

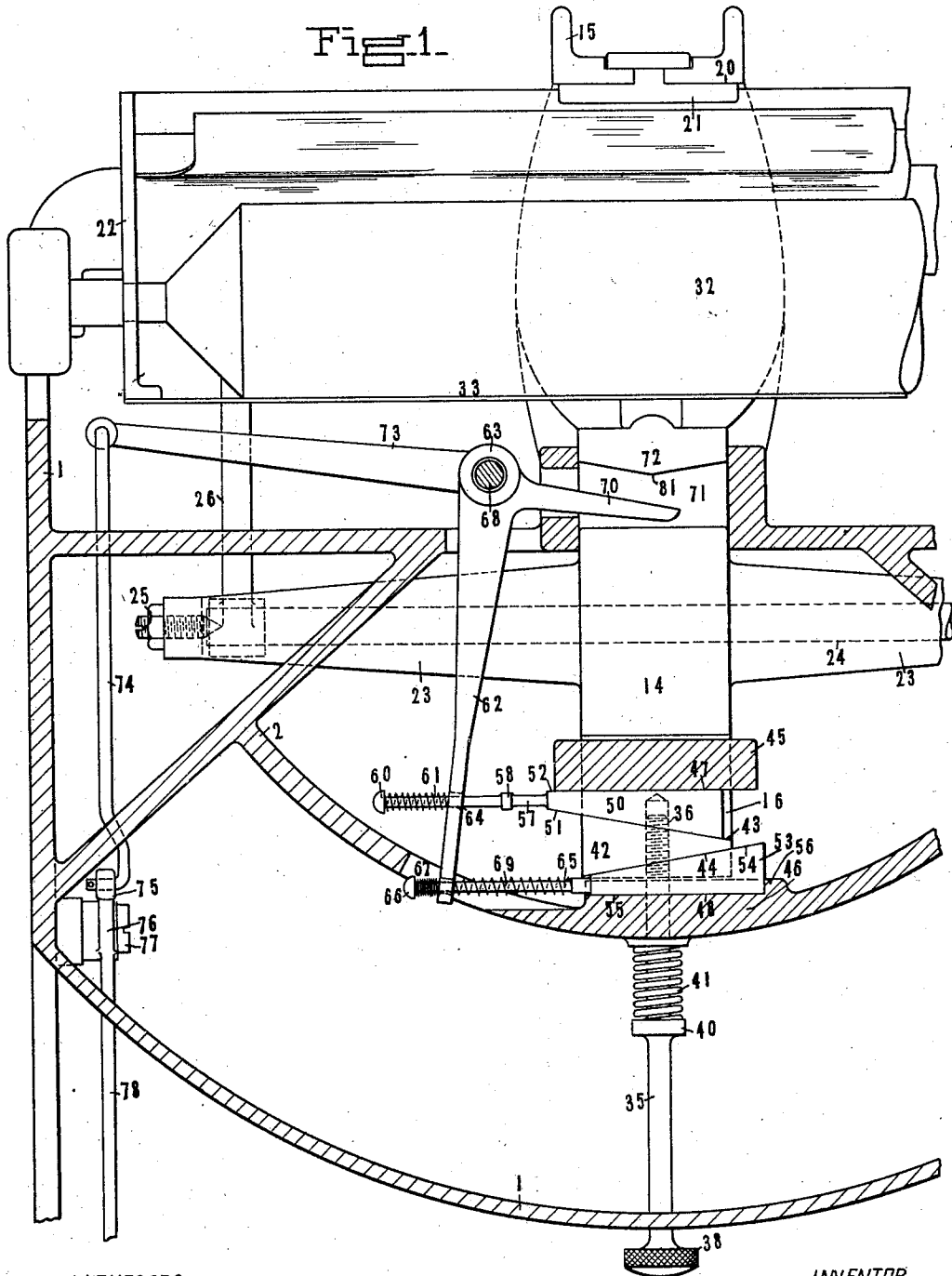
J. A. RONCHETTI.
TYPE WRITING MACHINE.
APPLICATION FILED APR. 19, 1909.

1,049,768.

Patented Jan. 7, 1913.

4 SHEETS—SHEET 1.

Fig. 1.



