

955,328.

J. FELBEL.
TYPE WRITING MACHINE.
APPLICATION FILED NOV. 20, 1907.

Patented Apr. 19, 1910.

3 SHEETS—SHEET 1.

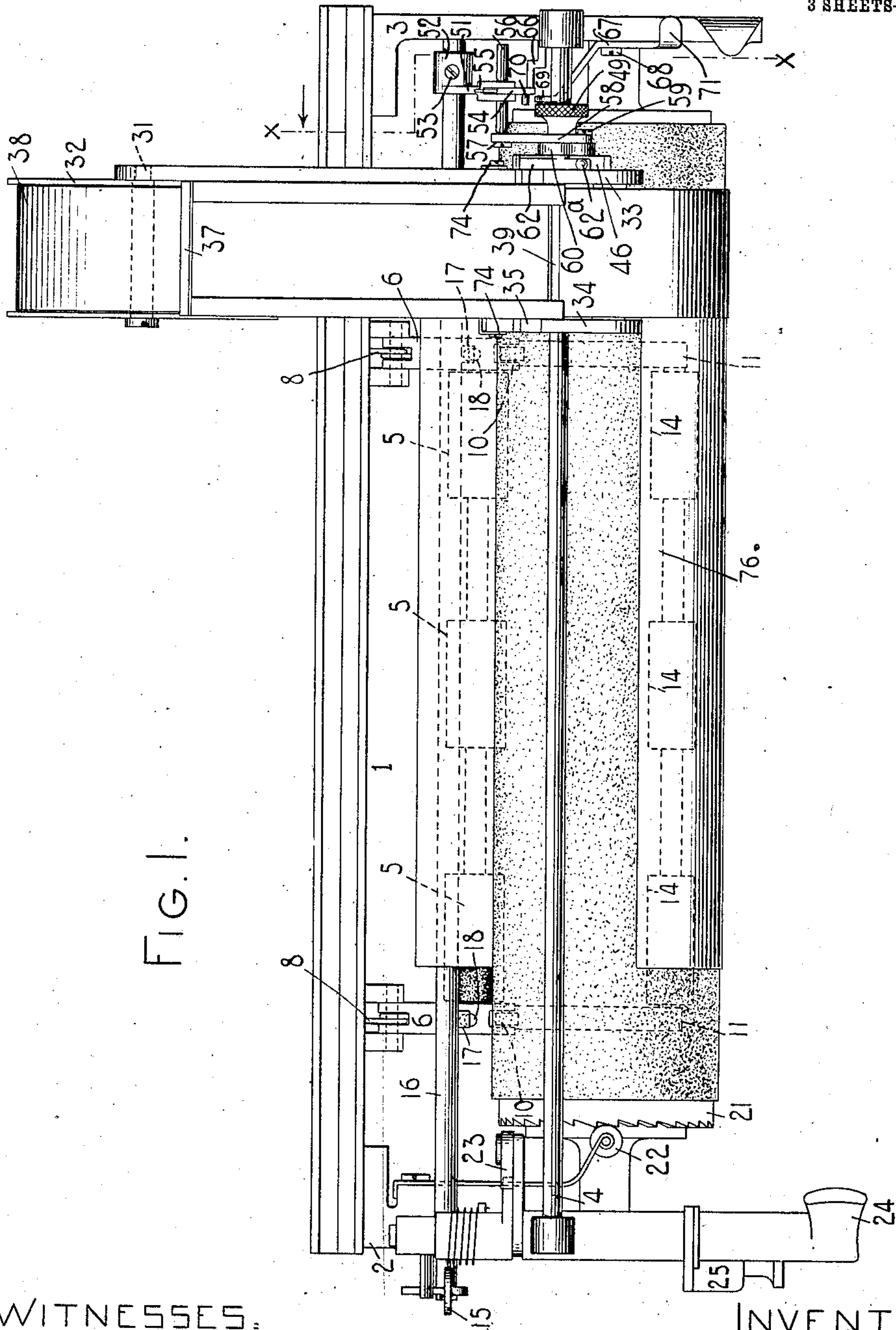


FIG. 1.

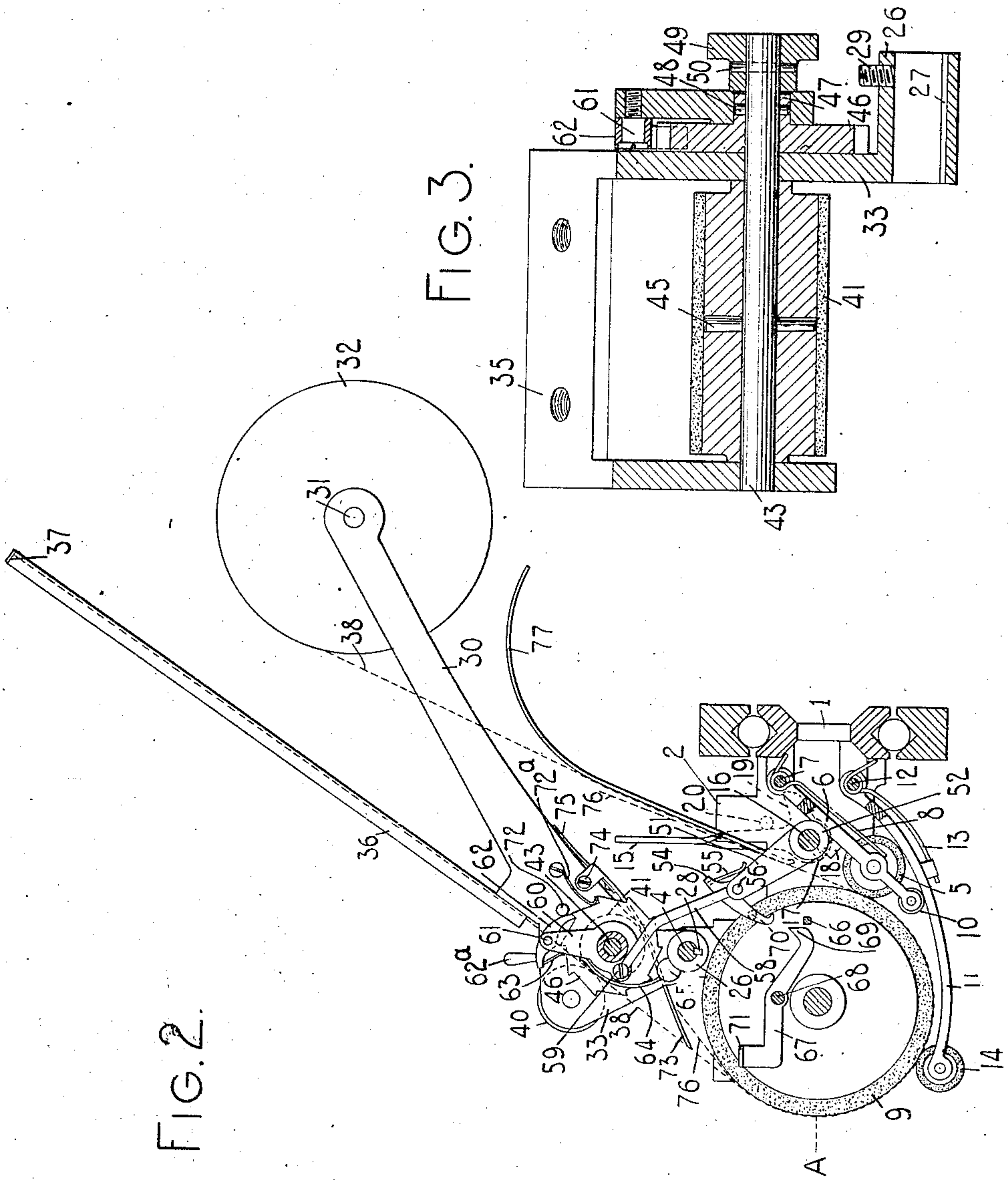
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INVENTOR:

