(Model.)

2 Sheets—Sheet 1.

T. WILKINS.

TYPE WRITING MACHINE.

No. 330,183. Patented Nov. 10, 1885.

Fig. 1.

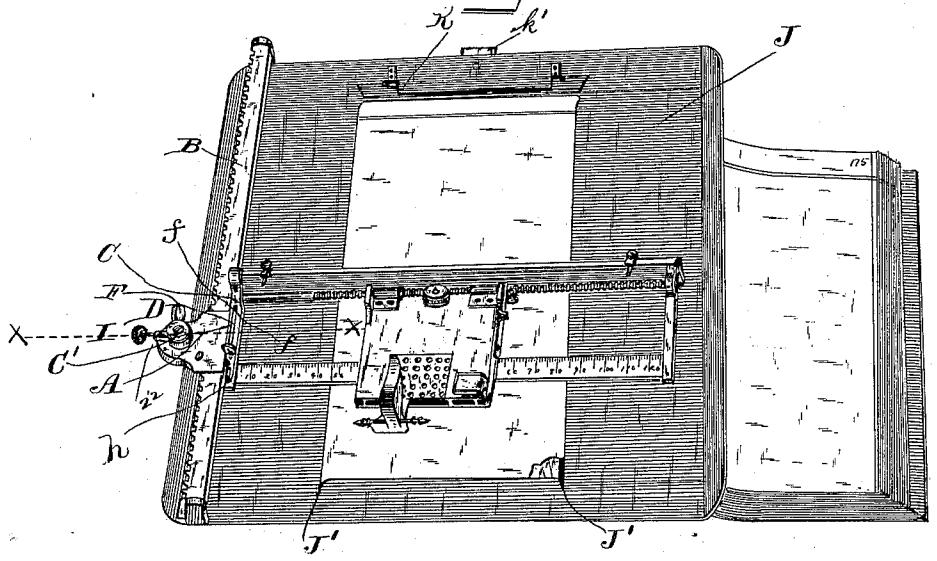
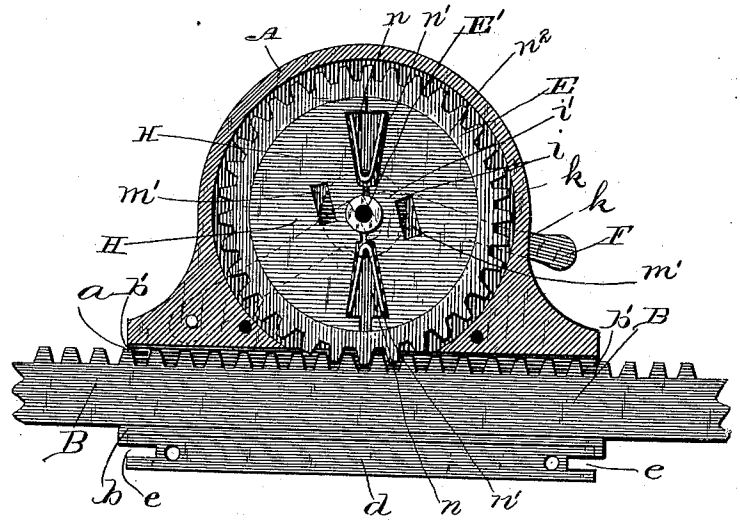


Fig. 2.



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(Model.) 2 Sheets—Sheet 2.

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Fig. 3.

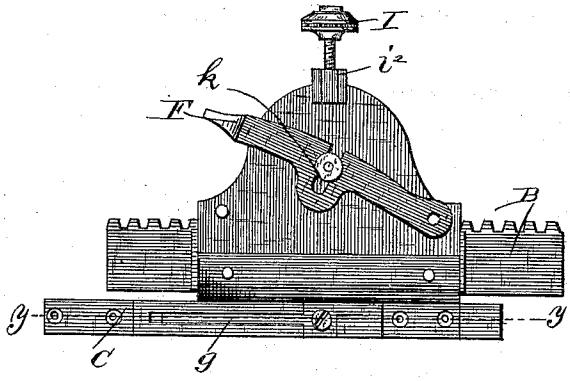


Fig. 4.