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Daniel J. Dunn

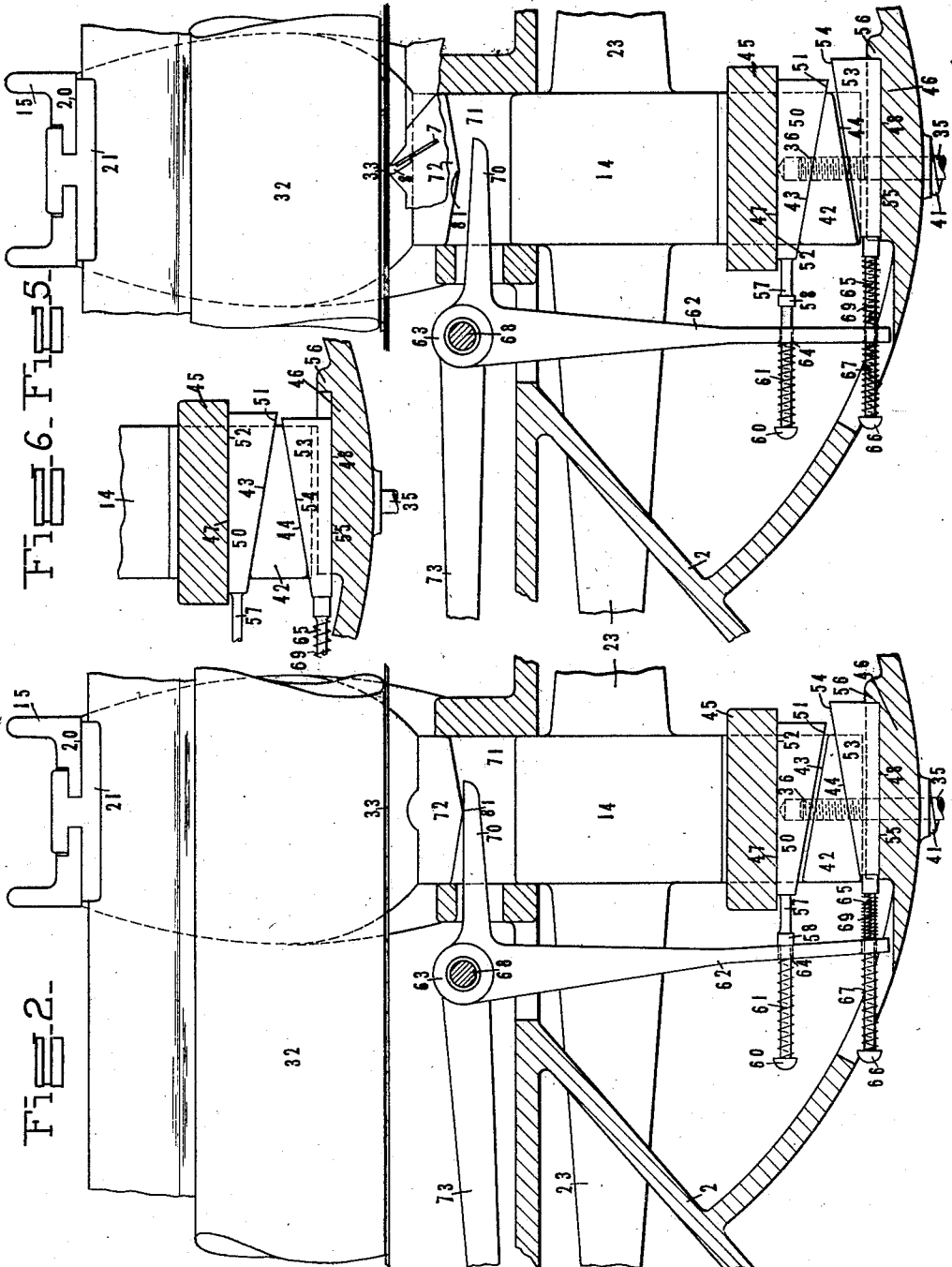
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4 SHEETS-SHEET 2.



