

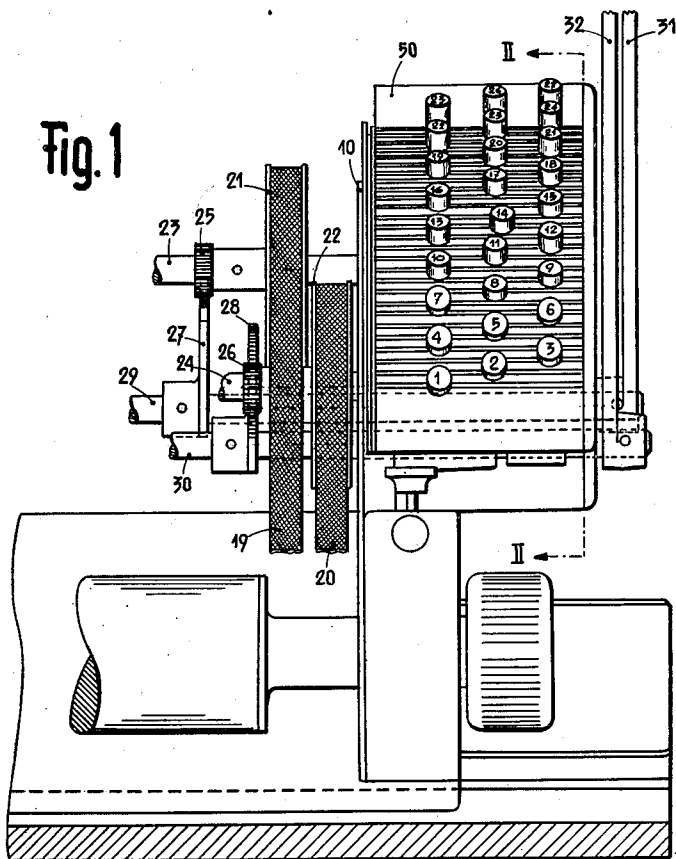
June 7, 1949.

G. PREZIOSO
SHEET FEEDING AND POSITIONING
MECHANISM FOR TYPEWRITERS

2,472,340

Filed Dec. 29, 1945

3 Sheets-Sheet 1



INVENTOR
GIUSEPPE PREZIOSO,
BY *Emory D. Hoff*
ATTORNEY

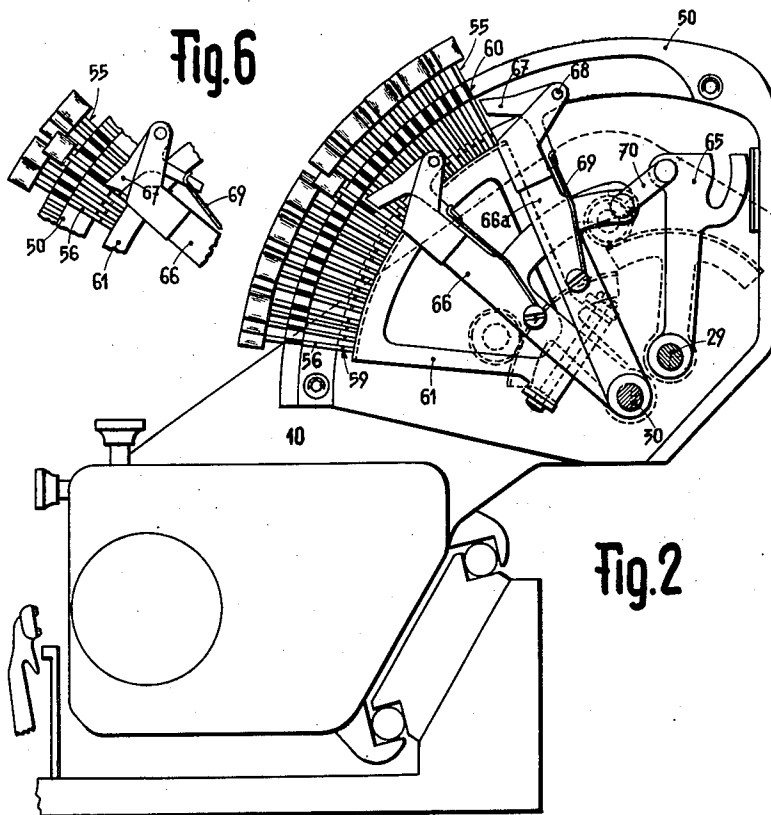
June 7, 1949.

