Oct. 5, 1943. G. F. BRAUN 2,331,166

CABINET

Filed July 20, 1940 2 Sheets-Sheet 1

Fig 1

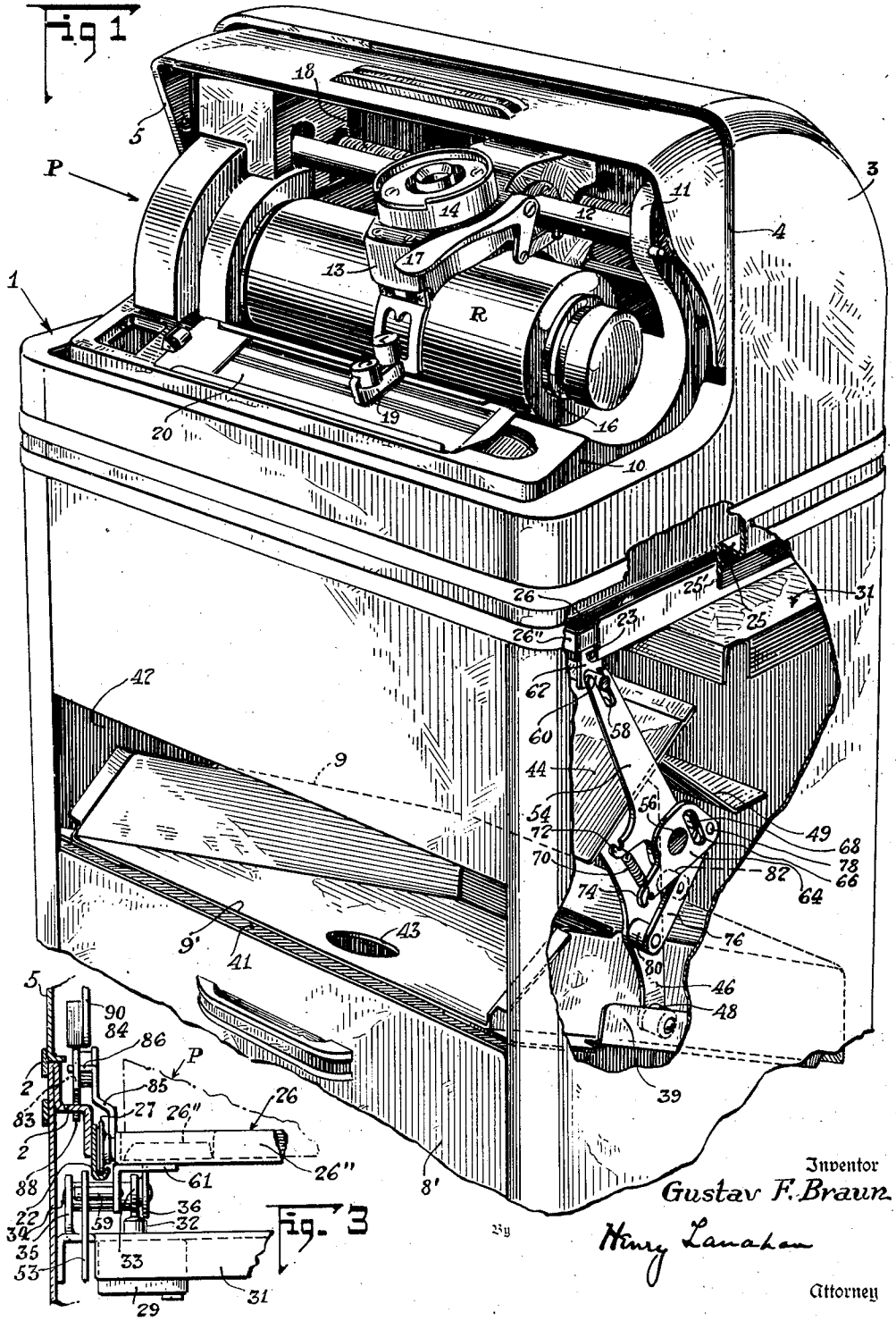


Fig. 3

Inventor
Gustav F. Braun

By Henry Lanahan

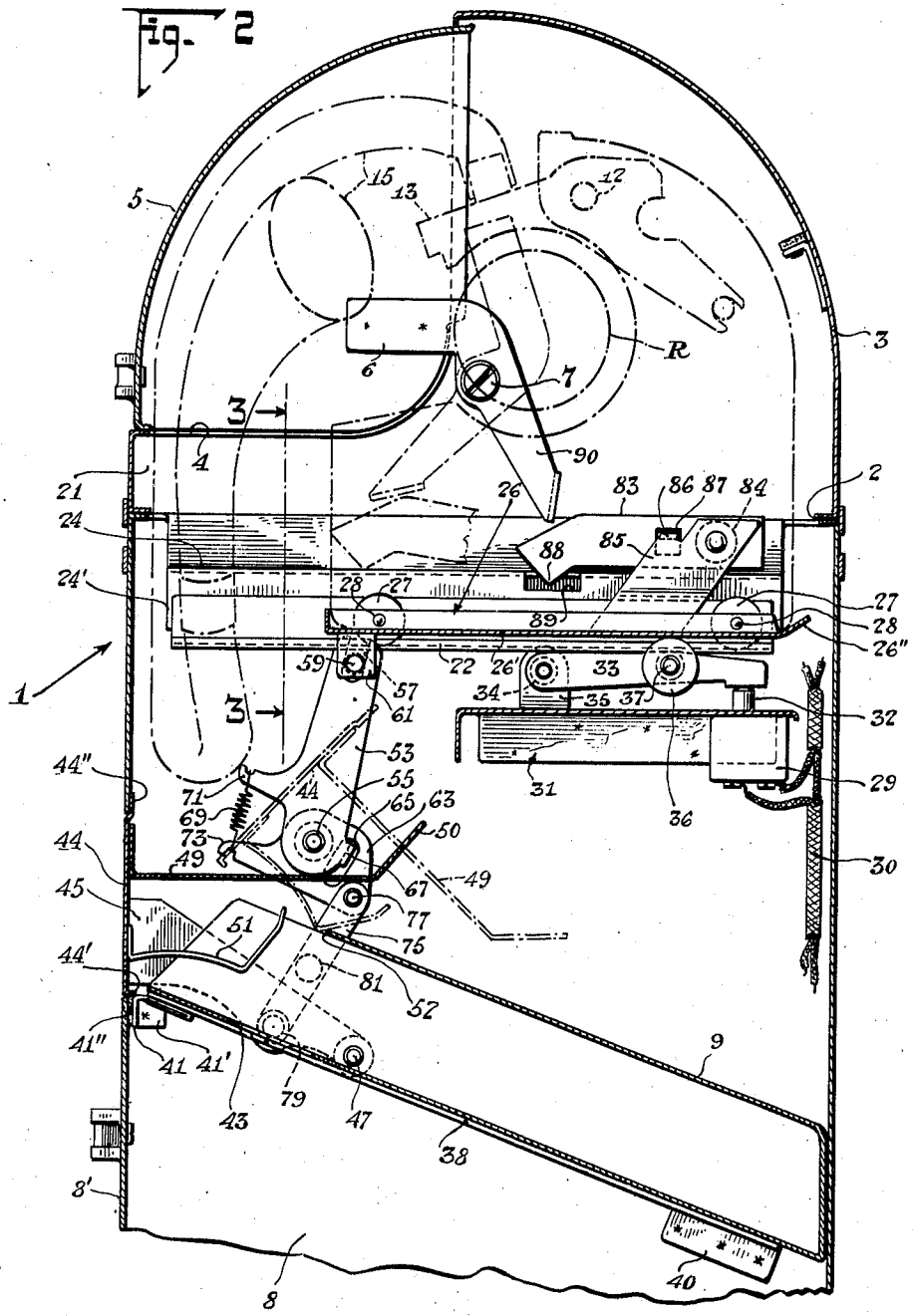
Attorney

Oct. 5, 1943. G. F. BRAUN 2,331,166

CABINET

Filed July 20, 1940 2 Sheets-Sheet 2

Fig. 2



Inventor

Gustav F. Braun

By Henry Lanahan

Attorney

Patented Oct. 5, 1943 2,331,166

UNITED STATES PATENT OFFICE

2,331,166

CABINET

Gustav F. Braun, Elizabeth, N. J., assignor to Thomas A. Edison, Incorporated, West Orange, N. J., a corporation of New Jersey

