PATENT SPECIFICATION

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COMPLETE SPECIFICATION.

Improvements in Typewriting Machines.

We, LUDWIG REISCHL, of No. 3, Kapellenstrasse, Nuremberg, Bavaria, Germany, of German nationality, and the firm BING-WERKE, vorm. GEBRÜDER BING A.—G., of No. 16, Blumenstrasse, Nuremberg, Bavaria, Germany, a German firm, 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:—

Feeding mechanisms for typewriting machines have become known in which the mechanism for feeding the carriage in the direction of its longitudinal axis, the dog rocker and the rocking frame operated by the universal bail are arranged in a separate frame, so that the feeding mechanism can be put together for itself and inserted as a whole into the typewriting machine. The invention relates to an independent feeding mechanism of this type and it consists in arranging on the frame of the feeding mechanism, besides the above mentioned mechanisms, the shifting mechanism for the platen in the shape of a lifting bar. On this lifting bar for the platen a shifting mechanism for the ink-ribbon may be further arranged which consists of an angle lever hingedly mounted on the lifting bar and connected on the one hand by an articulated rod with the universal bail and on the other hand with a bar which carries the ink-ribbon fork. Owing to this arrangement the angle lever is oscillated by the depression of an ordinary key and the ink-ribbon is lifted in the usual manner. If however a shift key is depressed the lifting bar and the lifting device for the ink-ribbon, hingedly connected with said bar, is raised. If then an ordinary key is depressed also the required additional lifting of the ink-ribbon is effected by the rocking of the angle lever which has already been raised.

In the accompanying drawing:—

Fig. 1 shows the feed mechanism frame in cross section, partly in elevation.

Fig. 2 is an elevation showing also the connecting parts between the feed mechanism and the universal bail.

The entire feed mechanism is mounted in a box-shaped frame which consists of a wall 1 bent in U-shape, two side flanges 2 of wall 1, and a sheet iron plate 3 on the side flanges 2. On wall 1 three internally threaded tubular sockets 4 are fixed which serve for attaching the frame on the rear wall 5 of the typewriting machine. A shaft 6 is journaled in the upper part of the frame wall 1 and of the sheet iron plate 3. The feed wheel 7 for the carriage is keyed on this shaft 6, the ratchet wheel 8 and the toothed wheel 10 engaging with the carriage rack 9 being loosely mounted on said shaft.

In the lower part of the frame a rod 12 is mounted in the lugs 11 of the side flanges 2. The angular dog rocker 14 having lugs 13 is oscillably mounted on said rod 12 and carries as usual a fixed feed tooth 15 and an oscillable feed tooth 16. The construction of the feed mechanism for the carriage is well known, and it is not necessary to further describe the operation of the feed knife.

On the rod 12 the rocking frame for the dog rocker is oscillably mounted and separated from the lugs 11 of the frame by spacers 17. This rocking frame consists of the two side arms 18 and of the cross plate 19 on which the releasing lever 20 is pivotally mounted. Normally a stud 21 on the lever strikes at the depression of a key after a short angular oscillation against the dog rocker and makes the same oscillate. If however by

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the depression of the accent key the lever 20 is turned, the stud 21 gets above the cross plate 19, so that the oscillating movement of the rocking frame remains ineffective with regard to the dog rocker, and the carriage is not shifted. The dog rocker 14 has an extension 22 which is raised by a lever 23 when the spacing key is being depressed.

Two flaps 24 project outwardly from the sheet iron plate 3; they have guide slits 25 in which a bar 26 is adjustably guided. This bar 26 has at its upper end a roller 27 designed to lift the longitudinal bar 28 of the carriage frame at the shifting from the small letters to the capitals. The lower end of bar 26 is bent at right angles to form a flap 29 designed to be raised by a longitudinal bar 30 when the shift key is being depressed. On bar 26 an angle lever is arranged on a rod 31 fixed on said bar, and the arm 32 of this lever is connected with the arm 33 of the same by a cross piece 34. The arm 32 has a stud 35 on which the vibrator 36 for the guiding of the inking ribbon 37 is hingedly mounted. The other arm 33 of the angle lever is connected by an articulated rod 38 with a flap 40 fixed on the universal bail 39. The universal bail 39 is guided in the well known manner by means of a sliding stud 42 and it is further guided in a circular slit of the type lever sector 41. The universal bail 39 is further hingedly connected with the rocking frame 18, 19 by means of two arms 43 and screws 44.

The operation of the feeding mechanism is as follows:—When an ordinary key is being depressed, the inclined surface 45 of the type lever 46 pushes the universal bail 39 in inward direction, whereby the rocking frame 18, 19 is oscillated through the intermediary of the arms 43 around the rod 12 so that the stud 21 presses upon the dog rocker and makes the same oscillate. The feed wheel 7 of the carriage is thus released in the well known manner with the aid of the fixed and oscillable teeth 15 and 16 of the dog rocker so that the carriage is fed from right to left for the width of one character. At the same time the angle lever 32, 33 is rotated by means of the articulated rod 38 at the movement of the universal bail 39 in inward direction, whereby the rod 36 for the guiding of the inking ribbon 37 is raised.

If the spacing key is being depressed the oscillating of the dog rocker and consequently the feeding of the carriage takes place through the intermediary of lever 23 in the well known manner.

If a shift key is depressed the longitudinal bar 30 raises the bar 26 and the roller 27 of the same which lifts the longitudinal bar 28 of the carriage and consequently the platen. If at the same time any other key is depressed there will take place, besides the raising of bar 26 and of the angle lever 32, 33 which have already been executed, the ordinary raising of the ink-ribbon owing to the oscillation of this angle lever.

