Nov. 18, 1924. 1,516,233

J. LINDBURG

TYPEWRITING MACHINE

Filed Sept. 16, 1921

Fig. 3

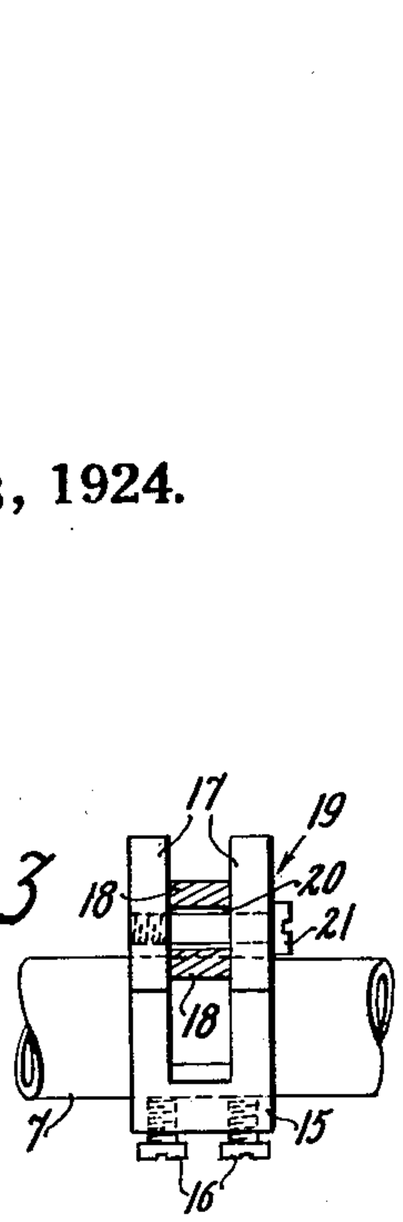


Fig. 1

