

June 22, 1937.

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2,084,519

PAPER FEEDING MECHANISM FOR ACCOUNTING MACHINES

Filed July 23, 1936

3 Sheets-Sheet 1

Fig. 1.

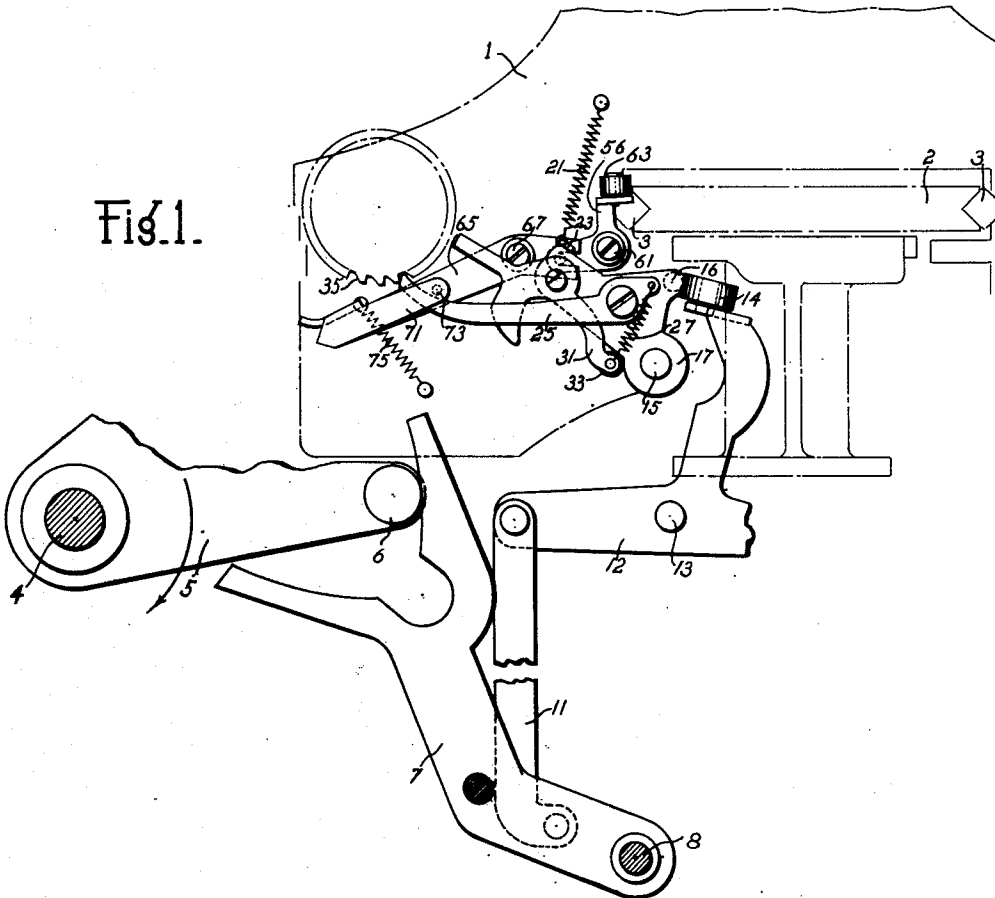
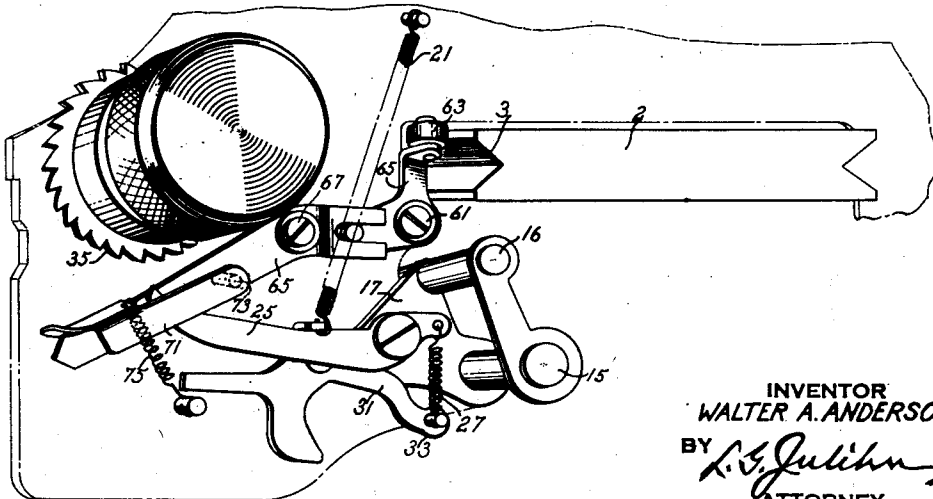


