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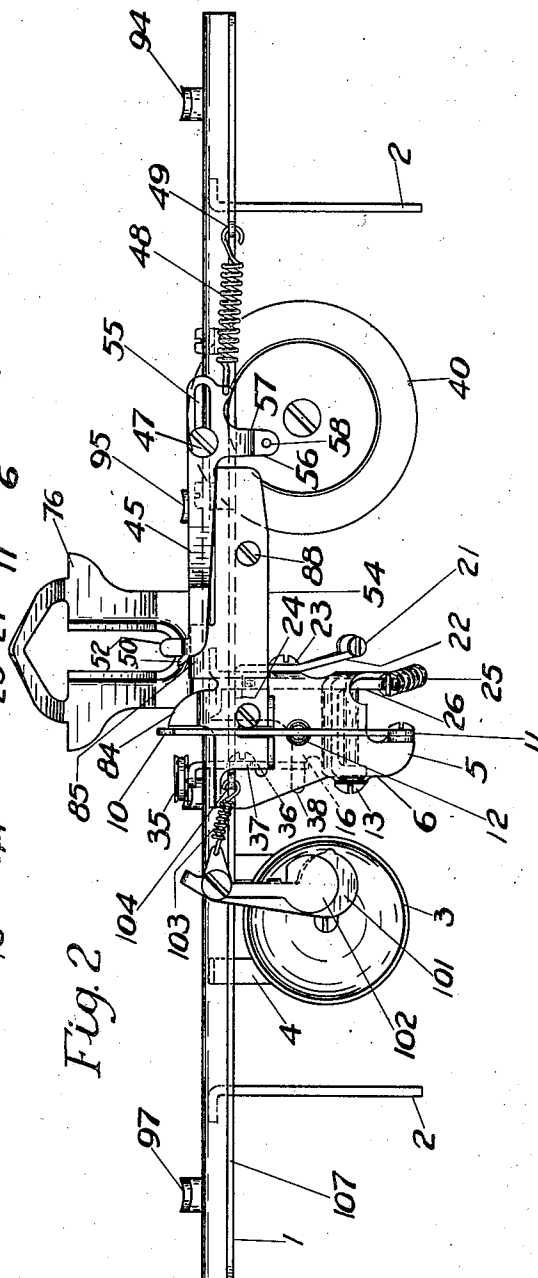
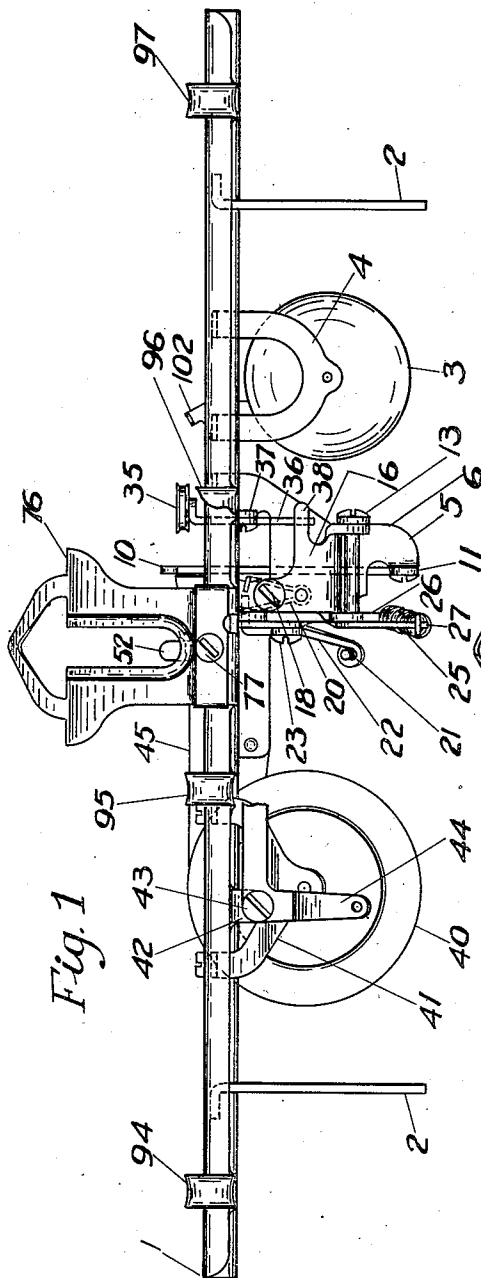
G. F. ROSE