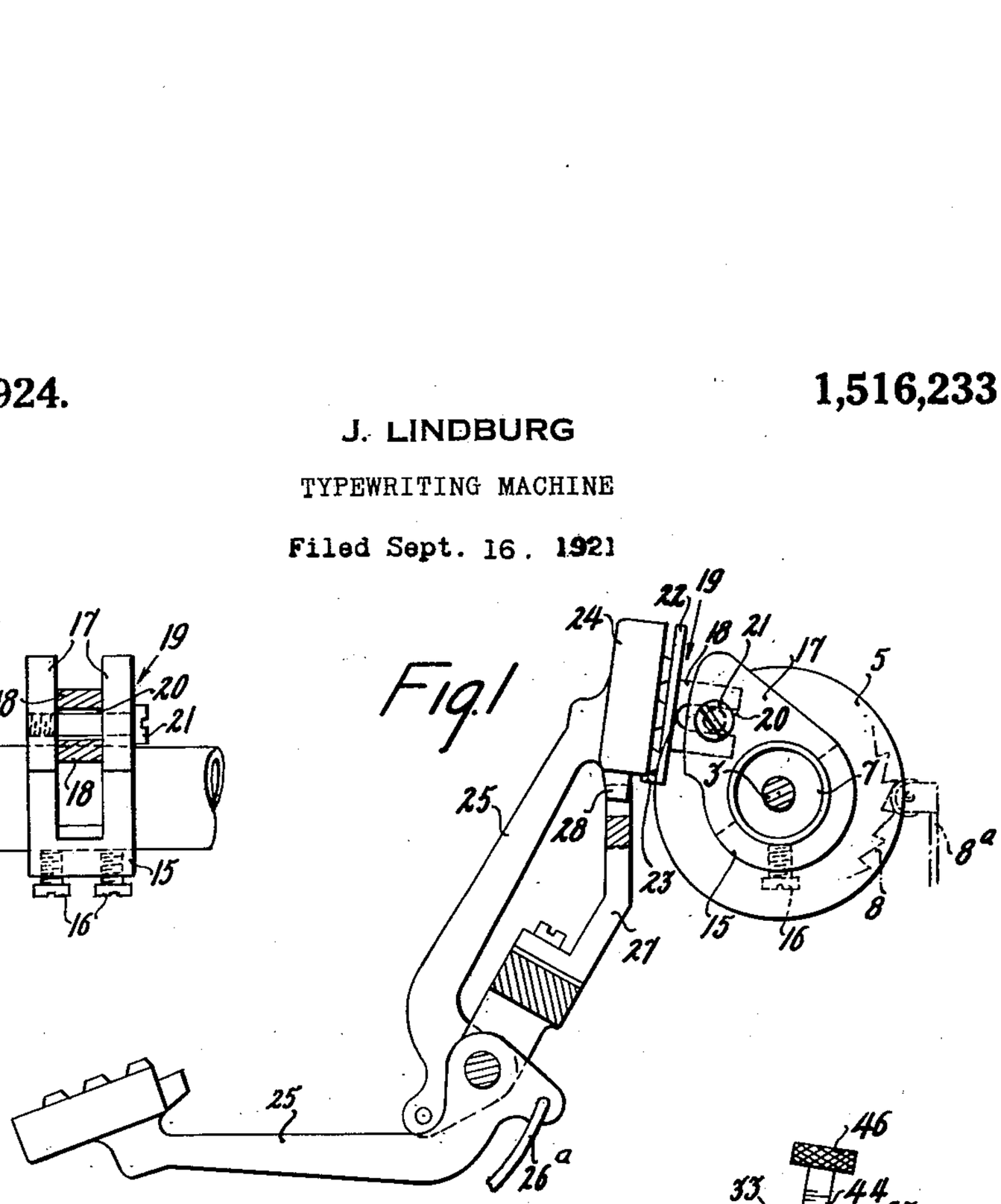


Fig. 4

Fig. 2

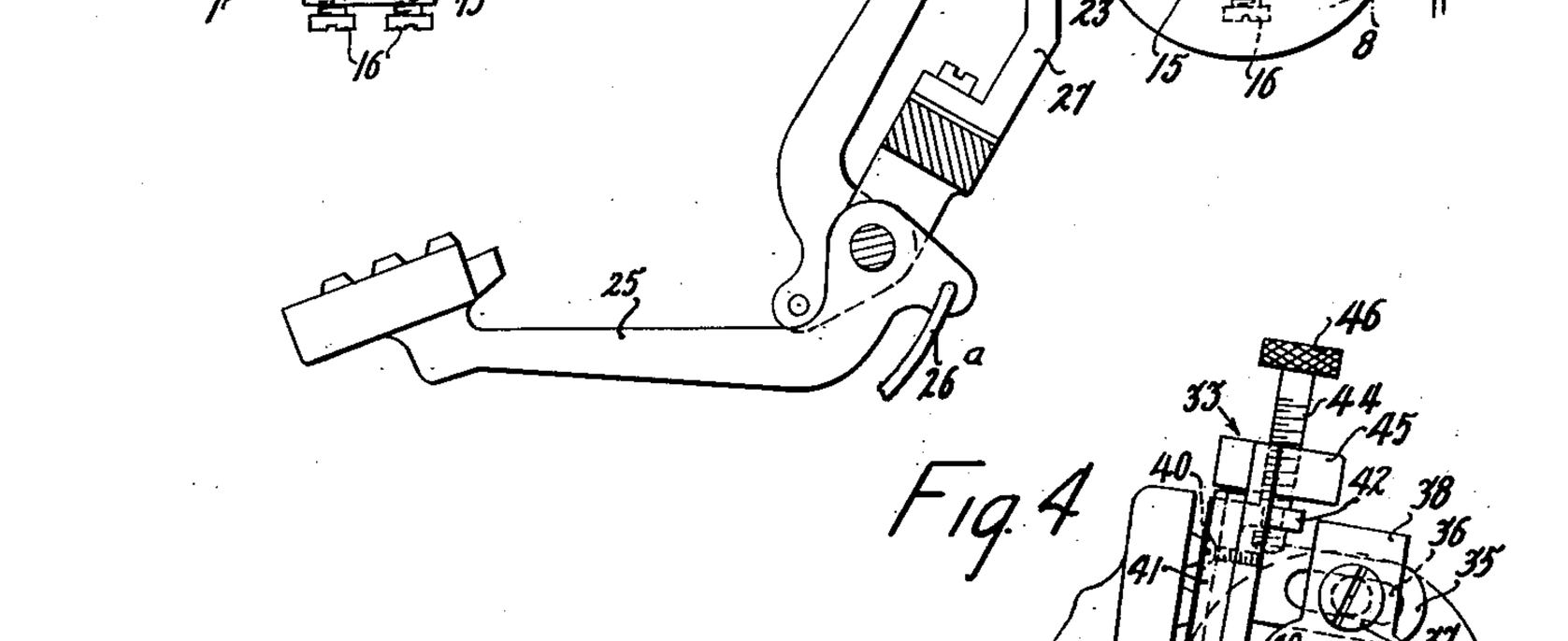


Fig. 7

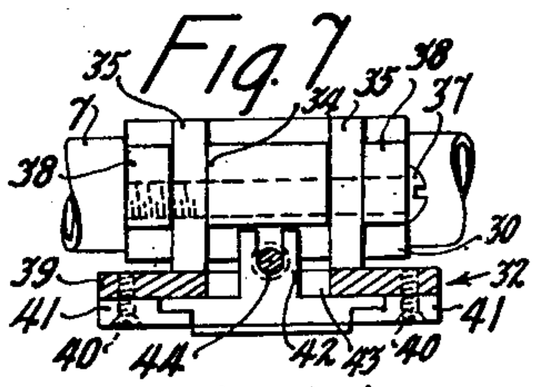


Fig. 5

