

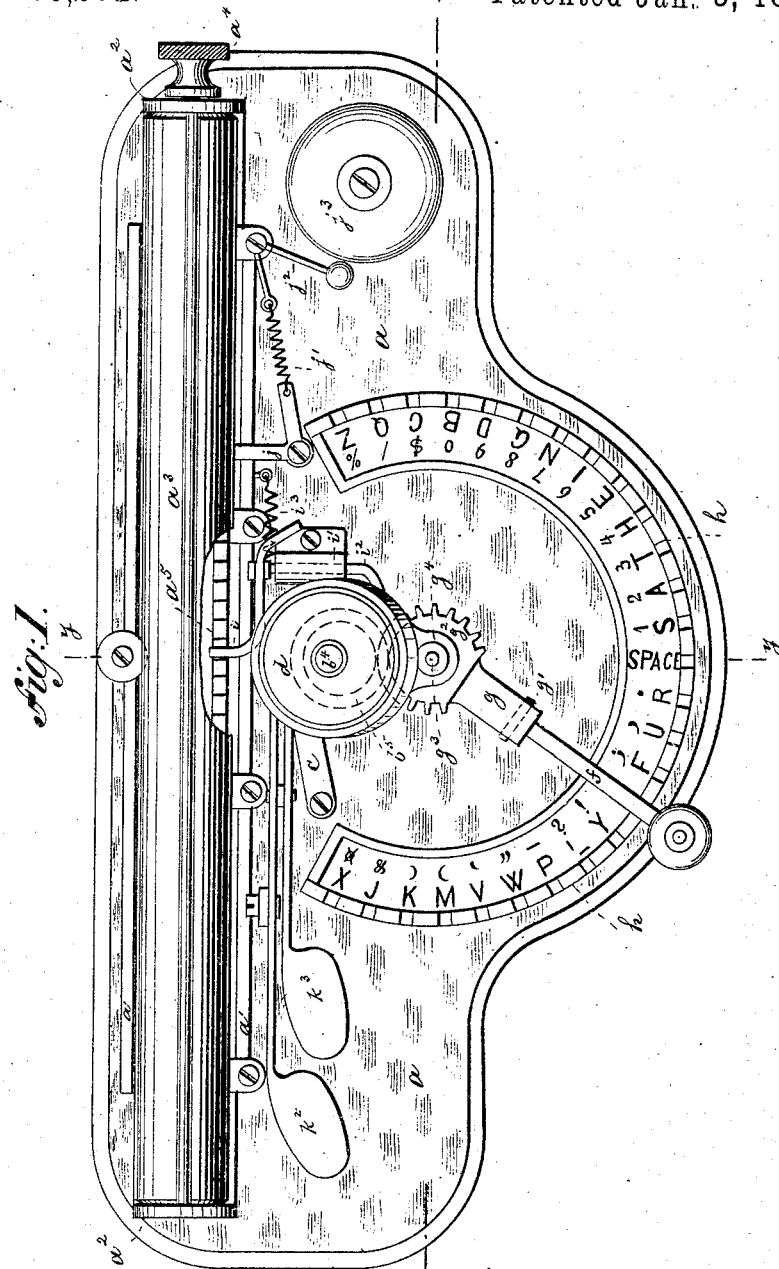
(No Model.)

2 Sheets—Sheet 1.

J. L. EDLAND,  
TYPE WRITING MACHINE.

No. 489,072.

Patented Jan. 3, 1893.



WITNESSES:  
A. Seehl.  
Wm. Schulz

INVENTOR  
J. L. Edland  
BY  
Roeder & Briscoe  
ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

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TYPE WRITING MACHINE.

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Fig. 2.

