June 9, 1925. 1,541,742

J. WALDHEIM

TYPEWRITING MACHINE

Filed June 4, 1921 4 Sheets-Sheet 1

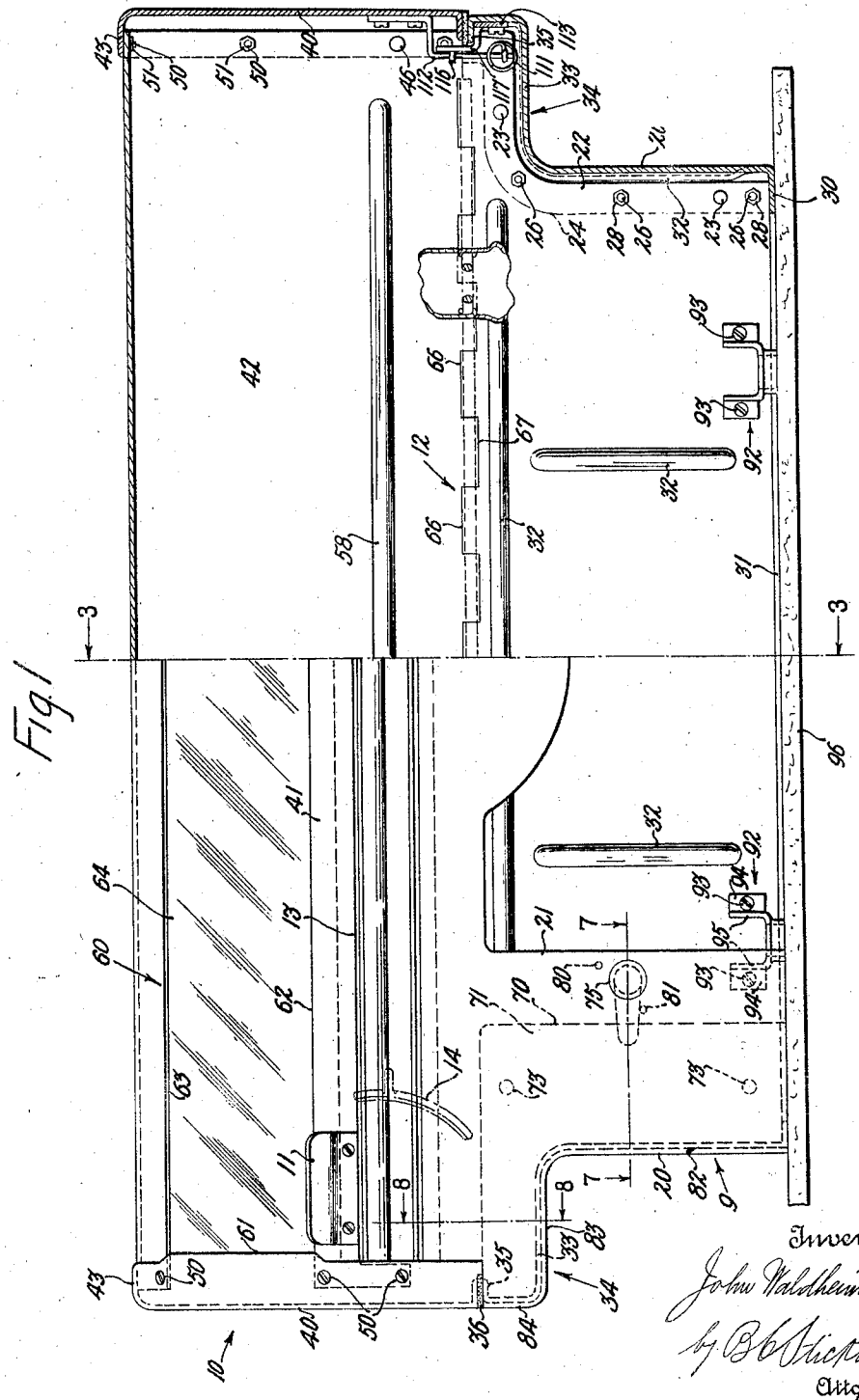


Fig. 1

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Filed June 4, 1921 4 Sheets-Sheet 2