WITNESSES
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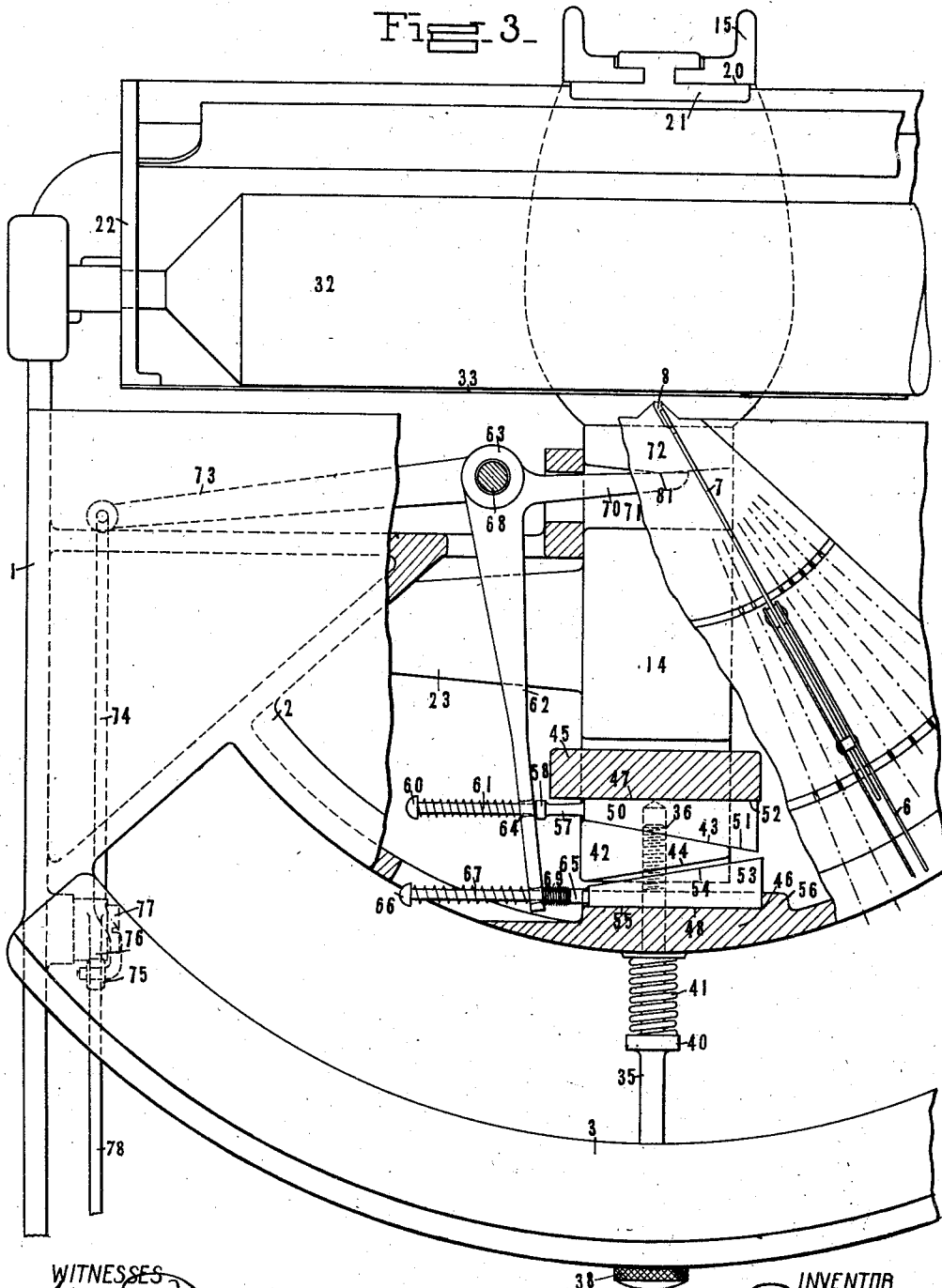
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4 SHEETS—SHEET 3.



