March 9, 1937. W. J. HAUSMAN 2,073,262

TYPEWRITING MACHINE

Original Filed June 26, 1926 2 Sheets-Sheet 1

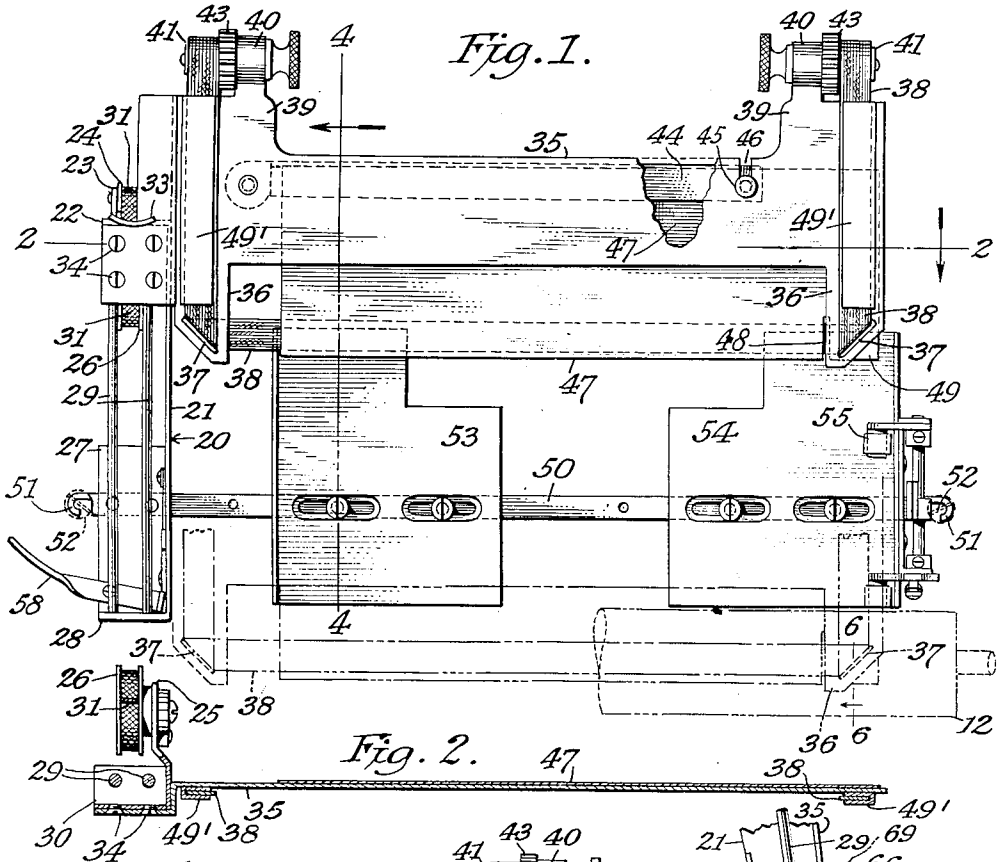


Fig. 1.

Fig. 2.

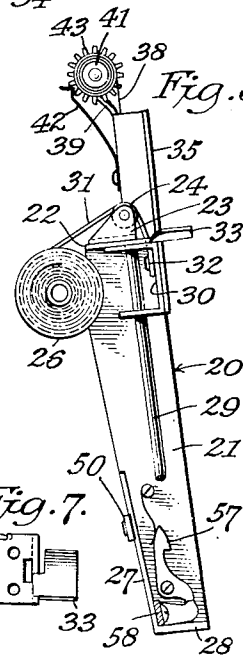


Fig. 3.

Fig. 7.

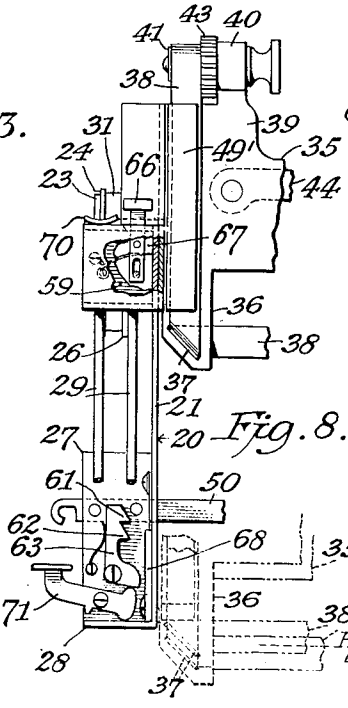


Fig. 8.

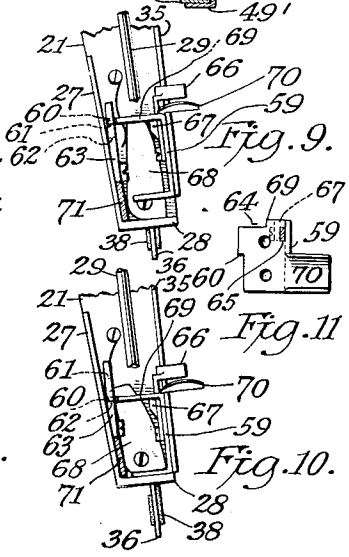


Fig. 9.

Fig. 10.

Fig. 11.

