

April 5, 1938.

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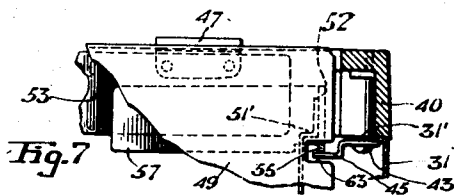
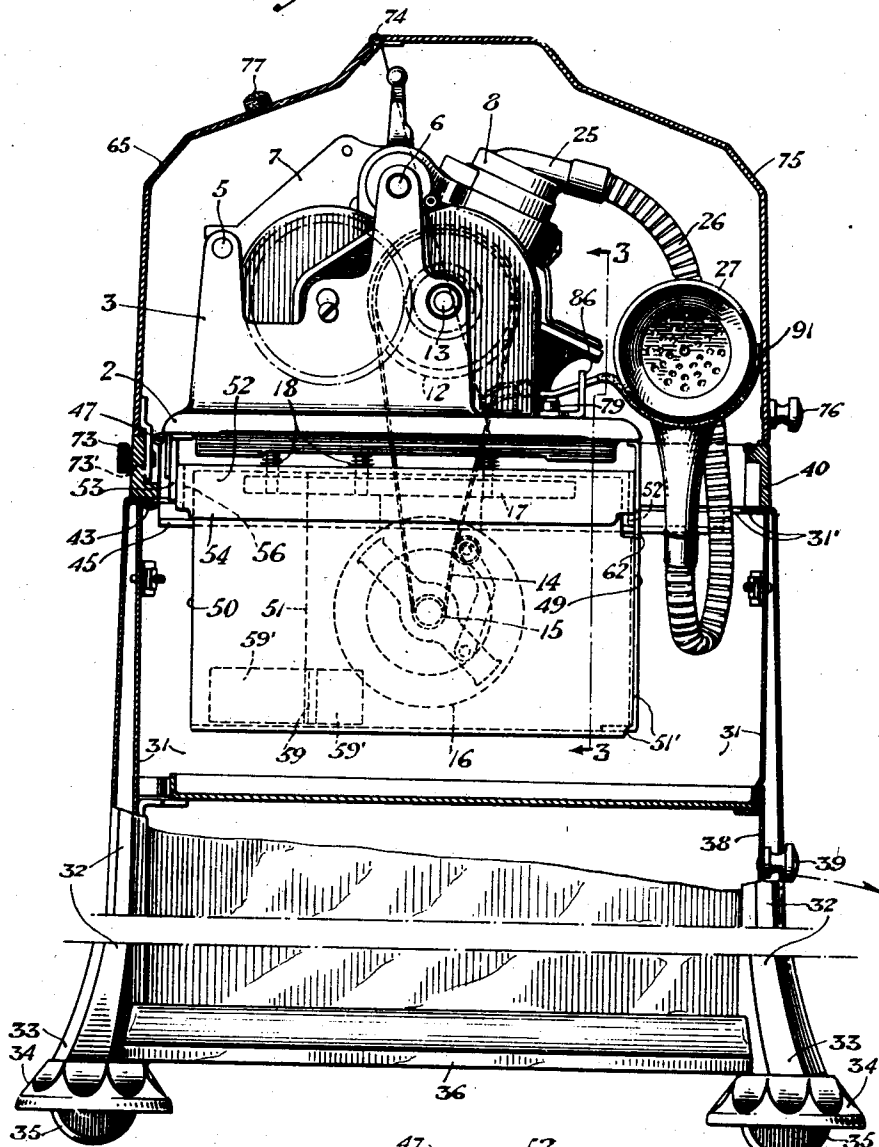
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PHONOGRAPH

