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PATENTED JUNE 23, 1903.

F. X. WAGNER.

PRINTING OR TYPE BAR MECHANISM FOR TYPE WRITING MACHINES.

NO MODEL.

APPLICATION FILED FEB. 15, 1902.

2 SHEETS—SHEET 1.

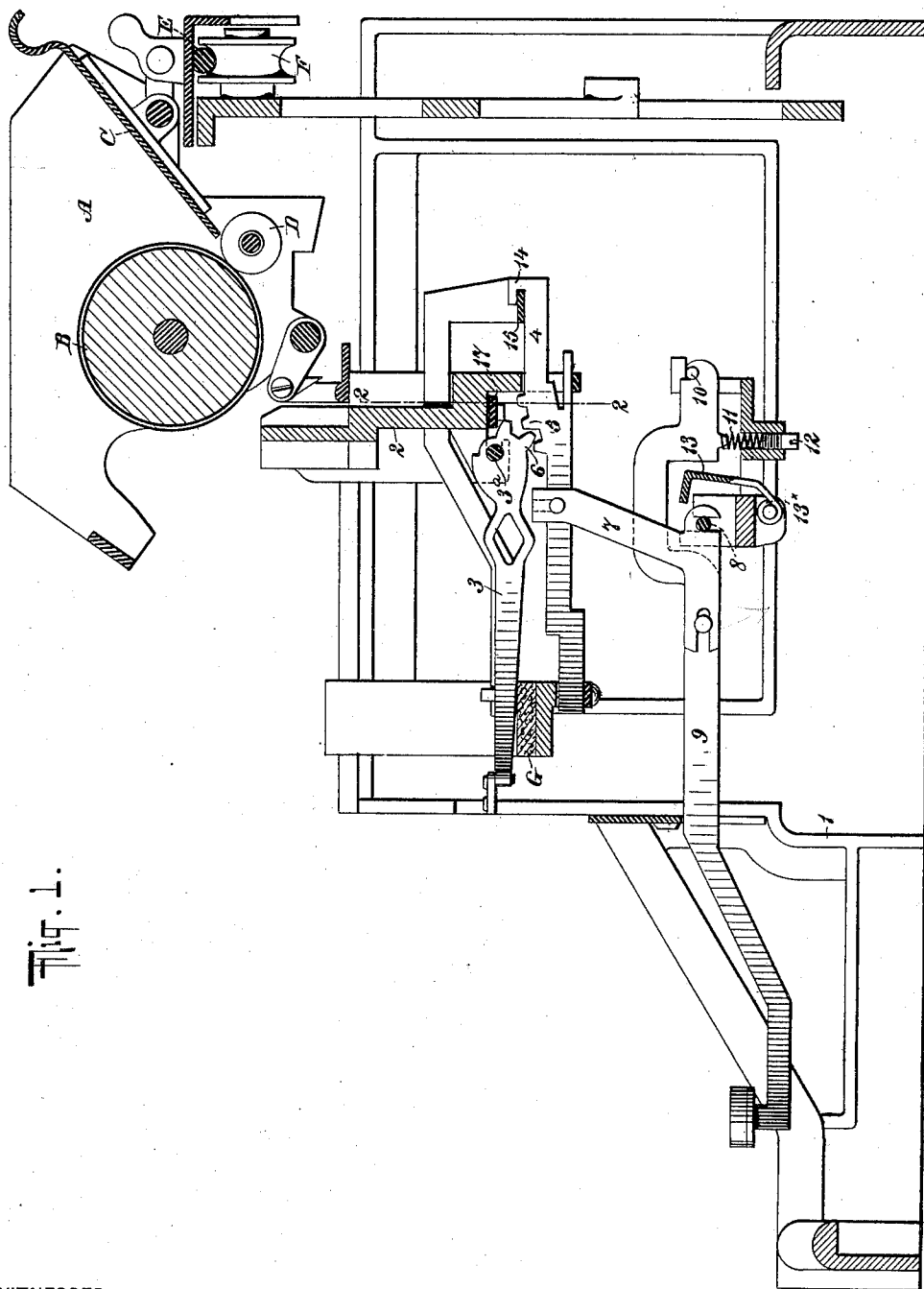


Fig. 1.

WITNESSES:

