

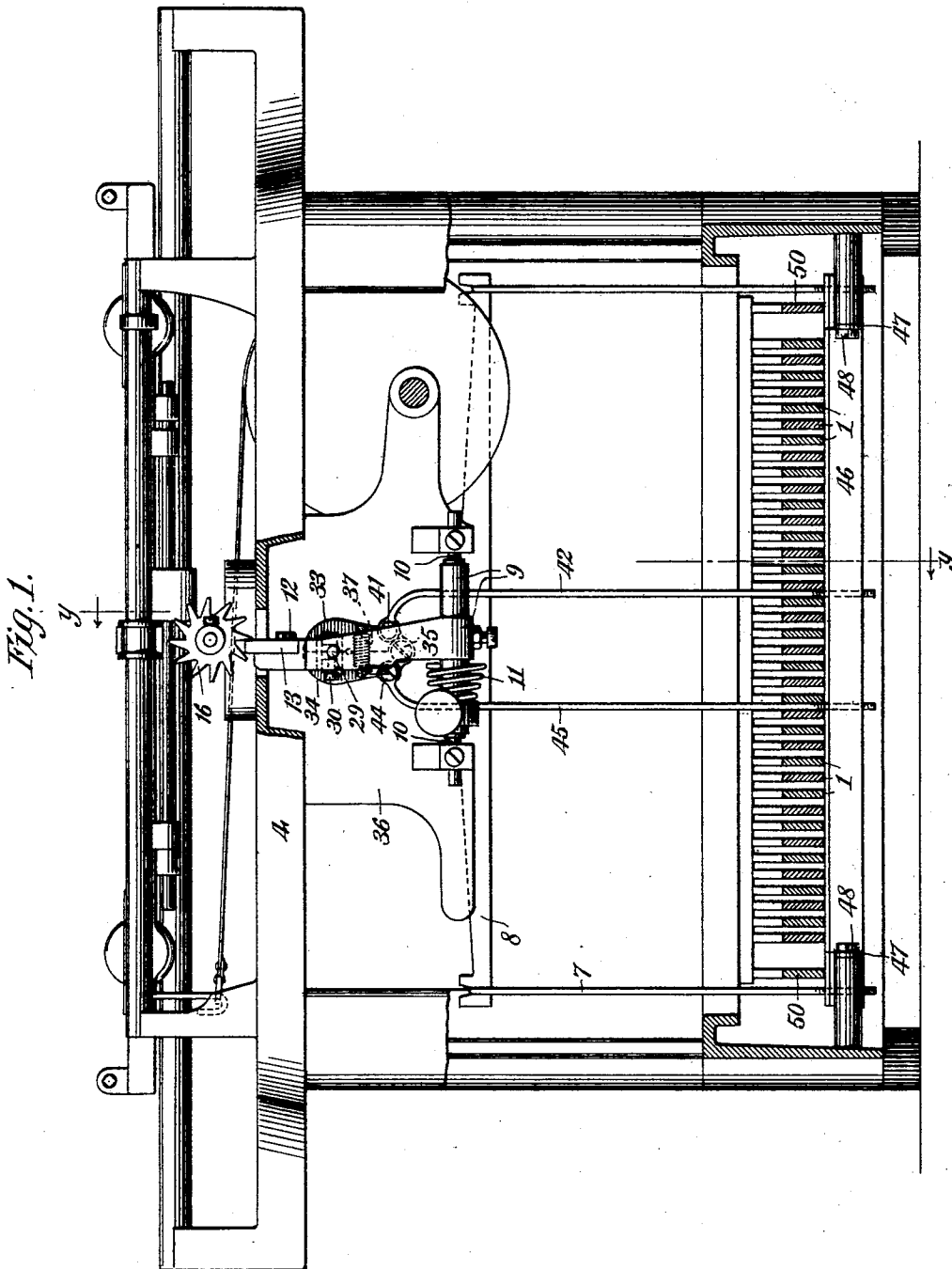
(No Model.)