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3 Sheets-Sheet 1

Fig. 1



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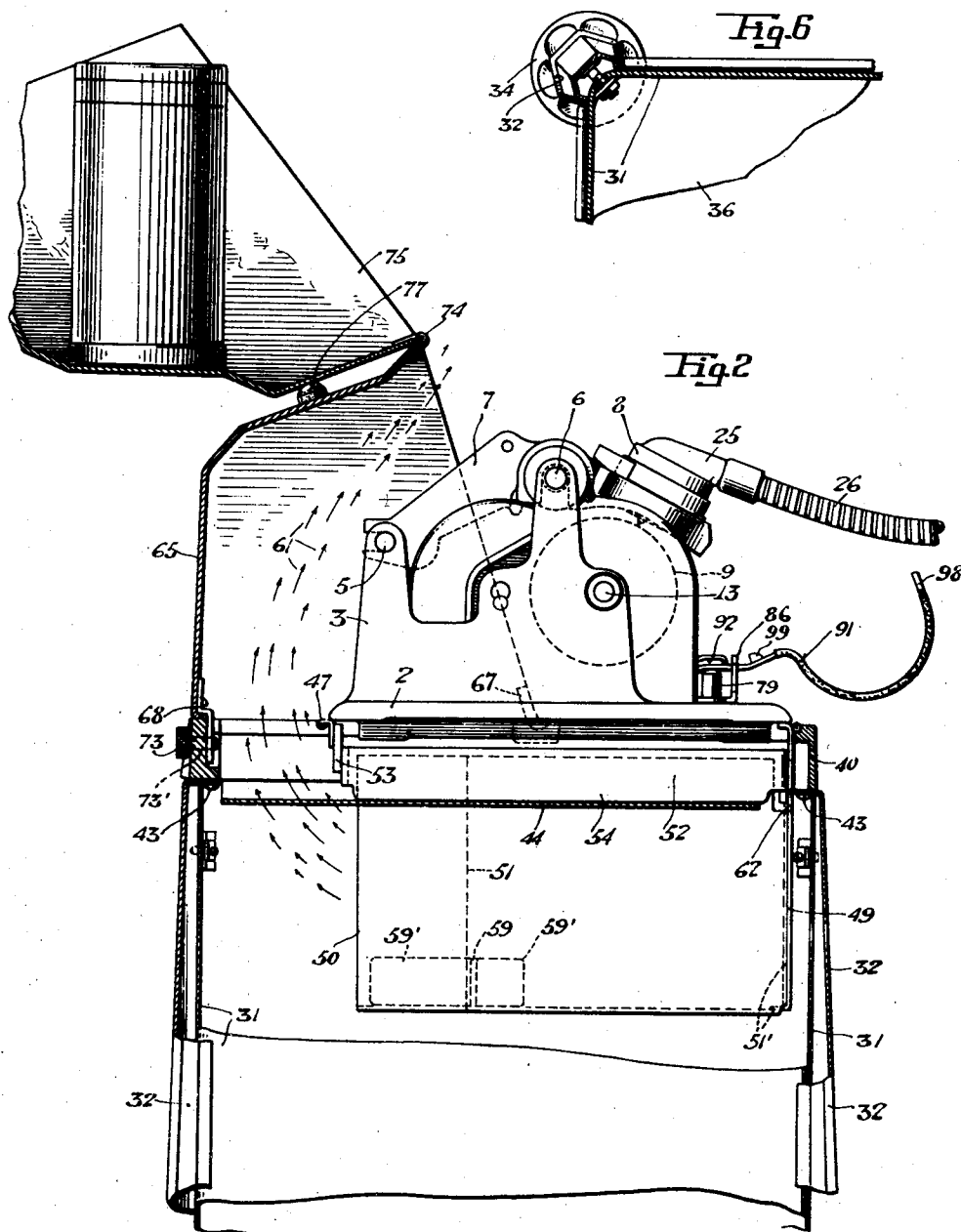
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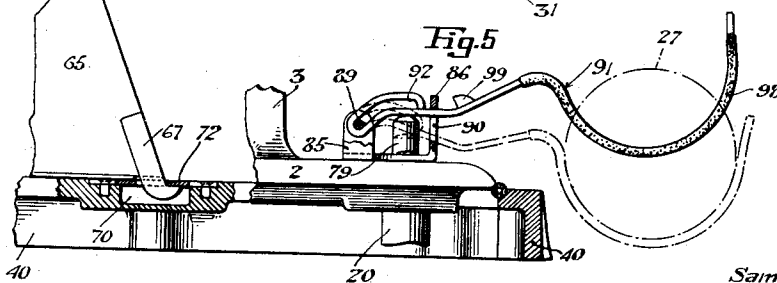