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March 9, 1937. W. J. HAUSMAN 2,073,262

TYPEWRITING MACHINE

Original Filed June 26, 1926 2 Sheets-Sheet 2

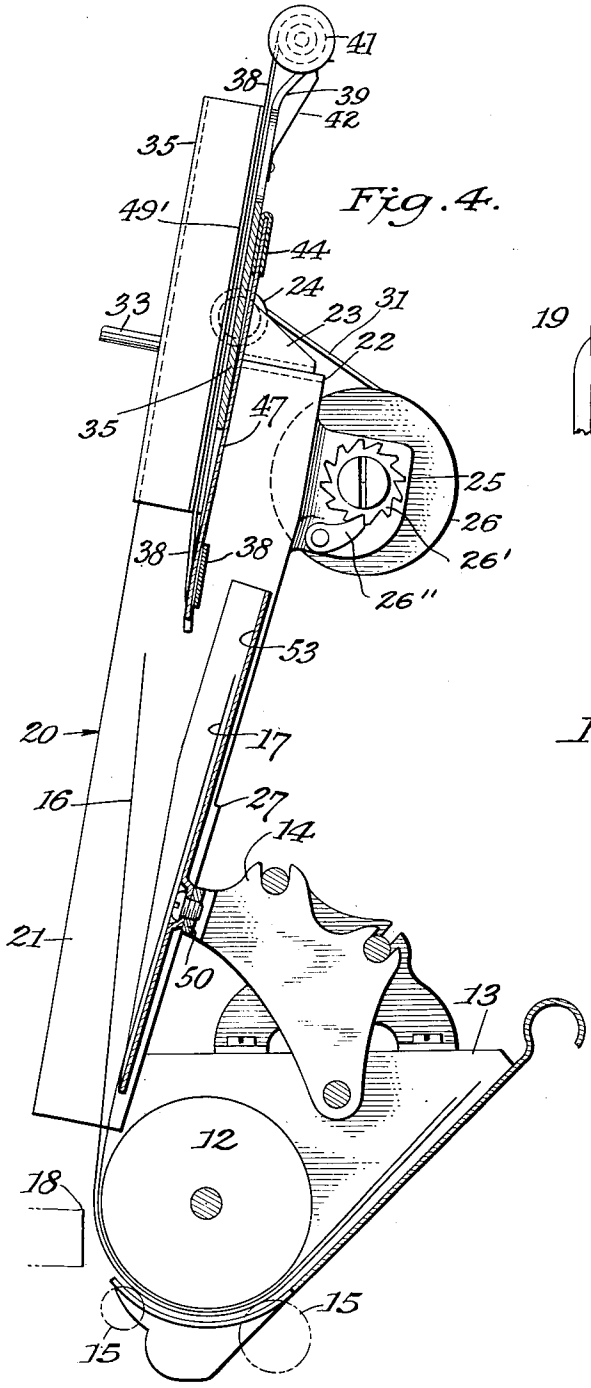


Fig. 4.

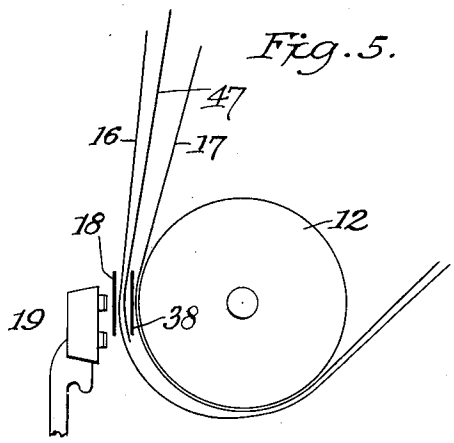


Fig. 5.

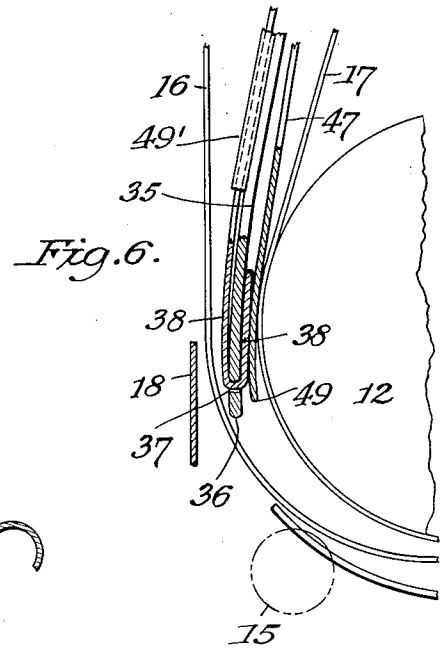


Fig. 6.

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UNITED STATES PATENT OFFICE

2,073,262

TYPEWRITING MACHINE

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Application June 26, 1926, Serial No. 118,740
Renewed June 16, 1930

50 Claims. (Cl. 197—153)

This invention relates to typewriting machines for use of retail houses, where it is desired to type one item upon a bill-sheet and at the same time get a clear original copy on a statement-sheet.

According to the present invention, the bill-sheet and the statement-sheet are inserted into the machine. The rear sheet is first collated and held in place by a collating clamp, after which the front sheet is collated and both sheets held upon the platen. Then the rear sheet is released from said collating clamp, and the auxiliary ribbon is moved down between the two sheets to the printing line. While the rear sheet is flexed rearwardly, in some cases both sheets may be flexed in opposite directions to provide a space for the passage of the auxiliary ribbon between the collated sheets. In doing this work, it is desired that the typed sheets be removed from the machine and new sheets inserted and collated as quickly as possible, and with the least amount of effort.

In order to permit the sheets to be easily and quickly manipulated in the machine, the auxiliary ribbon is moved to such an idle or ineffective position that it will not interfere with the insertion and collating of sheets, but from which position it can easily be moved to its operative position upon manipulation of one or both of the collated sheets, as above stated.

