Aug. 25, 1931. H. H. VICKERS 1,820,258

TYPEWRITING MACHINE

Filed Jan. 25, 1928

Fig. 1.

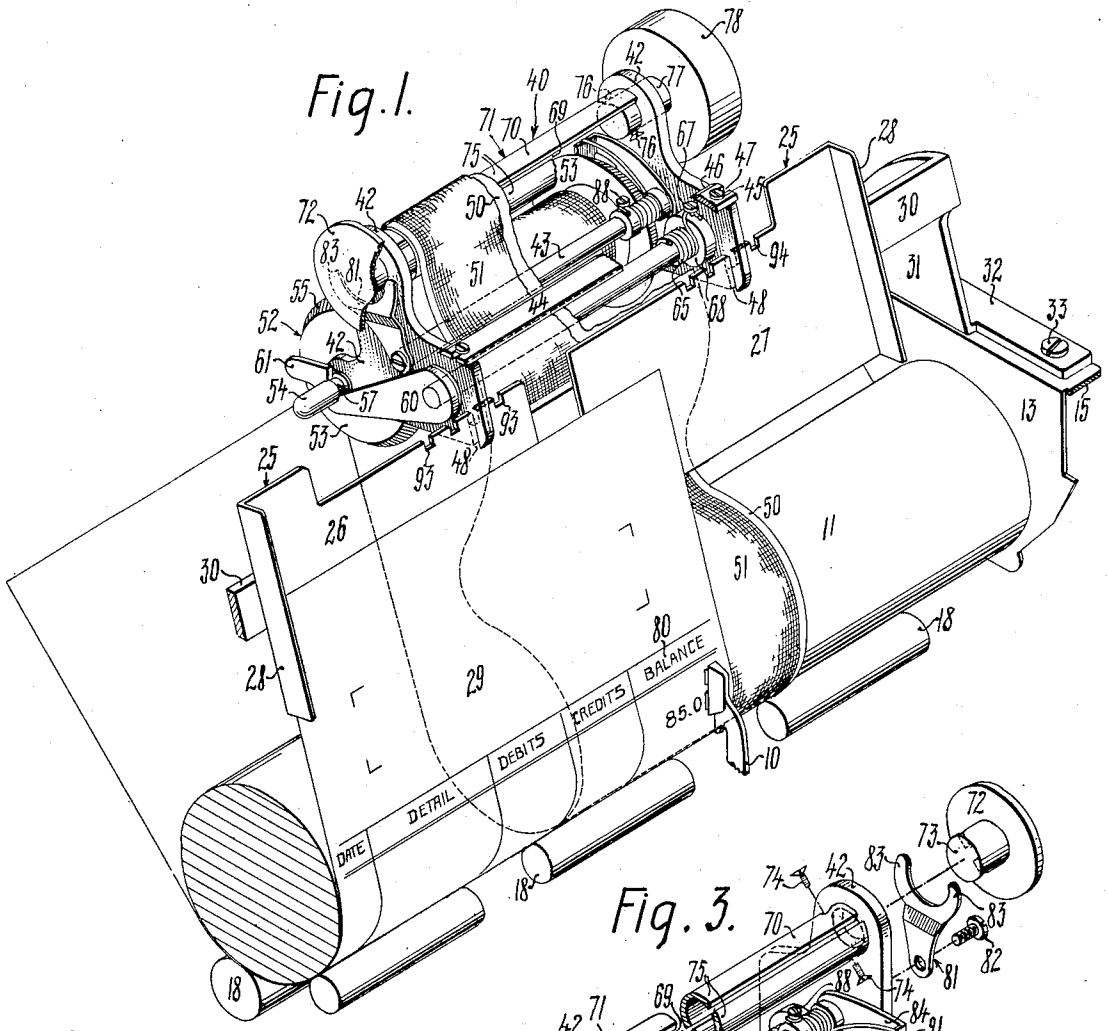


Fig. 3.