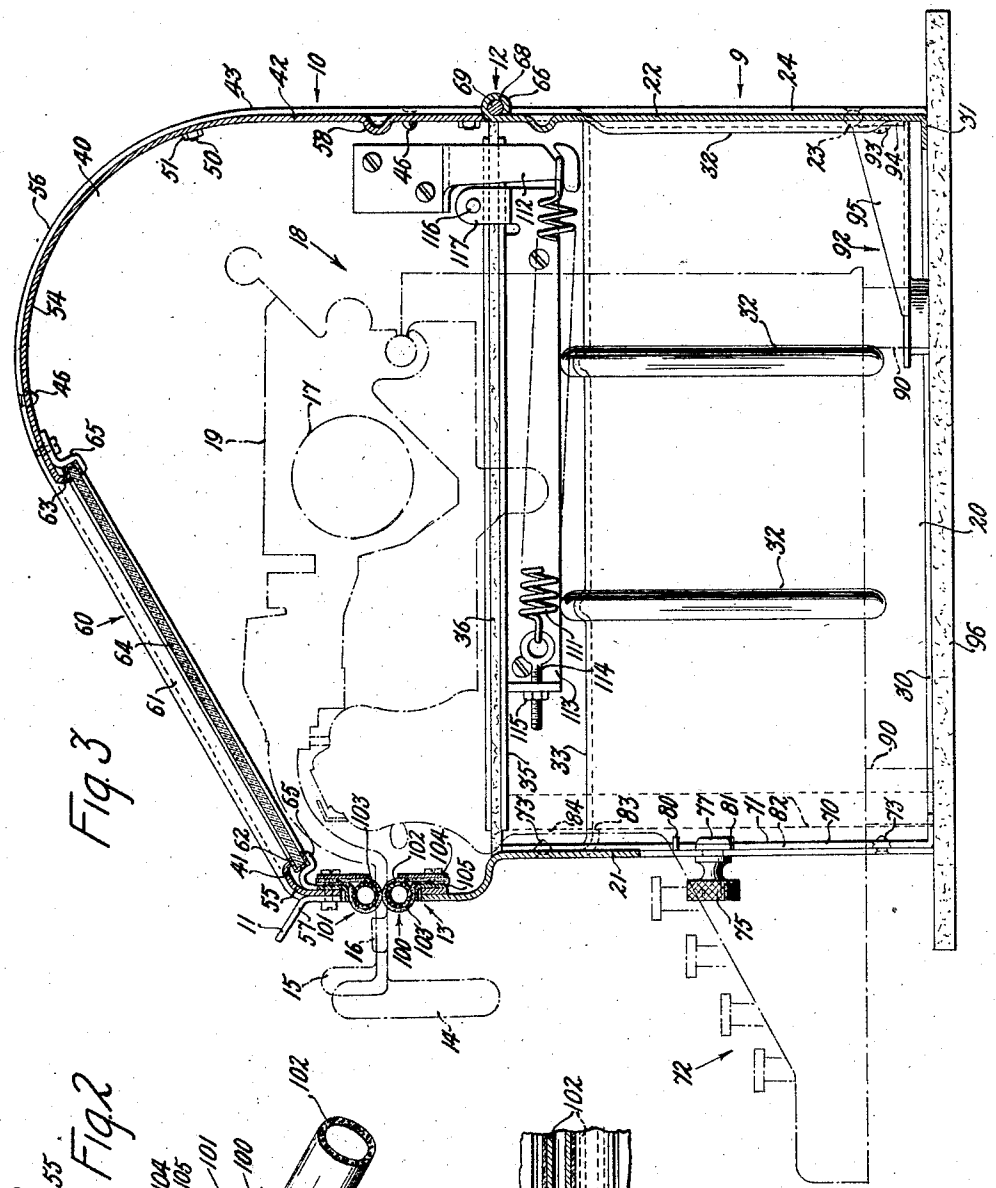


Fig. 3

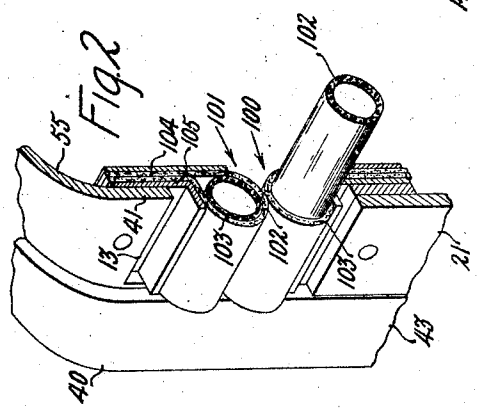


Fig. 2

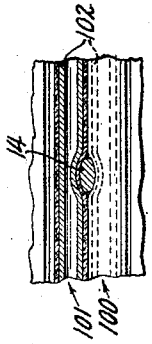


Fig. 4

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TYPEWRITING MACHINE

Filed June 4, 1921 4 Sheets-Sheet 3