Fig. 2.



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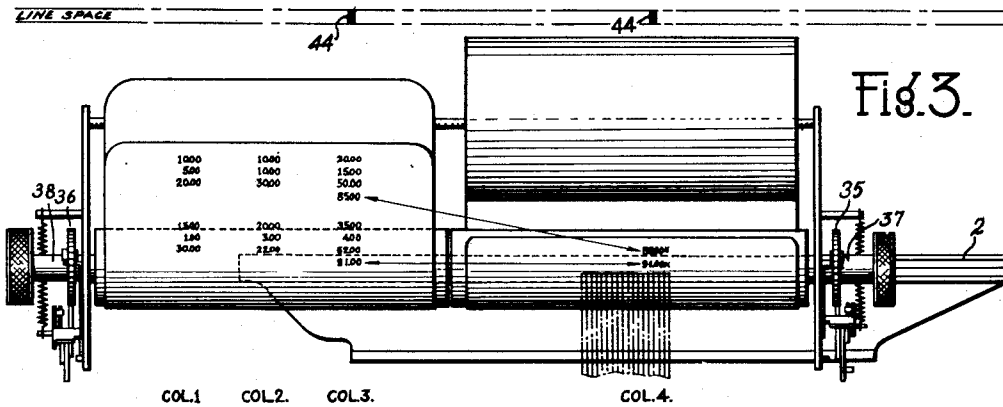


Fig. 4.

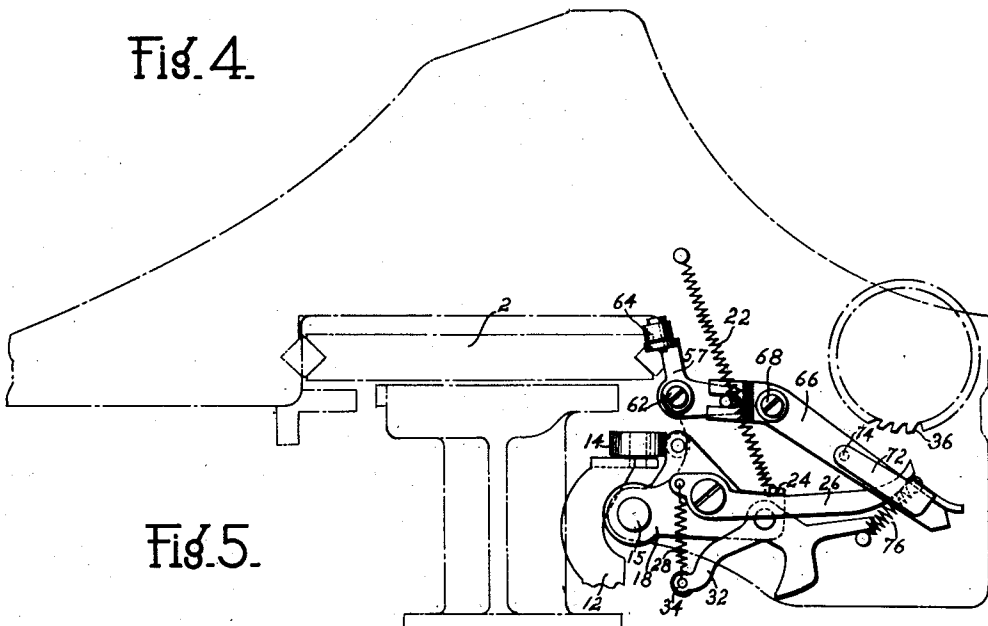
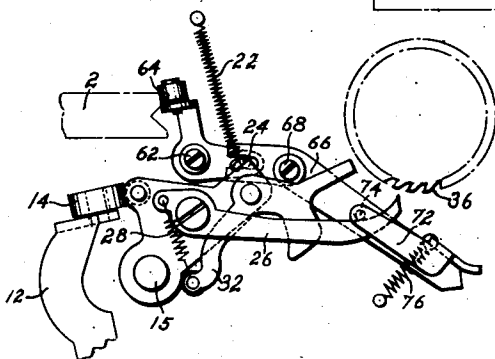


