

No. 618,582.

Patented Jan. 31, 1899.

L. B. PENDLETON.
MOLD.

(Application filed Mar. 31, 1898.)

(No Model.)

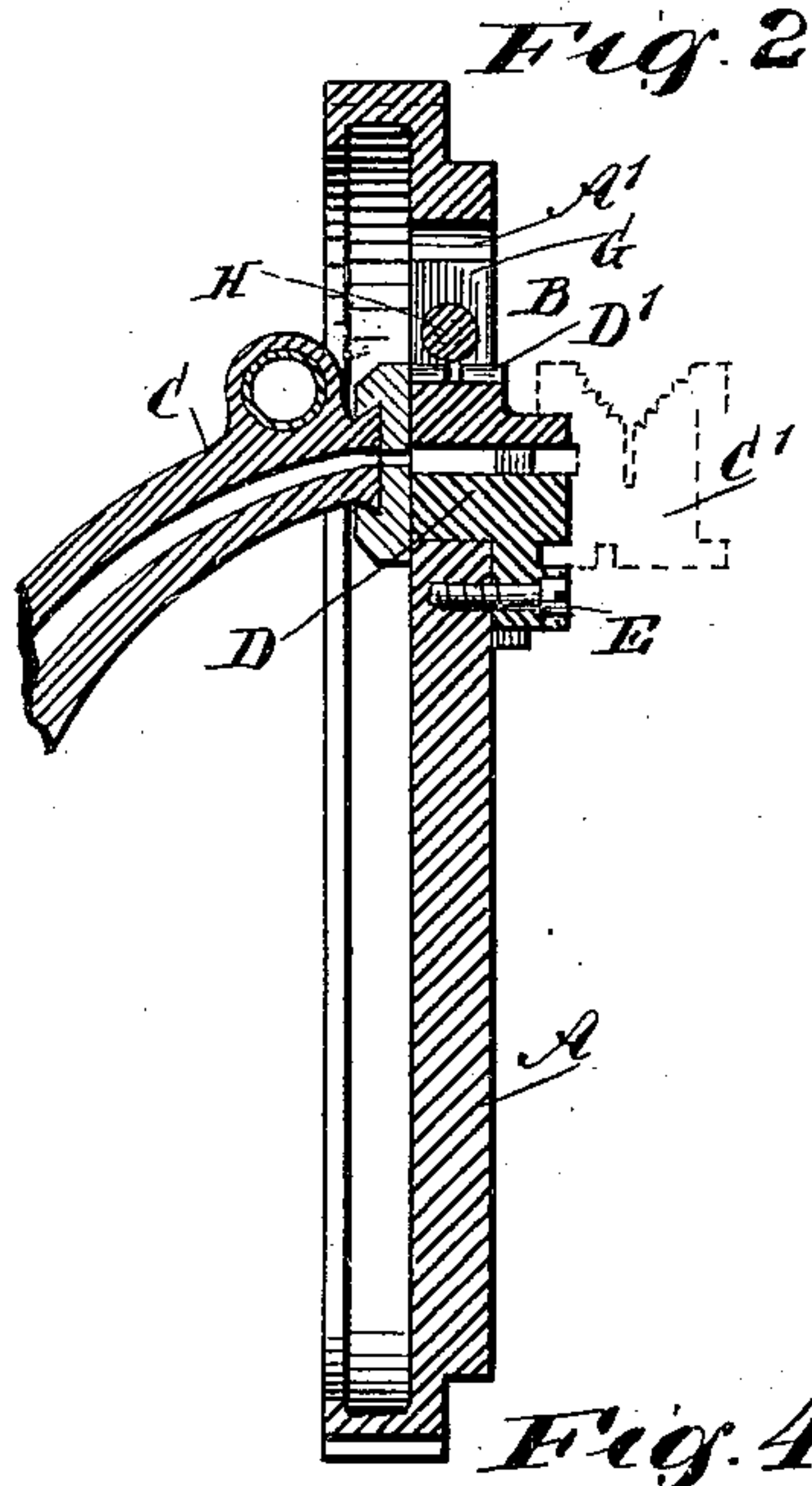
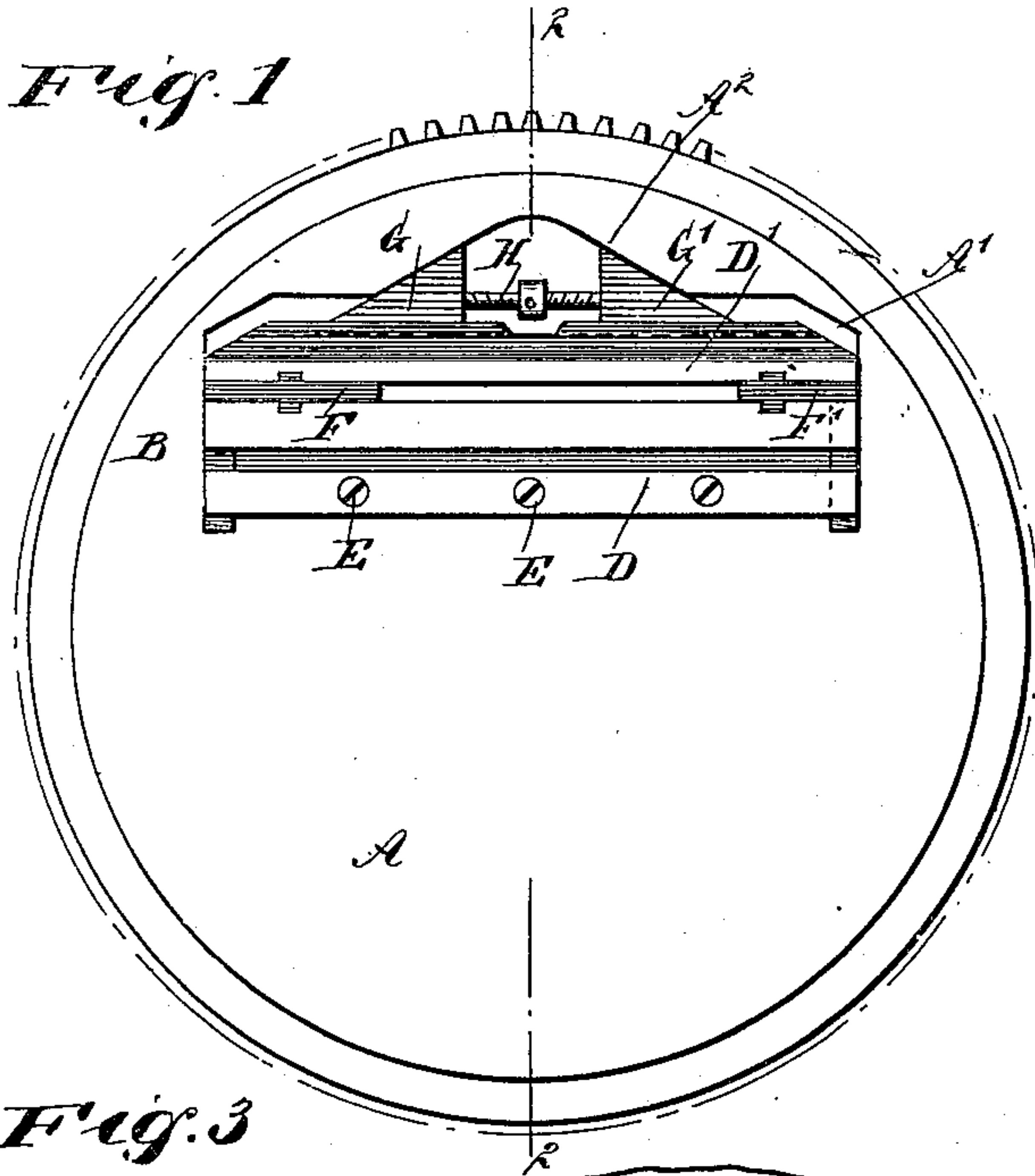