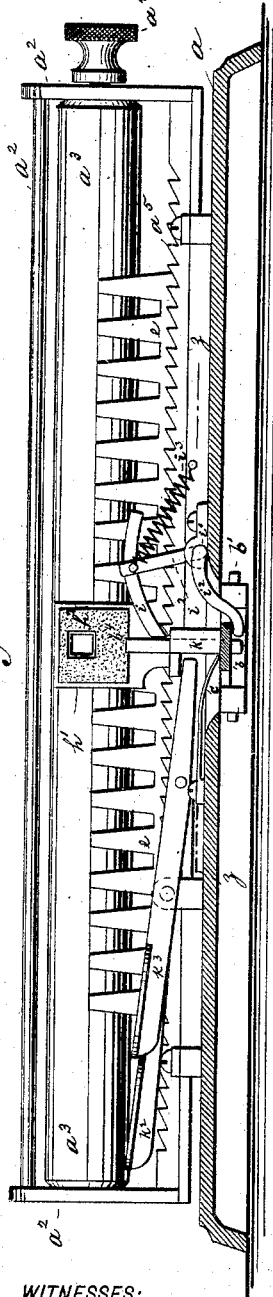


Fig. 3.

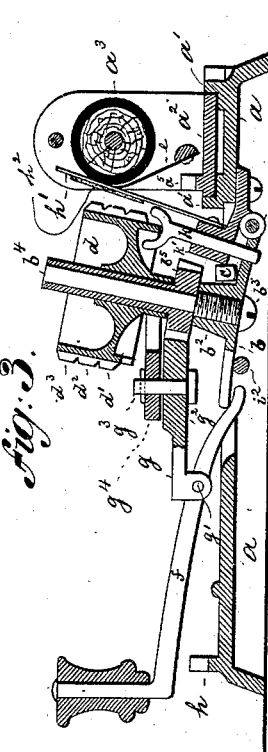
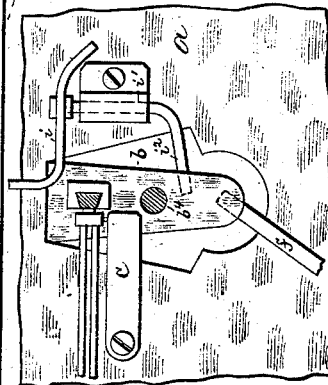


Fig. 4.



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# UNITED STATES PATENT OFFICE.

JOSEPH L. EDLAND, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO JOHN M. VAN ORDEN, OF NEW YORK, N. Y.

## TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 489,072, dated January 3, 1893.

Application filed March 30, 1892. Serial No. 427,019. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH L. EDLAND, of Brooklyn, Kings county, New York, have invented an Improved Type-Writing Machine, of which the following is a specification.

This invention relates to a type writing machine of simple construction, which works rapidly and accurately and can be made at a reduced cost.

It consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings: Figure 1 is a top view of the machine partly in section. Fig. 2 a longitudinal section on line *x, x*, Fig. 1, with the type wheel omitted. Fig. 3 a cross section on line *y, y*, Fig. 1 and Fig. 4 a longitudinal section on line *z, z*, Fig. 2.

The letter *a*, represents the bed plate of the machine provided with a pair of rails *a'*, for guiding the carriage *a²*. In the uprights of this carriage is hung a rubber roller *a³*, which constitutes the feed roller and upon which the paper is held by the fingered guard *e*. The paper is fed by revolving the roller *a³*, by means of a button *a⁴*, from the front toward the rear, as will be readily understood.

To feed the carriage *a²*, from right to left, after the formation of each letter the carriage is provided with a rack *a⁵*, engaged by a pawl which in turn is operated by the printing lever in manner hereinafter described.

In front of the carriage *a²*, there is pivoted to the bed plate *a*, by pin *b'*, a lever *b*, normally held down by a spring *c* (Fig. 4). The lever *b*, is provided with a hub *b²*, to which there is attached by a screw *b³*, or otherwise an upwardly projecting post *b⁴*. This post is provided with a gear wheel *b⁵*, keyed thereto, while above the gear wheel the annular type wheel *d*, is mounted upon the shaft, so as to revolve therewith. The type wheel *d*, is provided with three more or less sets of type, numerals, &c. of which each set is arranged in one horizontal row *d'*, *d²*, *d³*. The forward free end of the lever *b*, is engaged by the rear end of the printing lever *f*, which passes beneath lever *b*, (Fig. 3). The lever *f*, is in turn pivoted at *g'*, to an arm *g*, provided with a toothed segment *g²*, that engages the gear wheel *b⁵*. The toothed segment turns on a

pivot *g³*, that passes through a fixed bracket *g⁴*, projecting upwardly from bed plate *a*. The front of the bed plate *a*, is provided with a corrugated flange *h*, and in rear thereof with the letters of the alphabet and with the numerals, signs, &c. to be printed.

