

Sept. 4, 1923.

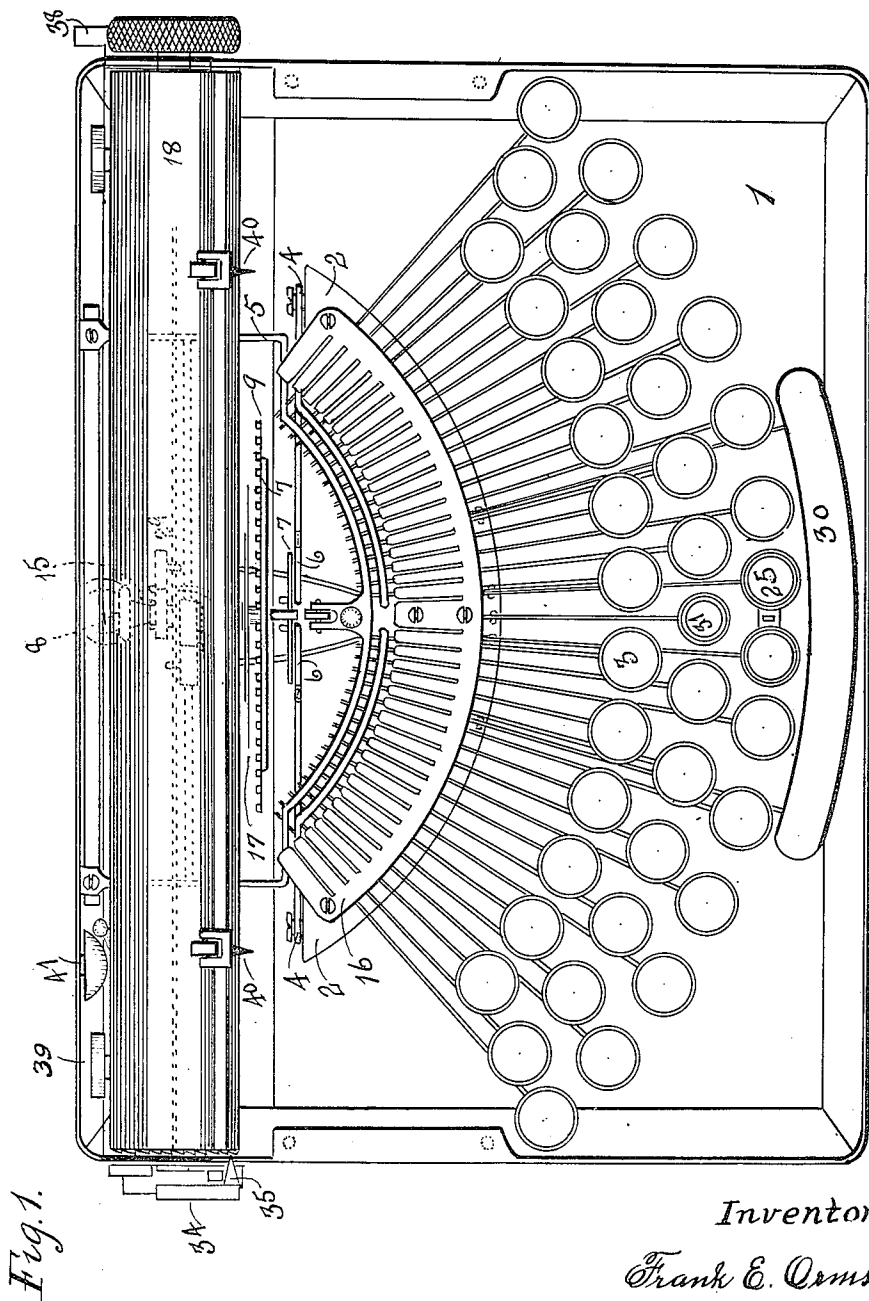
1,467,191

F. E. ORMSBY

TYPEWRITER

Filed July 24, 1922

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 2.