G. PREZIOSO
SHEET FEEDING AND POSITIONING
MECHANISM FOR TYPEWRITERS

2,472,340

Filed Dec. 29, 1945

3 Sheets-Sheet 2



INVENTOR
GIUSEPPE PREZIOSO
BY *Emery Hoff*
ATTORNEY

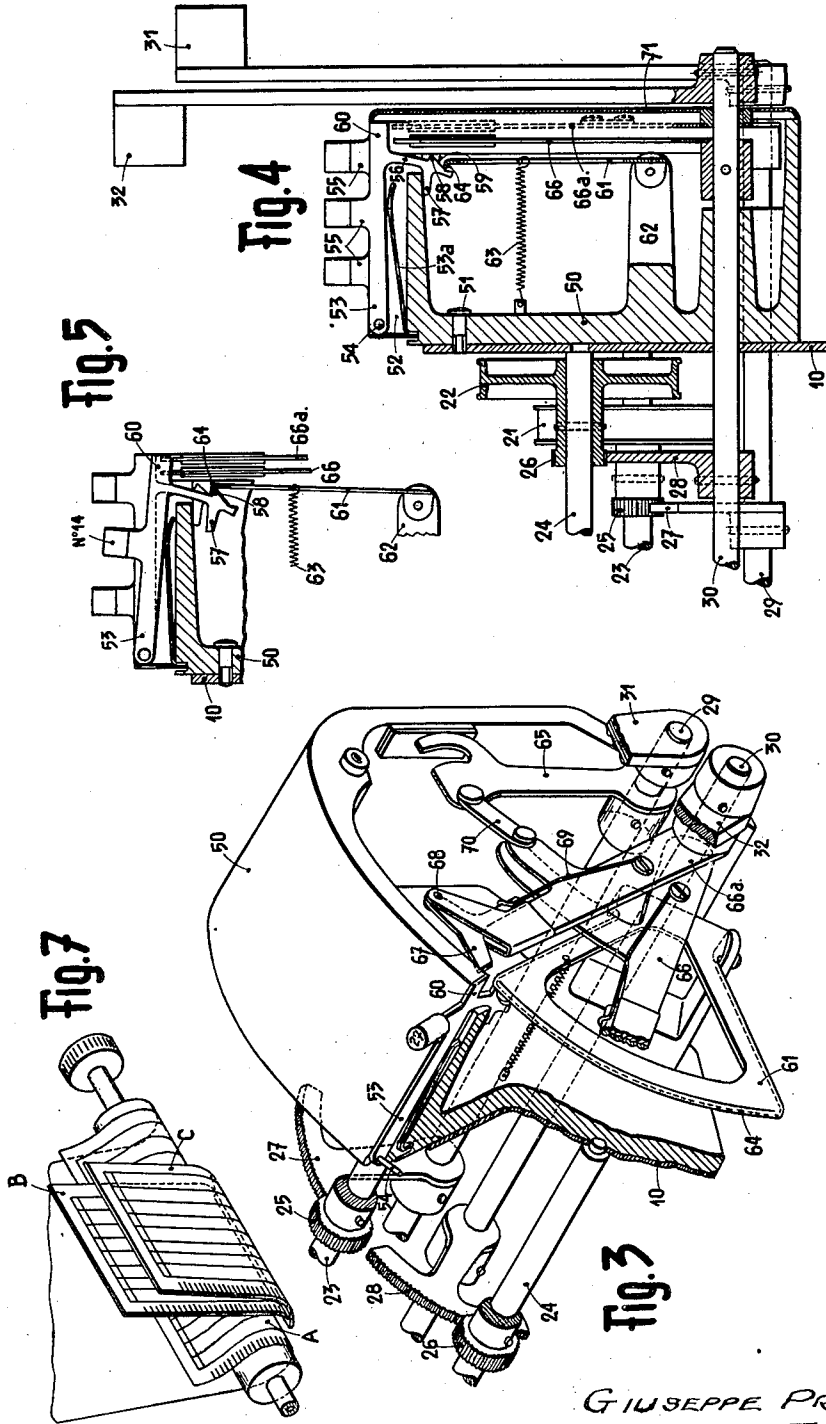
June 7, 1949.