Fig. 3

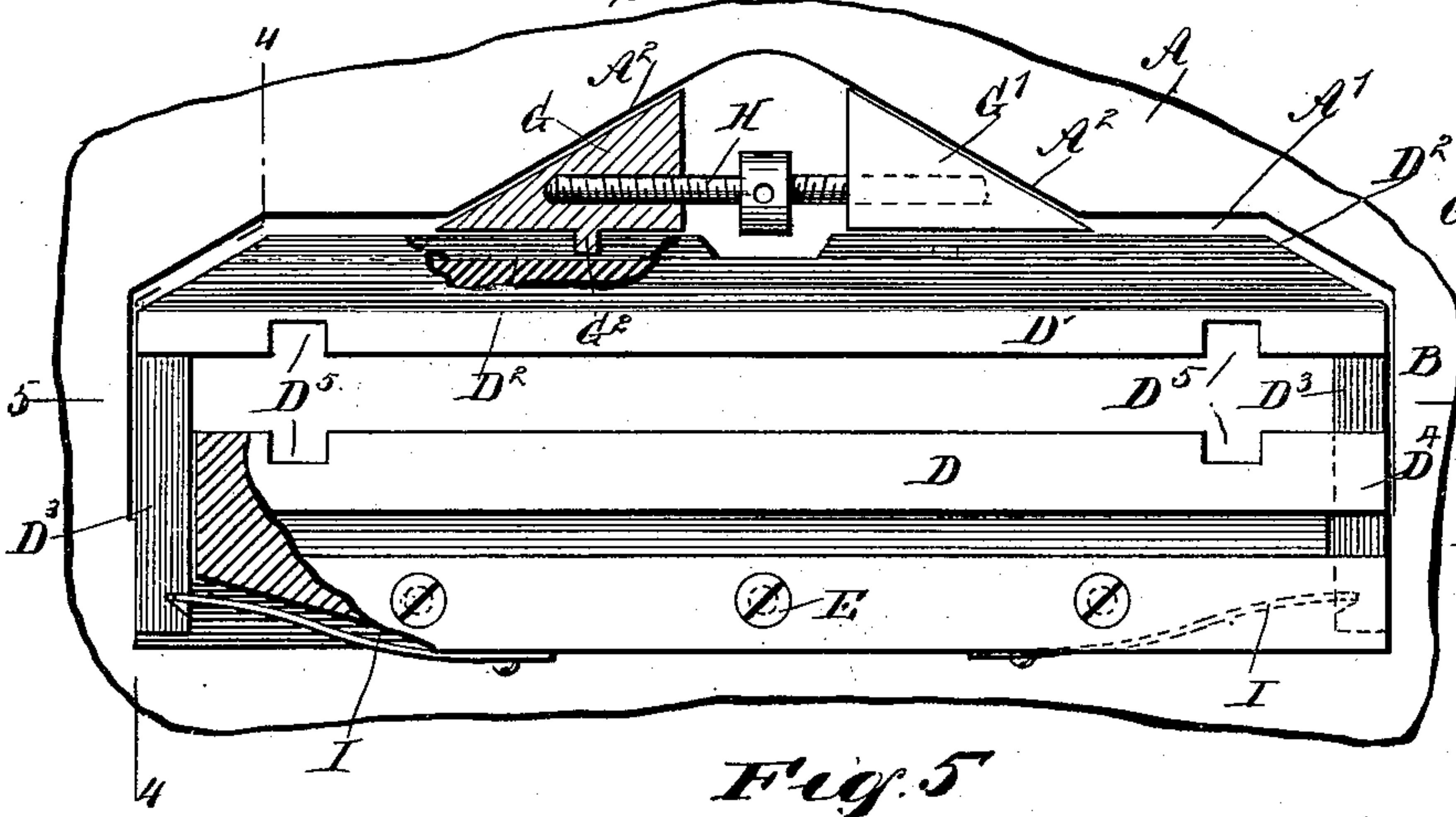


Fig. 4