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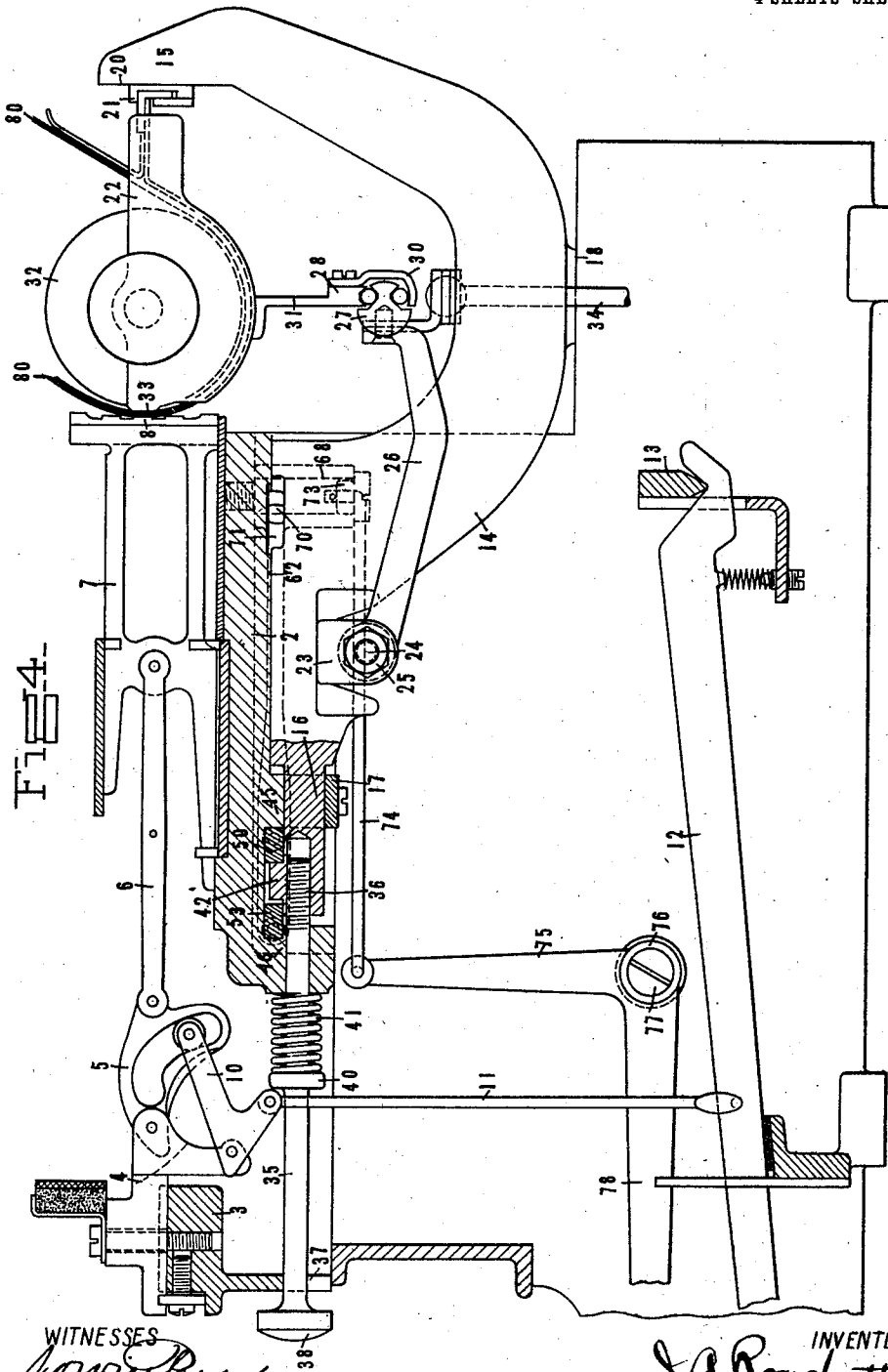
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

JOSEPH ALBERT RONCHETTI, OF WOONSOCKET, RHODE ISLAND, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE NOISELESS TYPEWRITER COMPANY, OF MIDDLETOWN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

TYPE-WRITING MACHINE.

1,049,768.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed April 19, 1909. Serial No. 490,820.

To all whom it may concern:

Be it known that I, JOSEPH A. RONCHETTI, a subject of the King of Italy, residing at Woonsocket, in the county of Providence and State of Rhode Island, have invented certain new and useful Improvements in Type-Writing Machines, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to typewriting machines, and one of the objects thereof is to provide new and improved means for adjusting the platen with respect to the printing plane.

Another object is to provide, in a machine employing type bars which have limited throws in the direction of the platen, means whereby the platen may be moved to a proper position to receive the pressure of the type bars when printing is to be effected upon a plurality of impression sheets.

Another object is to provide means for holding the platen in fixed position during printing, yet such that the platen may be accurately adjusted to or from the printing plane and held immovably in any adjusted position.

A further object is to provide means whereby the platen may be adjusted to proper printing position from the keyboard.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts, which will be exemplified in the construction hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is illustrated one of the various possible embodiments of my invention, Figure 1 is a view in plan of the operative parts thereof, the upper portion of the top plate of the machine being removed better to illustrate the construction; Fig. 2 is a view similar to Fig. 1, the parts being shown in another position; Fig. 3 is a similar view with the parts in another position and also showing one of the type bars in printing position; Fig. 4 is a central longitudinal section of the

mechanism shown in Fig. 5 looking toward the right of that figure; Fig. 5 is a view showing the parts illustrated in Fig. 2 but in another position; and Fig. 6 represents a portion of the mechanism shown in Fig. 5 with the parts in another position.

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

Referring now to the drawings, 1 represents the frame of the machine supporting the top plate or bed 2, the front portion of the frame being provided with a ledge supporting the type action block 4. In this block is pivoted the cam 5 to which is connected the link 6 attached at its opposite end to the type bar 7. The type bar 7, in the present instance, is provided with several types the middle one of which is shown at 8; and the several type bars are adapted to rest upon the bed 2 and be projected thereacross when actuated to effect printing. The cam 5 is operated by means of a lever and rod 11, the latter being attached to the key-lever 12 pivoted upon the bar 13.