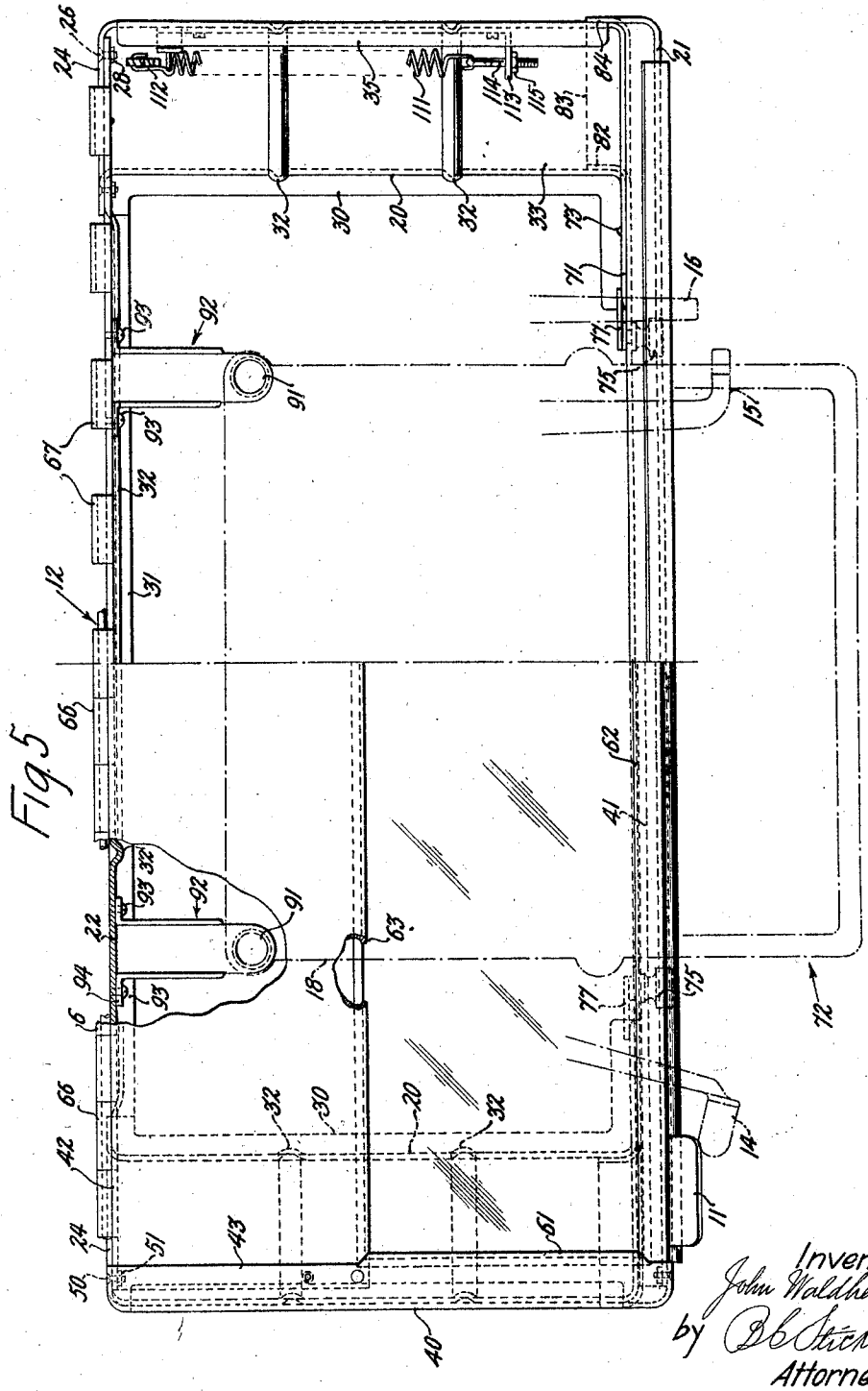


Fig 5

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June 9, 1925. 1,541,742

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TYPEWRITING MACHINE

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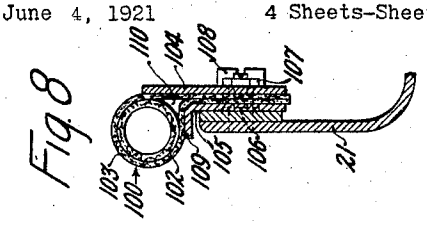