Fig. 5.



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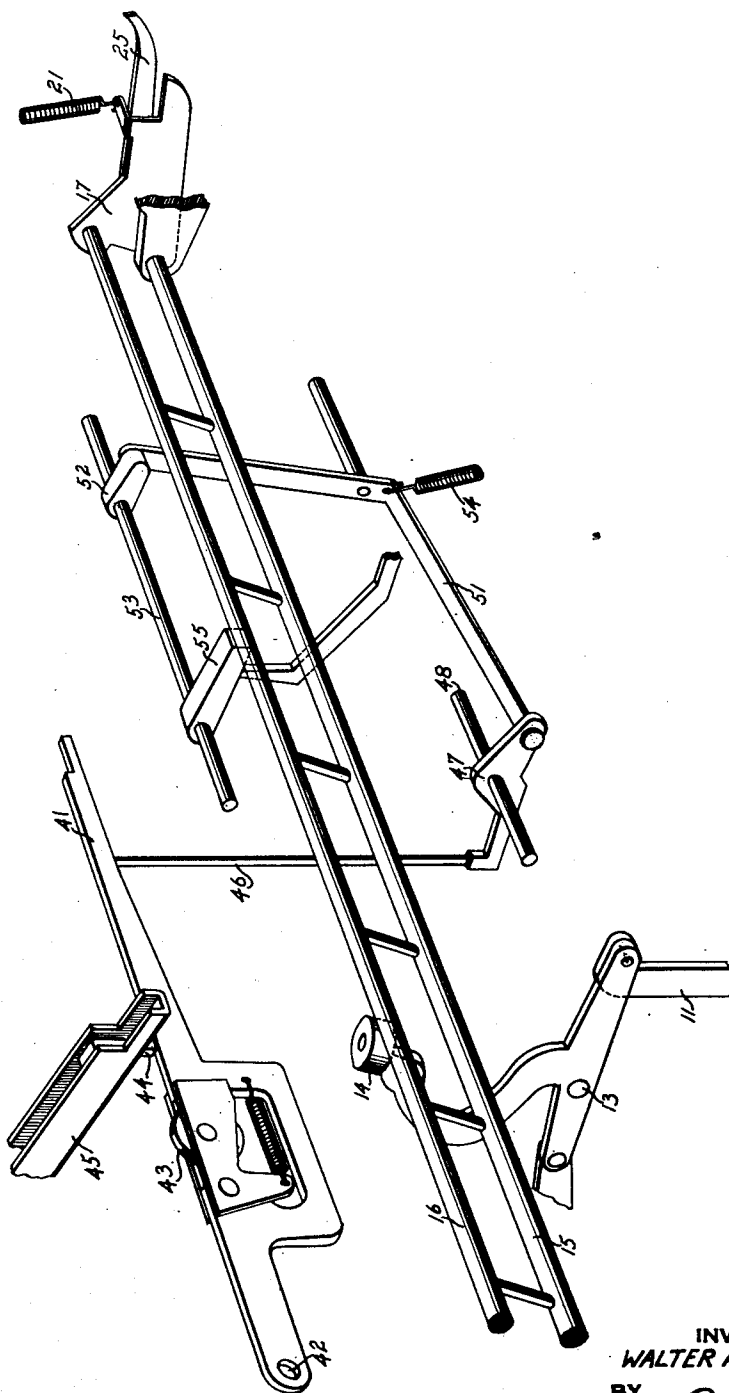
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Fig. 6.



