

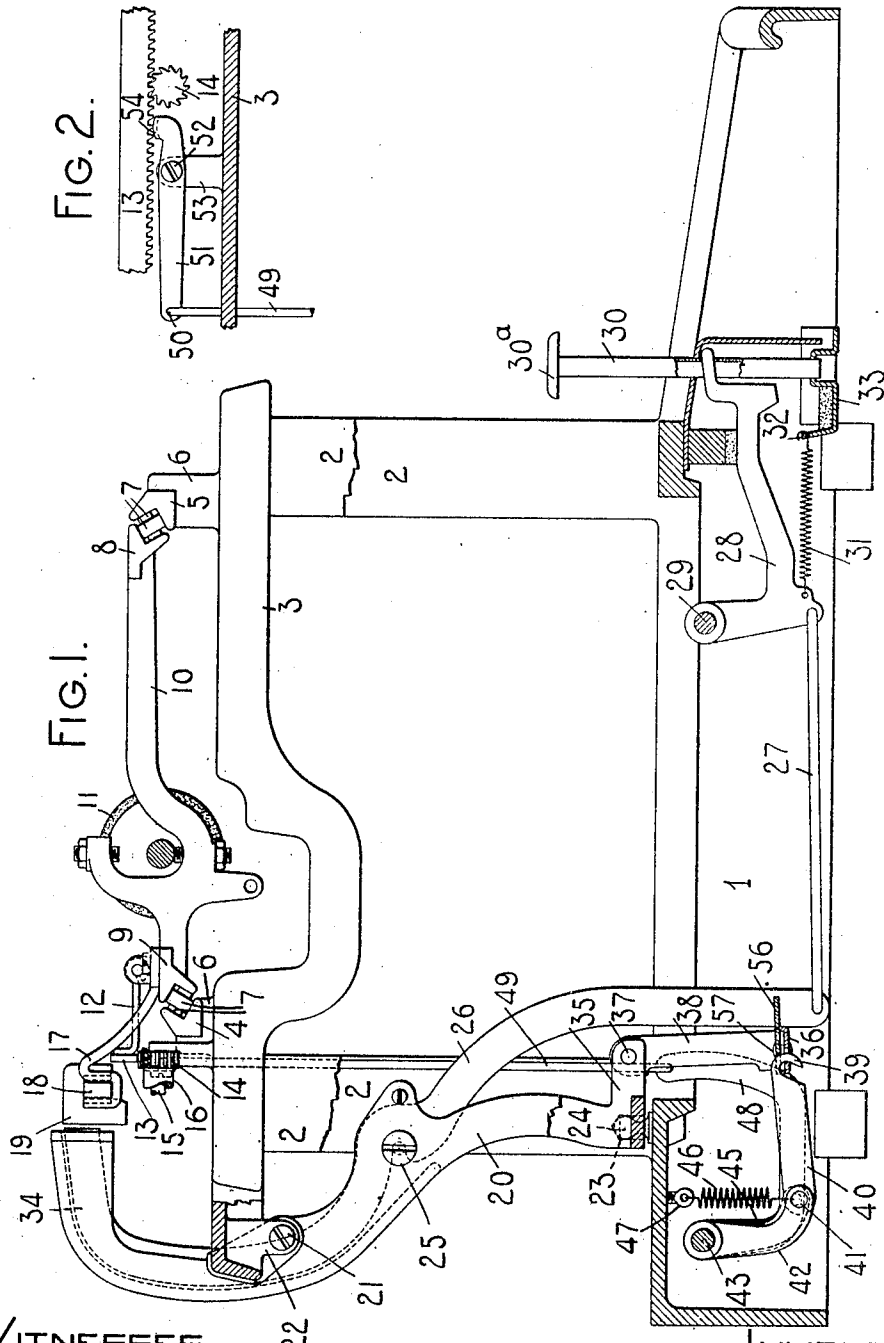
W. E. BURNETT.
TYPE WRITING MACHINE.

APPLICATION FILED SEPT. 25, 1907.

Patented Nov. 17, 1908.

8 SHEETS—SHEET 1.

904,177.



