

Nov. 30, 1937.

C. COLLARO ET AL

2,100,686

TALKING MACHINE

Filed Aug. 16, 1933

7 Sheets-Sheet 1

Fig. 1.

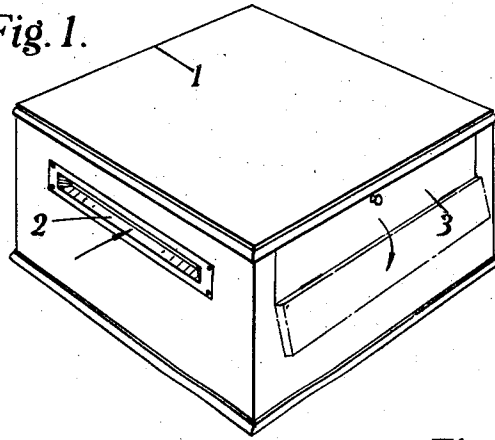


Fig. 8.

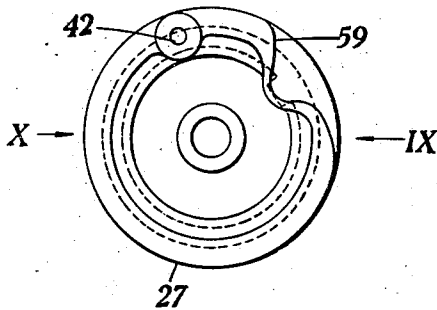


Fig. 9.

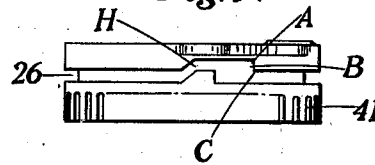


Fig. 10.

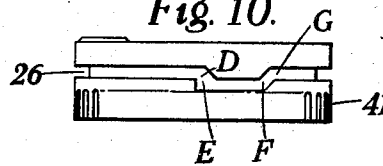
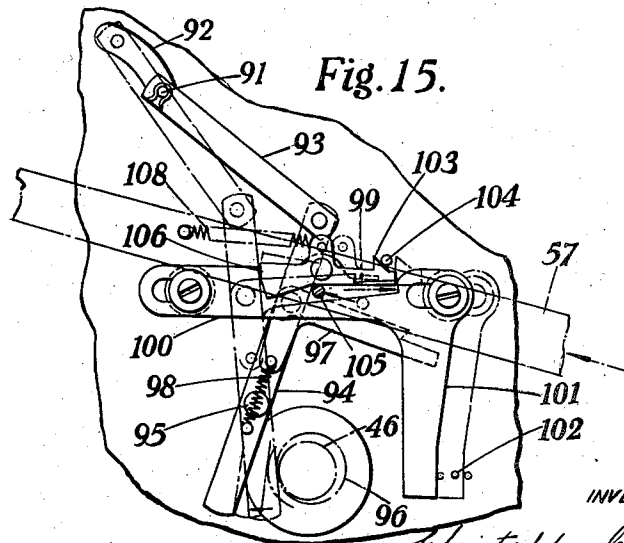


Fig. 15.