A prominent object of the invention is to provide improved means whereby an auxiliary ribbon may be interposed between the sheets to be typed.

A feature of the present invention is the provision of means for holding the back sheet in the machine while the front typed sheet is withdrawn and a new untyped sheet inserted and brought to the printing line.

Another feature is the provision of means whereby the carriage-carried auxiliary ribbon may be kept under constant adjustable tension to enhance its effectiveness.

A still further feature of the invention is in the nature of means for locking the auxiliary ribbon at either one of two positions forward of the platen, so that a selected stripe of the ribbon may be used.

The auxiliary ribbon carrying frame is normally in inoperative position, it being held far above the platen, so as not to interfere with the insertion of, nor collation of, the sheets in the machine.

A spring may raise the ribbon-frame after the typing operation, the ribbon-frame being supported at only one side of the machine, and therefore affording free access to the platen from the opposite side. The invention includes novel means, in the form of a carriage-carried frame, which may be raised and lowered for interposing an auxiliary ribbon between the sheets to be typed, for positioning the ribbon at the printing line and for withdrawing the ribbon when the typing is completed.

It is not intended in the subjoined claims to cover the disclosure in my co-pending application, Serial No. 755,915, filed December 15, 1924, patented October 28, 1930, No. 1,779,432. The claims in this case are limited to features which are not disclosed in said co-pending application 755,915.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a front elevation of my improved auxiliary ribbon-attachment for typewriting machines, the down or operative position of the ribbon-frame and its ribbon being indicated by dot-and-dash lines.

Figure 2 is a horizontal section of the device on the line 2—2 of Figure 1.

Figure 3 is an elevation of the left end of the attachment.

Figure 4 is an enlarged vertical section through the device on the line 4—4 of Figure 1, showing it attached to the carriage of a typewriter.

Figure 5 is a diagrammatic side view, showing the auxiliary ribbon at the printing line and in operative position.

Figure 6 is an enlarged fragmentary sectional elevation, the section being taken on the line 6—6 of the dotted operative position of the parts in Figure 1, that is, with the ribbon and apron down at the printing line.

Figure 7 is a detail plan view of a bracket employed.

Figure 8 is a fragmentary front view of the attachment, showing a double lock-latch, whereby the auxiliary ribbon may be locked at either of two positions at the printing line.

Figure 9 is a fragmentary end view of the lower portion of the construction shown in Figure 8, with the parts in the first stop position.

Figure 10 is a similar view, but with the parts in the second stop or lowermost position.

Figure 11 is a plan view of a bracket forming part of the construction shown in Figures 8, 9 and 10.

In the drawings, the platen 12 is mounted in the usual carriage 13 to which brackets 14 are attached. Feed-rolls 15 coact with the platen for feeding the front and rear sheets 16 and 17

respectively through the machine. The usual vibrated ribbon is shown at 18 and a type-bar is shown at 19, representing the typing instrumentalities of the machine.

In carrying out the invention, there is provided a supporting guide-frame 20 including a side plate 21 bent outwardly at the top to provide a ledge 22 on which a bearing frame 23 for a roller 24 is mounted.

The side plate 21 has an integral rearwardly-directed lug 25 on which a spring-motor or drum 26 is rotatably supported. Ratchet and pawl 26' and 26'' illustrate a conventional mechanism for regulating the tension of the spring in the motor.

The side plate is also formed, at its lower end, with a back plate 27 and a bottom plate 28.

Between the ledge 22 and bottom plate 28 are fixedly secured a pair of parallel guide-bars 29, on which a U-shaped bracket 30 is slidably mounted, being normally held up against the ledge 22, by a tape, strap or cord 31 secured at 32 to the bracket and to the motor 26, the tape first passing over the fixed roller 24. The bracket has a projecting finger-piece 33, by which it may be depressed or moved downward on the rods or bars 29.

Attached to the bracket 30, by screws or other devices 34, is a horizontally-disposed auxiliary ribbon-frame 35 having downwardly-directed end-extensions 36 provided with slots 37 cut at a 45° angle to the vertical, through which an auxiliary ribbon 38 is threaded.

At the top, the ribbon-frame is formed with upwardly-directed extensions 39 which support bearings 40 for ribbon-receiving rolls 41 yieldingly held against rotation by springs 42 bearing on toothed disks or ratchets 43, these springs being stiff or strong enough to hold when the ribbon is placed under high tension.

Pivoted to the rear face of the ribbon-frame 35 is a clip-bar 44 carrying near its free end a headed pin 45 engaging an open slot 46 in the frame to prevent backward movement of said end. The clip-bar carries an apron or shield 47 preferably of paper, the major portion of its lower edge being arranged forward of the active portion of the auxiliary ribbon and back of the front sheet 16 in the machine to protect it from back-typing. The apron is slitted or cut at 48 to form a flap 49 which is turned back of the ribbon at the outer corner fold to protect the rear sheet from smudge.

Preferably, the end stretches of the auxiliary ribbon between the rolls 41 and the slots 37 are passed under guide and guard plates 49'.

The attachment is secured to the typewriting machine carriage by a horizontal bar 50 riveted or otherwise secured to the back plate 27 of the supporting frame 20. This bar has end hooks 51 by which it is made fast to the brackets 14 on the carriage by screws 52 indicated in Figure 1. On the bar 50 is adjustably mounted a pair of flanged collating plates 53 and 54 collectively forming the front paper-table. On the plate 54 is carried a clamp 55 for holding the rear work-sheet after it is collated while the front sheet is being collated, after which the clamp is thrown out over the side of plate 54. This clamp forms no part of the present invention, so will not be described here in detail.