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3 SHEETS—SHEET 3.

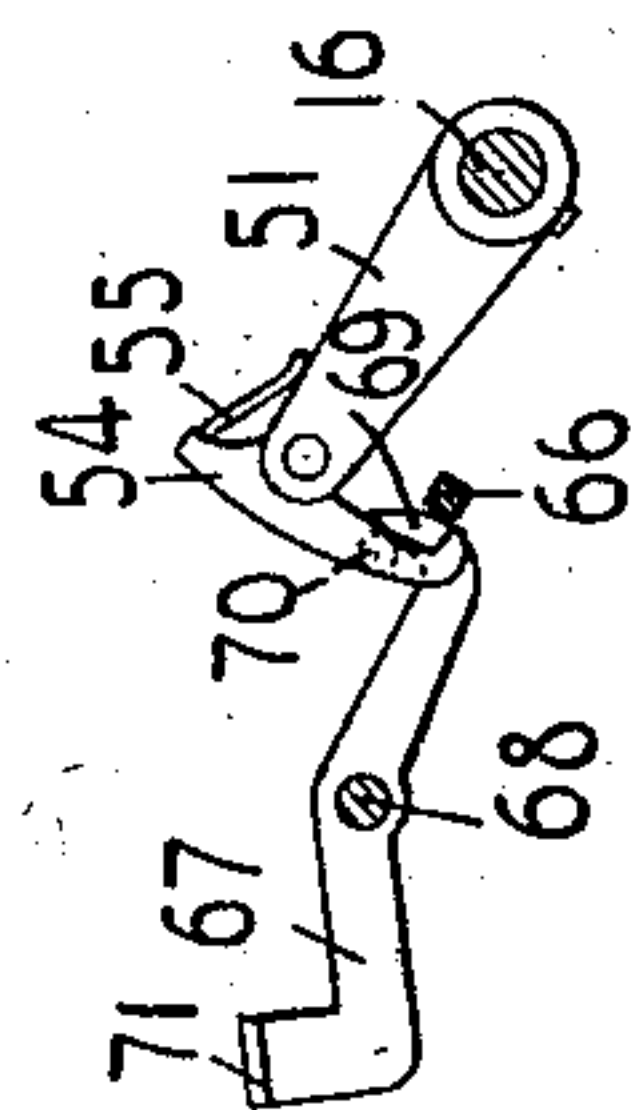
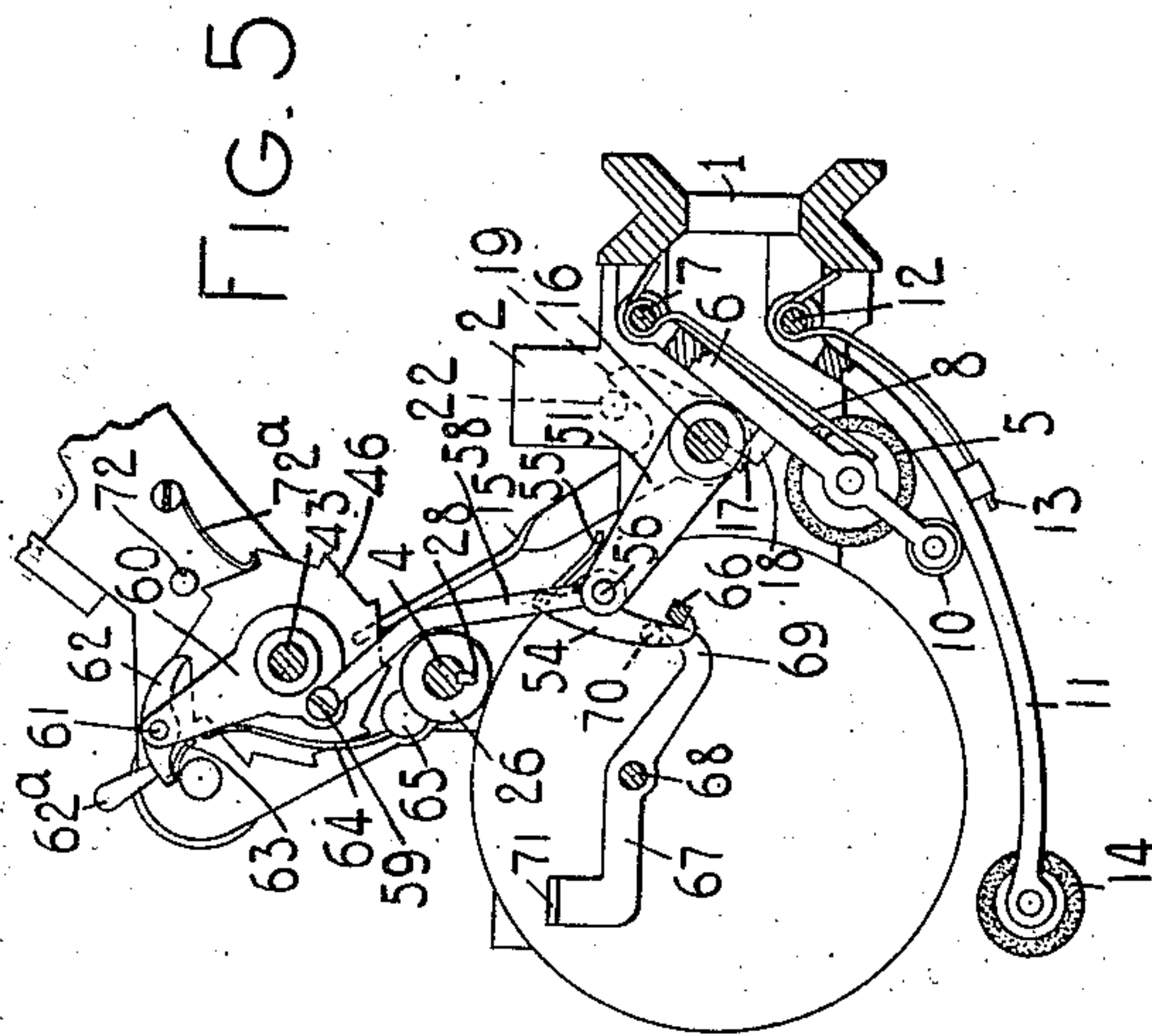
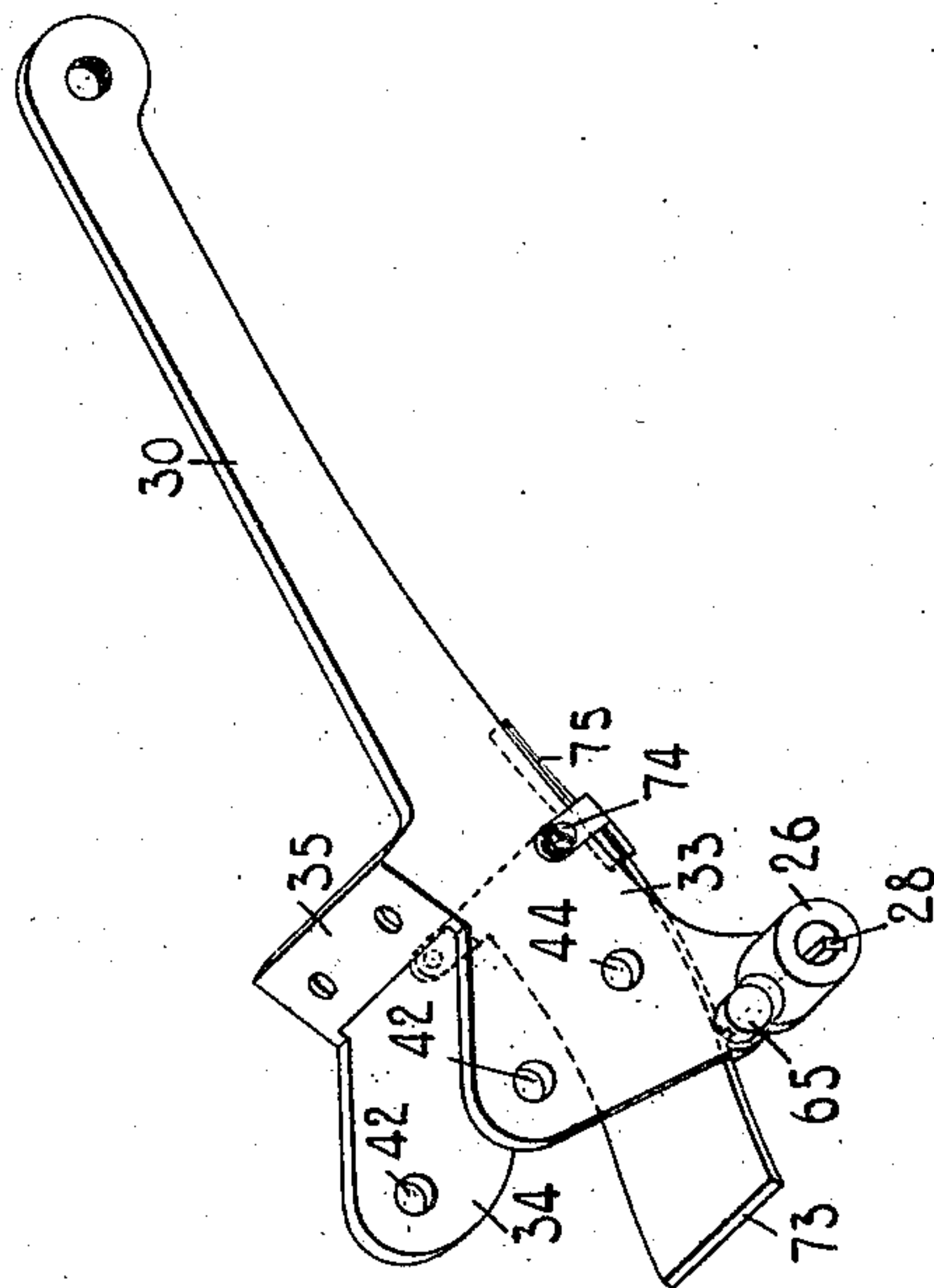


FIG. 6.

FIG. 4.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JACOB FELBEL, OF NEW YORK, N. Y., ASSIGNOR TO UNION TYPEWRITER COMPANY,
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TYPE-WRITING MACHINE.