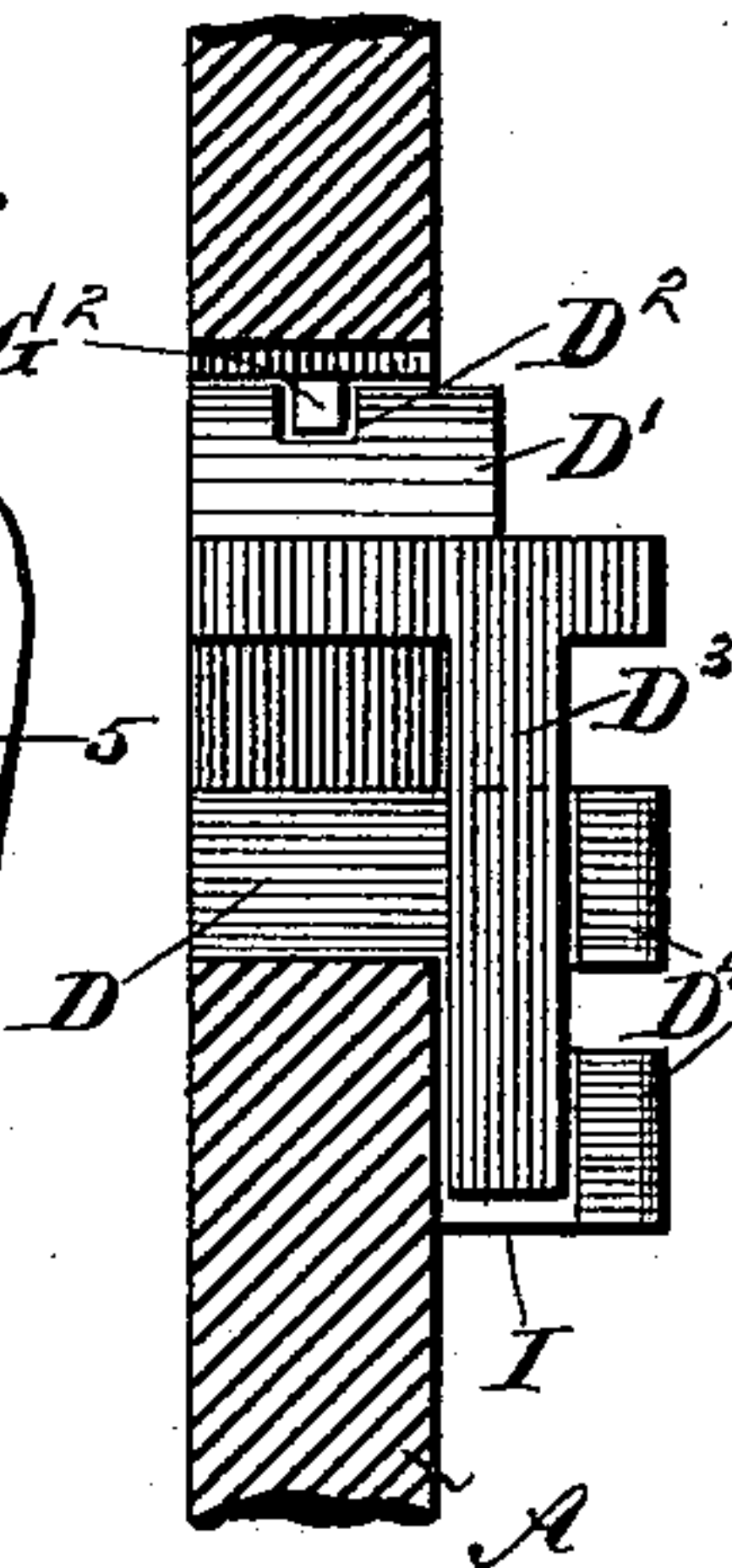
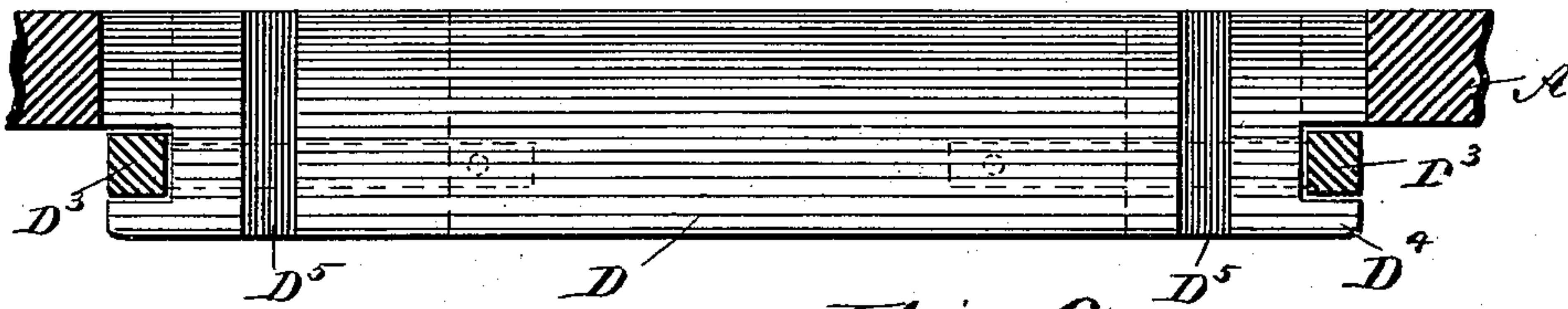