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UNITED STATES PATENT OFFICE

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PHONOGRAPH

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11 Claims. (Cl. 274—17)

Our invention relates to phonographs and more particularly to business phonographs, commonly known as dictating machines. Machines of this type which have been in common commercial use for a number of years have ordinarily been constructed with an open top frame whereby a large number of parts of the machine were exposed at all times. Such construction is not only undesirable because it presents a complicated and untidy appearance, but also because it is difficult to clean and has a tendency to collect a considerable amount of dust and dirt. For these reasons, we propose to provide a special cabinet for phonographs of this type in which the working parts of the machine may be completely enclosed to provide a pleasing appearance, to prevent the collection of dust and dirt on various parts of the machine, to allow easy cleaning of the machine, and to protect the mechanism from possible injury.

When a complete enclosure is provided for such phonograph, certain problems, not ordinarily found in connection with the open type machine, are encountered and must be solved in order to provide a successful commercial device. In the first place, machines of this type are ordinarily driven by electric motors and may, in addition to the electric motor required for driving, utilize a resistance in series with the motor for controlling the speed of the motor or for adapting the motor to line voltages in excess of its normal operating voltage. A certain amount of heat is always generated due to the losses in the motor and in the series resistance and it is desirable to radiate the heat so generated as rapidly as possible in order to maintain the operating temperature of the motor and the resistance as low as possible. Furthermore, it is desirable to make provision for enclosing the speaking tube of the phonograph whereby when the entire equipment is not in use the speaking tube may be enclosed along with the other parts of the mechanism to protect it from dust and injury. Such speaking tubes are normally located at the front of the phonograph and as a result if the cabinet enclosure were made sufficiently large to enclose the speaking tube, the other parts of the phonograph would be positioned too far within the cabinet to be readily accessible.

Furthermore, in such an enclosed machine, unless some definite precaution is taken, there might be considerable possibility of neglect on the part of the operator of the machine to cut off the power circuit before closing the cabinet, thus allowing the motor to operate continuously

over a period of time, thereby consuming electrical energy wastefully, and increasing the wear upon the motor and associated moving parts of the machine.

It is further desirable in such a machine to provide a shelf or tray where cylinder cartons and papers or other material used by the dictator in the process of recording may be conveniently placed.

It is the principal object of this invention to provide a cabinet or enclosure for a dictating machine, whereby a neat and pleasing appearance, protection against dust and damage, easy cleaning of the machine, and ready accessibility of the machine during use are provided.

It is another object of this invention to provide in such a dictating machine means for ventilating the motor and associated parts without recourse to unsightly openings in the cabinet.

It is still another object to provide an enclosure whereby the speaking tube of such a machine may be completely enclosed along with the other parts of the machine when the machine is not in use.

It is a further object of this invention to provide a construction wherein it is impossible to completely close the cabinet while the power circuit is not positively open.

It is a still further object of this invention to provide a cover on such an enclosed machine, which, when in its open position provides a tray for the reception of letters, record tablet cartons, or other material used by the dictator in the operation of said machine.

Other objects and features of our invention will be disclosed in the following specification and appended claims.

