No. 709,906. Patented Sept. 30, 1902.

C. F. HOPKINS.

TYPE WRITING MACHINE.

(Application filed Mar. 26, 1902.)

(No Model.) 3 Sheets—Sheet 1.

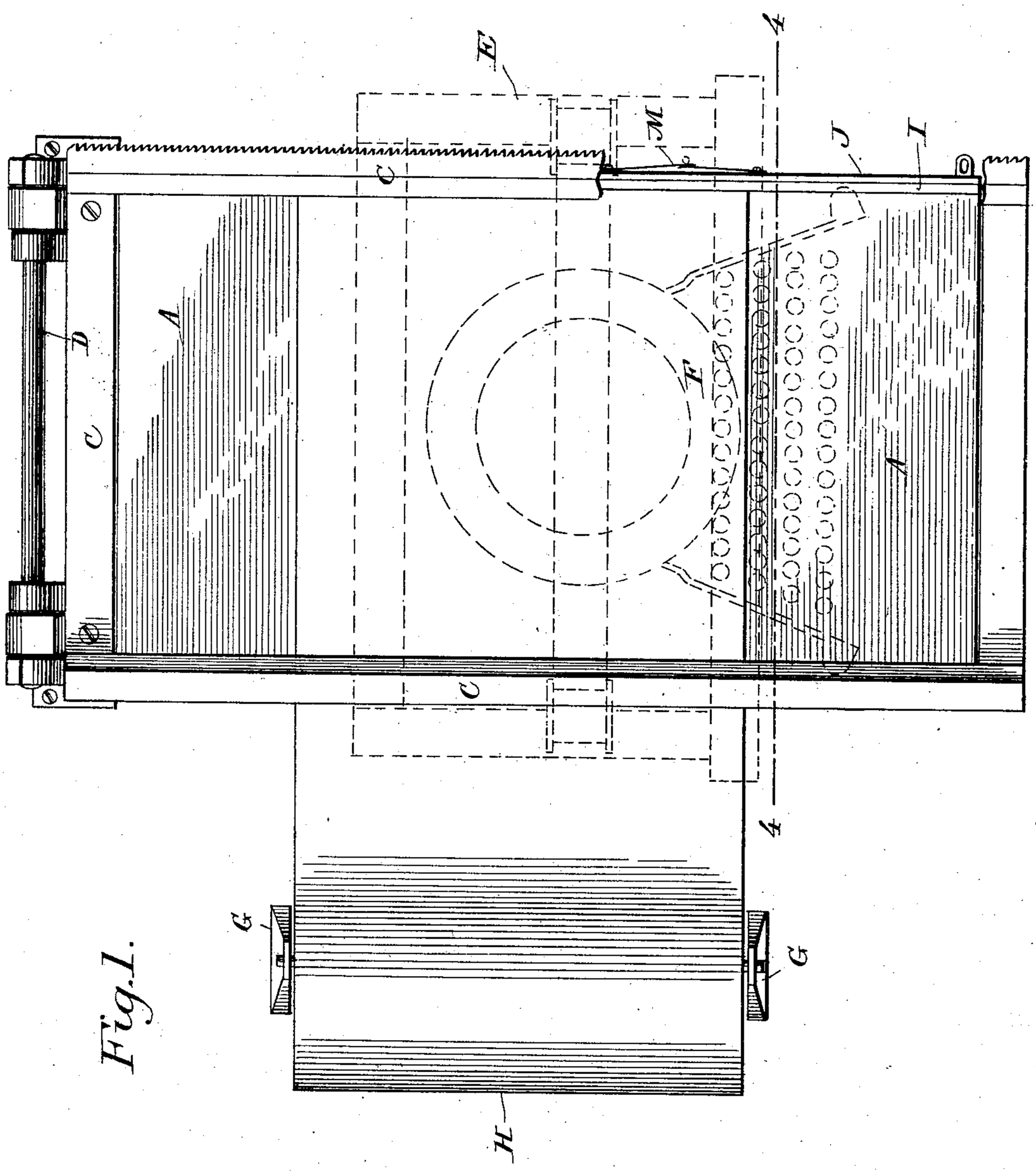

Fig. 1.