This machine is provided with a center tie-rod 14 which extends from front to rear of the machine through the central portion thereof and then upward, as at 15, to form a backing for the platen carriage. The center tie-rod is movable slightly forward and back, being supported at its front end from the top plate 2 by means of a depending apertured portion 17 through which the tie-rod extends. The other end of the center tie rests upon the frame of the machine at 18. The upwardly extending portion 15 of the center tie is provided with a vertical face 20 upon which slides a block 21, the platen carriage 22 in turn sliding in said block during letter spacing. The center tie is also provided with a pair of oppositely extending wings 23 which support an oscillatory shaft 24 by means of pivot screws 25. The shaft 24 is provided with a pair of arms 26 which carry the rail 27 forming, together with rails 28 and 30 of the platen carriage, a ball raceway for supporting the carriage. The carriage is provided with a pair of brackets 31 attached at their upper ends to the carriage frame 22 and at their lower ends to the rails 28 and 30. The carriage supports the platen roll 32 and the printing

platen 33, the latter resting against the roll 32, conforming with the contour thereof, as shown.

The carriage is vertically movable for 5 different case printing by means of a connecting rod 34 adapted to be actuated by shifting mechanism not shown herein.

The forward end of the center tie has a rod 35 threaded into the tie at 36, said rod 10 passing through an opening in the top plate 2 and extending through an aligned opening in the front plate 37, said rod terminating in a knob 38. This rod is provided with a shoulder 40 between which and the top plate 15 2 is placed an extensile spring 41. It will be obvious that by turning rod 35 the tension of spring 41 may be varied so as to adjust it to the desired tension.

The center tie intermediate its ends is provided with an upstanding integral portion 20 42 having inclined faces 43 and 44, said raised portion being substantially V-shaped in plan, as shown. The top plate 2 is provided with two downwardly depending integral portions 45 and 46 having right angle 25 faces 47 and 48 respectively.

Between faces 43 and 47 is positioned a movable wedge 50 having an inclined face 51 bearing against the face 43 and a right 30 angled face 52 bearing against the face 47. A similar wedge 53 is placed between the projecting portion 42 of the center tie and the face 48 of the top plate, that wedge having an inclined face 54 bearing against the 35 face 44 and a right angled face 55 bearing against the face 48. This wedge also engages with a stop ear 56 of the top plate. The wedge 50 is provided with an extension rod 57 having a collar 58 and a head 60. 40 An extensile spring 61 encircles rod 57 and bears against the head 60 at one end and against one arm 62 of the locking lever 63, the rod 57 passing through an opening 64 in the locking lever. The other wedge 53 is 45 provided with a rod 65 which has a head 66 at its outer end. This rod also passes through an opening in the arm 62 of the locking lever 63, and on this rod, between the wedge 53 and the locking lever, is placed 50 an extensile coil spring 69, and between the locking lever and the head 66 is placed a second extensile coil spring 67.

The locking lever 63 is pivoted upon a stud 68 carried by the top plate of the machine and is provided with an arm 70 which 55 passes into a recessed portion 71 of the center tie 14. This recessed portion is provided with a projecting abutment 72 against which the arm 70 may engage when the same 60 is actuated, as will be hereinafter described. The locking lever is also provided with an arm 73 to which is connected the rod 74 whose opposite end is connected with one arm 75 of a bell crank lever 76, pivoted at 65 77 to the side wall of the machine. The

other end 78 of lever 76 extends to the front of the machine and may be provided with a suitable finger key at the keyboard.

Having thus described the construction of this embodiment of my invention, the operation thereof may now be understood. 70

In the position shown in Fig. 1 of the drawings, the printing platen 33 is in its normal or zero position, that is, the position in which a type face of any of the type 75 bars will just strike or slightly clear the same, so that when one sheet of paper is inserted in front of the platen printing may be effected with the proper degree of pressure. In that position, the projecting wedge 80 portion 42 of the tie will bear, with its two angular faces 43 and 44, against the angular faces of wedges 51 and 54, and the straight or right angular faces of the wedges will bear against the faces 47 and 48, respectively, of the top plate. In this position the center tie is firmly locked in position and the platen is also held against recession under the pressures exerted by the type bars during printing. 85 90