Fig 8

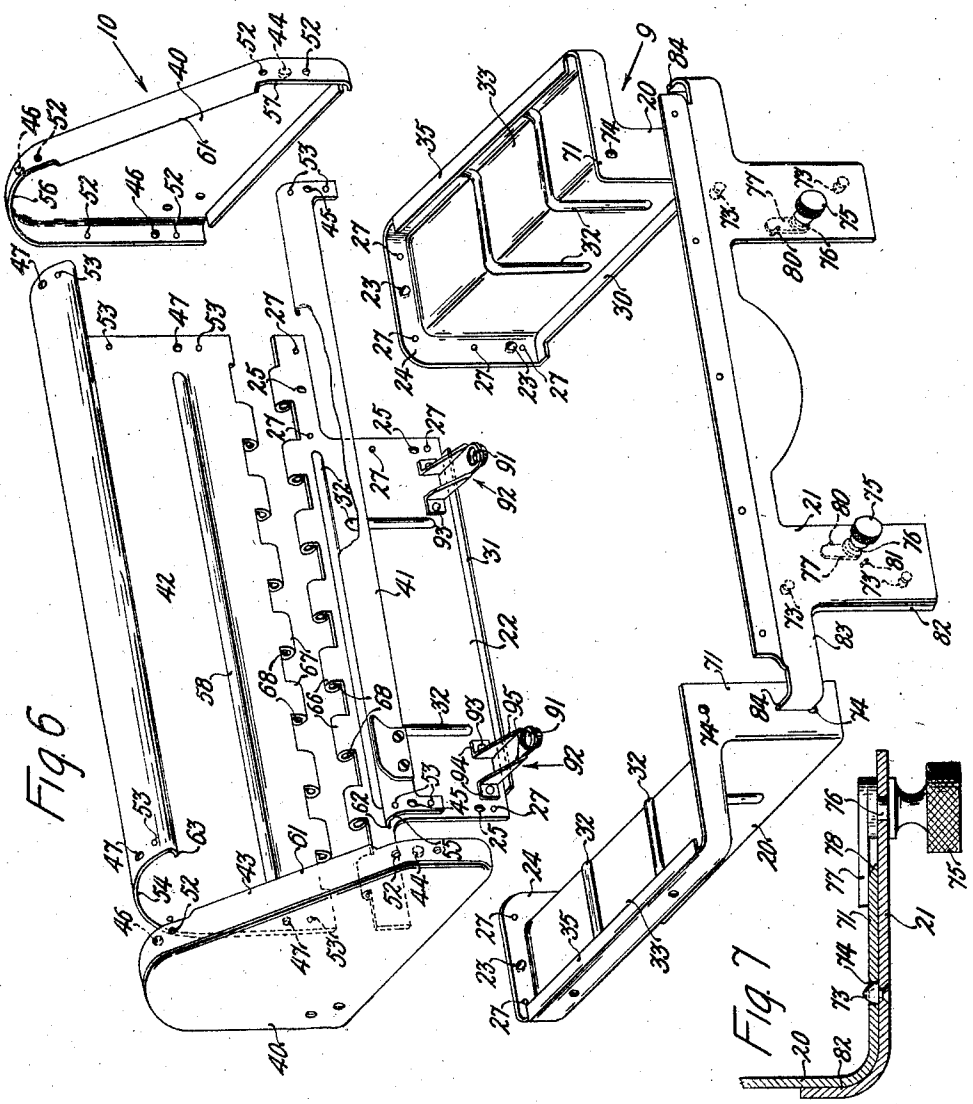


Fig 6

Fig 7

Inventor:
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Patented June 9, 1925. 1,541,742

UNITED STATES PATENT OFFICE.

JOHN WALDHEIM, OF ELIZABETH, NEW JERSEY, ASSIGNOR TO UNDERWOOD TYPEWRITER COMPANY, OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

TYPEWRITING MACHINE.

Application filed June 4, 1921. Serial No. 475,061.

To all whom it may concern:

Be it known that I, JOHN WALDHEIM, a citizen of the United States, residing in Elizabeth, in the county of Union and State of New Jersey, have invented certain new and useful Improvements in Typewriting Machines, of which the following is a specification.

This invention relates to sound-deadening casing or hoods for typewriting machines, and is in the nature of improvements on such casings as shown in my copending application, No. 466,820, filed May 4, 1921, now (Patent No. 1,519,645, dated December 16, 1924), in which the line-space lever, the carriage-return handle and the carriage-release lever project out of the hood through a slot and between slot-closing cushions disposed lengthwise of the slot, so that the platen may be line-spaced and the carriage returned or released from the exterior of the casing.

In casings of this kind, in order to have them as light and as strong as possible, it has been proposed to make them of thin sheet-metal re-enforced with skeleton framework.

An object of the present invention is to provide a casing which is simple in construction, so that it may be produced at a minimum cost, and which has a maximum strength with minimum weight. To this end, the casing of the present invention is composed of thin sheet-metal, and is so designed as to eliminate the necessity of a re-enforcing framework.

A feature of the invention resides in so constructing the casing that the cover and body part thereof may be readily disassembled or knocked down, to be packed for convenience in shipping, so as to occupy a smaller space than when assembled or set up for use, means being provided for readily locating the parts relatively to each other in assembling, said locating means being independent of fastening means which hold the various parts together.

Another feature of the invention resides in the method of fastening a front plate of the casing, so that it may readily be released to enable the machine to be placed within the casing.

Another feature of the invention is the provision of improved means for locating the machine within the casing and for holding the casing relatively to the machine while the releasable front plate is being adjusted thereto.

A further feature of the invention relates to slot-sealing cushions or lips through which extend the carriage-controlling handles. The lips are soft rubber tubes which have the characteristic that they yield locally to the carriage handle, without leaving gaps adjacent the handle. The tendency of the rubber to make a drag on the carriage by its friction upon the handles, however, is overcome by interposing a slip-jacket to contact with the handles and avoid retarding of the carriage.

Still another feature of the invention relates to improved means comprising a spring to assist the upward movement of the cover, and means to adjust the tension of said spring.

Other features and advantages will hereinafter appear.

In the accompanying drawings—

Figure 1 is a front elevation, partly in section, of the casing.

Figure 2 is a detail perspective view of a portion of the casing and shows the slot-closing cushions thereon.

Figure 3 is a sectional side view of the casing, taken on the line 3—3 of Figure 1.

