

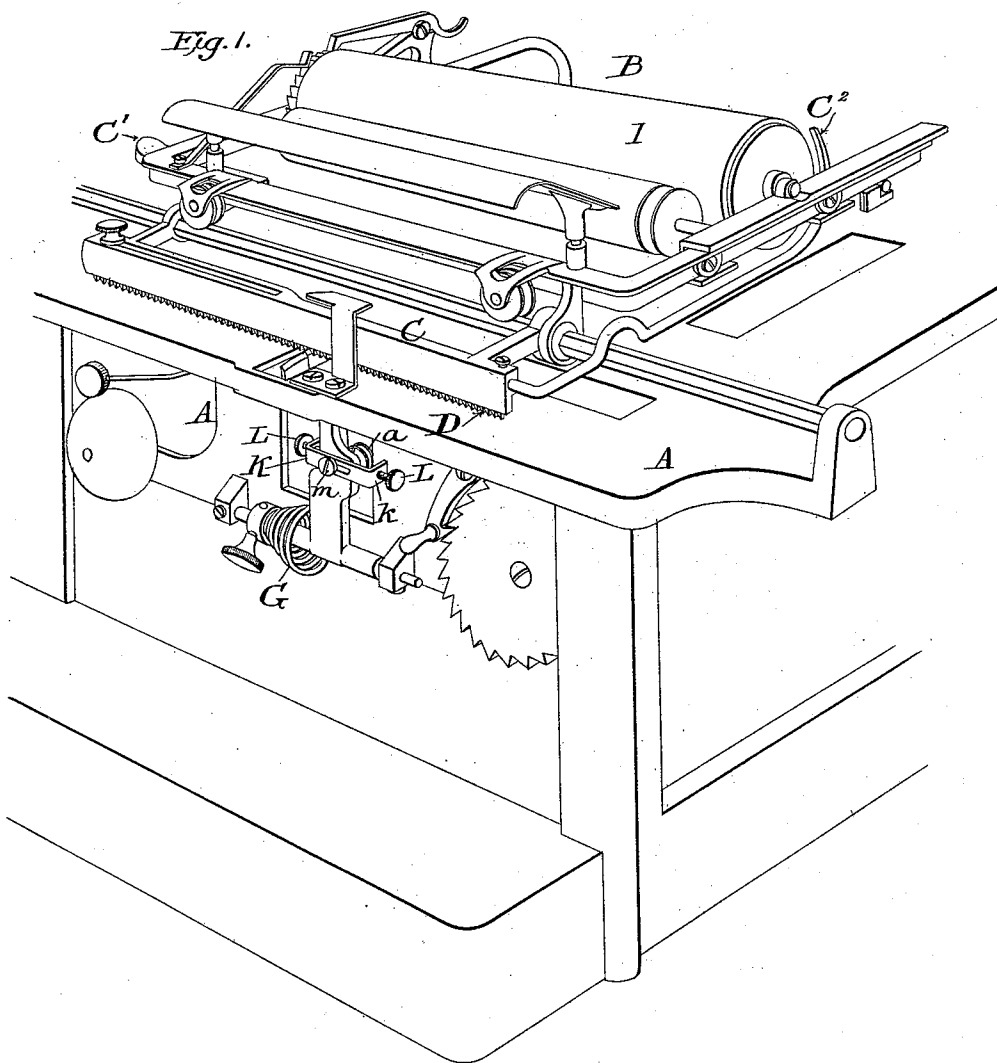
(No Model.)

2 Sheets—Sheet 1.

W. McK. JENNE.
TYPE WRITING MACHINE.

No. 464,436.

Patented Dec. 1, 1891.



WITNESSES

James F. DuKamel
Horace A. Dodge.

INVENTOR:

William McK. Jenne,
by Dodge & Co.,
his Attorneys.

(No Model.)

2 Sheets—Sheet 2.

W. McK. JENNE.
TYPE WRITING MACHINE.

No. 464,436.

Patented Dec. 1, 1891.

Fig. 2.

