

No. 760,186.

PATENTED MAY 17, 1904.

M. J. ETINGER.  
TYPE WRITING MACHINE.  
APPLICATION FILED SEPT. 14, 1903.

NO MODEL.

Fig. 1.

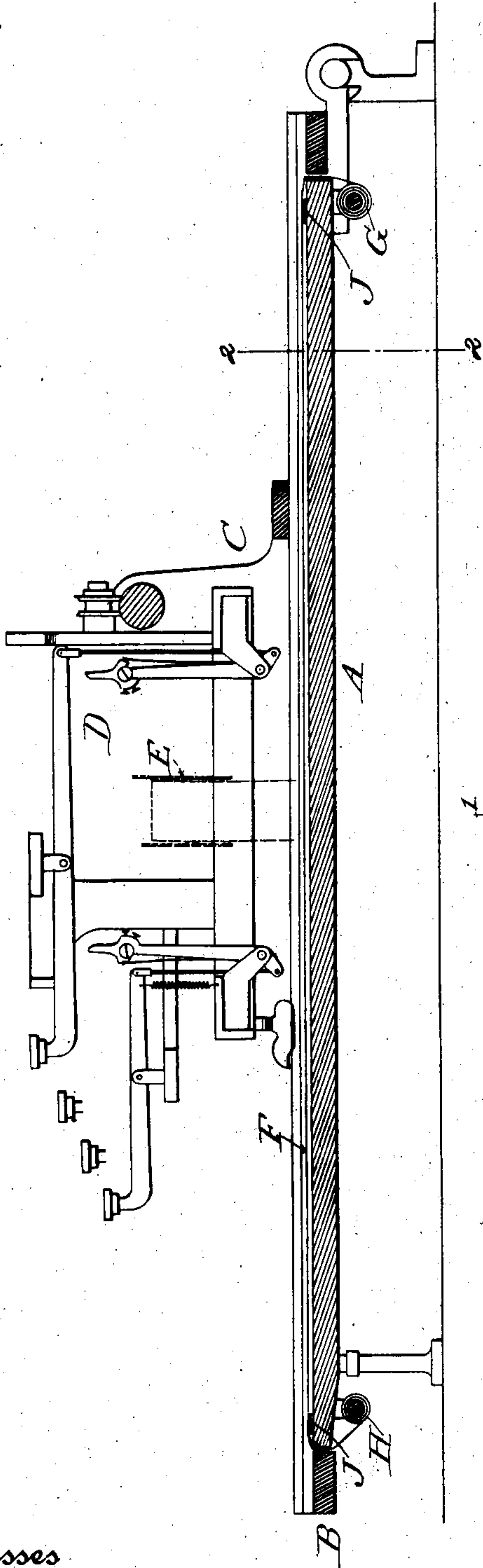


Fig. 2.