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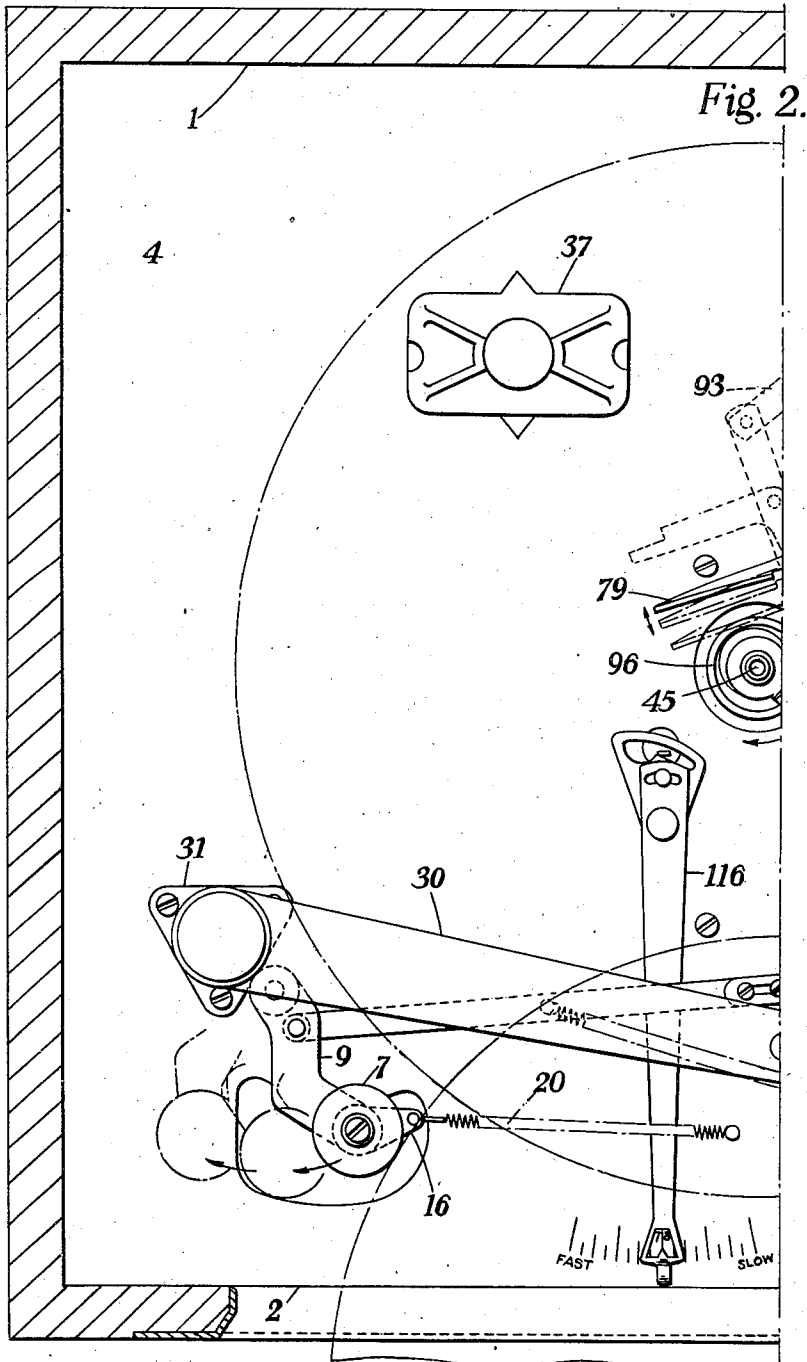
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TALKING MACHINE