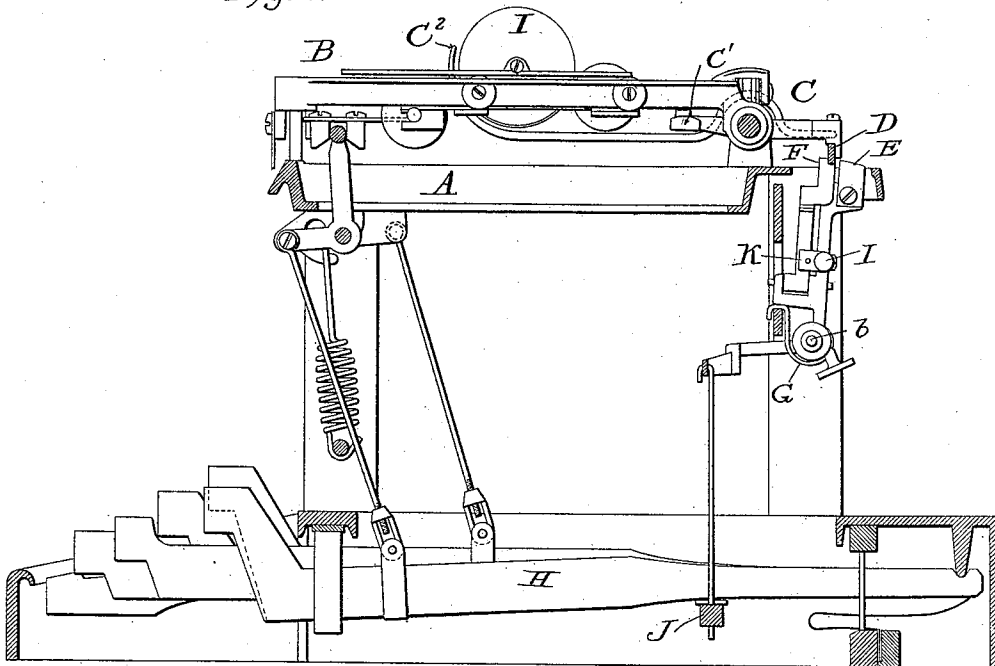


Fig. 3.

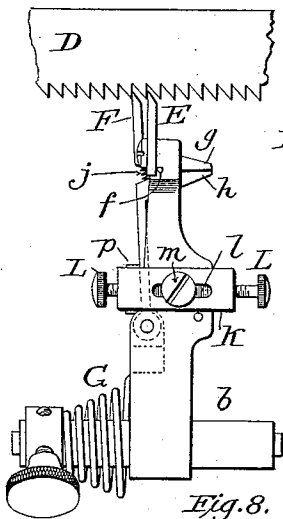


Fig. 4.

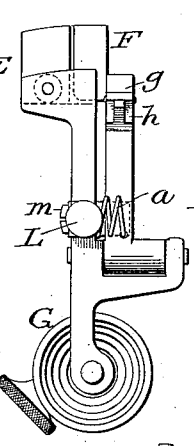


Fig. 5.

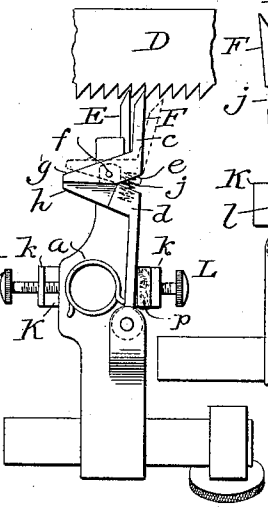


Fig. 6.

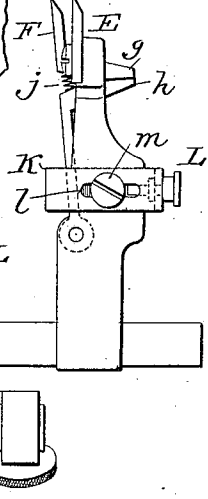
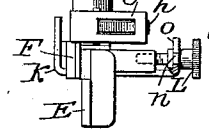


Fig. 8.

WITNESSES
James F. DuRoi.
Horace S. Dodge.

Fig. 7.



INVENTOR:
William McK. Jenne,
by Dodge & Sons,
his Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM MCKENDREE JENNE, OF ILION, ASSIGNOR TO THE STANDARD
TYPE-WRITER MANUFACTURING COMPANY, OF NEW YORK, N. Y.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 464,436, dated December 1, 1891.

Application filed January 4, 1888. Serial No. 259,768. (No model.) Patented in England December 31, 1887, No. 17,974.

To all whom it may concern:

Be it known that I, WILLIAM MCKENDREE JENNE, of Ilion, in the county of Herkimer and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

My invention relates to that class of type-writing machines in which a series of type bars or levers are grouped about and arranged to strike at a common point or center, past which point the paper is carried by a traveling carriage advanced by a spring and controlled in its advance by spacing mechanism.

