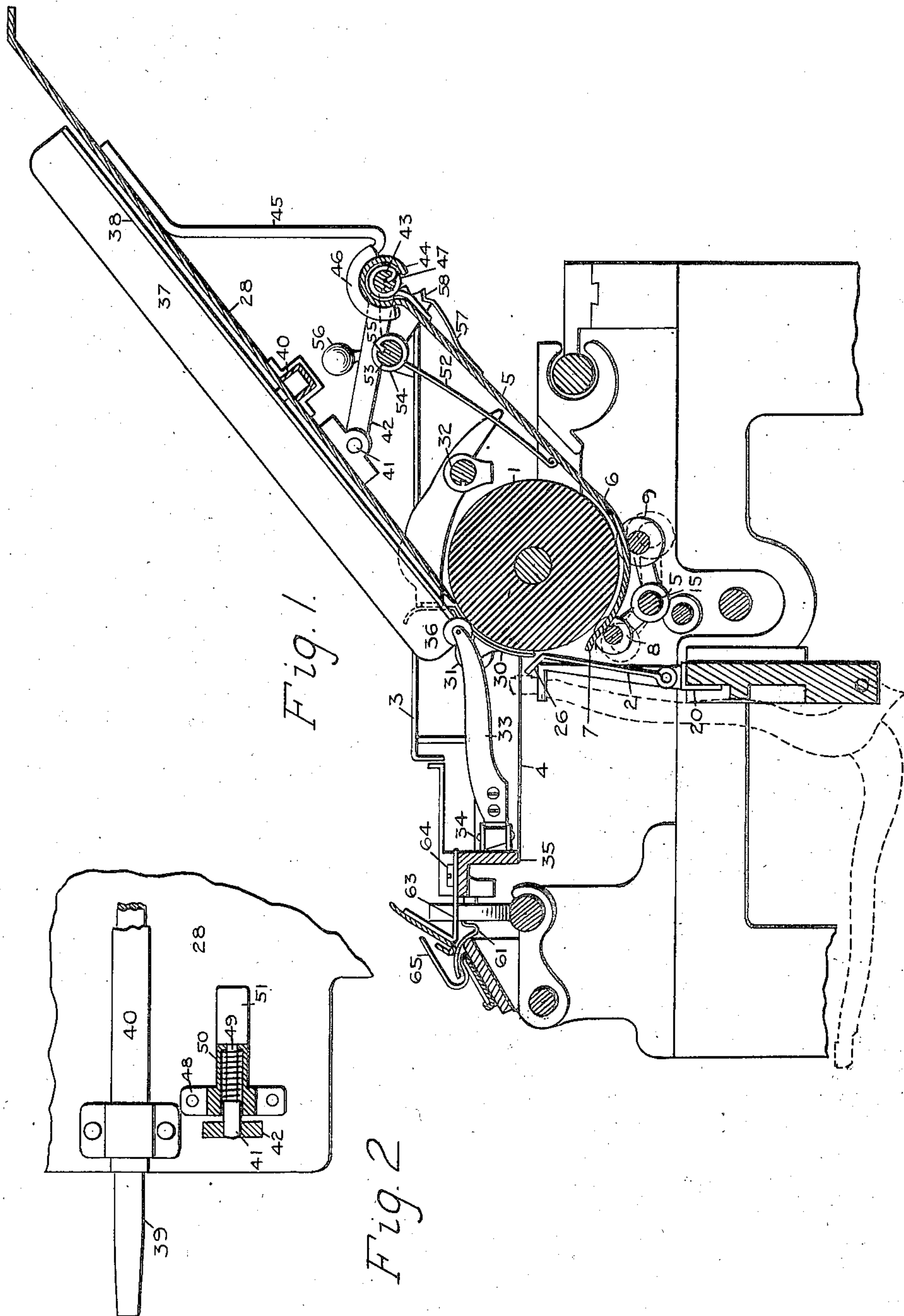


No. 817,924.

PATENTED APR. 17, 1906.

