Nov. 7, 1950 C. J. MANUEL 2,529,302

CASING STRUCTURE OF PORTABLE AUTOGRAPHIC REGISTERS

Filed July 11, 1946 3 Sheets-Sheet 1

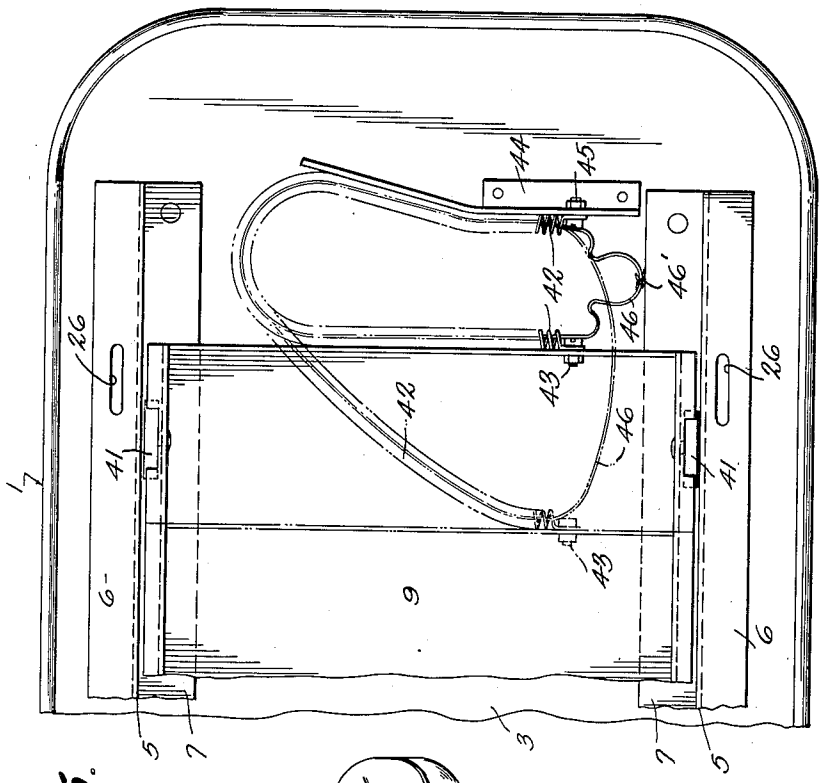


Fig. 5.

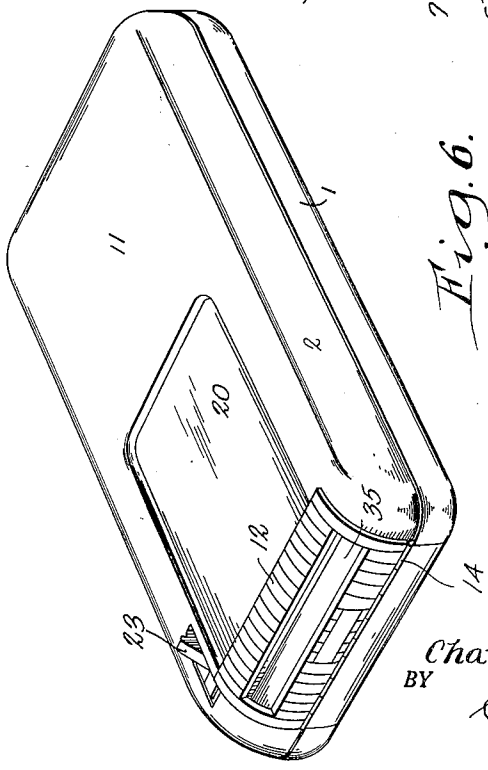


Fig. 1.

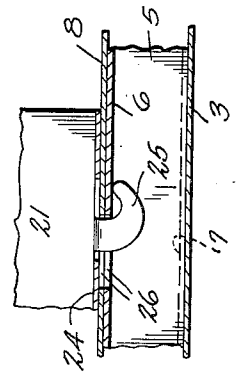


Fig. 6.