2,090,900

TYPEWRITING MACHINE

Filed July 28, 1932

3 Sheets-Sheet 1



GEORGE F. ROSE INVENTOR

BY

Frank W. Cahill ATTORNEY

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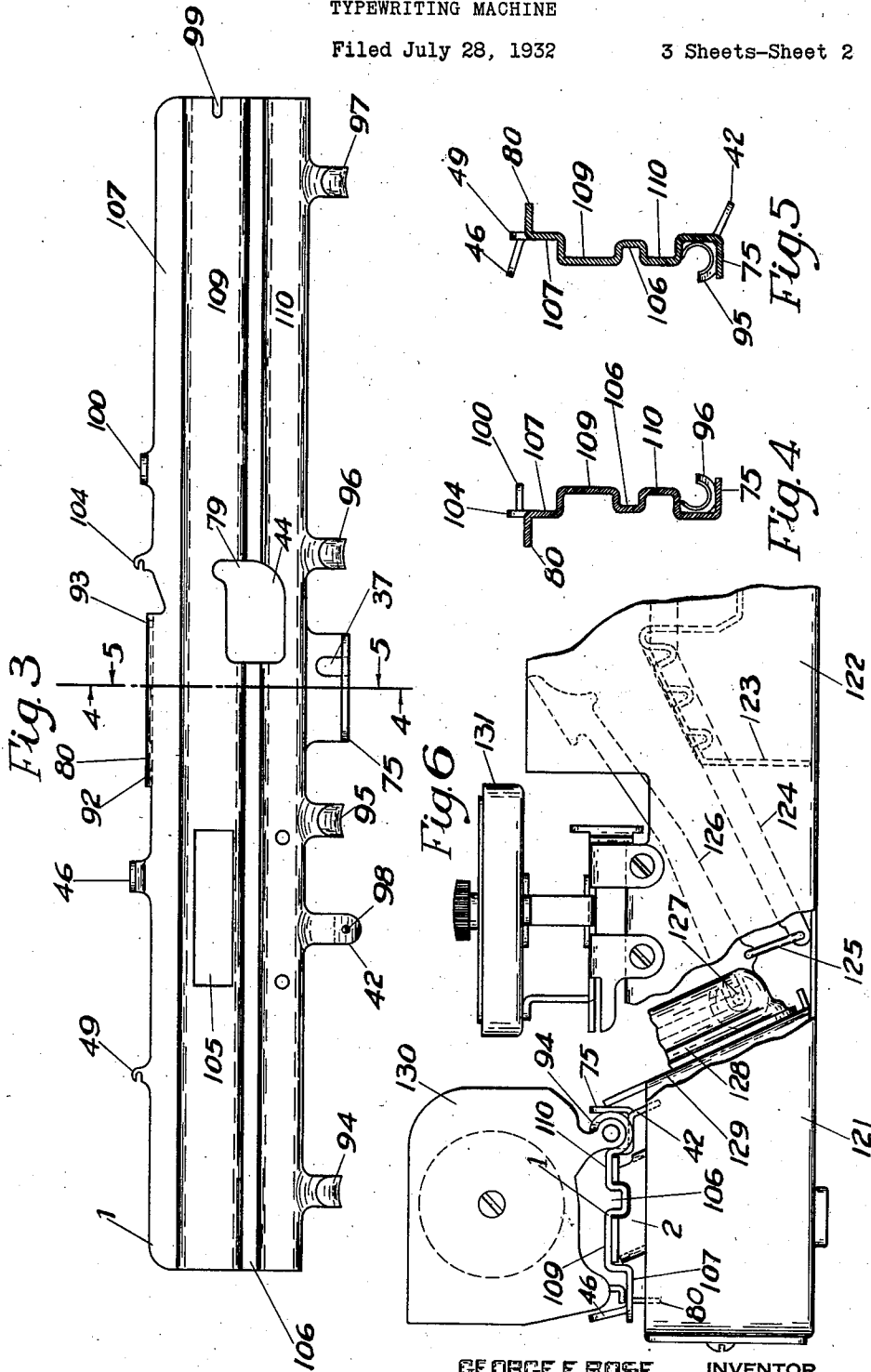
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3 Sheets-Sheet 2