Figure 4 is a detail view, showing portions of the slot-closing cushions and one of the handles of the carriage extending between them, the upper cushion being shown in section.

Figure 5 is a top plan view of the lower part of the casing, the cover being removed.

Figure 6 is a perspective view, showing the cover and body part of the casing disassembled into their various parts.

Figure 7 is a fragmentary top sectional view, taken on the line 7—7 of Figure 1, and shows the method of fastening the front plate to the casing.

Figure 8 is an enlarged detail view of the lower slot-closing cushion, and shows the method of assembling and securing the same, and also the method of supporting the ends of the casing by means of the front plate, the section being taken on the line 8—8 of Figure 1.

The casing comprises a base or body portion 9, to which is pivoted a cover 10, which may be swung, by means of a finger-piece 11, about a hinge 12. A slot 13 is formed

between the cover and the body portion at the front of the casing, through which various handles, including the line-space handle 14, the carriage-return handle 15 and the carriage-release handle 16, may extend, so that the platen 17 of a typewriting machine 18 within the casing may be line-spaced and a carriage 19 returned or released without lifting the cover of the casing.

The body portion and cover are formed of detachable sheet-metal plates semi-permanently secured to each other so that they may be disassembled or knocked down for shipping, and assembled or set up for use.

The body portion 9 comprises four walls or plates, namely, two end plates 20, a front plate 21 and a back plate 22. The back plate and the end plates may be located, in assembling, by means of dowel-pins 23 projecting inwardly from flanges 24 on said end plates 20, said dowel-pins entering holes or perforations 25 in the back plate 22 (Figure 6). After the plates 20 and 22 have thus been located, they may be semi-permanently fastened or secured to each other by means of flat-head screws 26 passing through holes 27 in the flanges 24 and the back plate 22, said screws being provided at their inner ends with nuts 28 to prevent loosening thereof.

The end or side plates 20 and the back plate 22 are provided with base flanges 30 and 31, respectively, which are bent up from said plates, and ribs 32 pressed inwardly on said plates, said flanges and ribs serving to strengthen or re-enforce said plates. The end plates are provided with horizontal extensions 33 to form with the cover 10 lateral extensions 34 (Figure 1) of the casing, which the carriage enters in its travel. The end plates are also provided, at their upper edges, with bent-off portions or ledges 35, which may be covered with felt strips 36 secured thereto and upon which the cover 10 may rest. The front plate 21 of the body portion 9 is detachably mounted on the casing in a manner and for a purpose hereinafter described.

The cover 10 of said casing comprises four walls or plates, namely, two end plates 40, a front plate 41 and a back plate 42, the end plates 40 being provided with inwardly-arched flanges 43, said flanges having dowel-pins 44 thereon to enter the holes 45 in the front plate 41 and dowel-pins 46 to enter the holes 47 in the back plate 42 to locate said plates when assembling the cover. Flat-head screws 50, having nuts 51 at their inner ends, are provided to semi-permanently fasten the plates 40, 41 and 42 together, the screws passing through holes 52 in the end plates and holes 53 in the front and back plates. The back plate of the cover is arched forwardly and downwardly at 54 (Figures 3 and 6), while the front plate is arched upwardly and rearwardly at 55, the end plates 40 being shaped, by arching the flanges 43 at 56 and 57, to conform with the arches 54 and 55 of the back plate and the front plate. It will be understood that, by so arching the front and back plates, and also the flanges on the end plates, considerable strength and rigidity is given to the cover. To further strengthen the cover, the back plate thereof may be provided with a re-enforcing rib 58 pressed up therefrom.

To enable the typing to be viewed without lifting the cover, the latter is provided with a rectangular opening 60 formed between the inner edges 61 of the end plates, the rear edge 62 of the front plate, and the front edge 63 of the back plate, all of the edges 61, 62 and 63 being bent inwardly (Figures 3 and 6) to form abutments for a transparent plate 64 secured to said cover to close the opening 60 against the emission of sound from the casing, said transparent plate being held in position by suitable clamps 65, of which there may be one at each corner.

The hinge 12 for the cover may be composed of projections or knuckles 66 and 67 bent up alternately from the back plates 22 and 42 to form perforations 68 through which the pin or bolt 69 of the hinge may be inserted. With the present construction the two back plates 22 and 42 may first be assembled and then the end plates 20 and 40 may be connected thereto. It should be understood, however, that, by locating the pin 69 slightly to the rear of the position it now occupies (Figure 3), so that it clears the flanges 24 and 43 of the end plates, the pin 69 may be inserted after the various parts of the base and the cover have been assembled.

An opening 70 is formed in the body portion of the casing at the front between front flanges 71 of the end plates, said opening enabling the machine to be placed within the casing, the cover 10 being also raised at this time, the keyboard section 72 of the machine projecting through said opening. After the machine is placed inside the casing, the front plate 41 may be attached thereto to close all of the opening except that occupied by the keyboard section of the machine.