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CASING STRUCTURE OF PORTABLE AUTOGRAPHIC REGISTERS

Filed July 11, 1946 3 Sheets-Sheet 2

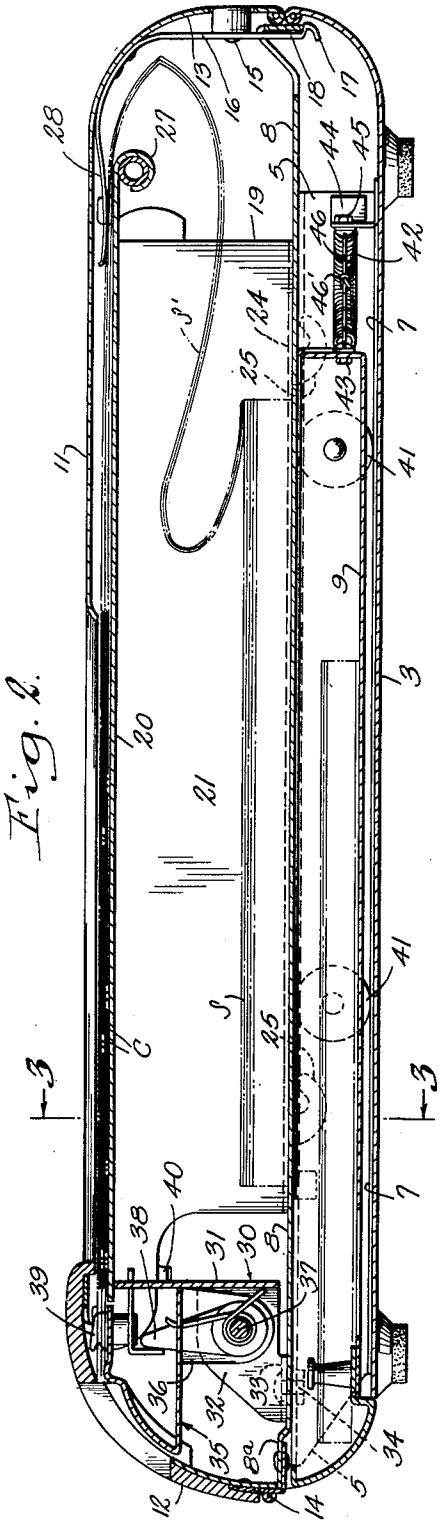


Fig. 2.

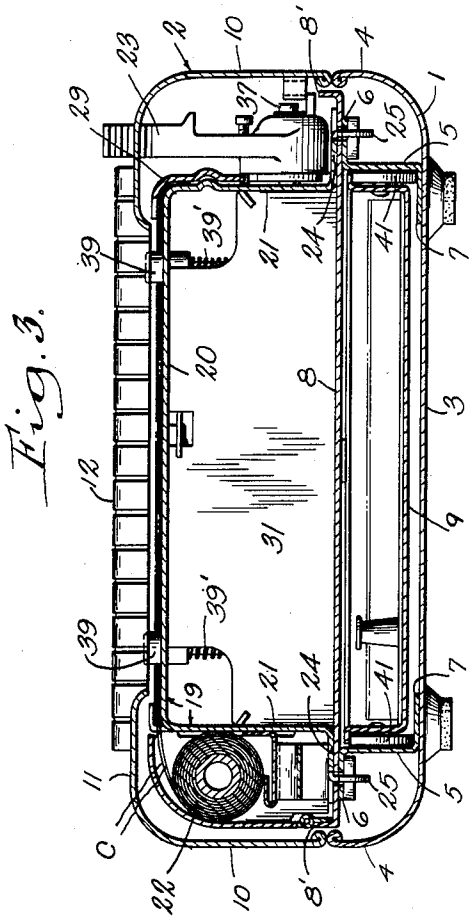


Fig. 3.