4 Sheets—Sheet 1.

B. A. BROOKS.
TYPE WRITING MACHINE.

No. 586,351

Patented July 13, 1897.



WITNESSES:

C. E. Ashley.

W. W. Lloyd.

INVENTOR:

Byron A. Brooks
By his Attorney

Jacob Feltel

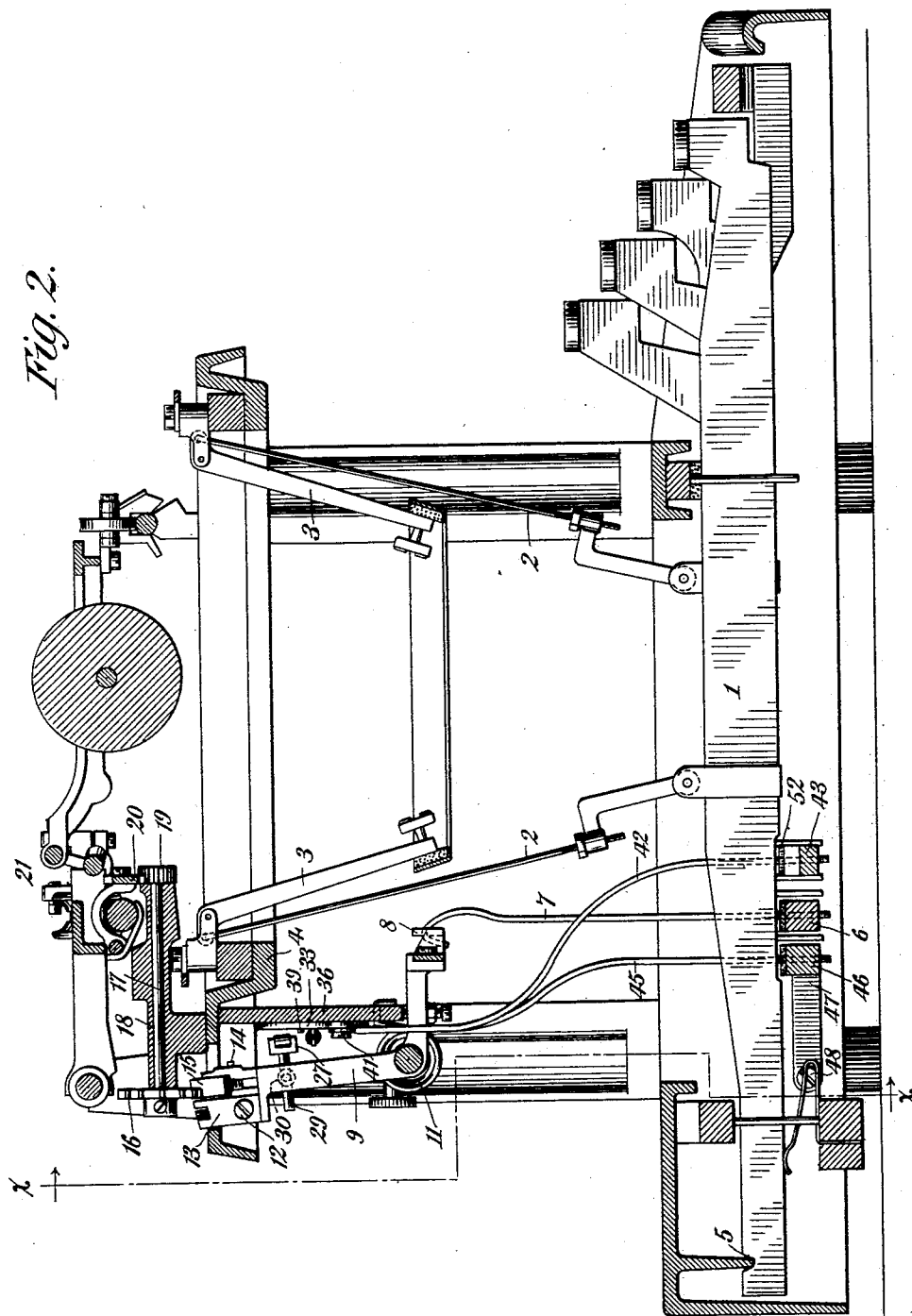
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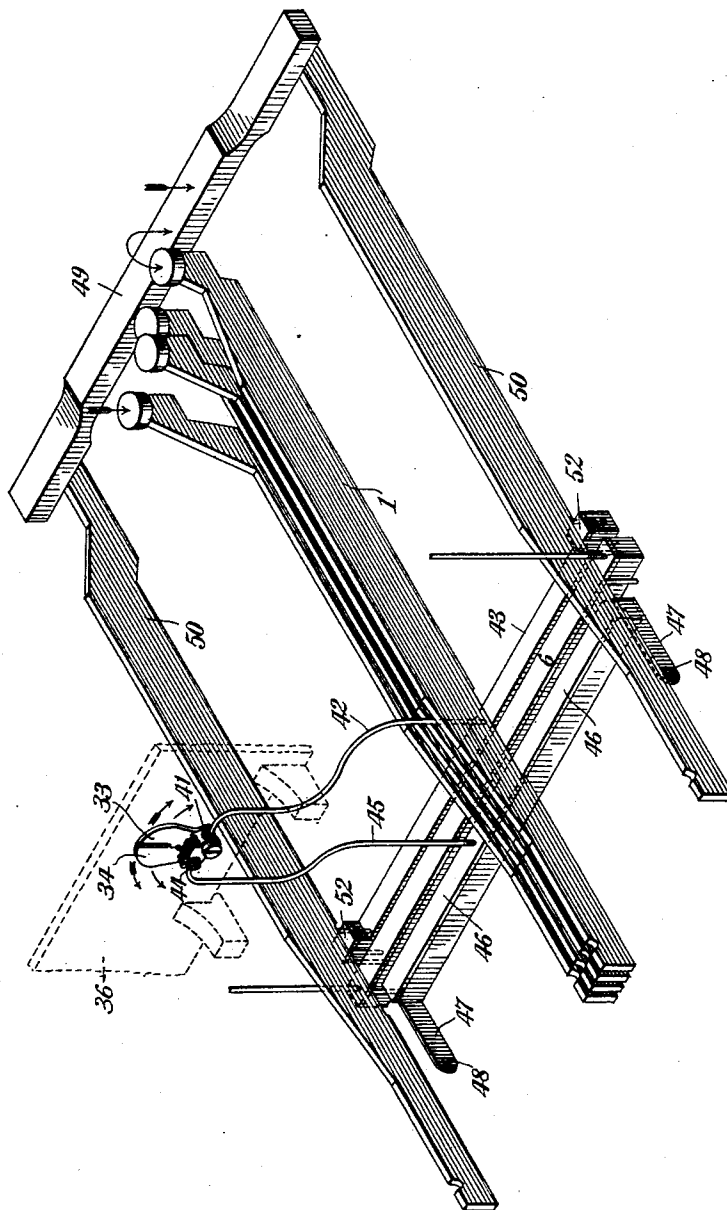
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Fig. 3.