Application July 20, 1940, Serial No. 346,500

16 Claims. (Cl. 312—8)

This invention relates to cabinets and more particularly to improvements in cabinets for instruments. The invention has particular utility and is herein illustrated and described as a phonograph cabinet for a dictating-machine, but it will be understood that no unnecessary limitation of the invention to a cabinet for this type of instrument is intended.

It is desirable that phonograph cabinets have a pleasing appearance and that they be arranged to facilitate the proper operation and control of the phonographs contained therein. As an aid to the use of a phonograph unit of the dictating-machine type, it is particularly desirable that the cabinet therefor have provision for the storage of letters, memoranda and other correspondence such as may be involved in formulating the dictation. It is an object of my invention to provide a phonograph cabinet with an improved means for the storage of such correspondence. Further objects are to provide the cabinet with a permanent correspondence compartment which is arranged so as not to mar the outline or general appearance of the cabinet but yet to be in position wherein it will be readily accessible to the operator during the use of the machine. More specifically, it is an object of my invention to provide the compartment with a door or closure which forms an exterior wall section of the cabinet and to mount the closure so that it may be moved into a disappearing position within the cabinet to open the compartment.

Dictating machines are commonly of the acoustical type which employs a speaking tube. Such a tube is relatively long and bulky and very desirably stored within the phonograph cabinet during the non-use of the machine. To permit the storage of the speaking tube there is provided a compartment at the front of the machine. However to render the machine readily accessible for use from a front opening in the cabinet, the machine is movably mounted so that it may be moved through the tube-storing compartment into an operative position—a normal position of operation—at the cabinet opening or back into inoperative position as when the machine is out of use. It is an object of my invention to cause the closure for the correspondence compartment to be automatically moved into open and closed positions as an incident of moving the phonograph unit within the cabinet into and out of a normal position of operation.

A further object is to provide the coupling between the compartment closure and the phonograph unit with a yieldable component so as to avoid the need for maintaining close tolerances in the dimensioning of the other components of the coupling and so as to prevent the relatively rigid components of the coupling from being subjected to permanent strain should the phonograph unit be moved into inoperative position when the correspondence closure is blocked against closing movement.

Another object of my invention is to provide an on-off switch for the phonograph unit which is automatically placed into "on" and "off" conditions in response to the movement of the unit into and out of its normal position of operation.

Another object of my invention is to provide an interlock between the phonograph unit and the cabinet cover for causing the cover to be locked in open position when the unit is in normal position of operation and for causing the unit to be locked in inoperative position when the cabinet cover is closed.

A yet further object is to cause the compartment closure to be biased into closed position when the phonograph unit is in inoperative position.

Still other objects lie in the combinations of elements herein disclosed and in the particular relationship between these elements, and will more fully appear from the following description and the appended claims.

In the description of my invention reference is had to the accompanying drawings, of which:

Figure 1 is a view in perspective of a phonograph cabinet in which my invention is incorporated, a phonograph unit being shown in normal or operative position within the cabinet and a portion of the cabinet being broken away to more clearly illustrate certain features of the invention;

Figure 2 is a vertical transverse section through the cabinet showing the relative positioning of the parts when the cabinet is closed, the phonograph unit being fractionally shown by dash-dot lines in its out-of-normal position; and

Figure 3 is a partial sectional view taken substantially along the line 3—3 of Figure 2.