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CASING STRUCTURE OF PORTABLE AUTOGRAPHIC REGISTERS

Filed July 11, 1946 3 Sheets-Sheet 3

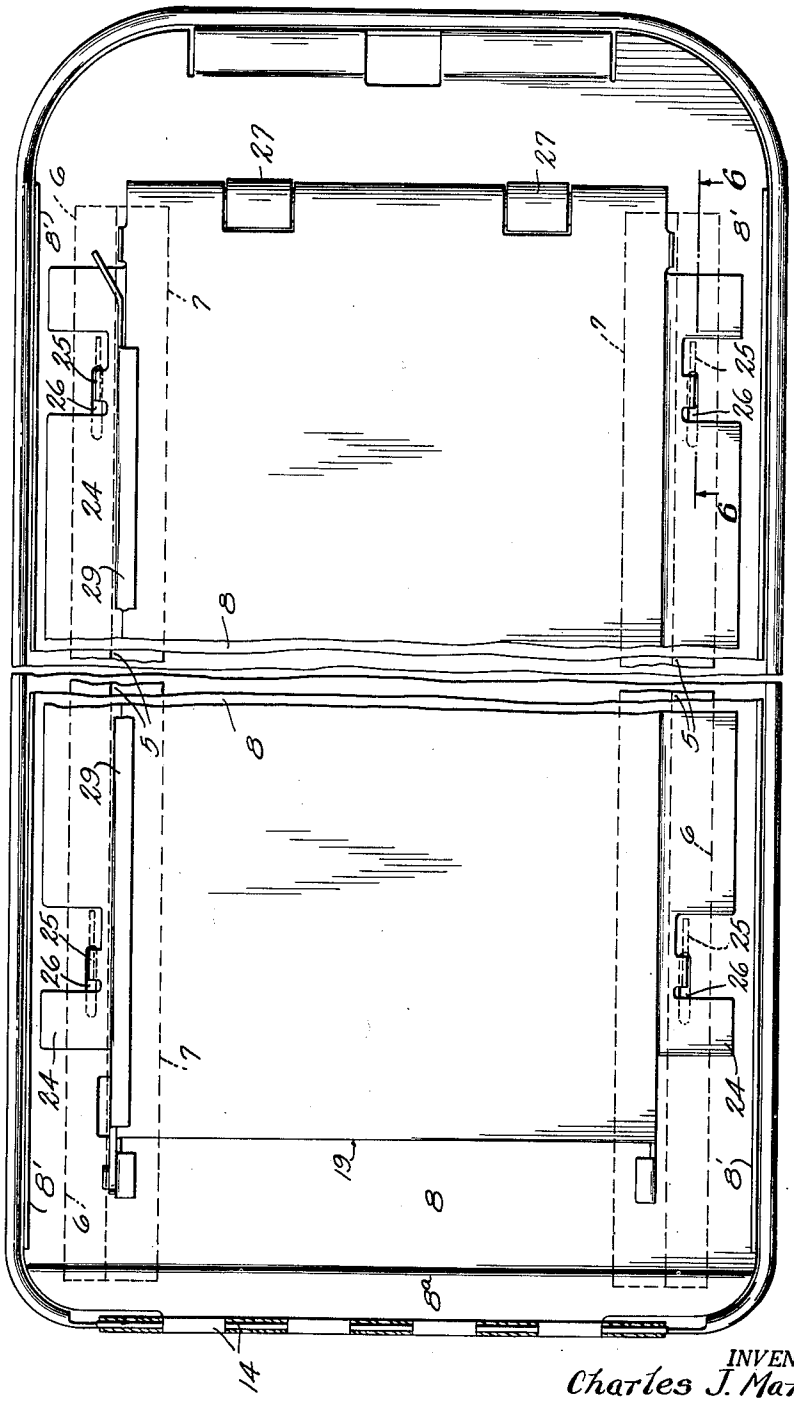


Fig. 4.

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2,529,302

UNITED STATES PATENT OFFICE

2,529,302

CASING STRUCTURE OF PORTABLE AUTOGRAPHIC REGISTERS

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Application July 11, 1946, Serial No. 682,815

8 Claims. (Cl. 282—18)

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This invention relates to improvements in autographic registers and like writing devices, and more particularly to improvements in the casing construction of autographic registers of the portable type adapted to be carried in the hand during entry of the inscriptions upon the record strips or material. Quite commonly in autographic registers of this type the record material is in the form of long continuous record strips arranged in superposed relation with each other, disposed in a supply pack such as a zig-zag flat pack in which the long continuous record strips are zig-zag folded, and the record strips are adapted to be pulled out manually from the supply pack over a flat platen or writing plate and checked and aligned in writing position on the platen.