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John Lowe

INVENTOR

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BY *Brice Knautz*

ATTORNEYS

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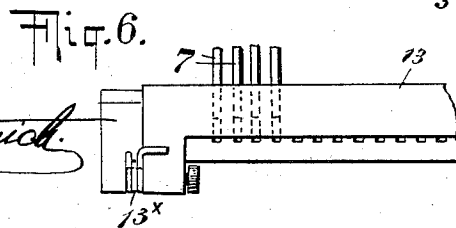
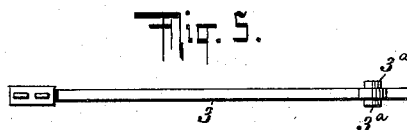
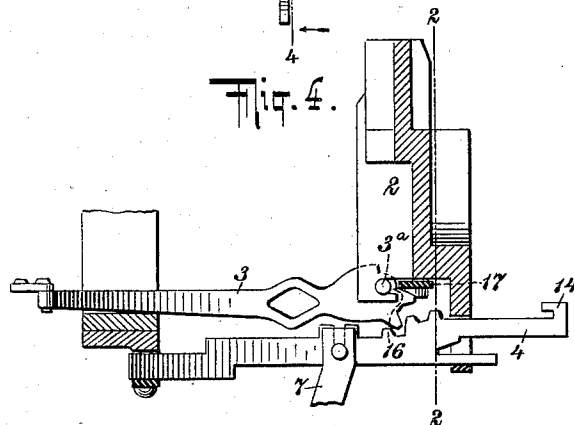
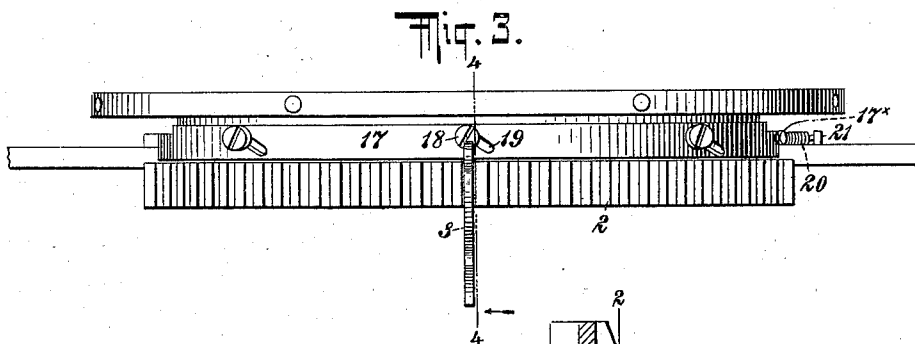
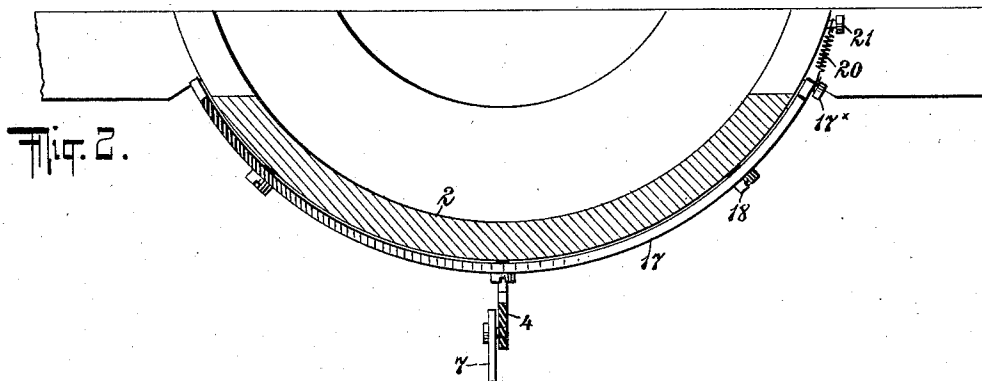
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PRINTING OR TYPE BAR MECHANISM FOR TYPE WRITING MACHINES.

NO MODEL.

APPLICATION FILED FEB. 15, 1902.

2 SHEETS—SHEET 2.



WITNESSES:

Gustav Dietrich
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UNITED STATES PATENT OFFICE.

FRANZ X. WAGNER, OF NEW YORK, N. Y., ASSIGNOR, BY MESNE ASSIGNMENTS, TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

PRINTING OR TYPE-BAR MECHANISM FOR TYPE-WRITING MACHINES.

SPECIFICATION forming part of Letters Patent No. 731,528, dated June 23, 1903.

Original application filed June 3, 1901, Serial No. 62,828. Divided and this application filed February 15, 1902. Serial No. 94,171. (No model.)

To all whom it may concern:

Be it known that I, FRANZ X. WAGNER, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented certain new and useful Improvements in Printing or Type-Bar Mechanism for Type-Writing Machines, of which the following is a full, clear, and exact description.

My invention relates to type-writing machines, and has for its object to improve the printing or type-bar mechanism thereof with the particular object of facilitating the taking apart of this mechanism.

The invention will be fully described hereinafter and the features of novelty pointed out in the appended claims.

My present application is a division of another application for a patent filed by me in the United States Patent Office on June 3, 1901, Serial No. 62,828.

In the accompanying drawings I have shown my invention as applied to a type-writer of the Underwood type; but I desire it to be understood that I do not restrict myself to the details shown in the drawings and that the scope of my invention is defined in the appended claims.

In the drawings, Figure 1 is a transverse sectional elevation of a type-writer embodying my improvements with parts of the mechanism omitted, so as to bring out more prominently the features of my invention. Fig. 2 is a sectional elevation on lines 2-2 of Figs. 1 and 4. Fig. 3 is a bottom plan view of the parts shown in Fig. 2 with the addition of a type-bar, but omitting the slide and angular lever which operate said type-bar. Fig. 4 is a sectional elevation on line 4-4 of Fig. 3. Fig. 5 is a plan view of the type-bar, and Fig. 6 is a partial rear view of the angular levers or elbow-levers and the latch for locking them.