955,328.

Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed November 20, 1907. Serial No. 402,996.

To all whom it may concern:

Be it known that I, JACOB FELBEL, citizen of the United States, and resident of the borough of Manhattan, city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

10 My invention relates especially to tally strip devices for typewriting machines and its main object is to provide improved devices of the kind specified.

15 To the above and other ends which will hereinafter appear, my invention consists in various features of construction, combinations of devices and arrangements of parts presently to be described and particularly pointed out in the claims.

20 In the accompanying drawings, Figure 1 is a top plan view of a part of the paper carriage of a Monarch typewriting machine embodying my improvements. Fig. 2 is a side sectional elevation thereof, the section 25 being taken at the dotted line $x-x$ of Fig. 1 and the fixed carriage rails being added. Fig. 3 is a central vertical section of one of the tally feed rolls and its support. Fig. 4 is a perspective view of the support or 30 bracket for the tally strip roll. Fig. 5 is a side sectional view similar to Fig. 2 showing some of the parts in different relations from those in which they appear in Fig. 2, other parts shown in Fig. 2 being omitted. Fig. 35 6 is a view corresponding to Fig. 5 but omitting some of the parts shown therein and showing other of the parts in different relations from those in which they appear in Fig. 5.

40 1 designates the paper carriage as an entirety, the back bar of said carriage being formed with oppositely grooved portions for the reception of balls or rollers which also bear on oppositely grooved rails fixed to the 45 frame-work of the machine in the usual manner to support the paper carriage and guide it in its movements back and forth across the machine.

50 2 designates the left-hand end bar of the carriage and 3 the right-hand end bar thereof, both of said bars being attached to the carriage back bar and being further connected together by a cross rod 4 which in practice supports paper fingers not shown 55 herein.

The paper feed mechanism as far as shown is substantially that of the Monarch machine. 5 is the main feed roller preferably made in sections having a common axis supported in arms or brackets 6 pivotally 60 mounted at 7 in lugs extending forward from the carriage back bar. Springs 8 acting on said arm press the feed roller normally against the platen 9. The arms 6 are provided with extensions having rollers 10 65 which operate against other feed roll supporting arms 11 pivotally mounted at 12 in lugs likewise extending forward from the back bar and provided with springs 13 that cause the sectional feed roller 14 to bear 70 against the platen nearer the front face thereof than the feed roller 5.

As heretofore, means are provided for throwing off simultaneously both the paper feeding devices or feed rolls 5 and 14, said 75 means consisting primarily of a hand lever 15 attached to the left-hand end of a rock shaft 16 mounted in the side bars or plates 2 and 3, said rock shaft having pins or studs 17 that co-act with pins or studs 18 project- 80 ing perpendicularly from the feed roll supporting arms 6. The construction is such that when the lever 15 is pulled forward as shown in Fig. 5 the pins 17 coöperate with the studs 18 and move the arms 6 and the 85 feed rollers 5 rearward against the tension of the spring 8 and at the same time the rollers 10 operate upon the arms 11 and cause the feed rolls 14 to be moved away from the platen against the tension of the 90 springs 13. For the purpose of limiting the forward movement of the lever 15 said lever is provided with a nose 19 that strikes against a stop pin 20 on the end bar 2.

I have also shown generally the usual line 95 spacing mechanism of the Monarch machine. This may be briefly described as follows: On the left-hand end of the platen is a ratchet wheel 21 with which coöperates a spring pressed detent roller 22 and platen 100 rotating devices comprising a pawl 23 which is normally disengaged from the ratchet wheel but which, upon operation of the line spacing handle 24 toward the right in Fig. 1, engages a tooth of the ratchet wheel and 105 turns the platen in the proper direction for feeding the paper forward, the extent of the feed being predetermined by means of the usual line space regulator designated by 25.

The detail construction of the line spacing 110

mechanism herein shown will be found more fully shown and described in Letters Patent No. 791,483, granted to H. W. Merritt on June 6, 1905; but as far as the present invention is concerned any suitable form or construction of line spacing mechanism may be used instead of that shown.

Referring now to the tally strip devices, it is one of the objects of my invention to lock off or in abnormal position the main feed rollers or paper feeding devices for the main work sheet or bill sheet when it is desired to insert a fresh work sheet and to utilize this locking off of the feed roller as a means to insure the feeding of the tally strip.

It is another object of my invention to feed the tally strip (after the insertion of a fresh bill sheet or other work sheet to be written upon) during the return of the main feed roll to normal position, the tally strip feeding mechanism governing or controlling the return of the main feed roll to normal position.

In my pending application Serial No. 387,957 filed August 10th, 1907 I have shown one means of accomplishing these results. In the present instance the locking off of the main feed roll stores power by the setting of a spring device or spring driving mechanism, which device or mechanism when tripped by a key, automatically line-spaces the tally strip. Setting the spring device or driving mechanism also operates to lock the feed roll in released or inoperative position and said feed roll returns to engage with the platen or the work sheet thereon when the spring driving mechanism is tripped or released. As in said pending application, I have shown a tally strip wound upon a roll holder arranged above and at the rear of the carriage, the loose or free end of the strip being carried partially around the platen, thence between suitable feeding devices or feed rolls from which the tally strip is fed rearward and upward along or upon a table or support and preferably until the leading edge of the strip contacts with an abutment which determines the length of the section of the strip to be detached.

Any suitable means may be employed for supporting the tally strip roll and the tally strip feeding devices. In the present instance I have shown a bracket arm or frame secured to the paper finger rod 4. The said bracket, so called for convenience and best shown in Fig. 4, is formed with a tubular bearing 26 which is slipped on the rod 4 and then secured to said rod by any suitable means. The tubular bearing is herein shown as provided with a slot 27 (Fig. 3) opposite a similar slot on the under side of the rod 4, thus forming a key-way for a key or feather 28, half of which enters the slot in the bearing and half the slot in the rod, thus holding the bracket against rotary movement but

permitting it to be adjusted lengthwise of the rod. The bracket may, however, be further secured by means of a set screw 29.