The invention is more or less fully protected by British Patent No. 17,974, dated December 31, 1887, and has reference particularly to the letter-spacing mechanism and to means for effecting a disengagement of the spacing-dogs and rack-bar, such features being hereinafter fully set forth.

In the accompanying drawings, Figure 1 is a perspective view of a type-writing machine embodying my invention, looking from the rear; Fig. 2, a vertical sectional view from front to rear; Figs. 3, 4, 5, 6, 7, and 8, views illustrating details of construction of the spacing mechanism.

In the drawings, A indicates the frame of the well-known "Remington Standard Type-Writing Machine," to which these improvements more especially relate; B, the traveling carriage, and C the rack-frame pivotally connected with the carriage and provided with a rack-bar D, having teeth on its lower edge, these parts being of the usual form and construction, as are or may be all other parts not specifically described or fully illustrated herein. This carriage B is moved forward by a spring, as usual, with a step-by-step motion, one step for each letter or space of the printing. This step-by-step action is controlled by a rigid dog E and a yielding dog F, which move in a plane at right angles to the length of the rack-bar D, as in the machines now in use, the yielding dog having a movement equal to the length of one tooth. The yielding dog F is pivotally attached to the rigid dog E in such manner that it may

not only swing with said rigid dog in a plane at right angles to the length of the toothed rack-bar D, but may also move into and out of line with said rigid dog, a light spring *a* serving to throw it out of alignment therewith when not otherwise acted upon, and the forward movement of the carriage and rack-bar serving to carry it into such alignment whenever the rigid dog passes out of and the yielding dog enters into engagement with the rack-bar, as heretofore. The dogs are moved forward by the action of the finger-keys and levers H, acting upon the universal space-bar J and are thrown back by a spring G, coiled about the rock-shaft *b* of the rigid dog and attached at its ends to the frame A and to the rigid dog, respectively.

Thus far the description applies to the common as well as to the new construction.

Upon referring to Figs. 3, 4, 5, and 6 it will be seen that the yielding dog F is made in two parts, *c* and *d*, pivoted one upon the other, each part being cut away in front of the pivot-pin, as at *e*, to permit the upper part *c* to tip or move sidewise independently of the lower part *d* in one direction. In rear of the pivot *f* the upper member *c* of the dog—that is, the dog proper—is formed with a projecting arm *g*, which, when the upper and lower members *c* and *d* are straightened up in line with each other, rests upon a stop or support *h*, projecting rearwardly from the member *d*, the parts *g* and *h* thus serving to limit the independent movement of the part *c*. The parts *c* and *d* are each formed with a seat or socket in advance of pivot-pin *f*, which sockets receive the end of a light coiled spring *j*, which serves to hold the member *c* normally upright and the stops *g* and *h* in contact, but yields readily to any force tending to tip the member *c* forward. It is essential to the accurate working of the spacing mechanism that the bearing-faces of the stops *g* and *h* shall not offer large surfaces for the lodgment of dust, as the accumulation of dust or other matters between the parts would limit their approach and consequently vary the spacing. I therefore make one of the arms *g* *h* in the form of an open frame and the other of a width a little less than that of the opening in

said frame, as shown in Fig. 7, from which construction it follows that there is but very small contact-surface, only the rear cross-bar of the frame resting upon the narrow arm.

5 It is immaterial whether one or the other stop be made in the form of an open frame, and in fact good results may be attained by cutting away the opposing faces of the arms or either of them without adopting the open-
10 frame construction, a good form being a flat upper arm and a V-shaped lower arm with the apex of the V uppermost, as in Fig. 8.

Heretofore it has been customary to form the hand-lever carrying the dog, which rotates the platen or impression roll, with a nose or extension to bear upon and depress finger-piece C' of the rack-frame C in order to insure the lifting of the rack before beginning the backward movement of the carriage. Having removed the danger of injury to the machine from failure to thus lift the rack, it is not essential, though it is advisable, to lift it clear of the dogs; but as the right hand is naturally engaged in grasping the lever by
25 which the platen or roll is rotated, I find it advantageous to place a lever for lifting the rack at the left-hand end of the carriage, retaining also the finger-piece C' at the right hand. I accordingly drill into the end of the rack-
30 frame C a suitable distance and insert into the hole thus formed the laterally-bent end of a rod or lever C², which extends over the hinge-rod of the carriage and beneath the carriage and turns upward just in front of the roll I, as shown in Fig. 1, in convenient position to be depressed by the left hand. The end of the rod or lever C² may be made fast to frame C by set-screw, pin, or equivalent fastening. Instead of a wire, which is
40 preferred because of its cheapness and suitability for the place, the lever may be of other form of material, but in all cases will be under the construction herein claimed, a rigid arm directly attached to or forming a part of frame C. No claim is herein made to the release-lever except when thus directly applied to frame C, as above set forth, it being old to employ a lever separate from but adapted to act upon and lift the frame C.