E. F. KUNATH.
TYPE WRITING MACHINE.
APPLICATION FILED MAR. 7, 1905.

3 SHEETS—SHEET 1.

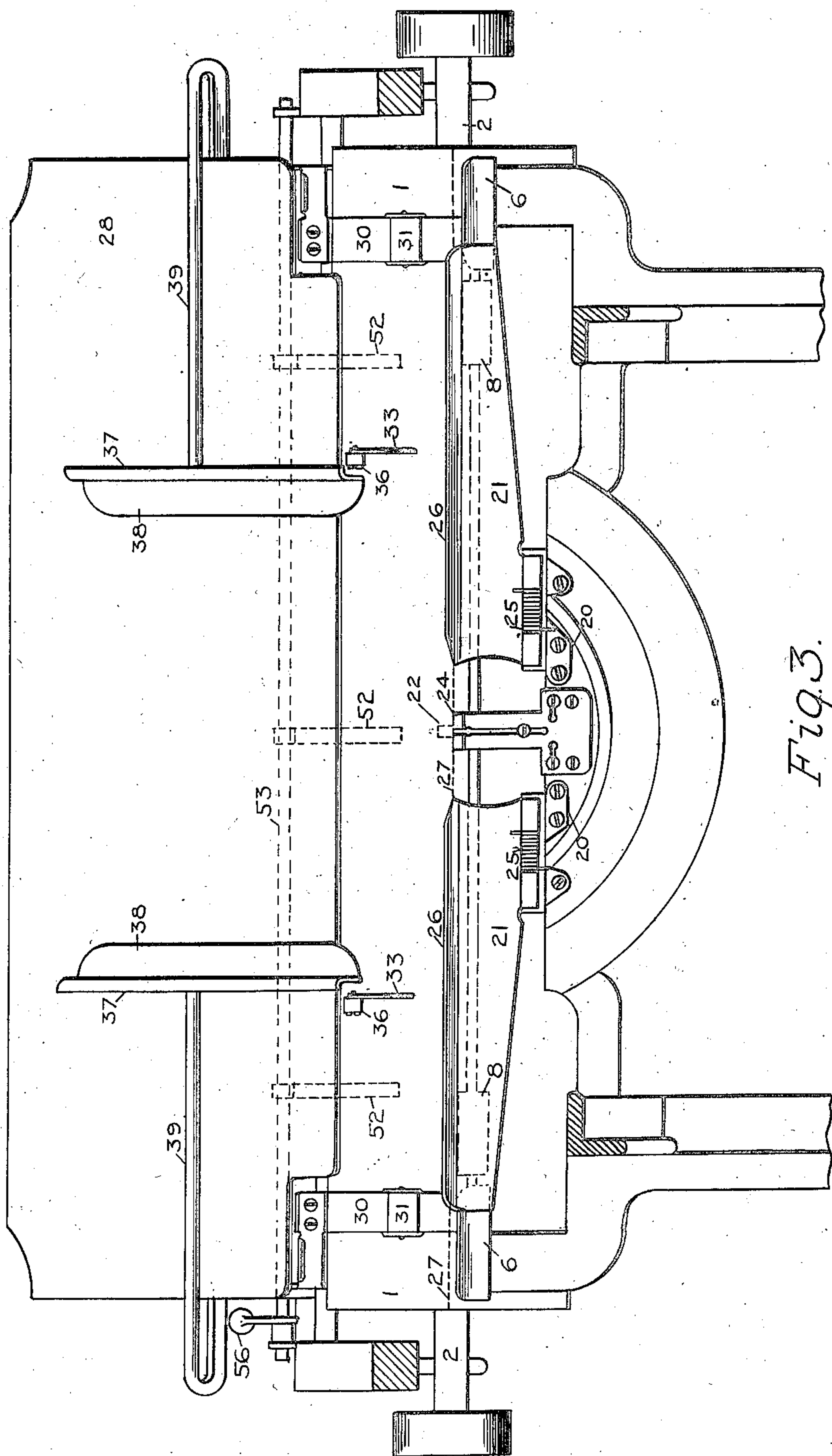


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Witnesses
William M. Hilbert
Albati Nathan

