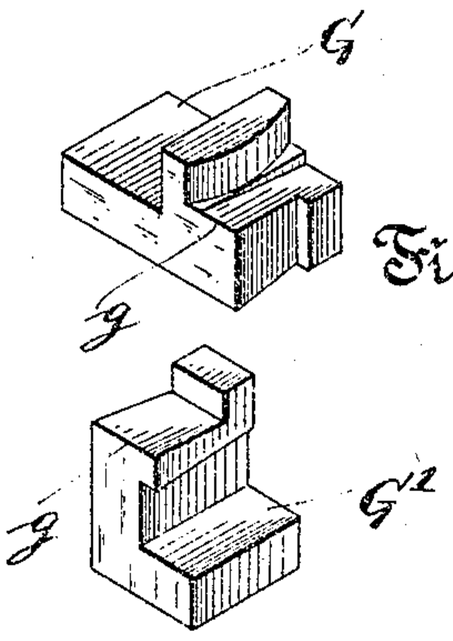


Fig. 6.



Witnesses

D. Peri Palmer

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3 SHEETS—SHEET 2.

Fig. 2.

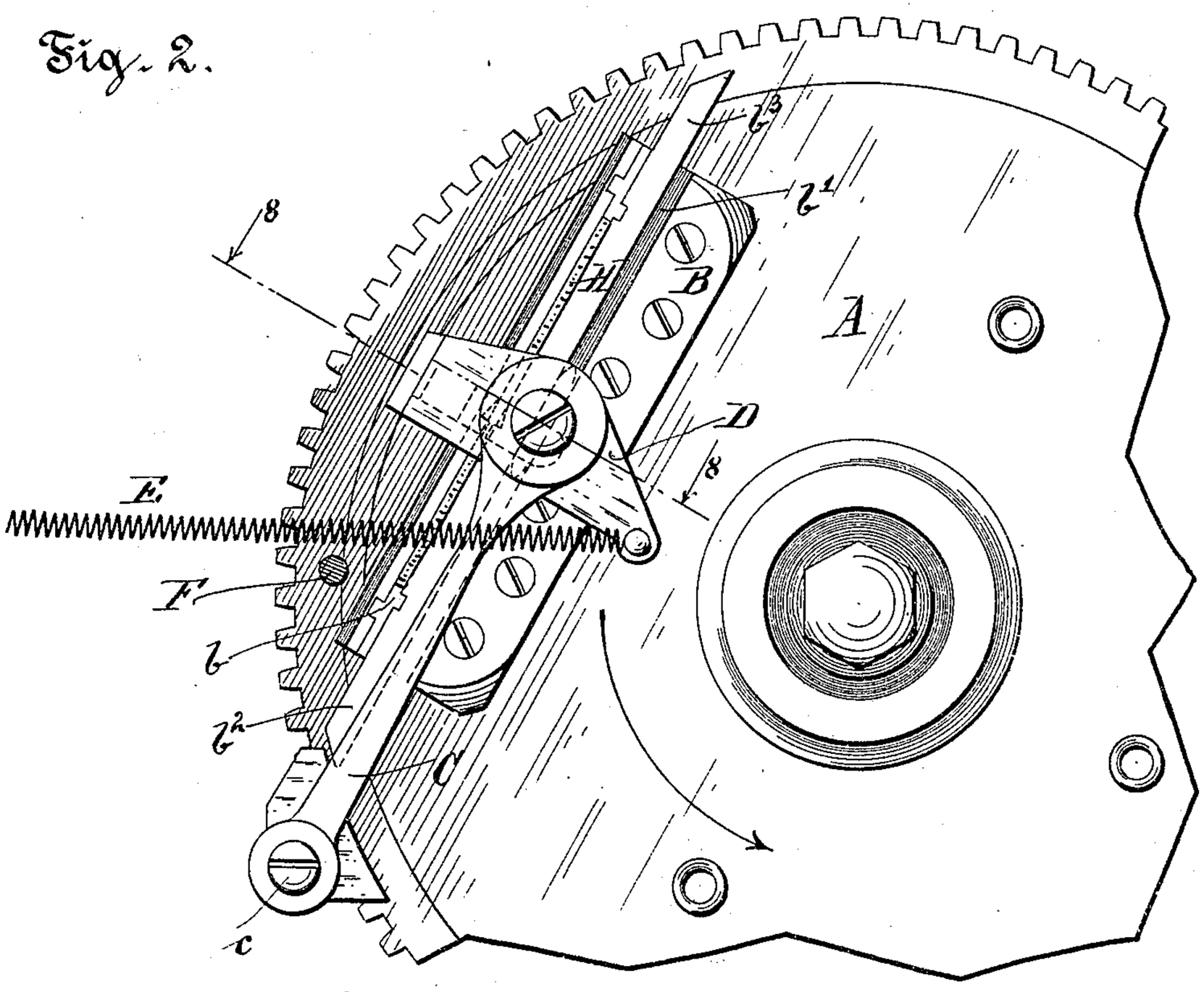
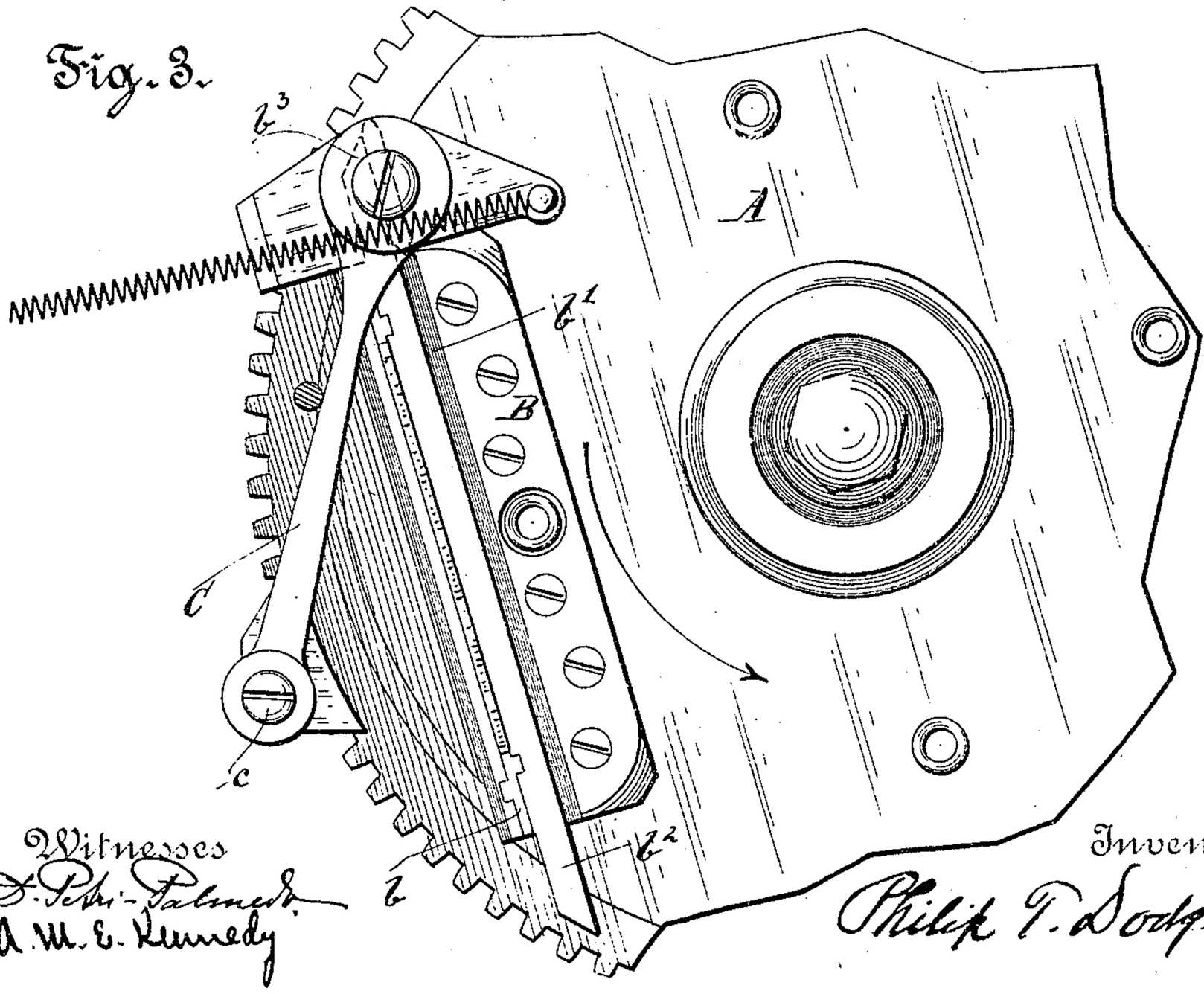


Fig. 3.



