

May 2, 1950

G. PREZIOSO
TABULATOR FOR TYPEWRITERS

2,506,104

Filed Sept. 9, 1947

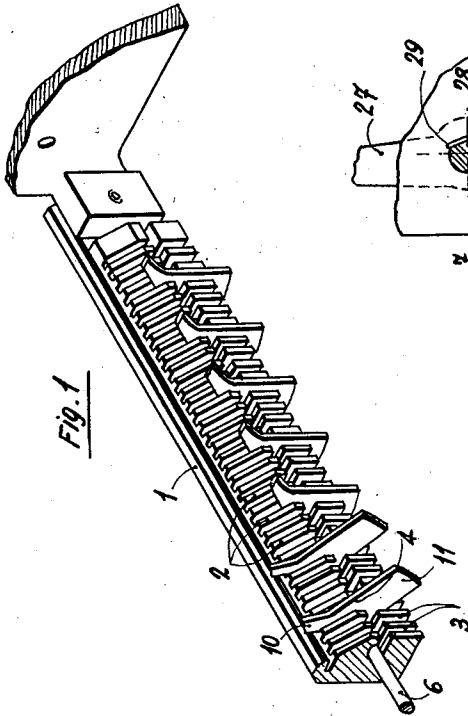


Fig. 1

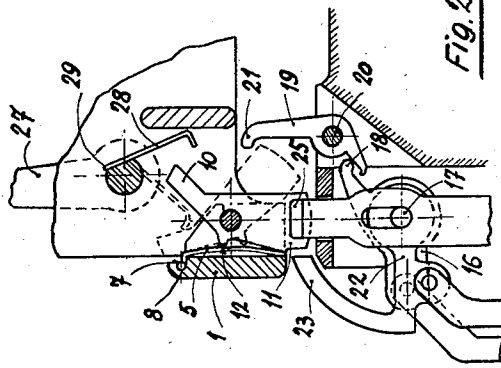
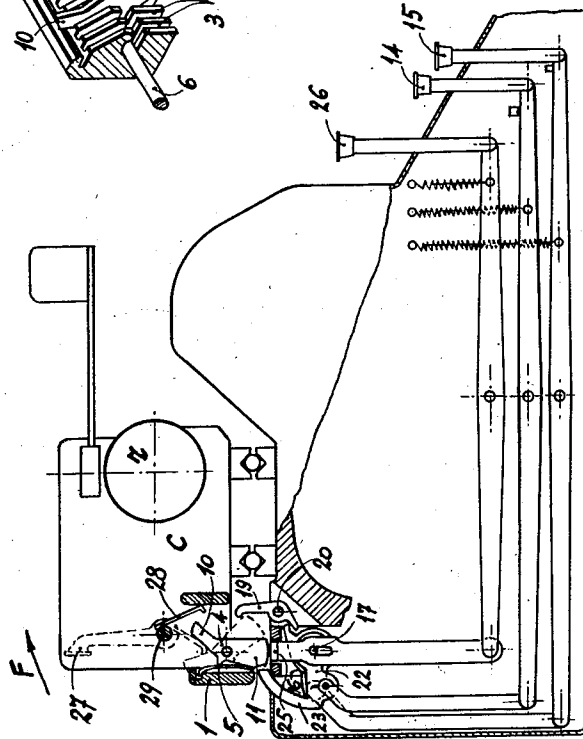


Fig. 2

Fig. 3



INVENTOR
GIUSEPPE PREZIOSO

BY *James P. Hoff*
ATTORNEY

UNITED STATES PATENT OFFICE

2,506,104

TABULATOR FOR TYPEWRITERS

Giuseppe Prezioso, Yverdon, Switzerland, assignor
to Paillard S. A. (Paillard A. G., Paillard Limited), a corporation of Switzerland

Application September 9, 1947, Serial No. 772,923
In Switzerland September 20, 1946

3 Claims. (Cl. 197-70)

1

All modern typewriters are provided with a tabulator. The latter is provided with stops in number equal to the number of letter spaces corresponding with the length of the platen and adapted to co-operate with the stop members operated by means of the keys. The stops are generally formed by members sliding between the teeth of a comb or of a rack located parallel to the cylinder and secured to the movable part of the carriage. The setting in the active position and the retraction of the stops may be effected either manually or automatically, by the operation of keys. These tabulators do not give entire satisfaction, as they necessitate a very careful and precise operation in the production of the stops and of the rack in order to avoid play deleterious to the precision of the stop position of the carriage. In other words the stops must be guided in a very precise manner, in order to slide parallel to themselves without play and without risk of wedging.

The present invention has for its subject a tabulator for a typewriter provided with a number of stops equal to the number of letter spaces corresponding with the length of the platen and adapted to co-operate with stop members mounted on the stationary part of the machine, the stops being carried by a rack located parallel to the platen and connected rigidly to the movable part of the carriage, the setting and retraction of the said stops being controlled by the keys.

This tabulator tends to eliminate the said disadvantages by the fact that the stops are formed by rocking members mounted on a common shaft, each rocking member being guided between two teeth of the comb and subjected to the action of a spring located in the bottom of the guide formed by the said teeth, the rocking member and the spring being so shaped and located that the action of the spring tends to hold the rocking member in each of the two extreme positions of which at least one is defined by the engagement of one part of this member with a part of the rack.

One form of construction of a tabulator according to the invention is shown diagrammatically and by way of example in the accompanying drawing, wherein:

Fig. 1 is a view in perspective of the rack carrying and guiding the stops.

Fig. 2 is a view in section on a larger scale of a portion of Fig. 3.

Fig. 3 is a view similar to Fig. 2, but in which are shown diagrammatically the members for controlling the setting and the retraction of the stops.