Inventor
Edward F. Runath
By his Attorney J. H. Stickney

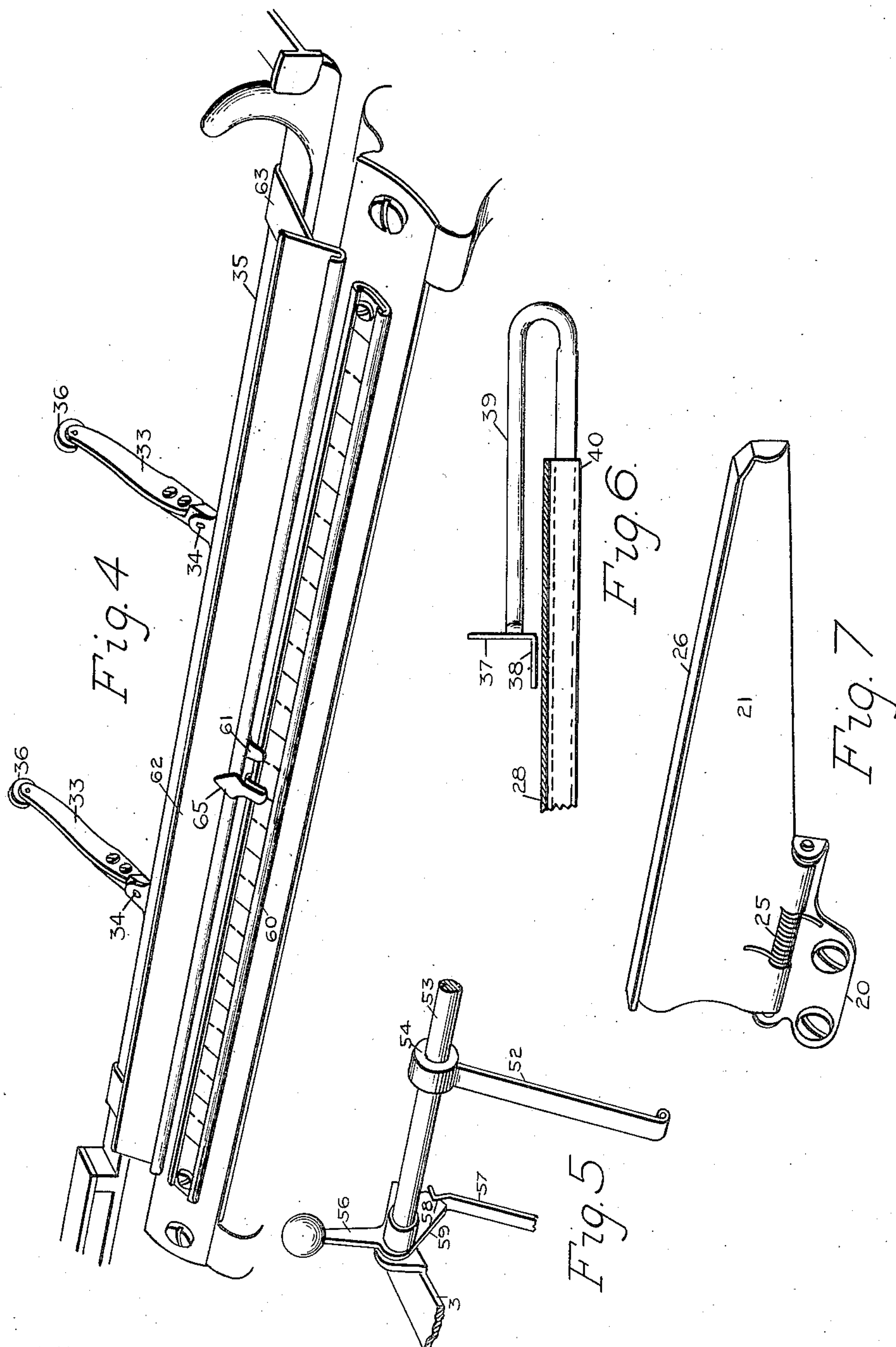
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Witnesses
William M. Hilbert
Albert Nathan

Inventor
Edward F. Kunath
By his Attorney O. B. Stickney

UNITED STATES PATENT OFFICE.

EDWARD F. KUNATH, OF JERSEY CITY, NEW JERSEY, ASSIGNOR TO
UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A
CORPORATION OF NEW JERSEY.

TYPE-WRITING MACHINE.

No. 817,924.

Specification of Letters Patent.

Patented April 17, 1906.

Application filed March 7, 1905. Serial No. 248,796.

To all whom it may concern:

Be it known that I, EDWARD F. KUNATH, a citizen of the United States, residing in Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a specification.

This invention relates to means for guiding the paper upon or around the platens of type-writing machines, particularly those of the kind known as "visible" or "front strike."

In the kind of machine upon which my improvements are illustrated, a board extends upwardly and rearwardly from the top of the platen for the purpose of supporting large sheets not only as they emerge from the machine, but also during the introduction and adjustment of the sheets in the machine, means being provided for inserting the sheets either backwardly at the front of the platen or forwardly at the rear of the platen, as may be desired, and also for holding one or more sheets stationary in the machine, while other sheets are imposed thereupon and independently adjusted with reference to the printing-point.

The present invention relates to means for moving said board out of operative position when it is no longer in use, and also to means for gaging the side edges of narrow sheets that are imposed upon wide sheets.

The invention also relates to improved means for holding the carbon and record sheets stationary against the rear side of the platen in such a manner as to leave a free passage for backwardly-inserted sheets.

Other objects and advantages will hereinafter appear.

In the accompanying drawings, Figure 1 is a sectional elevation, taken from front to rear, of the upper portion of an "Underwood" front-strike writing-machine provided with my present improvements. Fig. 2 is a bottom view of a portion of one side of a sheet-supporting board which overhangs the platen, showing details for detachably pivoting said board upon the paper-carriage and also the mounting of a paper-gage which is adjustable across the board. Fig. 3 is a sectional front elevation of the machine, taken at about the line *xx* of Fig. 1. Fig. 4 is a perspective view of the front part of the paper-carriage and

framework. Fig. 5 is a perspective view of a fragment of the paper-gripping means used in rear of the platen. Fig. 6 is a sectional detail showing side paper-gages. Fig. 7 is a perspective of one of a pair of front scales or line-gages for the platen.