Filed Aug. 16, 1933

7 Sheets-Sheet 2



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TALKING MACHINE

Filed Aug. 16, 1933

7 Sheets-Sheet 3

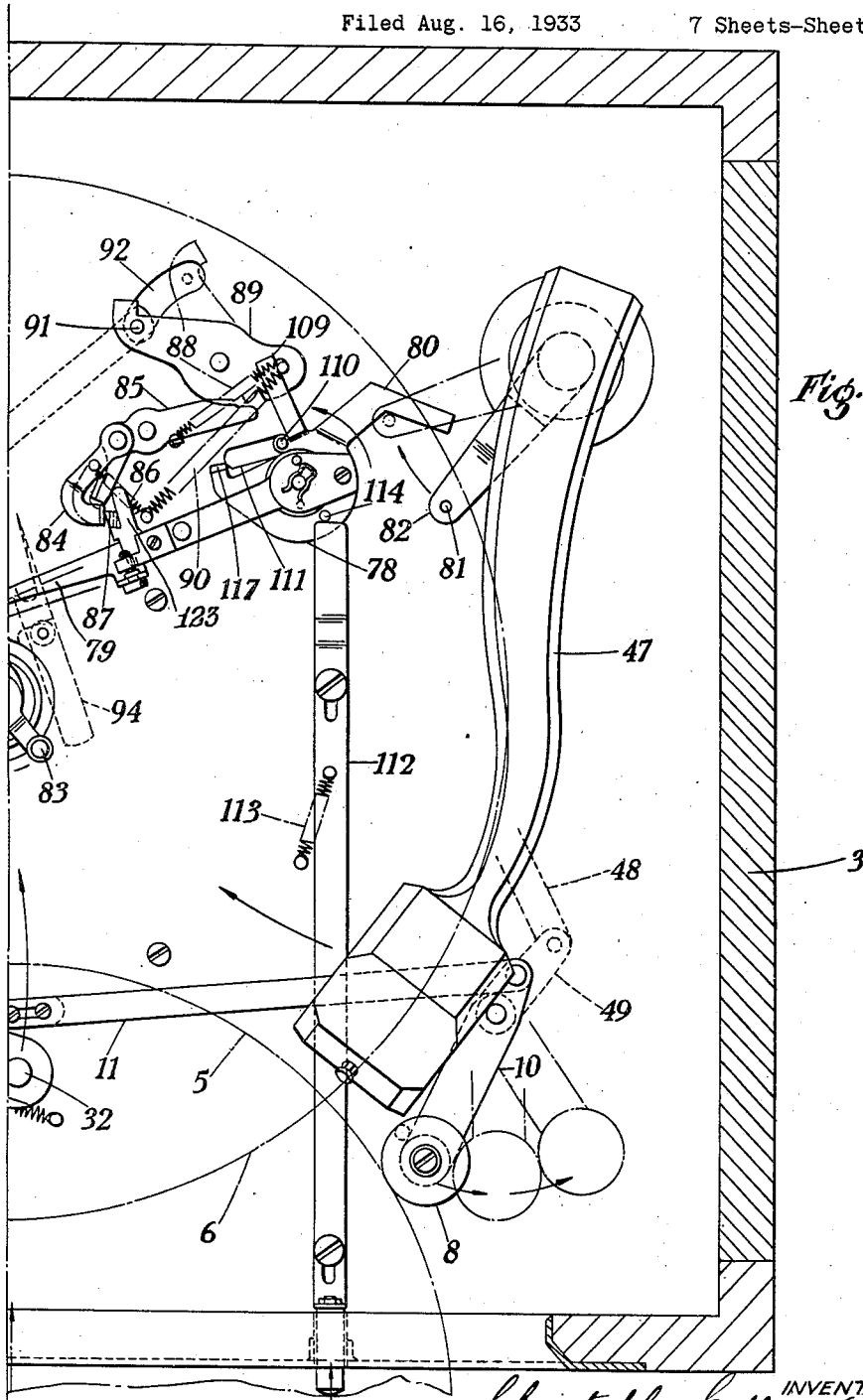


Fig. 2a

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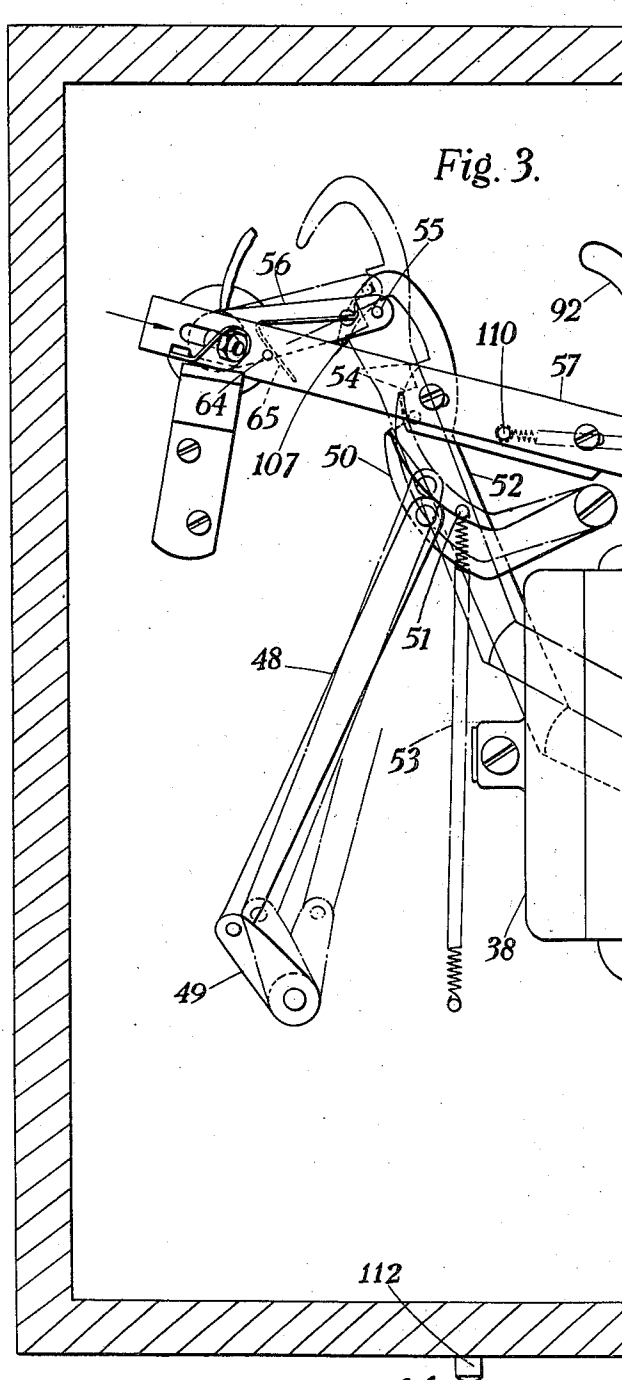
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TALKING MACHINE