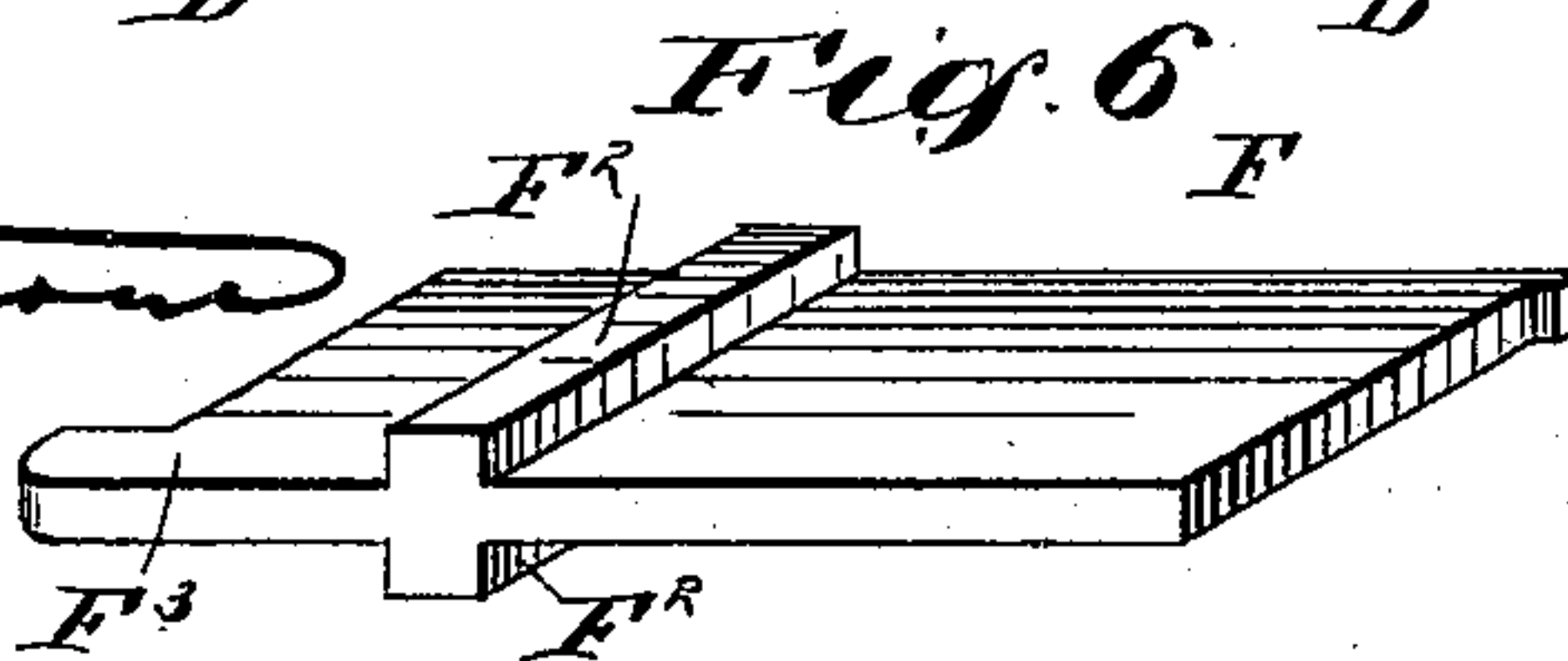