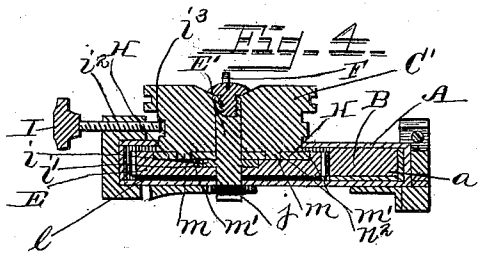


Fig. 5.

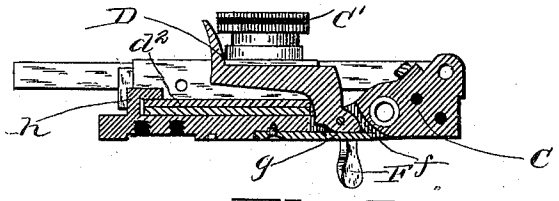
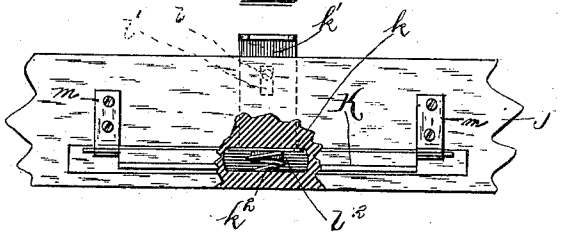


Fig. 6.



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UNITED STATES PATENT OFFICE.

TIMOTHY WILKINS, OF SIGOURNEY, IOWA.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 330,183, dated November 10, 1885.

Application filed November 14, 1884. Serial No. 147,967. (Model.)

To all whom it may concern:

Be it known that I, TIMOTHY WILKINS, a citizen of the United States of America, residing at Sigourney, in the county of Keokuk and State of Iowa, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to improvements in type-writers, more especially in appliances to adapt the latter for use in writing in books, while it is equally applicable for writing upon separate sheets of paper; and it has for its object to effect the foregoing purposes in an expeditious and approved manner.

The invention consists in the sundry combinations of parts and their construction substantially as hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a plan view showing my invention as applied to the leaf of a book. Fig. 2 is a detail view of the appliance for adjusting the type-writer over the face of the paper or book with its cover removed. Fig. 3 is an under side view thereof. Fig. 4 is a cross-section taken on the line *x x*, Fig. 1. Fig. 5 is also a sectional view of the same, said section being taken on the line *y y*, Fig. 3; and Fig. 6 is a detail view of the paper-clamp with parts broken away.

In the organization of my invention I employ an inclosing-case, A, which is preferably constructed with a rectangular chamber, *a*, at its inner side to receive the rack-bar B, the purpose of which will appear further on. The chamber *a* may be provided upon its lower and inner sides with movable lining-plates *b b'*, with bent ends to secure them as against longitudinal displacement. Along the lower inner edge of one side of the case A is formed a horizontal ledge, *d*, to which an extension of the under side plate of the case A is bolted or fastened. In each end of the thus bolted or fastened together ledge and plate extension are cut notches or slots *e*, the function of which will appear further on.