The front plate is herein shown as detachable from the hood, and may be provided with dowel-pins 73 to enter perforations 74 to assist in locating or adjusting it on the casing. After locating the front plate, it may be fastened to the casing by rotatable finger-pieces 75 on stub-shafts 76 carried by said front plate, said stub-shafts having secured thereto at their inner ends fingers or arms 77 to engage behind the front

flanges 71 of the end plates of the body portion. To guide the fingers behind the flanges, the inner edges of the flanges may be beveled, as indicated at 78, Figure 7. The rotative movement of the finger-pieces 75 may be limited by stops 80 and 81 (Figure 3). The front plate is provided at each end with flanges bent rearwardly therefrom, said flanges extending from the bottom of the plate, vertically upward at 82, then horizontally at 83 and then again vertically at 84 to conform with the contour of the end plates 20 of the body portion and embrace said end plates. With this construction the horizontal portions 83 of said flanges serve to reenforce or support the horizontal extensions 33 of the end plates 20, and the upper vertical portions 84 of said flanges prevent spreading of the end plates at the front thereof which may be caused by the weight of the cover 10, which rests on the ledges 35.

The machine is provided with feet or projections 90, upon which it stands, and may readily be located when being set into the casing by allowing the rear feet to enter holds or perforations 91 in locators or brackets 92, detachably secured to the back plate 22 by screws 93 passing through holes in ears 94, bent off from re-inforcing lips 95, the screws being threaded into the back plate 22. After the machine has been placed within the casing, the front cover plate may be attached as previously described. In attaching the cover plate, there is a tendency to push the casing rearwardly, and, consequently, displace it relatively to the machine. This is avoided with the locators shown herein, due to the fact that they surround the elements or feet of the machine, with which they engage. It will be understood that, with this arrangement, the machine is set down into the casing from the top thereof. The machine and the casing may rest upon a pad 96 of any suitable sound-deadening material, such as felt. The locators are provided with rests to engage the pad so as to prevent bending of said locators and also relieve the back plate of any undue strain in case the feet of the machine are accidentally set on the locators while endeavoring to insert them into the holes.

To keep the slot 13 at the front of the casing closed, as the handles 14, 15 and 16 travel back and forth with the carriage, there may be provided two oppositely-disposed slot-closing cushions 100 and 101, each cushion comprising a resilient element 102, which may be composed of rubber tubing. Said element is covered with a felt strip 103 looped around it, the edges of the felt strip being clamped between two bars 104 and 105 secured to each other by screws 106 and nuts 107, Figure 8. Each slot-closing cushion, after it is assembled with the bars 104 and 105, may be fastened to the casing by screws 108, the upper cushion being secured to the front plate 41 of the cover, and the lower cushion being secured to the upper edge of the removable front plate 21 of the body portion. By an inspection of Figure 8, it will be seen that the edge of the bar 104 is extended beyond a ledge 109 formed on the bar 105, thus forming a gutter 110 in which the slot-closing cushion is held. It will be understood that, with this form of slot-closing cushion, the resilient element 102 is distortible crosswise and also lengthwise of itself by the finger-pieces or handles 14, 15 and 16 as they move between the cushions 100 and 101, and that the distortions take place in the immediate vicinity of the finger-pieces. The rubber tubing is very elastic so as to permit considerable distortion of the lower slot-closing cushion, and readily springs back when the carriage-release handle 16 is operated, said handle being depressible. Said felt jacket 103 produces much less friction upon the handles than would the rubber, and since it prevents contact between the rubber and the handles, it results that the speed of the carriage is not retarded by the handles. The soft rubber tubes give the advantage of being very easy to press in and close quite tightly around the handles, so that no gap is left between the tubes, while the slip-jacket avoids the trouble that would arise from rubbing action between the handles and the rubber tubes. The slip-jacket or sheathing is likewise locally yieldable, being too weak to be self-supporting, or to recover itself, but being redistended by the rubber tube after the passage of the handles.

To facilitate the swinging of the cover, there may be provided one or more springs 111 to counterbalance the weight of the cover, two springs being shown herein, one at each side of the casing. Each counterbalance spring 111 normally tends to lift the cover, and is connected to an inwardly and downwardly projecting arm 112 secured to the end plate 40 of the cover, the forward end of the spring being connected to a bracket 113, secured to the end plate 20 of the body portion. The spring swings to a neutral position when the cover is about half-way between normal and vertical positions, owing to the upward movement of 112 around the hinge 12. To facilitate an adjustment of the tension of the spring 111, it is connected to the bracket by means of an eye-bolt 114 threaded into said bracket, said eye-bolt being secured in its adjusted position by a lock-nut 115. The finger-piece 11 is secured to the left-hand end of the cover, and is provided with rounded corners, so as to lessen the tendency to obstruct things to the exterior of said casing.

To limit the upward movement of the

cover, there may be provided one or more stops 116 which may be in the form of studs secured to cars 117 at the rear ends of the brackets 113, said studs being engaged by the arms 112 on the cover.