For a clearer understanding of our invention, reference may be had to the drawings accompanying and forming part of this specification, wherein:

Figure 1 is a side elevational view, partly in section and partly broken away, of a phonograph mounted in an enclosed cabinet in accordance with our invention, the top cover of the cabinet being shown in its closed position;

Fig. 2 is a side elevational view partly in section and partly broken away, of the apparatus in Fig. 1 with the top cover open and with the dictating machine proper in its normal operating position;

Fig. 3 is a section taken approximately on the line 3—3 of Fig. 1;

Fig. 4 is a detail of the hook switch and associated parts of the phonograph of Fig. 1, showing

ing the hook switch in the position which it normally occupies when the top cover of the cabinet is closed;

Fig. 5 is a detail of the hook switch of the phonograph of Fig. 1, shown in the position which it occupies when the top cover of the cabinet is open and the phonograph is conditioned for normal operation;

Fig. 6 is a detail of the corner construction of the cabinet;

Fig. 7 is an elevational view, partly in section, showing the construction of the mounting for the phonograph; and

Fig. 8 is a detail of the motor control switch with a diagrammatic representation of the circuit with which it is associated.

The phonograph mechanism comprises a base 2 having standards 3, 4 and 11. A pair of guide rods 5, 6 are supported in the standards 3, 4 and provide a mounting for a carriage 7. The carriage 7 is freely movable transversely of the guide rods 5, 6 and carries a sound box 8 adapted to coact with a record tablet 9 carried by a rotatable mandrel 10. Mandrel 10 is journaled in the standard 11 and is coaxial with a pulley 12 mounted on a subshaft 13 secured in the standard 3. Mandrel 10 is connected to the pulley 12 by means of a clutch 19 of well known construction. The pulley 12 is driven by a belt 14 which also passes over a pulley 15 on the shaft of a driving motor 16. The driving motor 16 is secured on the underside of base 2 by a supporting plate 17 resiliently connected to the base 2 by springs 18. A switch 20, having a plunger 19 normally biased to its closed position by a spring 80, is mounted on the underside of the base 2 and serves as a means for controlling the operation of the motor 16.

The base 2 of the phonograph normally rests on an internal frame and is secured thereto by means of hinges 47 at the rear edge of the base 2. The internal frame comprises a front plate 49 and two side plates 50 and 51, which side plates are secured to the front plate by welding on turned in flanges. The side plate 51 does not extend as far toward the rear of the machine as the side plate 50. These two side plates are tied together at their lower rear extremities by means of a tie bar 59 having flanges 59' welded to the side plates. A band 52 is welded to the front plate 49 and its side portions 54 and 55 are also welded to offset portions 50' and 51' of the side plates 50 and 51. At the rear of the phonograph, the band 52 is turned inwardly to form two lugs 56 and 57 to which a cross member 53 is riveted. The hinges 47 are riveted or screwed to the cross member 53. It will be seen that the rigid frame so formed supports the base 2 at its rear and front edges and provides a cover for protection of the parts of the mechanism located below the base while allowing a free circulation of air to provide ventilation for the motor or other power consuming parts. Side members 54 and 55 of the band 52 are relieved at their bottom corners (see Fig. 1) and extend somewhat below the offset portions 50' and 51' of the side plates. These side members 54 and 55 thereby form slides upon which the phonograph proper is supported in an enclosing cabinet to be described.

The enclosing cabinet comprises a top frame 40, preferably a casting, and a bottom frame 36. An enclosure is formed by a substantially rectangular jacket, preferably fabricated from one continuous sheet of metal to form sides 31. An opening is provided in the front portion of the

cabinet into which a hinged door 38, having a knob 39, is secured. The cabinet is provided with ornamental corner posts 32 secured to the cabinet by bolts as shown in Fig. 6. At their lower ends the corner posts 32 terminate in foot pieces 34 which furnish coverings for casters 35 secured in the bottom frame 36.

