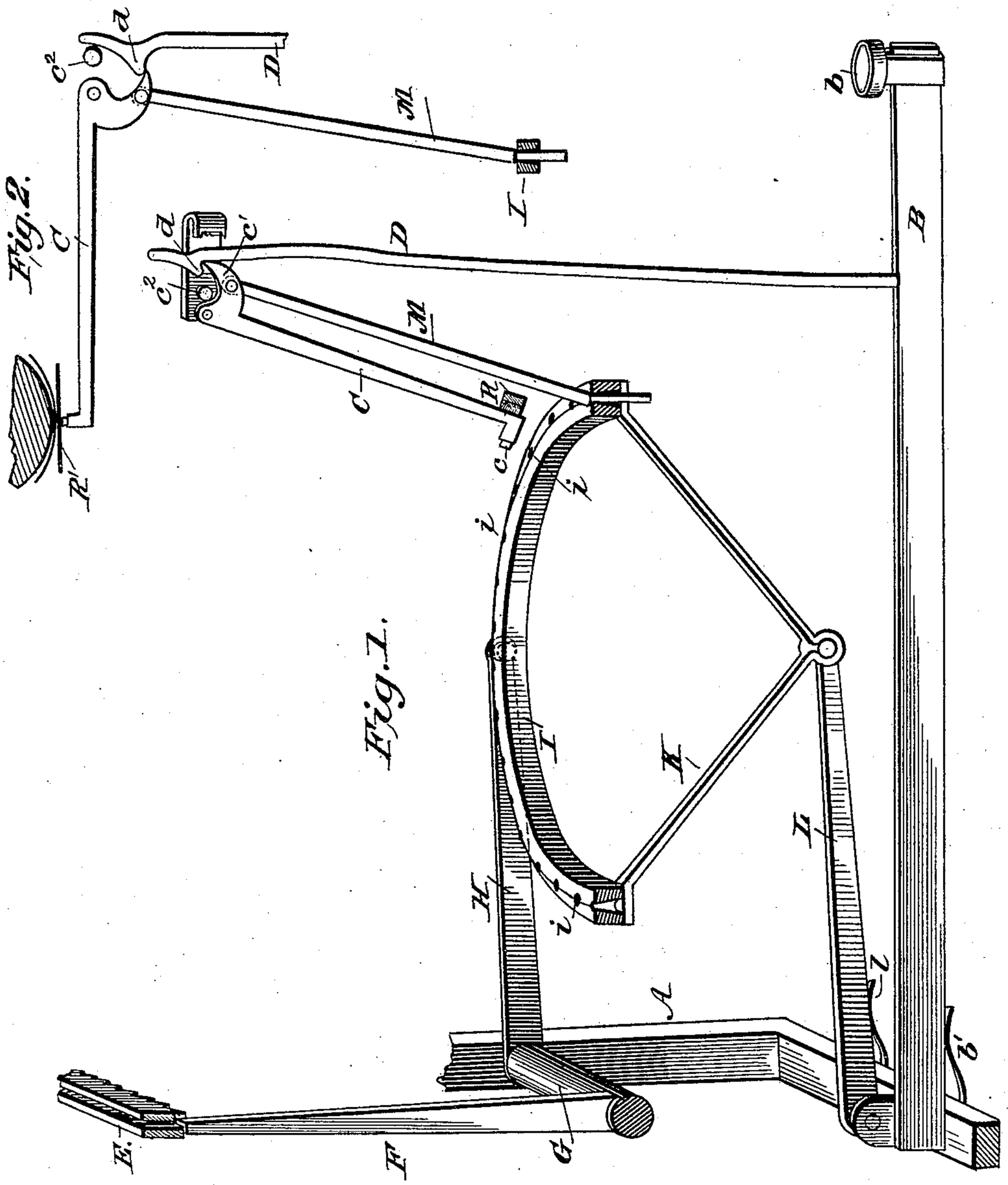
(No Model.)

G. M. BEERBOWER.

TYPE WRITING MACHINE.

No. 472,024. Patented Apr. 5, 1892.

Fig. 2.



WITNESSES:

Fred J. Dieterich

Jos. A. Ryan

INVENTOR:

George M. Beerbower

BY Munn & Co

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

GEORGE M. BEERBOWER, OF WASHINGTON, DISTRICT OF COLUMBIA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 472,024, dated April 5, 1892.

Application filed April 13, 1891. Serial No. 388,779. (No model.)

To all whom it may concern:

Be it known that I, GEORGE M. BEERBOWER, of Washington city, in the District of Columbia, have invented a new and useful Improvement in Actions for Type-Writing Machines, of which the following is a specification.

This invention relates generally to type-writing machines, and more particularly to the improved action, whereby the operator may depress a key, make an impression, and allow the weight of the hand to rest upon the key while others are depressed without danger of the type interfering with one another.

The object of my invention is to provide an action of this description which shall be simple, durable, and efficient, and one that will also operate the carriage in its lateral movement.

With these objects in view my invention consists in the peculiar construction of several parts and their novel combination or arrangement, substantially as shown in the drawings hereunto annexed, set forth in the description, and designated in the appended claims.

In the drawings, in which the same letters of reference indicate the same parts, Figure 1 is a sectional perspective view, and Fig. 2 is a detail view.