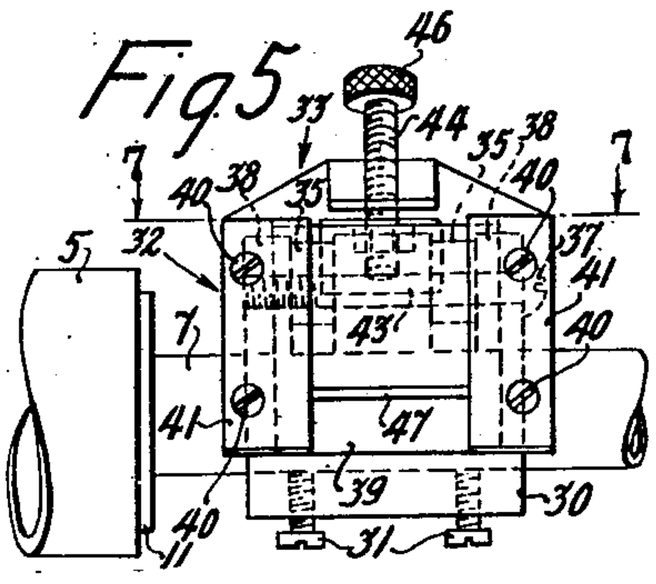
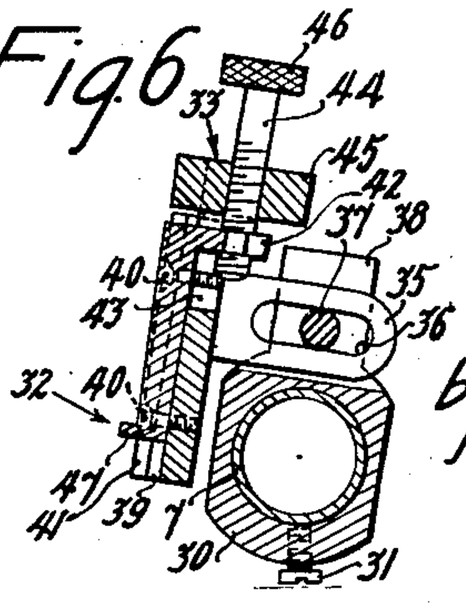


Fig. 6



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UNITED STATES PATENT OFFICE.