The top frame 40 is secured to the jacket by a series of screws 43 passing through an inwardly extending flange 31' formed along the top of sides 31, the screws being threaded into suitably tapped holes in the frame 40. A pair of rails 44 and 45 are secured beneath the frame 40 along either side of the cabinet and are held in place by the attaching screws 43. The rail 44 has a grooved cross section while the rail 45 is straight. The rails 44 and 45 are adapted to respectively support and guide the slides 54 and 55 previously described. By this means a mounting is provided by which the phonograph and its associated parts are arranged for sliding movement within the cabinet, the movement being confined to a path parallel to the sides of the cabinet.

In order to prevent accidental displacement of the phonograph proper with its associated frame in the cabinet, the front plate 49 of the frame is made somewhat wider than the remainder of the frame and extends beyond the rails 44 and 45. Suitable notches 62 and 63 are cut into the front plate in a position where they will provide clearance for the rails 44 and 45 (see Fig. 7). In this way the phonograph is free to slide on but is held in proper relation to the guide rails. In order to provide for removal of the phonograph from the cabinet and for installation of the phonograph in the cabinet, the rails 44 and 45 are terminated short of the front of the cabinet, thus leaving an open space at the end of each rail. When it is desired to remove the phonograph from the cabinet, the phonograph is slid to its furthest forward position as shown in Fig. 2, in which position the front plate 49 is entirely clear of the guide rails, thereby allowing removal of the phonograph by lifting it out of the supporting cabinet.

In order to render the cabinet dust-proof when not in use and in order to present a pleasing appearance, a top cover is provided. The top cover comprises two shell like portions 65 and 75 fastened together by a hinge 74. The rear portion 65 of the cover normally remains in place and is secured to the frame 40 in a manner which makes its easy removal possible. A pair of hooks 67 are welded on the sides of the portion 65 and are adapted to be rotated into suitable slots 70 in the top of the frame 40. Each of the slots 70 is covered by a plate 72 having a suitable opening for the passage of the hook 67 and so arranged that in order to disengage the hook from the socket, it is necessary to rotate the portion 65 forwardly some distance in order to bring the hook in a position where it may be freely withdrawn through the opening in the plate 72. A thumb screw 73 is threaded into a bracket 68 secured to the rear part of the portion 65 and fits into a notch 73' in the frame 40. In normal use, thumb screw 73 is tightened within the notch 73', and thus holds the portion 65 rigidly in place on the frame 40. The front portion 75 of the top cover may be opened or closed as needed, being normally kept closed as shown in Fig. 1 when the machine is not in use. When the machine is in use, as shown in Fig. 2, the portion 75 is rotated upwardly about the hinge 74 and is allowed to come to rest against a pair of soft bumpers 77 mounted on the portion 75

65. By this construction the front portion of the top cover provides a shelf in which record tablet cartons, or mail, or other material used by the dictator in the course of his dictation may be placed.

A speaking tube of the usual design comprising an elbow 25, a flexible tube 26, and a mouthpiece 27, is connected to the sound box 8. The mouthpiece 27 is adapted to be placed upon a switch hook 91 whenever the machine is not being used to record dictation. The switch hook 91, which may be covered with a sleeve of rubber or similar material 98, passes through a square opening 90 in an angle bracket 86 and is bent to form an elongated curved slot 92 at its rear portion. The slot 92 cooperates with a pin 89 mounted in a pair of turned up ears 85 of the bracket 86 to form a pivotal support for the switch hook 91. The bottom portion of the switch hook 91 between the opening 90 and the ears 85 cooperates with the top portion of the plunger 79 which forms the actuating member of the switch 20 controlling the operation of the driving motor 16. The switch hook 91 is also provided with a camming surface 99 arranged to cooperate with the top of the opening 90.

When the machine is in normal use for recording dictation, that is to say, in operative position, it is positioned in the front portion of the cabinet as shown in Fig. 2 and the switch hook is positioned as shown by full lines in Fig. 5. Under these conditions, when the mouthpiece 27 is hung upon the switch hook, its weight overcomes the biasing of the spring 80 which normally holds the switch 20 in closed position. As a result, the plunger 79 will be depressed and the motor circuit will be broken, thus providing means to automatically shut off the operation of the machine when it is not in actual use for dictation. If the machine is in intermittent use where it is desirable to maintain it ready for use at any moment, the phonograph may be left in its farthest forward or operative position, as shown in Fig. 2 and the mouthpiece 27 hung upon the switch hook 91, the flexible tube 26 lying without and along the front face of the cabinet.