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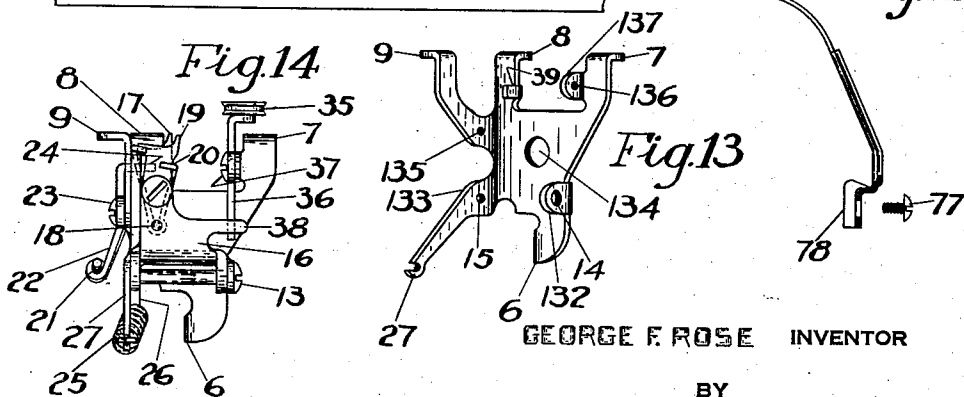
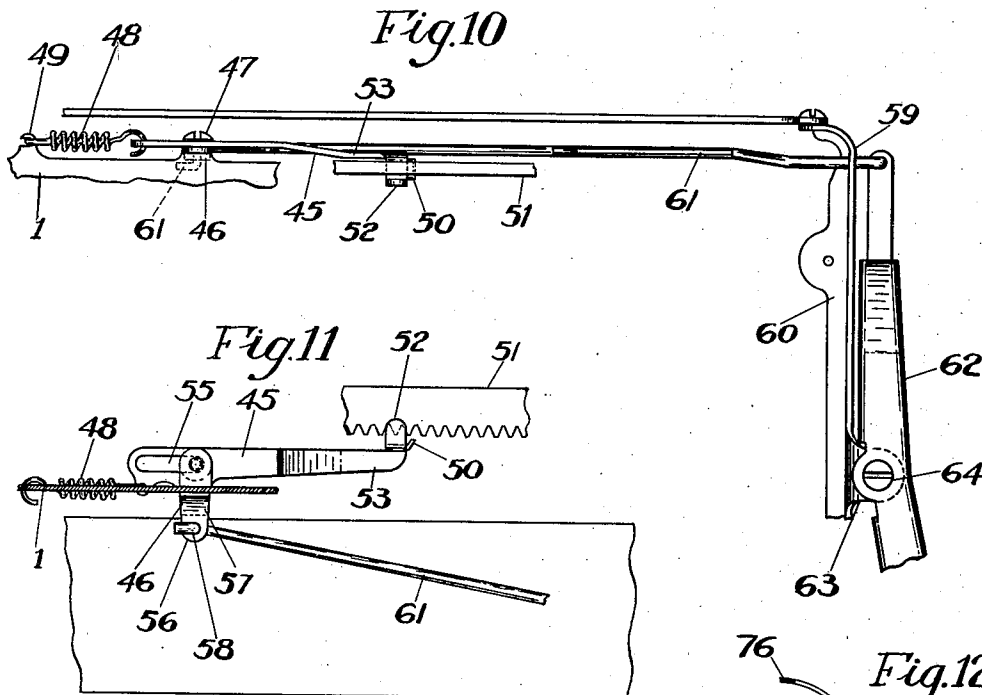
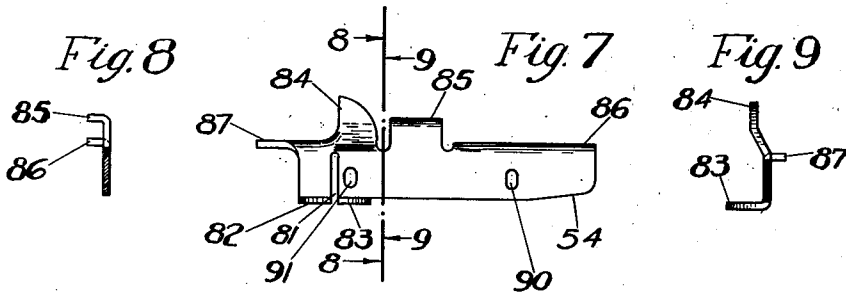
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

