

(No Model.)

2 Sheets—Sheet 1.

A. G. DONNELLY.
TYPE WRITING MACHINE.

No. 365,373.

Patented June 28, 1887.

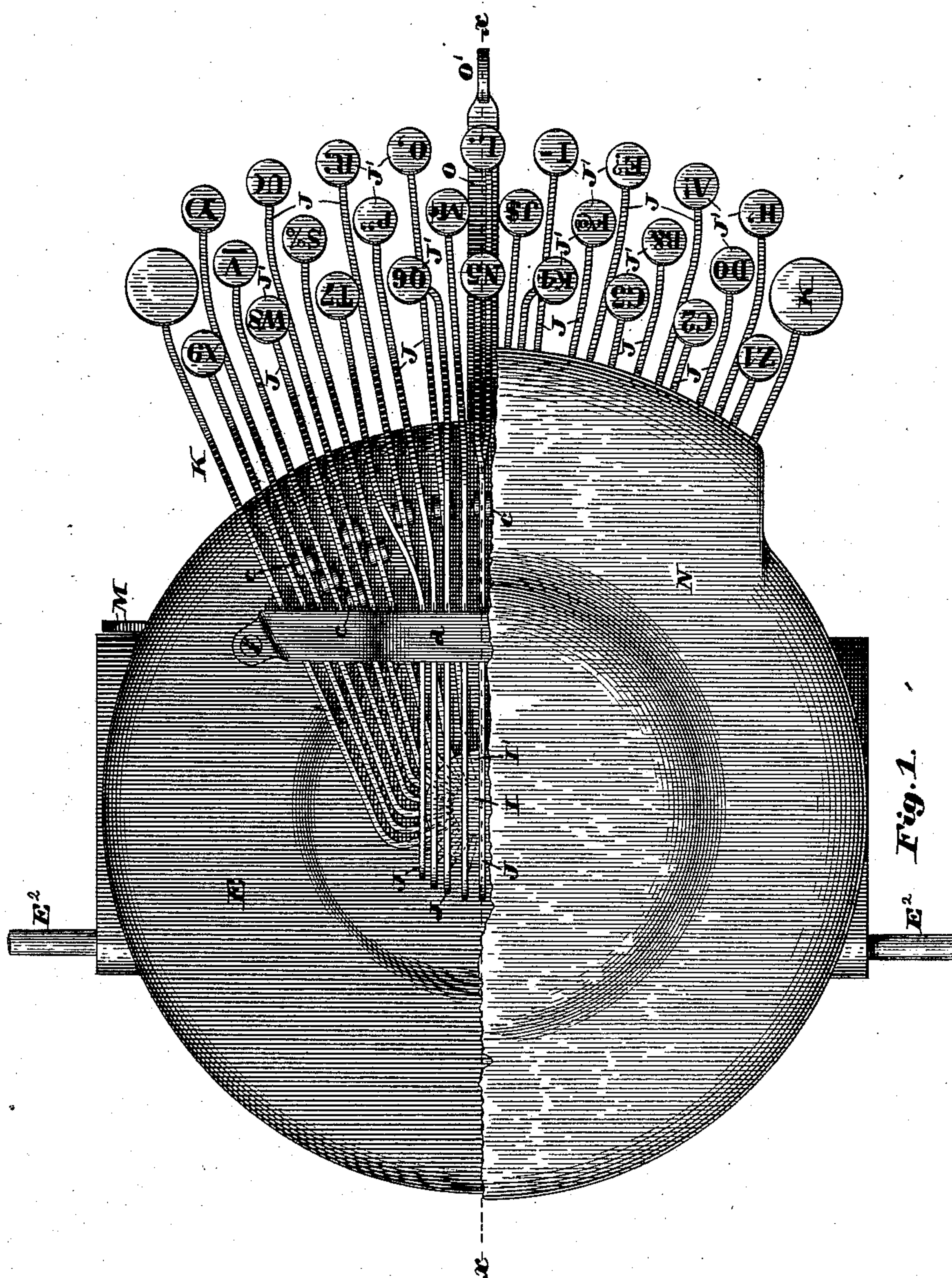


Fig. 1.

Witnesses:
Walter E. Lombard.
Orvil R. Chaplin.

Inventor:
Alex G. Donnelly,
by N. C. Lombard
Attorney.