Witnesses

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No. 784,253. PATENTED MAR. 7, 1905.

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3 SHEETS—SHEET 3.

Fig. 7.

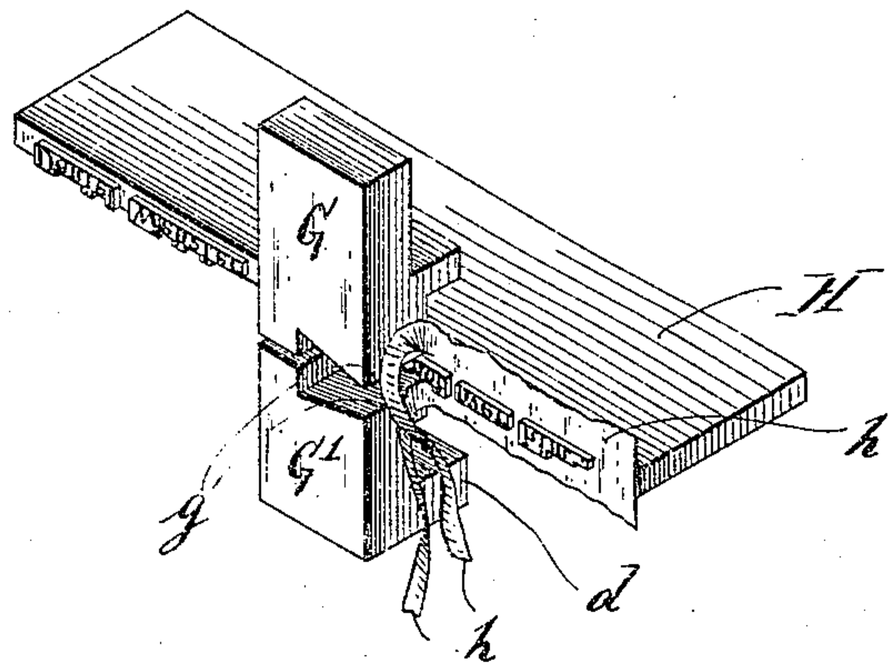
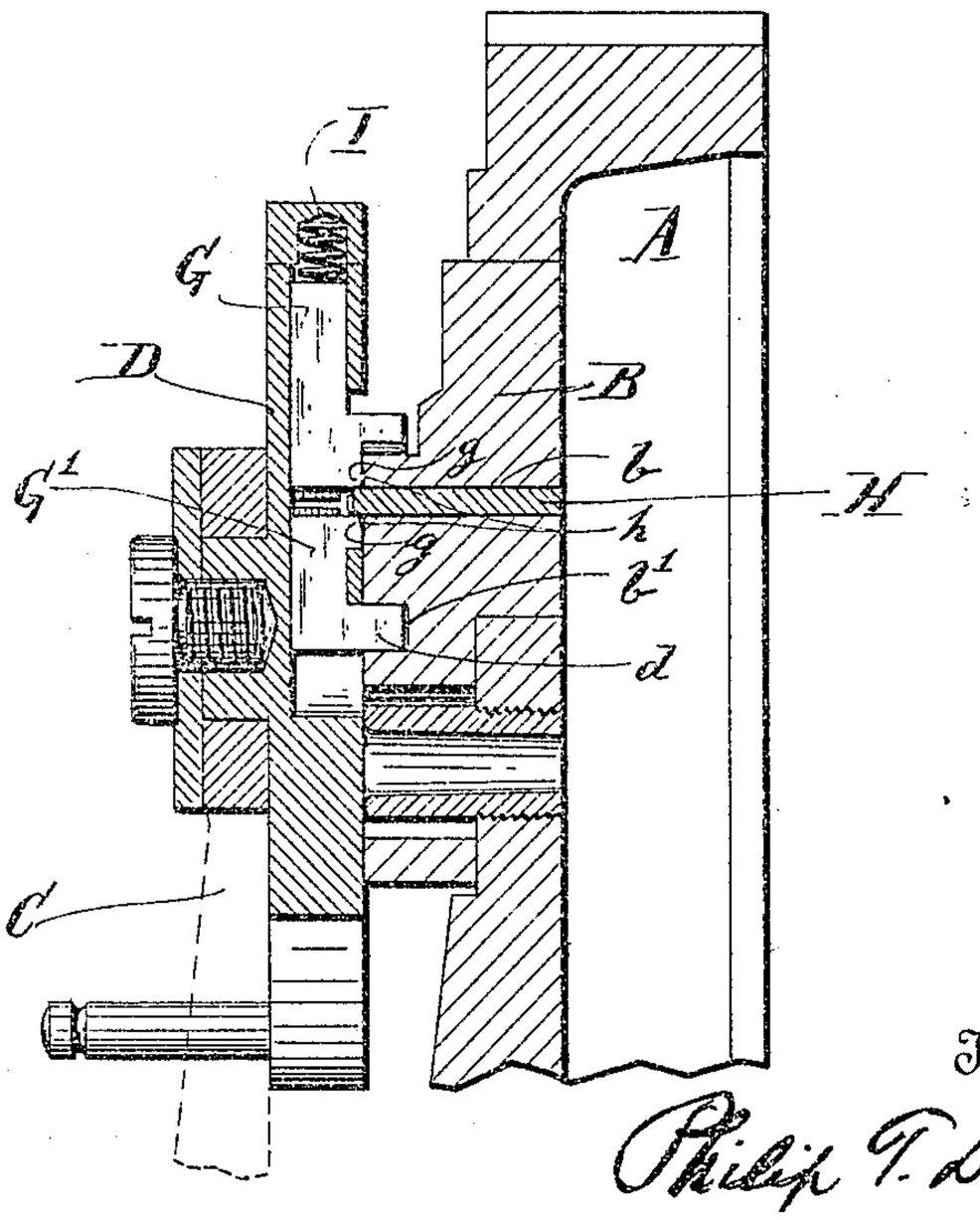