2,090,900

TYPEWRITING MACHINE

George F. Rose, New York, N. Y.

Application July 28, 1932, Serial No. 625,262

11 Claims. (Cl. 197—60)

This invention relates to typewriting machines and more particularly to the striking type bar variety and it provides, as one of its important objects, a unique and novel work carriage bedplate that preferably is stamped up from sheet metal of weight and dimensions to withstand the strain for which it is intended.

Another object is to prepare the bedplate for the reception of various other elements which will be carried thereby.

A further object is to assemble the other elements and attach them to the bedplate, preferably by spot-welding, in a manner that makes assemblage of the machine much more simplified and the operation thereof more efficient, as well as adding to the compactness of the machine.

Still further objects are to provide a novel manner of attaching the paper guide to the carriage bedplate, a novel carriage gib that performs other duties in addition to retaining the carriage and carriage bedplate together, a novel back spacing pusher and manner of operating it as well as a new and unique bracket upon which both the escapement mechanism and carriage locking means are assembled.

Referring to the drawings,

Fig. 1 is an elevation of the bedplate and attached parts, looking from what would normally be the front of the machine;

Fig. 2 is a view similar to Fig. 1, looking from what is normally the rear of the machine;

Fig. 3 is a top plan view of the bedplate alone;

Fig. 4 is a section of the bedplate, taken on line 4—4 of Fig. 3 and looking in the direction of the arrows;

Fig. 5 is a view similar to Fig. 4, but looking in the opposite direction;

Fig. 6 is a side-elevation of a typewriting machine, partly in section and with some parts broken away for clarity, showing the bedplate in position on the machine;

Fig. 7 is a side-elevation of the carriage gib;

Fig. 8 is a vertical section taken on the line 8—8 of Fig. 7;

Fig. 9 is also a vertical section taken on the line 9—9 of Fig. 7;

Fig. 10 is a top plan view of the back spacing mechanism;

Fig. 11 is a front elevation of part of the back spacing mechanism;

Fig. 12 is a sectional view of the paper guide, taken on its vertical center;

Fig. 13 is a perspective view of the escapement hanger, and

Fig. 14 is a front elevation of the hanger and attached parts.

Like reference characters indicate similar parts throughout the several views.

While the invention herein described and claimed may be used in any type of typewriting machine, it is particularly well suited for the portable type and I have shown it in connection with the variety of typewriters known commercially as "Masspro."

Referring especially to Fig. 1 and Fig. 2, the numeral 1 represents the carriage bedplate having spot-welded near the ends thereof the posts 2 that slide in carriage guides attached to the frame and at the proper point therein the bell 3 supported by the bell-holding bracket 4.