The bracket 30 of the supporting frame 20, has its top plate cut away to form a shoulder 56 (see Figure 7), designed to interlock with a catch 57 when the ribbon-carrying frame is moved down to its limit, which accurately positions the auxiliary ribbon at the printing line.

When the typing is completed, the ribbon-frame 35 may be released by depressing a trip lever or trigger 58, after which the motor or spring drum 26 will automatically raise said frame to its normal inoperative position far above the platen.

In Figures 8 to 11, inclusive, there is illustrated a ribbon-frame-control construction whereby the operator may lock the ribbon-frame at either of two elevations when in the down or operative position, thus affording use of either the upper or lower longitudinal half of the ribbon to prolong its life or when a red-black or two color ribbon is employed, to print in either color.

This is accomplished by providing a bracket 59 with a shoulder 60 (see Figure 11) on the rear edge of its top plate to interlock with either of two catches 61 or 62 formed on a rock-arm 63 when the ribbon-frame is moved down to the bottom of the supporting frame 20.

The top plate of the bracket 59 is further formed with a recess 64 and with a guide-opening 65 to receive the shank of a push-button 66, and on this shank is carried a cam-block 67.

A rock-plate 68 is arranged against the side plate 21 of the supporting frame with its upper straight end normally in the path of a shoulder 69 of the bracket 59, so that when the ribbon-frame is moved down by pressing on a projecting finger-piece 70, said shoulder will strike the upper end of the rock-plate and stop the further downward movement of the ribbon. In this position the top catch 61 of the rock-arm 63 will interlock with the shoulder 60 of the bracket 59 and when in this position the lower half of the ribbon is on the typing line.

When it is desired to print on the upper half of the ribbon, the push-button 66 is depressed, causing its cam-block 67 to engage the rock-plate 68 and push its top backwardly, out from under the shoulder 69 when it will enter the recess 64 of the bracket 59 as it is pushed down against bottom plate 28 of supporting frame 20, at which point shoulder 60 will interlock with lower catch 62 on the rock-bar or arm 63, and in this locked position of the parts, the upper stripe of the ribbon is in registration with the printing line of the machine.

When the typing is completed, the ribbon-frame may be released by operating a trip lever or trigger 71 to rock the bar 63 backwardly and disengage the shoulder 60 from the catch 62, after which, as before stated, the motor 26, through the tape or strap 31, will raise the ribbon-frame to the normal idle position above the platen.

The positions of the parts in the two last-described operations are clearly shown in Figures 9 and 10 of the drawings.

The apron 47 may be changed frequently, it being only necessary to swing up the clip-plate 44, pull out the old apron and insert a clean one.

In Figure 6 of the drawings, it is clearly shown how the back-turned portion of the ribbon 38, after passing through the slot 37 at the right of the machine, bears against the flap 49 which in turn is in contact with the rear work-sheet 17. This condition sets up sufficient frictional contact to retain the sheet 17 in the machine, if desired, when the feed-rolls 15 are thrown out, while the front sheet 16 is removed and a new sheet inserted, which is desirable when typing

a strip of checks at the front in conjunction with a ledger or record sheet at the back.

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 having a carriage, a platen thereon, and associated means for feeding work-sheets about the platen, the combination with typing instrumentalities including a main ribbon, of an auxiliary manifolding ribbon, a movable member for supporting the auxiliary ribbon mounted on said carriage in such manner as to be slidable toward the platen to directly insert the auxiliary ribbon between the work-sheets and locate the same in operative position at the printing line in order to manifold ribbon-copies, and distinct means for automatically returning said movable member to idle position, whereby to displace the auxiliary ribbon from the platen to an idle position in which it is so relatively spaced from the platen as to provide free access thereto for insertion of said work-sheets, there being both independent means on said movable member to protect the sheets from smudge and means for operatively connecting said automatic means to said movable member to displace said ribbon from operative position.

2. In a typewriting machine having a carriage, a platen and feeding means for a plurality of sheets, an auxiliary ribbon, means mounted on the carriage for interposing the ribbon between the sheets to be typed, including a slidable frame, a lock coacting with said frame to position and positively hold said ribbon at the printing line, said lock preventing said slidable frame from moving in either direction, means for releasing said lock, and means for withdrawing the ribbon.

3. In a typewriting machine having a carriage, a platen thereon, and associated means for feeding work-sheets about the platen, the combination with typing instrumentalities including a main ribbon, of an auxiliary manifolding ribbon, a movable frame mounted on the carriage for supporting the auxiliary ribbon and manually slidable toward the platen in order to directly insert the auxiliary ribbon between the work-sheets, a stop mounted on the carriage for engaging said slidable frame to definitely locate said auxiliary ribbon at the printing line, and a manually-releasable lock adjacent the stop for rigidly holding said slidable frame in engagement with the stop and thereby positively holding said auxiliary ribbon in operative printing positon to manifold ribbon-copies, said lock when released permitting said slidable frame to be returned to original idle position, whereby said auxiliary ribbon is displaced a sufficient distance from the printing line on the platen to allow replacement of the work-sheets.