Fig. 8.



Witnesses
F. Peshi-Palmer.
A. M. E. Kennedy.

Inventor
Philip T. Dodge

No. 784,253. Patented March 7, 1905.

UNITED STATES PATENT OFFICE.

PHILIP T. DODGE, OF BROOKLYN, NEW YORK, ASSIGNOR TO MERGENTHALER LINOTYPE COMPANY, A CORPORATION OF NEW YORK.

LINOTYPE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 784,253, dated March 7, 1905.

Application filed December 1, 1904. Serial No. 235,069.

To all whom it may concern:

Be it known that I, PHILIP T. DODGE, of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Linotype-Machines, of which the following is a specification.

This invention has reference to means for trimming or shaving the front edges of linotype-slugs while they are seated in their original position in the mold in which they are cast for the purpose of removing lateral fins or burs which are sometimes formed thereon by the metal overflowing between the face of the mold and the adjacent line of matrices.

The invention is a modification of or improvement upon a trimming device represented in United States Letters Patent No. 773,341 to J. R. Rogers, wherein the trimming-knives are mounted to traverse lengthwise over and against the face of the mold along the sides of the slot or mold-cell to remove any metal projecting beyond the side faces of the slug.

In the Rogers construction the trimming-knives are arranged to slide on the end of a vibratory arm subject to the control of a rotary cam geared to the mold-carrying wheel.

In my improved construction I dispense with the cam and gearing and arrange the knives to slide in a support pivoted on the outer end of a vibratory arm, the parts being so formed and connected with guiding-surfaces and a spring that the knives are compelled to assume the proper relations to the passing mold.

Referring to the drawings, Figure 1 represents a front elevation of the customary mold-carrying wheel and mold in connection with my improved trimming devices, the knives being about to pass upon the forward end of the advancing mold. Figs. 2 and 3 are similar views showing, respectively, the knives at the middle of the mold and at the rear end of the same. Fig. 4 is a perspective view of the knives and attendant parts viewed from the under or operative face. Fig. 5 is a perspective view of the knife-supporting block. Fig. 6 is a perspective view of the two knives. Fig. 7 is a perspective view showing the manner in which the knives act to trim the edge of the slug or linotype. Fig. 8 is a cross-section through the mold and knives on the line 8 8, Fig. 2.

Referring to the drawings, A represents a vertical intermittingly-rotated mold-carrying wheel, and B a mold secured thereto and extending therethrough, so that while closed at the front by the assembled line of matrices it may receive molten metal at the rear, as usual in linotype-machines.