It will thus be seen, since the brackets 113 extend from front to rear along the end plates, that they serve to re-enforce said plates against the stresses produced by the springs. It will also be understood that, by securing the arms 112 as shown, the stresses of the springs are distributed over the end plates 40, or, in other words, in the direction of greatest strength of said cover.

It will be understood that both the cover and the body part of the casing may be lined with felt or any other suitable sound-deadening material to assist in deadening the noise of the typewriting machine.

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. In a casing for a typewriting machine, the combination of a body part and a cover therefor, the body part comprising overhanging lateral extensions and a releasable front plate having rearward projections to engage under the lateral extensions and assist in supporting the latter, the cover being supported on the ends of the lateral extensions and forming therewith extensions of the casing to accommodate the travel of the carriage.

2. In a casing for a typewriting machine, the combination of an open-front body part having a central portion and overhanging lateral extensions, a cover supportable on the ends of the lateral extensions, and a releasable front plate for the body part having lateral extensions corresponding to the lateral extensions of said body part of the casing, the lateral extensions of the front plate having flanges extending horizontally under the lateral extensions of the body part of the casing to support the lateral extensions of the casing and also having flanges extending vertically at the outer edges of the plate to engage the ends of the lateral extensions of the body part of the casing to prevent spreading thereof at the front of the casing.

3. A sound-deadening casing for a typewriting machine, comprising a body part and a cover therefor, said body part comprising a back wall and side walls having overhanging lateral extensions to co-operate with the cover, a releasable cover-plate to co-operate with the machine in closing the front of said casing, said side walls having inwardly-extending flanges, projections on the cover-plate to enter perforations in said flanges to locate the cover-plate on the side walls and to prevent movement of the forward ends of the side walls to and from each other, and means to secure said cover-plate to said casing, comprising fingers rotatably mounted on said cover-plate at its rear face to be turned to positions to engage the rear faces of said flanges, the inner edges of said flanges being beveled to assist in directing the fingers to the rear of said flanges, displacement of the side walls laterally by said fingers being prevented by the connections between said cover-plate and said flanges.

4. In a casing for a typewriting machine, the combination of a body part, a cover therefor, the body part having overhanging lateral extensions, the cover being supported on the ends of the lateral extensions, a releasable front plate for the body part, and flanges bent up from said front plate, said flanges extending vertically upward at the outside of the lateral extensions and engaging the latter to prevent them from spreading at their forward ends.

5. In a casing for a typewriting machine, the combination of a body part, a cover therefor, said body part having an opening at the front to permit placing the machine within the casing, locators to position the machine within said casing, and a cover plate detachably mounted at the opening and on said casing to co-operate with the front of the machine in closing said opening, said locators being effective to prevent the casing from slipping rearwardly relatively to the machine when said detachable plate is being assembled on said casing.

6. In a casing for a typewriting machine, the combination of a body part, a cover therefor, said body part having an opening at the front to facilitate placing the machine within the casing, and a detachable cover plate to co-operate with the front of the machine to close the opening, said body part having perforations to be entered by projections on the typewriting machine to establish the relative position of the machine within the casing, and prevent relative displacement between them when the detachable plate is being pressed against the front of the machine in attaching the plate to the machine..

7. In a casing for a typewriting machine, the combination of a body part, a cover therefor, said body part having an opening at the front to facilitate placing the machine within the casing, a releasable cover plate to co-operate with the front of the typewriting machine in closing the opening, and means to positively connect the casing with the machine to prevent relative displacement between them when the releasable plate is being connected to said casing.

8. In a casing for a typewriting machine, the combination of a body part, a cover

therefor, said body part having a front opening to facilitate placing the machine within the casing, a cover member to co-operate with the machine in closing the front opening, and means to embrace the feet of the machine to locate the machine relatively to said casing, and to prevent rearward movement of the machine relatively to the casing when the cover member is pressed thereagainst preparatory to fastening said cover member on the body part of the casing.

9. In a casing for a typewriting machine, the combination of a body part, a cover therefor, said body part having an opening at the front to facilitate placing the machine within the casing, a detachable cover plate for the opening, and brackets secured to the rear wall of said casing, said brackets being perforated to be entered by the rear feet of the machine to locate the machine within the casing.

10. In a combined typewriting machine and sound-deadening casing enclosing the same, said typewriting machine having a carriage and a carriage-controlling handle thereon, and said casing having a slot through which said handle projects, a slot-sealing means combining a rubber tube forming a lip at said slot, said tube resilient and self-sustaining but locally yieldable and constantly pressed in by said handle, and means preventing the rubber from retarding the travel of the carriage by friction thereof upon said handle, said preventing means being a jacket of material having substantially less friction than the rubber, and said jacket being too weak to be self-supporting but being held in form by said rubber tube to maintain the slot sealed.

11. In a casing for a typewriting machine, the combination of a body part, a cover pivoted on the body part, and means to urge the cover to open position, comprising a substantially horizontal spring normally tending to lift the cover and attached at its forward end to the body part and at its rear end to a downward projection of the cover, and swinging to neutral position when the cover is about half-way between normal and vertical positions, and means to adjust the tension of said spring.