WITNESSES:

C. E. Keshley
W. W. Lloyd

INVENTOR:

Byron A. Brooks
By his Attorney
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Fig. 4,

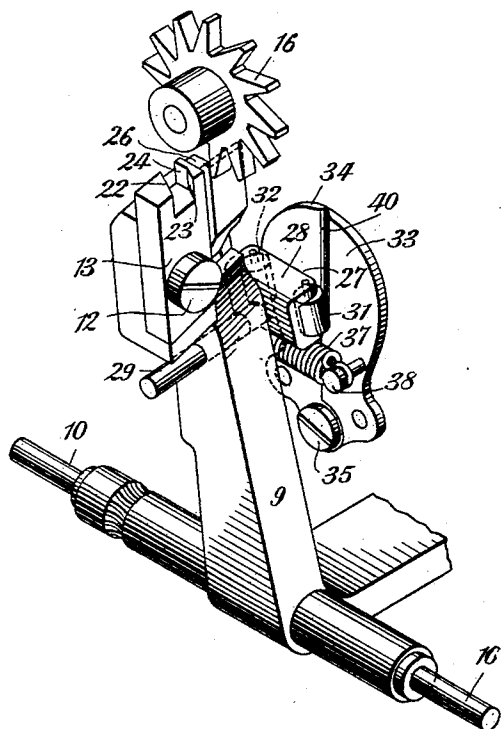


Fig. 5,

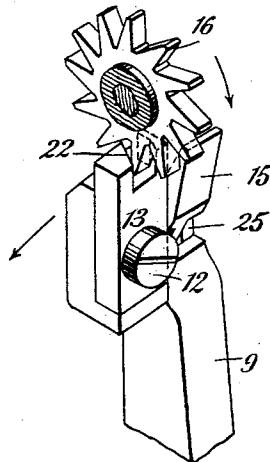


Fig. 6,

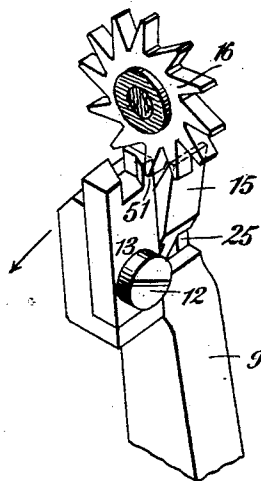
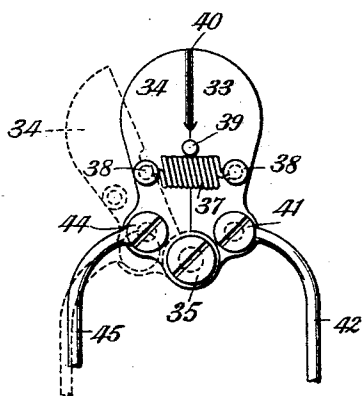


Fig. 7,



WITNESSES:

C. E. Ashley
H. W. Rhyed.

INVENTOR:

Byron A. Brooks
By his Attorney
James F. Felt

UNITED STATES PATENT OFFICE.

BYRON A. BROOKS, OF BROOKLYN, N. Y., ASSIGNOR TO THE WYCKOFF,
SEAMANS & BENEDICT, OF ILION, NEW YORK.

TYPE-WRITING MACHINE.

SPECIFICATION forming part of Letters Patent No. 586,351, dated July 13, 1897.

Application filed July 7, 1896. Serial No. 598,309. (No model.)

To all whom it may concern:

Be it known that I, BYRON A. BROOKS, a citizen of the United States, and a resident of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to means for obtaining a double-space movement of the paper-carriage when an operator may depress simultaneously a letter-key and the space-key, as at the end of a written word, so as to thereby avoid the necessity of making separate space movements to separate the finished word from the next word to be written; and my invention consists in the various features of construction and combinations of devices, all hereinafter more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a rear sectional view taken at the line *xx* of Fig. 2. Fig. 2 is a vertical longitudinal section taken at the line *yy* of Fig. 1. Fig. 3 is a perspective detail view more clearly exhibiting the construction and arrangement of the parts. Fig. 4 is an enlarged perspective view of the escapement devices and the stops used in conjunction therewith, the parts being in positions of rest. Fig. 5 is a similar view of the upper portion of the escapement mechanism, showing the action of the parts at a certain stage of the operation of double spacing. Fig. 6 is a view similar to Fig. 5, showing the parts at a certain stage of the operation of single spacing; and Fig. 7 is a front elevation of the stops detached.

