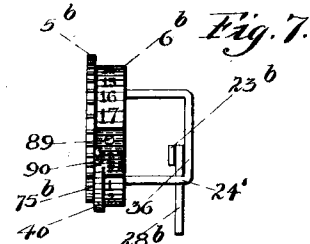
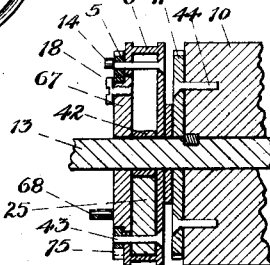
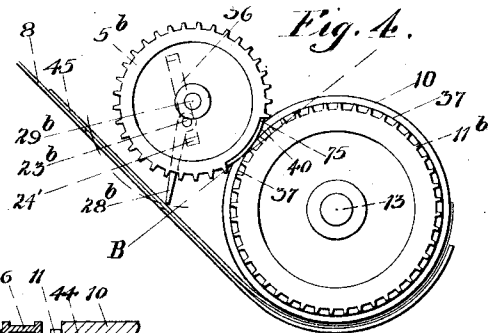
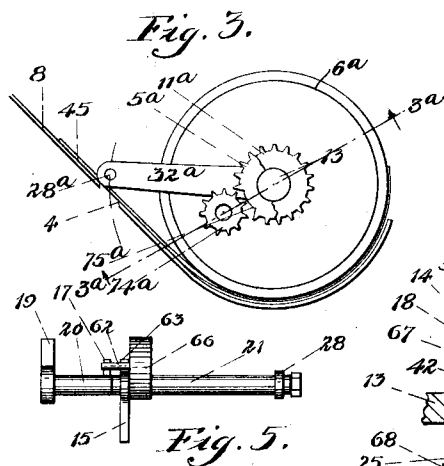
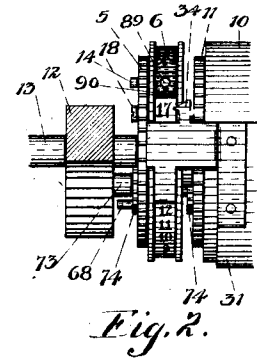
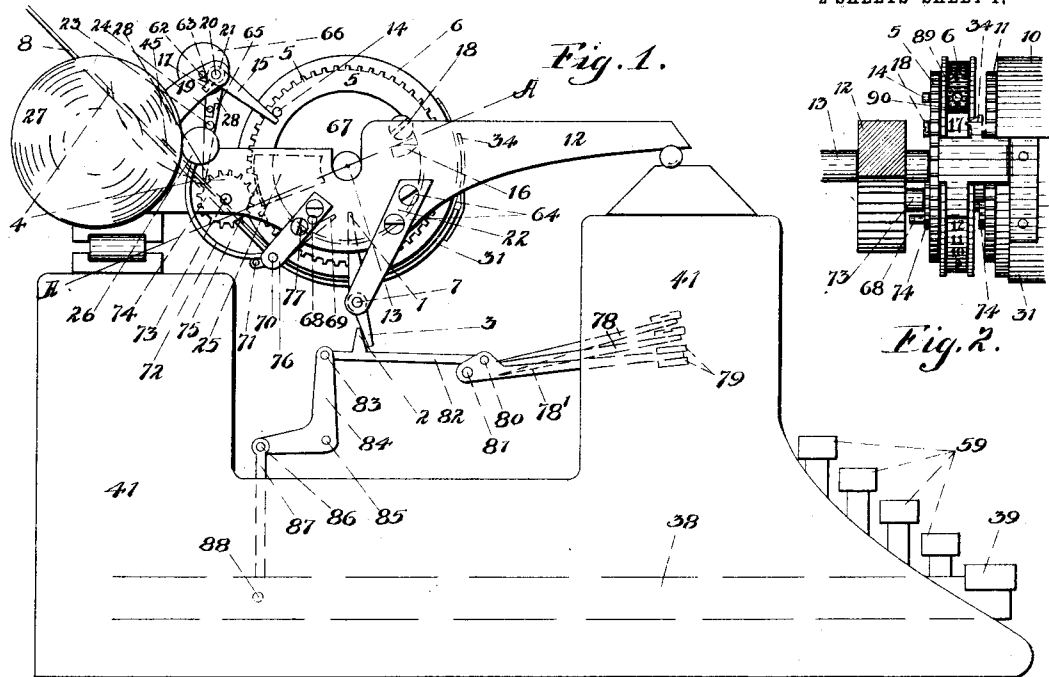


W. J. NEIDIG.  
TYPE WRITING MACHINE.  
APPLICATION FILED DEC. 16, 1909.

1,053,924.