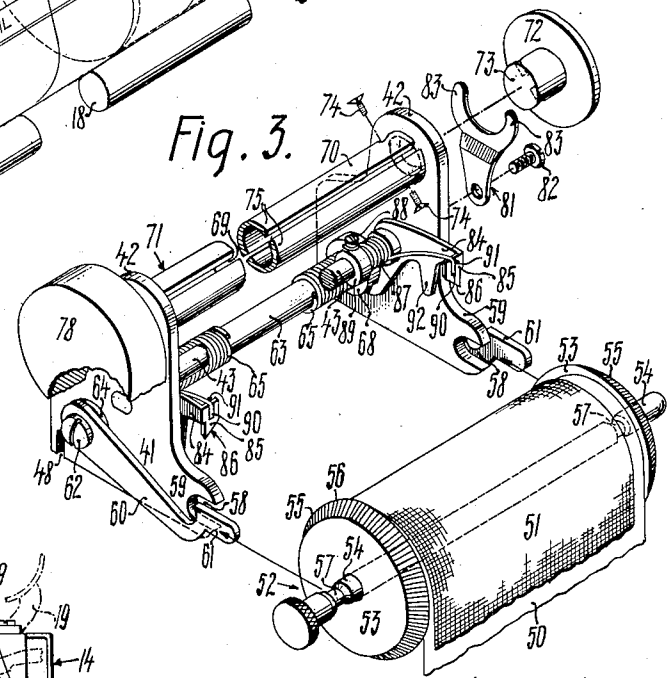
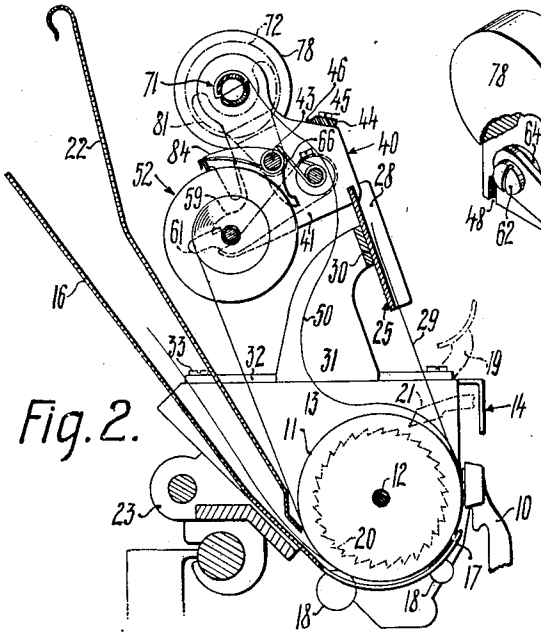


Fig. 2.



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UNITED STATES PATENT OFFICE

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TYPEWRITING MACHINE

Application filed January 25, 1928. Serial No. 249,288.

The present invention relates generally to typewriting machines, and more particularly to tally-strip devices therefor.

Many business firms who have charge-account customers make up a new statement-sheet for each account at the end of each month and send the old statement-sheet to the customer. The new statement-sheets having the customers' names and addresses printed thereon are given in alphabetical order to the operator of an Underwood typewriting-computing machine, and the proper balance is copied on each new statement-sheet from its associated ledger-sheet. If the total of these balances does not check with the total obtained from the usual control sheet, an error has been made and a check, i. e., a comparison, must be made to find the error. Heretofore, for making this check, the operator, immediately after copying a balance on a new statement-sheet, would copy the same balance a second time on a strip of paper in an adding machine. When a check was required, the list of balances made in the adding machine was compared with the balances on the customers' ledger-sheets, thus avoiding the handling of a large number of statement-sheets and also the possible soiling of some of them. It has usually been considered preferable heretofore, in preparing this checking list, to copy each balance a second time rather than call in a mechanic to attach a usual tally-strip device for doing work which lasted only a day or two, once a month. The chance of errors occurring, however, in preparing a checking list this way can be readily seen.