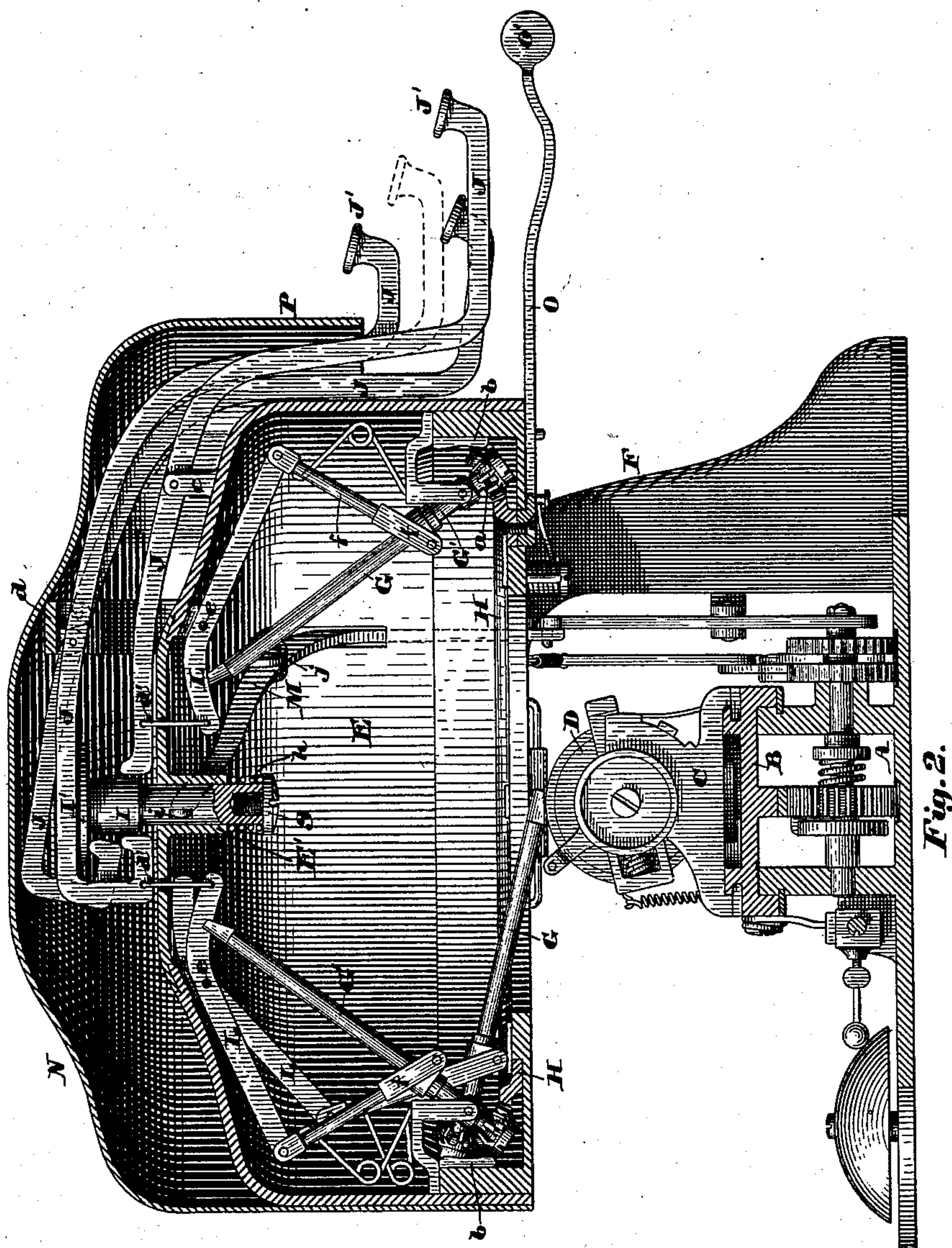
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by N. B. Lombard
Attorney.

UNITED STATES PATENT OFFICE.

ALEXANDER G. DONNELLY, OF NEW YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 365,373, dated June 28, 1887.

Application filed January 25, 1886. Renewed December 30, 1886. Serial No. 223,043. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER G. DONNELLY, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to type-writing machines, and is an improvement upon the inventions described in the application No. 145,749, filed by me October 17, 1884, and in another application of even date herewith; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the drawings and to the claim to be hereinafter given.

Figure 1 of the drawings is a plan of the pivoted head of a machine illustrating my invention, the bed, the paper-carrying roll, its carriages, and the mechanism for operating said carriages and roll being omitted, and a portion of the outer casing being broken away to show parts beneath; and Fig. 2 is a vertical transverse section of the complete machine, except that only three type-hammers and three keys, one for each bank, are shown, the cutting-plane being on line *xx* on Fig. 1.