G. PREZIOSO
SHEET FEEDING AND POSITIONING
MECHANISM FOR TYPEWRITERS

2,472,340

Filed Dec. 29, 1945

3 Sheets-Sheet 3



INVENTOR
GIUSEPPE PREZIOSO

BY *Amory D. Hoff*
ATTORNEY

UNITED STATES PATENT OFFICE

2,472,340

SHEET FEEDING AND POSITIONING
MECHANISM FOR TYPEWRITERSGiuseppe Prezioso, Yverdon, Switzerland, assignor
to Paillard S. A., a corporation of SwitzerlandApplication December 29, 1945, Serial No. 638,280
In Switzerland March 13, 1945

9 Claims. (Cl. 197—128)

1

Accounting typewriters are known, which permit the superposition of one or more sheets of account forms, called "statements," on a sheet, called "journal," which is carried by the platen of the machine for the purpose of obtaining duplicates.

For carrying out this operation it is necessary that each statement sheet be held in a position corresponding exactly to the desired writing line. In most cases this adjustment is made more or less satisfactorily by hand.

Constructions have been developed for the mechanical adjustment of the statement sheets with the desirable accuracy, in which selecting devices have been fitted to the carriage of the machine which permit the exact position to be chosen in advance for each statement sheet.

Such devices are known to consist of a support in the form of a disc mounted on one end and on the front of the carriage and keys arranged in a circle, which by their manipulation permit the choice of the writing line for which the statement sheet is to be adjusted. These devices have the disadvantage of requiring a space on the carriage substantially equal to the width of the statement sheet; they are far too cumbersome for convenient use. For this reason they can be employed only on machines provided with special carriages, furthermore the device must be removed when the typewriter is to be used for ordinary work.

The present invention relates to a mechanical device for manipulating several sheets on a typewriter in such a manner that at least one sheet is transported by the platen, while the others are transported by crossbars controlled themselves by tapes and thereby maintained in an exactly parallel position to the cylinder axis. The tapes to which the ends of the crossbars are fastened are connected on one end to a tensioning drum and on the other end to an operated drum. The first drum is subjected to the action of a spring, the second drum to that of an escapement device. The crossbars carry the statement sheets by their upper edge and a member extending under the organs pressing the sheet carried by the platen, guides the ends of the sheets carried by the crossbars.

This device is distinguished from that described in patent application Serial No. 582,441,

2

now Patent No. 2,411,335, dated November 19, 1946, inasmuch as the actuating mechanism for the operated drums of each single statement sheet cooperates with a selecting device which is rigidly fastened to one end of the carriage. This selecting device comprises several rows of keys and permits the predetermined choice of the position in which an individual statement sheet is to be brought in agreement with the desired writing line. The device is located at the end of the machine carriage in such a manner that it in no way interferes with the common use of the typewriter.

The following diagrams represent as an example a preferred embodiment of the invention:

Fig. 1 is a front view,

Fig. 2 is a section according to line II—II of Fig. 1,

Fig. 3 is a view in perspective with parts in section,

Fig. 4 is an axial section of a control mechanism,

Fig. 5 is a partial view of the section represented in Fig. 4 with some members in a different position,

Fig. 6 is a detail view of Fig. 2,

Fig. 7 shows schematically in perspective three sheets A, B and C in their relative position with respect to the platen.

For convenience sake the same parts or parts of similar function are designated by the same numerals in the present specification as in application Serial No. 582,441.