When it is desired to adjust the printing platen 33 to meet the requirements of different thicknesses of paper or a number of sheets thereof, as, for example, sheets shown at 80 in Fig. 4, the bell crank lever 76 is depressed by means of the connections hereinbefore described, thereby moving the locking lever 63 from the position shown in Fig. 1 to that shown in Fig. 2. This movement compresses spring 69 and releases the tension of springs 61 and 67. The arm 62 of lever 63 also strikes the collar 58 and forces the wedge 50 from the position shown in Fig. 1 to that shown in Fig. 2, leaving a space between the angular face 51 of that wedge and the angular face 43 of the center tie. In that position the arm 70 of the locking lever will abut against the point 81 of the center tie. By continuing the movement of arm 62 and arm 70 the center tie will be pushed 105 from the position shown in Fig. 2 to that shown in Fig. 3. This movement will cause the angular face of the wedge portion 42 of the center tie to engage wedge 50, pushing the center tie and the platen 33 rearwardly 110 to the limit of its range of motion, which is sufficient to allow the insertion of any thickness of paper that may ever be effectively printed upon in the machine. The continued motion of the arm 70 presses the center 120 tie rearwardly, and spring 69 will be further compressed and wedge 50 moved to a greater extent, as shown by Fig. 3. At this point the type action (shown in Fig. 4) will be operated by means of key lever 12, and the 125 type bar 7 will be thrust to its extreme position in the direction of the platen, as shown in Fig. 3, such position being the zero or printing position for the type face. The locking lever 63 is then released, which al- 130

lows the locking lever 70 and arm 62 to move from the position in Fig. 3 to that in Fig. 5 during the first portion of that movement. During the backward movement of the arm 5 62, the center tie will be drawn, by means of spring 41, toward the front of the machine until the paper 80 on the platen engages with the type face 8, when the motion of the center tie and the platen will be arrested. 10 It will be understood, of course, that during this last-described operation the type face will be held rigidly in its printing position.

During the movement of the locking lever 63 to the left, the spring 61 will be compressed, and during that operation the wedge 15 50 will be drawn to the left keeping the spaces closed between the faces 43 and 47. When reaching the position shown in Fig. 5, the spring 61 will be still further compressed, but this pressure cannot push the center tie toward the front of the machine 20 since it is held against forward movement by the type bar 7. Then, upon the further release of the locking lever 63 and the further movement of the arm 62, said arm will compress spring 67 and draw the wedge 53 from 25 the position shown in Fig. 5 to that shown in Fig. 6, in which position the angular face 54 of wedge 53 will engage with the angular face 44 of the center tie, and thus lock the 30 center tie firmly in position, preventing any movement thereof either forwardly or rearwardly during the printing operation. The type bar 7 may then be released and the machine is ready for printing upon the thick- 35 ness of paper for which it has been adjusted.

When it is desired to set the machine for a different thickness of paper or for a different number of sheets it will be necessary to operate locking lever 63 so as to press the center tie to its rearmost position, and then repeat the operation as just above described. 40

It will, accordingly, be seen that I have provided mechanism adapted to attain, 45 among others, all the ends and objects above pointed out and which will operate with a high degree of efficiency. The adjustment of the platen can be easily and quickly accomplished from a location near the keyboard, convenient to the operator and with 50 the exercise of little care or attention.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from 55 the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. 60

Having described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In a typewriting machine, the combination with the type bars, of a platen ad-

justable forwardly and rearwardly with respect to the printing plane, means for moving the platen rearwardly, means for moving the same forwardly, and means for arresting the forward movement thereof in a position dependent upon the number of impression sheets located thereon. 70

2. In a typewriting machine, the combination with a platen and the type bars, of a support for the type bars, said platen and said support being relatively adjustable, 75 means for separating said parts, means for moving the same together, and means for arresting such movement at a point dependent upon the number of impression sheets carried in front of the platen. 80

3. In a typewriting machine, the combination with the platen, of means for moving the same rearwardly from the normal printing plane, means for moving the same forwardly after rearward movement, and means 85 for arresting the forward movement of the same in a predetermined position.

4. In a typewriting machine, the combination with the platen, of means for moving the platen rearwardly from the normal printing plane, means for automatically moving the same forward after rearward movement, means for arresting the forward 90 movement of the same in a position dependent upon the number of impression sheets carried thereupon, and means for locking the platen in such position. 95

5. In a typewriting machine, the combination with the platen movable forwardly and rearwardly with respect to a normal printing plane, of a type bar having a limited throw toward the platen, means for moving the platen rearwardly from the normal printing plane, means for moving the same forwardly toward the normal printing plane, the latter movement being 100 arrested by one of the type bars when moved to the limit of its throw, and means for automatically locking the platen against movement in a rearward direction after the forward movement thereof has been arrested. 105

6. In a typewriting machine, the combination with the platen movable forwardly and rearwardly with respect to the normal printing plane, of a type bar having a limited throw toward the platen, means for moving the platen rearwardly from the normal printing plane, means for moving the platen forwardly after rearward movement, 115 the latter movement being arrested by one of the type bars when thrown to impression in a position dependent upon the number of sheets interposed between the platen and the face of said type bar, and means for automatically locking the platen against movement when the same has been so arrested. 120