JOSEPH LINDBURG, OF BROOKLYN, NEW YORK, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPEWRITING MACHINE.

Application filed September 16, 1921. Serial No. 501,021.

To all whom it may concern:

Be it known that I, JOSEPH LINDBURG, a citizen of the United States, residing in Brooklyn Borough, in the county of Kings, city and State of New York, have invented certain new and useful Improvements in Typewriting Machines, of which the following is a specification.

The present invention relates to a device for ascertaining the correct position in which to place type-blocks on the type-bars of a typewriting machine; and for holding the type-blocks in the determined correct position while the type-bars are soldered or otherwise affixed thereto. More particularly, the invention is for use in connection with a typewriting machine of the rotary-platen class, in which the type-bars, each carrying a type-block having one or more characters thereon, are pivoted to swing to the platen.

It is important that the type-blocks be originally so positioned on the type-bars as to print in proper alignment, and it is likewise equally important that when a type gets out of alignment, or is to be replaced because injured or because a different character is desired, the repositioning or replacement may be effected expeditiously by the workman, with accuracy, and with a minimum of trouble. Not only should the type-block be set upon the bar at an exact distance or radius from the pivot of the bar, but it should be set thereon at such an angle as to cause the type to strike flatly on the platen. Methods and devices heretofore employed for this purpose, and especially as used upon certain classes of machines, have involved manipulations such that accuracy in the setting of type-blocks has been obtainable only at the cost of undue time and trouble.

An object of the present invention is the provision of a type-block rest or anvil which will hold the type-block against displacement in its ascertained correct position while the same is being soldered or otherwise affixed to the type-bar; and the provision of means whereby this type-rest or anvil may be readily adjusted to such position that any type-block, soldered to its bar while so in place on the anvil, must print in true alignment with the other types. Another object of the invention is the provision of means whereby the anvil may be affixed temporarily by the workman to the typewriting machine, and, when so affixed, be adjusted to the correct position, in which it is finally secured for the soldering operation.

For the attachment of the device to the typewriting machine, a feature of the invention is the provision of means whereby the workman may temporarily substitute the same for the platen on the platen-shaft; and may connect the same to the platen-shaft for angular adjustment therewith; and the provision of means, such as a ratchet, for holding the platen-shaft and device thereon, against angular displacement. For attaining the correct setting of the anvil, a feature of the invention is the provision of a connection of the anvil to its support, whereby flexibility of adjustment angularly, up and down, and backward and forward, of the anvil may be had in a plane at right angle to the platen-shaft, and whereby, when any type-block (selected for the purpose of setting the anvil) is thrown by its bar against the anvil, the latter may be brought to position with a face or platform thereof flat against the face of the type-block thus operated, and with an aligning ledge on the anvil in engagement with the base of the type-block so selected for setting purposes. A feature of the invention is therefore the use of a type, other than the type to be placed, as a means for positively ascertaining the correct position of the anvil,—thus eliminating guess-work and experimentation.

A feature of the invention is the provision of a temporary, or dummy, platen, when the true platen has been removed by the workman, which is mountable on the platen-shaft alongside of the anvil-carrier, whereby, when the new type has been set upon its bar, that type may be tried out with other type, as a check on the work, before the device is dismounted from the typewriting machine. In this try-out or checking operation, the typewriter-carriage is merely shifted to cause the

anvil to be moved from the printing point, and the try-out or dummy platen to be brought to the printing point.

Other features and advantages will hereinafter appear.

In the accompanying drawings,

Figure 1 is a view in side elevation, showing the device in operative relation to the type-bars and type-guide.