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(No Model.) 3 Sheets—Sheet 2.

Fig. 2.

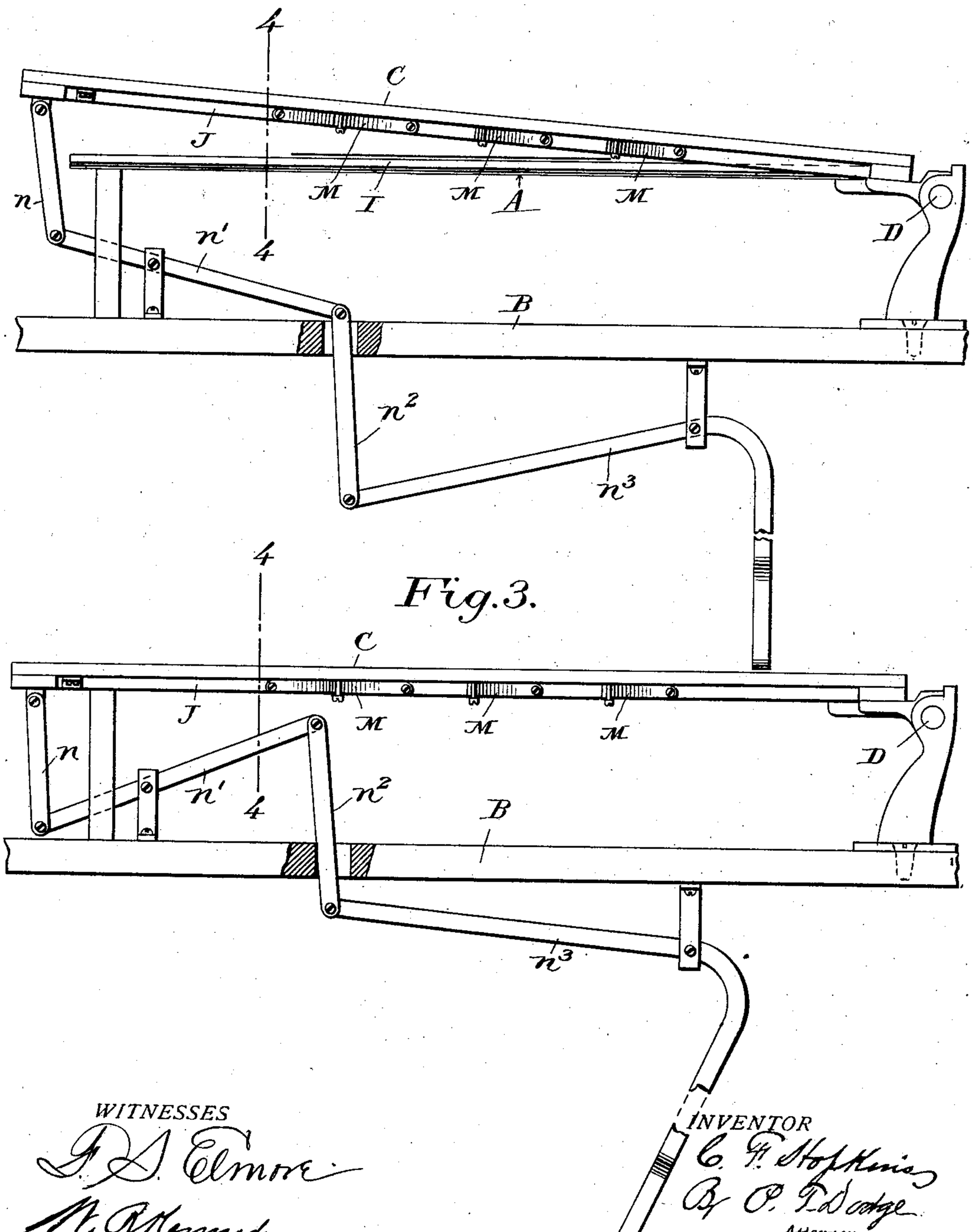

Fig. 3.