Patented Feb. 18, 1913.

2 SHEETS—SHEET 1.



Witnesses:  
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Edith J. Anderson

Inventor:  
William J. Neidig  
by Chas. F. Randall  
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2 SHEETS—SHEET 2.

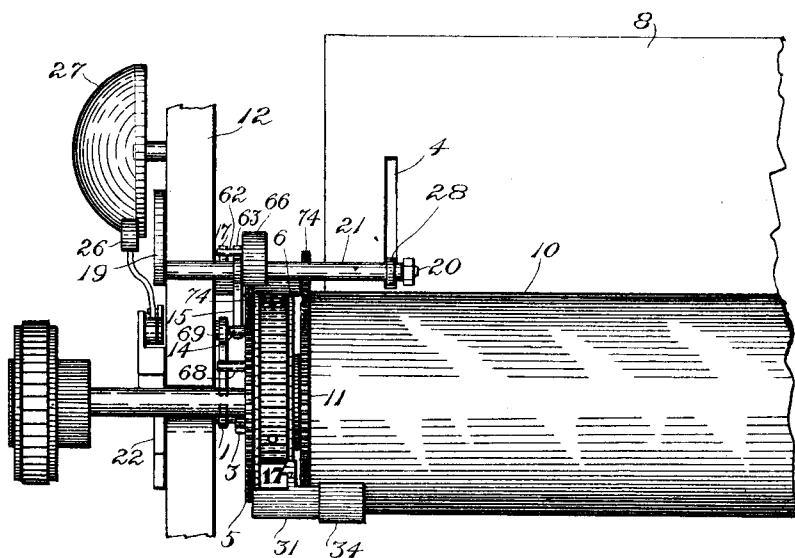


Fig. 8.

Witnesses:  
Oscar F. Hill  
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# UNITED STATES PATENT OFFICE.

WILLIAM J. NEIDIG, OF MADISON, WISCONSIN, ASSIGNOR, BY MESNE ASSIGNMENTS,  
TO CHICAGO TITLE AND TRUST COMPANY, TRUSTEE, A CORPORATION OF ILLINOIS.

## TYPE-WRITING MACHINE.

1,053,924.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed December 16, 1909. Serial No. 533,355.

*To all whom it may concern:*

Be it known that I, WILLIAM J. NEIDIG, a citizen of the United States, residing at Madison, in the county of Dane, State of Wisconsin, have invented a certain new and useful Improvement in Type-Writing Machines, of which the following is a specification, reference being had therein to the accompanying drawings.

Certain principles and features of my invention as described herein are included within the generic invention which is described and claimed in my co-pending application filed April 20, 1908, Serial No. 428,212.

The objects of my invention are broadly to indicate to the operator by automatic means the position of his current line upon the sheet, either relatively to one of the edges thereof, or to certain other line positions.

The objects of that form of my invention more specifically illustrated in the drawings accompanying this specification are, first, to indicate to the operator the distance to the bottom edge of his sheet, or the bottom line of his page, from his current printing point, and this line by line and automatically, beginning as far up the sheet as may be found convenient; second, to give him a preliminary eye signal upon the approach of the end of the sheet; third, to supply him with a signal, preferably an ear signal, upon the completion of his predetermined last or next-to-the-last line; fourth, to then block the machine and render it inoperative; fifth, to enable him then to release the machine for further printing; and sixth, to supply certain means adapted to be applied to other paper-movement-indicating uses of the same general character.

As machines are at present constructed in practice, the operator has no convenient means of knowing how near he is to the end of his sheet until too late to leave a suitable bottom margin. This is more especially true of front-strike and top-strike machines, because in them the bottom edge of the sheet passes entirely out of sight behind the platen while a large portion of the sheet still remains unused. I supply the operator with a system of adequate signals whereby he may know when to stop his page; and in addition I automatically measure for him the unused space left upon the paper-sheet

irrespective of its length, beginning long before the time to remove it, and continuing to the very end, so that without preliminary care he can look ahead at any time and tell whether he has room on his sheet for a group of matter like a foot-note, or a table, or a chapter-heading, that cannot conveniently be divided, and thus stop his page in advance of the predetermined page-length. The latter function has never before been performed, but is novel to my invention.