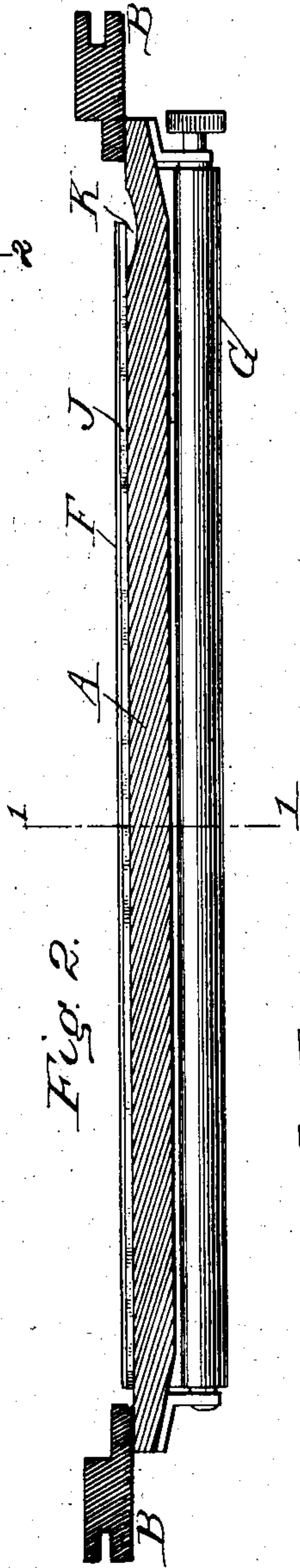
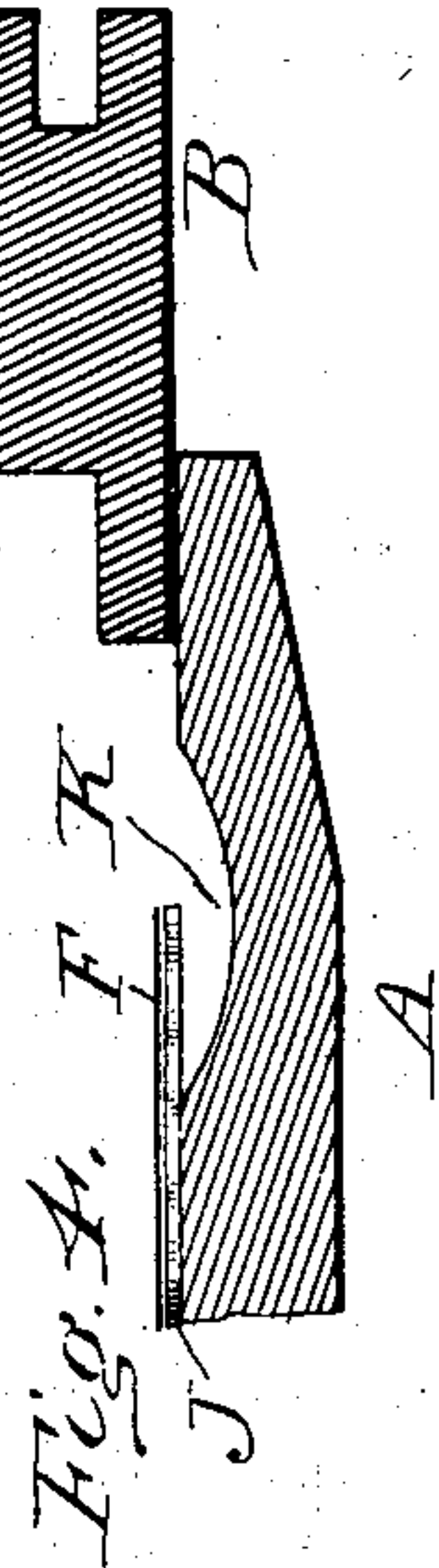
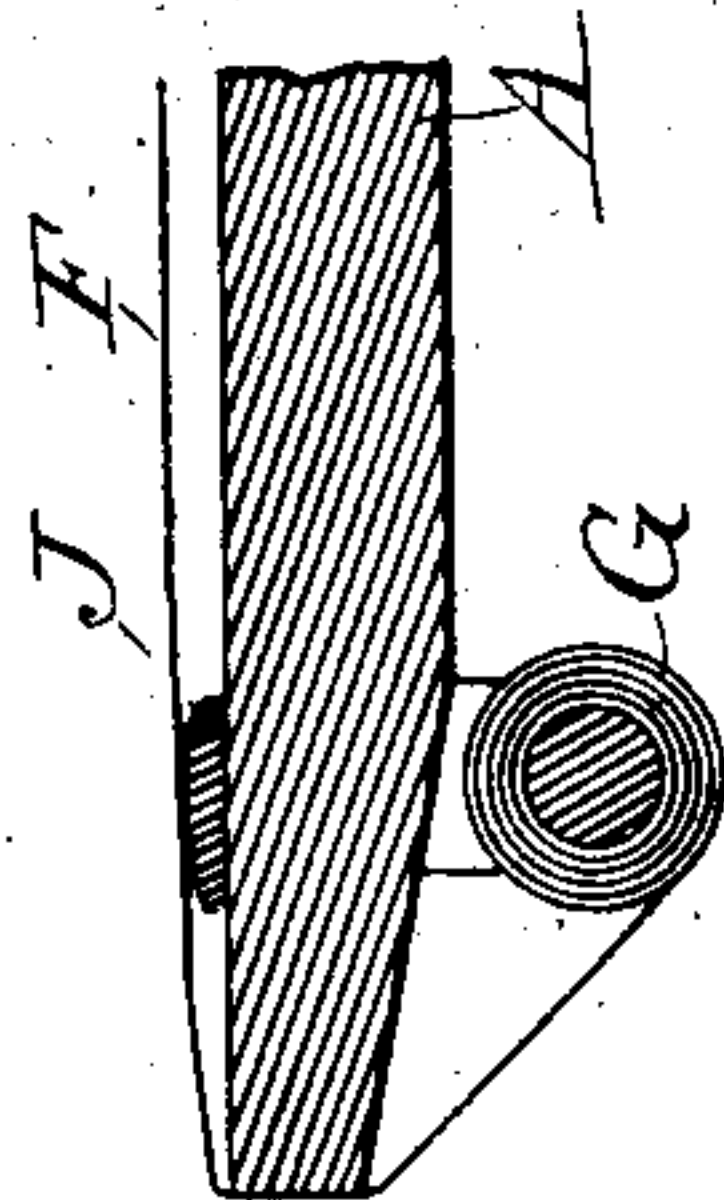


Fig. 3.



Witnesses  
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# UNITED STATES PATENT OFFICE.

MARTIN J. ETTINGER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
ELLIOTT-FISHER COMPANY, A CORPORATION OF DELAWARE.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 760,186, dated May 17, 1904.

Application filed September 14, 1903. Serial No. 173,024. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN J. ETTINGER, of Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Type-Writing Machines, of which the following is a specification.

My invention has reference to that class of type-writing machines in which the carbon sheet or web is extended beneath a downwardly-acting writing mechanism and over the surface of a flat platen on which the paper is supported beneath the carbon-sheet, as shown, for example, in the United States Letters Patent No. 736,646 to R. D. Stackpole.