The bracket or frame comprises a rearwardly and upwardly extending arm 30 formed at its free end with a threaded hole to receive the threaded end of a center pin or rod 31 for a tally strip roll holder 32; and said bracket also comprises a front bifurcated portion consisting of two parallel plates or jaws 33 and 34 connected by a cross piece or web 35 to which is attached a table or support 36 for the foremost section or subdivision of the tally strip. The table is provided at its upper or free end with a cross piece 37 for the leading edge of the tally strip 38 to abut against. At the lower end of the table a plate, knife or bar 39 is preferably provided to assist in the separation of the tally strip sections.

The feeding devices for the tally strip are preferably made in the form of rolls designated as 40 and 41, the roll 40 having a pintle or pintles that take bearings in holes 42 in the plates 33 and 34 and the roll 41 having a shaft or pintle 43 that takes bearings in holes 44 in said plates 33 and 34. The feed rolls 40 and 41 may be of any desired detail construction, likewise their mountings, and one or both of them may be covered with rubber the same as the surface of the platen, as indicated in Fig. 3. In this view the roller 41 is shown attached to a shaft by means of a pin 45 and said shaft is shown prolonged to the right for supporting a ratchet wheel 46, the hub 47 whereof is secured to the shaft 43 by a pin 48. Abutting the hub 47 is a knurled finger button 49 which is secured to the shaft 43 by a pin 50. This finger button may be made use of to turn the roller 41 and the roller 40 and thereby feed the tally strip. Preferably, however, the tally strip is fed by devices which are connected with the means for releasing the feed rolls 5 and 14 and locking them in inoperative position after they have been released or moved away from the platen or the paper thereon.

Referring now to the means for releasing and locking out the feed rolls 5 and 14, 51 designates an arm mounted securely on the rock shaft 16. This arm may be made integral with a collar 52 fitted to said rock shaft and attached thereto by a screw 53. The upper end of the arm 51 is bifurcated to receive a locking dog, pawl or hooked catch 54 provided with a spring 55, which dog is loosely pivoted on a pin 56. The latter passes through openings in the bifurcated portions of the arm 51 and is secured at its left end as by a screw 57 to the lower end of a link or arm 58 extending upward and forward and pivoted at its upper end on a screw 59 which is secured to a member or pawl carrier 60. Said pawl carrier 60 surrounds

and bears loosely on the hub 47 of the ratchet wheel 46 and at its outer or free end said pawl carrier carries a shouldered screw 61 on which is pivoted a pawl 62, which pawl is constantly pressed into engagement with the teeth of the ratchet wheel 46 by a spring 63. The pawl carrier 60 is constantly urged rearward and is normally maintained in the position shown in Fig. 2 by a driving device which, as herein shown, comprises a leaf spring 64 secured at its lower end to a headed stud or pin 65 extending laterally rightward from the plate 33.

When the handle 15 is pulled forward by the operator to rock the shaft 16 for the purpose of throwing off the feed roller 5, the dog or pawl 54 will be moved downward and forward from the normal position shown in Fig. 2 and the hooked end thereof will ride over a finger or projection 66 extending inward from the end bar 3 parallel with the platen. Under the influence of the spring 55 the dog 54 will snap over and engage the finger 66 as shown in Fig. 5 so that when the handle 15 is released the feed roll will not return to normal position but will be held locked in inoperative position by the engagement of the dog 54 with the finger 66 as shown in said Fig. 5. As the handle 15 is pulled forward to release the main paper feeding device, the pawl carrier 60, by reason of its connections with the rock shaft 16 (which connections comprise the arm 51, the pin 56 and the link 58) will be turned or rotated forward on its bearings from the position shown in Fig. 2 to that shown in Fig. 5. The forward turning of the pawl carrier flexes or puts tension in the driving device or spring 64 and causes the pawl 62 to slide forward over the ratchet wheel 46 and snap into engagement with the next tooth behind the one with which said pawl had previously engaged. In other words the release and locking off the feed roller 5 automatically sets the driving mechanism of the tally strip. Where in the following claims it is stated that tension is put into the driving spring it is meant that power or ability to do work is given to it.

The release of the feed roller from its locked or inoperative position may be effected by any suitable means. In the present instance I have shown said means as comprising a trip lever 67 which is arranged at the inner side of the end bar 3 and is pivoted on a screw 68 secured to said end bar. The rear arm of the trip lever is provided with a nose 69, the edge whereof is adapted to cooperate with a pin 70 extending laterally inward from the pawl 54 above the hooked end thereof. The forward arm of the trip lever 67 terminates in a key or finger 71 which overlies the end bar 3 and serves as a convenient means for operating

said trip lever. When the parts are in the position shown in Fig. 5 the depression of the key 71 causes the upper edge of the nose 69 to engage with the pin 70. This upper edge or face of the nose 69 is so shaped that continued pressure on the key 71 cams or forces the pin 70 forward and causes the hooked end of the dog 54 to disengage from the finger 66 as shown in Fig. 6. The feed roll and associate parts will thereupon be restored to normal position by the restoring springs provided for the purpose and the driving device or spring 64 will be tripped or released and will force the pawl carrier 60 and pawl 62 rearward, said pawl 62 turning the ratchet 46 and thereby effecting an advance or line spacing of the tally strip through the tally strip feed rollers 40 and 41. The tally strip is preferably advanced through a space corresponding to the length of a single tooth of the ratchet wheel 46 and the movement of the ratchet wheel for this purpose under the influence of the spring driving pawl 62 may be regulated and controlled in any suitable way as by a stop or pin 72. In the drawings I have shown a spring detent 72^a for preventing any backward rotation of the ratchet wheel.

A guide or separator for the work sheet is provided, said separator consisting of a plate or finger 73 pivotally mounted at 74 to the arm 30 and having a leaf spring 75 to give tension upward to the free forward end of said separator. This device serves more particularly to prevent the work sheet or bill from following the tally strip in between the tally strip feed rolls; or in other words, said device serves to separate the bill sheet from the tally strip soon after these two work sheets which are superposed one on the other arrive above the top of the platen, the bill sheet being deflected rearward under the separator 73 even though when they reach the separator the leading end of said bill sheet should be clinging to the tally strip which is above it.

