(Model.)

N. F. PETIT, Jr.

TYPE WRITING MACHINE.

No. 310,308. Patented Jan. 6, 1885.

Fig. 1.

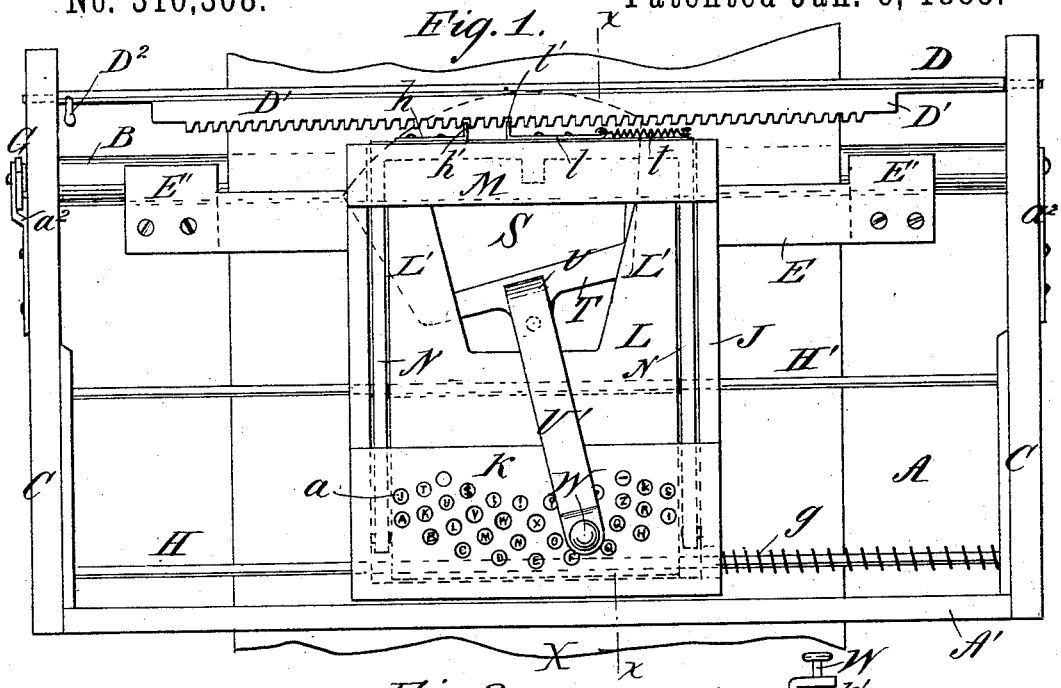


Fig. 2.

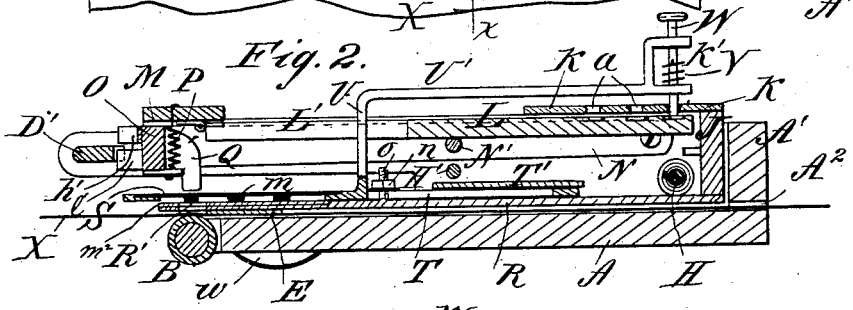


Fig. 3.