7. In a typewriting machine, the combination with the platen movable toward and from a normal printing plane, of a plural- 125

8. In a typewriting machine, the combination with the platen movable toward and from a normal printing plane, of a plural- 130

- ity of thrust type bars having limited throws in the direction of the platen, means for moving the platen from the printing plane, means for moving the same toward the printing plane, said latter movement being adapted to be arrested by the engagement of an impression sheet with the face of a type bar which has been thrown to impression, and means for locking the platen against recession when the same has been arrested.
8. In a typewriting machine, the combination with type bars, of a platen adapted to carry impression sheets movable toward and from the printing plane, key-actuated means for causing the platen to recede from the printing plane, and means for moving the same forwardly toward the printing plane, such movement being arrested by the engagement of the outermost of the impression sheets carried by the platen.
9. In a typewriting machine, the combination with the platen adapted to carry impression sheets, of a plurality of type bars each of which has a limited throw in the direction of the platen, key-operated means for causing the platen to recede from the common plane assumed by the faces of the types when they are projected to impression, and means for moving the platen from and toward said plane, the latter movement thereof being arrested by the engagement of an impression sheet with a type bar which has been projected to impression, the position in which said platen is arrested being dependent upon the number of impression sheets interposed between the same and the faces of the type bars when they are projected to impression.
10. In a typewriting machine, the combination with a plurality of straight-thrust type bars each of which has a limited thrust in the direction of the platen, a platen adapted to carry impression sheets movable toward and from the common plane assumed by the faces of the types when they are projected to impression, and means for carrying the outermost of a plurality of impression sheets carried by the platen into engagement with the face of a type bar which has been projected to impression, whereby the proper printing position for the platen with respect to the normal printing plane may be determined.
11. In a typewriting machine, the combination with the platen adapted to carry impression sheets, of a plurality of straight-thrust type bars each of which has a limited throw in the direction of the platen, said platen, when in normal position, lying substantially in the plane occupied by the faces of the types when they are projected to impression, means for moving the platen rearwardly from the normal printing plane, means for automatically moving the same forward after rearward movement, the latter movement being adapted to be arrested by the engagement of an impression sheet with the face of a type bar which has been moved to impression, and means for automatically locking the platen in the position in which it is arrested.
12. In a typewriting machine, the combination with a platen adapted to carry impression sheets movable toward and from the printing plane, of a plurality of type bars each of which has a limited throw in the direction of the platen, such throw being sufficient to carry the faces of the types into the normal printing plane, means for moving the platen rearwardly, means for moving the same forwardly to such position as will enable the outermost of a plurality of sheets carried thereby to engage with the face of a type bar moved to the impression point, whereby such forward movement will be arrested, and means for automatically locking the platen in the position in which the same is arrested.
13. In a typewriting machine, the combination with a platen adapted to carry impression sheets movable toward or from the normal printing plane, of a plurality of type bars each of which has a limited throw in the direction of the platen, said throw being just sufficient to carry the faces of the types into the normal printing plane, key-actuated mechanism for moving the platen rearwardly, spring-actuated mechanism for moving the same forwardly to such position as will carry the outermost of a plurality of impression sheets upon the platen into engagement with the face of a type bar which has been projected to the impression point, whereby the position in which the platen is arrested will vary in accordance with the number of sheets carried by the same, and means connected with the said key-actuated mechanism for locking the platen in any position in which the same may be arrested.
14. In a typewriting machine, the combination with a platen, of a member which extends from front to rear of the machine and then upwardly behind the platen to form an abutment therefor, means for moving said member rearwardly, whereby the platen may be carried from the normal printing plane, and means for thereafter automatically moving said member in a forward direction.
15. In a typewriting machine, the combination with a platen adapted to carry impression sheets movable toward or from the normal printing plane, of a plurality of type bars each of which has a limited throw in the direction of the platen, said throw being just sufficient to carry the faces of the types into the normal printing plane, key-actuated means for moving the platen

rearwardly, spring-actuated mechanism for moving the same forwardly to such position as will carry the outermost of a plurality of impression sheets upon the platen into engagement with the face of a type bar which has been projected to the impression point and which will press said sheet into engagement with the face of the type with a degree sufficient to effect printing, whereby the position in which the platen is arrested will vary in accordance with the number of sheets carried by the same, and means connected with said key-actuated mechanism for locking the platen against movement in any position in which the same may be arrested.