50 With long-continued use the dogs E F or their stops become more or less worn, causing the spaces made between letters and words to be greater than when the machine is new. To compensate for such wear, as well as to facilitate nice adjustment in the first instance and to permit the spacing to be made to suit the special type used in each machine, I provide an adjustable stop K to limit the movements of the yielding dog F relatively to the
60 rigid dog E. This stop consists, primarily, of a metallic plate or slide having its ends *k* bent at right angles to its body, which latter is formed with a slot *l*, through which to pass a guiding and clamping screw *m*, by which the plate or stop is attached to the rigid dog E, as shown in Fig. 1.

L indicates an adjusting-screw, of which

there may be one or two, as preferred. When two are used, each serves to move the slide or plate K in only one direction, one performing the work of moving the slide and the other limiting such movement and serving as a gage; but when only one is employed it is arranged to move the slide in both directions. The first of these arrangements is illustrated
75 in Figs. 3, 4, and 5 and the second in Figs. 6 and 7.

Referring to Figs. 3, 4, and 5 it will be seen that both the laterally-bent ends *k* of the slide or plate K are provided with screws L, which
80 are screwed through holes tapped or threaded to receive them and bear at their inner ends against opposite faces of the upright shank or stem of the rigid dog E. The screws are formed with milled heads by which to turn
85 them, and by turning one backward and the other forward the slide may be moved longitudinally in either direction at will. When at the proper adjustment, the slide is clamped against further or accidental movement by
90 means of the clamping-screw *m*, passing through slot *l*, as above mentioned.

Referring now to Figs. 6 and 7 it will be seen that the screw L is circumferentially grooved, forming a reduced neck or stem *n*,
95 which enters an open-ended slot *o*, formed in one of the arms *k* of the slide K. The threaded end of the screw enters a correspondingly-threaded hole or socket in the stem or shank of the rigid dog E, and owing
100 to the fact that the arm *k* of the slide fits the groove of the screw and is held between the walls of said groove, it follows that as the screw is turned in or out the slide will be moved forward or backward with it, the clamp-
105 ing-screw *m* being of course loosened before and tightened after adjustment of the slide. That arm *k* of the slide K which forms the stop for the yielding dog F is preferably furnished with a pad *p*, of leather or other suitable material, to prevent undue noise or wear.
110 It is also apparent that the precise manner of swiveling the screw in the arm *k* is immaterial, the plan shown being, however, cheap and efficient.

115 Having thus described my invention, what I claim is—

1. In combination with the traveling paper-carriage and its rack-bar, dogs E F, the latter consisting of part *c*, having arm *g* in rear of its pivot, part *d*, having stop or support *h* in rear of its pivot, connecting-pin *f*, and spring *j*, one of the parts *g h* being cut away, substantially as described and shown, whereby the contact-surface is reduced and the lodg-
125 ment of dust between the parts prevented.

2. In combination with carriage B, frame C, rack-bar D, spacing-dogs E F, and lever C², directly attached to and extending from frame C to a point in front of the roll or platen of carriage B, as and for the purpose set forth.
130

3. In combination with the carriage and rack-bar of a type-writing machine, a yielding dog adapted to be put alternately into

and out of engagement with said rack-bar, a stop to limit the play of said dog, and an adjusting-screw for moving said stop relatively to the dog.

5 4. In combination with the carriage and rack-bar of a type-writing machine, a yielding dog adapted to be put alternately into and out of engagement with said rack-bar, a stop to limit the movement of the yielding
10 dog, an adjusting-screw for said stop, and a gage-screw to limit the movement of the stop.

5. In combination with the carriage and rack-bar of a type-writing machine, a yielding dog arranged to be put alternately into
15 and out of engagement with said rack-bar, a

stop to limit the lateral play of the yielding dog, an adjusting-screw for moving said stop, and a clamping-screw for retaining said stop at any desired adjustment.

6. In combination with carriage B, its rack- 20 frame C, rack D, dogs E F, stop K, clamping-screw *m*, and adjusting-screw L, all substantially as described and shown.

In witness whereof I hereunto set my hand in the presence of two witnesses.

WILLIAM MCKENDREE JENNE.

Witnesses:

THOS. RICHARDSON,
A. D. RICHARDSON.