4. In a typewriting machine having a carriage, a platen thereon, and associated means for feeding work-sheets about the platen, the combination with typing instrumentalities including a main ribbon, of an auxiliary manifolding ribbon, a two-part mechanism for controlling the auxiliary ribbon including a rigid frame-member secured upon the carriage, a second relatively movable frame-member for directly supporting said auxiliary ribbon and solely supported by, and slidable upon, the first frame-member toward the platen in order to directly insert said auxiliary ribbon between the work-sheets at the printing line, there being means associated with said ribbon to protect said sheets from smudge, and distinct means to move said slidable frame and said auxiliary ribbon away from the platen to inoperative position.

5. In a typewriting machine having a carriage, a platen and rolls for feeding a plurality of sheets therethrough, an auxiliary ribbon, a carriage-carried frame for supporting the ribbon, an apron also supported by the frame with its lower edge disposed in front of and partly in back of said ribbon, means for interposing the ribbon between the sheets to be typed, means for locking the ribbon at the printing line, means for raising the ribbon when the lock is released, and means for holding the back sheet when removing the front one and when inserting a new one prior to another typing operation.

6. An attachment for typewriting machines, including in combination, an auxiliary ribbon, a vertically disposed guide-supporting frame and a horizontally disposed frame movable on said guide-supporting frame and having means for carrying the ribbon, means on said movable frame for maintaining high tension in the ribbon, means for interposing the ribbon between the sheets in the machine to be typed and at the printing line, and means for lifting the ribbon to inoperative position.

7. An attachment for interposing an auxiliary ribbon between sheets in position on a platen of a typewriting machine to make duplicate ribbon copies, including a frame mounted on the carriage of the machine, said frame being of two parts, one being fixed to the carriage and having parallel guide-bars to support and guide the other part which is slidable thereon toward and away from the platen, means on the slidable part for holding the ribbon under tension, means on the fixed part of the frame for normally supporting the slidable part in idle position a distance from the platen, means for locking the same slidable part in the operative position adjacent the platen, and means for releasing the locking means at will.

8. An attachment for typewriting machines including in combination, an auxiliary ribbon, a carriage-carried frame including a fixed part arranged at one side of the machine and a movable part slidable thereon and having slots and spring-held rolls to guide and tension the ribbon, means for interposing said ribbon between sheets in the machine and at the printing line, and automatic means for withdrawing said ribbon.

9. An attachment for typewriting machines including a supporting frame, a ribbon frame slidable thereon having means for supporting an auxiliary ribbon and means for tensioning the same, a clip-bar hinged to said ribbon frame, an apron carried by the clip-bar, said apron being disposed in front of the active portion of the ribbon and partly back of it, means for locking the frame down in the operative position, and automatic means for raising the frame when the locking means is released.

10. An attachment for typewriting machines including an upright frame and a horizontally disposed frame slidable thereon, means on the horizontal frame for supporting an auxiliary ribbon and means for holding the ribbon under tension and for adjusting said tension, a clip-bar also on said frame, an apron suspended from the clip-bar and positioned down over and in front of the active portion of said ribbon, means for locking the ribbon-carrying frame down at

the operative position, and automatic means for raising it when the locking means is released.

11. An attachment for typewriting machines including an upright supporting frame and a horizontal ribbon-carrying frame slidable thereon and having means for guiding and tensioning an auxiliary ribbon, a bracket attached to the ribbon frame, a latch on the supporting frame, whereby, when the ribbon frame is lowered to the operative position, the bracket will engage and interlock with said latch to hold the ribbon at the printing line, means for disengaging the latch from the bracket, and automatic means for lifting the ribbon frame to its normal inoperative position.

12. An attachment for typewriting machines including an upright supporting frame and a ribbon-carrying horizontally-ranging frame movable thereon, a motor to normally support the ribbon frame in the elevated position and to return it to such position when depressed, means for locking the ribbon frame down in the operative position, and means for releasing it.

13. An attachment for typewriting machines including an upright relatively fixed supporting frame and a ribbon-carrying horizontally arranged frame mounted to move vertically thereon, said ribbon frame having angular slots to guide and support an auxiliary ribbon, and devices for tensioning the same, an apron and a clip-bar to support it on said ribbon frame, a bracket movable with the ribbon frame, and means on the supporting frame for engaging the bracket in interlocked relation to position the ribbon in either of two elevations at the printing line, means for releasing the ribbon frame, and means for automatically raising said frame to the inoperative position.

14. In a typewriting machine having a movable carriage, a platen and feed-rolls for feeding a plurality of sheets therethrough, the combination of a frame rigidly mounted on said carriage, a movable frame slidably mounted on said first-mentioned frame, an auxiliary ribbon carried by said movable frame, means for locking said latter frame in any one of a plurality of vertically spaced positions with the ribbon at the printing line, and means for releasing said locking means to permit said frame to be moved into inoperative position away from the printing line.

15. In a typewriting machine having a movable carriage, a platen and feed-rolls for feeding a plurality of sheets therethrough, the combination of a frame mounted on said carriage, a second frame slidably mounted on said first frame, an auxiliary ribbon carried by said second frame, the latter being slidable to position said ribbon opposite the platen at the printing line, means for locking said second frame at any one of a plurality of vertical positions with the ribbon at the printing line, means for releasing said locking means, and means for automatically moving said second frame to inoperative position when the locking means is released.

16. In a typewriting machine having a carriage, a platen and means for feeding a plurality of sheets past the printing line, the combination of a stationary frame composed of a single standard rigidly mounted at one side of said carriage, vertical guides carried by said standard, a horizontally-extending vertically slidable frame mounted at one end upon said standard and cooperating with said guides, the other end of said slidable frame being completely free and unsupported, and an auxiliary ribbon carried by said slidable frame and arranged to be moved into operative position at the printing line of the machine and to be moved upwardly into inoperative position at the completion of the typing operation.