At approximately the center is the escapement and carriage locking mechanism, indicated generally by the numeral 5. The hanger 6 is preferably spot-welded to the bedplate 1 through the feet 7, 8, and 9 (Fig. 13 and Fig. 14) the feet 7 and 8 being on one side of a groove in the bedplate while the foot 9 is on the other side, this construction and three point support making the hanger very firm and better able to carry the strain which is imposed upon it. At the lower end of the hanger the handle 10 of the carriage lock is pivoted, as shown at 11 and above the pivot is a finger 12, protruding through a hole in the hanger 6, which disengages the escapement pawls from the escapement rack when the handle 10 is pressed forwardly and at the same time locks the carriage by means of an extension also located on the handle and above the finger 12 engaging with the stop rack on the carriage. This carriage locking mechanism is fully described in my Patent #1,677,210. The hanger 6 also has pivoted toward the lower end thereof, on the pivot 13 which extends through openings 14 and 15, the escapement frame 16, of which the uppermost point 17 acts as one pawl of the carriage control means and has pivoted thereto at 18 the loose pawl 19 which is actuated parallel to the carriage by the spring 20, these elements cooperating in the usual manner to control the movement of the carriage. The movement of the pawls is caused through pressure being applied by the universal bar (not shown) upon the end 21 of the escapement operator 22 which is pivoted to the hanger 6 at the point 23 and has its other end 24 turned at an angle and positioned behind the frame 16 so that the frame will be pushed forward when the above referred to pressure is applied and returned to its rearward or normal position by the

spring 25 which is attached to the projection 26 of the frame 16 and to the projection 27 of the hanger 6, this latter projection being stationary with reference to projection 26. The carriage release is operated through a carriage release bar (not shown) pressing rearward on the anti-friction roller 35 which is attached to and turns on the carriage release arm 36, the arm being pivoted to the hanger 6 at the point 37, the lower end being positioned behind the projection 38 of the frame 16 to move the frame forwardly when the roller 35 is moved rearwardly. The bent-back ear 39 acts as a rearward stop for the frame 16. The motive means for moving the carriage is indicated by the numeral 40 and is suspended from the bedplate by the bracket 41.

Pivotaly attached to the lug 42 by the screw 43 is a bell crank 44 (partly broken away) which operates the ribbon vibrator (not shown) while almost directly in back of bell crank 44 is the back space pusher 45 pivoted on a lug 46 by the screw 47 and it is held in inoperative position by the spring 48 which is anchored to the bedplate 1 through projection 49.

Referring more particularly to Figs. 10 and 11, the back space pusher is turned up at one end as indicated at 50 for the purpose of cooperating with the rack bar 51 which is on the carriage. Another turned up portion 52 also at this end, acts as a guide to keep the pusher from wobbling by contacting with the forward side of the rack bar 51 in conjunction with the portion 53, of the body of the pusher, contacting with the rearward side of gib 54. At the opposite end is a slot 55 which slides on the screw 47 while at a point approximately just below the screw 47 is the depending arm 56 offset as at 57. An opening 59 (Fig. 10) is provided in the frame 60 through which the connecting rod 61 extends, this rod being attached at one end to the pusher 45 through the hole 58 and at the other end to the actuating lever 62 which is pivoted to the lug 63, extending from the frame of the machine and preferably integral therewith, by the pivot 64. When the lever 62 is moved toward the frame the rack engaging portion 50 will be lifted to mesh with the rack bar 51, further movement of the lever will move the carriage a space in the back direction. This simplified construction provides a back spacer which consists essentially of but three parts, the lever, the connecting rod and the pusher.

The upwardly extending portion 75 Fig. 3 provides a seat to which the paper guide 76 may be fastened by a single screw 77 and is kept from turning if the screw becomes loose by the turned-back portions 78 fitting closely around the edges of projection 75. The assembling of this element requires only a few seconds but at the same time provides an extremely firm and durable setting for the guide.