The instant invention is illustrated in the figures by a cabinet 1 which comprises upper and lower portions fitted together as at 2. The upper cabinet portion, which is adapted to house the upper parts of a phonograph unit P, is arcuately shaped in cross section as viewed from the end (see Figure 2), and comprises a closure section 3 provided with a front opening 4 and with a cover

5 for this opening. The cover 5 is provided at its sides with support arms such as the arm 6 on the left side thereof (see Figure 2). These arms are pivoted at 7 to the sides of the closure section 3 to permit the cover to swing upwardly and rearwardly within the section 3 into open position. The lower cabinet portion, which is rectangular as viewed from the top, serves to house the lower phonograph parts (not shown) and to provide a place for the storage of materials used in connection with the phonograph. For example, the bottom part of the cabinet (herein partially shown) is commonly arranged to form a compartment 8 for the storage of phonograph records (not shown), access to this compartment being had by way of a door 8' at the front of the cabinet. In the instant invention there is provided a compartment 9 immediately above the record storage compartment 8, which is adapted for the storage of correspondence as is hereinafter fully described.

The phonograph unit P comprises a frame 10 having upright standards at its ends such as the standard 11 on the right end thereof (see Figure 1). These standards carry cross rods, such as the front rod 12, on which there is slidably mounted a carriage 13 for a translating device 14. Extending from the translating device is a speaking tube 15 (see Figure 2) by way of which sound is communicated to and from the device. The translating device overlies a record R supported on a mandrel 16 and is adjustable in relation to this record into operative and inoperative conditions as by means of an adjusting lever 17 on the right side of the carriage. Movement of the translating device along the record is effected by way of a feed screw 18 which is rotated concurrently with the rotation of the mandrel 16. This feed screw has an operative connection with the carriage 13, usually controlled by the adjusting lever 17. Carried by the carriage 13 at the front of the record is an indexing device 19 by which explanatory markings in connection with the dictated matter may be made as on an index slip 20. The phonograph arrangement here explained is well known in the art; and inasmuch as my invention is not necessarily limited to instruments of the phonographic type, no further explanation of the phonograph here shown is deemed necessary.

At the front of the phonograph unit P there is provided a downwardly extending compartment 21 into which the speaking tube 15 is folded and housed during the non-use of the phonograph. During the use of the phonograph the speaking tube is removed from its compartment and the phonograph is moved from inoperative position at the rear of the cabinet to its operative position at the front of the cabinet. To permit such a movement of the phonograph unit within the cabinet there are provided tracks 22 and 23 at the left and right sides of the cabinet. These tracks are supported by means of strips bent inwardly within the cabinet from the top of the left and right sides of the lower cabinet portion, these strips being bent to form horizontal ledges 24 and 25 respectively having flanges 24' and 25' depending from the inner edges of the ledges. To these flanges 24' and 25' are secured, as by welding, the tracks 22 and 23. These tracks movably support a carriage 26 for a phonograph which comprises a rectangular seat 26' adapted to fit the bottom portion of the phonograph unit P. Provided on this carriage, at its left and right sides are wheels such as the pair of wheels 27 on the left side thereof, which are rotatably connected to the side walls of the carriage by studs 28. These wheels ride the tracks 22 and 23 and permit the phonograph unit to be freely moved between its operative and inoperative positions within the cabinet.

Beneath the phonograph carriage 26 in the left rearward portion of the cabinet there is provided an on-off switch 29 which is, for example, serially connected in a power supply circuit 30 (partially shown) for the phonograph. This switch is mounted on a platform 31 secured to the left and right end walls of the cabinet, and is of the usual push button type comprising a button 32 biased upwardly to place the switch in "on" or closed condition and movable downwardly against its biasing to place the switch in "off" or open condition. In order that this switch will be placed into "on" and "off" conditions as an incident of moving the phonograph unit into operative and inoperative positions there is provided a lever 33 which rests at one end on the push button 32, and which is pivoted at the other end by a stud 34 to a lug 35 turned up from the platform 31. This lever carries at its central portion a vertically disposed disk 36 which is rotatably connected to the lever by a pin 37. The lever 33 is urged upwardly, by the upward biasing of the push button 32, into position wherein the top portion of the disk 36 is within the path defined by the phonograph carriage 26. When the phonograph carriage is moved rearwardly to place the phonograph in inoperative position the bottom of the carriage seat 26' rides over the disk 36, as by way of an upwardly and rearwardly inclined side wall portion 26'' of the carriage seat, and moves the disk downwardly to place the switch in "off" condition. Conversely, when the carriage is returned to operative position the carriage seat is moved off from the disk and the switch is returned to "on" condition in response to its biasing.