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(Application filed Mar. 26, 1902.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 4.

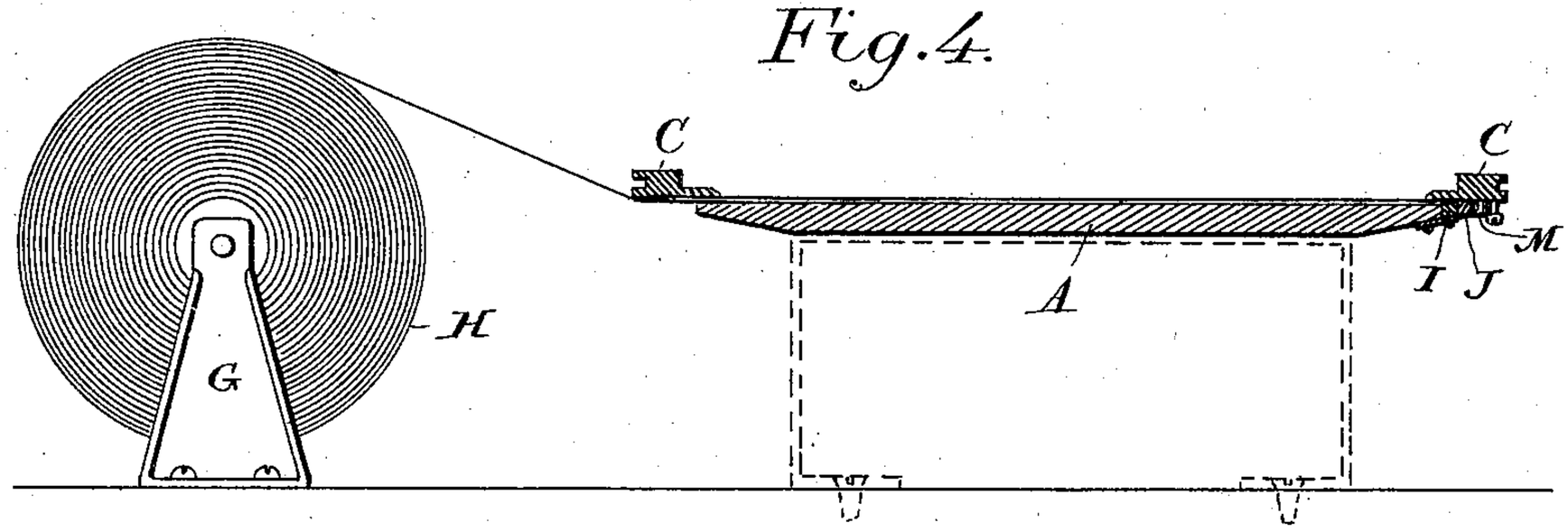


Fig. 5.