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7 Sheets-Sheet 4



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TALKING MACHINE

Filed Aug. 16, 1933

7 Sheets-Sheet 5.

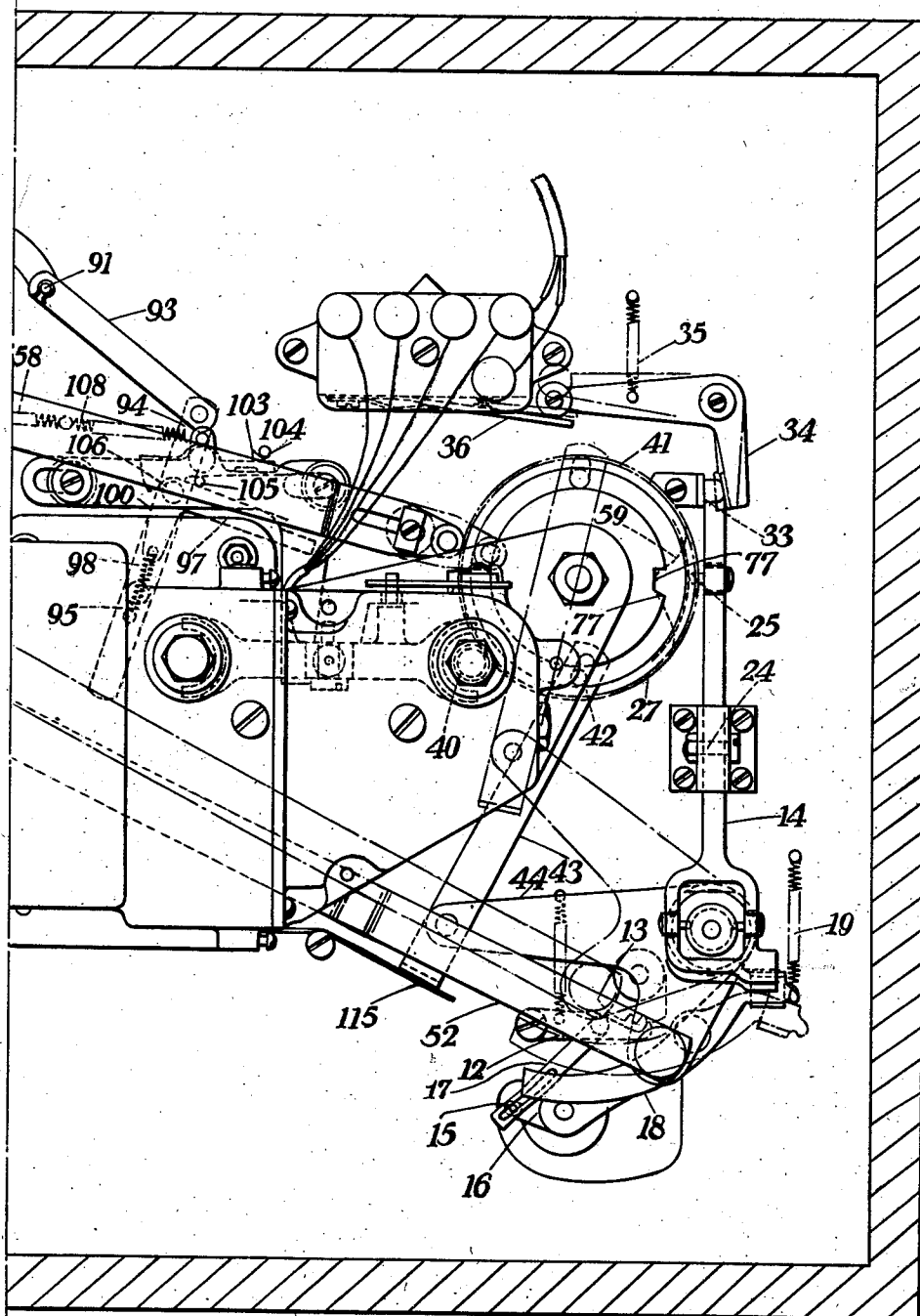


Fig. 3a

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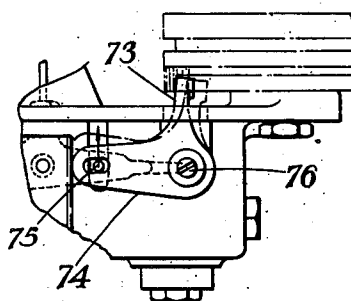
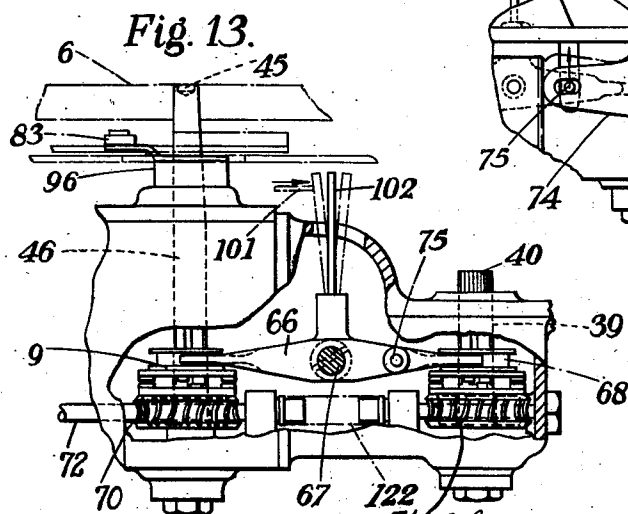