In the use of this class of machines for commercial purposes it is necessary to repeatedly insert the same sheet of paper beneath the carbon-sheet in order that additions may be made to the printed matter thereon. Heretofore it has been customary to extend the carbon-sheet directly over the surface of the platen and in contact therewith, and in consequence of this fact it was difficult to speedily insert thin sheets of paper, and the sheets were frequently smutted by sliding contact with the carbon. The aim of my invention is to overcome this difficulty, and to this end it consists, broadly, in combining with the flat platen a carbon sheet or web extended thereover and constantly maintained in a fixed position out of contact therewith, the intermediate space being such as to permit the ready insertion and removal of the paper sheets edgewise. The details of construction may be modified at will.

In the drawings I have represented my improvement in the form in which it is successfully used on the commercial Elliott and Hatch machine.

Referring to the drawings, Figure 1 represents a longitudinal vertical section through an Elliott and Hatch machine, having my improvement incorporated therein on the correspondingly-numbered line of Fig. 2. Fig. 2 is a cross-section on the correspondingly-numbered line of Fig. 1. Figs. 3 and 4 are sections, on an enlarged scale, on the same lines as Figs. 1 and 2, respectively.

Referring to the drawings, A represents a flat bed or platen to sustain the paper sheet, commonly made of iron with a surface of vulcanized rubber or like material.

B represents the frame overlying the platen A and serving to sustain a longitudinal sliding frame C, which in turn supports the laterally-movable writing mechanism D, adapted to print in a downward direction. This writing mechanism is commonly provided with an ink-ribbon E, by means of which it is adapted to print on the paper sheet overlying the carbon-sheet, which latter in turn produces a copy on a second and underlying paper sheet.

F represents a carbon-sheet of paper or other suitable fabric extending lengthwise of the platen from a roll G at one end to a roll H at the other, these rolls being mounted in bearings on the under side of the platen or otherwise suitably supported and one or both of them provided with a knob or other suitable means for turning it in order to advance the carbon over the platen from time to time, thereby presenting a fresh surface in the printing field.

J J represent two fixed transverse bars or bridges extending across the upper surface of the platen near its ends for the purpose of sustaining the carbon, which is stretched over and between them in order to sustain it out of contact with the platen. These bridges are preferably screwed or otherwise fastened to the upper surface of the platen. Their thickness vertically should be slightly in excess of that of the paper ordinarily employed thereunder, so that the edge of the sheet may be readily thrust laterally under the carbon between it and the upper surface of the platen.

I prefer to construct the platen with a longitudinal depression K, extending beneath the edge of the carbon-sheet, as shown in Figs. 2 and 4, so that the paper sheet may be the more readily inserted; but this is not a necessary feature of the invention. The only essential requirement is that the carbon-sheet shall be prevented from coming in contact with the surface of the platen.



The bridges may be made in any other appropriate form or replaced by any equivalent means which will prevent the contact of the carbon-sheet with the platen within the printing-field.

A clear distinction is to be drawn between my machine, in which the carbon-sheet remains in position near but constantly out of contact with the underlying platen, and those machines in which the carbon-sheet is attached to a vertically-movable frame which is raised to permit the application or removal of the paper and then lowered until it is in operative relation to the platen.

Having described my invention, what I claim is—

1. In a type-writing machine, a flat platen, a writing mechanism coöperating therewith, a carbon-sheet extended over the platen, and fixed means for holding said sheet out of contact with the platen.

2. In a type-writing machine, the combination of a paper-supporting platen, a carbon-sheet extending thereover, and fixed carbon supports or bridges J, J, substantially as described.

3. In a type-writing machine, the platen A, a carbon-sheet extended thereover, fixed tension devices for said sheet, and means for holding the sheet out of contact with the platen.

4. In a type-writing machine, the flat platen A, the carbon-sheet F, extending thereover, stationary rolls attached to said sheet and adapted to maintain the same under tension,

and bridges or supports maintaining the separation of the carbon-sheet and platen.

5. In a type-writing machine, the combination of a platen having a depression therein, a carbon-sheet stretched over said platen, out of contact therewith, said sheet arranged to overhang the depression in the platen at one edge.

6. In a type-writing machine, the combination with a flat platen, of a carbon-sheet stretched over said platen, out of contact therewith, said sheet having one edge overhung or exposed with an open space thereunder to facilitate the insertion of the paper.

7. In a type-writing machine, a flat platen having fixed ribs or bridges to sustain the carbon-sheet out of contact therewith.

8. In a type-writing machine, a flat platen to sustain the paper, in combination with a carbon-sheet fixed in position parallel with the upper surface of the platen, and means substantially as described, maintaining a permanent separation of the platen and the carbon, to facilitate the introduction of the paper between them, whereby the usual movement of the carbon to permit the introduction of the paper is rendered unnecessary.

In testimony whereof I hereunto set my hand, this 5th day of September, 1903, in the presence of two attesting witnesses.

MARTIN J. ETTINGER.

Witnesses:

C. M. HILSEE,

ALBERT A. GEORGE.