Referring briefly to the operations of the mechanisms in the writing of bills or invoices and the recording of the totals thereof on the tally strip, it will, of course, be understood that the mode of operation will vary with the kind of work on which the mechanisms are employed. The tally strip roll having been mounted in place, the feed rolls 5 and 14 are preferably locked off as shown in Fig. 5 and the free outer end of the tally strip is then drawn from the front of the roll and downward around the platen, as indicated by the dotted line in Fig. 2, the leading end of said tally strip being carried up above and in contact with the separator 73 and between the feed rolls 40 and 41 and thence upon the table or support 36. The leading end portion of the tally strip between the printing point designated by A

and the lower end of the table 36 may be considered as a tab or surplusage. Preferably the tally strip is perforated or otherwise divided in sections as shown and described in my said pending application.

After the tally strip has been properly positioned the main work sheet or bill sheet, designated by 76, may be inserted by passing it down in front of the usual paper table 77 and around the platen in the usual manner but with the right hand side or margin of the invoice underlying the tally strip or between the latter and the platen. The tally strip, as is usual, is carbonized or provided with a transfer medium on one side; namely, that side which comes in contact with the bill sheet; but a separate transfer or carbon strip may be employed if preferred. The bill sheet and the tally strip having been properly positioned the main feed rollers are unlocked or released by operating the key or finger piece 71, whereupon the feed rollers 5 will engage with the paper or work sheet on the platen; likewise the front feed roll 14, but this roll 14 may be neglected so far as the main features of my invention are concerned. The depression of the key 71 also brings about a line spacing of the tally strip through the spring driving mechanism, as has been heretofore described. The writing may then be proceeded with by operating the usual or suitable printing instrumentalities (not shown) but it is not deemed necessary to describe the printing or writing operations in detail at this place. When the bill sheet or invoice is made out the sum total of the bill is written upon the tally strip in the usual manner. During the writing of the bill or invoice it may be line spaced one or more times, the number of times, of course, depending on the number of lines or items there may be in the bill or invoice. The line spacing of the bill, however, will not effect the tally strip in any way. On the completion of the bill it may be withdrawn from the machine, the withdrawal being facilitated if desired by pulling forward the hand lever 15 and thereby releasing the paper controlling means or feed rolls 5 and 14. The pulling forward of the hand lever causes the dog or pawl 54 to cooperate with the finger 66 to lock the feed rolls in released position. The completed bill having been withdrawn a new bill may be introduced into the machine and properly positioned for receiving the first line of writing. This having been done it is desirable to release the paper controlling means or feed rolls in order that the bill may be properly controlled and fed around the platen. It is also necessary of course to line feed the tally strip. It is provided herein that the release of the feed rolls from locked position and the line feeding of the tally

strip by tripping or releasing the driving mechanism will take place at one operation. In other words, a single depression or operation of the trip key serves to unlock the feed roller and also to line space the tally strip and the construction is such that after the feed rolls have been released and locked they cannot again be rendered operative without line spacing the tally strip excepting under the special manipulation herein after referred to. As a result of this construction, when the items of the new bill have all been written and the carriage is moved leftward far enough to enable the sum total to be printed on the tally strip and reproduced on said bill, this sum total will be printed on the tally strip immediately beneath the sum total of the preceding bill and this no matter how many items or lines of writing there may have been in the bill just written. The second bill may be withdrawn and the third and subsequent bills or invoices written in the manner above explained. It will be apparent that the sum totals will be written in condensed order on the tally strip following closely one after another.

When the tally strip has been line spaced sufficiently to bring the leading edge of the first section thereof into contact with the stop or abutment 37 a subsequent line spacing movement communicated to the tally strip will cause it to bulge or curve upward from the table or bed 36, thereby indicating to the operator that the first section should be severed, which severing may be done by the blade 39. After having been severed from the body of the tally strip the sections may be arranged in a receptacle or box as explained in my said pending application.

The tally strip mechanism is capable of adjustment longitudinally of the platen so that it may be utilized at different portions of the width of the main work sheet. This adjustment may be effected by loosening the screw 29 and sliding the tally strip bracket as a whole in or out upon its supporting rod 4 and then retightening the screw. The finger 66 and the pin 56 are elongated to provide for this adjustment which preferably is a limited one in order that the tally strip may not be brought into the field of operation of either of the feed rollers 5 and 14, it being essential that the tally strip shall not pass between the platen and these feed rollers. It will be understood that in this adjustment of the tally strip devices the pin 56 may be slid back and forth through the coinciding openings in the pawl 54 and the bifurcated portions of the arm 51 and that the arm 51 and pawl 54 will not be affected by this adjustment in any way.

I have mentioned above that the construction is such that the tally strip will

always line space when the feed roll 5 is locked off and then released, excepting when the mechanism is especially manipulated in a manner to be described. There may be 5 times in the operation of a machine when the operator may desire to lock off the feed roll for the purpose of inserting paper or straightening paper or for some other purpose, and yet may not desire to have the 10 tally strip line spaced on the release of the feed rolls to normal position. In such cases the tally roll mechanism may be especially manipulated in this wise: When the feed roll is locked off, as in Fig. 5, it may 15 be unlocked and restored to normal position without spacing the tally strip by first removing the driving pawl 62 from operative engagement with the ratchet wheel 46 so that on the return of the feed roll 5 to 20 normal position and of the parts connected therewith to their normal positions, the driving pawl 62 will fail to rotate the ratchet wheel; or in other words, will at this time be ineffective to engage opera- 25 tively one of the teeth of said wheel. This may be accomplished by first pressing down upon the outer end of the pawl 62 so as to lift its operative end entirely above the ratchet wheel and while holding the pawl 30 in this elevated position, striking the release or tripping key 71. When the point of the pawl has passed over the top of the tooth with which it would otherwise engage, the pawl may be released so as to allow it to re- 35 engage with the wheel at a tooth beyond. For the purpose of facilitating a removal of the pawl under these circumstances, I have provided the outer end thereof with a handle or finger piece 62^a and this is pref- 40 erably so shaped or formed that it may first be pulled forward slightly so as to turn the pawl carrier slightly in a forward direction against the tension of its spring 64 and thereby relieve the pawl of its pressure 45 against the vertical wall of the ratchet tooth and thus enable the pawl to be readily vibrated about its pivot by a downward pressure upon the finger piece.