The correspondence compartment 9, heretofore mentioned, is a flat substantially rectangular structure made, for example, of sheet metal. The compartment is held within the cabinet at a level between the phonograph carriage and the record storage compartment 8 and in a position wherein it is inclined downwardly from front to back, as shown in Figure 2. The compartment extends laterally across the cabinet and is closed on all sides except at its side at the front of the cabinet. It is supported in the position here indicated by means of two downwardly inclined angle irons 38 and 39 respectively disposed along the left and right end walls of the cabinet but at a slight distance in from these end walls. The angle irons are carried at their rearward ends by brackets 40 which are secured to the walls of the cabinet at the rearward corners thereof, and are carried at their forward ends by an angle iron 41 extending laterally across the cabinet and having downwardly turned lugs 41' at its ends which are secured by welding to the side walls of the cabinet. The compartment 9 rests on the angle irons 38 and 39 in position wherein its rearward wall abuts against the back wall of the cabinet.

Access to the interior of the compartment, and to the compartment itself for purposes of removing the same from the cabinet, is had by way of an opening 42 in the front wall of the cabinet. This opening extends laterally across the front of the cabinet from above the bracket 41 and is in height somewhat greater than the height of the compartment. The bottom wall 9' of the compartment terminates substantially at

the lower edge of the opening 42 and is provided at a place near its terminal end with a finger hole 43; this hole is adapted to permit the compartment to be gripped by the hand and thereby readily removed from the cabinet.

The opening 42 is provided with a closure 44 which forms a front wall section of the cabinet when the closure is in closed position as shown in Figure 2. The closure has its lower portion 44' bent inwardly at a right angle and its upper portion 44'' offset inwardly at a distance equivalent to the thickness of the front cabinet wall; this is in order that the closure may seat on the angle iron 41 and form an overlap joint with the cabinet wall along its upper edge when the closure is in closed position. The closure is pivotally mounted for upward swinging movement within the cabinet into a disappearing position indicated by dash-dot lines in Figure 2. The pivotal mounting for the closure comprises a pair of left and right arms 45 and 46 extending rearwardly from the closure and pivoted at their rearward ends to studs 47 and 48 on the angle irons 38 and 39. Provided on the closure and extending laterally of the cabinet is a flat plate 49 having a rearward turned-up portion 50. This plate is adapted to form, when the closure is in closed position, a bottom for the compartment 21 into which is housed the speaking tube 15. Also provided on the closure just below the plate 49 is a spring member 51 which extends laterally of the cabinet and which projects into the open end portion of the compartment. The top wall of the compartment is cut away as at 52 to permit the member to be swung upwardly through the top of the compartment by the opening of the closure 44. When the member 51 is in upward position it forms an opening to the compartment which flares outwardly to facilitate the insertion of letters and papers into the compartment.

The closure 44 is connected with the phonograph carriage 26 so that it will be opened and closed as an incident of moving the phonograph unit into its operative and inoperative positions. The connection between the carriage and closure comprises a pair of linkages, one at each side of the cabinet. In numbering the components of these linkages I use odd numbers on the left-hand side and even numbers on the right. These linkages comprise respective upwardly extending levers 53 and 54 which are positioned at the left and right sides of the cabinet beyond the ends of the closure 44 and which are pivoted at their lower ends to studs 55 and 56, these studs being secured as by suitable brackets not shown to the end walls of the cabinet. At the upper ends of the levers 53 and 54 there are provided open-ended slots 57 and 58 which are engaged by cross pins 59 and 60 carried by the phonograph carriage by way of brackets 61 and 62 secured to the bottom of the carriage seat. Also pivoted on the studs 55 and 56 are coupling members 63 and 64. These members are provided with slots 65 and 66 into which extend lugs 67 and 68 turned over from the levers 53 and 54. The slots are somewhat elongated so as to provide lost-motion connections between the members 63 and 64 and the levers 53 and 54 respectively. The members 63 and 64 and levers 53 and 54 have yieldable connections therebetween in addition to the lost-motion connections just mentioned. These yieldable connections comprise tension springs 69 and 70 hooked at one of their ends to short forwardly extending arms 71 and 72 on the levers 53 and 54 and at their other ends to similar forwardly extending arms 73 and 74 on the coupling members 63 and 64. The members 63 and 64 also have direct link connections to the support arms 45 and 46 of the closure 44; these connections are made by way of links 75 and 76 pivoted at one of their ends as at 77 and 78 to the members 63 and 64 and at the other of their ends to studs 79 and 80 carried by the arms 45 and 46 intermediately thereof. At the central portion of the links 75 and 76 there are provided inwardly extending studs 81 and 82 which act as stops to limit the opening movement of the closure 44, as is hereinafter explained.

