

1,053,920.

Fig. 1.

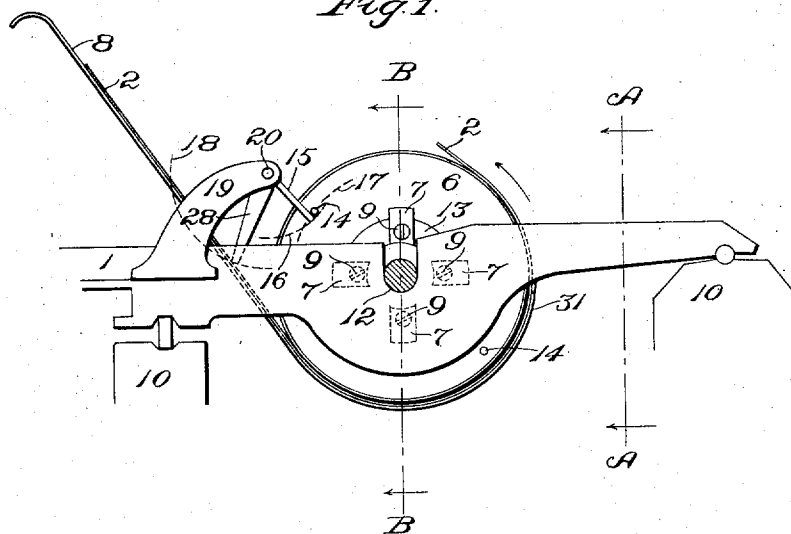


Fig. 2.

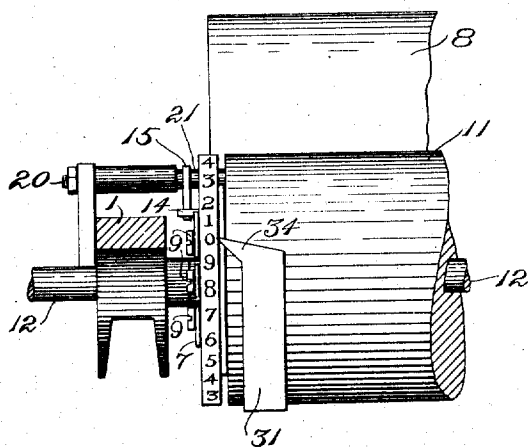
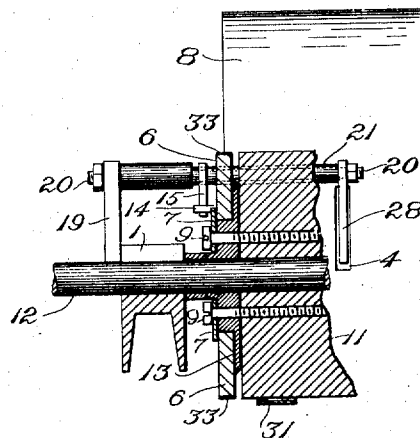


Fig. 3.



Ellen O. Spring

William J. Freidig
by Chas. F. Randall
Attorney.

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.

1,053,920.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Original application filed June 15, 1908, Serial No. 438,577. Divided and this application filed March 30, 1912. Serial No. 687,463.

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.

My present invention is a branch or division of that of my application filed June 15, 1908, Serial No. 438,577, and also is included within the generic invention which is described and claimed in my co-pending application filed April 20, 1908, Serial No. 428,212.

The leading objects of my invention, as common to the said applications and to the present division, are first, to give the operator of the machine an indication through a signal whereby he may know that the bottom of the paper-sheet is near; and second, to indicate to him the distance remaining to the bottom of the said paper-sheet from the current printing point during several progresses of the sheet, so that he may know considerably in advance of the time to remove the sheet how much space remains to him.

The present division of the invention comprises various novel features of sheet-controlled mechanism as will be explained.

