

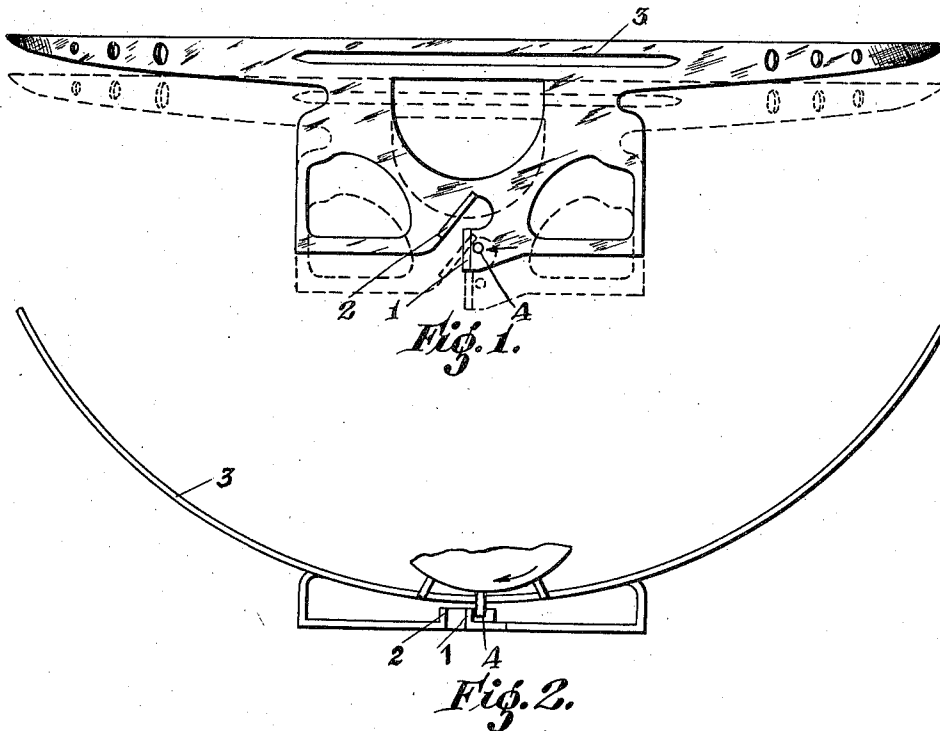
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F. EIBERT

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ESCAPEMENT DEVICE ON PAPER CARRIAGES FOR TYPEWRITERS

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Inventor:
FRITZ EIBERT

By: *A. W. Keller*
ATTORNEY

UNITED STATES PATENT OFFICE

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ESCAPEMENT DEVICE ON PAPER CARRIAGES FOR TYPEWRITERS

Fritz Eibert, Munich, Germany, assignor to
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3 Claims. (Cl. 197—87)

The present invention relates to an escapement device for typewriters, and more particularly to an improved escapement device which receives its energy from the carriage spring rather than from the keys.

In all modern type-writers, the various devices for the ribbon movement, the automatic shift, the range of movement of stroke of the ribbon carrier etc., are coupled together with the paper carriage escapement in such a way that the expenditure of force required for their movement is supplied by the operator of the machine by himself when striking each single key; the movement of all these different parts causing a significant increase in the force applied when striking each key.

It is an object of the present invention to provide an escapement device for typewriters which enables the stroke on the keys to be as light as possible.

It is another object of the present invention to provide means whereby the keys are arranged as triggers which set the escapement device and the type levers in motion under the energy from the carriage spring.

It is a further object of the present invention to provide an escapement device which will quicken the return movement of the type lever under the energy originally supplied by the carriage.

It is also within the contemplation to provide an escapement device adapted to eliminate the recoil springs on prior escapement devices and the type levers which springs require a greater amount of force to operate the keys.

Other objects and advantages will become apparent from the following description taken in conjunction with the drawing in which:—

Fig. 1 illustrates a plan view of a universal bar having two integral pawls, embodying the present invention;

Fig. 2 depicts a front view of the universal bar shown in Fig. 1.

In the drawing, 1 represents the detainer, 2 the displacement pawl, hereinafter called the transverse bar, 4 the tooth of a ratchet wheel, and 3 the universal bar common to all type-levers of the machine.

The action of the construction shown in Figures 1 and 2 is as follows. It is presumed that the tooth 4 of the ratchet wheel for which a rod, roller and similar arrangement can be used, rests on the sliding surface of the detainer 1. The universal bar 3 and the detainer 1 are brought into the position shown in broken lines in Figure 1

when the type-lever is forced downwards by a touch on the key. At this moment, the transverse bar 2 comes into contact with the tooth 4 of the ratchet wheel. Under the action of the return spring, on the carriage (not shown), the tooth slides along the inclined surface of the transverse bar 2 which returns the universal bar 3 to its initial position. As is seen in Figure 1, the detainer 1, during the forward movement of the universal bar, i. e., during its transport to the position shown in broken lines, liberates the tooth 4, which tooth then at once touches the transverse bar 2 lying in the path of the tooth 4. Without the necessity of special springs, and merely by the sliding movement of the tooth 4 against the transverse bar 2 the universal bar 3 is pushed back to the full extent of the forward movement into its initial position. The next tooth of the ratchet wheel is then detained or held fast by the detainer 1.

What I claim is:—

1. In an escapement device for the paper carriage of typewriters, the combination comprising a powered ratchet wheel having teeth, a universal bar actuated by a key lever of said typewriter, a flat and plate-like detaining pawl rigidly mounted on said universal bar vertically to the direction of movement of said ratchet wheel teeth, a plate-like displacement pawl mounted on said universal bar at an angle to said detaining pawl whereby a tooth of said ratchet wheel will be engaged and retained by said detaining pawl in the normal position of rest of said universal bar, and said tooth will be released in a trigger-like manner and will slideably engage said displacement pawl and return said pawls and said universal bar into its initial position of rest after actuation of said bar by a key lever of said typewriter.

2. In an escapement device for typewriters, the combination which comprises a powered ratchet wheel having a plurality of teeth, a universal bar actuated by a key lever of said typewriter, a flat and plate-like detaining pawl integral with said universal bar and engaging one ratchet wheel tooth at a time, a flat and plate-like displacement pawl integral with said universal bar and having a working surface at such angle to the path of said teeth that a tooth disengaged by said detaining pawl slides along the angle surface of said displacement pawl and guides the universal bar back to its initial position of rest where the detaining pawl engages the next succeeding tooth.

3. In an escapement device for typewriters

having a toothed ratchet wheel, the improvement which comprises a universal bar actuated by a key lever of said typewriter, a flat and plate-like detaining pawl and a displacement pawl having 5 working surfaces at an angle to each other rigidly mounted on said universal bar, said detaining pawl being adapted to engage a tooth of said ratchet wheel until said universal bar is actuated

and to release said tooth in a trigger-like manner on actuation of said universal bar whereby said disengaged tooth will slide along the inclined surface of said displacement pawl and will guide the said universal bar back to its initial position of rest where the detaining pawl engages the next succeeding tooth. 5

FRITZ EIBERT.