Figure 2 is a front view of the parts shown in Figure 1, the temporary platen and carrying sleeve being partly in section to show the manner in which the same are mounted on the platen-shaft.

Figure 3 is a detail front view, showing the mounting of the anvil on its supporting bracket.

Figure 4 is a view in side elevation of a modified form of the device.

Figure 5 is a front view of the device shown in Figure 4.

Figure 6 is a longitudinal vertical sectional view of the anvil shown in Figure 5.

Figure 7 is a horizontal sectional view on the line 7—7 of Figure 5.

Referring to the drawings, the platen-frame 1 is shown as having bearing pieces 2 for a lengthwise-removable platen-shaft 3 carrying the usual hand-wheel 4. A platen 5, which the workman temporarily substitutes for the usual platen, is fast on a hollow roll 6, which in turn is fast to a hollow shaft or sleeve 7 through which the platen-shaft 3 is passed. At one end, the platen roll 6 is provided with a ratchet 8, engaged by a detent 8^a, for holding the platen against rotary displacement. The ratchet 8 has a hub 9 for centering the same in the sleeve 7, and is secured to the roll 6 by screws 10. At its other end the roll 6 has a face plate or metal flange 11 secured thereto by screws 12. Each end of the hollow shaft 7 has a bushing 13 fitted into the same; and a set screw 14 at the right-hand end passes through the sleeve 7 and bushing 13 to engage the shaft 3, so that the platen may be turned as a unit with the platen-shaft when the wheel 4 is turned.

As will presently appear, the platen 5 is merely a try-out device to be employed by the workman to test his work after the operation of placing the type block on the type-bar has been performed. The actual type-positioning tool or device is shown at the right of the platen 5, at or near the center of the hollow shaft or sleeve 7. It comprises an arm or bracket 15 which includes a collar adjustable angularly on the shaft 7, and fixable on the latter by means of set-screws 16. Two wings or ears 17, integral with the collar portion 15, form a bifurcation or yoke into which is set the heel 18 of a type-rest or anvil 19. In order that the anvil 19 may be adjustable angularly, as well as backward and forward on the bracket 15, the heel 18 thereof is slotted or bifurcated at 20 to have play on a stud 21 which passes through one of ears 17 and threads into the other ear 17 (see Figure 3). The fit of the heel 18 between the ears 17, and the flexibility of the ears 17, are such that when the stud is turned to tighten it, the ears 17 will bind the heel 18, to hold the anvil in any adjusted position. The backward and forward adjustment of the anvil may in part be effected by angular adjustment of the bracket 15 on the shaft 7. This angular adjustment of the bracket 15 is, however, more particularly employed for up-and-down adjustment of the anvil as a whole. At the foot of the face or platform 22 of the anvil is an aligning ledge and rest 23 for the type-block 24.

In operation, assuming that a type is to be changed or replaced, the workman first removes the old type from its bar 25. The bars 25 are of sheet-metal, soldered at their ends into slots 26 in the backs of the type-blocks, and bent at their ends according to the angles from which they strike. To remove a type it is therefore only necessary to break the solder which holds the same to its bar. Before solder can be applied to affix another type to the bar, however, the proper position for the new type, both lengthwise and angularly of the bar, must be determined, and the new type must be held on the anvil in its determined proper position for the soldering operation.

When on the anvil, the face of the type is to be flat against the anvil platform 22, and the base of the type-block to be squarely on the aligning ledge 23 thereof. The first step is therefore properly to position the anvil so that any type thereon will be in proper alignment with the other types, and, like the latter, will strike the platen flatly. One of the other types is accordingly employed in positioning the anvil. The bracket 15 is positioned at the printing position on the shaft 7, or the carriage is moved to bring the bracket 15 to such position. With the screws 16 and 21 loose, a type-key is depressed to bring its type-block against the anvil. While the type-block is so held, the bracket 15 and anvil are moved on their pivots until the face of the type-block rests flatly against the anvil platform, and the lower edge of the type-block rests squarely on the aligning ledge 23 of the anvil. When this setting is obtained the screws 16 and 21 are tightened, and the type-key released. The anvil is then ready for the operation of affixing the desired new type-block to its bar. The new block is placed upon the anvil with its face flat against the platform 22 and its lower edge squarely on the ledge 25. Thus held, the bar is swung up, inserted into the slot in the back of the type-block, and the solder applied.

