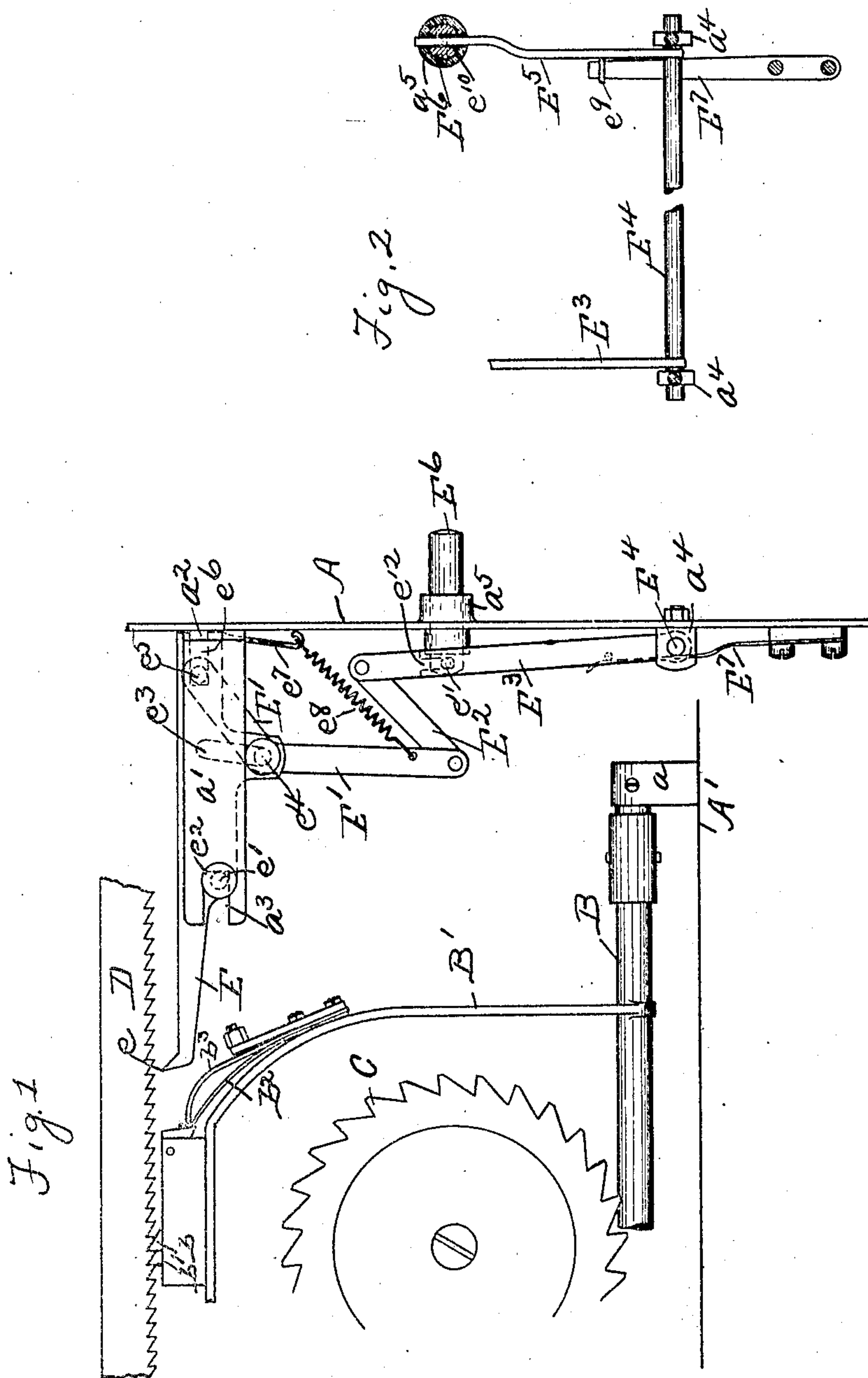


No. 892,614.

PATENTED JULY 7, 1908.

