# PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

## Improvement in or connected with Instructional and Children's Type Writing Machines.

We, BING-WERKE, vorm. Gebr. Bing. A—G., of 16, Blumenstrasse, Nurnberg, Germany, a German joint stock company, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

In a certain class of heavy typewriting machines for office use, the escapement frame which is adapted to be rocked by the movement of the keys, has to be so strongly and firmly constructed that it can absorb the forces set up by the lateral pull of the carriage without suffering any lateral flexion. In consequence of its effect of mass action, this heavy frame retards the writing speed of the machine. If, as is necessary in order to reduce the cost of production, in the case of an instructional or children's typewriting machine, the escapement frame is made of thin strip metal, the lateral flexion of the weak escapement frame under the pull of the carriage must be borne in mind. A simple set screw can be employed to absorb the lateral forces. This solution of the problem of the invention is, however, not perfect, since in course of time, the end of the screw would scrape a groove in the escapement frame. The resulting friction would be so great as to exert a powerful braking action on the type lever at the end of its stroke and lessen its duplicating capacity.

A better solution of the problem of making an escapement frame of thin bar iron or stamped sheet metal, is afforded by absorbing the lateral flexion imparted to the frame by the pull of the carriage by means of an adjustable roller adapted to rock on a fixed axis. It is a general practice in the arts to substitute rolling friction for sliding friction in order to lessen the latter. In this invention however, the point at issue is to enable a light springy escapement frame to be used by providing a means of support, such as a roller mounted in a special manner.

Our invention will be clearly understood from the following description aided by the annexed drawing which illustrates a typical embodiment of the invention, and in which Figure 1 is a plan of the escapement frame and Figures 2 and 3 the supporting members of the frame in lateral elevation and plan respectively, on a large scale.

The escapment frame *a* consists of a sheet metal plate bent in the shape of a U, the two flanges being denoted by *b* and *c* and the web by *d*. The flanges *b* and *c* are rockably mounted on a rod *g*, attached to the sides *e* and *f* of the machine frame. The web *d* carries the segment *h* of the escapement, which is adapted to be depressed by means of the known lugs on the type levers, against the action of a spiral spring *i*, thus causing the escapement frame to swing outward so that its attached dog *k* is moved out of engagement with the rack *m* connected to the carriage *l* and allows the carriage *l* to advance a distance corresponding to one tooth. As is known, however, the release of the carriage does not take place until the escapement frame has swung back into its original position, and consequently the force P tending to move the carriage onward, acts on the escapement frame during a considerable portion of the rocking movement of the latter. This force would bend the weak and springy escapement frame laterally, in the direction of the arrow A, if this

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were not provided against according to the invention, by means of a special support.

This support consists for example of an adjustable roller *n* pivotally mounted between two flanges *o* of a lever *p*. A rail *r* which connects the two side members *e* and *f* of the machine frame, carries a bracket the upwardly directed arm *s* of which is provided with two bearings *t* for supporting a shaft *q* about which the lever *p* with its roller *n* is adapted to rock. The adjustment of the lever *p* and therefore of the roller *n*, is effected by means of a set screw *u* and lock nut *v*. The lateral pressure exerted on the escapement frame is taken up by the roller *n* and the set screw *u*. During the up and down strokes of the escapement frame, the roller *n* travels along the flange *b* and thus enables the keys to be struck gently. The roller *n* may also be attached to the flange *b* and arranged to press against an adjustable plate.

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:—

1. An escapement frame arrangement for instructional and children's typewriting machines comprising an escapement frame made of a thin strip of sheet metal, and an adjustable support which prevents lateral flexion of said frame.

2. In an escapement frame arrangement according to Claim 1 constructing the support of a lever mounted on the machine frame and provided with a roller, said lever being adapted to be adjusted in relation to the escapement frame by means of a set screw.

3. The escapement frame arrangement for instructional and children's typewriting machines constructed substantially as described with reference to the annexed drawings.

Dated this 9th day of February, 1926.

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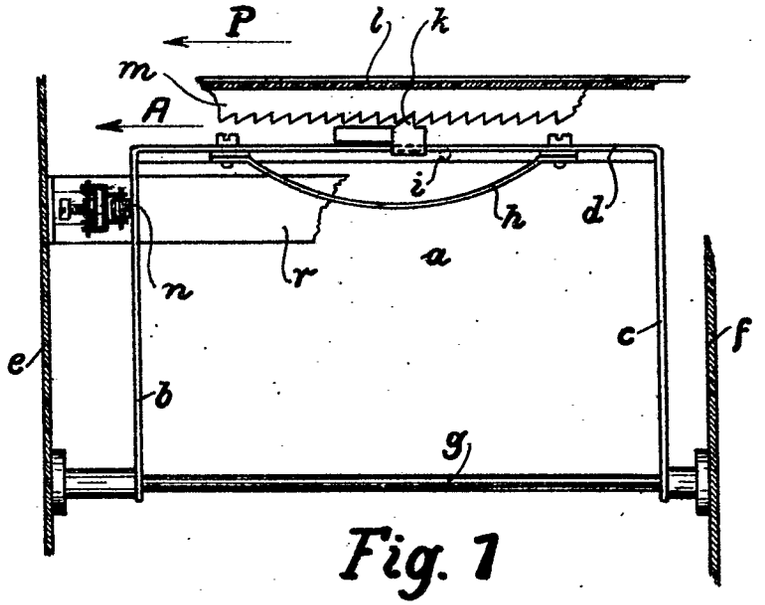


Fig. 1

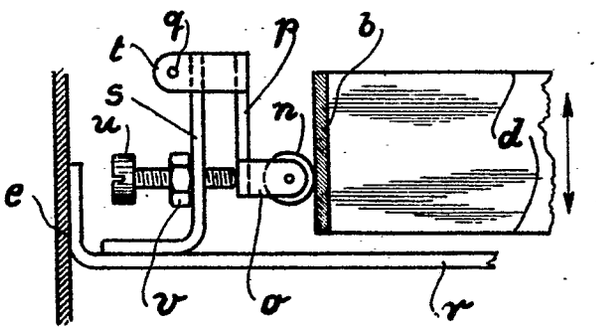


Fig. 2

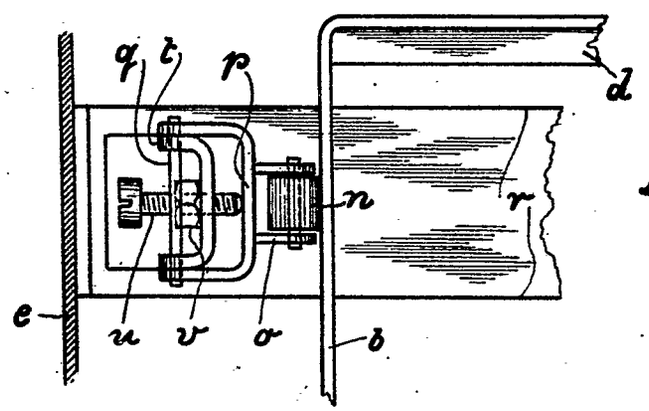


Fig. 3

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