In the several views the same part will be found designated by the same numeral of reference.

1 designates the letter-key levers, which by suitable rods or links 2 are connected to type-bars 3, pivoted in hangers on the top plate 4. Extending across the machine and beneath the key-levers 1, which are fulcrumed on a bar 5 at the rear of the machine, is a universal bar 6, which is connected at its ends by wires 7 to laterally-extending arms 8 on the L-shaped dog holder or rocker 9, which is pivoted at its ends on conical screws or centers

10, and which is provided with a returning spring 11, all in the usual manner.

At the upper portion of the dog-rocker is attached by a screw 12 the rigid dog 13 and by a pivot 14 the movable feeding-dog 15. Both said dogs are adapted to coöperate with a circular rack or escapement-wheel 16, fixed on the rear end of a shaft 17, having a bearing 18, and provided at its inner end with a pinion 19, adapted to gear with a straight-toothed bar 20 on the paper-carriage, which in its entirety is designated by the numeral 21, and which, being of well-known construction, need not be described in detail.

The rigid dog 13 is slotted or cut away at its top, so as to provide the two parallel oblique walls or faces 22 and 23 and the straight wall or face 24 parallel with the front side of the dog. The dog 15 is provided with a spring 25, which tends to throw it toward the right, viewed from the rear of the machine, and said dog is also provided with a back-stop 26, mounted on or forming a part of the dog-rocker. The pivoted spring-acted dog 15 stands normally in engagement with the escapement-wheel, which tends to turn in the direction of the curved arrow at Fig. 5 under the pull of the carriage-driving power, and which power, being greater than the dog-spring 25, causes the escapement-wheel to hold said dog 15 in upright position and against its back-stop during disuse of the keys.

At near the upper end of the dog-rocker is attached an arm, striker, or contact device 27, which in the preferred form shown consists of a head 28, a shank 29, secured to the dog-rocker by a binding-screw 30, and two antifriction-rolls 31 and 32, mounted in upright positions at the front of the head 28. These rolls are adapted to strike or contact with two vertically-arranged plates or stops 33 and 34, disposed in the same plane and having preferably a common pivot 35, which is attached to the depending frame portion or plate 36, which supports the dog-rocker. The pivoted or hinged stops 33 and 34 are connected together by a coiled spring 37, whose ends are attached to studs 38, projecting rearwardly from said stops, which at their inner

edges are formed each with a half-round notch which fits about one side of a round stop-pin 39, which projects through from the supporting-plate 36. The upper portions of the said stops 33 and 34 are preferably beveled at their longitudinal meeting edges, as shown at 40.

Pivoted at 41 to the plate 33 is a connecting-rod 42, which at its lower end is attached to a bail 43, extending transversely of the machine under but out of reach of all of the key-levers, and pivoted at 44 to the stop 34 is another connecting-rod 45, which at its lower end is attached to another bail 46, having rearwardly-extending arms 47, which are pivoted at 48 to inward extensions of the framework.

49 designates the space key or bar, which is mounted at the outer ends of two levers 50, arranged at the extreme sides of the machine and fulcrumed on the rear cross-bar 5. These space-key levers 50 are adapted to actuate the universal bar 6 and the bail 43, but not the bail 46, which is shorter than the bail 43 and does not extend out to the planes of the space-key levers. The shorter bail 46 is adapted to be actuated only by the letter-key levers 1, and which are also adapted to actuate the universal bar.

When a letter-key is depressed, as in the writing of a word, the dog-holder is rocked and the pivoted spring-acted dog 15 moved forward out of engagement with the escapement-wheel or circular rack 16, and the rigid dog 13 is moved over to coöperate therewith, a tooth of the rack striking the upper portion of the dog at 51, as shown at Fig. 6, the spring-acted dog 15 at the same time vibrating toward the right, viewed from the back of the machine.