The united mechanisms are screwed as a single piece on the wall 5 of the frame of the typewriting machine and connected by means of arms 43 and screws 44 with the universal bail 39. The feed mechanism is connected with the guiding device of the inking ribbon by the elastic lower end of the lifting rod 36 being simply hooked over the stud 35.

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. Feeding mechanism for typewriting machines in which the carriage-feeding mechanism for moving the carriage in the direction of its longitudinal axis, the dog rocker and the rocking frame for the same are arranged in a frame adapted to be inserted as a whole into the typewriting machine, characterized in that, besides these mechanisms, the lifting bar for the platen is movably guided on this frame.

2. Feeding mechanism as claimed in Claim 1, characterized in that on the lifting bar 26 for the platen a lifting mechanism for the ink-ribbon is hingedly fixed, the angle lever 33, 34, 32 of which participates in the raising movement of the bar 26 at the depression of a shift key and oscillates at the depression of the ordinary key.

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[This Drawing is a reproduction of the Original on a reduced scale]

Fig. 1

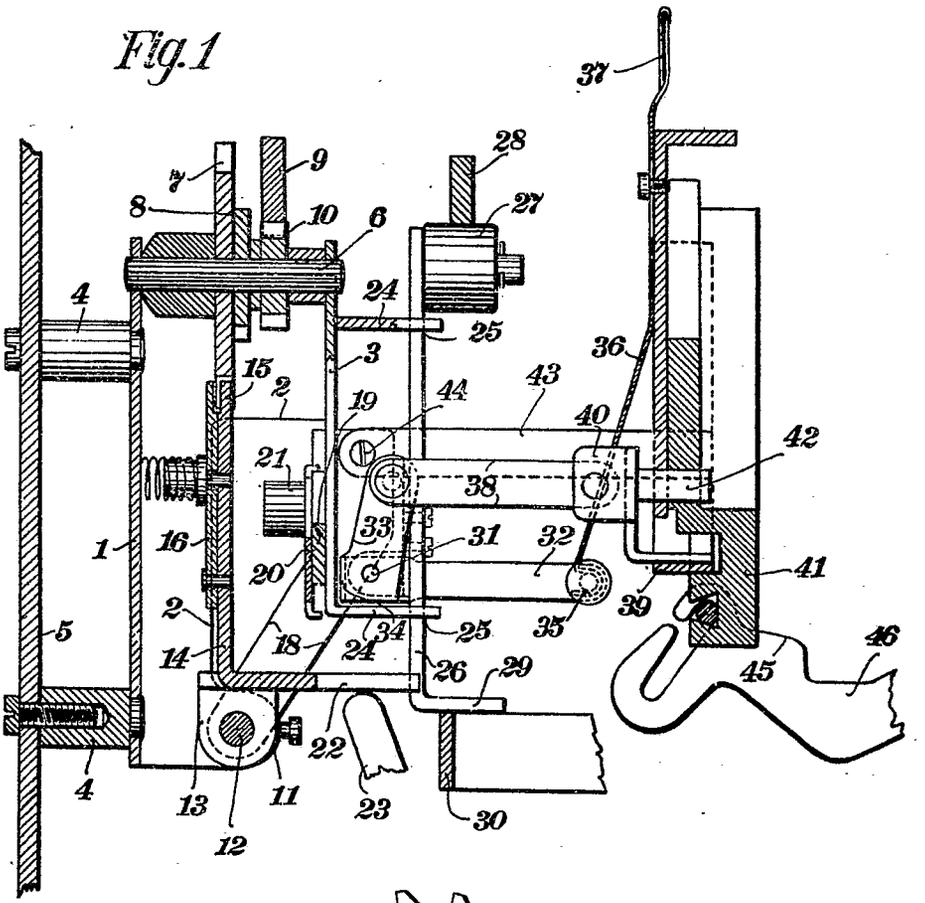
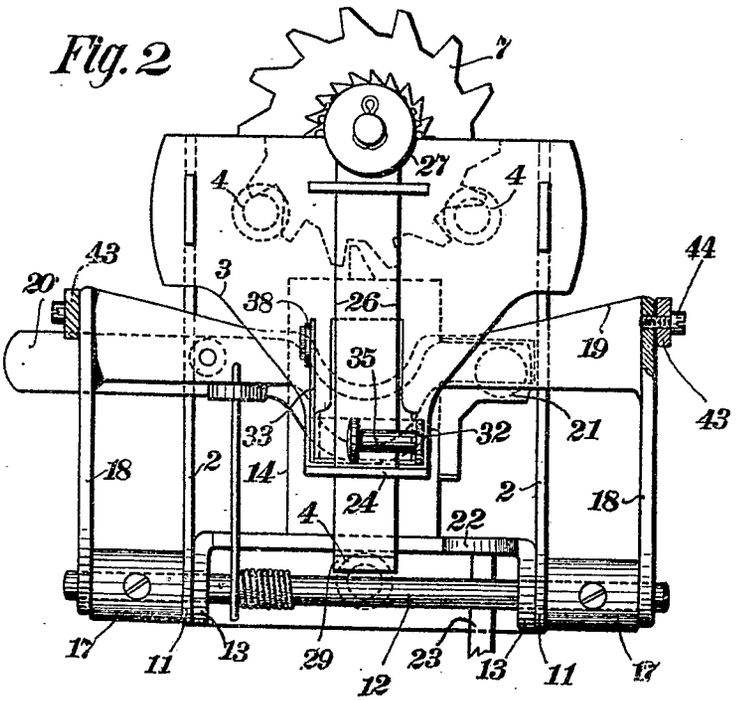


Fig. 2



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