In its more complete embodiment the invention comprises means whereby an operative member is brought into a constant starting position, means giving the said member movement coördinately with the sheet from the said position when the sheet-end attains a predetermined constant distance from the printing point, and means whereby certain novel indicating functions are performed by reasons of the sheet-coördinated movement of said member, including the progressive indication of the position of the advancing bottom edge of the sheet.

In particular, the present invention includes: a paper-feeler having a normal position permitting unobstructed insertion of the sheet; provision whereby the said paper-feeler is automatically moved into contact with the inserted sheet from the said position; provision whereby the said feeler automatically moves out of contact with the sheet when the platen is turned backwardly, per-

mitting free backing-up of paper however thin; provision whereby an operative member is given normal movement with the platen but so as to be detachable independently of the platen, more specifically through a frictional actuating means working evenly and without false motion; means whereby through a feeler-controlled train of intermediate mechanism the said member is detained in a constant starting position, the said intermediate mechanism more specifically including a detent or controller having the functions of both stop and lever-arm, and having a normal position to which it automatically returns and in which it is effective for effecting said detention, and movable by the part detained by it out of the path of the said detained part after release by the sheet, and having other novel action; provision whereby the passing of the sheet-end from under the paper-feeler releases the said operative member and permits it to move coördinately with the sheet, the said member maintaining thereafter a fixed relation with the sheet; provision whereby the said member is made to perform novel indicating functions during said movement with the sheet, including progressive indication of the position of the sheet-end by means of indices; and provision whereby the sheet-end when moved backwardly in a late backing-up movement while the paper-feeler is still in the paper-path is enabled to actuate the paper-feeler out of its path in a route different from that by which the said feeler entered the said paper-path.

In the accompanying drawings, Figure 1 is an end view of a portion of a typewriter carriage showing an embodiment of my invention applied thereto, certain portions of the fixed frame work of the machine also being shown; Fig. 2 is a front view of certain of the parts shown in Fig. 1, the end of the carriage being in vertical section on the line A. A. Fig. 1. Fig. 3 is a view in vertical section on the line B. B. Fig. 1.

Similar reference characters refer to similar parts in the several figures.

The illustrated embodiment of the invention is described as follows:

The usual platen-arbor 12, bearing thereon the usual platen 11 for advancing the sheet, is journaled in the ends of the usual carriage-frame 1, the said carriage-frame

being operative laterally in the usual manner upon the main frame 10, and the said platen being rotated in usual manner by line-spacing mechanism not shown herein, and also by hand, as will be understood.

Mounted upon the arbor 12 and attached to the end of the platen 11, as by means of screws 9, 9, is the terraced collar 13, upon which is journaled the revoluble part 6, the same being pressed into adjustable frictional engagement with the said collar by means of the screws 9 and pressure-pieces 7.

Upon the carriage-frame 1 is attached the frame-extension 19 having thereon the laterally projecting shouldered pin 20, upon which is journaled the sleeve 21 bearing fixedly attached thereto the lever-stop or controller 15 and the paper-feeler 28. The paper-table 8 for the support of the entering sheet, mounted in the usual manner upon the carriage frame 1, is supplied with a slot or opening 4 through which the said feeler 28 has the path 18 indicated by a dotted line in Fig. 1. The said feeler is adapted to pass by continued movement in one direction into the said slot and through it and out of it along the said path 18. The revoluble member 6 before named bears the projection 14 having a path partly indicated at 17, Fig. 1.

It is intended that the parts described as attached to the sleeve 21 journaled on the shoulder-pin 20 shall be so balanced and so positioned that the stop-lever 15 will be movable into the said path 17 of the projection 14, and that it shall normally have a position in the said path so as to be breast by the said projection, the weight of the feeler 28 being sufficient to give it the said position. It is intended also that the paper-feeler 28 shall normally lie away from the paper-table 8 along the dotted line 18 in a position adjacent to the platen, so as to leave the way open for the insertion of a new sheet, its own weight being sufficient to give it the said position.