While I have described my invention in 50 connection with the writing of ordinary bills or invoices it will be understood, of course, that the invention may be otherwise employed and that it is susceptible of use in doing other kinds of billing and other work. 55 Further it will be understood that while I prefer a single row of detachable tally strip sections, nevertheless, as far as some of the features of my invention are concerned, the tally strip or work sheet as it may also be 60 designated need not be sectional and may be unrolled and wound upon another roll after being printed upon as has been customary heretofore; that the tally strip may be fed 35 through the machine and delivered from the machine in some other manner than that

shown without departing from some of the features of my invention; and that various other changes may be made without departing from the scope of my invention.

The automatically operating power driven 70 tally strip feeding mechanism although shown herein as connected with the feed roll casting off mechanism, may in some cases be connected with other operative parts of the 75 typewriter.

Various features shown and described herein are not claimed as they form the subject-matter of my said pending application 387,957.

What I claim as new and desire to secure 80 by Letters Patent, is:—

1. In a typewriting machine, the combination of a platen, tally strip feed devices, power driven operating devices, means for 85 storing the power, and means independent of the platen for releasing the power to cause the feed devices to operate to advance the tally strip.

2. In a typewriting machine, the combination of tally strip feed devices, power driven 90 operating devices, a platen, a main feed roller therefor, a feed roller cast-off device, means for storing the power when the cast-off device is operated, and means for releasing the power driven operating devices to 95 cause the feed devices to operate.

3. In a typewriting machine, the combination of tally strip feeding devices, power driven operating devices therefor, means for 100 storing power and for holding or locking the operating devices in readiness to drive the feeding devices when the power is released, and suitable means for releasing the power to advance the tally strip.

4. In a typewriting machine, the combination 105 of tally strip feeding devices, operating devices therefor, means for moving said operating devices to operative position and for simultaneously energizing the same, locking means for said energized operating devices, 110 and means for unlocking said operating devices to cause them to feed the tally strip.

5. In a typewriting machine, the combination of tally strip feeding mechanism, including a driving device and a suitable 115 source of power therefor, means connected with an operative part of the typewriter for setting said driving device in operative position and for storing energy therefor, and 120 suitable means for releasing the power and the driving device to cause the feeding mechanism to feed the tally strip.

6. In a typewriting machine, the combination with a platen, paper feeding mechanism and releasing means for said paper feed- 125 ing mechanism, of power driven mechanism for line feeding a work sheet, and means operative by said releasing means for setting said power driven mechanism so that when 130 released it will line feed the work sheet.

7. In a typewriting machine, the combination with a platen, paper feeding mechanism and releasing means for said paper feeding mechanism, of driving mechanism for line feeding a work sheet, means operative by said releasing means for setting said driving mechanism, and means for tripping said driving mechanism.
8. In a typewriting machine, the combination with a platen, paper feeding mechanism, and means for releasing said mechanism and locking it in released position, of driving mechanism for line feeding a work sheet, and means operative by said releasing and locking mechanism for setting said driving mechanism so that when released it will line feed said work sheet.
9. In a typewriting machine, the combination with a platen, paper feeding mechanism, and means for releasing said mechanism and locking it in released position, of driving mechanism for line feeding a work sheet, means operative by said releasing and locking mechanism for setting said driving mechanism, and means for tripping said driving mechanism and unlocking said paper feeding mechanism from locked position.
10. In a typewriting machine, the combination with a platen, a paper feed roller, and releasing means for said feed roller, of driving mechanism for line feeding a work sheet, and means operated by the feed roller releasing means for setting said driving mechanism in abnormal position so that when released it will automatically line feed the work sheet.
11. In a typewriting machine, the combination with a platen, a paper feed roller, and releasing means for said feed roller, of driving mechanism for line feeding a work sheet, means operated by the feed roller releasing means for setting said driving mechanism, and key operated means for tripping said driving mechanism to automatically line feed the work sheet.
12. In a typewriting machine, the combination with a platen, a paper feed roller, and means for moving said feed roller to inoperative position and for locking it in inoperative position, of a driving mechanism for line feeding a work sheet, and means operative by the first recited means for setting said driving mechanism in abnormal position so that when released it will automatically line feed the work sheet.
13. In a typewriting machine, the combination with a platen, a paper feed roller, and means for moving said feed roller to inoperative position and for locking it in inoperative position, of driving mechanism for line feeding the work sheet, means operative by the first recited means for setting said driving mechanism, and key operated means for tripping said driving mechanism and unlocking said feed roller.
14. In a typewriting machine, the combination with a platen, paper feeding mechanism and releasing means therefor, of driving mechanism comprising a spring for line feeding a work sheet, and means operative by said releasing means for putting tension in said spring so that when said spring is freed it will operate automatically to line feed the work sheet.
15. In a typewriting machine, the combination with a platen, a paper feeding device for a work sheet, and releasing means for rendering said paper feeding device inoperative, of driving mechanism comprising a spring for line feeding a second work sheet, and means operative by said releasing means for putting tension in said spring so that when said spring is freed it will operate automatically to line feed said second work sheet.
16. In a typewriting machine, the combination with a platen, a paper feeding device, and means for releasing said paper feeding device and locking it out of operation, of driving mechanism comprising a spring for line feeding a work sheet, and means operative by said releasing and locking means for putting tension in said spring and for maintaining it under tension until the work sheet is to be fed, said spring when released operating automatically to line feed the work sheet.
17. In a typewriting machine, the combination with a platen, a paper feeding device, and means for releasing said paper feeding device and locking it out of operation, of driving mechanism comprising a spring for line feeding a work sheet, means operative by said releasing and locking means for putting tension in said spring and for maintaining it under tension, and means for tripping or releasing said spring and unlocking said paper feeding device.
18. In a typewriting machine, the combination of a platen, a main paper feed roller, means for releasing said feed roller, a supplementary feed roller, driving mechanism connected with said supplementary feed roller, and means operative by said releasing means for setting said driving mechanism in abnormal position so that when released it will automatically turn said supplementary feed roller.
19. In a typewriting machine, the combination of a platen, a main feed roller, means for moving said feed roller to inoperative position and for locking it in inoperative position, a supplementary feed roller, driving mechanism for turning said supplementary feed roller, and means operative by the first recited means for setting said driving mechanism in abnormal position so that when released it will automatically turn said supplementary feed roller.
20. In a typewriting machine, the combination with a platen, paper feeding mechanism and releasing means therefor, of driving mechanism comprising a spring for line feeding a work sheet, and means operative by said releasing means for putting tension in said spring so that when said spring is freed it will operate automatically to line feed the work sheet.