I attain my several objects by means of the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is an end view of the preferable application of my principle to such mechanisms of the character described as more specifically embody a sheet-control; Fig. 2 is a front view partly in vertical section of a portion of the same; Fig. 3 is a detail end view partly broken away illustrating a typical modification; Fig. 3<sup>a</sup> is a sectional detail view of the said modification; Fig. 4 is a detail end view of another typical modification; Fig. 5 is a top or plan view of the parts carried by the frame extension shown in Fig. 1; Fig. 6 is a cross-section of a portion of Fig. 1, on the line A A; Fig. 7 is a front view of a portion of Fig. 4, on the line B; and Fig. 8 is a plan view of one end of the carriage and the parts shown in Fig. 1 in connection therewith.

Similar symbols of reference refer to similar parts throughout the several drawings.

My invention as more particularly described herein consists of a rotary part connected more or less directly with the platen by means embracing a mutilated gear; indicating means controlled or operated by the rotary part, comprising a series of indices, an eye signal, an ear signal, and means rendering the machine inoperative, whether one or all; and means controlling the action of the mutilated gear, whereby it is rotated until disengaged, then remains disengaged from the platen until the sheet becomes suitably positioned, and then, from a constant starting or initial position, is made to engage therewith.

The preferable application of the principle underlying the invention is that shown in my Figs. 1, 2, 5 and 6, in which the platen carriage-frame 12, carried upon the main frame 41 of the typewriting machine in the

usual manner, has journaled in its ends the platen arbor 13 as shown, bearing the platen 10, which may be imagined as connected with the usual line spacing mechanism, not shown herein. The usual paper table 8 for the support of the entering sheet is also shown, as are the paper guards or fingers 31 around the under side of the platen, all being attached in the usual way to the carriage frame 12. Taking this structure as a basis, I place upon the platen arbor the toothed wheel 11, shown more clearly in Figs. 2 and 6, connecting it to revolve as a unit with the platen, as for instance, by attaching it to the head of the platen by means of the pins or screws 44. Upon the platen arbor I place also a composite rotary part, consisting of the adjustable disk 67 which carries the pin 68, and the toothed rim 5 and drum 6, the rim and drum being locked together by pins 43. The disk 67 bears also near its periphery the lock-screw 18, the head of which overlaps upon the piece 5, so that when tightened it will lock the disk 67 and the toothed rim 5 together. The toothed rim 5 has one portion of its periphery broken away, so that no teeth are stationed thereon, this portion being indicated in the several drawings by the lettering 75. The bushing-strut 42 helps to hold these several parts in position. The drum 6 carries also within its structure the weight 25, stationed in such a way that the center of gravity of the entire rotary part is decidedly eccentric to its axis. It is to be understood that the rotary parts 6, 42 and 67 are not attached to the platen arbor, but turn loosely thereon. Leaving now the parts shown as stationed upon the platen arbor, in the case of the toothed wheel 11 fixedly, and in the case of the drum 6 and its attached parts loosely, I show attached to the carriage frame 12 and projecting inwardly therefrom, the axle 73, bearing the pinion 74. This pinion is in appearance a double pinion, connected by a hub; and it is shown in Fig. 2 as straddling the drum 6, adapted to engage with both the toothed wheel 11 and the toothed rim 5, and, except when the untoothed portion 75 of the periphery of rim 5 comes opposite thereto, combining the toothed rim and its attached parts to turn with the platen. The carriage frame 12 carries also the frame extension 19 attached thereto, bearing the inwardly projecting axle 20, upon which rocks the hub or sleeve 21, shown clearly in Fig. 5. This sleeve carries fixedly attached thereto at one end thereof the weight 66 and at the other end the paper-feeler 28. On the same axle therewith is independently mounted the loosely-turning stop 15, provided with the lug 63, which bears normally against the stop-pin 62 projecting from the weight 66 and gives the said stop 15 a work-

ing relation in one rotary direction with the sleeve 21 and the paper-feeler 28 as shown. The paper-feeler is supplied with a knuckle-joint as shown, consisting of the pivot-pin 23, the lug 65 and the stop-pin 24. The axle 20 also bears a lug, lettered 17, limiting the movements in one direction of the sleeve 21 and its attached parts through the stop-pin 62 on the weight 63 before mentioned. The axle 20 is so stationed, and the parts thereon so arranged that the stop 15 normally projects into the path taken by the pin 14 on the toothed rim 5, while the paper-feeler 28 is suspended above a slot or opening 4 in the paper table 8 in such a manner that it can swing freely therethrough if the slot be not closed by a paper sheet.