The action of the mechanism is as follows: The paper-sheet 2 is entered into the machine along the paper-table 8, the paper-feeler 28 occupying its normal retracted position adjacent to the platen and permitting the free entrance of the sheet, and the stop-lever 15 being maintained in its normal position in the path of the projection 14 by the weight of the paper-feeler. The sheet is then advanced in the usual way through the instrumentality of the platen. As the platen is rotated, the revoluble member 6 also rotates, being frictionally actuated, and the projection 14 eventually meets the stop-lever 15 and through it presses the paper-feeler 28 toward the paper-path. If the sheet were not present, the said paper-feeler would continue to be moved by the said stop-lever until it had entered the slot 4

sufficiently far to permit the projection 14 to pass the said stop-lever, whereupon it would return to normal position. In that case the revoluble member 6 would continue revolving with the platen without detention. But the sheet being present, the paper-feeler cannot enter the said slot, but is detained in the position shown in Fig. 1, and in turn maintains the stop-lever 15 in the path of the projection 14 so as to act as a stop thereon and through the projection as a stop upon the revoluble member 6. The parts are maintained in this position during the further progress of the sheet until the end of the sheet passes under the feeler 28. The instant the slot 4 is cleared by the sheet, the said feeler, no longer restrained from entering the slot, passes into the slot, and the revoluble part 6, no longer detained by the stop 15, takes up its movement with the platen, moving thereafter coördinately with the platen-advanced sheet. As the said member always begins its movement from the same angular position, it will always stop in a constant angular position after a given angular movement from starting position; and as moreover it always begins its said movement when the end of the sheet is a constant distance from the printing point, since the point where the feeler-end meets the sheet is necessarily fixedly distant from the printing point, and as the sheet is advanced coördinately with the said member during the said movement of the member, the end of the sheet will always be a constant distance from the printing point at the end of the said given angular movement of the member. I place adjacent to the said member the stationary index 34, shown as carried on the curved paper-support 31, and I supply the indicating portion of the said member which is presented opposite the said stationary index in the constant starting position of the member with an index that will indicate that position of the member; I further supply the said member on that portion thereof which is presented opposite the stationary index after an advance of the sheet and member coördinately with each other, with an index that will indicate the new position of the sheet; and so on for every successive position of the sheet, at will. That is to say, if after the first movement of the released member the end of the sheet is distant eighteen single or nine double lines from the printing point, I supply the indicating portion of the member then in indicating position with the index 9 (or 18), and in order to indicate when the end of the sheet is distant sixteen single lines or eight double, I supply the member with the index 8 at the proper point thereon, and so on around the member to indicate the successive distances down to the end of the sheet. In my drawings I show the indica-

tion by double-line progresses, the indices here being numerals in descending order. Other indication than by double line indication may be employed, and other units than the line unit. It is of course immaterial whether the stationary and the movable indices come to relative rest exactly opposite one another, or whether the distance is given to the end of the sheet or to a point a fixed distance therefrom, or whether the indices in themselves signify distance-units at all. I prefer to use simple numerals indicating the decreasing distances to the end of the sheet and involving no mental calculation nor memorizing on the part of the operator.

I show the projection 14 in plurality, in order that one thereof may engage with the stop-lever 15 at each half-revolution of the platen, or oftener in case a greater number of projections than two is provided, as for small work of specialized nature like library card writing, but ordinarily a single projection would be used. I show also in the drawings the indices in plural series, each series sustaining a fixed angular relation to the corresponding projection, but ordinarily only one series would be employed.

My invention serves to give the operator a signal that the end of the sheet is near, the movement of the prominently stationed indices and the displacement of one thereof by another catching his eye and calling his attention to the advanced position of his sheet.