WITNESSES:

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Charles Smith

INVENTOR:

William E. Burnett

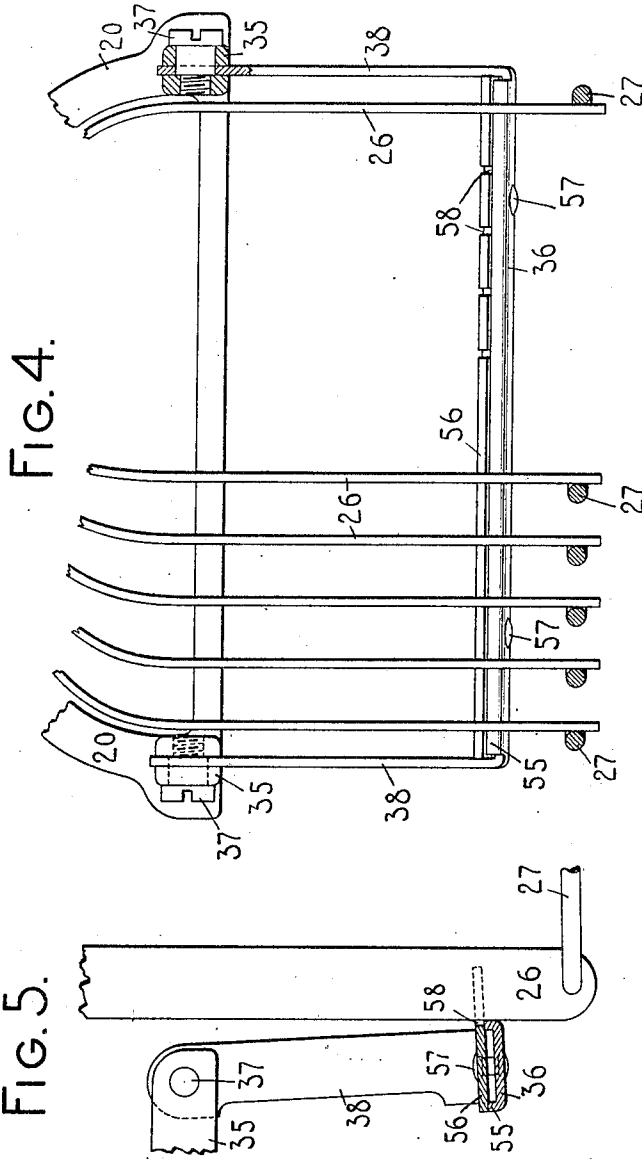
By Jacob Felber

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UNITED STATES PATENT OFFICE.

WILLIAM E. BURNETT, OF ILION, NEW YORK, ASSIGNOR TO WYCKOFF, SEAMANS & BENEDICT,
OF ILION, NEW YORK, A CORPORATION OF NEW YORK.

TYPE-WRITING MACHINE.

No. 904,177.

Specification of Letters Patent.

Patented Nov. 17, 1908.

Application filed September 25, 1907. Serial No. 394,523.

To all whom it may concern:

Be it known that I, WILLIAM E. BURNETT, a citizen of the United States, and resident 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 typewriting machines and more particularly to tabulating mechanism, and has for its main object to provide an improved denominational tabulator.

To the above and other ends which will hereinafter appear, my invention consists in the features of construction, arrangements of parts and combinations of devices set forth in the following specification and particularly pointed out in the appended claims.

In the accompanying drawings wherein like reference characters indicate corresponding parts in the various views, Figure 1 is a side elevation partly in section of a typewriting machine embodying my invention. Fig. 2 is a detail fragmentary rear elevation showing a portion of the carriage releasing devices controlled by the tabulating mechanism. Fig. 3 is a horizontal sectional view of the machine, the section being taken below the top plate of the machine, and a part of the base being shown broken away. Fig. 4 is a fragmentary enlarged detail front elevation of a portion of the tabulating mechanism to be hereinafter more fully described. Fig. 5 is a side elevation of the parts shown in Fig. 4 with the parts in section.

I have illustrated in the accompanying drawings only so much of a typewriting machine as is necessary to illustrate my invention.

This invention is in the nature of an improvement on the invention of Oscar Woodward disclosed in his pending application, Serial No. 297,026.