It is an object of the present invention to provide a tally-strip device for making a carbon-copy checking list of the balances typed on statement-sheets or the like, which device can be quickly and easily attached to and removed from a typewriting-computing machine by an operator using only her hands.

In practicing my invention, a standard Underwood typewriting-computing machine having a usual front collating table is employed. To be fastened to the collating table in the rear thereof, there is provided a tally-strip device having a rigid frame which includes two side plates. A feed-roll and a tally-roll are supported by said frame between the side plates. For quickly fastening the frame to the collating table, an open slot is cut in the lower edge portion of each side plate adjacent the forward end thereof, the slot being of a width to engage with a snug fit about the top edge portion of the collating table. The depth of the slots is sufficient to permit the tally-device to be self-retaining on the collating table and without danger of bending the sheet-metal body thereof.

It is a feature of the present invention to facilitate securing the tally-device positively in any one of a plurality of operative positions for co-operating with statement-sheets of varying widths by providing two rack-elements in the top edge of the collating table, each notch of one rack having a paired relation with the notch in the other rack, and each pair of notches being spaced apart for receiving the side plates of the tally-strip frame.

Another feature is the provision of means for quickly attaching and detaching the feed-roll from the tally-strip device.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a fragmentary perspective front view of an Underwood typewriting-computing machine having the tally-strip device of the present invention attached thereto.

Figure 2 is a fragmentary cross-sectional view, front to rear, of the machine and tally-strip device looking towards the left-hand end of Figure 1.

Figure 3 is a disassembled rear view of the tally-strip device of the present invention; certain parts being shown partly broken away to better illustrate the construction of the device.

In an Underwood combined computing and typewriting machine, types 10 strike against a revoluble platen 11 on a shaft 12, which is journaled in end plates 13 of a platen-frame generally designated as 14.

The end plates have out-reaching horizontal flanges 15, and a rear paper-table 16 extends between the end plates 13 at the receiving side of the platen and curves upwardly around in front of the platen to terminate in an apron 17, which has cut-outs for receiving lower feed-rolls 18. Usual mechanism for releasing the feed-rolls includes a feed-roll-release lever 19. Usual line-spacing instrumentalities may be provided and include a ratchet-wheel 20 fast on the shaft 12 and a pawl 21 for engaging with the ratchet-wheel teeth. An auxiliary rear paper-table 22 may be disposed slightly forward from the rear table 16 for a use to be described hereinafter. The platen-frame 14 is mounted on a carriage 23. The above-described parts may be substantially the same as like parts shown and described in the patent to J. A. B. Smith, No. 1,524,756, dated February 3, 1925.

A collating table at the delivery side of the platen, generally designated as 25, may include right and left plate-metal body-sections 26 and 27, respectively, each of which has a forwardly-extending side-edge flange 28, which may serve to laterally gage a statement-sheet 29. The sections 26 and 27 are mounted on a stiff lateral cross-bar 30, which is fastened to end plates 31 (only one of which is shown), which have lateral mounting flanges 32 resting on the flanges 15 and fastened thereto by screws 33. The sections 26 and 27 may have a usual rectangular portion cut out along their top edges extending from their inner edges outwardly.

In practicing the present invention, there is provided a tally-strip device generally designated as 40, which includes a frame 41 having right and left side plates 42, which are fastened together rigidly by instrumentalities including a cross-rod 43 which has one end fast in each of the plates. A blade 44 also extends between the side plates 42 and is fastened to each plate by screws 45, and has a sharp edge 46 for a purpose to presently appear. The blade may be detached and sharpened by removing only one of the screws 45 because of lengthwise slots 47 being provided in each end portion of the blade for the screws 45 to pass through. The heads of the screws are wider than the slots 47 and are effective to bind the bar against the side plates 42.