The opening 79 is to permit the carriage release arm 36, carrying the roller 35, to extend through the bedplate 1 as well as to permit the pawls 17 and 19 to extend therethrough and work with the carriage rack bar.

The downwardly extending portion 80 provides a seat for the carriage gib 54, the details of the gib being more clearly shown in Figs. 7, 8 and 9. The carriage locking mechanism handle 10 works in and is guided by the slot 81, the horizontal portion of which is formed by the lateral projections 82 and 83 and when the handle is in locking position the gib bears all the strain of holding the carriage from moving as the escapement mech-

anism has been moved to inoperative position as hereinbefore explained. The upwardly projecting lug 84 is slightly offset from the body of the gib which arrangement removes it from the path of the carriage stops and it acts as a brace or support for the handle 10, the natural tendency of the carriage being to force the handle against the lug 84. The gib has another projection 85 upon which the rack engaging end of the back space pusher rests, this projection 85 has its upper portion turned at right angles to the body of the gib thus affording a flat base upon which the back space pusher may rest, but it is wider than that portion of the pusher resting upon it and the right and left hand edges which extend beyond the rack engaging end of the pusher may act, without interference either to or by the pusher, as a carriage stop against which the stops on the carriage may contact. The gib has a still further purpose in acting as a retaining means by slidably retaining the rear end of the carriage on the carriage bedplate. This is accomplished by turning down the portions 86 and 87 at substantially right angles to the body of the gib, this latter feature also serving to greatly strengthen the gib so that there is no question of its easily withstanding the various strains placed upon it. It is believed that the remarkable utility of this simple little element and the manner in which it cooperates with other elements of the machine will be quite evident from the above explanation. It is held in place on the projection 82 by two screws 88 and 89 entering the openings 90 and 91 of the gib and 92 and 93 of the projection. The openings are preferably elongated or in the form of slots in order to permit of adjusting the clearance between the portions 86 and 87 and the rear of the carriage, this feature being highly desirable because it allows for maintaining the positions between the carriage bedplate, the rear end of the carriage and the carriage gib in any desired relationship and if any of these parts become worn it is only necessary to loosen the screws 88 and 89, move the gib downward the desired distance, to insure firmness and then tighten the screws.

When the various elements have been assembled upon the bedplate, as shown in Figs. 1 and 2, the advantages in assembling the entire machine will be very apparent. The elements described above may be attached to the bedplate before the machine, as a whole, is assembled, which procedure will simplify the assembling materially. But, if in a particular machine it becomes desirable to have either more or less elements attached to the bedplate, this change may be made by rearranging the relative positions of the various elements, if such rearrangement is found necessary. By attaching these elements to the bedplate, instead of to the main frame of the machine, as is usually the case, I more evenly distribute the weight and strain that must be borne by the various supporting members. This means that the thickness of the various parts will be more uniform and at the same time smoothness in operation will be advanced.

Fig. 3 is a top plan view of the bedplate alone, showing the bedplate minus all attachments but in condition to have the same attached thereto. Some of the features have already been described and I will here describe the others.

The lugs 94, 95, 96, and 97 projecting from the forward edge thereof, are for the purpose of offering a base upon which the front side of the carriage may slide, the lugs being bent for re-

ception of an element of the carriage in order to prevent the same from being moved from its proper position relative to the bedplate, as well as offering a base upon which the carriage slides.

5 The lug 42 is pierced as at 98 for the reception of a pivot and serves as a base to which the ribbon vibrator 44 may be pivotally attached. At one end of the bedplate is a slot 99 which is merely for the purpose of facilitating assembly and dis-

10 mounting the carriage.
At the rear edge of the bedplate is a lug 100 to which the bell hammer 101 and bell trip 102 may be attached while one end of the spring 103, that actuates the bell trip, may be attached to the hooked portion 104.