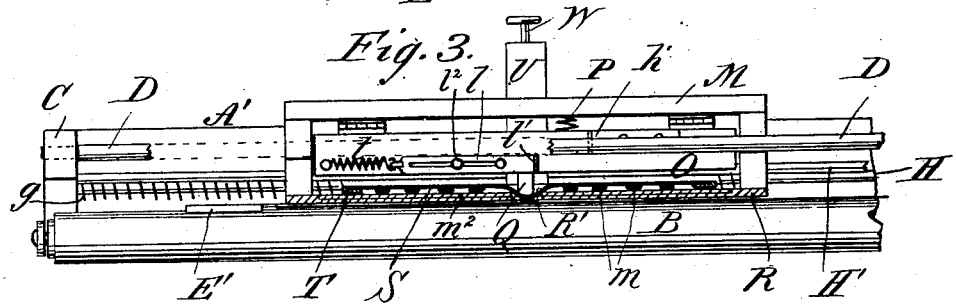
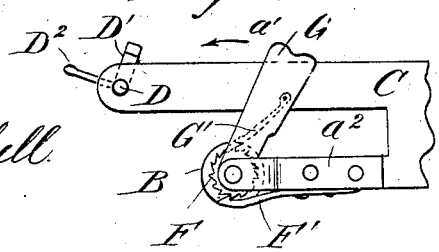


Fig. 4.



WITNESSES:

Donn Twitchell.

C. Sedgwick

INVENTOR:

N. F. Petit Jr.

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

NELZIRE F. PETIT, JR., OF CHARLESTON, SOUTH CAROLINA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 310,308, dated January 6, 1885.

Application filed December 11, 1883. (Model.)

To all whom it may concern:

Be it known that I, NELZIRE F. PETIT, Jr., of Charleston, in the county of Charleston and State of South Carolina, have invented a new and Improved Type-Writer, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved type-writing machine which is very simple in construction and is composed of very few parts.

The invention consists in certain improvements in that class of type-writers in which a flexible type-plate is used, and in which the pivoted frame-work carrying said flexible type-plate and its operating-fingers and levers is automatically moved at properly-spaced distances, as will be hereinafter fully described, and specifically set forth in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved type-writer. Fig. 2 is a cross-sectional elevation of the same on the line *x x*, Fig. 1. Fig. 3 is a face view of the same, parts being broken out. Fig. 4 is a side view of part of the end of the machine.

A base-plate, A, has a strip, a^2, secured to each end, the strips projecting beyond the longitudinal edge of the plate A, in which strips a rubber roller, B, or a roller covered with rubber is journaled, the said roller being arranged adjoining the longitudinal edge of the plate, which edge will be known as the "rear" edge. On the ends of the plate upright end pieces, C, are secured, the ends of which project beyond the rear edge of the plate A, and in the ends of the said end pieces a rocking rod, D, is held, to which a rack, D′, is secured, the rocking rod being provided at one end with a handle-lever, D^2, for working it. On the front longitudinal edge of the plate A an upright strip, A′, is secured, which is provided with a horizontal slot, A^2, at its bottom, through which slot the paper can pass. A metal strip, E, is secured at its ends on the plate A, the said metal strip or plate E having tongues E′, projecting beyond the rear edge of the plate A and partly overlapping the roller B. On one end of the roller B a ratchet-wheel, F, is formed or mounted, with which a pawl, F′, engages, which is fixed to the bottom of the plate A, and with the said ratchet-wheel a pawl, G′, engages, which is secured to a lever, G, mounted to rock on the end of the shaft of the roller B. A rod, H, is secured to the end pieces of the plate A parallel with the front strip, A′, and a short distance from the same, on which rod a frame or carriage, J, is mounted to slide, the rod H passing through one end of the said frame. On the front end of the said frame a plate, K, is fastened, which is provided with a series of apertures, *a*, under which the several letters appear, the said letters being produced on a plate, L, which is provided with two shanks, L′, hinged to the under side of a cross-piece, M, uniting the shanks of the frame J at the rear end of the machine, so that the plate L can be swung downward at the front end of the machine. A lever, N, is pivoted to each side of the carriage at the front end and inside of the same, which levers N are united at their free ends, which are at the rear of the machine, by a cross-piece, O, slightly beyond and above the roller B, the said cross-piece being drawn upward by a spring, P, secured to the same and to the cross-piece M, uniting the shanks of the frame J. The cross-piece O is provided at its middle with a downwardly-projecting finger, Q, which is directly above the longitudinal axis of the roller B. The sliding frame J is provided with a bottom, R, having an aperture, R′, directly under the finger Q.