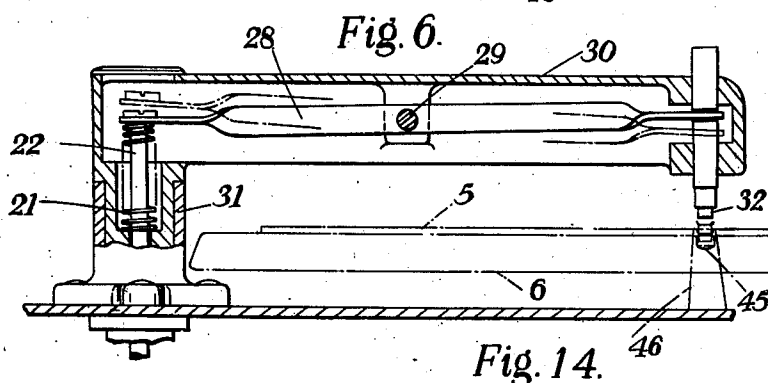
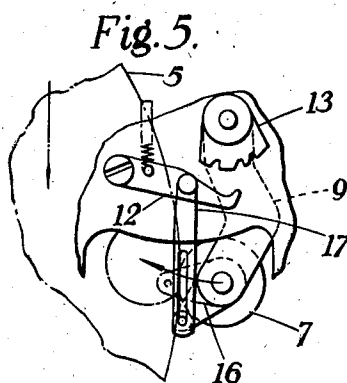
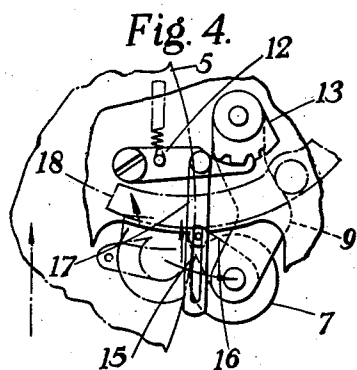
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TALKING MACHINE

Filed Aug. 16, 1933

7 Sheets-Sheet 6



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2,100,686

TALKING MACHINE

Filed Aug. 16, 1933

7 Sheets-Sheet 7

Fig. 7.