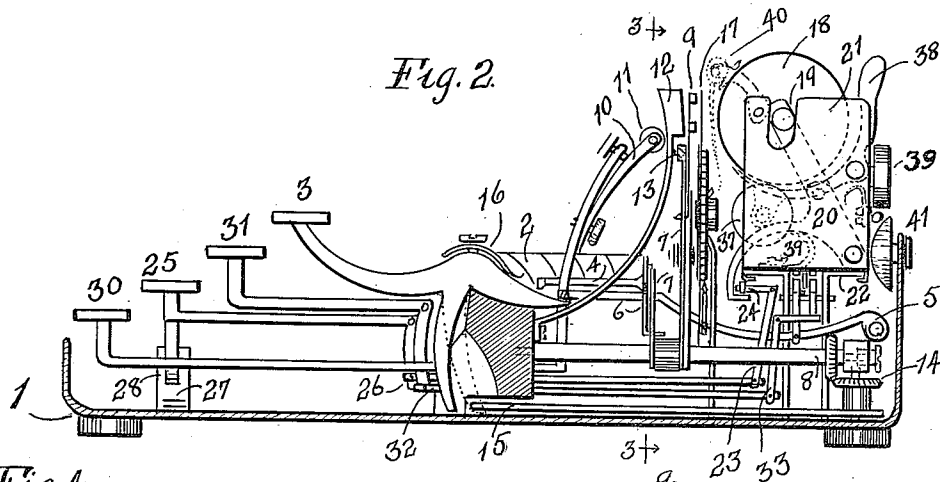


Fig. 4.

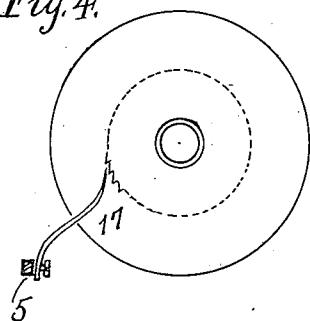


Fig. 3.

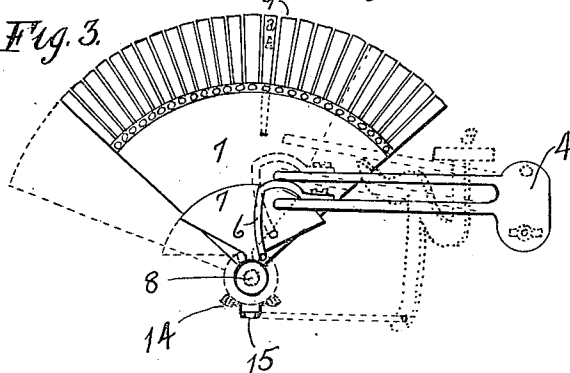
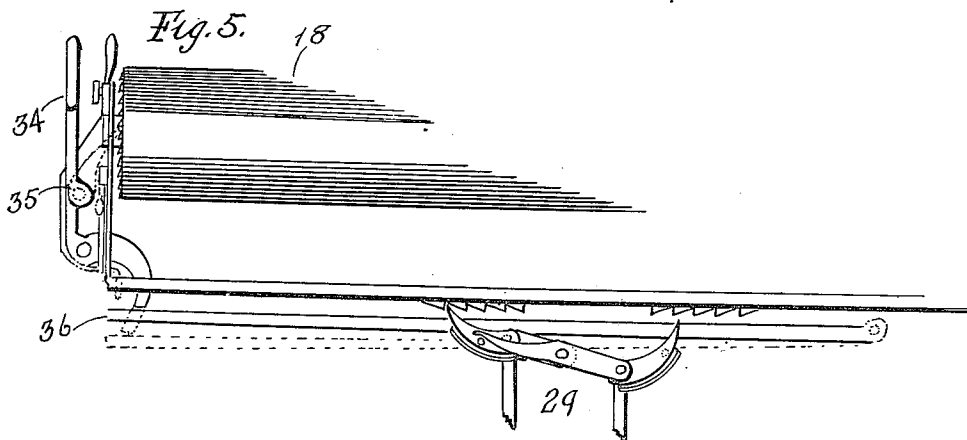


Fig. 5.



Inventor
Frank E. Ormsby

UNITED STATES PATENT OFFICE.

FRANK E. ORMSBY, OF CHICAGO, ILLINOIS.

TYPEWRITER.

Application filed July 24, 1922. Serial No. 577,217.

To all whom it may concern:

Be it known that I, FRANK E. ORMSBY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Typewriters, of which the following is a description.

My invention belongs to that general class of writing machines used in correspondence, and has for its object the production of such a device, simple and practically noiseless in its operation, and, I believe, possessing advantages both in construction and operation over devices of the kind at present available. To this end it consists in the novel construction, arrangement and combination of parts herein shown and described, and more fully pointed out in the claims.