12. In a casing for a typewriting machine, the combination of a body part, a cover pivoted at its rear end on the body part, a downward projection on the cover adjacent its pivot, a bracket on the body part, and a pull spring connected to the projection and said bracket and normally tending to lift the cover.

13. In a casing for a typewriting machine, the combination of a body part, a cover pivoted on the body part, a downward projection on the cover, a forwardly and rearwardly extending bracket on the body part to re-enforce the same, a counter-balance spring attached at its forward end to the bracket and at its rearward end to said projection and normally urging said cover upwardly, and means on said bracket to vary the tension of said spring.

14. In a casing for a typewriting machine, the combination of a body part, a cover pivoted on the body part, a downward projection on the cover, a forwardly and rearwardly extending bracket on the body part, a spring connected at its rear end to the projection and at its forward end to said bracket, and a stop on said bracket to be engaged by the projection on said cover to limit the movement of said cover.

15. A locator to co-operate with a typewriter foot to position the typewriter in a casing, said locator comprising a flat portion having an opening to receive said foot, vertical stiffening flanges extending upwardly at each side of said flat portion, attaching ears, turned downwardly from the ends of the flanges farthest from the opening, for securing the locator to a wall of the casing, and a tubular support for the end of the locator having the foot-receiving opening.

16. A typewriter sound-confining casing having a body-portion and a cover-portion, said casing having lateral extensions to form chambers for the movement of the typewriter carriage, said cover comprising said extensions and hinged in rear to the body-portion and swinging rearwardly to a position of substantial poise upon said hinge about midway between normal and vertical positions, and a spring normally tending to lift said cover from closed position, said spring connected to said cover to be rendered substantially ineffective by reason of the movement thereof to such poised position.

17. A typewriter sound-subduing casing having an upper portion extended to form a chamber to accommodate the run of the typewriter carriage, said casing having a cover hinged in rear to a body-portion, said cover including the upper portion of said chamber, said cover having sides in the form of shells, each shell comprising a vertical plate and flanges, the cover also having a plate forming a back wall and a top, and also having a front plate, said back and front plates interlocking with certain of the flanges on said shells, means releasably securing said flanges to said plates, and a transparent plate extending downwardly and forwardly from the top to the front plate and extending the entire width of the cover and with its sides inserted beneath corresponding flange on said sides.

18. A typewriter sound-confining casing having a body-portion and a liftable cover,

the upper portion of said casing, including said cover, being extended to form a chamber to accommodate the run of the typewriter carriage, said body-portion having a back plate, the upper portion of said plate being extended at the sides, said cover being hinged to the upper portion of said extended back plate, said body-portion also having overhanging sides to conform to the shape of said back plate, each side having an internal flange extending around its edges, means fastening said sides by their rear flanges to said back plate, said body-portion also having a front plate cut away between its side edges to form an opening for the typewriter keyboard, and means releasably locking said front plate to the front ends of said sides.

19. A typewriter sound-confining casing having a body-portion and a liftable cover, the upper portion of said casing, including said cover, being extended to form a chamber to accommodate the run of the typewriter carriage, said body-portion having a back plate, the upper portion of said plate being extended at the sides, said cover being hinged to the upper portion of said extended back plate, said body-portion also having overhanging sides to conform to the shape of said back plate, each side having an internal flange extending around its edges, means fastening said sides by their rear flanges to said back plate, said body-portion also having a front plate cut away between its side edges to form an opening for the typewriter keyboard, and means releasably locking said front plate to the front ends of said sides, said back plate having projecting forwardly therefrom means to engage the feet of the typewriting machine to locate the same accurately within the casing.

20. A typewriter sound-confining casing having a body-portion and a liftable cover, the upper portion of said casing, including said cover, being extended to form a chamber to accommodate the run of the typewriter carriage, said body-portion having a rear plate, side plates fastened thereto and a front plate fastened to the side plates, said rear plate having means engaging the feet of the typewriting machine and locating the same within the casing and holding it against lateral movement in any direction.

21. A sound-deadening casing for a typewriting machine having a carriage with various carriage-operating levers extending forwardly therefrom, said casing having a slot at the front through which said levers extend, sound-deadening cushion devices for closing said slot, and bars clamping opposite sides of each of said cushion devices and forming sealing devices which are mounted on opposite sides of said slot, the bars for each cushion device being set at an angle to each other or flaring outwardly to form a groove receiving the cushion.

22. A sound-deadening casing for a typewriting machine comprising a carriage having various carriage-operating levers extending forwardly therefrom, said casing having a slot at the front through which said levers extend, sound-deadening cushions for closing said slot, each of said cushions comprising a tubular portion, and bars clamping tabs provided on either side of each cushion to form a unit, the units being mounted on opposite sides of said slot, said bars flaring outwardly to form substantially V-shaped grooves in which said tubular portions lie.

JOHN WALDHEIM.

Witnesses:
EDITH B. LIBBEY,
JENNIE P. THORNE.