Provision is made for backward movement of the sheet at any time, in two novel ways. If the parts are in the position shown in Fig. 1, a backward movement of the platen will cause the member 6 to rotate backwardly together with the projection 14 thereon, thereby relieving the stop-lever 15 of the pressure and restraint of the projection, whereupon the weights of the paper-feeler 28 will move the stop-lever 15 backwardly following the projection, and the feeler 28 will itself move away from contact with the sheet into retracted position adjacent to the platen, thus permitting the sheet 2, however thin and however irregular of surface it may be, to move backwardly along the paper-table 8 with absolute freedom. And if the sheet is advanced from the position shown in Fig. 1 until it just clears slot 4 and the feeler 28 enters the said slot at a point adjacent its position in Fig. 1, namely the point at which the path of the entering-feeler-end intersects the paper-path the stop-lever 15 being still under the control of the projection 14, a backward movement from that position of parts also is provided for. Because of the projection 14 the feeler will not be retracted sufficiently from such a position to enable the sheet to pass backwardly under it without such provision. The feeler

28 in such a case will be moved backwardly by the pressure of the backing-up bottom edge of the sheet against it as far as may be, or until it entirely clears the path of the sheet, which will be at a point in the rear where the path of the backwardly-swinging feeler again intersects the paper-path.

A mechanism such as I have described satisfies the objects of my invention in what I regard as the most perfect manner, but I consider my invention sufficiently broad to include within its scope various known types of indicating devices, which may prove suitable and convenient for use in practical embodiments of the main principles of the invention such, for example, as the visual, audible and machine-lock devices shown and described in my application of April 28, 1908, aforesaid, and claimed in my applications filed Dec. 13, 1909, Serial No. 532,928, and Dec. 15, 1909, Serial No. 533,309. I regard the moving surface bearing indices as constituting an adequate signal to the operator, and in addition it informs him of the exact position of the bottom of the sheet. It is to be noted that the index-bearing part may vary more or less in character and construction in practice, and the means and manner of actuating the same may vary without departure from the principles of the invention. I show and describe the engagement between the index bearing part and the part that impels it as a frictional engagement, because that is regarded by me as the most perfect form of engagement adapted to the purpose, but a frictional engagement is not essential in all cases in the embodiment of the different features of the invention. It is to be noted, also that although I show the paper-feeler 28 as intersecting the path of the paper-sheet at the paper-table 8, I do not limit myself to this construction in all cases.

What I claim as my invention and desire to secure by Letters Patent is:

1. In a typewriting machine, in combination, a platen, a series of indices, means for giving the said indices movement with the platen but permitting detention thereof independently of the platen, and a sheet-controlled detent for controlling the movement of the indices.

2. In a typewriting machine, in combination, a platen, an indices-carrier and co-operating index, one thereof moving normally with the platen but detachable independently of the platen, a stop for detaining the detachable element in a constant starting position, and a paper-feeler connected to control the action of the said stop.

3. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, means for giving said member simultaneous movement with the platen, and

sheet-controlled detent means detaining said member in initial position and ceasing to detain said member after being itself released from the control of the sheet.

- 5 4. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, means for giving the said member simultaneous movement with the platen but
- 10 permitting detention thereof independently of the platen, and a sheet-controlled stop for detaining the said member in a constant starting position and then releasing it to move with the platen.
- 15 5. In a typewriting machine, in combination, a platen, an operative member, visual signaling means called into operation through said member, means for giving the said member simultaneous movement with the platen
- 20 but permitting detention thereof independently of the platen, a stopping device for detaining and releasing the said member, and a paper-feeler controlling the action of the said device.
- 25 6. In a typewriting machine, in combination, a platen, an operative member bearing a projection, indicating means called into operation through said member, frictional means giving the member movement with
- 30 the platen, and sheet-controlled means cooperating with the projection to detain and release the said member.
7. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through
- 35 said member, frictional means giving the member movement correlated with that of the platen, and sheet-controlled detaining and releasing means for the member, including
- 40 a movable stop.
8. In a typewriting machine, in combination, a platen, an index-carrier, frictional means giving the said carrier movement with the platen, and means including a sheet-
- 45 controlled stop for controlling the movement of the said carrier.
9. In a typewriting machine, in combination, a platen, a revoluble member, indicating means called into operation through said
- 50 member, frictional actuating means for the said member maintained in engagement through axially directed pressure, and a sheet-controlled stop for controlling the movement of the said member.
- 55 10. In a typewriting machine, in combination, a platen, a paper-feeler entering the paper-path on release by the sheet-end and pushing ahead of the latter in a late backing-up movement and thereby caused to
- 60 leave the said path, and indicating means controlled by the said paper-feeler.
11. In a typewriting machine, in combination, a platen, an operative member, a paper-feeler movable out of the paper-path by the
- 65 backing-up bottom edge of the sheet, means