The action of the structure thus far described is as follows: Referring to Fig. 1—it will be seen that if a forward movement be given the platen 10, the only parts for the moment affected thereby will be the toothed wheel 11, attached to revolve with the platen, and the toothed pinion 74, meshing therewith. The toothed rim 5 and its attached parts will not be affected, because the periphery of the toothed rim is broken away opposite the pinion, and, although the rim 5, because of the action of the weight 25 carried by the drum 6, has a tendency to revolve forward into mesh with the said pinion 74, it is prevented from doing so by the stopping action of the stop 15 upon the pin 14. The stop 15 normally lies in the path of the pin 14; but when breast by the said pin, normally it merely brushes backward out of the way, the paper-feeler 28 at the other end of the hub 21 passing through the slot 4 and permitting the movement. When, however, the paper sheet 45 lies upon the paper table over the slot, the paper-feeler 28 cannot so swing and the piece 15 cannot brush backward out of the way of the pin 14. But the moment the paper sheet passes from under the end of the paper-feeler 28 the said paper-feeler will be left free to describe its customary arc through the slot 4, the stop 15 will cease to have a stopping action upon the pin 14 but will brush downward out of the way, and the weight 25 will bring the rim 5 at once into mesh with the pinion 74. The composite rotary part attached to the rim 5 will thereupon enter upon a movement with the platen, and will continue moving therewith. I do not limit myself in all cases to the means shown to detain the rim 5 out of engagement with the pinion 74, nor to the means shown to send the rim 5 forward into engagement therewith.

I have described a means whereby the rotary drum 6 is brought to a stop always at the same rotative point, given the presence of the working sheet. Since the part 6 comes to a stop always at the same rotative

point, it follows that it resumes its movements always from the same initial or starting point. It is always clear that it begins its working movements at a moment when the sheet's bottom edge has arrived at a fixed distance from the printing point. I supply the periphery of the part 6 with indices, and supply a pointer or index-guide 34, which may conveniently be attached as shown to the paper guard 31. I place a zero mark opposite my pointer like that marked 89 to indicate my stopping point, which is also the starting point, and begin a series of indices at that point on the periphery of part 6 lying opposite the pointer at the moment the sheet and part 6 have been advanced in unison to the next line point, the first index indicating say the distance at that moment from the printing point to the bottom edge of the sheet, and the next another distance, and so line by line. I thus have an indicating means that will always within its range give automatically the distance from each current printing point to the bottom edge of the sheet. Suppose for instance that my periphery comes to its first stop after resuming its movement at a moment when the bottom edge of the sheet is distant seventeen single lines from the printing-point—I mark my periphery 17 to indicate that distance. I advance my sheet say a single line, and mark my periphery 16 to indicate the new distance. And so on, down to 1. Such is the marking shown in the drawings. Or, if I choose, I can space by double lines or triple lines, instead of single. Or I can use still other units of measurement. And, instead of indicating the distances to the bottom edge of the sheet, I can indicate the distances to (say) the bottom line position just as well, as will be readily understood. I prefer to use indices that involve no calculation nor memorizing on the part of the operator, but it is not essential that the indices be of such character.

Any device having a mode of operation such as has been described, that is to say, bringing an operative member into a constant initial or starting position and then giving it a movement constant with that of the sheet at a constant point in the sheet's progress,—can be made not only to operate indices, but to control and operate almost any form of signaling apparatus. In my drawings I show means for attracting the operator's attention first through his eye and then through his ear, and after that, a means for rendering the machine inoperative, all operated or controlled by the composite rotary member 5—6—67.

My visual or eye signal is described thus: I propose to divide the periphery of the part 6 into two sections, the one, the working section, consisting of the portion bearing the indicating marks as described, and the other

being left blank. The working section I propose to color in striking contrast to the other section—say a white background with black indices—marking thereon for the one, and a solid black for the other. The index-guide or pointer 34 I propose to extend out over the periphery as shown, so that during the time the periphery is detained with the point 89 opposite the pointer, none of the white or indices-bearing portion of the periphery will be visible to the operator, but when the periphery enters upon its working movements with the platen, the white or indices-bearing portion will be brought into view and the black portion will disappear. The striking change from black to white will be noticed by the operator, who will then understand that it is time, or near time, for him to remove his sheet. Such a signaling or indicating means could be used alone, without the addition of any indices whatever, and without the addition of any other signaling means. The index-guide 34 need not be shaped so as to extend out over the periphery as shown—the working section of the periphery would lie almost entirely out of the view of the operator, without it. Other color arrangements than those named can be used.