In the drawings wherein like reference characters indicate like or corresponding parts,

Figure 1, is a plan view looking down from the top.

Figure 2, is a detail view taken from the side or right.

Figure 3, is a transverse vertical section taken substantially on line 3 3, Fig. 2.

Figure 4, is a vertical section illustrating inking device.

Figure 5, is a partial and sectional view illustrating ratchet and release mechanism.

In the drawings 1, (Figs. 1, 2,) represents the frame base, upon which my improved device is arranged, 2 is a double slotted key-guide segment mounted upon the base, in which character keys indicated by 3 are set, said keys having two prongs, (see Fig. 2,) the upper ones serving as lift levers and the lower ones forming stops, and resting upon the upper prongs are three lift frames, two of which are duplex or twins as indicated by 4 4, pivotally supported at the ends of key segment 2, the other frame 5, has its fulcrum at the extreme edge or back of the body frame and is shaped to form an alignment with key segments. Lift frames 4 4 have each two arms or branches, the upper ones being curved or shaped in alignment with key segment, (see Figs. 1, 2, 3,) the other or lower arms extending direct to shaft and upon the ends thereof are spring clutches 6 6, (see Fig. 3,) which engage a duplex segment 7 7, supported by a shaft 8, the larger segment member forming a sup-

port for a set of spring typebars or carriers 9.

Frame 5 has an extension upward which supports an adjustable presser bar 10, having at its extreme end a wheel 11, which rolls upon an idle spring set lug or hammer 12, having an anchor pin 13, that engages segment 7 and anchors type at the vertical point for impression.

Operating reciprocally with type segment 7 7 by means of miter gears 14, is a swivel-bar 15, extending beneath the shaft 8, to and under a portion of key segment 2, in close proximity to the lower prongs of keys, which, when keys are prest and the prongs move forward, alternately stops, holding the letter in segment 7 corresponding therewith in position at the vertical point for impression.

A multiple segment stay spring 16, over keys and key-guide segment individualizes key action and holds lift frames in normal positions.

While the construction is such as admits using a common ribbon mechanism, I have devised a fabricated disc inker 17, which is operated by a ratchet or push spring pivotally supported by lift frame 5, which revolves the inker about the face of type. (See Figs. 1, 2, 4.)

Platen roll 18, moves in guideways 19, the roll being supported and shifted by a toggle jointed frame section 20, operated within the carriage frame 21, the latter operating frictionally on a base 22. The shifting of platen roll is governed by a bell-crank 23, (see Fig. 2,) having at its extreme end a wheel 24, that engages the toggle jointed frame and is operated by a duplex bell-crank shift-key 25, connected by push-rod 26, and, at the key end is a standard 27, a key latch 28, that locks one member of the duplex key and holds platen roll in a static position.

A duplex carriage spacer ratchet 29, is operated to the left as in writing by lift frame 5, controlled by character keys 3 and main spacer key 30, the latter meeting the under side of lift frame 5, which admits spacing without oscillation of type segment. The other member of duplex ratchet which is termed the "back spacer," is operated by a bell-crank key 31, push-rod 32, connecting with a bell-crank 33 which disengages the pall of the former member ratchet and holds

it in inoperative position in the process of back spacing. (See Fig. 5.)

Lever 34 operates line spacer ratchet 35 and carriage or ratchet release bar 36, the latter holding both ratchets in inoperative positions leaving the carriage to be moved freely in either direction.

Feed roll 37, release 38, platen return spring 39, paper stays 40 40, and line sets including signal bell 41 41—all common features—completes the description of my invention, which, in its operation by reason of the elimination of clicking mechanism-escapement, impact of striking typebars and other noise producing parts—reduces the same to practically a noiseless typewriter.

I am aware that typewriters in general hold certain essential features in common, therefore I make no broad claims regarding such essentials; but what I do hold and desire to secure by Letters Patent is embodied in the following claims.

What I claim is,

1. In a device of the kind described, the combination in a typewriter of letter or character keys forked at the end or having two prongs, set in a duplex or double slotted key-guide segment, a reciprocating swivel-bar that alternately meets the lower prongs of keys holding corresponding type at a definite point for impression, substantially as described.