The functioning of these linkages between the phonograph carriage 26 and the closure 44 for the correspondence compartment is as follows: When the phonograph carriage is moved forwardly on its tracks to place the phonograph unit in operative position the levers 53 and 54 are swung forwardly and the members 63 and 64 are turned by the impingement of the lugs 67 and 68 against the ends of the slots 65 and 66, the turning of the members 63 and 64 being however through less angular distance than that of the levers 53 and 54. This turning of the members 63 and 64 raises the links 75 and 76 to swing the closure into open position. It is to prevent inertia overthrow of the closure 44 during the movement of the phonograph into operative position that the studs 81 and 82 are provided, these studs serving to limit the opening movement of the closure by the impingement thereon of the arms 45 and 46. Conversely, when the phonograph is moved rearwardly into inoperative position the levers 53 and 54 are swung rearwardly and the intermediate coupling members 63 and 64 are turned, by way of the tension springs 69 and 70, in a clockwise direction as they appear in the figure to cause a lowering of the closure 44 into closed position. The transmission of the rearward motion of the phonograph unit to the closure 44 through the tension springs 69 and 70, permits the phonograph unit to be returned to inoperative position even should the closure 44 be blocked against closing movement by papers or the like; moreover it permits such return of the phonograph unit without causing any permanent strain of the parts of the linkage systems, and it relaxes the need for maintaining close tolerances in the dimensioning of the relatively rigid components of the linkages. Also, since the angular travel of the coupling members 63 and 64 which is required to move the closure 44 from closed to open position is substantially less than that of the levers 53 and 54 in the movement of the phonograph from operative to inoperative position, the yieldable connection between the members 63 and 64 and the levers 53 and 54, by the springs 69 and 70, causes the closure 44 to become biased into closed position as the phonograph unit is moved into inoperative position. This biasing acts to prevent clattering of the closure against adjacent parts while the closure is in closed position. To prevent metallic noises from being generated by the seating of the closure 44 on the angle iron 41 this angle iron may be covered with suitable padding 41''.

To prevent the phonograph unit from being moved along the tracks 22 and 23 out of inoperative position, as from a tilting of the cabinet during transportation thereof, I provide a locking means which is effective to hold the phonograph in inoperative position so long as the top cover 5 of the cabinet is in closed position. This locking means comprises a detent arm 83 which is

pivoted by a stud 84 to a standard 85 extending upwardly from the left rearward part of the phonograph carriage 26. The detent overlies the ledge 24 and is permitted to slide thereon in a substantially horizontal position. Pivotal movement of the detent is limited, to prevent it from being thrown upwardly out of normal position, by a lug 86 bent over from the standard 85 and engaging a slot 87 in the detent. The forward lower end portion of the detent which contacts the ledge 24 is in the form of a V-shaped tooth 88 of relatively wide angle. As the phonograph is moved into inoperative position the tooth 88 engages an opening 89 in the ledge 24, the detent dropping as by reason of its weight into a lowered position. This engagement of the opening 89 by the detent does not lock the carriage since the sides of the tooth 88 have such small inclination as to permit the detent to slide easily out of the opening 89 in response to a forward movement of the phonograph. It will however be understood that should the detent become locked against upward movement out of the opening 89 then the phonograph carriage will become locked in inoperative position and concurrently the on-off switch 29 will become locked in "off" condition. In accordance with the present invention, such locking of the phonograph is effected as an incident of closing the cover 5 and conversely the cover 5 is locked in open position as an incident of moving the phonograph into operating position, as is now explained.