On the upper surface of the bottom plate, R, of the sliding frame J a flexible type-plate, S, rests, on the under side of which the projecting type *m* are arranged. The type-plate S is secured to a longitudinally-slotted plate, T, resting on the bottom plate, R, and held on the same by a nut, *n*, screwed on a pivoting pin, *o*, projecting upward from the bottom R. The slotted strip or plate T is provided at the end by which it is connected with the type-plate with a standard, U, having an arm, U′, projecting over the plate K, which arm has a fork, K′, formed on its free end, in which a pin, W, is held to move vertically, which pin is provided at its upper end with a head. A spring, V, is held between the shanks of the fork K′ and

presses the pin W upward. The longitudinally-slotted plate T passes under a plate, T′, held a short distance above the bottom plate, R. The levers N are united by a cross-rod, N′, on which the plate L rests.

Around the rod H a spring, *g*, is coiled, which draws the frame J toward the right. If desired, an additional rod, H′, can be provided, on which the frame J can slide.

On the outer surface of the cross-bar O, uniting the levers N, a fixed plate, *h*, is fastened, which is provided with a tooth, *h′*, adapted to engage with the teeth of the rack D′. On the same surface of the cross-bar O a longitudinally-slotted plate, *l*, is held by studs l^2 passing through the slot, which plate is provided with a tooth, *l′*, also adapted to engage with the teeth of the rack D′. The plates *h* and *l* are so arranged that their toothed ends are adjoining to each other, the teeth projecting from the surface of the cross-piece O. A spring, *t*, secured to the cross-piece O, is also secured to the end of the sliding strip or plate *l* and draws the same in the direction from the toothed strip or plate *h*. At the rear end the machine is provided with supports *w*, which hold it slightly above the table and permit the roller B to revolve. The rear end of the bottom R is beneath the type-plate, provided with an inking-pad, m^2.

In using the type-writer the paper X is passed through the slot A^2 in the front of the machine, under the plate E, and over the roller B, on which it is pressed by the tongues E′, formed on the ends of the said plate E. The frame or carriage J is first moved toward the left-hand end of the machine, and is then drawn toward the right-hand end by the spring *g*. If a certain letter is to be printed, the free end of the arm U′ is seized and adjusted until the pin W is over the desired letter, showing through an aperture *a* in the plate K, and thereby the type-plate will be adjusted in such a manner that the corresponding type will be above the aperture R′ in the bottom R of the frame or carriage J, the type on the type-plate and the type in the holes *a* in the plate K being all arranged in segmental lines, so that if the arm U′ is pushed over a certain segmental row of holes, *a*, in the plate K the type-plate will be pushed outward such a distance that the corresponding row of types will be above the aperture R′. If the desired letter is at the left-hand side of the plate K, it will also be on the left-hand end of the type-plate, and if the handle end of the arm U′ is turned to the left to bring the pin W over the corresponding letter-aperture the corresponding end of the type-plate will be moved to the right, so as to bring the said left-hand end of the type-plate over the aperture R′. In that manner any desired letter can be brought over the aperture R′. When the pin W is over the desired aperture *a*, the said pin is pressed downward, thereby pressing down the free end of the plate L, which acts on the cross-rod N′, connecting the levers N, and presses the said levers downward, thereby pressing the cross-bar O downward and causing the finger Q to press on that type above the aperture R′, thereby causing the said type to make an impression on the paper. If the pin W is released, its spring V throws it upward, and the spring P pulls upward the cross-bar O, connecting the levers N, and the type-plate can then be adjusted for printing another letter. When the bar O is lowered, the tooth *h′* locks in the teeth of the rack D′, and thus holds the type-carriage in place; but if the cross-bar O is raised the tooth *h′* is disengaged from the teeth of the rack D′ and the tooth *l′* is engaged with the teeth of the rack D′. The spring *g*, acting on the carriage, draws the same toward the right, as stated, and will also stretch the spring *t* slightly—that is, until the check pin or stud l^2 strikes against that end of the slot in the slide *l* farthest from the tooth *l′*—thereby permiting the spring *g* to move the type-carriage the distance that the spring *t* has been stretched; or, in other words, the carriage will be moved the distance that the pin l^2 has traveled in the slot of plate l^4. If, then, the bar O moves downward again, the tooth *l′* is disengaged from the rack D′ and retracted by spring *t*, and the tooth *h′* will immediately be engaged with the rack D′, thereby locking the carriage in place. At every impression made the tooth *h′* locks in the teeth of the rack D′, and then as the bar O is raised the tooth *h′* is disengaged and the tooth *l′* engages the rack, the said tooth *l′* being drawn slightly toward the right, as described. The carriage is then locked in place again by the tooth *l′*, and so on alternately, whereby the spacing of the letters is accomplished. If blank spaces are desired, the arm U′ must be so adjusted that no type of the type-plate will be above the aperture R′, and then the bar O depressed in the manner described above. When the carriage has been drawn to the right-hand end of the frame, and is to be moved back again, the rack D′ is turned upward by means of its handle D^2, and the carriage is pushed back and locked in place by swinging the rack downward. The paper is shifted by swinging the lever G in the direction of the arrow *a′* more or less, as may be desired.