The usual vertically-shiftable cylindrical platen 1 is journaled by its axle 2 in a platen-frame 3, mounted upon a carriage 4, said ends being joined by a plate 5, which inclines forwardly and downwardly to the under side of the platen and forms a paper-shelf in rear thereof. This plate also curves forwardly beneath the platen and up in front thereof, forming a deflector 6, which may be yielding and lies a short distance below the platen, so as to make a free passage for paper backwardly when inserted from the front, the plate having a slight outward flare or lip 7 at its front edge to facilitate the introduction of the edge of the paper or to guard the same from slipping down in front of said deflector.

Forward and rear pressure-rolls 8 9 project up through the deflector-plate 6. These pressure-rolls are releasable by means of a depressible key (not shown) usually pivoted upon the right-hand end of the platen-frame and connected by a link and crank to a roller-releasing rock-shaft 15. When the rolls are thrown off, a sheet may be inserted backwardly at the front of the platen and pushed back as far as desired while the platen is stationary, or the sheet may be inserted from the back and adjusted forwardly and sideways.

To facilitate the introduction of a sheet at the front of the platen, I pivot upon brackets 20 a pair of plates 21, one at each side of the printing-point, (indicated at 22,) above the usual type-guide 24. Each plate is provided with a spring 25, which presses it toward the platen, and at its upper edge is bent upwardly and forwardly from the platen, as at 26. The bottom of this sloping portion 26 contacts with or lies close to the platen, along a line coincident with the bottom of the printing-line upon the platen, so as to facilitate adjustment of the paper after insertion, the two sloping plates 26 being in line with each other, as seen at Fig. 3, and of an extreme length (taken together) approximating the length of the printing-field on the platen, so that the leading edge of a sheet of any suitable width

may be readily introduced between the platen and the sloping plates 26, the latter guiding the edge of the sheet so that it passes readily down between the platen and the deflector 6.

5 Sloping upwardly and rearwardly from the top or delivery side of the platen is a wide high board or table 28, suitable for supporting extra large recording-sheets. These sheets are preferably inserted backwardly at
10 the front of the platen, between the same and the flaring guides 26, and pass down between the platen and deflector 6 and are guided by said deflector rearwardly away from the platen and up along the paper-shelf 5, the
15 pressure-rolls 8 and 9 being cast off, as indicated in dotted lines at Fig. 1, so as to permit the movement of the paper.

It will be seen that the wide recording-sheet may be adjusted vertically by means of
20 the flaring guides 26, the lower edge of which coincides substantially with the printing-line 27, and said sheet may also be adjusted laterally by reference to the type-guide 24, which serves as an index, being fixed directly
25 below the printing-point 22. It will be understood that during such introduction and adjustment of the wide sheet the usual side guides or fingers 30, carrying-pressure-rolls 31 and mounted upon a rod 32, so as to be ad-
30 justable along the platen, are thrown up and away from the platen and that after the wide sheets are adjusted into the machine said paper-guides 30 are thrown down, so as to press the side margins of said wide sheets against
35 the platen, between the sheet-supporting board 28 and the platen gages or scales 26, thereby causing said sheet to travel with the platen as the latter is subsequently rotated. After the wide recording-sheet is thus ad-
40 justed and while it remains stationary, being held by the rolls 31, a narrow bill-head may be inserted downwardly in front of the platen in the manner just described, and thereupon two arms 33, pivoted at 34 upon the front bar
45 35 of the carriage, may be swung rearwardly, so that the rolls 36, carried upon their free ends, may press all the sheets against the platen, said arms 33 being between the clips 30, as seen at Fig. 3. The rolls 31 36 are suffi-
50 cient generally to hold the sheets against the platen with sufficient force to cause the paper to feed up properly, although the rolls 8 9 beneath the platen may also be used as required.

55 Before the releasable devices 33 36 are swung into working position the bill-head may be adjusted vertically by means of the gages or scales 26 and laterally by means of the type guide or index 24, so that the writ-
60 ing now to be made upon the bill-head will fall in the corresponding position upon the recording-sheet, which has blank spaces or columns to agree with those upon the bill or other instrument. Owing to the practica-
65 bility of independent adjustment of the re-

ording and bill sheets, exact positioning of each may be secured, and hence narrow columns or contracted blank spaces may be accurately filled in.