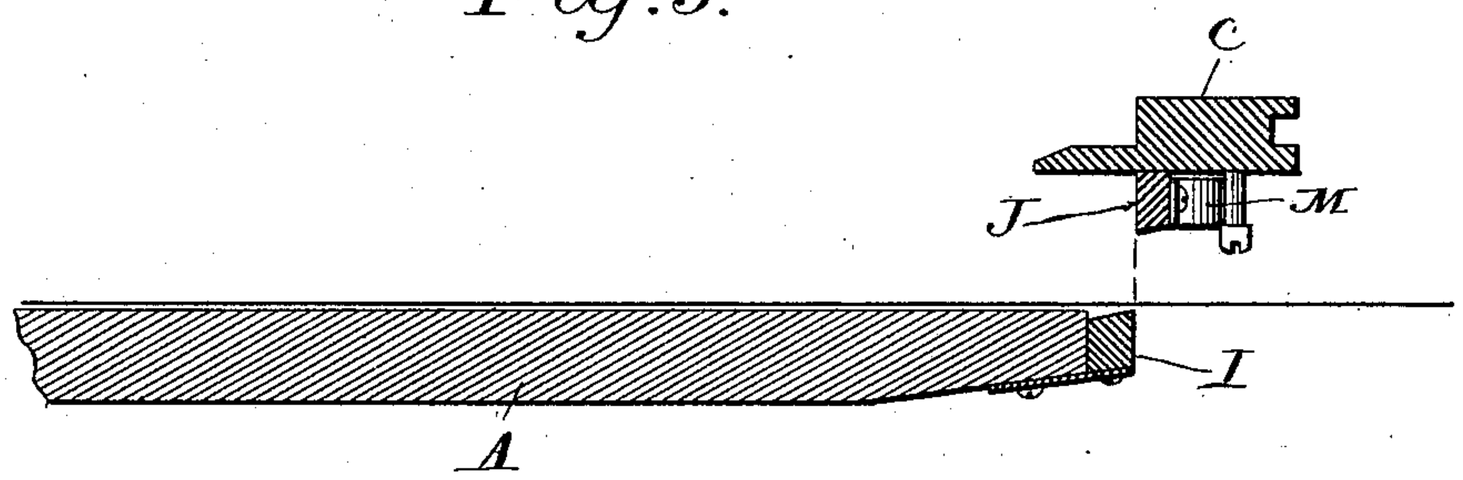


Fig. 8.

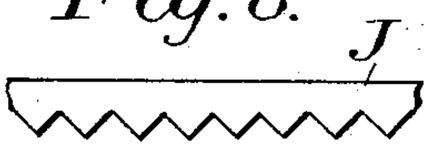


Fig. 6.

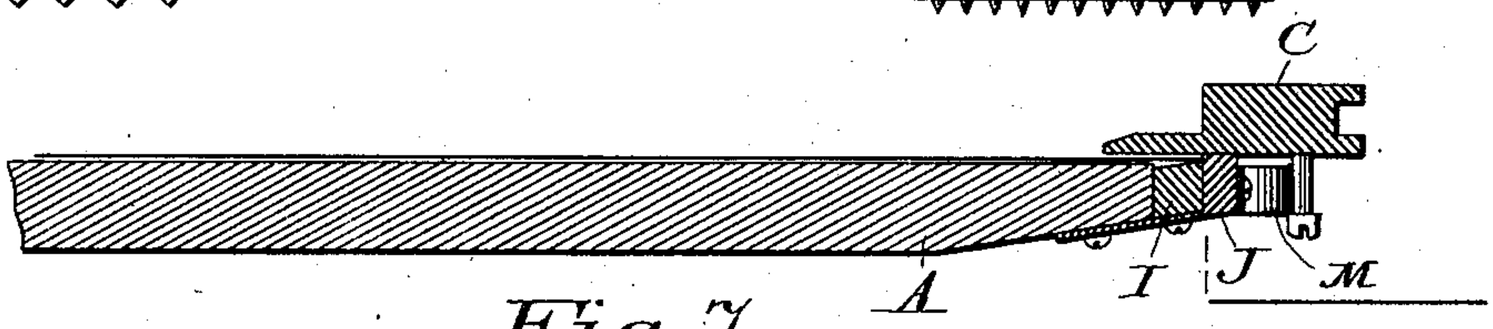


Fig. 9.

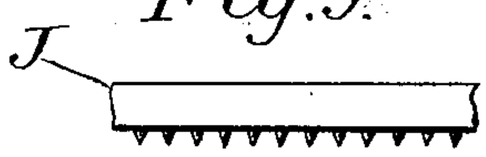
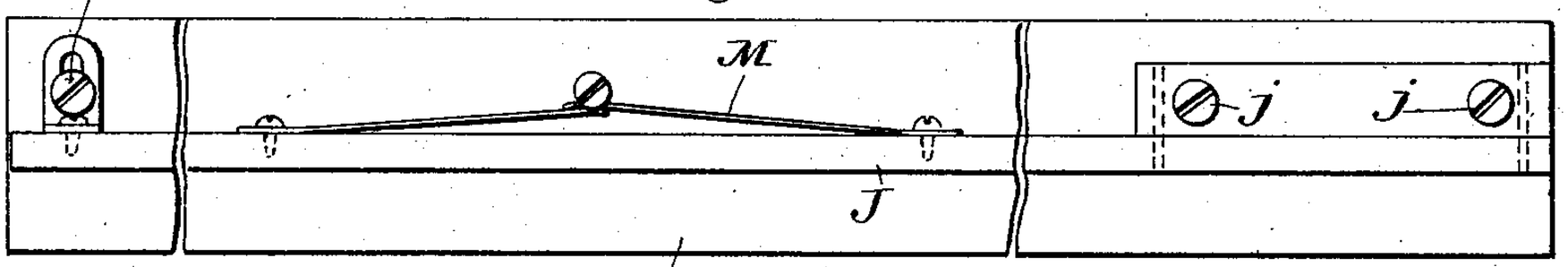