To test the result, the platen-carriage is then moved to bring the platen 5 to the printing point, and the new type is printed with others of the types. Any inaccuracy in the work may be corrected by repeating so much of the previous operation as may be necessary.

On completion of the operation, the platen-shaft 3 is removed to permit removal therefrom of the workman's equipment, and the true or normal platen substituted for such equipment.

The drawings show draw-rods 26[a] for operating the type-bars from the keys, and a type-guide 27 co-operating with guide-fingers 28 on the type-bars. These last are well-known features acting in their usual way.

In the form of the invention shown in Figures 4 to 7, inclusive, there is a bracket 30 angularly adjustable on the sleeve 7 and fixable thereon by means of set-screw 31 in the same manner as is the bracket 15 of the Figure 1 device. In this second form of the invention, however, the anvil 32 is not directly supported upon the bracket 30, but is engaged upon a bracket 33, which is carried by the bracket 30. For supporting the bracket 33 on the bracket 30, the latter has two parallel spaced bifurcations 34 to receive two ears 35 which are integral with the bracket 33; the ears 35 having slots 36 to receive a stud 37, which also passes through ears 38 which form the side walls of the bifurcations 34 of the bracket 30, and which stud is threaded at one end, so that when tightened it will cause the ears 35 of the bracket 33 to be bound and held, against angular or backward or forward movement, by the ears 38 of the bracket 30. The pin-and-slot connection, formed by the slots 36 and stud 37, therefore, has the same function, as to the positioning of the bracket 33 as has the pin-and-slot connection 20—21 in the Figure 1 form of the invention.

The bracket 33 has a front plate 39 against which the anvil 32 rests, and the anvil is slidable up and down on the front of the bracket-plate 39. To this end, the bracket-plate 39 has secured thereto, by means of screws 40, strips or plates 41 in which are formed guideways for the side edges of the anvil platform (see Figure 7). At its upper end the anvil has an offset 42 which projects through an opening 43 in the bracket-plate 39, and which at the rear of the bracket-plate 39 is bifurcated to receive a screw 44. The screw 44 is a thumb-screw, threaded into an offset 45 of the bracket 33, and grooved near its end to fit in the slot or bifurcation in the offset 42 of the anvil, and thus to have shoulders which bear upon the offset 42; so that, as the screw 44 is turned by its milled head 46, the anvil is moved up or down on the front plate 39 of bracket 33. By means of the screw 44 a very fine vertical adjustment of the anvil may be obtained with little inconvenience, and without involving any readjustment of the brackets 30 and 33 after their angular settings have once been made. As in the Figure 1 form of the invention, the anvil is provided with an aligning ledge 47 to engage the lower edge of the type-block.

In operation, the form of the invention shown in Figures 4 to 7 is much like that of Figures 1 to 3. In the latter form, however, the angular movement of the bracket 30 on the shaft 7 is more for the purpose of effecting a forward-and-backward adjustment of the anvil as a whole than of effecting any upward or downward adjustment of the anvil. The upward-and-downward adjustment of the anvil may be effected by the screw 44 and the angular adjustment of the anvil by means of its pivot on the stud 37. Therefore, after all other adjustments have been effected, and while the brackets 30 and 33 stand locked by their screws 31 and 37, a correction, upward or downward, of the position of the aligning ledge 47 may be effected.

Variations may be resorted to within the scope of the invention, and portions of the improvements may be used without others.