It is a general object of the invention to provide in writing devices of the class mentioned, an improved casing structure adapted to house the supply of record strips and to support the strips in writing position, and to effect lightness and compactness and at the same time to be strong and rigid so as to be easily held in the hand during entry of inscriptions, and durable and efficient in use so as to promote the easy entry of the inscriptions and to insure the entry of such inscriptions in the proper spaces of the blank record forms on all of the superposed record strips.

A further object of the invention is to provide for autographic registers of the class mentioned, an improved casing structure in which the component parts can be quickly and easily assembled and attached together to form a strong and rigid structure, and can be quickly and easily disassembled such, for example, as for the purpose of making repairs or adjustments.

Still another object of the invention is to provide for autographic registers of the class mentioned, an improved casing structure in which the component parts can be easily assembled to form a strong and rigid structure, and in which said component parts when assembled are held in position by a unit such as the strip forwarding unit of the autographic register, which in turn is held in position by simple detachable attaching devices such as screws.

A further object of the invention is to provide for registers of the class mentioned, an improved mounting for a projectable and retractable record slip receiving drawer, so as to assure at all times the free and unobstructed movements of the drawer. According to an illustrative arrangement for this purpose, the projectable drawer is mounted so that its opposite longitudinal sides are spaced inwardly from the sides of the casing and protected by interior longitudinal frame members such as flanged members forming longitudinal reinforcing structural elements of the casing.

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A further object of the invention is to provide for registers of the class mentioned, an improved casing structure having a horizontal dividing and reinforcing plate or partition dividing the drawer compartment from an upper record strip supply compartment and providing a means for attaching the cover section which is pivoted or hinged to said dividing plate.

Still another object of the invention is to provide for autographic registers of the class mentioned, an improved attaching arrangement for attaching together in the complete casing structure the component parts thereof, promoting the quick and easy assembly and disassembly of such parts and avoiding the use of rivets or like attaching means.

A further object of the invention is to provide for autographic registers of the class mentioned, an improved arrangement of a projecting spring for projecting the record slip receiving drawer without binding or other obstruction to the movements thereof.

Other objects of the invention will be in part pointed out in the following detailed disclosure of an illustrative but preferred embodiment of the invention, and will be in part obvious as the disclosure proceeds.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts, which will be exemplified in the construction hereinafter set forth and the scope of the application of which will be indicated in the claims.

For a more comprehensive disclosure of the nature, objects and advantages of the invention, reference is had to the following detailed disclosure and to the accompanying drawings, in which:

Fig. 1 is a perspective view of a portable autographic register embodying the invention;

Fig. 2 is an enlarged longitudinal vertical section taken substantially on the longitudinal center line of the register;

Fig. 3 is a transverse vertical section substantially on the line 3—3 of Fig. 2 looking in the direction of the arrows;

Fig. 4 is a broken plan view of the register with the cover removed and showing the platen and some of the structural details, parts being omitted and in section for clearness of disclosure;

Fig. 5 is a fragmentary plan view of the lower casing section and showing the mounting of the record slip drawer; and

Fig. 6 is a fragmentary enlarged section substantially on the line 6—6 of Fig. 4 looking in the direction of the arrows.

Referring to the drawing for a detailed description of the illustrative embodiment of the invention there shown, the improved structure is embodied in an autographic register of the portable type that can be conveniently moved from place to place as required in actual use, or can be held in the hand of the user during entry of inscriptions upon the record strips. The improved structure embodies a lower casing section 1 and an upper casing or cover 2. The lower casing section has a bottom 3 and side walls 4 and spaced inwardly from the respective side walls are longitudinal structural flanged frame members or Z-bars 5, the upper flanges 6 of which extend outwardly away from each other and the lower flanges 7 extend inwardly toward each other in contacting relation with the bottom 3 to which they are firmly secured in any desired manner, as for example by welding or brazing or by rivets or similar attaching devices. The casing is preferably constructed of sheet metal or other appropriate sheet material.