17. In a typewriting machine having a carriage, a platen and means for feeding a plurality of sheets past the printing line in front of the platen, a frame mounted on the carriage, a second frame slidably mounted on said first frame, a ribbon carried by said slidable frame and arranged to be lowered into operative position along the printing line and interleaved with work-sheets, a clip-bar pivotally mounted at one end at one side of the slidable frame and having a releasable connection near its other end with the opposite side of said frame, and a depending apron held by said clip-bar and arranged to be inserted between the ribbon and the forward sheet along the printing line to prevent back-typing on said sheet.

18. In a typewriting machine having a carriage, a platen, and means for feeding a plurality of sheets past the printing line in front of the platen, a frame mounted on the carriage, a second frame slidably mounted on said first frame, a ribbon carried by said slidable frame and so guided thereon as to provide two vertical stretches with an operative horizontal stretch between them, said slidable frame being movable to position said horizontal stretch at the printing line interleaved with work-sheets, a clip-bar pivoted at one end to said slidable frame and having a releasable connection with said frame at its other end, and an apron depending from said clip-bar and arranged to be inserted between the horizontal stretch of the ribbon and the forward sheet along the printing line to prevent back-typing on the sheet, said apron extending beyond the ends of the printing line and being slitted near at least one end beyond the printing-line-range to permit the end portion of said apron to be turned back so as to be behind the twist in said ribbon between the horizontal and vertical stretches and in front of the rear sheet to prevent smudging of said rear sheet.

19. In a typewriting machine having a carriage, a platen mounted thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage, including a collating table, of an auxiliary manifolding ribbon, an attachment for directly inserting said auxiliary ribbon between said sheets, including a stationary frame-member rigidly secured upon said collating table, a second frame-member for supporting the auxiliary ribbon, slidably mounted upon said first frame-member toward the platen in such manner as to move said auxiliary ribbon in front of said table toward the printing line in order to manifold ribbon-copies, and means to return said movable frame-member and said auxiliary ribbon to a raised idle position above the platen, in which the greater portion of said collating table and said platen is exposed and accessible for collation and replacement of said work-sheets.

20. In a typewriting machine having a carriage, a platen mounted thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage, including a pair of spaced and rela-

tively adjustable collating plates, of an auxiliary manifolding ribbon, a rigid frame-member mounted on said collating device and connecting both plates into a unit, means mounted on said rigid frame for supporting and controlling said auxiliary ribbon and slidable before said plates and said platen in order to directly insert said auxiliary ribbon between said sheets, means for locating said slidable means and said ribbon at the printing line for manifolding ribbon-copies, and means for locating the same slidable means and ribbon in inoperative position above the platen, in which position they are sufficiently spaced from said operative position to provide access to said platen.

21. In a typewriting machine having a carriage, a platen thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage, including a collating table, of an auxiliary manifolding ribbon, limiting means mounted on said table providing support and upper and lower limits for extreme positions of said auxiliary ribbon, and means supported on said table for movably controlling said auxiliary ribbon, and slidable between said limiting means to and from the platen, said auxiliary ribbon being movable into inserted position between said sheets at the printing line by said second means when the same is moved toward the lower limit, and also movable thereby to an idle position wherein the platen and the table are accessible for replacement and collation of the work-sheets when said second means is moved toward the upper limit.

22. In a typewriting machine having a carriage, a platen journaled therein, means for feeding work-sheets past the printing line in front of said platen, a pair of ribbon-spools mounted upon shafts journaled on the machine and a ribbon running from spool to spool and so guided as to provide an operative portion in front of the printing line, means for maintaining said ribbon under constant tension, said last-mentioned means including a ratchet-wheel mounted upon each of the ribbon-spool shafts, and stiff springs anchored at one end to a relatively fixed part of the machine and at their free ends engaging said ratchet-wheels yieldingly to prevent rotation thereof, the strength of said springs determining the maximum tension in said ribbon.

23. In a typewriting machine having a carriage, a platen mounted thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage including a collating table, of an auxiliary manifolding ribbon, a frame for controlling the auxiliary ribbon which is supported on the carriage and depressible from an upper extreme idle position to an extreme lower operative position in which said auxiliary ribbon is disposed at the printing line in interposed relation to said work-sheets for manifolding ribbon-copies, automatic means mounted on the carriage for engaging and retaining said auxiliary ribbon-frame in the lower operative position upon depression of the frame, said automatic means being releasable to ineffective position in order to permit unobstructed return of said auxiliary ribbon-frame to the upper idle position in which the auxiliary ribbon is held clear of the platen, permitting free access thereto, and a motor spaced from said automatic means upon the carriage for automatically elevating said frame to the idle position when released and rendering the same frame resiliently depressible.

24. In a typewriting machine having a carriage, a platen mounted thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage including a collating table, of an auxiliary manifolding ribbon, a frame rigidly supported on the carriage having an upright standard, slidable means mounted on said standard for supporting and controlling said auxiliary ribbon and slidable to an extreme low position on said standard to insert said auxiliary ribbon between said work-sheets, means upon said standard to definitely limit the downward movement of said slidable member and lock the same in operative position to dispose said ribbon at the printing line for manifolding ribbon-copies, a motor spaced from said locking means on said standard and connected to said slidable means in order to elevate the same to an extreme upper idle position in which the auxiliary ribbon is spaced a distance above the platen in order to allow free access thereto, and releasable means spaced below the motor on the standard for positively holding the slidable means in its extreme low position during manifolding operation, said motor becoming automatically operative to raise the slidable member upon actuation of said releasable means.