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PAPER FEEDING MECHANISM FOR ACCOUNTING MACHINES

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Application July 23, 1936, Serial No. 92,163

6 Claims. (Cl. 197—129)

This invention relates to paper feeding mechanism for accounting machines, and more particularly to a mechanism for selectively feeding the paper carried by each of the parts of a two-part or split platen.

When using a two-part platen with a separate record carried by each part, it is sometimes desirable to complete a number of entries on successive lines of one of the records and to make only a single entry on the other record to correspond thereto. In such instances, if both records are fed alike, considerable paper on the latter record is wasted. The present mechanism is, therefore, provided for feeding only that portion of the platen which is in operative relation with the printing type bars during that operation.

The present improvement is also adapted to operate to accomplish the above result when used in combination with a selective feeding control that allows the feeding mechanism to operate only in predetermined columnar positions of the paper carriage.

With these and incidental objects in view, the invention consists in certain novel features of construction and combinations of parts, the essential elements of which are set forth in appended claims, and a preferred form of embodiment of which is hereinafter described with reference to the drawings which accompany and form part of the specification.

In said drawings:

Figure 1 is a side elevation taken from the right side of the machine showing the connections for operating the line spacing mechanism from the main operating shaft of the machine (this view shows the parts in the positions they assume near the middle of the operation, with the spacing finger in its cocked position).

Figure 2 is a perspective taken from the right side of the machine showing the mechanism in its normal position after it has advanced the platen.

Figure 3 is a front elevation showing the two parts of the platen, the two record sheets and the relative positions of the carriage rail, the ends of the carriage and the printing type, together with a diagrammatic showing of the distribution of carriage stops to effect line spacing in the several columnar positions of the carriage.

Figure 4 is a side elevation taken from the left side of the machine and shows the line spacing mechanism in its normal position and the disabling mechanism in operative position to prevent engagement of the spacing finger with its corresponding spacing wheel.

Figure 5 is similar to Figure 4, but shows the spacing mechanism in its operative position occupied near the middle of the operation, and shows the effect of the disabling mechanism on the spacing finger, and

Figure 6 is a perspective taken from the front left corner of the machine and shows the connections for preventing operation of the line spacing mechanism except in predetermined columnar positions of the paper carriage.

General description

The present mechanism is shown applied to a key set, motor actuated accounting machine having a traveling paper carriage with suitable control lugs on the rear thereof. The present mechanism is shown as applied to the machine fully disclosed in my application for United States Letters Patent Serial No. 581,800, filed December 18, 1931, and is an improvement over the mechanism disclosed in United States Letters Patent No. 1,708,284 issued to Oscar J. Sundstrand.

Detailed description

A laterally movable paper carriage indicated generally at 1 (Figure 1) is mounted on a rail 2 through anti-friction rollers 3. It is moved from left to right (Figure 3) in its working stroke, and is stopped in the several tabular columns indicated, by suitable tabulating mechanism described in the above mentioned application. A suitable carriage return also described in the above mentioned application returns the carriage to its right hand position. While the carriage is stopped in each of its columnar positions, the machine is operated to perform the necessary accounting functions and to print the proper entry on one of the record sheets. To perform these operations a main actuating shaft 4 (Figure 1) is oscillated, first counter-clockwise to the position shown in Figure 1, and then clockwise to its home position.

In the operation of shaft 4, an arm 5 secured thereto, through a roller 6, oscillates a pelican lever 7 pivoted at 8. Operation of lever 7 raises and lowers a link 11 pivoted to the lever to a bell crank 12 pivoted at 13. The movement imparted to link 11 first oscillates bell crank 12 clockwise to the position shown in Figure 1 and then counter-clockwise to its normal position. A roller 14 on the upper arm of bell crank 12 receives a corresponding movement.