Attached to the upper reinforcing flanges 6 of the Z-bars is a horizontal reinforcing division plate 8 preferably extending for substantially the length and breadth of the casing and having upturned longitudinal reinforcing edge flanges 8'. The division plate 8 is thus spaced above the bottom 3 to provide a compartment for a longitudinally movable drawer 9 for receiving loose inscribed record sheets or slips. The drawer is positioned between the Z-bars 5 being thus spaced from each of the opposite side walls of the casing and protected from injury such, for example, as bending or distortion of the casing structure that might be caused by rough handling. The Z-bars and the division plate 8 and their connections form a reinforced structure and protection for the drawer resistant to distortion so as to insure free unobstructed movements of the drawer in its opening and closing movements.

The upper casing section 2 includes opposite side walls 10 arranged to align with and close against the corresponding side walls 4 of the lower casing section 1, a top plate or wall 11, a front wall or plate 12, and a rear wall 13. The front wall 12 includes a heavy plate attached in any appropriate manner as by means of rivets to the sheet metal plate forming the cover. The top plate 11 is provided with a writing opening through which the record strips are exposed for receiving the written inscriptions.

At its forward end the cover section 2 is provided with a hinge 14 connected to the forward extremity of the reinforcing division plate 8 and to the end wall 12, the division plate being offset upwardly at 8a to facilitate hinge attachment. This hinge provides a mounting whereby the cover section can be swung upwardly to provide access to the interior of the register. A spring latch 15 is provided at the rear end of the cover section being attached to the latter by means of a leaf spring 16 and having a lower latching extension 17 engaging with a latching shoulder 18 formed on the rearward end of the division plate 8.

Positioned above the division plate 8 is a platen section 19 having an upper flat platen or writing plate 20 and opposite longitudinal side walls 21 spaced inwardly from the respective side walls 10 of the cover section so as to form a side compartment for receiving and housing a supply roll 22 of transfer material such as strips C of carbon paper, and also an opposite side compartment for receiving an operating crank or handle 23 for record strip forwarding mechanism hereinafter referred to.

Outwardly turned attaching flanges 24 are provided at the lower extremities of the side walls 21 of the platen section 19 and are positioned in overlying aligned relation with the upper flanges 6 of the Z-bars and above the opposite longitudinal edge portions of the division plate 8. Special attaching devices are provided for attaching the platen section 19 and the reinforcing division plate 8 to the upper flanges of the Z-bars whereby these parts can be firmly secured together in final assembled relation merely by assembling them and relatively moving one of them so as to cause the attaching means to be interlocked in securing relation.

One of these automatic attaching devices is shown in detail in Fig. 6 and as many of such devices may be utilized as desired, two at each side of the platen section ordinarily being sufficient to firmly lock the parts in assembled relation. In the illustrative embodiment shown, each of these attaching devices includes an attaching lug 25 formed on one of the attached members, as for example upon one of the attaching flanges 24 on the platen section 19. The attaching lugs are preferably made integral with the respective flanges 24 and are constructed by cutting away certain parts of the flanges so as to leave the hook-shaped attaching lugs such as shown in Figs. 4 and 6. The free ends of the hook-shaped attaching lugs all extend in the same direction as indicated in broken lines in Figs. 2 and 4. Also the upper flanges 6 of the Z-bars 5, and the division plate 8 are provided with elongated apertures or slots 26 respectively aligned with each other when the parts are in assembled relation for receiving the hook-shaped attaching lugs 25.

When the division plate 8 has been placed in its normal operative position upon the upper flanges 6 of the Z-bars during assembly of the casing, the respective elongated slots 26 are aligned with each other as shown in Fig. 6. The platen section 19 is then placed in assembled relation with the Z-bars and division plate, the interlocking attaching lugs 25 being entered through the respective elongated slots 26 with the rear sides of the lugs substantially at the rear ends of the slots. When the platen section is thus pushed downwardly into assembled relation the attaching lugs 25 are all entered in the corresponding slots, whereupon the platen section is moved longitudinally with reference to the Z-bars and divisions plate, causing the attaching lugs to be interlocked with the Z-bars and division plate, as shown in Fig. 6, thus firmly securing all of these parts together in interlocked relation. During this assembly of the parts the platen section is initially positioned somewhat forwardly of the other parts and after the lugs 25 have been engaged in the slots 26, the platen section is moved rearwardly longitudinally into attached position. The attaching lugs 25 are shaped and proportioned to draw the parts together in tight assembled relation, and their free ends are preferably rounded as shown so as to exert a wedging action against the Z-bar flanges during assembly thus setting the parts tightly in assembled posi-

tion. Thus these three principal structural elements of the register casing can be very quickly and easily attached together in permanently secured relation and no rivets or similar attaching devices are necessary. Also the structure can be quickly and easily dis-assembled as, for example, for the purpose of making repairs or adjustments, substitution of parts, and the like.