To provide for the operator attaching the frame 41 on the table 25 and removing it therefrom quickly by her hands and without releasing any screws or other fastening devices, an open mounting slot 48 is cut through the lower edge portion of each side plate at right angles to the plane thereof adjacent the forward side of the frame. The two slots lie in the same plane and are wide enough to engage with a snug fit over the top edge of the plate-sections 26 and 27 which are made thick enough to give them sufficient stiffness to withstand the additional strain caused by engagement of the slotted side plates.

A supply of tally-strip is provided in the present invention by winding a length of narrow strip 50 overlaid by carbon-strip 51 onto a spool generally designated as 52. The spool has two spool-heads 53 fast on a spindle 54, each spool-head having a beveled cone-like periphery 55 inclined upwardly and toward the center of the spool for a purpose to presently appear. The beveled peripheral surface of each spool-head may be roughened by fine milled serrations or knurls 56. The spindle 54 may have a circumferential groove 57 positioned a short distance outwardly from the outer face of each spool-head. For rotatably mounting the spool 52 on the frame 41 an open slot 58 is cut in the rear edge portion of a rearwardly-extending heel-member 59 on each side plate 42. The portions of the spindle 54 adjacent the spool-heads 53 engage in the slots 58 loosely to be revolved freely, and a detent-arm 60 is arranged with a hook-like end 61 for engaging in the adjacent groove 57 to reach partly around the reduced portion of the spindle 54. One arm 60 is fastend by a screw 62 on the end of a rock-shaft 63 which passes through and is journaled in the side plates 42. The other arm may be fastened in any suitable way to the other end of the shaft 63. A washer 64 spaces each arm a slight distance away from the adjacent side frame. To urge the detent-arms normally upward against the spindle 54, a spring 65 is coiled with initial tension around the shaft 63 and has a straight end portion which extends rearwardly to bear on the cross-rod 43, the other end of the spring being fastened around a screw 67 which fastens a collar 68 on the shaft 63 against the adjacent side plate 42.

The tally-strip 50 and carbon-sheet 51 are fed between the auxiliary paper-table 22 and the platen 11 at the rear side of the latter, and are rolled forwardly and upwardly by the feed-rolls 18 and the platen to have their leading ends passed behind the blade 44 and inserted through either one of two slots 69 of a hollow spindle 70 of a take-up roll or spool, generally designated as 71. Each take-up spool includes a left spool-head 72, to which is integrally joined an inreaching stub-spindle 73 which extends through a bearing hole in the left side plate 42 to have fastened to it, by flat-head screws 74, two cylindrical shell-portions 75 of the spindle 70, each portion having a cross-section slightly less than 180° in angular measurement. Adjacent the right side plate 42 the shell-portions are fastened by flat-head screws 76 to a stub-spindle 77, journaled in the right side plate 42 and extending right-

wardly therefrom to be integrally joined to a finger-wheel 78.

According to one use of my invention, a series of the statement-sheets 29, each previously printed with name and address (not shown), and arranged in alphabetical order, may be fed to the platen 11 seriatim over the rear paper-table 16. Each statement-sheet is laterally gaged by the left-hand flange 28, the feed-rolls 18 being thrown off the platen while inserting and gaging a statement-sheet. After bringing the first writing line of the statement-sheet to the printing line, which may be determined by usual wing-scales (not shown), and making the feed-rolls effective, the balance of the customer, which may be taken from the usual ledger-sheet, is now typed in the usual balance-column 80. This balance will be carbon-copied on the tally-strip 50, which is disposed under the balance-column, the tally-strip device 40 being positioned therefore by means to presently appear. The platen is now line-spaced ahead, which it will be noted, advances the tally-strip 50 as well as the statement-sheet 29. The lever 19 is now operated to release the feed-rolls 18, and, while the statement sheet is removed with the left hand, the finger-wheel 78 may be revolved slightly to take up the slack caused in the tally-strip for line-spacing the platen ahead. In most cases, however, it will not be necessary to take up the slack in the tally-strip after each line-spacing operation, since the tally-strip will usually be disposed in a loop on top of the platen (Figure 2) as the line-spacing proceeds, and the finger-wheel 78 can be operated at convenient intervals.