In the practical embodiment of my invention I employ a frame-work A, to which are pivoted the key-levers B at their rear ends, the forward ends of said levers carrying the keys *b*, and beneath the rear portion of the key-levers are arranged the springs *b'*.

The type-bars C are pivoted within the bearing clips or yokes in the usual manner and carry the type *c* upon the inner faces of their lower ends, the lower ends of said bars resting normally upon the rest-bar R. An outwardly-projecting and upwardly-curved tripping-finger *c'* is formed upon the outer face of each type-bar near the upper end of the same, and within each bearing clip or yoke a pin or stud c^2 is arranged above the finger *c'*, the purpose of which will appear further on. A pitman-rod D is rigidly attached at its lower end to each key-lever B, the upper end of said pitman passing through its respective bearing clip or yoke upon the outer side of the type-bar, and upon the inner face of the pitman, near its upper end, is formed a projection or shoulder *d*, the lower face of said projection being essentially horizontal, while the inner face of said projection is beveled upwardly and outwardly, as clearly shown. The projection or shoulder *d* engages and normally rests upon the outer end of the upwardly-curved finger *c'*, and when the key-lever B is depressed the pitman is also depressed, drawing the projection *d* down, which, acting on the curved finger *c'*, elevates the type-bar C, striking the type against the ribbon R'. When the type-bars are raised to their most elevated position, the upper face of the finger *c'* will be downwardly inclined, as shown in Fig. 2, and the projection or shoulder *d* will slide off the same, thus leaving the type-bar to drop back to its normal position by its own weight, and in case the shoulder should not so slide the pin or stud c^2 is so arranged as to engage the upper end of the pitman, throwing it outward from the said finger, thus insuring the release of the type-bar, whereby the weight of the hand may rest upon the depressed key while others are depressed without the types interfering with each other. When the key-lever is released, the key *b* will return it to its normal position, and the pitman also rising will again engage the curved finger *c'*, the inherent spring of the pitman, which is rigidly attached to the key-lever, being sufficient to spring the shoulder inward over the said finger.

To operate the rack-bar E of the carriage, I employ the usual vertical dog F, said dog being rigidly attached to a horizontal rock-shaft G, journaled in the frame, and rigidly connected with the said rock-shaft are the inwardly-projecting horizontal arms H, and between the inner ends of said arms is pivoted a horizontal annular plate or bar I, the said plate being supported in a horizontal position by means of a yoke K, which in turn is pivotally supported upon the inner end of a lever L, pivoted to the frame at its rear end, a spring *l* being arranged beneath the rear portion of said lever. The annular plate I is provided with a series of perforations or bores *i*, which perforations are made tapering, as shown.

A rod M is pivotally connected to each finger *c'* intermediate its ends, the lower end of each rod being reduced and inserted in its respective perforation *i*, the shoulder on the

said rod resting upon the upper face of the annular plate, said face being beveled outwardly and downwardly, as shown.

From the above it will be seen that when the key-lever is depressed, operating the type-bars, the finger *c'* is lowered, and consequently the rod M, attached thereto, and as the shoulder at the lower end of said rod rests upon the annular plate C said plate will also be depressed, the lever L permitting the same, and as the plate is depressed the arms H will be carried downward, rocking the shaft G and vibrating the dog F, thereby operating the rack-bar, and the tapering bores and beveled face of plate permit a limited amount of vibration of the rod M. When the type-bar descends to its normal position, the rod M is elevated and the spring *l* will also force the annular plate to its normal position, thus making the feed mechanism independent of the key-levers and allowing the carriage to be operated while one or more keys remain depressed.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a type-writing machine, the combination, with a type-bar pivotally supported in the bearing-yoke and provided with an outwardly-projecting finger, of a pitman-rod provided with an inwardly-extending shoulder adapted to engage the finger, a pin or stud arranged in the yoke and adapted to engage the upper end of the pitman, and the key-lever rigidly connected with the lower end of the pitman, substantially as shown and described.

2. In a type-writing machine, the combination, with the bearing yoke or clip, of the type-bar pivotally supported therein, said bar being provided with an outwardly-projecting upwardly-curved finger, a pitman-rod passing up through the bearing-yoke and provided with an inwardly-projecting beveled shoulder near its upper end, the pin arranged in the bearing-yoke, and the key-lever rigidly connected to the lower end of the pitman, substantially as shown and described.

3. In a type-writing machine, the combination, with the rack-bar, dog, and rock-shaft, of the arm secured to said shaft, the annular frame pivoted to the said arm, the lever supporting said frame, the type-bar, the pitman and key-lever, and the rod connecting the frame and type-bar, substantially as shown and described.

4. In a type-writing machine, the combination, with the annular frame suitably supported and having a series of perforations, of the type-bars, the rods connected with the type-bars and provided with reduced lower ends which rest in the perforations, the pitman-rods and key-levers, the rock-shaft and dog, and intermediate connecting devices between the frame and rock-shaft, substantially as shown and described.

5. In a type-writing machine, the combination, with the rock-shaft and dog, of the arm connected with the rock-shaft, the annular frame perforated as described, the supporting-yoke and lever, the type-bar, the pitman and key-lever, and the rod connecting the type-bar and frame, substantially as shown and described.

GEORGE M. BEERBOWER.

Witnesses:
E. McCOY,
JOHN CRITES.