For ready adjustment of a large number of
70 bill-heads in succession side gages 37 may be provided, having ledges 38 to receive the side edges of the bills and mounted upon arms 39, which loop around and beneath the ends of the board 28 and are frictionally held in tele-
75 scopic guides 40, fixed upon the under side of said board, so that the guides will remain wherever adjusted. Each guide 37 stands a little above the surface of the board 28, so as give enough clearance to permit the record-
80 ing sheet or sheets to lie between the same and the board and not to interfere with the adjustment of such sheets. These side gages are adjustable independently of each other
85 across the board to accommodate different widths of bills or other sheets or to enable narrow sheets to be inserted readily at any desired point. One or both of the gages may, however, be omitted. Said board is hinged
90 at 41 upon a pair of arms 42, the latter being pivoted at 43 within a tubular device 44, formed upon and extending along the upper edge of the paper-shelf. Coöperating with
95 said arms 42, to support the paper-shelf, is a pair of supports 45, fixed at their upper ends to the under side of the board 28, and at their lower ends having curved feet 46 to rest upon
100 said tubular device 44. The construction is such that the board and arms 42 may swing together about the axis 43 up and off from
105 the platen and down in rear of the machine, so as to facilitate the insertion of sheets at the rear of the platen when desired. A coiled spring 47 within the tubular device 44
110 tends to hold the forward edge of the sheet-supporting board 28 down upon the platen and also counterbalances said board when the latter is swung back and down behind the carriage. Owing to the provision of the
115 hinged arms it is practicable also to move the sheet-supporting board 28 diagonally upwardly and backwardly in order to clear the paper-guiding fingers 30. The feet 46 are readily lifted off from the tubular device 44 to accommodate such movement.

One of the pivots 41 is releasable, so as to permit the detachment of the board from the machine when not in use, said pivot being
120 mounted in a bracket 48, fixed upon the under side of the board 28 and having a stem 49, surrounded by a compression-spring 50, and also having a head or button 51. By pulling the latter to the right at Fig. 2 the pivot is
125 drawn out from the eye in arm 42, thus releasing this end of the board from said arm and permitting the board to be moved side-
130 wise, so as to draw out the other pivot 41 from the eye in the other arm 42. I also prefer to use supplemental grippers or paper-pressing fingers 52 to press the sheets against

the rear side of the platen. These grippers may be adjusted independently of one another along a rock-shaft 53, the grippers being between the lower paper-shelf 5 and the platen and the grippers extending down from the rock-shaft, to which they are splined, and terminating near the bottom of the platen in rounded heads. At its upper end each gripper is fixed to a collar 54, adjustable along the shaft and having a pin to project into a groove 55, formed along the shaft. Upon the shaft is fixed a finger-piece 56, whereby all the grippers may be swung simultaneously against the platen or away therefrom. A spring-detent 57 engages any of three notches 58, formed in a small plate 59, fixed to the rock-shaft to hold the grippers yieldingly against the platen or against the paper-shelf 5, Fig. 1, the grippers normally lying midway between the platen and the paper-shelf, so that the paper may be either inserted forwardly between the grippers and the paper-shelf 5 or may be inserted backwardly and slip freely up along the surface of shelf 5. When the grippers are thrown against the paper on the platen, a passage is left for the insertion of a sheet either backwardly or forwardly, as desired, without disturbing the sheets already in the machine. The grippers although normally straight, Fig. 5, are thin and flex considerably when held against either the platen or the paper-shelf, as at Fig. 1.

In addition to the usual scale 60, fixed upon the framework and cooperating with an index 61 upon the carriage, I provide a slip-holder 62, secured upon the front of the carriage by arms 63 and screws 64 and cooperating with an index 65, fixed upon the framework above the scale 60. Said index 65 is adapted to point to suitable graduations or figures to be type-written upon slips to be inserted in the slip-holder to guide the operator in writing transactions in the proper columns and is looped to clear the index 61.

My improvements will also be found of advantage in manipulating sheets in other ways and for other purposes. Variations may be resorted to within the scope of my invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim—

1. In a type-writing machine, the combination with a revoluble platen and types mounted to strike upon the front thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of said platen, an upwardly and forwardly inclined scale in front of the platen, and a cooperative paper-guide curving beneath the platen and separated therefrom.

2. In a type-writing machine, the combination with a revoluble platen, of types mounted to strike upon the front side of the

platen, a hinged paper-supporting board extending upwardly and rearwardly from the platen, releasable means for holding the side edges of the paper against the platen, and means, independent of said paper-holding means, for receiving a sheet at the front of the platen and guiding it rearwardly beneath the same.

3. In a type-writing machine, the combination with a revoluble platen and types mounted to strike upon the front side thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of the platen and mounted for movement away from the top of the platen, means for engaging the side edges of a sheet lying upon the board, and a deflector curving beneath the platen at sufficient distance therefrom to enable the leading edges of sheets to slip readily backward beneath the platen; means being provided for permitting the ready introduction of the sheet at the front of the platen between the latter and said deflector.