J. W. PAUL.
BACK SPACING DEVICE.
APPLICATION FILED JUNE 27, 1906.



Witnesses
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JOHN W. PAUL, OF KITTANNING, PENNSYLVANIA.

BACK-SPACING DEVICE.

No. 892,614.

Specification of Letters Patent.

Patented July 7, 1908.

Application filed June 27, 1906. Serial No. 323,753.

To all whom it may concern:

Be it known that I, JOHN W. PAUL, a citizen of the United States, residing at Kittanning, in the county of Armstrong and State of Pennsylvania, have invented new and useful Improvements in Back-Spacing Devices, of which the following is a specification.

This invention relates to back spacing devices and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 shows a rear view of a fragment of a typewriter, having my device in place thereon. Fig. 2, a detailed view of the push button and connecting mechanism.

A marks the side of the frame of the typewriter; A', a connecting portion of the base. Extending from the base portion is the lug a. Journaled in this lug is a rock shaft B on which the spacing lever B' is mounted. The usual spacer dogs b and b' are carried by the lever B' and are actuated by the springs b² and b³ in the usual manner, so that at each action of the spacing lever B' the rack D on which the dogs b and b' operate is permitted to move forward one space. The carriage tension of the device is partly shown at C. The parts so far as described are of the usual construction and well understood in the art. Extending from the side of the frame A is a guide plate a'. It has an angle portion a² to facilitate securing it to the side of the frame. The back spacing dog E is provided with the dog point e so shaped as to enter the serrations in the rack D, so that through said engagement and the proper action of the dog E, the rack may be moved backward one space at a time. The guide plate a' has a slot in its inner end. A pin e' extends through this slot and a head e² maintains it in position therein. The pin is carried by the dog E. A lever E' is pivoted on a pin e⁵. The rear end of the dog E is provided with a slot e⁶ which operates over the pin e⁵. The dog is also provided with a cam slot e³. The pin e⁴ extends through this cam slot and is carried by the lever E'. A spring hook e⁷ extends downwardly from the outer end of the dog and a spring e⁸ connects this hook with the lever E'.

The spring e⁸ is under tension. The effect of this is to draw the pin e⁴ to the bottom of

the slot e³ and this will bring the end of the slot e⁶ in contact with the pin e⁵. The pin e' is of less diameter than the width of the slot a³ so as to give the dog sufficient play that the point e may be swung into engagement. The pin e' contacts the upper edge of the slot a³ as the point e reaches the bottom of the serrations in the rack D. When the lever E' is swung toward the left as viewed in Fig. 1, the dog E acting under the influence of the spring e moves with the lever E' so that the initial movement of the dog E is pivotal about the pivot e⁵ and the dog point e is lifted into position to engage one of the serrations on the rack D. As the point e reaches the bottom of the serrations in the bottom of the rack D and the pin e' comes into contact with the upper edge of the slot a³, the swinging movement of the dog E is arrested. A continued movement of the lever E' carries the pin e⁴ upwardly in the cam slot e³ and this effects a sliding movement of the dog E in a direction parallel to the rack D. This movement of the dog E of course moves the rack D with it and effects the back spacing desired. The angle of the cam slot e³ and the limitations in the movement of the lever E' are such as to permit of the movement of the parts one space.

I have provided a desirable mechanism for conveniently operating the lever E'. A link E² extends from the bottom of the lever E' to a lever E³. The lever E³ is fixed on a rock shaft E⁴. The rock shaft E⁴ is journaled in the lugs a⁴, these lugs being secured to the side of the frame. The rock shaft E⁴ is of sufficient length to extend to a convenient position at the front of the machine, the back spacing mechanism heretofore described being at the back of the machine. A lever E⁵ is fixed on the rock shaft E⁴ and extends into the bifurcating end e¹⁰ of a push button E⁶. The end of the lever E⁵ is provided with a slot e¹² and a pin e¹¹ is passed through the push button and this slot, thus locking the parts together. The push button is mounted in the lug a⁵ formed on the frame A. A spring E⁷ is secured to the frame A and is tensioned against the pin e⁹ extending from the lever E⁵. The purpose of the spring is to return the parts to normal after being operated through the action on the push button.