rendered effective by the said paper-feeler in the presence 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 the said starting position, and indicating means called into operation through said member.

12. In a typewriting machine, in combination, a platen, an operative member, means for actuating the said member from the platen but permitting detention thereof independently of the platen, a paper-feeler movable out of the paper-path by the backing-up bottom edge of the sheet in a late backing-up movement, a movable stop controlled by the said paper-feeler, and indicating means called into operation through said member.

13. In a typewriting machine, in combination, a platen, a paper-feeler controlled by the sheet and receding from sheet-controlled position when the platen is turned backwardly, a movable detent controlled by said paper-feeler, and indicating means controlled through the said detent.

14. In a typewriting machine, in combination, a platen, a member frictionally actuated to move with the platen, indicating means called into operation through said member, and sheet-controlled means for controlling the movement of the said member, including a paper-feeler receding from contact with the sheet when the platen is turned backwardly and a detent controlled by the paper-feeler.

15. In a typewriting machine, in combination, sheet-advancing means, a paper-feeler having a sheet-detained position and having a normal position retracted from the said position and upon the same side of the paper-path therewith so as to permit of free sheet-insertion, and indicating means controlled by the said paper-feeler.

16. In a typewriting machine, in combination, a platen, a paper-feeler having a normal position retracted from the path of the paper, and means operating in the forward turning movement of the platen to cause said feeler to bear against the paper.

17. In a typewriting machine, in combination, a platen, a paper-backing, a paper-feeler having a normal position retracted from the paper-backing and upon the working or paper side thereof, and indicating means controlled by the said paper-feeler.

18. In a typewriting machine, in combination, a platen, an operative member, a paper-feeler having a normal position retracted from its sheet controlled position so as to permit of free sheet-insertion, means rendered effective by the said paper-feeler in the presence 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 movement simultaneous with that of the platen from the said starting position, and indicating means called into operation through said member.

19. In a typewriting machine, in combination, a platen, an operative member, means giving the said member simultaneous movement with the platen but permitting detention thereof independently of the platen, indicating means called into operation through said member, a paper-feeler having a normal position out of the paper-path, and a detent connected with the said feeler for controlling the movement of the said operative member.

20. In a typewriting machine, in combination, a platen, an index-carrier, frictional means giving the said carrier simultaneous movement with the platen, and sheet-controlled means for detaining and releasing the said member, including a paper-feeler having a normal position retracted from the paper-path.

21. In a typewriting machine, in combination, a platen, a series of indices, means giving the said indices simultaneous movement with the platen but permitting detention thereof independently of the platen, a movable detent, and a paper-feeler having a normal position retracted from the paper-path and connected to act controllingly upon the said indices through the said detent.

22. In a typewriting machine, in combination, a sheet-controlled stop automatically returning into operative position, a platen, a detainable member connected with the platen and operative to deflect the said stop from its normal position, and indicating means called into operation through said member.

23. In a typewriting machine, in combination, a platen, an operative member having a projection thereon, means for giving the said member movement with the platen but permitting independent detention thereof, indicating means called into operation through said member, and sheet-controlled means for controlling the movement of the said member with the platen, including a stop and means acting to move the same into the path of the said projection.