The operation of the machine as thus far described will be readily understood. The printing lever is first revolved so as to engage the notched flange *h*, above the letter to be re-produced. This will by segment *g²*, and gear wheel *b⁵*, revolve the type wheel *d*, so as to bring the corresponding letter or sign opposite the roller *a³*. By next depressing the printing lever, the lever *b*, and the post *b⁴*, will be tilted backward and against the roller *a³*, so that the letter previously brought into alignment therewith will be printed upon the paper carried by the roller. Upon the release of the printing lever, the spring *c*, will return the parts to their normal position. To prevent any of the adjoining parts of the type wheel from reaching the paper, a perforated guard *h'*, is arranged between roller and type wheel. The feeding of the carriage *a²*, is effected by a pawl *i*, engaging the rack *a⁵*. The pawl *i*, is provided with a bent arm *i²*, pivoted at *i'*, and projecting beneath lever *b*. A spring *i³*, secured to the bent arm and which is weaker than the spring *c*, has a tendency to draw the pawl to the right. It will be seen that after a letter has been printed, and the printing lever is released, the lever *b*, in swinging down with its front free end will bear upon the arm *i²*, of pawl *i*, and thus cause the pawl to vibrate to the left and to push the rack *a⁵*, and carriage *a²*, in the same direction for the distance of one tooth. Upon the next depression of the printing lever and the consequent raising of the lever *b*, off the arm *i²*, the spring *i³*, will draw the pawl *i*, to the right and into engagement with the next tooth of the rack *a⁵*, ready for the next operation. Thus the proper feed from right to left is accomplished. In order to sound the alarm at the end of each line, a bell crank lever *j*, pivoted to bed plate *a*, is oscillated by the right hand upright of carriage *a²*, when the latter arrives at its extreme left hand position. The bell crank lever *j*, is by spring *j'* connected to the bent pivoted hammer *j²*, striking the bell *j³*.

It will be seen that in order to bring either of the lower horizontal rows  $d^2, d'$ , opposite to the perforation in plate  $h$ , the type wheel  $d$ , must be raised more or less upon its post  $b^4$ .

- 5 To this effect, the lower edge of the type wheel is engaged by a fork  $k$ , moving vertically in a fixed way  $k'$ . The fork  $k$ , may be raised by two more or less levers  $k^2, k^3$ , one lever for each horizontal row of the type wheel in excess of the uppermost row. The levers  $k^2, k^3$ , are pivoted to suitable projections on the bed plate  $a$ , and tilt to different degrees. When one of the levers is depressed at its free end, the type wheel will be correspondingly raised  
 15 upon its post  $b^4$ , and thus the horizontal row  $d^2, d'$ , desired, will be in position for printing. As long as this row is used, the lever  $k^2$ , or  $k^3$ , should be held down by the hand or otherwise. The type is inked in the ordinary or  
 20 in any desirable manner, preferably by applying an inking pad  $h^2$ , to face of plate  $h'$ .

What I claim is:

1. A type writer comprising a tilting post, a type wheel and gear wheel mounted there-

on, a printing lever adapted to tilt the post, 25 a fixed bracket, and a toothed segment engaging the gear wheel and pivotally connected to the printing lever and to the fixed bracket, substantially as specified.

2. A type writer comprising a tilting post, 30 a vertically adjustable type wheel mounted thereon, hand levers  $k^2, k^3$ , for raising the type wheel, a lever  $b$ , and printing lever  $f$ , for tilting the post and a gear wheel  $b^5$ , and toothed segment  $g^2$ , for revolving the post, 35 substantially as specified.

3. A type writer comprising a feed carriage  $a^2$ , having rack  $a^5$ , a spring pawl  $i$ , engaging the same and having bent arm  $i^2$ , a lever  $b$ , engaging the bent arm, a post mounted upon 40 the lever and carrying the type wheel, a printing lever and toothed segment for tilting and revolving the post and a spring  $c$ , bearing upon lever  $b$ , substantially as specified.

JOE L. EDLAND.

Witnesses:

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A. JONGHMANS.