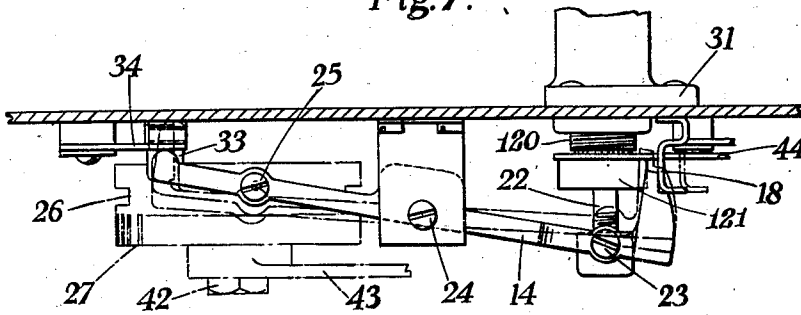


Fig. 11.

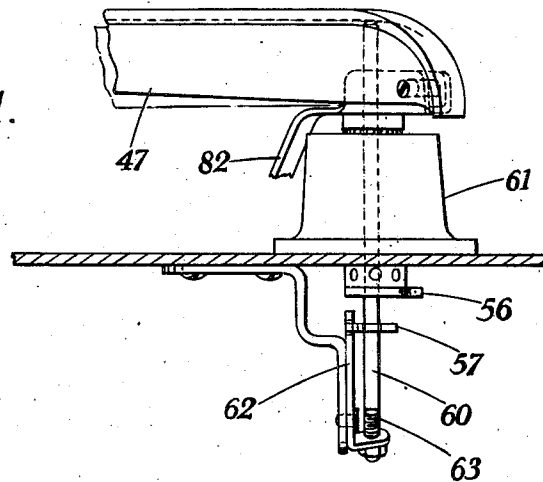
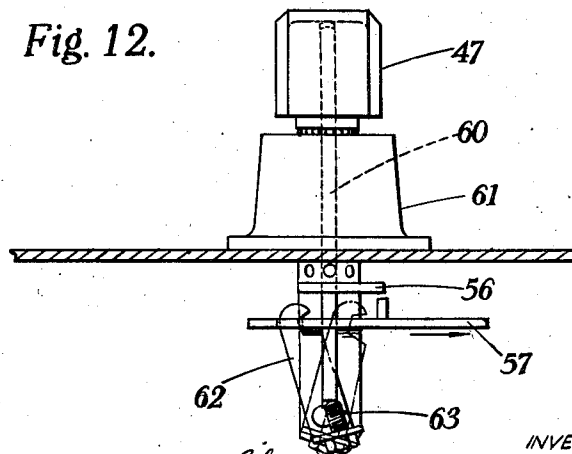


Fig. 12.



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## UNITED STATES PATENT OFFICE

2,100,686

## TALKING MACHINE

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Application August 16, 1933, Serial No. 685,452  
In Great Britain August 19, 1932

16 Claims. (Cl. 274—10)

This invention relates to automatic talking machine mechanisms. Automatic talking machines, whether combined with radio receivers or not, suffer generally from the disadvantage that it is either necessary to provide them with a stack of selected records, which must then be played in the order in which they are arranged in the stack, or the casing must be opened after each record has been played in order to put the next record in position. It is an important object of the present invention to avoid the necessity of choosing between these two actions. Another object of the invention is to provide a mechanism that can be covered by a casing which need never be opened for the purpose of changing a record or supplying the mechanism with records. A further object of the invention is to provide a mechanism in a casing which need not even be opened for the purpose of changing the needle in the pick-up or sound box.