24. In a typewriting machine, in combination, a paper-feeler, a lever, a platen, and means actuated from the platen through the said lever for pressing the said paper-feeler against the paper.

25. In a typewriting machine, in combination, sheet-advancing means, a paper-feeler, a lever, a part operative against the said lever to change its position and through it change the position of the said paper-feeler, and itself controlled by said lever,

and indicating means controlled by the said part.

26. In a typewriting machine, in combination, a paper-feeler, a lever, a platen, an operative member actuated from the platen, and means on the said member working through the said lever to press the said paper-feeler toward the paper-path.

27. In a typewriting machine, in combination, a paper-feeler, a stop-lever, a platen, an operative member, means giving the said member movement with the platen but permitting detention thereof independently of the platen, means on the said member co-operating with said lever to actuate the paper-feeler toward the paper-path and also control the movement of the said member, and indicating means called into operation through said member.

28. In a typewriting machine, in combination, a platen, a member connected to move with the platen but detainable independently thereof, indicating means called into operation through said member, and a sheet-controlled detent controlling said member and which returns automatically to engaging position after releasing the said member.

29. In a typewriting machine, in combination, a platen, an operative member, means giving the said member movement with the platen but permitting independent detention thereof, indicating means called into operation through said member, a plurality of projections on the said member through which it may be detained in either of a plurality of starting positions, and means controlled by the sheet adapted to engage with either of the said projections to detain and release the said member.

30. In a typewriting machine, in combination, a platen, a member normally moving with the platen but detainable independently thereof, indicating means called into operation through said member, and means for controlling the movement of the said member, including a projection on the member, a co-operating stop movable out of the path of the projection by the projection, and sheet-controlled means for controlling the movement of the stop.

31. In a typewriting machine, in combination, a platen, a member normally moving coördinately with the platen but detainable independently thereof, indicating means called into operation through said member, a paper-feeler, and intermediate means whereby the said member actuates the said feeler into the paper-path in the absence of the sheet but is detained by the feeler in the presence of the sheet.

32. In a typewriting machine, in combination, a platen, a member normally moving in correlation therewith but detainable independently thereof, indicating means called

into operation through said member, and controlling means for the said member including a lever-stop adapted to act detachingly upon the member and transmitting force therefrom upon connected structure controlled by the sheet.

33. In a typewriting machine, in combination, a platen, an operative member having movement at times with the platen, indicating means called into operation through said member, and sheet-controlled detaining and releasing means for the member, including a projection and a stop in the path thereof which recedes from the projection during withdrawal from the said path and while the said stop is still in contact with the said projection.

34. In a typewriting machine, in combination, a platen, an index-carrier normally moving with the platen but detachable independently thereof and having indices in connection therewith, and sheet-controlled means adapted to detain the said carrier in a constant initial or starting position and then release it to move simultaneously with the platen so as to bring the said indices successively into indicating position.

35. In a typewriting machine, in combination, a platen, an indicator, means for giving one of said indicators simultaneous movement with the platen but permitting detention thereof independently of the platen, and sheet-controlled means for controlling the said movement.

36. In a typewriting machine, in combination, a platen, a rotary member having a frictional connection with the platen, indicating means called into operation through said member, and a sheet-controlled paper-feeler through which the movement of the said member is controlled.

37. In a typewriting machine, in combination, a platen, a series of indices frictionally connected with the platen, and means controlled by the work-sheet for detaining the said indices in a constant starting position and then releasing them to be brought successively into indicating position.

38. In a typewriting machine, in combination, a platen, an operative member indicating means called into operation through said member, frictional actuating means for the said member maintained in engagement through axially directed pressure, and sheet-controlled means for detaining and releasing the said member.