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

1. In a type-writer, the combination, with a carriage, of a type-plate, a plate provided with apertures arranged the same as the type on the type-plate, a frame pivoted to the rear of the carriage and adapted to be operated by a pin in the free end of an arm for adjusting the type-plate, and a frame pivoted at the front end of the carriage, and provided at the rear end with a finger for depressing the types of the type-plate, substantially as herein shown and described.

2. In a type-writer, the combination, with a type-plate carriage, of the type-plate S, secured to a slotted plate, T, the pin *o*, the nut

n, and the handle U′, substantially as herein shown and described, and for the purpose of shifting the type-plate.

3. In a type-writer, the combination, with a movable carriage having an apertured bottom, of the type-plate S, resting on the said bottom, the pivoted frame L, having shanks L′, the levers N, united by a cross-rod, N′, and by a cross-bar, O, at the free ends, and of the finger Q, secured to the cross-bar O, substantially as herein shown and described.

4. In a type-writer, the combination, with a sliding carriage, of the flexible type-plate S, the plate M, secured to the rear end of the carriage, the plate L, provided with the shanks L′, hinged to the plate M, the pivoted levers N, united by a cross-rod, N′, and by a cross-bar, O, at the free ends, the finger Q, projecting down from the cross-bar O, and the spring P, secured to the cross-bar O and to the plate M, for drawing the cross-bar O upward, substantially as herein shown and described.

5. In a type-writer, the combination, with a carriage, of the flexible type-plate S, provided with a handle-arm, U′, the pin W, held in the free end of the said handle-arm, the plate K, provided with apertures *a*, arranged in the same manner as the type on the type-plate, the plate L, provided with shanks L′, hinged to the rear end of the carriage, the levers N, pivoted at the front part of the carriage, the cross-rod N′ and the cross-bar O, uniting the levers N, and the finger Q, substantially as herein shown and described.

6. In a type-writer, the combination, with a type-carriage carrying a frame adapted to swing vertically, of the plate *h*, secured on the swinging end of the frame, and provided with a tooth, *h*′, the longitudinally-slotted plate *l*, held on the swinging end of the frame, and provided with a tooth, *l*′, and the rack D′, secured on the shaft D, provided with a handle-lever, D^2, for rocking the shaft to swing the rack up and down, substantially as herein shown and described.

NELZIRE F. PETIT, JR.

Witnesses:
E. B. MILEN,
J. C. RIVERS.