C is one of the end bars, to which are connected the carrying-rods and graduated plate of the type-writer, as shown, which latter form no part of this invention, and need not therefore be here further described. To this end bar of the aforesaid carrying-rods and plate is connected the case A, a thumb-lever, D, being eccentrically pivoted in a slot, *f*, in said end bar, C, with the heel of its eccentric bearing upon a spring, *g*, secured to said bar in the bottom of said slot, while the front edge of said eccentric fits into one notch or slot *e* of the ledge *d*, and an overhanging hook, *h*, formed or brazed upon one end of the end bar, C, fits into the other slot or notch *e* of said ledge. This eccentric or holding lever effects, together with said overhanging hook, as will have been observed, the removable connection of the case A with said end bar, C, of the type-writer carrying-rods and graduated plate. The action of the spring *g* locks the lever D in place when depressed into contact with the ledge *d*, into which position said lever is placed when the case is connected to the aforesaid end bar. Within the outer end chamber of the case A is disposed a pinion, E, whose teeth engage with the rack-bar B to cause the forward or backward movement of the type-writer, and which pinion is fitted upon a shaft, and so as to permit said shaft to have endwise movement independently of the pinion. Upon this shaft is fixed circular collar *i*, which is adapted to fit into a corresponding recess, *i'*, of the pinion E. The spindle or shaft E' extends beyond each side of the case A, its lower end having parallel slots or notches *j*, which receive the side edges of the slot or yoke *k* of a lever, F, with one end pivoted to the under side of the case A, near one edge. The free end of the lever F is bent beyond the opposite edge of said case A upward, to permit its convenient manipulation by the hand, thumb, or finger. By the movement of the lever F into engagement with the slots *j* of said end of shaft or spindle E' the collar *i* of said shaft is moved in the recess *i'* of the pinion E, forcing or clamping said pinion upon a friction-pad, *l*, in the bottom of the case A, thus holding said pinion firmly as against movement, which is desirable when the type-writer is in operation, or after it has been properly adjusted. Previous to the transmission of movement to the pinion E the lever F is moved out of contact with the pinion shaft or spindle E'. Upon the end of the spindle or shaft E' is fitted, so as to

turn thereon, a knob or hub, C′, being held upon said spindle or shaft by a screw inserted through its disk or head into a threaded aperture of said spindle. The inner end of the hub or knob is provided with two pins or studs, *m*, extending into slots *m′* in two semicircular frictional clutches, H. The opposite straight edges or surfaces of the clutches H are provided with recesses *n*, for reception and retention of springs *n′*, which normally hold the clutches into forcible contact with the pinion E, the clutches being seated in a recess or depression, n^2, of said pinion. The slots *m′* of the clutches H are disposed obliquely to radii of the circle described by the joint outer edges of the clutches, whereby, upon turning the knob to the right, said clutches are so acted upon by the pins or studs of said knob as to permit the compression of their springs and the retraction of said clutches from contact with the shoulders of the recess of said pinion, within which said clutches are disposed, as above stated, and thus permit the reversal of the movement of the pinion as is required to return the case to the upper end of the rack-bar, to enable the type-writer to again begin operation.

I is an adjusting and holding screw working in a bracket, i^2, secured to the case A, the inner end of said screw being adapted to bear upon a flattened or plane surface, i^3, formed upon the shank of the knob or hub C′.

From the foregoing it is obvious that, by varying the adjustment of said inner end of the screw with relation to said surface of the knob-shank, (it being understood, of course, that said screw is not to be moved beyond contact with said knob or hub shank,) the amount of movement to be imparted to the pinion E can be regulated, giving it more or less, according to the distance it is desired to move the case with the type-writer, in order to vary the spacing between the lines of writing.

To properly or flatly hold down the leaves of a book upon which the type-writer is to be placed or adjusted for writing therein, I provide a board, J, which is provided with two parallel suitably-spaced-apart slots, J′, being governed as to the amount of space to be left between them by the width of the leaves of the book. These slots have their sides beveled or inclined from the upper surface of the board outward, to permit the proper insertion or reception of the leaf of the book. To apply the board to the leaf of the book, the former is stood upon its lower left edge, slanting over the book, when with one hand or three fingers the lower left corner of the leaf is in the present instance passed into and through the right-hand slot of the board. The board simultaneously with the continued passing of the leaf through said slot is moved over one-half of the book. The leaf, after having been passed sufficiently through said slot upon the board, is next passed through the other slot of the board, when the board with the leaf will be brought to a horizontal position, resting upon the book. The paper is now smoothed out and held in place by pins, while the board is clamped in place by suitable means provided for that purpose.