A crank 31 is clamped to an axle 29 having rigidly fastened to it a toothed segment 27 meshing with a pinion 25 mounted on a shaft 23 provided at each end with a drum 21 carrying fastened to it a ribbon 19. Fastened to these ribbons at both of its ends a crossbar (not shown) serves for locating and transporting a statement sheet B shown in Fig. 7. Similarly, crank 32, axle 30, toothed segment 28, pinion 26, shaft 24, drums 22 and ribbon 20 serve for locating and transporting sheet C of Fig. 7.

Cranks 31 and 32 control individually the movement of sheets B and C.

On each of its ends the carriage is supplied with a flange 10 with bearings for the axles 23, 24, 29 and 30. On the right hand flange 10, a casing 50 is fastened by means of screws 51.

This casing consists of a drum in the shape of a sector of a cylinder, open axially on one side. Emerging on a portion of the cylindrical surface of this drum, there are slots 52 affecting but a portion of the wall thickness and following a meridian plane of said cylinder. In each slot there is a lever 53, articulated at one end at 54. Each of these levers is supplied with an extension 55 provided with a key, said extension being offset with respect to that of the adjacent levers in order to provide clearance space for the keys.

Each lever 53 is provided on its end opposite to its articulation point with an arm 56, extending toward the axis of the drum. One side of this arm has a finger 57, which acts as a rest for lever 53 against the inner surface of the drum. On the opposite side, arm 56 has a tooth 58 following an inclined portion 59. The free end 60 of lever 53 functions as a stop for a pawl 67 as will be described later.

A spring 53a, located on the bottom of each slot 52, tends to hold the key-lever 53 in its raised position as shown on Fig. 4.

Opposite to key-levers 53, there is a latch 61, having the shape of a circular sector. This latch is articulated in its central portion on two arms 62, which form a part of the casing 50, and is subjected to the action of a spring 63, which pulls it towards the inside of the aforementioned drum. The outer edge of sector 61 terminates in a rim 64 bent towards the inside of the casing.

Shaft 29 has rigidly fastened to it a lever 65; similarly shaft 30 is provided with a lever 66, located in a plane intercepted by the ends 60 of levers 53. At its end (see Fig. 6) it is supplied with a pawl 67, articulated at 68 and subjected to the action of a spring 69. The arrangement is such that lowering a key, for example Number 14 of the keyboard in the drawing, brings the end 60 of the corresponding key lever into the path of pawl 67 (see Fig. 2). If another key is lowered one, owing to the action of spring 69, lever 66 may be brought back to its rest position (see Fig. 6) located upwardly of all keys.

Shaft 30 carries a lever 66a similar to lever 66, but mounted loosely on shaft 30 and movable in a plane intercepted by the ends 60 of the key-levers, parallel to that of 66.

Lever 66a is connected by means of a connecting rod 70 to lever 65, fastened to shaft 29. Owing to the fact that the points of articulation of connecting rod 70 and the intersection points of axes 29 and 30 with the plane of said connecting rod are chosen so as to form a parallelogram, it follows that when shaft 29 is operated by crank 31, arm 66a moves in just the same manner as arm 66 moves when shaft 30 is operated by the crank 31. A lid 71 covers up casing 50.

The interspaces between the key-levers 53 are chosen so that each position determined by a lever corresponds to a writing line on the statement sheets.

In the example described it has been assumed that every sheet comprises 27 writing lines.

Assuming that a "journal" sheet A being placed on the platen it is desired to locate a statement sheet B on the writing line 14 and another sheet C on the writing line 5 (see Fig. 7), the device functions as follows:

Sheets B and C are clamped in position on the crossbars fastened respectively to the pairs of tapes 19 and 20. Lowering key 14 of the keyboard, as shown in Figs. 1, 2 and 5, alters its posi-

tion, from that shown on Fig. 4 to that shown on Fig. 5.