My audible or ear signal is given by the following means: I station upon the carriage frame 12 the bell 27, attaching it by the usual central pin. I attach also to the carriage frame 12 the frame extension 76, by means of the screws 77. This piece 76 carries upon it the inwardly-projecting pivot-pin 70. Rocking upon this pin 70 is the trip-lever 69, which projects upwardly into the path of the pin 68 carried by disk 67, but upon a plane that will enable it to clear the shorter pin 14 carried by the said disk; and this trip-lever carries near its opposite end the lug-pin 71. Rocking also upon the pin 70 is the hammer-stem 72, bearing the bell-hammer 26, the said stem 72 being engaged by the lug-pin 71 before mentioned. When it is time for the signal to be given, the pin 68, projecting from the disk 67 angularly adjustable relative to the toothed wheel 5, engages with the trip-lever 69, which is thereupon pressed downwardly. By the lifting action of the lug 71 upon the stem 72 the bell-hammer is thereby raised. The pin 68 then passes on, the trip-lever 69 is released, and the bell is struck by the bell-hammer.

The means whereby I render the machine inoperative are described thus: I attach to the carriage frame 12 by means of the screws 64 the frame extension 22 as shown. The carriage frame 12 must be imagined as bearing upon the part thereof at the farther end of the platen a similar extension 22. Between these pieces 22, and journaled therein at both ends, rocks the universal bail con-

nection or blade-piece 3, a convenient construction of which may be fairly represented by the end-view shown. This piece is as long as the platen or longer, and its axis lies parallel to that of the platen. Attached to the piece 3 and rocking upon the same arbor 7 therewith as a unit, is the lever 1, which projects into the path taken by the pin 68. From one of the type-bars 78 as for instance from the one marked 78', I remove the type and substitute instead the blank head 79, which is of a shape, size and material adapted to close the printing point against any further printing in such a manner as not to injure the type nor the ribbon mechanism. This type-bar has the usual axis 81, and is supported in the usual manner upon the frame 41, such manner varying with the different makes of machine, as will be understood. This swinging bar 78' has connected pivotally thereto at 80 one end of the connecting piece 82, the latter provided with the projection 2. The bar 78' may be one that is added to the machine for this one use; or it may be chosen from among the typebars in the machine that are seldom or never used. It would preferably be stationed at about the point central between the ends of the main frame 41 of the machine. When it is time for the machine to be rendered inoperative, the pin 68 acts upon the lever 1, which in turn rocks the universal connection or blade-piece 3 backwardly against the projection 2, whatever the lateral position of the carriage, thus raising the blank head 79 against the printing point and holding it there until the said pin clears the said lever. It will be clearly seen that during the time the said blank 79 is in this raised position, no further printing can be done, the type in each case striking idly upon the blank. The piece supporting the blank need not be a typebar, nor the part operating it a typebar connection. The blank head may be made of any material, but I prefer a cushioning material like felt or leather.

I will now describe more particularly the use of my mechanism. Suppose I wish to leave a margin at the bottom of my sheet equal to eight single line-spaces, or four double ones: I bring my periphery with its indices around until the numeral 8 is well within sight; I then loosen the adjusting or binding screw 18, turn the disk 67 until the adjustment pointer 16 thereon lies opposite the said numeral on the periphery, and tighten the screw. My mechanism will now always give a preliminary eye-signal when the bottom of the sheet is approaching; and when the paper-sheet is finally advanced into the last line position, it will ring a bell, advising the operator that the current line is the last line to be printed upon that sheet. If then the operator disregards this signal,

at the next movement forward of the sheet the machine will be rendered inoperative, and he can do no more printing. If for any reason he wishes to print an additional line upon the sheet, he has but to turn the platen forward a line or so as to carry the pin 68 beyond the lever 1, and then turn the platen backward into position, and his machine will be once more rendered operative. Another means of adjusting the mechanism without the use of the pointer 16 may be employed, the indices-bearing periphery being turned until the numeral 8 (say) comes opposite the pointer 34, and then the loosened disk 67 being turned forwardly until the bell rings, and tightened.