When the platen section 19 is assembled as described, a housing or storage space is provided between the platen section and the division plate 8 for a supply packet S of long continuous record strips S', any desired number of which may be interfolded in zigzag formation to form the supply packet. These record strips are led from the supply packet over a guide 27 at the rear end of the platen 20 into writing position on the platen. The record strips are guided and tensioned as they are drawn into position on the platen by means of one or more spring fingers 28 attached to the inner side of the cover section 2 of the casing.

Beneath the writing opening of the top plate 11 the record strips may be interleaved in transfer relation with the carbon strips C which are held in operative position at their ends opposite to the supply roll 22 by means of a clamping bar 29 pivoted at its forward end to the side plate 21 of the platen section. The record supply packet S can be loaded into its housing compartment through the rear end of the platen section when the cover section S^2 is raised or swung upwardly on its hinge 14.

Feed control apertures (not shown) will be provided at form-length intervals in the record strips S which will usually be printed with appropriate blank forms for receiving the inscriptions. The record strips also are preferably provided with transverse weakened severance lines longitudinally spaced apart at form-length intervals to provide for severance of the form lengths or sheets in a manner well known in the art.

Strip forwarding mechanism, indicated generally at 30, is mounted at the forward end of the register for controlling the forwarding and aligning operations of the record strips on the writing platen. This forwarding mechanism is embodied in a unitary structure having a stationary frame plate including an upright rear plate 31 at the opposite ends of which are angularly disposed end brackets 32 integral therewith and provided with integral attaching plates or lugs 33 receiving attaching bolts or screws 34 passing through the forward ends of the division plate 8 and the upper flanges 6 of the Z-bars 5. Two of these attaching bolts 34, one for each of the Z-bars 5, suffice to mount the strip forwarding unit 30 in operative position. The strip forwarding mechanism can thus be installed as a unit in operative position and similarly removed. The strip forwarding mechanism also includes a forwardly and rearwardly movable or oscillatory frame plate or pin carriage 35 oscillatably supported by brackets 36 carried by a transverse operating rock-shaft 37 rotatably supported by the end brackets 32 of the stationary frame plate. The rock-shaft 37 is manually operated by means of the operating lever 23 connected to its outer end, and oscillatory rotary motion is transmitted to the oscillatory frame plate 35 through a crank arm 38 connected to the rock-shaft. Projectable and retractable strip forwarding and aligning pins 39 projected by compression springs 39' are carried by the oscillatory frame plate or pin carriage 35 for oscillation therewith, being adapted for engagement with the forwarding and aligning apertures of the record strips. This strip forwarding and aligning mechanism is not a part of the present invention except to the limited extent that it cooperates with the casing structure as described below; but it is particularly described in detail and claimed in a co-pending application Serial No. 683,510 filed July 13, 1946, and therefore it is unnecessary to describe it in full detail here.

However, this strip forwarding and aligning mechanism 30 which can be installed and removed as a unit, cooperates to maintain the platen section 19 in assembled attached relation with the division plate 8 and the longitudinal Z-bars 5. For this purpose a supporting lug 40 is attached to or formed integrally with the forward end portion of each of the side plates 21 of the platen section 19 and positioned for cooperating in contacting relation with the back plate of the stationary frame plate 31 when the forwarding unit is in its normal operative attached position.

When the platen section 19 has been assembled in interlocking final position with the Z-bars and the division plate 8 as above described, the forwarding mechanism or unit 30 is then placed in its normal operative position as shown in Fig. 2 and attached by means of the bolts 34. When in this position the stationary back plate 31 of the strip forwarding unit 30 contacts with the lugs 40 on the platen unit thus locking all of the frame parts in assembled operative position. It will therefore be seen that the assembly or dis-assembly of the frame parts of the register is a very simple operation that can be expeditiously performed. When the frame parts are thus assembled and in interlocking relation as described and locked in this position by means of the strip forwarding unit, a particularly strong and rigid casing structure is provided capable of withstanding shocks and strains of ordinary or rough usage, while at the same time the register is light and easy to handle.