In the drawings, A is the bed; B and C, the lower and upper carriages; D, the paper-carrying roll, all constructed, arranged, and operated in the same manner as described in my last-cited application, and as they form no part of my present invention, they need not be further described here.

E is the main casing of the head of the machine, pivoted to the goose-neck-like stands F F, and locked thereto precisely as described in my first-cited application.

G G are the type-bars mounted in the sleeves G', and having secured to their outer ends the pinions *a*, to engage with and be operated by the ring-gear H, and provided with radiating grooves to engage with the guide ribs or lips *b*, all constructed, arranged, and operating substantially in the same manner as described in my application of even date before referred to.

In both of my other applications the operating-keys were arranged in a single circle above the casing of the head, through which

their stems passed directly to and were secured by their lower ends to the type-bars. This arrangement of the operating-keys being a departure from the common practice, involving considerable trouble to the operators in learning the new arrangement and unlearning the old, I have thought it very desirable to arrange the operating-keys in front of the head in a series of banks; and to this end I reverse the letter and space feed operating spindle I—that is, I mount it in a bearing in the center of the main casing, but with its flange I' above said casing, instead of below it, as in my other applications—and mount a series of key-levers, J, on pivotal bearings supported by said main casing, some of them being hung in ears *c c*, cast directly upon said casing, and others in ears pendent from the stand *d*, secured to said casing, as shown. A portion of these key-levers extend over the flange I' of the spindle I and have their rear ends bent downward and forward beneath said flange, while the others extend directly under said flange, their rear end portions being bent sidewise in one or the other direction to a greater or less angle in such a manner that that portion of each lever which extends under the flange I' shall be substantially radial to the axis of the spindle I, as shown in Fig. 1.

K K are two space-key levers, also pivoted to ears projecting upward from the casing E, and engaging with the under side of the flange I', for the purpose of operating said spindle independently of the movements of the keys J, two keys K being provided, so that the space-feed may be operated by either hand of the operator. Each lever J is connected by the link *d'* with the inner end of the lever L, pivoted at *e*, and connected at its other end to the upper end of the link *f*, the lower end of which is forked and pivoted to the sleeve G', as shown in Fig. 2.

The spindle I has a bearing in the hub E', projecting downward from the casing E, and projects below the lower end of said hub, and is provided at its lower end with the screw-head *g*, between which and the lower end of said hub the spring *h* surrounds said spindle, and serves to move said spindle downward after it has been raised by either of the keys J or K, in an obvious manner. The spindle I

is also provided with a slot, *i*, to receive the inner end of the lever *M*, the hub *E'* being slotted to permit said lever to reach the spindle *I*. The lever *M* is pivoted to ears *j*, cast upon or secured to the under side of the casing *E*, and passes through a slot in the casing *E*, and also through a corresponding slot in the outer casing or cover, *N*, and has its lower end forked to engage with the carriage-operating mechanism when the casing *E* is in its normal position and enable it to be readily disengaged therefrom when the casing *E* is tilted backward upon its pivots *E'*.

O is a lever, secured at its rear end to the ring-gear *H* through a slot in the base-ring of the casing *E*, as shown and described in my other application of even date herewith, said lever projecting beneath the keys *J* to a point in front of the front row of key-buttons *J'*, so as to be conveniently accessible to the operator, and so that it can be readily moved in either direction by either hand of the operator by pressing upon the button *O'*.

N is the outer casing or cover fitted closely to the vertical wall of the main or inner casing, *E*, for about three-fourths of the circumference thereof, its front portion being extended outward to inclose the upright portions of the key-levers, as shown.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

The combination, in a type-writing machine, of a pivoted head or casing, a series of type-bars, and a corresponding series of levers, each connected at one end to one of said type-bars and all arranged radially within said casing, a flanged spindle mounted in a bearing in the center of the main casing of said head, with its flanged end uppermost, a series of key-levers pivoted to supports upon the exterior of said casing and provided at their front ends with finger pads or buttons arranged in a plurality of rows or banks in front of said casing, and each connected in the rear of its fulcrum with one of said radially-arranged levers within the casing, and having its rear portion extended beneath the flange of said spindle in position to act thereon to raise said spindle when the finger-pad is depressed, and a single lever connected with the inner portion of said spindle by one end and having its other end forked to engage with the carriage-operating mechanism mounted upon the bed, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses on this 16th day of November, A. D. 1885.

ALEX. G. DONNELLY.

Witnesses:

N. C. LOMBARD,
WALTER E. LOMBARD.