The frame of the machine comprises a base 1, corner posts 2 and a top plate 3. Fixed rails 4 and 5 are mounted on standards 6 which project upwardly from the top plate and receive anti-friction bearing rollers 7. These rollers cooperate with grooved rails 8 and 9 on the carriage 10, which supports a cylindrical platen 11. The carriage has rearwardly extending pivoted arms 12 which support a feed rack 13. This feed rack meshes with a feed pinion 14 connected

to the forward end of a shaft 15 which turns in a bearing 16 supported on the top plate of the machine. Connected to the rear end of said shaft is an escapement wheel (not shown) as usual. The usual feed dogs cooperate with the escapement wheel but I have not deemed it necessary to show the feed dogs nor the manner of actuating the same since it is not essential to an understanding of my present invention. Rearwardly and upwardly extending bracket arms 17 secured to the carriage support a column stop bar 18 on which column stops 19 are detachably and adjustably secured. A tabulator frame 20 is secured in place at its upper end by screws 21 which extend through openings in lugs 22 depending from the top plate and engage in threaded openings in the tabulator frame. The lower end of the tabulator frame is recessed at 23 for the reception of upstanding pins 24 secured to the base of the machine. The heads of these pins are rounded or spherical in order that they may constitute pivots on which the tabulator frame may be swung rearwardly from the position shown in Fig. 1 when the screws 21 are removed.

The tabulator frame has a pivot rod 25 headed at one end and threaded at the other and extending from side to side of the tabulator frame 20, the threaded end entering a tapped hole in the tabulator frame. This rod constitutes a pivot for upright denominational stop levers 26 that curve downwardly and forwardly from the pivot 25 and connect at their lower ends with push links 27 actuated by bell crank levers 28 pivoted at 29 and connected to key stems 30 having tabulator keys 30^a. To each bell crank lever is connected one end of a contractile spring 31, the opposite end 32 of which is secured to a sheet metal guide bar 33, which extends from side to side of the machine and is secured at its ends to the base 1. The upper ends of the denominational stop levers are bent or formed to project forwardly to provide denominational or decimal stops 34, although the stop levers may be connected in any other suitable manner to the denominational stops. From an inspection of Fig. 4 it will be understood that the denominational stop levers 26 fan outwardly at their lower ends in order to properly connect with the actuating links 27. Each side of the tabulator frame 20 is pro-

vided with a forwardly extending arm 35 to which a universal release bar 36 is pivoted at 37. The release bar comprises upwardly bent integral arms 38 which are pivoted to the tabulator frame and a lower cross bar connecting the two arms 38, which cross bar constitutes the universal release bar proper. The bar 36 is apertured to receive the hook-like end 39 of a rearwardly extending link 40 pivoted at 41 to a crank arm 42 secured to a rock shaft 43 which is mounted at its ends on pivot screws 44 threaded into the base of the machine. The rock shaft 43 has a crank arm 45 secured thereto near the right-hand end. This crank arm is connected to one end of a coiled spring 46 secured at its other end to an eye 47 attached to the base of the machine so that pressure of the spring is exerted to normally maintain the universal release bar 36 and the parts connected therewith in the positions shown in Fig. 1. A third crank arm 48 is secured to the rock shaft and is curved downwardly and then forwardly and upwardly and is connected at its free end to a link 49 pivoted at 50 (Fig. 2) to a carriage release lever 51, pivoted at 52 to a lug 53 which extends upwardly from the top plate of the machine. The opposite end of the lever is provided with a release shoe 54 bent at right angles to the plane of the lever and extending forwardly beneath the feed rack 13 of the machine. The construction is such that a depression of any tabulator key 30^a is effective to move the lower end of the associated denominational stop lever 26 rearwardly. This movement is effective to project a corresponding denominational stop forward into the path of a column stop 19 to arrest the carriage when the latter is released. This same movement of the denominational stop lever effects a rearward movement of the universal release bar 36 which transmits a movement through the link 40 to the rock shaft 43, and this movement is effective to move the crank arm 48 downwardly, thus operating the release lever 51 to lift the feed rack 13 out of mesh with its released pinion 14. The carriage being thus released from its escapement mechanism will then move freely under the power of the usual spring drum (not shown) until arrested by the cooperation of the projected denominational stop with one of the column stops. The construction thus far described is essentially the same as that disclosed in the application of Oscar Woodward hereinbefore referred to.