Fig. 5



WITNESSES:

John B. Pendleton
Wm. G. Hendon



INVENTOR

L. B. Pendleton
BY *Wm. G. Hendon*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

LOUIS BAYLOR PENDLETON, OF NASHVILLE, TENNESSEE, ASSIGNOR TO
THE MERGENTHALER LINOTYPE COMPANY, OF NEW YORK, N. Y.

MOLD.

SPECIFICATION forming part of Letters Patent No. 618,582, dated January 31, 1899.

Application filed March 31, 1898. Serial No. 675,887. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BAYLOR PENDLETON, of Nashville, in the county of Davidson and State of Tennessee, have invented certain new and useful Improvements in Linotype-Machines, of which the following is a description, reference being had to the accompanying drawings, forming a part of this specification.

10 The object of my invention is to provide for linotype-machines a mold which may be speedily and accurately adjusted to produce
15 linotypes differing in length or in thickness, or in both respects, as may be demanded. It is intended more particularly for use in connection with the Mergenthaler linotype-machines such as are now in general use and which are described in detail in Letters Patent of the United States issued on the 16th
20 day of September, 1890, Nos. 436,531 and 436,532. In this machine a vertical revolving wheel carries a mold having a slot there-through from front to back, the front face of this mold being temporarily closed by a com-
25 posed line of letter-matrices, while the back is closed by the mouth of the melting-pot, through which molten metal is ejected into the mold to form the linotype or slug, on one edge of which the type characters are formed
30 in relief by the matrices. The length of the slug produced corresponds to the width of a column or page of print, and it is therefore necessary to frequently change the length of the mold-slot in order to produce slugs for
35 columns or pages differing in width.

The matrices used in the machine are frequently changed in order to produce type-faces of different sizes, as agate, nonpareil, minion, &c., and this change necessitates a
40 corresponding change in the width of the mold-slot in order to produce a slug or linotype of thickness suitable to the size of the type-faces required.

Heretofore molds have been constructed of
45 a body portion, a cap portion, and two intermediate plates or liners, serving to separate the cap and body and to determine the length of the slot between them.

50 In practice it has been necessary to remove the mold from the disk and substitute liners of different lengths in order to vary the length

of the slot and slug. When the thickness of the slug was to be changed, it has been customary to remove the mold and substitute another having liners of different thickness. 55

Now my invention has in view the speedy adjustment of the mold in both directions, so that variations may be made in the length or thickness of the slug at will without removing the mold from the machine and without
60 disturbing the adjustment of the body or lower portion of the mold, this permanent attachment of the body to the mold-wheel being of great advantage for reasons hereinafter explained. To this end I construct my
65 mold of a body portion to be fixed rigidly in the disk or other support, a cap portion, intermediate removable liners, and an external pressure device acting on the cap and within the wheel or other support for the purpose of
70 forcing the cap downward in order to pinch and hold the liners, the construction and arrangement being such that although the cap is rigidly held it may be instantly released to permit the insertion and removal of liners
75 differing in length or thickness, or both. As secondary features I provide a spring or springs to separate the two parts of the mold when released and guides to prevent the cap from falling out of position. 80

In the accompanying drawings, Figure 1 represents a front view of my improved mold in position in the wheel or disk of a linotype-machine. Fig. 2 is a vertical cross-section on the line 2 2 of the preceding figure. Fig. 3
85 is a front elevation of the mold and the surrounding portion of the wheel on a larger scale, portions being broken away at the top and bottom to expose the internal construction. Fig. 4 is a cross-section on the line 4 4
90 of Fig. 3. Fig. 5 is a horizontal section on the correspondingly-numbered line of Fig. 3, looking in a downward direction. Fig. 6 is a perspective view of one of the movable liners.

A represents the vertical mold wheel or
95 disk provided with gear-teeth on its outer edge and arranged to revolve on a horizontal axis, as usual. It is provided near the periphery with a slot or opening to receive the mold
100 B, which extends therethrough from front to rear. As shown in the drawings, this mold consists of the base or body portion D, the

overlying cap D', and the intermediate liners F and F' at opposite ends. The body portion D has a flange overhanging the face of the wheel, to which it is firmly and permanently secured by screws E. Under ordinary conditions the attachment of the body to the disk is a permanent one, the parts being accurately fitted and tightly held together, so that there can be no change in their relations.

This is of great importance, because in the Mergenthaler machine the slugs ejected from the mold are carried between trimming-knives, one of which must align exactly with the surface of the mold-body and the surface of the slug coming therefrom. In practice it is found that where molds are interchanged or substituted it is exceedingly difficult to secure in a reasonable time that exact adjustment of the body in relation to the wheel and knives which is necessary. Hence the importance of my construction, which permits the necessary adjustment to be effected without disturbing the mold-body, which serves to insure the correct position of the other mold. The cap portion D' is flattened on its upper or outer surface and is provided at its two ends with depending arms or guides D³, which slide closely in grooves in the ends of the body. These arms serve the double purpose of keeping the working faces of the cap in line with the faces of the body portion and also to prevent the cap from falling out of the disk when released. The liners or filling-pieces F and F' are inserted transversely and are provided each with transverse ribs F², which enter corresponding grooves in the cap and body, so that when the liners are pushed home to their places between the cap and body they are prevented by the ribs from shifting endwise, the distance between their inner ends being thus accurately determined. These ribbed liners are now used in the commercial linotype-machines and are not in themselves claimed as of my invention. The opening in the mold-wheel above the cap is of such size that the cap may be raised sufficiently to permit the introduction of liners having a thickness equal to that of the heaviest slugs to be cast.