A cradle composed of rods 15 and 16 (see also Figure 6) and end plates 17 and 18 (Figure 4) is pivoted in the carriage frame on rod 15 and

is tensioned clockwise by springs 21 and 22 (Figures 1 and 4) fastened to laterally extending ears 23 and 24 on the forward ends of plates 17 and 18. Clockwise movement of the cradle is limited by roller 14. Line spacing fingers 25 and 26 are pivoted to plates 17 and 18 and have their forward ends tensioned upwardly by springs 27 and 28 attached to the rear ends of the fingers and to levers 31 and 32, also pivoted on plates 17 and 18. For the purpose of the present disclosure, levers 31 and 32 may be considered only as anchors for springs 27 and 28. The position of levers 31 and 32, under the tension of springs 27 and 28, is determined by rollers 33 and 34 bearing against the under side of plates 17 and 18. Spacing wheels 35 and 36 are secured near the outer ends of the platen shafts 37 and 38 (Figure 3) individual to the two parts of the platen and lie in the same vertical plane with spacing fingers 25 and 26. Movement of these spacing wheels rotates their respective shafts and thereby advances their respective record sheets, the movement of one spacing wheel and platen having no effect on the other spacing wheel and platen. The details of construction of the platen shafts and the manner in which the platens are secured thereto may be similar to the construction disclosed in United States Patent No. 1,708,284, or No. 1,880,220.

By the above described parts, the initial clockwise oscillation of bell crank 12 (Figure 1) moves roller 14 to the rear, allowing springs 21 and 22 to rock the cradle to the rear and move the forward pointed ends of fingers 25 and 26 to their cocked positions, as illustrated by finger 25 in Figure 1. The ensuing counter-clockwise movement of bell crank 12 returns the cradle to its normal forward position, causing the forward ends of the spacing fingers 25 and 26 to rotate spacing wheels 35 and 36 a distance sufficient to line space the paper. Toward the end of the return movement, ears 23 and 24 contact the upper edges of the spacing fingers, causing the fingers to be moved out of contact with the spacing wheels for the remainder of the movement.

As it is desirable to have the line spacing mechanism operate only in certain tabular positions of the carriage, the following parts are provided to disable it at certain times. Referring to Figure 6, a carriage operated lever 41 is pivoted at 42 to a stationary part of the machine and has a roller 43 lying in the vertical plane of control lugs such as 44 carried by suitable supporting magazines such as 45 on the rear of the paper carriage. A rod 46 extends between the under side of lever 41 and the rear arm of a lever 47 pivoted on a rod 48 and connected to a link 51. Link 51 is pivoted to the forward end of an arm 52 secured to a shaft 53 journaled in stationary part of the machine. Link 51 is held in its lower position, and rod 46 and lever 41 in their upper positions, by a spring 54 connected to link 51 and to a stationary part of the machine. A blocking arm 55 extends forwardly from shaft 53 and lies directly behind rod 16.

By the above described parts, rod 16 is held in its forward normal position when the parts are in the positions shown in Figure 6, so that oscillation of bell crank 12 (Figure 1) during the operation will be ineffective in allowing spring 21 to move spacing fingers 25 and 26 to the rear to place their forward ends in a position to advance the platens. However, when the carriage moves into one of its columnar positions where

line spacing is desired, a lug 44 depresses roller 43, depressing rod 46 and raising the blocking arm 55 about rod 16. Now upon the ensuing operation, rod 16 is free to move to the rear and thereby enable the spacing fingers to advance the platens.