2

In the form of construction shown in the drawing, the tabulator is provided with a comb or rack 1 secured rigidly to the movable part of the carriage. The rack is located parallel to the platen *r*. The teeth 2 of the rack form between them a number of guides 3 equal to the number of letter spaces corresponding with the length of the platen.

In each of these guides is located a rocking member 4, of which one part thereof only is shown. All these rocking members 4 are mounted on a common shaft 6 secured rigidly to the comb. A spring 5, formed by a blade, is located in the bottom of each of the guides 2. The springs 5 have at one of their ends a bent portion 8 adapted to be engaged with a seat 7 of the comb.

Each rocking member has two arms 10 and 11 and a pad 12. The latter is adapted to co-operate with the spring 5 in order to hold the rocking member automatically in each of its two extreme positions, of which one is defined by the engagement of one part of the arm 10 with the bottom of the guide 3 and the other by the engagement of a part of the arm 11 with the bottom of the guide 3.

The rocking of these members from one of their extreme positions into their other extreme position is controlled by means of two keys 14, 15 of the machine. The key 15 is connected by transmission members to a lever 16 pivoted on a shaft 17. The free end 18 of the lever acts on a control member 19 pivoted on a shaft 20. This control member has a beak 21 adapted to move angularly the rocking member from its retracted position (position shown in chain-dotted lines) up to its active position (position indicated in full lines). When the pad 12 has been subjected to an angular movement of sufficient amplitude to cause it to pass to the opposite side of the plane perpendicular to the spring 5 and passing through the shaft 6, the spring produces automatically the rocking of the member 4 up to its active position (position shown in full lines), and holds the member 4 in this active position. The same occurs during the retraction of the member. The key 14 is connected mechanically to an actuating member 22 pivoted on the shaft 17 and provided with a finger 23 adapted to actuate the rocking member for the purpose of withdrawing it from its active position and for returning it to its inactive position (shown in chain-dotted lines).

When the pad 12 has been subjected to an angular movement sufficient to pass the neutral zone, that is to say to be again located on the same side of the plane perpendicular to the

3

spring 5 and passing through the axis 6 as the arm 11, the spring 5 produces the automatic rocking of the member 4 up to its retracted position defined by the arm 10.

The rocking members, placed into the active position, are adapted to come into engagement with a stop member 25 mounted on the stationary part of the machine in such a manner as to be movable vertically between two extreme positions. The stop member is connected mechanically to a control key 26 and is subjected to the action of a spring tending to hold it in the inactive position (position shown in Fig. 1). When pressing on the key 26 the operator can move the member 25 upwardly and place its upper end in the path of the arm 11 of a member 4 placed in the active position.

The operation of the device described is as follows.

The placing in the active position of a stop is obtained in the following manner:

The operator first places the carriage in the longitudinal position in which he desires to obtain the stopping of the carriage. By operating the key 15 he produces the rocking of the member 4 from its position shown in chain-dotted lines up to its position in full lines. When the operator afterwards desires to move the carriage from right to left automatically into the selected position it is sufficient for him to act on a key 26 connected mechanically on the one hand to the stop 25 and effecting the placing of the latter into the active position (position shown in Fig. 2) and on the other hand to the retaining pawl (not shown) and producing the release of the carriage. The latter, under the action of its return spring, then moves from right to left up to a longitudinal position defined by the engagement of the stop 25 with the arm 11 of the member 4.

The retraction of a stop, that is to say the placing in the inactive position of a member 4 (position shown in chain-dotted lines) is obtained by placing the movable carriage into a longitudinal position corresponding to the position of the said stop 4 and then acting on the key 14 so as to produce the rocking of the said stop from its position shown in full lines up to the position shown in chain-dotted lines.

Finally, in order to allow of the simultaneous retraction of any number of stops placed in the active position, an actuating member 27 is provided. The latter is formed by a plate 28 of which one of the ends is bent, located parallel to the comb and of a length equal to the latter. The plate 28 is secured to a shaft 29, pivoted in the lateral walls of the movable carriage and carrying the operating member 27 which, operated in

4

the direction of the arrow F, produces the retraction of all the riders 4.

From the foregoing and by examination of the drawing, it will be seen that, by reason of the fact that the stops are formed by rocking members, mounted on a shaft, their guiding can be effected much more easily and their operation is much more certain than when, as in known devices, the stops carry out a movement of translation. In fact no risk of wedging is to be feared.

Further, the positions of the said stops are clearly defined and they are held in each of their positions (active and retracted) by the action of a simple flat spring placed in the bottom of grooves of the rack.

I claim:

1. In a typewriter having a stationary part and a carriage movably mounted on the part, a tabulator comprising a toothed rack rigid with said carriage, a plurality of stops each mounted on the rack for movement guided between a pair of adjacent rack teeth and including a part projecting laterally and toward the rack, and a plurality of yieldable means each anchored with its upper end in the rack and having a smooth surface engaged on its intermediate portion only by the projecting stop part.

2. In a typewriter according to claim 1 wherein the plurality of stops are pivoted on the rack.

3. In a typewriter having a stationary part and a carriage movably mounted on the part, a tabulator comprising a toothed rack rigid with said carriage, a plurality of stops each mounted on the rack for movement guided between a pair of adjacent rack teeth and including a part projecting toward the bottom of the guide constituted by said pair of teeth, a plurality of yieldable means of arcuate shape, and retaining means, retaining each of said yieldable means on the bottom of a guide, each said yieldable means being in engagement, by its intermediate portion, with said projecting part of one of said stops.

GIUSEPPE PREZIOSO.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
2,157,053	Crumrine	May 2, 1939
2,196,790	Dobson	Apr. 9, 1940

FOREIGN PATENTS

Number	Country	Date
518,525	Germany	of 1931