When the letter-key is released, the dog-holder is rocked rearwardly by its spring, and as soon as the rigid dog leaves the engaging tooth of the rack the carriage feeds one letter-space, the next tooth to said engaging tooth operating at this time upon or in engagement with the pivoted dog and acting to vibrate said dog toward the left and against its back-stop, which arrests the feed movement of the carriage.

During the vibration of any letter-key the bail 46 is carried down thereby and the pivoted stop or plate 34 is vibrated toward the left, but the other plate or stop 33 at this time remains in its normal position and abuts the roll 31 and prevents the dog-rocker from moving forward too far, or, in other words, the said plate or stop 33, when the letter-keys alone are actuated, operates to limit the vibration of the dog-holder, and hence restrict the carriage-feed to a one-space movement.

The depression of the letter-keys does not effect a vibration of the bail 43, which occupies a horizontal plane below that of the bail 46 and is built up at its ends, as at 52, to about the level of the space-key levers 50. This bail 43 descends only under the pressure of the space-key levers. Therefore when the

letter-keys levers are actuated the stop 33 remains in its normal position. As the space-key levers do not act upon the bail 46, when the space-key is pushed down only the stop or plate 33 is vibrated, the stop 34 remaining in its normal position to arrest the forward vibration of the dog-holder, the roller 32 striking against said stop and, as before, the escapement mechanism is restricted to yield a one-space movement only to the carriage. When, however, both a letter-key and the space-key are depressed together, then both bails 43 and 46 are actuated and both stops 33 and 34 are vibrated in opposite directions out of the way of their associated rolls, and at this time the dog-holder will rock forward a greater distance or until the rolls strike or nearly strike the stop-supporting plate 36. When this occurs, a tooth of the rack enters the slot or cut-away at the upper portion of the rigid dog, as shown at Fig. 5, and is arrested by the oblique or angular wall 22 thereof, and at the same time the spring-acted dog 15 is vibrated toward the right, as shown in said figure. As soon as the pressure on the keys is released the said oblique or slanting portion 22 of the dog is acted upon by the engaging tooth of the rack, which being now unrestrained and acting under the carriage-driving power enables the said engaging tooth to cam or wedge back the said dog and dog-holder, and at this time the said engaging tooth and the next succeeding tooth pass through the notch or cut-away to the other side of the rigid dog, while the succeeding or third tooth engages with the pivoted dog and brings it back to normal position against its stop, as shown at Fig. 4. The rack or escapement wheel being thus permitted to turn the distance of two teeth, the carriage is fed a distance equal to two letter-spaces when the action just described takes place. Thus it will be seen that a construction is provided whereby when any letter-key alone is depressed and whereby when the space-key alone is depressed only a single-letter-space movement of the carriage is obtained, but that when any letter-key and the space-key are simultaneously depressed a double-letter-space movement of the carriage is obtained, and all without the employment of additional or auxiliary keys and without altering in any manner the usual mode of operation of the space-key or of the letter-keys.

The stops and their connected bails are returned to normal position by the spring 37. The rolls 31 and 32 are provided to reduce resistance to return movement of the plates or stops 33 and 34, and to further avoid friction and shocks the edges of the plates or stops are beveled, as shown at 40.

At Fig. 3 I have shown arrows without feathers, arrows with plain feathers, and arrows with shaded feathers to illustrate the operation of the devices.

When a letter-key and the space-key are struck together, as indicated by the con-

nected unfeathered arrows, both the plates or stops 33 and 34 vibrate, as indicated by the two unfeathered arrows at said plates or stops. When a letter-key is depressed alone, as indicated by the unshaded feathered arrow, the stop or plate 34 vibrates in the direction indicated by a similar arrow thereat, and when the space-key is depressed, as indicated by the shaded feathered arrow, then the plate or stop 33 vibrates in the direction indicated by a like arrow at said plate or stop.