However, when a period of dictation is completed and it is desired to enclose the machine, the switch hook 91 is grasped and used as a handle by which to slide the machine backwardly within the cabinet to its extreme rear or inoperative position as shown in Fig. 1. However, when pressure is applied to the front of the switch hook 91, the switch hook will first move backwardly, the slot 92 riding over the pin 89 and causing the switch hook to assume the position shown in Fig. 4. In this position by reason of the shape of the slot 92 and the switch hook 91, the plunger 79 is maintained at all times in its depressed position, regardless of whether the mouthpiece 27 is placed upon the switch hook or not. Definite assurance is therefore provided that the power is disconnected from the machine which is thus rendered inoperative whenever the cover of the cabinet is closed. It will also be noted that the switch hook is of such length that when the machine is in its rearmost or inoperative position the cover cannot be closed unless the switch hook has also been moved to its rearmost position. By this a further positive interlock is provided to prevent closure of the cabinet top without first assuring the disconnection of the power circuit.

When the phonograph proper has been moved to its rearmost position as shown in Fig. 1, an open space is provided between the front plate 49

and the inner side of the cabinet. This space serves as a storage space for the speaking tube and mouthpiece of the phonograph which may now be inserted into the opening so formed with the mouthpiece 27 resting upon the switch hook. When the cover 75 is closed as shown in Fig. 1 a complete enclosure for the phonograph and the speaking tube is thus provided, protecting them from dust and injury.

If it is desired to dictate and the front portion 75 of the cover happens to be closed, the said front portion is lifted by means of the knob 76, to its open position as shown in Fig. 2. The mouthpiece 27 and the flexible tube 26 are then lifted up and out of the space in which they rest while the cabinet is closed and the hook switch 91 is grasped and pulled upon to slide the machine into its forward position. Such a pull upon the hook switch 91 moves the same from the position shown in Fig. 4 to that shown in Fig. 5 before the phonograph starts to move along the rails in the cabinet. The hook switch is thereby prepared for operation so that whenever the speaking tube is lifted off, the motor of the phonograph will be automatically started. This construction, therefore, provides a combined handle and hook switch and automatically provides for conditioning the machine for use whenever the machine is moved to its operative position and automatically provides for positively disconnecting the equipment or opening the power circuit whenever the machine is moved to its inoperative position.

As a further means to assure movement of the phonograph to the front of the cabinet whenever it is desired to dictate, the front edge of the back portion 65 of the cover is so positioned that when the phonograph is in its rearmost position, one side of the portion 65 extends partially over the mandrel of the phonograph, thus positively preventing application to or removal of a cylinder from the mandrel of the phonograph until the machine has been moved to its forward position.

It is also to be noted that when the machine is in its forward position as shown in Fig. 2, a space appears between the rear of the base 2 and the back of the cabinet. This space provides ample ventilation for the motor or other power consuming parts beneath the base thus eliminating the need for unsightly holes in the cabinet. It will also be noticed that this space is provided only when the machine is in its normal operative position in which ventilation is required. When the cabinet is closed and the machine is moved to its rearward position, the space so provided disappears but an equivalent amount of space appears at the front of the machine and thus allows storage of the mouthpiece and speaking tube within the cabinet without any increase of cabinet dimensions. By this construction the total space within the cabinet is used with maximum efficiency, thereby cutting down the size required and simultaneously providing a neat and useful construction.