39. In a typewriting machine, in combination, a platen, an operative member having frictional connection therewith, means called into operation through said member whereby a visual signal is given, and sheet-controlled stopping and releasing means for the operative member, substantially as described and for the purpose specified.

40. In a typewriting machine, in combination, a platen, an index-carrier connected to move simultaneously with the platen but detachable independently thereof and having a plurality of series of indices arranged so as to come successively into indicating position one index at a time and one series of indices at a time, and sheet-controlled means whereby the index-carrier may be detained in a plurality of starting positions and then released to take up movement with the platen.

41. In a typewriting machine, in combination, a platen, an operative member, a paper-feeler receding from contact with the sheet when the platen is turned backwardly, means rendered effective by the said paper-feeler in the presence 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 the said starting position, and indicating means called into operation through said member.

42. In a typewriting machine, in combination, a platen, a paper-feeler detachable by the sheet and receding from sheet-controlled position when the platen is turned backwardly, and indicating means controlled by the said paper-feeler.

43. In a typewriting machine, in combination, a platen, a member normally moving with the platen but detachable independently thereof, indicating means called into operation through said member, and sheet-controlled means for controlling the movement of the said member, including a paper-feeler receding from the sheet when the platen is turned backwardly.

44. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, a paper-feeler detachable by the sheet and receding from sheet-controlled position when the platen is turned backwardly, means rendered effective by the said paper-feeler in the presence of the sheet for giving the said member a constant starting position, and means rendered effective by the passing of the sheet-end for giving the said member simultaneous movement with the platen from the said starting position.

45. In a typewriting machine, in combination, a platen, a part movable therewith, a paper-feeler pressed toward the paper-path by said part, and indicating means controlled by the coöperation of the said elements.

46. In a typewriting machine, in combination, a platen, a rotary member combined to move with the platen but detachable independently thereof, indicating means called into operation through said member, and sheet-controlled means for detaining and releasing the said member, including a paper-

feeler pressed toward the paper-path through the action of the forwardly-revolving platen.

47. In a typewriting machine, in combination, a platen, an operative member movable simultaneously with the platen but detachable independently thereof, indicating means called into operation through said member, and sheet-controlled detaining and releasing means for the member, including a paper-feeler actuated into the paper-path by the said member.

48. In a typewriting machine, in combination, a platen, a slip-drive comprising a driving member moving in unison with the platen and a driven member co-acting therewith, indicating means called into operation through

the driven member of the said slip-drive, and a paper-feeler for controlling the movement of the driven member.

49. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, a slip-drive means for giving the said member simultaneous movement with the platen, and a sheet-controlled stop for controlling the said movement.

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

WILLIAM J. NEIDIG.

Witnesses:

CHAS. F. RANDALL,
NATHAN B. DAY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

Corrections in Letters Patent No. 1,053,920.

It is hereby certified that in Letters Patent No. 1,053,920, granted February 18, 1913, upon the application of William J. Neidig, of Madison, Wisconsin, for an improvement in "Type-Writing Machines," errors appear in the printed specification requiring correction as follows: Page 6, line 30, strike out the words "one of" and same page and line, for the word "indicators" read *indicator*; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 3rd day of June, A. D., 1913.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.

feeler pressed toward the paper-path through the action of the forwardly-revolving platen.

47. In a typewriting machine, in combination, a platen, an operative member movable simultaneously with the platen but detachable independently thereof, indicating means called into operation through said member, and sheet-controlled detaining and releasing means for the member, including a paper-feeler actuated into the paper-path by the said member.

48. In a typewriting machine, in combination, a platen, a slip-drive comprising a driving member moving in unison with the platen and a driven member co-acting therewith, indicating means called into operation through

the driven member of the said slip-drive, and a paper-feeler for controlling the movement of the driven member.

49. In a typewriting machine, in combination, a platen, an operative member, indicating means called into operation through said member, a slip-drive means for giving the said member simultaneous movement with the platen, and a sheet-controlled stop for controlling the said movement.

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