4. In a type-writing machine, the combination with a revoluble platen and types mounted to strike upon the front side thereof, of a platen-frame, a sheet-supporting board extending upwardly and rearwardly from the top of the platen, means for enabling said board to be moved back from the platen, means for pressing against the side edges of a sheet lying upon the board, releasable devices for pressing paper against the front of the platen near the middle thereof and a deflector curving beneath the platen at sufficient distance therefrom to enable the sheets to slip backwardly beneath the platen, a scale inclining upwardly and forwardly from the platen, and releasable pressure-rolls beneath the platen.

5. In a type-writing machine, the combination with a revoluble platen and types mounted to strike upon the front thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of the platen, and movable away therefrom, releasable rolls for pressing the side edges of the sheet against the front of the platen, and means mounted in front of and below the platen for receiving and guiding sheets downwardly and backwardly when introduced in front of the platen.

6. In a type-writing machine, the combination with a revoluble platen, of a paper-shelf in rear thereof, a forwardly and upwardly inclined scale in front of the platen, a deflector curving beneath the platen and separated therefrom so as to permit the ready introduction of a sheet from either the back or front of the platen, a hinged paper-supporting board extending upwardly or rearwardly from the top of the platen over said paper-shelf and extending in rear thereof, releasable means for pressing the side edges of wide sheets against the front of the platen,

and a releasable pressure-roll for pressing narrow sheets against the front of the platen.

7. In a type-writing machine, the combination with a platen and types mounted to strike upon the front thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of the platen, and a paper-guiding device curving beneath the platen and up in front thereof and separate from the platen and also constructed to guide the leading edge of a sheet backwardly beneath the platen and rearwardly therefrom, said paper-guiding device extending upwardly in rear of the platen, and said board being mounted to swing back of said paper-guiding device.

8. In a type-writing machine, the combination with a platen and types mounted to strike upon a visible side thereof, of a detachable sheet-supporting board extending upwardly and rearwardly from the delivery side of said platen in the vicinity of the printing-line; said board mounted to swing to a position of disuse.

9. In a type-writing machine, the combination with a platen-frame, a revoluble platen, and types mounted to strike upon a visible side thereof, of a detachable sheet-supporting board extending upwardly and rearwardly from the top side of said platen, and hinged in rear of the platen to the platen-frame.

10. In a type-writing machine, the combination with a platen-frame, a revoluble platen, and types mounted to strike upon the front thereof, of a sheet-supporting board extending rearwardly from the top of the platen, and a hinge connecting said board to said platen-frame; said hinge having a member which is movable to release the board so that it may be detached.

11. In a type-writing machine, the combination with a platen-frame, a revoluble platen, and types mounted to strike upon the front thereof, of a sheet-supporting board extending upwardly from the top of said platen and far in rear thereof, and means hinging said board to said platen-frame; said hinging means including a pintle movable to release the board.

12. In a type-writing machine, the combination with a platen-frame, a revoluble platen, and types mounted to strike upon the front thereof, of a sheet-supporting board extending upwardly from the top of said platen and far in rear thereof, and means hinging said board to said platen-frame; said hinging means including a pintle movable to release the board, and a spring for holding said pintle in normal position.

13. In a type-writing machine, the combination with a platen-frame, a revoluble platen, and types mounted to strike upon a visible side thereof, of paper-guiding means

so related to the platen as to form an open passage to permit the ready introduction of a sheet at the front of the platen, a sheet-supporting board hinged upon said platen-frame and extending upwardly from the top of the platen and far in rear thereof, and a spring tending to maintain said board in normal position.

14. In a type-writing machine, the combination with a platen-frame, a revoluble platen, and types mounted to strike upon the front thereof, of a hinged sheet-supporting board extending upwardly from the top of the platen and far in rear thereof, and means for maintaining said board in normal position.

15. In a type-writing machine, the combination with a platen-frame, of a revoluble platen, types mounted to strike upon the front side of the platen, a hinged detachable paper-supporting board extending upwardly from the top of the platen and far in rear thereof, and a spring for maintaining said board in normal position.

16. In a type-writing machine, the combination with a revoluble platen and types mounted to strike upon the front side thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of the platen, releasable means for engaging the side edges of the sheet lying upon the board, and a deflector curving beneath the platen at sufficient distance therefrom to enable a sheet to slip rearwardly beneath the platen, and extending upwardly and rearwardly from the platen, provision being made for the ready introduction of the sheet at the front of the platen, and pressure-rolls beneath the platen and movable to points below said deflector.

17. In a type-writing machine, the combination with a revoluble platen and types mounted to strike upon the front side thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of the platen, releasable means for engaging the side edges of a sheet lying upon the board, a deflector curving beneath the platen at sufficient distance therefrom to enable a sheet to slip rearwardly beneath the platen, and extending upwardly and rearwardly from the platen, means, including a plate sloping upwardly and forwardly from the platen, for enabling the introduction of a sheet at the front of the platen, and pressure-rolls beneath the platen movable to point below said deflector.