What I claim as new is:—

1. In a back spacing device the combination of a carriage feed rack; a dog having a mounting comprising a stationary pivot

support in which the dog is pivotally and slidingly mounted to permit the initial swinging of the dog into engagement and the sliding of the dog to move with the rack; and a
5 lever with a stationary pivot for initially swinging the dog into engagement, and then sliding the dog to move the rack.

2. In a back spacing device the combination of a carriage feed rack; a dog having a
10 mounting comprising a stationary pivot support on which the dog is pivotally and slidingly mounted to permit the initial swinging of the dog into engagement and the sliding of the dog to effect the movement thereof
15 with the rack; a lever arranged to swing with the dog to move the dog into engagement with the rack and then to effect the sliding movement of the dog as the movement of the lever is continued to actuate the
20 rack.

3. In a back spacing device, the combination of a carriage feed rack; a dog arranged to engage said rack; a lever for actuating said dog; said dog and lever being free to
25 swing together initially to move the dog into engagement and then to move relatively to each other as the dog moves with the rack; a spring between said lever and dog, locking them to move together as the dog
30 is moved into engagement and to permit a movement of the lever relatively to the dog as the lever actuates the dog to move the rack; and devices between the lever and dog whereby a movement of the lever after the
35 dog is in engagement with the rack moves the dog relatively to the lever to actuate the rack.

4. In a back spacing device, the combination of the rack D; a dog E adapted to en-
40 gage said rack, said dog being provided with the guiding slot e^6 and the cam slot e^3 ; the plate a' having the slot a^3 therein; the pin e' arranged in the slot a^3 and secured to the dog E; the lever E' ; the pivot e^5 for the lever E'
45 extending through the slot e^6 and secured to the plate a' ; the pin e^4 extending from the lever E' through the cam slot e^3 ; the arm e^7 extending from the dog; and the spring e^8 tensioned between the lever E' and the arm e^7 .

5. In a back spacing device, the combination with the side frame of a typewriter; of a push button arranged on the outside of said side frame and near the front thereof; a rock shaft extending from near the front of the frame to the rear of the same; means be-
55 tween the rock lever and the push button whereby the push button actuates the rock shaft; a dog at the rear of the machine for moving the carriage for back spacing; and means for communicating the movement of
60 the rock shaft to the dog.

6. In a back spacing device, the combination with the side frame A; of the push button E^6 arranged near the front of the frame and slidingly mounted in said frame; the
65 rock lever E^5 arranged to be actuated by said button, said rock lever being arranged within the frame; a rock shaft E^4 on which said rock lever E^5 is mounted; a rock lever E^3 fixed on the shaft E^4 ; a dog for moving the carriage
70 for back spacing; and means between the lever E^3 and said dog for communicating the movement of the rock lever E^3 to said dog.

7. In a back spacing device, the combination of the rack D; a dog E adapted to en-
75 gage said rack, said dog being provided with the guiding slot e^6 and the cam slot e^3 ; the plate a' having the slot a^3 therein; the pin e' arranged in the slot a^3 and secured to the dog E; the lever E' ; the pivot e^5 for the lever E'
80 extending through the slot e^6 and secured to the plate a' ; the pin e^4 extending from the lever E' through the cam slot e^3 ; the arm e^7 extending from the dog; the spring e^8 tensioned between the lever E' and the arm e^7 ;
85 the rock lever E^3 ; link E^2 connecting said rock lever with the lever E' ; the rock shaft E^4 on which the rock lever E^3 is mounted; the rock lever E^5 fixed on the rock shaft E^4 ; and the push button E^6 for actuating the
90 rock lever E^5 .

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

JOHN W. PAUL.

Witnesses:

F. LULU FINDLEY
MARY McLAUGHLIN.