An important feature of the invention consists in building the mechanism into a casing having a lateral opening through which the record is inserted and removed, so that, in order to play the record, it is not necessary to open the lid of a casing as is necessary in talking machines at the present time. Thus, in such constructions according to the invention, a unit comprising a casing containing one of the novel mechanisms may be placed permanently beneath and constitute a stand for a radio receiver.

When a construction is provided in which the lid of the casing is not intended to be opened at all for the purpose of applying a record to the turntable or removing it therefrom, it is still desirable to change the needle in the pick-up or sound box periodically. In order to allow of this the arm carrying the pick-up or sound box (hereinafter called the pick-up arm) is controlled according to the invention by a mechanism which permits the arm to move laterally away from the turntable and through an opening in a side wall of the casing. Thus, in the preferred construction, there are two openings in the sides of the casing which is arranged to be kept otherwise closed during use. The one opening is intended for the insertion and removal of records, while the other allows the pick-up arm to pass through it so that the normal functions of supplying the mechanism with records and recovering them and of changing the needle may be performed without opening the closed casing.

The preferred embodiment of our invention will now be described by way of example with

reference to the accompanying drawings, in which:—

Figure 1 shows a perspective view of a casing containing the mechanism, which is mounted in part on top of and in part on the underside of a plate or motorboard;

Figures 2 and 2a show a horizontal section through the casing taken above the motorboard;

Figures 3 and 3a show a horizontal section through the casing taken below the motorboard and looking upwards;

Figures 4 and 5 show views from below of part of the gate when the record is entering and leaving respectively;

Figures 6 and 7 show details of the carrier arm and rocker bar respectively;

Figure 8 shows a plan of the cam drum;

Figures 9 and 10 are views of the cam drum looking in the directions of the arrows IX and X of Figure 8 respectively;

Figures 11 and 12 are two views at right angles to one another, showing details of the pick-up arm;

Figures 13 and 14 illustrate details of the clutch mechanism; and

Figure 15 illustrates details of the mechanism by which the clutches are changed over.

The mechanism is mounted within a casing 1 which is normally completely closed except for a slot 2, but which is provided with a hinged flap 3 which, on being pulled outwards and downwards, leaves an opening through which the pick-up arm can be swung outwards through the casing for the purpose of changing the needles. The casing 1 may advantageously be used to support an amplifier to which the pick-up may be connected and which may form part of a radio receiver.

The parts of the mechanism are mounted on both sides of a horizontal motorboard 4.

The operator takes a record of any of the sizes for which the mechanism is adapted, and which in the present case are the three sizes of 9 inch, 10 inch, and 12 inch, respectively. He then inserts this record through the slot 2 and, owing to the location of the slot, the record slides over the turntable. In Figure 2 the record and turntable are indicated in chain lines at 5 and 6 respectively. As the record 5 is inserted, it encounters a gate in the form of two rollers 7 and 8 carried respectively by two pivoted arms 9 and 10 which are interconnected by a bar 11 so that they open and close together. The gate thus acts as a centralizing device. A plate 13 (Figures 3a, 4, and 5) is mounted beneath the



motor board 4 and is carried by a spindle which also carries the pivoted arm 9. Thus, as a record is pushed through the gate, the plate 13 swings with the arm 9 and the extent to which it swings depends upon the extent to which the gate is opened, which, in turn, depends upon the diameter of the record that is pushed through the gate. The plate 13 is formed with three notches which cooperate with a spring-pressed pawl 12 to hold the gate open after it has been opened to the widest possible extent by the record 5, that is after the diameter at right angles to the direction of motion of the record has passed between the rollers 7 and 8. If the record is a 9 inch record, the pawl will engage the right-hand notch of the plate 13 (as seen in Figures 4 and 5). If, however, the diameter of the record is 10 inches, the pawl will ride over the right-hand notch and engage the center notch. If a 12 inch record is inserted, the pawl 12 will engage the left-hand notch in the plate 13 (as seen in Figures 4 and 5). Thus the extent to which the gate is held open as a result of the insertion of a record depends upon the diameter of the record.