I show two typical modifications of my more specific invention as described herein, in Figs. 3, 3<sup>a</sup>, 4 and 7. In Fig. 3 a toothed wheel 11<sup>a</sup>, is attached to the platen arbor 13 and turns as a unit therewith, whereas the mutilated toothed wheel 5<sup>a</sup>, having attached thereto the rotary parts as shown in my figures before described, turns loosely with them upon the said arbor, the driving wheel 11<sup>a</sup> in this case corresponding to the driving wheel 11 of Figs. 1, 2 and 6, and the mutilated gear 5<sup>a</sup> driven thereby corresponding to the mutilated gear 5 of Figs. 1, 2 and 6. Instead however of the swinging paper-feeler 28 shown in Figs. 1 and 5, and the train of parts giving the same control of the said drum, I show in this modification a paper-feeler directly connected with the drum and revolving therewith in an orbital path. This paper-feeler 28<sup>a</sup> is borne by an arm 32<sup>a</sup> fixedly attached to the drum 6<sup>a</sup>, and extends laterally from said arm, a laterally extending slot in the paper-table 8 giving passage to the said paper-feeler past the paper-support in the absence of the sheet. When the sheet covers the said slot the paper-feeler is detained thereby until the end of the sheet passes the slot. As a consequence the drum 6<sup>a</sup> is detained. When the sheet-end releases the paper-feeler, the arm 32<sup>a</sup>, acting as a weight rotatively upon the drum, rotates it forwardly, bringing the toothed wheels 5<sup>a</sup> and 11<sup>a</sup> into mesh. Henceforth the drum rotates in unison with the platen until the toothless portion of wheel 5<sup>a</sup> discontinues the connection, during such engagement performing its indicating functions as explained in connection with Figs. 1, 2, 5 and 6. In my Figs. 4 and 7 an arrangement is shown in which the paper-feeler 28<sup>b</sup> is also made rotary, but upon the axis 29<sup>b</sup>; and it is provided with fold-back means essentially like those provided for the paper-feeler 28 in Fig. 1, the axis 29<sup>b</sup> here corresponding to the axis 20 in Fig. 1, the pin 23<sup>b</sup> to the pin 23, the shank itself of the piece 28<sup>b</sup> to the lug 65, and the leg 24' of the yoke 36 corresponding to the stop 24 in limiting the movement of the part 28<sup>b</sup>

on the pin 23<sup>b</sup>. The fold-back paper-feeler device as shown has here very clearly two uses, the one being to permit of a backing-up movement of the sheet at any time, and the other, to permit of the closer stationing of the axis 29<sup>b</sup> relatively to the axis 13 than would otherwise be possible. Under certain conditions of crowding, it would have the same two uses in Fig. 1, as will be readily understood, paper tables sometimes sustaining more crowded relations with the platen than that shown in Fig. 1, and the necessity for providing for every possible backing-up movement of the sheet being the same in the one case as in the other. One of the objects of my Figs. 4 and 7 is to illustrate more clearly both these uses. For in a mechanism of this character, provision must be made for every possible backing-up movement of the sheet, and for the handling of wrinkled sheets and sheets having broken surfaces. Suppose for instance that the sheet 45 as shown in Fig. 1 is advanced until the part 28 is released by it, and that then the sheet is backed up—it will be seen that if the paper-feeler 28 contained no fold-back joint, it would be pressed backwardly through its slot ahead of the edge of the sheet until it cleared the slot, and then would lie upon the sheet, but pointed backwardly. Suppose now that the sheet is again advanced—ordinarily the end of such a paper-feeler would glide lightly over it to the edge, without incident; but if the sheet contained a wrinkle or roughness, the backward-pointing paper-feeler 28 would be likely to snag and tear the sheet. By providing the paper-feeler 28 with flexion means and a limiting stop as shown, I completely avoid the danger. The action of such a jointed paper-feeler will be the same whether completely rotary, as shown in Figs. 4 and 7, or only oscillating, as shown in my other figure. The mechanism would be operative using a paper-feeler 28 or 28<sup>b</sup> not provided with the joint as shown. It is to be noted that the paper-feeler 28 or 28<sup>b</sup> need not be of the form shown, but may be given a widely different form, and the flexion means may vary widely in form, as is plainly illustrated in my Figs. 1 and 4.

The purpose of my lug 63 and stop 62 is to provide for a backing-up movement of the pin 14; and the levers 69 and 1 are supplied with a similar provision, each in its own way, to provide for a backing-up movement of the pin 68. Other provision could be made for such a backing-up movement instead of the provision shown.