As particularly shown in Figs. 3 and 5 the sliding drawer 9 for receiving loose inscribed record slips is mounted for longitudinal projection and retraction by means of anti-friction supporting rollers 41 rotatably mounted on the outer side of the side walls of the drawer. The vertical or upright webs of the structural Z-bars 5 are laterally spaced apart a slightly greater distance than the outside width of the drawer 9 thus providing spaces in which the rollers 41 are received. These rollers thus are supported upon the lower flanges 7 of the Z-bars which form strong supporting rails for the drawer.

Drawer projecting means in the form of a bent or bowed coil spring 42 is mounted back of the rear end of the drawer, being attached at one end to the rear wall of the drawer by an attachment 43 and at its opposite end to a supporting bracket 44 by means of an attachment 45. The bracket 44 may be attached to the bottom 3 of the lower casing section. A limiting stop for limiting the forward or projected movement of the drawer is shown in the form of a flexible and pliable member 46 attached at its opposite ends to the respective spring attachments 43 and 44. This limiting stop 46 may be a string, cord or tape constructed of any suitable flexible material such as textile, leather or the like. An effective manner of attaching the cord 46 as shown is to pass it through the entire length of the inner passageway of the coil spring 42 and to tie the ends together as at 46'. This provides a drawer check operating quietly with a cushioning action. The forwarding spring is positioned and stressed to

exert drawer projecting effort substantially centrally of the drawer so as to prevent irregular or binding movements during drawer projection. It will be noted that the sides of the spring 42 contact with the rear wall of the drawer and with the bracket 44, thus assisting in centering the projecting effort and in steadying the drawer in its movements and avoiding binding. The drawer is checked in its normal open position by means of the flexible drawer limiting stop 46 as indicated in broken lines in Fig. 5.

A latch for holding the drawer in closed position in opposition to the projecting spring 42 may be provided adjacent the forward end of the drawer, with automatic latch release operated by the operation of the record strip forwarding mechanism 30 as fully described in the co-pending application above referred to. Since this drawer latch does not form a part of the present invention, it is unnecessary to describe it in detail.

Upon official requirement of division, claims including the drawer structure and structure particularly cooperating therewith were withdrawn from this application and a divisional application therefor was filed on May 10, 1950, Serial No. 161,089.

Since certain changes may be made in the above construction and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

The invention having thus been fully described, the following is claimed:

1. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, and a plurality of longitudinal structure Z-bars spaced apart laterally to provide a receiving compartment therebetween and respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges extending inwardly toward each other adjacent to said receiving compartment and being attached to said bottom wall and said upper flanges extending outwardly away from each other, a platen section having an upper platen, and side walls extending downwardly from the outer margins of said platen and each having an outwardly extending attaching flange secured to one of said Z-bar outwardly extending flanges and substantially parallel thereto.

2. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, a plurality of laterally spaced longitudinal structural flanged members respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges being attached to said bottom wall and extending inwardly toward each other, a platen section having a platen and having attaching flanges respectively substantially overlying and aligned with said upper reinforcing flanges of said structural members, a horizontal division plate positioned between the flanges of said flanged members and of said platen section and having an elongated attaching opening, one of said aligned flanges having an attaching member thereon and the companion aligned flange having an elongated attaching opening substantially aligned with said elongated attaching opening of said division plate, said attaching member extending through said aligned attaching openings and being engageable in interlocking relation by relative longitudinal movement of said platen section to secure said division plate and said platen section to said structural flanged member.

3. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, and a plurality of laterally spaced longitudinal structural flanged members respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges being attached to said bottom wall, a platen section having a platen and having attaching flanges respectively substantially overlying and aligned with said upper reinforcing flanges of said structural members, a horizontal division plate positioned between the flanges of said flanged members and of said platen section and having an elongated attaching opening, one of said aligned flanges having an attaching member thereon and the companion aligned flange having an elongated attaching opening substantially aligned with said elongated attaching opening of said division plate, said attaching member extending through said aligned attaching openings and being engageable in interlocking relation by relative longitudinal movement of said platen section to secure said division plate and said platen section to said structural flanged member, and a strip forwarding unit positioned forwardly of said platen section and detachably attached to the forward portions of said longitudinal flanged members and positioned in cooperative locking relation with said platen section to lock the latter against reverse relative longitudinal movement in its assembled attached position.

4. In a register structure, in combination, a casing having a lower casing section with a bottom wall, laterally spaced longitudinal structural members on said bottom wall, a platen section positioned above said structural members and beyond the forward end portion of which said longitudinal structural members extend, a horizontal division plate positioned between said structural members and said platen section and having elongated attaching openings, interlocking connections between said structural members and said platen section including attaching lugs extending through said elongated openings of said division plate and being engageable in interlocking relation by relative longitudinal movement of said platen section, and a strip forwarding unit positioned forwardly beyond said platen section and detachably attached to said longitudinal structural members beyond the forward end of said platen section and positioned in cooperative locking relation with said platen section to lock the latter against reverse relative longitudinal movement in its assembled attached position.

5. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, a plurality of laterally spaced longitudinal structural flanged members respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges being attached to said bottom wall, a platen section having a platen and having longitudinal attaching flanges respectively substantially overlying and aligned with said upper reinforcing flanges of said structural members, a horizontal reinforcing division plate positioned between the flanges of said flanged

members and of said platen section and having an elongated attaching opening, one of said aligned flanges having an attaching member thereon and the companion aligned flange having an elongated attaching opening substantially aligned with said elongated attaching opening of said division plate, said attaching member extending through said aligned attaching openings to secure said division plate and said platen section to the companion said structural flanged member, said longitudinal flanged members and said reinforcing division plate having parts extending forwardly to points beyond the forward end portion of said platen section, and a cover section for said casing hinged to said forwardly extending part of said division plate.

6. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, and a plurality of laterally spaced longitudinal structural Z-bars respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges extending inwardly toward each other and being attached to said bottom wall, a platen section having a platen and having longitudinal attaching flanges respectively substantially overlying and aligned with said upper reinforcing flanges of said structural members, a horizontal reinforcing division plate positioned between the flanges of said flanged members and of said platen section and having an elongated attaching opening, one of said aligned flanges having an attaching member thereon and the companion aligned flange having an elongated attaching opening substantially aligned with said elongated attaching opening of said division plate, said attaching member extending through said aligned attaching openings and being engageable in interlocking relation by relative longitudinal movement of said platen section to secure said division plate and said platen section to the companion said structural flanged member.

7. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, a plurality of laterally spaced longitudinal structural Z-bars respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges extending inwardly toward each other and being attached to said bottom wall, a platen section having a platen and having longitudinal attaching flanges respectively substantially overlying and aligned with said upper

reinforcing flanges of said Z-bars, a horizontal reinforcing division plate positioned between the flanges of said Z-bars and of said platen section and having an elongated attaching opening, one of said aligned flanges having a hooked interlocking attaching member thereon and the companion flange having an elongated attaching opening substantially aligned with said attaching opening of said division plate, said hooked interlocking attaching member extending through said aligned attaching openings and being engaged in interlocking securing position by relative longitudinal movement of the attached parts, said Z-bars having parts extending forwardly to points beyond the forward end of said platen section, and a forwarding unit detachably attached to the upper flanges of said forwardly extending parts of said Z-bars and positioned in cooperative locking relation with said platen section to lock the latter against relative longitudinal movement in its assembled attached position.

8. In a register structure, in combination, a casing having a lower casing section with bottom and side walls, a plurality of laterally spaced longitudinal structural Z-bars respectively spaced inwardly from said side walls and having upper and lower longitudinal reinforcing flanges, said lower flanges being attached to said bottom wall and extending inwardly toward each other, said upper flanges extending outwardly, a platen section having a platen and oppositely disposed longitudinal side walls with outwardly disposed attaching flanges respectively substantially overlying and aligned with said upper Z-bar flanges and secured thereto.

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