Having thus described our invention, we claim:

1. A cabinet, a dictating machine mounted in said cabinet for movement at will in a substantially horizontal plane into an operative and an inoperative position, said machine comprising a driving motor and means to control the operation of said motor, a cover for said cabinet and machine comprising a member movable into open or closed position, and a device associated with said motor control means and reciprocally movable into at least two positions in substantially

the same horizontal plane as said machine in one of which positions said control means is operable and in the other of which said control means is inoperable, said device when in the position in which the control means is operable preventing movement of said member to closed position.

2. A cabinet, a dictating machine mounted for movement wholly within said cabinet and having an operative and an inoperative position within said cabinet, said machine comprising a driving motor and control means therefor, and a device adapted to be grasped for moving the machine in the cabinet into or out of operative position, said device being in cooperative association with said control means, and being movable into at least two positions with respect to said means, in one of which positions said means is operable and in the other of which positions said means is maintained inoperative, the movement of said device to and from said two positions being substantially parallel to the movement of said machine into and out of operative position.

3. A cabinet, a dictating machine mounted for movement in said cabinet and having an operative and an inoperative position within said cabinet, said machine comprising a driving motor, and means movably mounted with respect to said machine and adapted to be grasped for moving the machine and for rendering said motor operable or inoperable at will, the movement of said means when the machine is moved from operative to inoperative position being in substantially the same direction as the movement of said means which renders the motor inoperable.

4. A cabinet, a dictating machine mounted for movement in said cabinet and having an operative and an inoperative position within said cabinet, said machine comprising a driving motor, and means adapted to be grasped for moving the machine and comprising a movably mounted control to render said motor operable or inoperable at will, said means being moved in substantially the same direction to render the motor operable as the machine is moved to assume operative position.

5. In a device of the class described, in combination, a cabinet, and a phonograph movable at will either to an operative or an inoperative position within said cabinet, said phonograph comprising a member adapted to be grasped to so move, and as an incident of such movement to control the operation of, said phonograph, said member being movably mounted with respect to said phonograph and such control being effected by movement of said member in a substantially straight line direction corresponding to the direction of movement of said phonograph to and from either operative or inoperative position.

6. In a device of the class described, in combination, a cabinet, a phonograph having an inoperative and an operative position within said

cabinet and a device adapted to be grasped and movable in respect to said phonograph for moving said phonograph from one such position to another within said cabinet, said device upon movement in a substantially straight line direction corresponding to the movement of said phonograph to or from operative or inoperative positions rendering said phonograph either operable or inoperable at will.

7. In a device of the class described, in combination, a cabinet, a phonograph having an operative and an inoperative position within said cabinet, and a member adapted to be grasped and movable in respect to said phonograph for moving said phonograph from one such position to another within said cabinet, said member upon movement in substantially the same rectilinear direction as movement of said phonograph to operative position, rendering said phonograph operable.

8. In a device of the class described in combination, a cabinet, a phonograph having an operative and an inoperative position within said cabinet, and a member adapted to be grasped and movable in respect to said phonograph for moving said phonograph from one such position to another within said cabinet, said member upon movement in substantially the same rectilinear direction as movement of said phonograph to inoperative position, rendering said phonograph inoperable.

9. In a device of the class described, in combination, a cabinet, a phonograph mounted for movement to a plurality of positions within said cabinet, means for moving said phonograph from one position to another within said cabinet, said means comprising a member which upon being actuated to move said phonograph from one predetermined position to another, automatically and positively renders said phonograph inoperable.

10. In a device of the class described, in combination, a cabinet, a phonograph mounted for movement to a plurality of positions within said cabinet, means for moving said phonograph from one position to another within said cabinet, said means upon being actuated to move said phonograph from one predetermined position to another within said cabinet, automatically rendering said phonograph operable.

11. In a dictating machine, a mouthpiece, a driving motor, means for opening or closing the circuit of said motor, and a device comprising a support for said mouthpiece, said device being associated with said means and movable into at least two positions with respect to said means, in one of which positions said means is operable by said device either to open or to close said circuit and in the other of which positions said means is maintained inoperable.

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