18. In a type-writing machine, the combination with a platen-frame and a revoluble platen, of types mounted to strike upon the front side of the platen, a pair of arms hinged upon the platen-frame, a sheet-supporting board hinged to said arms and extending rearwardly from the top of the platen, and

means cooperating with said arms to support said board in normal position.

19. In a type-writing machine, the combination with a revoluble platen, and types 5 mounted to strike upon the front side thereof, of a paper-shelf in rear of the platen and extending down behind the same, and a sheet-supporting board extending rearwardly from the top of the platen and hinged to the top of 10 said shelf.

20. In a type-writing machine, the combination with a revoluble platen, and types 15 mounted to strike upon the front side thereof, of a paper-shelf in rear of the platen and extending down behind the same; arms hinged to the top of said shelf; a sheet-supporting board hinged on said arms and extending upwardly and rearwardly from the 20 top of the platen; and means cooperating with said arms to support said board.

21. In a type-writing machine, the combination with a platen-frame, of a revoluble platen, types mounted to strike upon the 25 front side of the platen, a pair of arms hinged upon the platen-frame and extending forwardly, and a sheet-supporting board extending rearwardly from the top of the platen and pivoted between its front and rear edges to said arms.

22. In a type-writing machine, the combination with a platen-frame, of a revoluble platen, types mounted to strike upon the 30 front side of the platen, a pair of arms hinged upon the platen-frame and extending forwardly, and a sheet-supporting board extending rearwardly from the top of the platen and pivoted between its front and rear edges 35 to said arms, and means cooperating with said arms to support said board.

23. In a type-writing machine, the combination with a revoluble platen and a paper-shelf in rear thereof, of releasable rolls pressing against the platen, yielding paper-clamps 40 arranged between the platen and the paper-shelf and movable forwardly and backwardly, and means for holding said clamps either against the platen, or against the paper-shelf, 45 or in an intermediate idle position, at will.

24. In a type-writing machine, the combination with a revoluble platen, a paper-shelf 50 mounted behind the same, and releasable rolls pressing against the platen, of a gripping device arranged between the platen and paper-shelf, and means for holding said gripping device either yieldingly against the paper-shelf or in idle position, at will. 55

25. In a type-writing machine, the combination with a revoluble platen, a paper-shelf 60 in rear thereof, and releasable rolls pressing against the platen, of a set of grippers mounted between the paper-shelf and the platen, a rock-shaft upon which said grippers are mounted, a finger-piece for turning said rock-shaft, and a yielding detent for holding said

grippers either against the platen, or against 65 the paper-shelf, or in intermediate idle position, at will.

26. In a type-writing machine, the combination with a revoluble platen and types 70 mounted to strike upon the front thereof, of a sheet-supporting board extending upwardly and rearwardly from the top of the platen, and side paper-gages mounted upon said board for independent adjustment thereacross; said gages being separated slightly 75 from said board, so that a passage for paper is left between the gages and the board.

27. In a type-writing machine, the combination with a revoluble platen and types 80 mounted to strike upon a visible side thereof, of a sheet-supporting board extending rearwardly from the top of the platen, and a side paper-gage mounted upon said board for adjustment thereacross and slightly separated 85 from said board, so as to leave a space for paper to pass between the gage and the board.

28. In a type-writing machine, the combination with a revoluble platen and types 90 mounted to strike upon a visible side thereof, of a deflector curving around the under side of the platen, and in such relation thereto that a sheet may readily be introduced in front of the platen and pushed back around the under side of the platen between the same 95 and said deflector while the platen remains stationary, a sheet-supporting board extending rearwardly from the top of the platen, releasable means for pressing the side edges of the paper against the front of the platen, 100 and a side paper-gage mounted upon said board for adjustment thereacross, and sufficiently separated from the board to permit a few sheets to lie between the same and the board. 105

29. In a type-writing machine, the combination with a revoluble platen and types 110 mounted to strike upon a visible side thereof, of a sheet-supporting board extending rearwardly from the top of said platen, and a side paper-gage mounted upon said board and adjustable thereacross but slightly separated therefrom, said gage provided with a supporting-lip upon which the side edge of the sheet may rest. 115

30. In a type-writing machine, the combination with a revoluble platen, and types 120 mounted to strike upon a visible side thereof, of a sheet-supporting board extending rearwardly from the top of said platen, and side paper-gages mounted upon the said board and independently adjustable thereacross but separated therefrom, each gage provided with a supporting-lip for the paper.

31. In a type-writing machine, the combination with a revoluble platen and types 125 mounted to strike upon the front thereof, of a sheet-supporting board extending rearwardly

from the top of the platen, a front platen scale or gage extending longitudinally of the platen and sloping upwardly and forwardly therefrom, to serve as a guide for the insertion
5 of paper backwardly at the front of the platen, and releasable means between said scale and said board for pressing the paper against the platen.