Provided on the support arm 6 for the cover 5 is a locking finger 90 which, upon a closing of the cover, is moved into a position directly above the detent to obstruct it against upward movement out of the opening 89, as shown in Figure 2. Conversely, when the phonograph is moved forwardly into operative position, the detent 83 is moved forwardly along the ledge 24 into a position directly below the position occupied by the finger 90 when the cover is in open position, as indicated by dash-dot lines in Figure 2. Thus the moving of the phonograph into operative position serves to lock the cover in open position and the closing of the cover serves to lock the phonograph in inoperative position.

Although I have herein illustrated and described my invention in terms of one specific embodiment it will be understood that this embodiment is subject to many changes and modifications without departure from the scope of my invention, which I endeavour to express according to the following claims.

I claim:

1. In a structure comprising a cabinet provided with an opening in the top portion thereof: the combination of a movably mounted support within said cabinet adapted to carry an instrument and movable into first and second positions to respectively render the instrument accessible and inaccessible for operation by way of said opening; a cover on said cabinet for said opening movable between open and closed positions; and means to lock said support in said second position operatively interposed between said support and cover and permitting movement of each independently of the other, said locking means being rendered operable as the support is moved into said second position and controlled by the cover as the same is moved into closed position.

2. In a structure comprising a cabinet provided with an opening in the top portion thereof and with an openable and closable cover for said opening: the combination of a movably mounted support within said cabinet adapted to carry an instrument and movable into first and second positions to respectively render the instrument accessible and inaccessible for operation by way of said opening; and means to lock said cover in a substantially wholly open position operatively interposed between said support and cover and permitting movement of each independently of the other, said locking means being rendered operable as said cover is moved into said substantially wholly open position and controlled by said support in the movement thereof into said first position.

3. In a structure comprising a cabinet provided with an opening in the top portion thereof: the combination of a cover for said opening mounted on said cabinet for movement into open and closed positions; a movably mounted support within said cabinet adapted to carry an instrument and movable into first and second positions to respectively render the instrument accessible and inaccessible for operation by way of said opening; and a lock operatively interposed between said cover and said support and effective on said cover only when said support is in a predetermined one of its said positions and on said support only when said cover is in a predetermined one of its said positions.

4. In a structure comprising a cabinet provided with an opening: the combination of a support in said cabinet for an instrument, mounted for movement into first and second positions to place the instrument into and out of a normal position of operation at said opening; a cover for said opening pivoted on said cabinet and movable into open and closed positions; a detent member on said support and a cooperating member extending along the path of the support and adapted to permit the detent to move into a latching position when the support is in said second position; an arm on said cover moved by the closing of the cover to lock said detent in latching position, said detent being moved along said cooperating member into an obstructing position in relation to said arm as an incident of moving the support into said first position whereby to cause the cover to be locked in open position when the instrument is in its said normal position.

5. In a structure comprising a cabinet for an instrument having "on" and "off" conditions, said cabinet being provided with an opening to expose the instrument for operation: the combination of a cover on said cabinet for said opening movable between open and closed positions; an on-off control for said instrument; manual means operable to cause said control to be shifted between "on" and "off" position; and means rendered effective by said manual means in the movement thereof to place said control in "on" position, for locking said cover in open position.

6. In a structure comprising a cabinet provided with an opening in the top portion thereof: the combination of a movably mounted support within said cabinet adapted to carry an instrument and movable into first and second positions to respectively render the instrument accessible and inaccessible for operation by way of said opening, said instrument having "on" and "off" conditions; an on-off control for said instrument operated into "on" and "off" positions in response to a movement of said support into said first and second positions; a cover on said cabinet for said opening movable between open

and closed positions; and means, controlled by said cover and rendered effective in the closing thereof, for causing said support to be locked in said second position and said control in "off" position.