nation of a platen, a main feed roller, means for moving said feed roller to inoperative position and for locking it in inoperative position, a supplementary feed roller, driving mechanism for turning said supplementary feed roller, means operative by the first recited means for setting said driving mechanism, and means for tripping said driving mechanism and for unlocking said main feed roller.

21. In a typewriting machine, the combination with a platen, a paper feeding device, and releasing means for said paper feeding device, of a tally strip mechanism comprising driving mechanism for line feeding the tally strip, said driving mechanism being set automatically by the operation of said releasing means so that when said driving mechanism is released it will automatically line feed the tally strip.

22. In a typewriting machine, the combination with a platen, a paper feeding device, and means for locking said paper feeding device out of operation, of a tally strip mechanism comprising a driving mechanism for line spacing the tally strip, the driving mechanism being automatically set by the operation of said first recited means, and key operated tripping mechanism for said driving mechanism, said key operated mechanism also operating to unlock said feeding device.

23. In a typewriting machine, the combination with a platen, a paper feeding device, and releasing means therefor, of tally strip line feeding mechanism which comprises a pair of feed rollers, a spring for driving one of said rollers to line feed the tally strip, and connections between said spring and said releasing means.

24. In a typewriting machine, the combination with a platen, a paper feeding device, and releasing means therefor, of tally strip line feeding mechanism which comprises a pair of feed rollers, a spring driven pawl and ratchet mechanism connected with one of said feed rollers and operative automatically to line feed the tally strip, and connections between said pawl and ratchet mechanism and said releasing means.

25. In a typewriting machine, the combination with a platen, a paper feeding device, and releasing means therefor, of tally strip line feeding mechanism comprising a feed roller, a spring driven pawl and ratchet mechanism connected with said feed roller and operative automatically to line feed the tally strip, and connections between said pawl and ratchet mechanism and said releasing means.

26. In a typewriting machine, the combination with a carriage, a platen thereon, a paper feeding device, and releasing means for said paper feeding device, of a tally roll

mounted on said carriage, line feeding devices for said tally roll comprising a feed roll, a spring driven pawl and ratchet mechanism, and connections between said pawl and ratchet mechanism and said releasing means whereby said pawl and ratchet mechanism is set when said releasing means is operated, and key controlled means operative to trip said pawl and ratchet mechanism.

27. In a typewriting machine, the combination with a carriage, a platen thereon, a paper feeding device normally operative, means for releasing said paper feeding device, said means comprising a hand-controlled rock shaft, a crank arm projecting from said rock shaft, a hooked catch on said crank arm, a projection or keeper for said hooked catch, a tally strip roll on said carriage, tally strip feeding devices comprising a feed roll, a pawl and ratchet mechanism, a spring for driving said pawl and ratchet mechanism, and a link connecting said crank arm with said pawl and ratchet mechanism.

28. In a typewriting machine, the combination with a platen, a paper feeding device normally operative, and releasing and locking means for said feeding device, said means comprising a hand-controlled rock shaft, a crank arm projecting from said rock shaft, a hooked catch on said crank arm, and a projection or keeper therefor, of tally strip feeding devices comprising a feed roll, a pawl and ratchet mechanism, a spring for driving said pawl and ratchet mechanism, and a link connecting said pawl and ratchet mechanism with said crank arm.

29. In a typewriting machine, the combination with a platen, a paper feeding device normally operative, and releasing and locking means for said feeding device, said means comprising a hand-controlled rock shaft, a crank arm projecting from said rock shaft, a hooked catch on said crank arm, and a projection or keeper therefor, of tally strip feeding devices comprising a feed roll, a spring driven pawl and ratchet mechanism connected with said feed roll, and connections between said rock shaft and said pawl and ratchet mechanism, and a tripping lever for tripping said pawl and ratchet mechanism.

30. In a typewriting machine, the combination with a platen, a paper feeding device normally operative, and releasing and locking means for said feeding device, said means comprising a hand controlled rock shaft, a crank arm projecting from said rock shaft, a hooked catch on said crank arm, and a projection or keeper therefor, of tally strip feeding devices comprising a feed roll, a spring driven pawl and ratchet mechanism connected with said feed roll, and connections between said rock shaft and said pawl and ratchet mechanism, and a

tripping lever for tripping said pawl and ratchet mechanism and for releasing said catch from said projection or keeper.

31. In a typewriting machine, the combination of a platen, a paper feeding device, means for releasing said paper feeding device and locking it in released or inoperative position, and a tally strip feeding mechanism including a driving device and means for tripping said driving device, said last named means operating automatically to unlock said paper feeding device.

32. In a typewriting machine, the combination of a platen, a work sheet feed roller, means for casting off and locking said feed roller, and a tally strip feeding mechanism including a driving device and means for tripping said driving device and automatically unlocking said feed roller.

33. In a typewriting machine, the combination of a platen, a work sheet feed roller normally in contact with the platen, means for throwing off said feed roller, catching devices for locking said feed roller when it is thrown off, and tally strip feeding mechanism including a driving device and a trip lever for tripping said driving device, said trip lever when operated actuating said catching devices to unlock said feed roller.

Signed at the borough of Manhattan, city of New York, in the county of New York, and State of New York, this 18th day of November A. D. 1907.

JACOB FELBEL.

Witnesses:

CHARLES E. SMITH,
M. F. HANNWEBER.