32. In a type-writing machine, the combination with a revoluble platen and types
10 mounted to strike upon the front thereof, of a sheet-supporting board extending rearwardly from the top of the platen, a front platen scale or gage extending longitudinally
15 of the platen and sloping upwardly and forwardly therefrom to serve as a guide for the insertion of paper backwardly at the front of the platen, releasable rolls between said scale and said board for holding the side edges of
20 the paper against the platen, means for guiding the leading edge of the paper backwardly beneath the platen, and a releasable pressure-roll to bear against the front of the platen between said side pressure-rolls.

33. In a front-strike writing-machine, the combination with a platen, of a sheet-supporting board extending rearwardly from the top
25 of the platen, a plate extending longitudinally along the platen and sloping upwardly and forwardly therefrom to facilitate the introduction of sheets backwardly in front of
30 the platen, and a spring pressing said plate toward the platen.

34. In a front-strike writing-machine, the combination with a revoluble platen, of a deflector curving around the under side of the
35 platen and separated therefrom to permit the ready movement of a sheet beneath the platen while the latter is stationary, a device sloping upwardly and forwardly from the front
40 side of the platen and coöperating therewith to guide the leading edge of a backwardly-inserted sheet between said curved deflector and the platen, a sheet-supporting board extending upwardly and rearwardly from the
45 top of the platen, and releasable rolls pressing against the platen between said board and said sloping device.

35. In a front-strike writing-machine, the combination with a revoluble platen, of a
50 front platen scale or gage extending longitudinally of the platen and sloping upwardly and forwardly therefrom, a deflector for guiding the leading edge of a sheet backwardly beneath the platen and away therefrom while
55 the platen is stationary, said deflector separated from the platen, a sheet-supporting board extending rearwardly from the top of the platen, and releasable devices for pressing against the platen.
60

36. In a front-strike writing-machine, the combination with a revoluble platen, of a front platen scale or gage extending longitudinally from the platen and sloping upwardly

and forwardly therefrom, a deflector separated from the platen for guiding the leading
65 edge of a sheet backwardly beneath the platen and away therefrom while the platen is stationary, a sheet-supporting board extending rearwardly from the top of the
70 platen, releasable devices for pressing the paper against the front of the platen, and independently-releasable rolls pressing against the under side of the platen and movable out of the path of the paper.
75

37. In a front-strike writing-machine, the combination with a platen and platen-frame, of a deflector-plate curving beneath the
80 platen and separated therefrom and capable of guiding the leading edge of the sheet backwardly beneath and away from the platen while the latter is stationary, a pair of gage-plates mounted in line in front of the platen and extending longitudinally thereof and
85 near thereto, and sloping forwardly and upwardly therefrom, one plate at each side of the printing-point, for guiding the leading edge of a sheet down between said deflector and said platen; a sheet-supporting board extending upwardly and rearwardly from
90 the top of the platen, and independently-releasable devices for pressing the paper against the platen.

38. In a front-strike writing-machine, the combination with a revoluble platen and a
95 platen-frame, of means for guiding the leading edge of a sheet downwardly beneath the platen and rearwardly therefrom, a front platen gage or scale permanently mounted upon the framework of the machine, and extending upwardly and forwardly from the
100 platen, a sheet-supporting board extending upwardly and rearwardly from the top of the platen, and a plurality of releasable rolls pressing the paper against the platen between said board and said platen-scale.
105

39. In a front-strike writing-machine, the combination with a revoluble platen, of a deflector curving beneath the platen and separated therefrom and capable of guiding the
110 leading edge of a sheet backwardly beneath the platen and away therefrom, a pair of front platen-scales or gages one at each side of the printing-point and mounted upon the framing of the machine and sloping upwardly
115 and forwardly from the platen, said scales coinciding with the edge of the line of writing upon the platen and serving to guide the leading edge of a sheet down between said deflector and the platen, a sheet-supporting
120 board extending rearwardly from the top of the platen, and independently-releasable devices for pressing the paper against the platen.

40. In a front-strike writing-machine, the combination with a revoluble platen and releasable pressure-rolls beneath the same, of
125 means for guiding the leading edge of a sheet backwardly beneath the platen independ-

ently of said pressure-rolls, a pair of plates
pivoted to the framework of the machine,
and extending up to the printing-line on the
platen and from said printing-line sloping
5 upwardly and forwardly, a sheet-supporting
board extending upwardly and rearwardly
from the top of the platen, releasable rolls at
the ends of the platen for pressing the side

edges of a wide sheet against the platen, and
releasable means between said rolls for press- 10
ing narrow sheets against the platen.

EDWARD F. KUNATH.

Witnesses:

B. C. STICKNEY,
BERTHA SCHNIER.