In the drawings the framing of the machine is designated as 1, and 2 denotes the type-bar segment which is carried by said framing. A plurality of type-bars 3 are mounted in the segment 2; but to avoid confusion in the illustration only a single type-bar and action are

shown. Each of the type-bars, which are pivoted at 3^a, coöperates with a slide 4, which is provided with teeth 5, forming a rack-like portion that meshes with a similar portion formed by teeth 6 on the type-bar 3. Each slide is removably connected with an angular lever 7, pivoted at 8 to a fixed portion of the machine. Each lever 7 is likewise removably connected with a key-lever 9, which is pivoted to a fixed portion of the machine, as indicated at 10. Each key-lever 9 is kept united to its pivot and in the normal position by a spring 11, the tension of which may be regulated by suitable means, such as the set-screw 12. By these means the tension or "weight" on the key-levers can be individually regulated, so that the key-levers which control the side bars may have less tension than those controlling the center bars, thereby equalizing the weight on all the keys.

Extending throughout the width of the keyboard and adjacent to the pivots 8 of the angular levers 7 is a pivoted latch 13, which is normally maintained in the locked position by a coiled spring 13^x. When the latch 13 is moved to the position indicated in Fig. 1, it permits the ready withdrawal of any or all of the levers 7 from the pivot 8.

The angular lever 7 is provided at the free end of its lower member with a fork arranged to embrace a pin on the key-lever 9, thus forming a detachable connection between the lever 7 and the key-lever 9 similar to that between the upper member of the lever 7 and the slide 4.

As shown in Figs. 1 and 4, each of the slides 4 has at its rear end a hook-like projection 14, which is adapted to engage and move the universal bar 15 with it in the forward movement of any slide. A movement of any slide in the reverse direction may, however, take place independently of said universal bar. Thus when the angular lever 7 has been detached from the corresponding key-lever 9 and slide 4 such slide may be moved rearward and disengaged from its type-bar 3, so that the slide may be removed from the machine.

As shown in Figs. 1, 4, and 5, the pivot 3^a of each type-bar projects laterally therefrom, and these projecting portions are adapted to be seated in open-mouthed recesses 16, and
 5 the pivots of the type-bars are maintained in position in these recesses or bearings by a segmental bar 17. This bar is connected with the segment 2 by a pin-and-slot connection 18 19, the slots 19 being disposed ob-
 10 liquely or diagonally, so that a longitudinal pressure exerted upon the bar 17 will cause it to move sidewise as well as lengthwise. A spring 20 (see Figs. 2 and 3) is connected at one end with a pin 17^x, carried by the bar 17,
 15 and at the opposite end with a pin 21, secured to a fixed portion of the machine. This spring normally keeps the bar in the locking position. (Indicated in Figs. 3 and 4 of the drawings.) In order to release any or all of
 20 the type-bars, it is merely necessary to apply an endwise pressure to the bar 17, thereby causing the bar to be moved longitudinally and laterally, so as to permit any or all of the type-bars 3 to be withdrawn from their bear-
 25 ings. Fig. 1 shows the segmental bar 17 moved sidewise, as described, so as to release the type-bar pivots.

For the sake of completeness I have indicated in the drawings the carriage A with
 30 the platen B, the paper-shelf C, the pressure-roller D, a rail or bar E, which forms part of the carriage, and one of the rollers F, on which said bar is adapted to run.

G indicates the cushion upon which the
 35 type-bars rest in their normal or inactive position.

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

40 1. In a type-writing machine, a pivoted type-

bar, a reciprocating slide for swinging said type-bar, a key-lever, an angular lever having open-mouth slots at its ends to loosely receive pins on the key-lever and on the slide, respectively, said angular lever also having
 45 an open-mouth slot at its central portion to receive the pivot, and a latch fulcrumed below said pivot and arranged to normally hold said angular lever in place at its pivot.

2. In a type-writing machine, a series of
 50 type-bars, a key-lever for each type-bar, a series of angular levers each operatively connected with a key-lever and with the corresponding type-bar, said angular levers being detachably mounted at their pivots, and a
 55 latch fulcrumed below the pivot-line of the angular levers and arranged to normally hold all of them in place at their pivots.

3. In a type-writing machine, the combination of key-levers, type-bars provided with
 60 pivots and removably seated in their bearings, a removable reciprocating slide which is operatively and detachably connected to each of the type-bars, an angular lever detachably connected to each of said key-levers
 65 and reciprocating slides, each of said angular levers having an open-mouth recess for the reception of the pivot, a single movable spring-pressed latch for retaining the type-bars in place on their pivotal centers, and a single
 70 spring-pressed latch for retaining all of said angular levers on their pivots.

In witness whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANZ X. WAGNER.

Witnesses:

EUGENE EBLE,
 JOHN LOTKA.