Fig. 7.



WITNESSES

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INVENTOR

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Attorney

UNITED STATES PATENT OFFICE.

CLARENCE F. HOPKINS, OF NEW YORK, N. Y., ASSIGNOR TO ELLIOTT & HATCH BOOK TYPEWRITER COMPANY, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 709,906, dated September 30, 1902.

Application filed March 26, 1902. Serial No. 100,070. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE F. HOPKINS, of New York city, county of New York, and State of New York, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a specification.

My invention has reference more particularly to that class of type-writers wherein a flat bed or platen to sustain the paper to be written upon is employed in connection with an overlying downwardly-acting writing mechanism movable laterally and longitudinally over the platen for the purposes of letter and line spacing.

The object of the invention is to permit rapid and convenient printing on the end of a roll or web of paper and to secure the speedy severance of the printed portions from the web.

To this end it consists, essentially, in combining with a machine such as above described means for supporting the roll of paper so that it may be extended across the platen within the printing field, means for confining it in position during the printing operation, and means for severing the sheet behind the printed surface.

In the drawings I have shown my invention as applied to an ordinary Elliott & Hatch machine of the general organization represented in United States patent to Hatch and Hillard, No. 620,125, in which the paper lying across the platen is confined by an overlying vertically-movable frame which also serves to support the writing mechanism. In connection with this machine I have shown a cutting-blade secured rigidly along one side of the platen and a coöperating blade secured to the overlying frame, so that when the frame is raised from the platen and the paper released the upper blade is lifted, so that the sheet may be drawn forward across the platen and the printed portion projecting beyond the platen sheared loose in the act of lowering the frame to again confine the paper.

Referring to the drawings, Figure 1 represents a top plan view of the machine provided with my improvement, the writing mechanism which is omitted in order to expose the parts thereunder, being indicated by dotted lines. Figs. 2 and 3 are side elevations of the machine, the former showing the frame raised preparatory to the adjustment and cutting of the paper and the latter showing the parts in the printing position. Fig. 4 is a cross-section on the correspondingly-numbered line of the preceding figures with the parts in the position shown in Fig. 3. Fig. 5 is a vertical cross-section on the line 4 4 of Fig. 2, showing the parts on an enlarged scale with the shearing-blade raised and the paper released. Fig. 6 is a similar section at the completion of the shearing action with the sheet confined in the printing position. Fig. 7 is a bottom plan view of one side of the top frame, showing the cutting-blade attached thereto. Figs. 8 and 9 are sections illustrating modifications of the blade for severing the paper.

Referring to the drawings, A represents a flat stationary platen supported by standards on a table B or other suitable support.

C represents the open rectangular frame, mounted on a horizontal pivot D at one end, so that it may swing upward and downward. This frame overlies the longitudinal edges of the platen for the purpose of confining the paper in position thereon during the printing operation. This frame C also serves as a support for the sliding base-frame E, which in turn supports the writing mechanism F. The foregoing parts may all be of ordinary construction.