With reference to Fig. 4 it may be seen that the bent rim 64 of sector 61 rests against the inclined surface 59 of the shoulder 56 pertaining to lever 53; the finger 57 abuts on the inner wall of the casing 50. Lowering lever 53 against the action of spring 53a causes edge 64 to glide on inclined portion 59 until the former catches tooth 58 under the influence of spring 63. Lever 53 now occupies the position shown in Fig. 5 and its end 60 is in the path of pawls 67, carried by the ends of levers 66 and 66a. When lever 31 is operated counter-clockwise (see Fig. 2) its movement will be stopped by key-lever No. 14. Therefore the statement sheet B is brought into position for writing on the 14th line and held there by locking means set forth in application Serial No. 582,441. In order to bring sheet C into position for writing on the fifth line, key No. 5 is lowered. Lowering that key causes sector 61 to release Key No. 14, which returns to its rest position under the action of spring 53a. Key-lever No. 5 on the contrary is retained in the position shown in Fig. 5 for key-lever 14.

Lever 32 is operated in the same manner as lever 31 and the corresponding pawl 67 arrests its movement by engaging the end 60 of key-lever No. 5.

Sheet C is now in position for writing on the fifth line and it is held there in the same manner as sheet B.

The described device may comprise more or less than three rows of keys.

Instead of being mounted on separate shafts 29 and 30, levers 31 and 32 can be carried both by shaft 30, lever 31 as well as lever 66a being then fastened to a sleeve loose on said latter shaft.

From the description given it is apparent that the device according to the patent permits an exact mechanical registering of several statement sheets with respect to a sheet located on the platen of a typewriter. It is evident that such a device can be made to take more than two statement sheets.

The keyboard, fitted to one end of the carriage, has its keys grouped in several rows. It is therefore not cumbersome and in spite of remaining attached to the machine, it interferes in no way with ordinary typewriting.

I claim:

1. In a typewriter, a device for selecting the limiting position of a plurality of statement sheets to be fed in superposed relation on a journal sheet carried by the platen of said typewriter, comprising, a casing carried by the carriage of said typewriter, a plurality of means selectively operable and movably mounted on said casing and normally urged to inoperative position against said casing, a latch means carried by said casing and engageable with a selected one of said first means after movement of the same from said inoperative position for holding the selected one of said first means, and a plurality of means supported by said casing and each for limiting the feeding of a statement sheet and operable in a plane out of reach by said first means when in inoperative position but engageable with a selected one of said first means when the same is held by said latch means to stop the feeding of one of said statement sheets.

2. In a typewriter, a device for selecting the limiting position of a plurality of statement sheets to be fed in superposed relation on a journal sheet carried by the platen of said typewriter, compris-

5. In a typewriter, a device for selecting the limiting position of a plurality of statement sheets to be fed in superposed relation on a journal sheet carried by the platen of said typewriter, comprising, a casing carried by the carriage of said typewriter, a plurality of means selectively operable and movably mounted on said casing and normally urged to inoperative position against said casing, a common latch means carried by said casing and engageable with a selected one of said first means after movement of the same from said inoperative position for holding the selected one of said first means, and a plurality of means supported by said cas-

9. In a typewriter, a device for selecting the limiting position of a plurality of statement sheets to be fed in superposed relation on a journal sheet carried by the platen of said typewriter,

comprising, a casing carried by the carriage of said typewriter, a plurality of means selectively operable and movably mounted on said casing and normally urged to inoperative position against said casing, a latch means carried by said casing and engageable with a selected one of said first means after movement of the same from said inoperative position for holding the selected one of said first means, a plurality of means pivoted on said casing and each including a spring-urged pawl for limiting the feeding of a statement sheet and operable in a plane out of reach by said first means when in inoperative position, but engageable with a selected one of said first means when the same is held by said latch means to stop the feeding of one of said statement sheets.

GIUSEPPE PREZIOSO.

REFERENCES CITED

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

UNITED STATES PATENTS

Number	Name	Date
2,086,945	Pfeiffer	July 13, 1937
2,350,773	Kniehahn et al.	June 6, 1944

FOREIGN PATENTS

Number	Country	Date
179,109	Switzerland	1935