7. In a structure comprising a cabinet provided with an opening: the combination of a movably mounted support within said cabinet adapted to carry an instrument and movable into first and second positions to respectively render the instrument accessible and inaccessible for operation by way of said opening; a compartment in said cabinet open to the outside; a wall section on said cabinet forming a closure for said compartment; means mounting said wall section for movement into a disappearing position within the cabinet whereby to open said compartment to the outside; and means, operatively interconnecting said support and wall section, for causing the latter to be moved to open and close said compartment upon moving said support into said first and second positions.

8. In a structure comprising a cabinet: the combination of a cover on said cabinet movable into open and closed positions; a compartment within said cabinet; a closure on said cabinet movable to open and close said compartment; means for moving said closure; and means operatively interconnecting said moving means and said cover for causing said cover to be locked in open position when said moving means is in position to render said compartment open.

9. In a cabinet structure: the combination of a cover on the cabinet movable into open and closed positions; a compartment within said cabinet open to the outside of the cabinet; a closure for the open end of said compartment movable into open and closed positions; means within said cabinet for moving said closure; and means operatively interconnecting said moving means and said cover for rendering the former locked when the latter is in closed position.

10. In a structure comprising an instrument cabinet provided with an opening: the combination of a support in the cabinet for an instrument, mounted for movement into first and second positions to place the instrument into and out of a normal position of operation at said opening; a compartment within said cabinet; a closure for said cabinet movably mounted for movement into positions to open and close said compartment; and a connection between said support and said closure for causing the latter to be moved into open and closed positions as an incident of moving said support into said first and second positions, said connection comprising yieldable means subjected to strain by the movement of the support into said second position whereby to cause said closure to be biased into closed position when the instrument is out of its said normal position of operation.

11. The combination as claimed in claim 10, further including a cover for said cabinet opening, movable into open and closed positions; and a lock, controlled by said cover and rendered effective when the cover is in closed position, for locking said support in said second position.

12. In a structure comprising a cabinet having an opening therein: the combination of a movably mounted support within said cabinet adapted to carry an instrument and movable into first and second terminal positions wherein the instrument is accessible and inaccessible for operation by way of said opening; a closure on said cabinet for said opening movable into open and closed terminal positions; and means operatively interposed between said support and closure, permitting movement of one independent of that of the other and causing each to be locked in one of its said terminal positions upon the placing of the other in a predetermined one of its said terminal positions.

13. In a structure comprising a cabinet: the combination of a support in said cabinet for an instrument, mounted for movement into terminal positions to place the instrument into and out of a normal position of operation; a compartment within said cabinet; a closure on said cabinet for said compartment movable into open and closed positions; and an operative yieldable coupling between said support and said closure causing one to be held yieldably at one of the said positions thereof when the other is in a predetermined one of its said positions.

14. In a structure comprising a cabinet for an instrument having "on" and "off" conditions, said cabinet being provided with an opening to expose the instrument for operation: the combination of a cover on said cabinet for said opening movable between open and closed positions; a differently positionable control for said instrument; manual means operable to cause a shift in position of said control; and means, operable by said cover subsequently to the placing of said manual means in a predetermined position, for locking said manual means in said position.

15. In a phonograph cabinet: the combination of an openable compartment for a phonographic mechanism; a mounting for said mechanism in said compartment movable to place the mechanism into and out of a position of normal operation; a separate openable compartment in said cabinet adapted for receiving letters, papers and other correspondence; and means, controlled by said mounting in the movements thereof within said first-mentioned compartment into and out of said normal position of operation, for opening and closing said correspondence compartment.

16. In a phonograph cabinet including a compartment for a phonograph mechanism: the combination of closure means on said cabinet for opening and closing said compartment; a separate compartment in said cabinet for correspondence or other papers, said compartment being open to the outside and inclined downwardly within the cabinet from its open end; means movable within the cabinet to open and close said correspondence compartment and adapted when in open position to form a flared passageway into the compartment to facilitate the insertion thereinto of papers and the like; and means operatively interposed between said closure means and said movable means for causing one of said means to exercise a controlling influence upon the other.

GUSTAV F. BRAUN.