25. In a typewriting machine having a carriage, a platen mounted thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage including a collating table, of an auxiliary manifolding ribbon, a frame supported on the carriage for supporting and controlling the auxiliary ribbon which is slidable toward the platen in order to directly insert the auxiliary ribbon between the work-sheets at the printing line for manifolding ribbon-copies, a bar relatively parallel with the auxiliary ribbon hinged at one end to the slidable member in such manner as to be swingable thereon and provided at the other end with means to engage the slidable member for support thereof, and a shield on said swingable bar for association with said auxiliary ribbon and having a portion thereof at one end hooked over the same ribbon for protecting said work-sheets from smudge.

26. In a typewriting machine having a carriage, a platen mounted thereon, means associated therewith for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage including a collating table, of an auxiliary manifolding ribbon, a frame for supporting and controlling the auxiliary ribbon which is supported on the carriage and slidable thereon toward the platen in order to insert the auxiliary ribbon between the work-sheets at the printing line for manifolding ribbon-copies, said auxiliary ribbon being arranged upon said frame in such manner as to have two vertical lengths with a horizontal length therebetween, a pair of corresponding plates overlying the vertical ribbon-lengths, and a bar hinged at one end upon said frame and having a depending shield overlying

the horizontal length of said ribbon in displaceable manner.

27. In a typewriting machine having a carriage, a platen mounted thereon, associated means for feeding work-sheets about the platen, and typing instrumentalities including a main ribbon, the combination with a collating device for the work-sheets mounted upon the carriage including a collating table, of an auxiliary manifolding ribbon, a rigid support on the carriage, a movable member for supporting and controlling said ribbon, mounted on said rigid support in such manner as to be slidable thereon downwardly toward the platen in order to insert the auxiliary ribbon between said sheets at the printing line for manifolding ribbon-copies, said sheets including a front sheet and a back sheet, a swingable shield arranged to be interposed beneath said auxiliary ribbon to protect the back sheet from smudge, and means to hold the same ribbon and shield under pressure at the printing line upon the back sheet, whereby to clamp and hold the same in position upon the platen while the front sheet is replaced.

28. In a typewriting machine, the combination with a platen, of a collating table at the delivery side of the platen, releasable means to hold a sheet against the table, a main ribbon, an auxiliary ribbon between the main ribbon and the platen, means slidable in one direction for casting off said auxiliary ribbon from its printing position far enough to afford access to the table and work-sheets for manipulation thereof, and then slidable in an opposite direction for inserting the auxiliary ribbon between the collated sheets while one of said sheets is flexed or inclined away from an adjacent sheet, and releasable means for holding the collated sheets against the platen during the ribbon-inserting operation.

29. In a manifolding device for a typewriting machine having typing instrumentalities including a main ribbon, the combination of an auxiliary ribbon, a pair of spools for the same, a movable support for the spools, and a rigid supporting standard, secured to the machine for the movable support, including a rectilinear guide for the movable support to slide upon and effective to throw the auxiliary ribbon into and out of operative relation with said instrumentalities.

30. In a manifolding device for a typewriting machine having typing instrumentalities including a main ribbon, the combination of an auxiliary ribbon, a pair of spools for the same, a reciprocating support for the spools, and a rigid support, secured to the machine for the reciprocating support, including a rectilinear guide for the movable support to slide upon and effective to throw the auxiliary ribbon into and out of operative relation with said instrumentalities.

31. In a manifolding device for a typewriting machine having typing instrumentalities including a main ribbon, the combination of an auxiliary ribbon, a movable support for the same, a rigid support, secured to the machine for the ribbon-support, including a rectilinear guide for the movable support to slide upon and effective to throw the auxiliary ribbon into and out of any one of a plurality of operative typing positions with reference to the typing line of said instrumentalities, a detent for releasably securing the auxiliary ribbon in an operative position, and a selecting means to determine in which position the movable support is to be detented.

32. In a manifolding device for a typewriting machine having typing instrumentalities including a main ribbon, the combination of an auxiliary ribbon, a movable support for the same, a rigid support, secured to the machine, for the ribbon-support, the rigid support including a rectilinear guide for the movable support to slide upon and effective to throw the auxiliary ribbon into and out of a plurality of operative positions in the machine, a detent for detachably securing the auxiliary ribbon in any operative typing position, a manually-operated selecting means to determine in which position the movable support is to be detented, and a single releasing device for unlocking the movable member from said detent in all of said operative positions.

33. In machines having typing instrumentalities, a ribbon-carrier including a stationary support secured to the machine, a frame movable thereon and effective to locate the ribbon in several typing positions in relation with said instrumentalities, a guide included in the support upon which the frame slides rectilinearly, means for selecting the position in which the ribbon is to engage with said instrumentalities, and means for releasably latching the frame in any one of said positions.

34. In a machine having typing instrumentalities, an attachment unit, including a ribbon, a movable frame for said ribbon, means for supporting the frame on the machine and effective to move the ribbon in a rectilinear path into and out of engagement with said instrumentalities in a plurality of operating positions, and selecting means for predetermining the position in which the ribbon is to operate.