2. The combination in a typewriting machine of letter or character keys, having forked ends or two prongs, set in a duplex or double slotted key-guide frame segment mounted upon the base of frame body, the lower prongs forming stops, a co-operating swivel-bar, pivotally supported at the radial point or center of a circle circumscribing the key-guide segment and in alinement with keys and slots, substantially as set forth.

3. The combination in a typewriter of a frame base and mounted thereon a double slotted key-guide segment, letter or character keys having forked ends or prongs, a reciprocating swivel-bar that meets the lower prongs of keys and comes to a stop, a shaft, having one end pivotally supported at the radial point or center of a circle circumscribing the key-guide segment, miter-gear to the swivel-bar, and mounted upon the shaft a duplex type supporting segment, having openings, grooves or holes in alinement with type characters, a set of detachable or interchangeable spring typebars or carriers, twin lift frames pivotally supported at either end of key-guide segment, each member having two arms or branches, one above the other, the upper one shaped or curved in alinement with key segment and resting upon the upper prongs of keys, the other or lower arm extending straight to shaft, having upon the ends thereof lift

spring clutches that engage one member of the duplex type segment and cause type to oscillate and alternately co-operate with the swivel-bar in stabilizing type at the vertical point for impression.

4. The combination in a typewriting machine of a double slotted key-guide segment mounted upon a frame base, forked or two pronged letter or character keys set therein, the upper prongs serving as levers upon which rests a spacer and presser lift-frame, having an extension upward over keys supporting an adjustable presser bar having at the extreme end a wheel that engages and rolls upon an idle spring set lug or hammer having an anchor pin that engages an oscillating type supporting segment and anchors at the vertical point the character corresponding with the key operated.

5. In a device of the kind described, the combination in a typewriter of a frame or base, having mounted thereon a double slotted key-guide segment, a set of character keys having two prongs, the directional line of keys and slots being toward the radial center circumscribing key segment, a reciprocating swivel-bar pivoted at the radial point, extending to and moving under a portion of the key segment in close proximity with the lower prongs of keys which operate forward and form a stop for the swivel-bar, a shaft miter-gear to the swivel-bar at the radial point, a duplex type supporting segment, mounted upon the shaft, lift frames one at the right and one at the left of the shaft, pivotally supported by the key segment, each having two forks or arms, the upper members being bent or shaped in alinement with key segment and resting upon the upper prongs of keys, the lower arms extending straight to shaft or center point, and upon the extreme ends thereof lift spring levers or clutches that engage the typebar segment and cause it to oscillate when pressure is applied to keys, which brings the letter corresponding with the key prest to the vertical point, the reciprocating swivel-bar meeting the key prong stabilizing the same, a lift frame shaped in alinement with the key segment and resting upon the upper prongs of keys, having an extension upward supporting an adjustable presser bar, having at its extreme end a wheel, a spring set idle lug or hammer, having a pin or anchor point, a set of detachable or interchangeable spring typebars or carriers supported by the oscillating segment, operated by pressure as the presser bar wheel engages the idle lug or hammer and presses it against the type carrier, the anchor pin entering the socket in segment, holding the type firmly while the impression is made.

6. In a typewriter, the combination of a duplex right and left spacer ratchet, one member operated by spacer and presser lift frame

controlled by character keys and main
spacer key, the spacer key extending to the
under side of lift frame, the other ratchet
member, which is termed the "back spacer,"
5 operated by a bell-crank key and push-rod
connecting with a bell-crank lever, which,
when in service, engages the pall of the
other ratchet member and holds it inopera-
tive, a line space ratchet operated by a car-
riage push-lever, a carriage or ratchet release
10 rod or bar operated by push-lever, which
holds both palls of duplex ratchet in inoper-
ative positions allowing carriage to be
moved freely in either direction.
15 7. In a typewriter, a fabricated disc ink-
ing pad or ribbon substitute supported by a

detachable ratchet disc retainer and operated
by a push-spring pivotally supported by
spacer lift frame, which revolves the inker
in harmony with key action. 20

8. In a typewriter, a toggle jointed platen
roll support and shift frame, operated by a
duplex bell-crank shift-key and push-rod
engaging a bell-crank lever, having at its
extreme end a wheel that engages the toggle 25
jointed frame, a key locking standard and
key latch that holds platen roll static, a
multiple stay-spring segment supported by
key-guide segment over keys and lift frame
members holding them in inoperative or nor- 30
mal positions, all substantially as set forth.
FRANK E. ORMSBY.