To prevent the tally-strip from unwinding, a friction-brake is arranged for the take-up spool 71 by mounting a leaf-spring 81 on the left side plate 42 by a screw 82 and making the spring with two upwardly-extending integral forks 83 which are disposed on each side of the stub-spindle 73 and bear against the inner face of the spool-head 72 with a light pressure.

To guard against the tally-strip 50 being unrolled from the spool 52 faster than the platen 11 and feed-rolls 18 line-space it ahead, a friction-operated braking means is provided for engaging the spool 52. Two brake-arms 84 are pivoted on the rod 43, one being disposed against each side plate 42 and carrying an inreaching brake-shoe 85 having a beveled work-face 86 inclined for frictional engagement against the beveled periphery 55 of the adjacent spool-head 53. To press the brake-arms 84 against the spool-heads, two springs 87 are coiled about the rod 43, one spring being disposed adjacent each arm and having its inner end fastened to a screw 88, which is threaded in a collar 89 and holds the latter in place on the rod 43. The other end portion 90 of each spring 87 extends rearwardly alongside the adjacent arm 84, to press down on the brake-shoe 85, and has a tip-portion 91 bent down in front of the shoe for making its engagement therewith more secure. Each arm 84 has a downwardly-extending finger 92 which engages against the outer face of the adjacent spool-head 53 and prevents lateral movement of the spool 52.

To enable the tally-strip device of the present invention to be quickly located on the top of the collating table 25 to register with the balance-column of any one of several statement-sheets 29 of varying widths and positively held against lateral displacement upon usual return of the platen-frame to the right, a rack-like group of rectangular notches 93 are cut in the top edge portion of the body-section 26 of the collating table and a rack-like group of like notches 94 are cut in the body-section 27 in the top edge portion thereof. Each notch in the section 26 has a paired relation with one of the notches in the section 27, and is spaced from the notch with which it is paired a distance equal to the distance between the side plates 42. The widths of the notches 93 and 94 are made just wide enough to receive the side plates 42 with a snug fit. It will thus be seen that the slots 48 in the side plates 42 and the notches 93 and 94 co-operate to locate and hold the tally-strip device 40 firmly at predetermined positions on the collating table. After a series of statement-sheet balances have been listed, the strip 50 may be severed across the blade 44, and the tally-strip device may be readjusted along the table of the machine as a unit for a new series of statements.

It will be understood that the tally-strip device 40 can be used for other purposes than that described hereinbefore. Also it can be attached to and used with a typewriting machine having only one collating table, or a machine having an auxiliary rear paper-table for manipulating a record-sheet which may overlie the tally-strip.

The notches 93 and 94 may be regarded as locating means to quickly position the tally-roll device upon the collating table relatively to a work-sheet, and the jaws or slots 48 of the device are operable independently of said notches 93 and 94 to bind the tally-device firmly upon the collating table at any desired location thereon, because the weight of the device is overbalancing, being offset from the plane of the slots 48 and the tables 26 and 27.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. In a typewriting machine, the combina-

tion with a platen-frame and a revoluble platen in said frame, of a collating table mounted on said frame at the delivery side of said platen, and having a side-edge gage for laterally gaging a statement-sheet fed around said platen, a tally-strip device for carrying a tally-strip and an overlying carbon-sheet to be fed around said platen under said statement-sheet to have carbon-copied thereon each balance of a series of statement-sheets, said device including a tally-strip feed-roll, a tally-strip take-up roll, and a frame having two side plates transversely disposed to said table, said rolls being supported by said side plates in the rear of said table, each of said side plates having a lateral slot extending through its lower edge portion and positioned forwardly from said rolls, said slotted plates engaging snugly over the top edge of said table, whereby said tally-strip device is self-retaining thereon, said table having two racks in the top edge thereof effective for variably positioning said tally-strip device so that the tally-strip may be disposed for co-operation with the balance-column of each of a plurality of statement-sheets of varying widths, corresponding notch-elements of each rack being spaced apart the same distance as said side plates, and having a width for receiving the latter snugly.