16. In a typewriting machine, the combination with the platen adapted to carry impression sheets, of a member which extends from front to rear of the machine and then upward behind the platen to form an abutment therefor, spring means for urging said member in a forward direction, key-actuated means for moving the same rearwardly, whereby the platen may be correspondingly moved from the plane assumed by the faces of the types when they are projected to impression, a plurality of straight-thrust type bars each of which has a limited throw in the direction of the platen, any of said type bars being adapted to engage with the impression sheets upon the platen when the same is moved forwardly by said aforementioned spring means and arrest the same in proper printing position, and means for automatically locking said member in the position in which it is arrested by a type bar.

17. In a typewriting machine, the combination with a platen adapted to carry impression sheets, of a member which extends longitudinally of the machine in the central portion thereof and then upwardly behind the platen to form an abutment therefor, a spring for urging said member to movement in a forward direction, means for limiting said forward movement, whereby the platen will be held in the normal printing plane, key-actuated means for moving said member rearwardly, whereby the platen may be moved behind the normal printing plane, a plurality of straight-thrust type bars each of which has a limited throw in the direction of the platen, the face of any one of said type bars being adapted to engage with the outermost of a plurality of impression sheets positioned upon the platen and arrest said platen in a position dependent upon the number of impression sheets positioned thereon, and wedging means for automatically locking said member in the position in which it is arrested by the engagement of a type face with the outermost impression sheet.

18. In a typewriting machine, the combi-

nation with the platen adapted to carry impression sheets, of a member extending rearwardly through the central portion of the machine and then upwardly behind the platen carriage to form an abutment therefor, a spring for urging said member to move it in a forward direction, means for limiting the extent of such movement, whereby the platen will be maintained substantially in the plane assumed by the faces of the types when they are projected to impression, a plurality of straight-thrust type bars each of which has a limited throw in the direction of the platen, a face of any of said type bars being adapted to engage with the outermost of a series of impression sheets interposed between the same and the platen when the platen is moved forward, and spring-controlled wedge means cooperating with said member to lock the same automatically in any position in which it is arrested by a type face.

19. In a typewriting machine, the combination with the platen adapted to carry impression sheets, of a member extending rearwardly through the central portion of the machine and then upwardly behind the platen carriage to form an abutment therefor, a spring for urging said member to movement in a forward direction, means for limiting the extent of such movement, whereby the platen will be maintained substantially in the plane assumed by the faces of the types when they are projected to impression, a plurality of straight-thrust type bars each of which has a limited throw in the direction of the platen, a face of any of said type bars being adapted to engage with the outermost of a series of impression sheets interposed between the same and the platen when the platen is moved forward, wedge means cooperating with said member to lock the same in any position in which it is arrested, and a key-controlled lever for actuating said wedge means.

20. In a typewriting machine, the combination with a platen adapted to carry impression sheets movable toward and from the printing plane, of a plurality of type bars each of which has a limited throw in the direction of the platen, a member extending from front to rear of the machine through the central portion thereof and then upward behind the platen carriage to form an abutment therefor, an extensible spring encircling said member and urging the same to move in a forward direction, whereby the same will be maintained substantially in the normal printing plane, said member being provided with an upstanding substantially V-shaped portion, a lever adapted to be actuated from the keyboard for moving said central member rearwardly against the tension of said spring, a face of any of said type bars being adapted to en-

gage with the impression sheets upon the platen and arrest the latter in proper printing position after rearward movement and when the central member is moved forwardly by said spring, a plurality of wedges cooperating with the V-shaped portion of said member for automatically locking the same, whereby the platen will be locked in the aforesaid position, a locking lever, and springs cooperating with said locking lever for actuating said wedges.

21. In a typewriting machine, the combination with a platen adapted to carry impression sheets and a type bar adapted to contact therewith, of key-operated means for positioning the platen according to the number of impression sheets on the platen, and means for automatically locking the platen in the position in which it is arrested.

22. In a typewriting machine, the combination with a platen adapted to carry impression sheets and an abutment extending from front to rear of the machine and then upwardly behind the platen to form a rigid backing therefor, of means for moving said

member and platen away from the normal printing plane, and means for moving said members in an opposite direction until arrested in a predetermined position depending upon the number of impression sheets carried by said platen.

23. In a typewriting machine, the combination with a platen adapted to carry impression sheets and an abutment extending from front to rear of the machine and then upwardly behind the platen to form a rigid backing therefor, of means for moving said member and platen away from the normal printing plane, means for moving said members in an opposite direction until arrested in a predetermined position depending upon the number of impression sheets carried by said platen, and automatic means for locking said parts in final position.

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

JOSEPH ALBERT RONCHETTI.

Witnesses:

ARTHUR J. B. HUDSON,
ROY J. SOULER.

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