35. In a manifolding attachment unit for typewriting machines, the combination of adjustable plates for collating work-sheets into typing position, a support for mounting the plates in the machine, an auxiliary ribbon, a frame for supporting the same, and means between the frame and said support, at one end only thereof, to guide the auxiliary ribbon supporting frame, with a rectilinear motion, into and out of operative typing position in the machine.

36. In a typewriting machine having type, a platen, a carriage, and inking means, the combination of a clip-bar and a normally inaccessible shield detachably carried thereby in facewise relation to the inking means, said clip-bar mounted on said carriage for displacement away from the inking means, to bring the shield from inaccessible to accessible position for detachment of a worn shield from the clip-bar preparatory to replacing it with a fresh shield.

37. In a typewriting machine having types, a platen, a carriage, and transfer means, a clip-bar carrying a work-shield inserted between the work and the transfer means, said clip-bar mounted upon said carriage for displacement together with the shield away from the transfer means.

38. In combination with a typewriter platen, a ribbon, and means supporting the ribbon in advance of the printing point, a shield ribbon, and means normally supporting the shield ribbon in advance of the first ribbon, and operable to move the same from such position and back, at will.

39. In a typewriting machine having a carriage and a platen, an auxiliary ribbon, a carriage-carried frame for supporting the ribbon, a ribbon-apron also supported by the frame, means for lowering the frame to interpose the ribbon and apron between the sheets to be manifolded, means for locking the ribbon-frame at the print-

ing line, and a spring for raising the ribbon when the lock is released.

40. An attachment for typewriting machines including a supporting frame, a ribbon-carrier movable up and down thereon having means for supporting an auxiliary ribbon, a clip hinged to said ribbon-carrier, an apron carried by the clip, means for releasably locking the carrier down in operative position, and a spring for raising the carrier when the locking means is released.

41. A manifolding device for typewriting machines, including a relatively fixed supporting frame and a ribbon-carrying device mounted to move up and down thereon, and means on the supporting frame for engaging the ribbon-carrying device in interlocked relation, to position the ribbon in either of two elevations at the printing line.

42. A manifolding device for typewriting machines, including a relatively fixed supporting frame and a ribbon-carrying device mounted to move up and down thereon, means on the supporting frame for engaging the ribbon-carrying device in interlocked relation, to position the ribbon in either of two elevations at the printing line, means for releasing the ribbon-carrying device, and a spring for automatically raising said ribbon-carrying device to inoperative position.

43. A manifolding device for typewriting machines, including a relatively fixed supporting frame and a ribbon-carrying device mounted to move up and down thereon, means on the supporting frame for engaging the ribbon-carrying device in interlocked relation, to position the ribbon in either of two elevations at the printing line, and a flexible shield for the ribbon carried up and down by said ribbon-carrying device.

44. In a manifolding device for typewriting machines having a platen, a carriage and a manifolding ribbon, the combination with a support upon the carriage, of a ribbon-carrying means guided upon said support for up-and-down movement from and to the printing line on the platen, said ribbon-carrying means including a ribbon-lifting element that extends the length of the platen, releasable latching means for said ribbon-carrying means, and means dependent upon the downward movement of the ribbon-carrying means for causing said latching means to lock said ribbon-carrying means in either one of a plurality of operative positions.

45. In a manifolding device for typewriting machines having a platen, a carriage and a manifolding ribbon, the combination with a support upon the carriage, of a ribbon-carrying means guided upon said support for up-and-down movement from and to the printing line on the platen, said ribbon-carrying means including a ribbon-lifting element that extends the length of the platen, releasable latching means for said ribbon-carrying means, means dependent upon the downward movement of the ribbon-carrying means for causing said latching means to lock said ribbon-carrying means in either one of a plurality of operative positions, a finger-piece to release the ribbon-carrying means from the control of the latch in either operative position, and a spring for returning the released ribbon-carrying means automatically to normal elevated position.

46. In machines having typing instrumentalities, a platen, a platen-carriage, a ribbon-carrier including a stationary support secured to the carriage, a movable holder to hold the ribbon in a plurality of operative positions, said support having a guide upon which the ribbon-holder slides, and means for releasably latching the ribbon-holder in any one of said predetermined positions, to bring different widthwise portions of the ribbon into use.

47. In a machine having typing instrumentalities, movable ribbon-carrying means, rectilinear guiding means for the ribbon-carrying means to slide upon, a spring holding the ribbon-carrying means in elevated inoperative position, and means for releasably securing the ribbon-carrying means in either of a plurality of operative typing positions.

48. In a typewriting machine having a moving carriage and a primary ribbon, an auxiliary carrier secured upon the carriage and having a ribbon mounted to extend contiguous to the platen along the writing line of the machine, means being provided for supporting said ribbon in two working positions, one higher than the other, whereby upper and lower fields of the ribbon are selectively subjected to wear.

49. In a typewriting machine having a platen and a primary ribbon mechanism, an auxiliary ribbon device associated with the platen and having a ribbon element in back of the primary ribbon, said device including a carrying frame for said auxiliary ribbon, and stop means coordinating said frame relative to the machine structure to permit of a limited range of up and down positioning of the frame with its ribbon in front of the platen and close thereto, for changing the areas of ribbon exposed to type contact.

50. In a typewriting machine including a moving carriage and a primary ribbon, an auxiliary carrier comprising a movable holder mounted upon a carriage element, said carrier having a ribbon mounted to extend contiguous to the platen and along the writing line of the machine, said holder having stop means to limit the movement of said holder relative to the carriage in an up and down direction whereby wear of the ribbon is correspondingly distributed.

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