15 The opening 105 permits of the motive power reel extending slightly above the level of the top of the bedplate, in order that the cord or tape, which is fastened to the reel and the carriage may move back and forth between the bedplate and the carriage. A groove 106 extending for the entire length of the bedplate is, preferably, the first operation on the bedplate blank and is of sufficient depth and breadth to accommodate the letter-spacing rack bar which is attached to the under side of the carriage.

20 After the groove 106 has been stamped up in the blank, it is then cut to form the various openings and projections and after these have been formed there is a bending operation which includes the rear edge to form a flat base 107 to serve as a track over which the carriage may slide. This leaves the two body portions 109 and 110 which are utilized as a base to which the various elements may be welded.

25 The stamping may be done in one or more operations but from the standpoint of efficiency and quality of the finished product, I have found it preferable to complete the part in three operations. Of course, the mode of procedure may vary for a particular variety of typewriter according as the bedplate becomes more simplified, or more complicated, and also in accordance with the quality and weight of the metal. The various bends lend a great deal of strength and rigidity to the plate.

30 The relative position of the various openings, projections, lugs, etc. may be varied in accordance with the construction of any particular machine or in accordance with the best engineering practice, but I have found the relative positions and dimensions illustrated in Fig. 3 to be particularly convenient for use in the Masspro portable typewriter.

35 Figs. 4 and 5 are sectional views taken through the center of the bedplate and merely indicate more clearly the detailed construction thereof, the various parts being numbered in accordance with the other views.

40 In Fig. 6 is an illustration of the novel bedplate in position in a typewriting machine, the machine being indicated generally by the numeral 121 and it has the frame or sides 122 within which is a key lever support 123 for supporting the key levers 124, those being connected by links 125 to the key bars 126 which in turn are pivoted at 127 to a sector 128 that is supported on the segment plate 129. The carriage 130 is mounted upon the carriage bedplate 1. The ribbon feeding and winding mechanism is indicated generally by the numeral 131. The entire carriage assembly is sufficiently light so that the use of rollers or balls will not be necessary and the carriage may contact with and slide directly on the carriage bedplate.

To more clearly illustrate the details of the assembly 5, Fig. 13 shows the hanger 6 without the attachments thereon. The lug to which the pivot 11 is attached cannot be seen but is directly in the rear of the numeral 6. The pivot 13 extends through the openings 14 and 15 in the portions 132 and 133. The finger 12 of the carriage lock mechanism extends through the hole 134 and the pivot 23 for the escapement operator 22 which is attached through hole 135 of the foot 9 while the carriage release arm 36 is pivoted by screw 37 in the opening 136 in the lug 137.

Fig. 14 shows the hanger 6 and some attached elements which have already been described.

The foregoing description and explanation clearly discloses the fact that I have provided a carriage bedplate capable of supporting many of the elements of usual construction of a typewriter, but arranged and assembled on the bedplate in a manner that greatly simplifies what would otherwise be a comparatively complex assembly and which renders the assembling of the rear portion of the typewriter extremely easy. This simplified assemblage is made possible by the novel bedplate and the form which it assumes as a finished product, with the additional features which are novel of construction and arrangement.

I claim:

1. In a typewriting machine, the combination with a main frame, a plurality of key levers pivotally mounted within said frame and connected with a plurality of type bars also pivotally mounted within said frame of a sheet metal carriage bedplate having a projection from the front edge thereof for reception of a paper guide, a paper guide attached to said projection and prevented from turning thereon by turned back portions of said guide fitting around two sides of said projection.

2. In a typewriting machine having a main frame, a plurality of key levers pivotally mounted within said frame, a plurality of type bars also pivotally mounted within said frame, a work carriage slidably mounted on a sheet metal carriage bedplate having a groove therein to accommodate the carriage movement control rack bar, a hanger suspended from the under side of said bedplate and attached thereto at points on both sides of said groove and arranged for the reception of the escapement mechanism.