In applying the type-writer, together with my aforesaid adjusting device therefor, to sheets of paper, I have provided a paper-clamp at or near the extreme upper end of the board J. Said paper-clamp consists of a long thin metallic plate, K, having its ends rounded to provide a pivotal support or bearing for and to permit the operation of said plate, and it is also provided with a stem, *k*, extending downwardly through a slot formed in the board J, and said stem is clamped at its lower free end by a keeper, *k′*. Said keeper is passed through a slot formed in the surface of the under side of said board J, and extends a short distance beyond the upper edge thereof, where it is provided with a suitable head or knob, to permit of its easy manipulation. A small lug or projection, *l*, is formed or cast integral with the upper surface of said keeper, and is secured in a small slot or recess, *l′*, formed in said board, and by this arrangement the keeper is guided in its movement. The inner end of the keeper *k′* is provided with a small shank, l^2, designed to be projected through a slot formed near the lower edge of the stem *k*, and said shank is encircled by a small coil-spring, k^2, the other end of which presses against the surface of the slot formed in the board J, and the office of said spring, it is obvious, is to regulate the action of the paper-clamp. The rounded ends of the plate K rest in and are supported by two small eye-plates, *m*, secured to the upper surface of the board J.

From the foregoing it will be seen that by pressing on the keeper *k′* in the direction of the book, the plate K will be raised and permit the insertion of the leaf of the book, and thus securely hold the same in position as against displacement.

In operation, supposing the leaf of the book to have been applied to the board as above described, the case A is moved by the operator to the top of the rack-bar B, and the thumb-lever D being opened or in a raised position the connecting-bar of the type-writer is so placed alongside of the said case A as to cause the hook *h* and the front edge of the said eccentric to fit into the notches or slots *e e* of the ledge *d*, and by closing or pressing downwardly on said thumb-lever the same will effect the secure connection of the case A. Then by turning the knob or hub C′ of the spindle or shaft E′ the same will cause the turning of the pinion E, engaging with the rack-bar B, until the gage-bar and type-carriage are in the desired position on the leaf of the book, and the case and the type-writer are held in such position by pushing outwardly on the lever F, bringing the same into engagement with the slots of the spindle or shaft. The adjustment of the screw I with relation to the knob or hub is then effected, and by so placing the said screw opposite the flattened or plane surface

i^3 formed on the shank of the said knob or hub the same will regulate the distance between each line of writing.

It will be observed that when the device is in the position just detailed the revolution of the pinion E is only effected by turning the knob or hub to the left, and that after each adjustment of the type-writer in the desired position the knob or hub is turned to the right, thus also returning the clutches ready for another adjustment of the type-writer, as before stated.

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

1. The combination of the fixed rack and the pinion connected with the type-writer carrying-frame, and fitted upon a loose spindle or shaft having a fixed collar entering a recess of said pinion, with the lever having a yoke or slot receiving and connecting with said spindle, substantially as shown, and for the purpose described.

2. The fixed rack and the pinion engaging the rack mounted upon a loose spindle or shaft, and connected, substantially as described, with the type-writer carrying-frame, in combination with the frictional clutches fitted within a recess of said pinion and a knob to turn said spindle or shaft having pins engaging the clutches, substantially as shown, and for the purpose described.

3. The fixed rack, the pinion mounted upon a loose spindle or shaft carrying a knob or hub provided with pins or studs, and connected, substantially as described, with the type-writer carrying-frame, in combination with the frictional clutches disposed within a recess of said pinion, and having slots obliquely arranged to radii of the circle described by the outer edges of said clutches and receiving pins on the knob, substantially as shown, and for the purpose described.

4. The fixed rack, the pinion together with its loose spindle, and the frictional clutches having oblique slots, in combination with the knob or hub having pins or studs engaging said slots of the clutches, the holding and adjusting screw engaging a straight or flattened surface of the shank of said knob or hub, and the type-writer carrying-frame connected, substantially as described, to the spindle of the pinion, substantially as and for the purpose set forth.

5. The combination, with the type-writer carrying-frame comprising rods and end bars, one having an overhanging hook, of the adjusting mechanism with its inclosing-case provided with a ledge having slots or notches in its ends, and the eccentric lever acted upon by a spring disposed in one of said end bars, substantially as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

TIMOTHY WILKINS.

Witnesses:

M. WALLERICH,

C. G. JOHNSTON.