The mold is constructed, as usual, with a longitudinal slot or mold proper, *b*, and also with one or more longitudinal grooves *b'* parallel with the mold-slot to receive the ears of the matrices for the purpose of alining them properly against the mold, as usual.

Referring now to my devices, C represents a vibratory arm having its lower end connected to the frame by a horizontal pivot *c*. To the upper end of this arm I connect by a horizontal pivot or journal a knife-carrying block D.

E is a spring connected to the lower end of the knife-block D and to a pin or other support on the main frame, so that it tends not only to rotate the knife-block on the supporting-arm to the position shown in Fig. 1, but also to draw the block and arm to the left around the pivot *c*, this motion being limited, however, by a stud F or other equivalent stop on the main frame.

The knife-block is slotted longitudinally to receive the two sliding knives G and G', formed with cutting edges *g* and designed to traverse the face of the mold in contact therewith or in close proximity thereto to remove from the front edges of the contained slug H, as shown in Fig. 7, the lateral fins or burs *h*.

The mold-block D is provided, as shown in Figs. 4 and 8, with a transverse rib *d*, adapted to fit within and traverse the groove *b'* in the face of the mold. At opposite ends the mold is provided with extending arms or guides b^2 and b^3, designed to act upon the rib *d* on the knife-block in order to control its position and guide the rib *d* properly into and out of the groove *b'* as the mold advances toward and past the knives.

The action of the parts is as follows: The

knife-block and its supporting-arms stand normally in the position shown in Fig. 1. As the rotation of the mold A advances the mold endwise toward the knives the guide b^2 on the end of the mold or the disk overrides the rib d on the knife-block, so that as the mold continues its advance the rib is compelled to enter the groove b', thereby presenting the knife-block and knives in such position that the edges of the knives will travel closely along the sides of the mold-slot, as required. As the mold advances in its circular path it of course changes constantly its angular relation to the pivot c of the knife-arm. During this changing relation of the parts the rib d and the groove in the mold compel the knife-block and knives to maintain their operative relation to the mold as it travels past them, the rib d serving to turn the knife-block on its pivot, while the block in turn acts to swing its supporting-arm C to the right and left. The knife and arm assume successively the positions shown in Figs. 1, 2, and 3. As the knives leave the rear end of the passing mold the rear guide b^3 assists in controlling the rotary movement of the block as it is turned around its pivot and drawn back, together with its supporting-arm, to its original position by the spring E.

In connection with the outer knife G, I prefer to employ a spring I to urge the same inward, and a like spring may be employed below the knife G′ to urge it outward; but the second spring is unnecessary.

In practice it is usual to increase the size of the mold-slot when required by introducing thicker liners or spacing-pieces under its end, the effect being to elevate the cap or top of the mold.

The spring I renders the outer knife self-adjusting so that it will act properly with the cap of the mold at any level.

The essence of my invention lies in mounting the knives, so that they may move laterally and follow the changing position of the mold and in utilizing the mold or guide on the mold-carrier as a means for controlling the position of the knives during the travel of the mold.

While I prefer to employ the vibratory pivoted arm as a means of sustaining the knife-block, it is manifest that any equivalent support which will permit the proper movement of the knife-block may be employed, provided the block is controlled in its movement by the mold, substantially as described and shown.

Having described my invention, what I claim is—

1. In combination with the slotted mold moving around a center, a vibratable arm on a fixed center, a knife-carrying block pivoted to the free end of the arm and guided by the mold, and a spring coöperating with the knife-block.

2. In combination with the mold moving in a circular path, a coöperating knife, a knife-support engaging with and guided by the mold to keep the knife in operative position, and a vibratory support for the knife-support.

3. In combination with the mold movable in a circular path, and a guide parallel with the mold-slot, a pivoted knife-block arranged to engage the guide, two knives mounted on the support, the vibratory arm jointed to the knife-block and sustaining the same, and the spring connected to the block.

4. The rotary mold-wheel and the mold therein grooved to guide the knife-support, in combination with said support, the opposing knives thereon, the vibratory arm pivoted at one end to the knife-support and at the other to a fixed support, a spring tending to move the knife-support and the arm, and a stop to limit the motion of the arm in one direction.

In testimony whereof I hereunto set my hand, this 30th day of November, 1904, in the presence of two attesting witnesses.

PHILIP T. DODGE.

Witnesses:
JOHN F. GEORGE,
M. A. DRIFFILL.