In accordance with my present invention I provide guiding and spacing means upon the universal release bar itself for cooperation with the denominational stop levers. Thus it will be seen that the cross bar 36 which constitutes the universal release bar proper is bent upwardly at its longitudinal

edges as indicated at 55 to provide a bearing for a sheet metal comb plate 56 riveted or otherwise connected as at 57 to the release bar 36. The plate 56 extends forwardly beyond the front edge of the bar 36 and is slotted at 58 for the reception of the lower ends of the denominational stop levers 26. The depth of the slots is such that they do not interfere with the levers cooperating directly with the bar 36, but maintain said levers properly spaced apart and guide them in their movements fore and aft of the machine. The depth or length of the slots and the relation of the parts are such that when a tabulator lever is vibrated to move the bar 36 rearwardly, in order to effect a release of the carriage, this movement is insufficient to displace or disengage the guide comb from cooperative relation with the other denominational stop levers, notwithstanding the fact that the guide comb moves rearwardly with the actuated stop lever.

By this invention I have provided simple and efficient means for maintaining the lower ends of the denominational stop levers properly spaced apart and for guiding them in their movements fore and aft of the machine. This guiding means being carried by the tabulator frame it may be introduced into and removed from the machine with the tabulator frame and the parts carried thereby, thus facilitating the assemblage of the parts and the introduction of the tabulator mechanism into the machine.

Various changes may be made in the details of construction without departing from my invention.

What I claim as new and desire to secure by Letters Patent, is:—

1. In a typewriting machine and tabulating mechanism, the combination of denominational actuating devices, a universal release bar operative thereby, and guiding means carried by said universal release bar and cooperative with said denominational actuating devices.

2. In a typewriting machine and tabulating mechanism, the combination of a series of denominational stops, a series of actuating devices for said stops, a universal release bar operative by said actuating devices, and guiding means carried by said universal release bar and cooperative with said actuating devices to guide them in their movements.

3. In a typewriting machine and tabulating mechanism, the combination of a series of denominational stops, a series of actuating devices for said stops, a universal release bar operative by said actuating devices, and a guide comb carried by and movable with said universal release bar, said actuating devices being received in the slots in said guide comb.

4. In a typewriting machine, the combina-

tion of a series of denominational stops, a series of upright key actuated levers therefor, carriage releasing mechanism including a universal release bar with which said levers cooperate, and a guide comb carried by said universal release bar and cooperative with said levers.

5. In a typewriting machine, the combination of a series of denominational stops, a series of upright key actuated levers therefor, a tabulator frame in which said levers are fulcrumed, carriage releasing mechanism including a universal release bar with which said levers cooperate, said universal bar being pivoted on said tabulator frame, and a guide comb carried by said universal release bar and cooperative with said levers.

6. In a typewriting machine, the combination of a series of denominational stops, a series of upright key actuated levers therefor that move at their lower ends towards the rear of the machine to project the denominational stops, a tabulator frame detachably connected to the frame of the machine and in which said levers are fulcrumed, carriage release mechanism operated at each actuation of a denominational stop and comprising a universal release bar pivoted to the tabulator frame and operated by said levers, and a guide comb carried by said universal release frame and cooperative with said levers to space and to guide them in their movements.

7. In a typewriting machine, the combina-

tion of a series of denominational stops, a series of key actuated levers for actuating said denominational stops, a universal release bar made of sheet metal and bent at its ends to provide arms by which said universal release bar is pivoted, and a sheet metal guide comb carried by said universal release bar and cooperative with said levers to space and to guide them in their movements.

8. In a typewriting machine and tabulating mechanism, the combination of denominational actuating devices; a movably mounted guide comb having elongated teeth for said denominational actuating devices, the said actuating devices when operated moving towards the back of the comb; a carriage releasing device; and a tabulator frame detachably connected to the main frame of the machine and carrying said denominational actuating devices, the movable guide comb, and carriage releasing device, whereby the tabulator frame together with the said parts carried thereby may as an entirety be attached to or detached from the machine.

Signed at Ilion, in the county of Herkimer, and State of New York this 23rd day of September A. D. 1907.

WILLIAM E. BURNETT.

Witnesses:

ARTHUR H. STONE,
P. H. PUTNAM.