3. In a typewriting machine, a bedplate of punched and formed sheet metal upon which the platen carriage is arranged to slide comprising a plurality of longitudinal ribs, a horizontally extending carriage slideway extending rearwardly of said ribs, a plurality of circularly curved lugs extending forwardly of said ribs and spaced longitudinally thereof for guiding and retaining the carriage, a pair of depending supporting posts integrally united with the bedplate on the under side of said ribs and near the respective ends thereof for supporting said bedplate in its normal or shifted position.

4. In a typewriting machine having a longitudinally slidable platen carriage provided with a flat slide member at its rear and a round slide member at its front, a sheet metal bedplate upon which said carriage is slidably mounted, comprising at least two raised corrugations forming longitudinal strengthening ribs and a rearwardly projecting flat horizontal slideway upon which said flat slide member of the carriage is arranged to slide, the front longitudinal rib of said bedplate having

spaced along its free edge a plurality of forwardly extending circularly formed loops in which said round slide member of the carriage is arranged to slide and means for maintaining the platen carriage in slidable relation with said bedplate.

5 5. In a typewriting machine having a longitudinally slidable platen carriage provided with a flat slide member at its rear and a round slide member at its front, a sheet metal bedplate upon which
10 said carriage is slidably mounted, comprising at least two raised corrugations forming longitudinal strengthening ribs and a rearwardly projecting flat horizontal slideway upon which said flat slide
15 member of the carriage is arranged to slide, the front longitudinal rib of said bedplate having spaced along its free edge a plurality of forwardly extending circularly formed loops in which said
20 round slide member of the carriage is arranged to slide, a centrally located tongue piece depending from the rear edge of said bedplate slideway and a gib adjustably secured to said tongue piece in
cooperative relation with said flat slide member of the carriage for maintaining the latter in proper
sliding relation with said bedplate.

25 6. In a typewriting machine having a longitudinally slidable platen carriage provided with a flat-slide member at its rear and a round slide member at its front, and a feed rack extending downwardly longitudinally therebetween, a sheet metal bed-
30 plate upon which said carriage is slidably mounted, comprising two raised corrugations forming longitudinal strengthening ribs, the two ribs being spaced apart to form a groove therebetween into which said carriage feed rack is adapted to extend,
35 and a rearwardly projecting flat horizontal slideway upon which said flat slide member of the carriage is arranged to slide, the front longitudinal rib of said bedplate having spaced along its free edge a plurality of forwardly extending circularly

formed loops in which said round slide member of the carriage is arranged to slide and means for maintaining the platen carriage in slidable relation with said bedplate.

7. A typewriting machine as in claim 6 where-
5 in an escapement for cooperation with said feed rack is operatively supported below the bedplate and a bracket spotwelded to the under side of the bedplate is arranged to support said escapement, the bedplate being provided with an opening
10 through which the escapement extends for cooperation with said rack.

8. A typewriting machine as in claim 6 where-
15 in the front rib of said bedplate is provided with a tongue piece extending forwardly and upwardly from its front edge substantially at its middle and a paper guide arranged to cooperate with the platen carriage is fixedly mounted thereon.

9. A typewriting machine as in claim 6 where-
20 in a signal bell for cooperation with the platen carriage is mounted on a depending bracket spotwelded to the under side of said bed plate and the rear edge of said slideway is provided with a lug to which the bell hammer and operating trip are
25 pivoted.

10. A typewriting machine as in claim 6 where-
in a spring retracted back space lever is arranged to cooperate with the rack on the platen carriage and the rear edge of said bedplate slideway is
30 provided with an integral pivot supporting lug for the back space lever and a hook lug for its retracting spring.

11. A typewriting machine as in claim 6 where-
35 in a ribbon vibrating lever is mounted in front of the platen carriage and the front edge of the front rib of said bedplate is provided with an integral lug upon which said lever is pivotally supported.

GEORGE F. ROSE.