Another means is provided, as mentioned above, to allow line spacing of only that part of the platen lying in operative relation with the printing type during that operation. This means includes bell cranks 56 and 57 (Figures 1 and 4) pivoted to the carriage at 61 and 62 and carrying rollers 63 and 64 on their upper arms. Two levers 65 and 66 are also pivoted on the carriage at 67 and 68 and carry flanges 71 and 72 to support the forward ends of spacing fingers 25 and 26 against side play. Short studs 73 and 74 extend inwardly from flanges 71 and 72 and lie in the vertical plane of fingers 25 and 26. Springs 75 and 76 are connected to the forward ends of levers 65 and 66 and to the carriage to tension studs 73 and 74 downwardly, and rollers 63 and 64 rearwardly. By comparing Figures 1 and 4, it will be noticed that the forward edge of carriage rail 2 extends a short distance into the path of rollers 63 and 64 so that when the carriage is shifted in one direction or the other, the rollers are forced forward as soon as they reach the rail. As shown in Figure 1, when one of the rollers has been forced forwardly by the carriage rail, stud 73 is elevated out of the path of finger 25 so that it will not affect the operation of the spacing finger during that operation. However, when movement of the carriage causes one of the rollers to leave the carriage rail, stud 73 or 74, as the case may be, is lowered sufficiently to prevent the forward end of its associated spacing finger from moving into operative contact with the corresponding spacing wheel, as illustrated in Figure 5. Now, even though the cradle is permitted to move to the rear for line spacing during this operation, this particular spacing finger will be ineffective to advance its part of the platen.

By referring to Figure 1, it will be noticed that as long as the right hand part of the platen is opposite the printing type, roller 63, associated therewith and lying approximately behind spacing wheel 35, is in contact with the carriage rail, whereas roller 64 for the left part of the platen is out of contact with the rail, and as soon as the left half of the platen is moved into operative position with the type bars, roller 64 is moved into contact with the rail and roller 63 out of contact therewith. By this arrangement, only that part of the platen in operative position with the printing type will be line spaced under control of the carriage lugs 44.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein disclosed for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What is claimed is:

1. In a machine of the class described, a two part paper supporting platen, means for rotating the platen for line spacing the paper, printing type, a line spacing mechanism associated with both parts of the platen, means to selectively render the type ineffective for co-operation with the platen parts for printing, and means to automatically render the operation of the line spacing mechanism ineffective for advancing either part

of the platen when the printing type are rendered ineffective for printing on such part.

2. In a machine of the class described, a two part paper supporting platen, means for rotating the platen for line spacing the paper, printing type, a line spacing mechanism having a spacing finger at each end of the carriage, a spacing wheel at each of the outer ends of the platen to co-operate with the fingers to rotate the part of the platen closest thereto, means to selectively render the type ineffective for co-operation with the platen parts for printing, and means to automatically prevent co-operation of the spacing finger with the spacing wheel of either part of the platen when the printing type are rendered ineffective for printing on such part.

3. In a machine of the class described, a laterally movable paper carriage, a two part platen thereon, printing type, a line spacing mechanism associated with both parts of the platen, and carriage controlled means to render operation of the line spacing mechanism ineffective for advancing either part of the platen when such part is lying beyond the type.

4. In a machine of the class described, a laterally movable paper carriage, a two part platen thereon, printing type, a line spacing mechanism having a spacing finger at each end of the carriage, a spacing wheel at each of the outer ends of

the platen to co-operate with the fingers to advance the part of the platen closest thereto, and carriage controlled means to prevent co-operation of the spacing finger with the spacing wheel of either part of the platen when such part is lying beyond the type.

5. In a machine of the class described, a stationary track, a paper carriage movable laterally thereon, printing type, a two part platen mounted for line spacing movement in the carriage, a line spacing mechanism having a spacing finger at each end of the carriage to advance the part of the platen closest thereto, and means, co-operating with the track, to render either spacing finger ineffective for spacing its part of the platen, when such part is lying beyond the type.

6. In a machine of the class described, a laterally movable paper carriage, a two part platen thereon, printing type, a line spacing mechanism associated with both parts of the platen, means actuated by the carriage to control the operativeness of the entire line spacing mechanism in the several tabular positions of the carriage, and additional means actuated by the carriage, effective in those tabular positions in which the line spacing mechanism is operative, to disable the line spacing mechanisms for either part of the platen when such part is lying beyond the type.

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