When it is required to change the length only of the slug, the liner F is removed and replaced by another of different length. When the thickness of the slug is to be changed, both liners F and F' are removed and replaced by others of suitable thickness and length.

For the purpose of holding the liners in place and of binding the cap firmly upon the liners, so that the mold-slot will be of the precise width required from one end to the other, it is necessary to employ a firm locking mechanism. I prefer to employ and I have shown in the drawings two wedges G and G', seated on the cap and bearing at their upper edges under corresponding surfaces in the mold-wheel. These two wedges are connected by a right and left hand screw

H, which admits of their being quickly operated and of their being forced and held outward so strongly that they will hold the cap down with strong pressure upon the liners.

To the under side of the mold-body I attach springs I, the outer ends of which engage the guide-arms D³, urging the same upward, so that when the cap is relieved from pressure it will be automatically raised and supported and the liners released. This admits of the liners being quickly and conveniently changed, and also causes the pressure devices to be held so that they cannot fall out of place. In order to prevent the wedges from falling out of place when released, I provide them on the under side with studs G², moving in grooves in the top of the cap. It is to be understood, however, that these guides may be in any appropriate form, that the opening-springs may be modified in form and arrangement or omitted entirely, and that in place of the wedges any equivalent pressure device acting between the cap and the overlying portion of the mold-wheel may be employed.

I believe myself to be the first to combine with a wheel or other support the permanently-attached mold-body combined with a movable cap, removable liners, and an overlying pressure device acting within the carrier. The employment of a pressure device between the mold-cap and the wheel of the opening in which the mold is seated is advantageous in that the pressure applied aids in holding the mold as a whole rigidly in position in the disk, so that it cannot spring or be driven out of position by the action of the ejector or the other moving parts of the machine which apply strain to the mold.

It will be manifest to the skilled mechanic that the details may be variously modified without changing essentially the mode of action or passing beyond the limits of my invention.

It is to be noted that the cap and body of my mold are without the usual vertical holes for receiving binding-screws. In other words, the cap and body are imperforate. The cap is formed with a heavy stiffening-rib on its top, adapted to extend through the mold-opening, so that pressure may be applied thereto in suitable position to hold the cap firmly in place. The construction of the cap without holes and with the heavy rib is advantageous in that it is the better adapted to resist the strain and tension which arise from the unequal and irregular heating and cooling to which it is subjected when in use.

Having thus described my invention, what I claim is—

1. In a linotype-machine, the combination of a mold wheel or support, having an opening therethrough, a mold-body, rigidly secured in said opening, an overlying mold-cap, intermediate removable liners, and a pressure device acting between and against the cap and the interior of the wheel, whereby said

pressure device is caused to hold the parts of the mold in operative relation to each other and also to aid in keeping the mold as a whole in position.

5 2. In combination with the wheel or carrier, having an opening therethrough, the mold-body secured thereto, the rising-and-falling mold-cap, the intermediate liners, and a wedge mechanism seated between the cap and
10 the wheel, substantially as described and shown.

3. The combination of the wheel with the opening therein, the mold-body, the mold-cap, the intermediate liners, the two wedges,
15 and a connecting-screw.

4. In a linotype-mold, the combination of a body, a cap, intermediate liners, guides connecting the body and cap, and springs tending to separate them, whereby the insertion
20 and removal of the liners is facilitated.

5. In a linotype-mold, the body, the cap, intermediate removable liners, and sliding guides connecting the cap and body and permitting change of distance between them,
25 while maintaining their alinement.

6. In a linotype-machine, the wheel, the

mold-body secured therein, the mold-cap connected to the body by end guides, springs tending to separate the cap and body, intermediate removable liners, and a pressure device acting on the cap, whereby the ready release of the cap and the substitution of liners is permitted and the cap prevented from falling out of position. 30

7. In a linotype-machine, the combination 35 of a mold wheel or carrier, a mold-body rigidly secured thereto, a movable mold-cap, removable liners seated between the cap and body, and means distinct from the mold acting externally on the cap to confine the same 40 in place.

8. In a linotype-mold, the combination of a mold-body having an imperforate upper surface, an imperforate cap lying thereover, intermediate removable liners, and means external to the mold for confining the cap and body against the liners. 45

LOUIS BAYLOR PENDLETON.

Witnesses:

J. M. RAGAN,

WM. VESS.