Having thus described my invention, I claim:

1. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, and a type-rest or anvil carried by said arm and adjustable thereon also in a plane at right angles to the platen, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

2. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arms is adjustable in a plane at right angles to the platen, and a type-rest or anvil carried by said arm and angularly adjustable thereon also in a plane at right angles to the platen, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

3. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, and a type-rest or anvil carried by said arm and backwardly and forwardly adjustable thereon also in a plane

at right angles to the platen, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

4. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, and a type-rest or anvil carried by said arm and backwardly, forwardly and angularly adjustable thereon also in a plane at right angles to the platen, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

5. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is angularly adjustable in a plane at right angles to the platen, and a type-rest or anvil carried by said arm and adjustable thereon also in a plane at right angles to the platen, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

6. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, and a type-rest or anvil having a pin-and-slot connection to said arm for adjustment thereon also in a plane at right angles to the platen, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

7. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, a type-rest or anvil having a pin-and-slot connection to said arm for adjustment thereon also in a plane at right angles to the platen, and means for tightening the pin to fix the adjusted position of the anvil on the arm, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

8. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a bifurcated arm, a support on which the arm is adjustable in a plane at right angles to the platen, a type-rest or anvil having a slotted heel in the bifurcation of said arm, and a screw passing through the bifurcation and loosely through the slot to permit adjustment of the anvil on the arm in a plane at right angles to the platen when the screw is loosened, but to cause the anvil heel to be jammed and the anvil held in adjusted position when the screw is tightened, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

9. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, a type-rest or anvil carried by said arm and adjustable thereon also in a plane at right angles to the platen, a platform on said anvil for engagement with the faces of the type-blocks, and an aligning ledge on the anvil for the base of the type-blocks, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat on the platform with the base of the type-block on said aligning ledge.

10. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, an angularly adjustably bracket secured on said arm in a plane at right angles to the platen, and a type-rest or anvil having means for adjustment up and down on said bracket, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

11. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is manually adjustable in a plane at right angles to the platen, a bracket adjustable backwardly and forwardly on said arm in a plane at right angles to the platen, means for clamping said bracket in adjustment, and a type-rest or anvil adjustably mounted to move up and down on said bracket, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried

thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

12. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, a bracket manually adjustable angularly, backwardly and forwardly on said arm in a plane at right angles to the platen, means for clamping said bracket in adjustment, a type-rest or anvil adjustable up and down on said bracket, and means for moving said anvil therealong, said device being positionable at the printing point; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

13. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm, a support on which the arm is adjustable in a plane at right angles to the platen, a bracket having slotted ears adjustable angularly on said arm in a plane at right angles to the platen, and a type-rest or anvil having a screw connection to said bracket for adjusting the same up and down thereon.

14. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm having a pair of slots therein, a support on which the arm is angularly adjustable in a plane at right angles to the platen, a bracket having a pair of ears extending into the slots in said arm, a screw extending through said arm and loosely through slots in said bracket-ears to provide a pin-and-slot connection between said arm and said bracket for back-and-forth and angular adjustment of the bracket on the arm, said screw when tightened causing the bracket to be held in adjusted position, a type-rest or anvil adjustable up and down on the bracket, and means for actuating said anvil, whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat thereon.

15. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising an arm having a pair of slots therein, a support on which the arm is angularly adjustable in a plane at right angles to the platen, a bracket having a pair of ears extending into the slots in said arm, a screw extending through said arm and loosely through slots in said bracket-ears to provide a pin-and-slot connection between said arm and said bracket for back-and-forth and angular adjustment of the bracket on the arm, said screw when tightened causing the bracket to be held in adjusted position, a type-rest or anvil adjustable up ond down on the bracket, means for actuating said anvil, a platform on said anvil for engagement with the faces of the type-blocks, and an aligning ledge on the anvil for the base of the type-blocks; whereby, upon operation of a type-bar, the type-block carried thereby may strike the anvil, and the anvil-supporting arm and anvil be adjusted to cause the face of the type-block to lie flat on the platform with the base of the type-block on said aligning ledge.

16. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a bracket on said sleeve, and a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon.

17. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a bracket adjustable lengthwise of said sleeve, and a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon.

18. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a bracket angularly adjustable on said sleeve, and a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon.

19. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a bracket angularly adjustable on said sleeve, and a type-rest or anvil angularly adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon.

20. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-

shaft, a bracket angularly adjustable on said sleeve, and a type-rest or anvil having a pin-and-slot connection to said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon.

21. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a ratchet fast to said sleeve for engagement with a detent on the typewriting machine to hold the sleeve after angular displacement, a bracket on said sleeve, and a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon.

22. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a bracket on said sleeve, a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon, and a short-length platen fast to said sleeve at one side of said bracket for testing the alignment of the inserted type-block.

23. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the platen is removed, means for securing said sleeve to the platen-shaft, a bracket on said sleeve, a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon, and a short-length platen, of the diameter of the true platen, fast to said sleeve at one side of said bracket for testing the alignment of the inserted type-block.

24. A device for positioning type-blocks on the type-bars of a typewriting machine, comprising a sleeve mountable on the platen-shaft when the planten is removed, means for securing said sleeve to the platen-shaft, a ratchet fast to said sleeve for engagement with a detent on the typewriting machine to hold the sleeve after angular displacement, a bracket on said sleeve, a type-rest or anvil adjustable on said bracket; whereby, upon operation of the type-bars, the type-blocks carried thereby may strike the anvil, and the anvil be adjusted to cause the face of the type-block to lie flat thereon, and a short-length platen fast to said sleeve at one side of said bracket for testing the alignment of the inserted type-block.

25. A typewriting machine having pivoted type-bars and type-blocks, a device for positioning the type-blocks on the type-bars, and a temporary try-out platen for testing the type so positioned.

26. A typewriting machine having pivoted type-bars, a platen-shaft, means for removably attaching a platen to the shaft, and a device removably attached to the shaft for positioning type-blocks on the type-bars.

27. A typewriting machine having pivoted type-bars, a platen-shaft, means for removably attaching a platen to the shaft, a device removably attached to the shaft for positioning type-blocks on the type-bars, and a temporary try-out platen removably affixed to the shaft at one side of said positioning device.

28. A typewriting machine having pivoted type-bars, a platen-carriage and platen-shaft thereon, a type-rest or anvil removably attached to the shaft and adapted to be engaged by the type when the type-bars are swung to the printing point, and means for adjusting the anvil to such position that the face of any type swung thereto will lie flat thereon.

29. A typewriting machine having pivoted type-bars, a platen-carriage and platen-shaft thereon, a type-rest or anvil removably attached to the shaft and adapted to be engaged by the type when the type-bars are swung to the printing point, a device on the anvil for aligning the base of the type, and means for adjusting the anvil to such position that the face of any type swung thereto will lie flat thereon with its base in registration with said aligning device.

30. A typewriting machine having pivoted type-bars, a platen-carriage and platen-shaft thereon, a type-rest or anvil removably attached to the shaft and adapted to be engaged by the type when the type-bars are swung to the printing point, means for adjusting the anvil to such position that the face of any type swung thereto will lie flat thereon, and a try-out platen removably attached to the shaft.

31. A front-strike typewriting machine, comprising pivoted type-bars mounted to swing to typing positions, and a gage for locating type-blocks in typing position at the common printing point of the machine for securement to the type-bars, the arrangement being such that each type-block secured to its type-bar in gaged position will be mounted to print correctly at the common printing point.

32. A typewriting machine comprising type-bars, means supporting said type-bars for swinging movement to a common printing position, a type-guide for exactly locat-

ing the outer ends of the type-bars with reference to the printing point of the machine in printing position, and a gage for locating type-blocks exactly at the printing point for securement to the type-bars, the arrangement being such that each gaged type-block secured to its type-bar in the position of the type-bar determined by the type-guide will be mounted to print correctly at the common printing point.

JOSEPH LINDBURG.

Witnesses:
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