One of the objects in presenting the construction that is represented in Fig. 4 is to show a means different from the weight means shown in Fig. 1 for bringing the unbroken portion of the periphery of my mutilated wheel into engagement when it is

time therefor. In Fig. 4 the friction-segment 40 added to the drum 6<sup>b</sup> bears frictionally upon the friction-periphery 37 turning with the platen. So long as the part 28<sup>b</sup> is held in restraint by the sheet of paper, the drum 6<sup>b</sup> and mutilated gear 5<sup>b</sup> are prevented from turning, and the friction-periphery 37 slips upon friction-segment 40 in revolving. When, however, the end of the sheet passes the part 28<sup>b</sup>, releasing the latter, the frictional engagement of the friction-periphery 37 with the friction segment 40 operates to advance the drum 6<sup>b</sup> and the mutilated gear 5<sup>b</sup> sufficiently to cause engagement of such gear with the wheel 11<sup>b</sup>. I do not necessarily limit myself with regard to the precise form of frictional engagement which may be used in this embodiment of my invention to carry the mutilated gear into engagement.

The indices used are preferably carried upon a periphery and revolve upon an axis, as shown, but my invention is not necessarily limited to any particular form of the carrier nor to any particular position of the indices thereon. I preferably employ indices involving no memorizing nor mental calculation on the part of the operator, such as numerals in a descending series, although I do not limit myself to the employment of any particular kind of indices. I do not specify any particular sheet-position as associated with the giving of my visual signal—the signal can be given earlier or later, within the range of my mechanism, as will be understood. The visual signal may be used alone without the indices, and the indices alone without the visual signal, or both indices and visual signaling means may be omitted and the bell signal alone used, or the means rendering the machine inoperative, alone, or either it or the bell signal used alone with the indices, or with the visual signaling means, or with both.

The preferable form of my invention is that illustrated in Fig. 1.

It is to be noted that although I show my sheet-controlled controlling means as embracing a paper table provided with a slot or opening therein and a paper feeler 28 having its path through the slot I do not limit myself thereto in all cases.

The devices shown in the drawings and described herein are part of a series of closely related inventions or improvements which are presented in a number of co-pending applications for Letters Patent filed by me. The said devices have a number of general objects in common with those forming the subject-matter of different applications in the said series, and to a certain extent embody and utilize various principles and features which are common to devices shown and described in one or another of the said applications. Some of the said common

principles and features are claimed broadly in my application filed April 20, 1908, aforesaid, and in my applications filed June 15, 1908, Serial No. 438,577, Dec. 13, 1909, Serial No. 532,928, Dec. 15, 1909, Serial No. 533,309, and Mar. 30, 1912, Serial No. 687,463. The branch of the general invention that is covered hereby is distinguished by the characteristic features which are specified in the following claims.

Having thus clearly explained the nature and objects of my invention, and the manner of applying it, I claim as new and desire to secure by Letters Patent—

1. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation by said member, and actuating and controlling parts, including a mutilated gear, whereby the said member is brought into a constant starting or initial position, and then for a plurality of sheet-attained line positions given movement coördinated with that of the sheet.

2. In a typewriting machine, in combination, a platen, a rotary member, connecting means between the platen and said member embracing a mutilated gear, and sheet-controlled means for rendering the said connecting means operative to actuate said member.

3. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, connecting means between the platen and said operative member embracing a mutilated gear, and sheet-controlled means for rendering the said connecting means operative to actuate said member.

4. In a typewriting machine, in combination, a platen, an operative member, indices called into operation through said member, and sheet-controlled connecting means, embracing a mutilated gear, between the platen and said member.

5. In a typewriting machine, in combination, a platen, an operative member, means called into operation through said member for giving a visual signal, and sheet-controlled connecting means, embracing a mutilated gear, between the platen and the said member.

6. In a typewriting machine, in combination, a platen, an operative member, an audible signaling means called into operation through said member, and sheet-controlled connecting means, including a mutilated gear, between the platen and said member.

7. The combination of typewriter mechanism including a platen, a rotary member, means for rendering a part or parts of said mechanism inoperative controlled by said member, and sheet-controlled connecting means embracing a mutilated gear between the platen and the rotary member.

8. In a typewriting machine, in combination, the main frame of the machine, a movable part mounted thereon, a platen, a paper-feeler, and means actuated by the line-space movement of the platen and controlled by the said paper-feeler for bringing the said movable part into a position adapted to intervene between the working type-bars and the sheet so as to prevent printing.