Carrying my invention into effect I provide adjacent to the machine standards or supports G in any form adapted to support the roll or web of paper H, which may be extended across the platen beneath the frame C, as shown, so that when the frame is lowered its side bars will confine the paper upon the platen in position to be printed upon in the ordinary manner. Along the side of the platen distant from the paper-roll I secure a cutting or shearing blade I, and to the under side of the overlying frame C, I secure a corresponding blade J. After the surface of the paper has been written upon it is released by raising the frame C. The operator then grasps the end of the sheet and pulls it for-

ward across the platen until the printed surface is carried beyond the same and a new surface brought into the printing field, as indicated in Fig. 5. The frame C is then lowered and the blade J, coöperating with the blade I, shears or cuts loose the printed end of the sheet, and at the same time the frame descending upon the paper confines the new surface in position to be printed upon.

The lower blade may be secured to the platen in any suitable manner. The upper blade may be secured or otherwise rigidly attached to the frame; but it is preferably mounted to yield laterally in order to secure a more certain and perfect shearing action.

Referring to Figs. 4, 5, 6, and 7, the blade is secured at one end by screws j and at the opposite end held in place by a screw j^2, passing through a slotted ear thereon. This ear prevents vertical play of the blade and limits its lateral motion. A spring M, applied as shown, acts against the blade to urge it toward its companion.

The raising and lowering of frame C may be effected by hand or by any suitable mechanism. I prefer, however, to employ connections to a foot-lever either in the form and arrangement shown or otherwise. As shown in Figs. 2 and 3, the end of the frame is connected by link n to a centrally-pivoted lever n' on the table, this being in turn connected to a second link n^2 and an angular foot-lever n^3.

While it is preferred to feed the paper transversely of the platen and to arrange the knives lengthwise thereof, it is manifest that the knives may be arranged in any other position desired. It is also manifest that the severing-knife may be applied as shown whether its support is or is not relied upon as a means of clamping the paper in position.

While I prefer to employ knives with continuous edges to effect a clean severance of the paper, it is manifest that I may employ a knife having a serrated edge, as shown in Fig. 8, or, as shown in Fig. 9, a blade with small points or teeth to form a line of perforations or incisions in the paper so that the printed end may be readily torn away from the remaining portions.

I believe myself to be the first to produce an organized type-writing machine having a flat platen, means for confining one end of a long sheet or web on said platen, a writing mechanism by which writing may be effected progressively on said sheet and on any desired portion thereof, and mechanism adapted to permit the advance of said sheet and its severance at any desired point in its length to effect the removal of the printed portion while a new and unprinted portion is brought into the printing field.

It is to be observed that the writing mechanism and the severing or shearing mechanism operate independently and at different times.

Having described my invention, what I claim is—

1. In a type-writing machine, the combination of a flat platen, a downwardly-writing mechanism movable thereover, means for delivering a web of paper across the platen, means for confining the paper on the platen during the printing operation, and a shearing mechanism located beyond the printing field and acting independently of the writing mechanism to sever the printed end of the sheet from the remainder.

2. In a type-writing machine, the combination of a flat platen adapted to sustain the paper to be written upon, a frame coöperating with the platen to confine the paper thereon, and a shearing device connected with said frame and arranged to operate independently of the writing mechanism.

3. In a type-writer and in combination with a downwardly-acting writing mechanism movable thereover, a flat platen to sustain the paper, a vertically-movable frame acting to confine the paper upon the platen, and two shearing-blades attached respectively to the platen and the frame.

4. In a type-writer, the combination of a flat platen, means located at one side of the platen for sustaining a roll or web of paper, means at the opposite side of the platen for confining the paper thereto, and a shearing device connected with the paper-confining means whereby the printed end of the sheet may be severed from the remainder and the newly-formed end confined in position.

5. In a type-writing machine and in combination with the writing mechanism, means for sustaining a roll of paper and delivering one end across the printing field, means for confining the paper in position during the printing operation, and a shearing mechanism connected with and operated by said paper-confining means.

6. In a type-writing machine, the combination of the fixed platen, a traveling writing mechanism thereover, a rising and falling frame to confine the paper upon the platen, a shearing device connected to said frame, a foot-lever and lifting connections from the lever to the frame.

In testimony whereof I hereunto set my hand, this 24th day of March, 1902, in the presence of two attesting witnesses.

CLARENCE F. HOPKINS.

Witnesses:
H. P. VAN DEVEER,
W. L. DENCH.