2. In a typewriting machine having a laterally movable carriage and a platen-frame on said carriage, the combination of a collating table fast on said frame at the delivery side of the platen of said machine, a tally-strip device disposed in the rear of said table out of the way of work-sheets fed upwardly over said table, and means for fastening said device in a plurality of work positions on said table against lateral displacement upon movement of said carriage, said means including, in combination, a frame for said device having two side plates, each side plate having an open lateral slot in its lower edge portion, and two racks in the top edge portion of said table having notches for snugly receiving said side plates. each notch-element of one rack having a paired relation with a notch-element of the other rack and spaced therefrom the same distance apart as said plates, said slots in said plates being positioned adjacent the forward side of said device and engaging closely about the top edge portions of said table at the bottoms of said notches, whereby said tally-strip device is self-retaining on said table.

3. In a typewriting machine, the combination with a collating table at the delivery side of the platen of said machine, of a tally-strip device disposed in the rear of said table, and instrumentalities carried by said device for operatively engaging the top edge portion of said table, whereby to make said tally-strip device self-retaining on said table.

4. In a typewriting machine of the class described having a revoluble platen, the combination with a platen-frame and a paper-table supported on said frame at the delivery side of said platen, of a frame having downwardly opening lateral mounting slots for engaging the top edge portion of said table, means for removably supporting a tally-strip feed-roll in said frame, and a manually revoluble take-up roll for said tally-strip mounted in said frame for operation from the front of said typewriting machine, both of said rolls being disposed in the rear of said table whereby said frame is self-retaining on said table.

5. In a typewriting machine, the combination with a collating table at the delivery side of the platen for said machine, of a tally-strip device, and instrumentalities effective for making said device self-retaining on said table, said instrumentalities including slotted frame members of said device arranged for engagement with said table.

6. In a typewriting machine having a revoluble platen, the combination with a platen-frame and a paper-table at the delivery side of said platen, of a tally-strip device supported on said table, said device including a frame having open slots in its lower edge portion arranged for engaging over the top edge of said table whereby to make said device self-retaining on said frame, and removable therefrom as a unit.

7. In a typewriting machine of the class described, having a revoluble platen, the combination with a platen-frame and a paper-table at the delivery side of said platen, of a tally-strip device having a feed-roll and a take-up roll mounted adjacent the rear of the device, and means for mounting said device on said table whereby the device is self-retaining thereon, said means including side plates for said device having open slots in their lower edge portions arranged for engaging over the top edge portion of said table, said slots being positioned adjacent the forward side of said device, whereby the weight of the latter is effective to help to hold it in position on said table.

8. In a typewriting machine having a revoluble platen, the combination with a carriage, a platen-frame and an upwardly and rearwardly inclined paper-table mounted on said frame at the delivery side of said platen, said table having a plurality of pairs of rectangular rack-like notches cut in its upper edge, of a frame of a tally-strip device including two side plates slightly less in thickness than the width of said notches, each pair of said notches being spaced apart the same distance as said plates, whereby the latter may engage snugly in said notches, each of said side plates having a notch cut in its lower edge portion wide enough for

engaging snugly over the upper edge portion of said table in the bottom of said notches, whereby the notches in said table and the notches in said frame co-operate to hold said frame firmly and quietly on said table during lateral movement of the latter.