9. In a typewriting machine, in combination, the typewriter main frame, a movable part mounted thereon, a platen, a rotary member, means for giving the said member a constant starting position, means for giving the said member simultaneous movement with the platen from said position at the predetermined time, and means controlled by the said member for bringing the said movable part into a position adapted to intervene between the type-bars and the sheet so as to prevent printing.

10. In a typewriting machine, in combination, the main frame, a movable part thereon, printing instrumentalities, an operative member, a paper-feeler, means rendered effective by the said paper-feeler under control of the sheet for giving the said member a constant starting position, means rendered effective by the passing of the sheet-end for giving the said member simultaneous movement with the platen from such position, and means controlled by the said operative member for bringing the said movable part into a position between the said printing instrumentalities and the sheet so as to prevent printing.

11. In a typewriting machine, in combination, a carriage, a platen, a rotary member having a sheet-controlled connection with the platen, a rocking blade having an axis parallel to that of the platen and connected to cooperate with the rotary member, and a type-blocking device adapted to be actuated by the said blade in all positions of the carriage.

12. In a typewriting machine, in combination, a rocking blade having an axis parallel with that of the platen, sheet-controlled means for actuating said blade, an arm bearing a type-blocking blank thereon, and means for operating said arm from said blade.

13. In a typewriting machine, in combination, a platen, a rotary member, a weight attached to act rotatively thereon, and sheet-controlled connecting means embracing a mutilated gear between the rotary member and the platen.

14. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, a paper-feeler, means rendered effective by the said paper-feeler under control of the sheet for giving said member a constant starting position, and means

including a mutilated gear rendered effective by the passing of the sheet-end for giving said member simultaneous movement with the platen from said starting position.

5 15. In a typewriting machine, in combination, a platen, a toothed wheel rotating in unison therewith, a mutilated gear, indices called into operation through said mutilated gear, means for giving said mutilated  
10 gear and said indices a constant starting position with said gear out of engagement with said toothed wheel, and means for causing said mutilated gear to engage with said toothed gear to thereby bring the indices into indicating position coördinately  
15 with the progress of the sheet.

16. In a typewriting machine, in combination, a platen, a wheel rotating in unison therewith, a coöperating mutilated wheel, an  
20 index-carrier operatively related with said mutilated wheel, a detent for detaining said mutilated wheel in starting position out of engagement with the first-named wheel, and means for causing said mutilated wheel to  
25 move from said detained position into engagement with said first-named wheel, to thereby move the index-carrier for indicating purposes coördinately with the progress of the sheet.

30 17. In a typewriting machine, in combination, a platen, a wheel rotating in unison therewith, a coöperating mutilated wheel, a bell-striking means called into operation through said mutilated wheel, means for  
35 giving said mutilated wheel a constant starting position out of engagement with the first-named wheel, and means for causing said mutilated wheel to rotate from said constant starting position into engagement  
40 with said first-named wheel to thereafter move simultaneously with the platen.

18. In a typewriting machine, in combination, a platen, a wheel rotating in unison

therewith, a coöperating mutilated wheel, a visual signaling means called into operation  
45 through said mutilated wheel, means for giving said mutilated wheel a constant starting position out of engagement with the first-named wheel, and means for causing said mutilated wheel to rotate from said  
50 constant starting position into engagement with said first-named wheel to thereafter move simultaneously with the platen.

19. In a typewriting machine, in combination, a platen, a wheel rotating in unison  
55 therewith, a coöperating mutilated wheel, a signaling means called into operation through said mutilated wheel, means for giving said mutilated wheel a constant starting position out of engagement with the  
60 first-named wheel, and means for causing said mutilated wheel to rotate from said constant starting position into engagement with said first-named wheel to thereafter move simultaneously with the platen.  
65

20. In combination, typewriter mechanism including a platen, a wheel rotating in unison with said platen, a coöperating mutilated wheel, means for rendering a part  
70 or parts of the typewriter mechanism inoperative under the control of said mutilated wheel, means for giving said mutilated wheel a constant starting position out of engagement with the first-named wheel, and  
75 means for causing said mutilated wheel to rotate from said constant starting position into engagement with said first-named wheel to thereafter move simultaneously with the platen.

In testimony whereof I affix my signature  
80 in presence of two witnesses.

WILLIAM J. NEIDIG.

Witnesses:

CHAS. F. RANDALL,  
ALICE H. MORRISON.