The features of construction herein set forth and claimed may be embodied in other forms, styles, or types of machines than the Remington No. 6 herein illustrated without departing from the spirit of my invention, and various changes in detail construction and arrangement may likewise be made without departing from the gist of my improvements.

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

1. In a type-writing machine, the combination of a paper-carriage, an escapement mechanism therefor, a pair of independent stops to limit the movement of said escapement mechanism, letter-keys all of which are connected to one of said stops, and a space-key connected only to the other of said stops; substantially as set forth.

2. In a type-writing machine, the combination of a paper-carriage, an escapement mechanism including a rocking dog-holder, a pair of independent stops for limiting the vibration of said dog-holder, a bail connected to one of said stops and adapted to be actuated by all of the letter-key levers, and a second bail connected to the other of said stops and adapted to be actuated only by the space-key lever; substantially as set forth.

3. In a type-writing machine, the combination of a paper-carriage, an escapement mechanism including a rocking dog-holder, a pair of independent pivoted stops, one adapted to be actuated by the letter-keys only and the other only by the space-key, and means for returning said stops to their normal positions; whereby when any letter-key alone is depressed, or when the space-key alone is depressed only a single-letter-space movement of the carriage is obtained, but when any letter-key and the space-key are simultaneously depressed a double-letter-space movement of the carriage is obtained substantially as set forth.

4. In a type-writing machine, the combination of a paper-carriage, an escapement mechanism, a pair of pivoted stops, a bail connected to one of said stops and adapted to be actuated by all of the letter-keys only, a second bail connected to the other of said stops and adapted to be actuated by the space-key only; whereby when any letter-key alone is depressed, or when the space-key alone is de-

pressed only a single-letter-space movement of the carriage is obtained, but when any letter-key and the space-key are simultaneously depressed a double-letter-space movement of the carriage is obtained substantially as set forth.

5. In a type-writing machine, the combination of a paper-carriage, an escapement mechanism including a rocking dog-holder having a contact device provided with antifriction-rolls, a pair of independent pivoted stops, a pin or pins for holding them in normal position, a spring or springs for returning them to normal position, a connecting-rod attached to each of said stops, a bail connected to each of said connecting-rods, the letter-keys, and the space-key; substantially as set forth.

6. In a type-writing machine, the combination of a paper-carriage, an escapement mechanism comprising essentially a toothed wheel, a dog-rocker having a pivoted spring-acted dog and a rigid dog provided with a slot or cut-away and with an oblique or slanting wall, stops for normally limiting the vibration of said dog-rocker so as to insure single spacing, and means for removing said stops so as to obtain double spacing; substantially as set forth.

7. In a type-writing machine, the combination of a paper-carriage having a toothed bar, a pinion engaging therewith, an escapement-wheel connected to said pinion, a dog-holder having a pivoted spring-acted dog and a rigid dog provided with a slot or cut-away for the passage of the teeth of said escapement-wheel, and with an inclined or oblique wall to enable said escapement-wheel to wedge back the dog-holder, a pair of stops adapted to limit the forward vibration of said dog-holder, letter-keys connected to one of said stops, and a space-key connected to the other of said stops; substantially as set forth.

8. In a type-writing machine, the combination of a paper-carriage having a toothed bar, a pinion engaging therewith, an escapement-wheel connected to said pinion, a dog-holder having a pivoted spring-acted dog and a rigid dog provided with a slot or cut-away for the passage of the teeth of said escapement-wheel and with an inclined or oblique wall to enable said escapement-wheel to wedge back the dog-holder, a pair of pivoted independent stops, a bail connected to one of said stops, letter-keys adapted to actuate said bail only, a second bail connected to the other of said stops, and a space-key adapted to actuate said bail only; substantially as set forth.

Signed at New York city, in the county of New York and State of New York, this 3d day of July, A. D. 1896.

BYRON A. BROOKS.

Witnesses:

JACOB FELBEL,
K. V. DONOVAN.