9. In a typewriting machine having a laterally movable carriage, the combination with a platen-frame and a revoluble platen around which may be fed a plurality of statement-sheets of different widths, of a tally-strip device arranged for feeding a tally-strip around said platen under the balance-column of each of said statement-sheets, a collating table mounted on said frame at the delivery side of said platen, said table having a side-edge gage for laterally gaging the balance-columns of said statement-sheets, and racks cut in its upper edge portion for co-operating with said tally-strip device to secure it against lateral displacement upon lateral movement of said carriage, said racks also being arranged to variably gage the tally-strip of said device to position it under the balance-column of any one of said statement-sheets.

10. In a typewriting machine of the class described, a collating table at the delivery side of the platen of the machine, said table having a side-edge gage for laterally gaging the work-sheet fed around said platen, and a body provided with a rack in its upper edge for fastening work-sheet-feeding devices on said table.

11. In a typewriting machine of the class described, in combination, a tally-strip device, a collating table having a side-edge gage for gaging a work-sheet, and a rack-element on said table effective for positioning said tally-strip device laterally to have a tally-strip carried thereon disposed for co-operative relation with said work-sheet.

12. A tally-strip device for a typewriting machine having a collating table, said device including a mounting frame having two side plates, a tally-strip feed-roll between said side plates, and a tally-strip take-up roll between said side plates, said rolls being positioned in the rear of the forward edges of said side plates, said plates being provided with mounting slots extending upwardly from their lower edges and positioned adjacent their forward edges for engaging over the top edge of said collating table.

13. In a typewriting machine, the combination with a platen-frame and a rotatable platen supported thereon, of a collating table on said frame, a tally-strip-holding device supported by the table at its upper edge, said device including a tally-strip-feed roller and a take-up roller, side plates for rotatably supporting said rollers, and detenting means including interlocking notches in said table and side plates for adjustably securing the device on the table.

14. In a typewriting machine, the combination with a platen-frame and a rotatable platen supported thereon, of a collating table on said frame, having notches in its upper edge, and a tally-strip-holding device supported by the table at its upper edge, said device having a support for said tally-strip, including slots to coact with said notches, to locate the device on the table.

15. In a typewriting machine, the combination with a platen-frame and a rotatable platen supported thereon, of a collating table on said frame, having notches on its upper edge, a tally-strip-holding device supported by the table at its upper edge, said device including a tally-strip-feed roller and a take-up roller, and side plates for rotatably supporting said rollers, including slots to coact with said notches, said device being mounted to the rear of and above said table, so that the weight of the device will retain its position by binding said slots against the table.

16. In a typewriting machine, the combination with a platen-frame and a rotatable platen supported thereon, of a frame-supported collating table having a side guide and a plurality of notches on its upper edge, located with reference to the side guide according to the different kinds of work to be typed, and a tally-strip-holding device supported by the table at its upper edge, said device including means to engage certain of said notches according to the work to be done.

17. In a typewriting machine, a collating table having a side guide for arranging work-sheets thereon and a plurality of notches in the upper edge, and a tally-strip-holding device engaging said notches to locate the tally-strip laterally with reference to the longitudinal zone on the work-sheet to be typed.

18. In a typewriting machine, the combination with a platen having a collating table at the front of the platen for locating a work-sheet with reference to the platen, of a tally-roll unit mounted upon and offset from said table to overhang the platen and movable along said table with reference to the work-sheet, said unit having table-engaging jaws rendered operable by the offset weight of the unit, to bind the unit to the table at any desired position thereon.

19. In a typewriting machine, the combination with a platen and a collating table at the front of the platen, of a tally-strip-holding device supported by the table to overhang the platen, and clamping jaws operable to automatically hold said device in adjusted position on the table, said clamping jaws rendered operable to clamp by the

overhanging weight of a tally-strip-feed roller and a tally-take-up roller.

20. In a typewriting machine, the combination with a platen and a collating table at the front of the platen, of a tally-strip-holding device supported by the table by engagement with the upper edge of the table, said device including a tally-strip-feed roller and a tally-take-up roller offset from the table to overhang the platen, said device having jaws engageable with said table to support the device, said jaws also effective by the overbalancing weight of the device to clamp said device to the table.

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