In addition to engaging the rollers 7 and 8, the record 5 also engages a trigger mechanism that has been holding a rocker bar 14. This trigger mechanism comprises a pin 15 carried by a pivoted arm 16 and having a pin and slot connection with a bar 17 that is pivotally connected to the pawl 12. The pin 15 is engaged by the record and caused to bear against one arm of and rock a two-armed lever 18, the other arm of which is then withdrawn against a spring 19 from contact with the end of the rocker bar 14. The position which the two-armed lever 18 takes up after it has released the rocker bar 14 is shown by chain lines in Figures 3a and 4. The pin and slot connection mentioned above enables the pin 15 to move without influencing the pawl 12 at this stage of the operations. When the record has moved past the pin 15, the arm 16 is returned by a spring 20.

The rocker bar 14 is biased by a spring 21 (Figure 6) which surrounds a vertical rod 22 universally connected to the rocker bar at 23 (Figure 7). The end of the lever 18 constitutes a stop or abutment which prevents the rocker bar 14 from moving until release is effected by the trigger mechanism in the manner described. When this release is effected, the rocker bar 14 rocks about a pivot 24 from the full line position of Figure 7 to the chain line position. The rocker bar carries a pin 25 which enters a cam groove 26 around the periphery of a cam drum 27. At the moment of insertion of the record, the pin is lying at the point A (Figure 9) of the groove 26, and on the release of the rocker bar the pin moves vertically in the groove 26. The rod 22 is connected to one end of a two-armed lever 28 pivoted at 29 in a carrier arm 30 which extends horizontally from a vertical stem 120, mounted to turn in a socket 31. The other end of the lever 28 is connected to a plunger 32 which descends onto the smooth surface at the centre of the record 5. The contact of the plunger with the record prevents the pin 25 moving beyond the position B (Figure 9). Further manual insertion of the record brings the hole in the centre thereof into register with the plunger 32, so that the latter can descend through the hole onto the surface of the turntable, and thus the pin 25 can move into the position C. The simultaneous rocking of the

rocker bar 14 brings a projection 33 on the end thereof out of engagement with a bell crank 34 and allows the latter to rock under the influence of a spring 35 and so to close a switch 36 mounted in a switch block 37 and included in the circuit of an electric motor 38. This motor therefore starts and drives a mechanism spindle 39, to which it is always clutched except when a record is being played.

The mechanism spindle 39 drives the cam drum 27 through a cogwheel 40 (Figure 3a) which meshes with teeth 41 on the cam drum 27. The cam drum carries a crank pin 42 which engages a connecting rod 43, which is pivotally connected to one arm of a bell crank 44. This bell crank is fixed to the stem 120 of the carrier arm 30. The stem 120 projects through the motor board 4 (as shown in Figure 7) and is connected to the bell crank 44 through the medium of a collar 121. Thus, as the cam drum 27 and connecting rod 43 move, the carrier arm 30 is swung to centre the record on the turntable. As the record reaches the centre of the turntable, the plunger 32 at the end of the carrier arm 30 drops into a socket 45 formed at the top of the turntable spindle 46. This movement is permitted by the fact that the pin 25 arrives at the position D in the cam groove 26 as the plunger 32 comes above the turntable spindle, and thus the pin can drop from the position D to the position E.

While the operations described above have been proceeding, the setting of the pick-up arm 47 has been initiated. As the gate is opened by the record, a link 48 forming a pivoted connection between a selector cam 50 and an arm 49 pivotally mounted on the roller-carrying arm 10 is moved and brings the selector cam 50 into the appropriate position for the size of the record. The selector cam 50 co-operates with a pin 51 on a selector bar 52 which is pivoted to the second arm of the bell crank 44. A spring 53 urges the pin 51 into contact with the selector cam 50. When the cam drum 27 begins to rotate, the selector bar is moved, the movement being controlled by the selector cam 50. The selector bar is furnished with three steps 54 and, in accordance with the position of the selector cam 50, the appropriate step 54 is brought into engagement with a pin 55 on an arm 56 rigid with the pick-up arm 47 and moves the pick-up arm inwards to the desired extent. Vertical movement of the pick-up arm is also necessary, and this is effected through the medium of a thrust bar 57 guided to move in a straight line longitudinally and urged by a spring 58 into contact with a cam surface 59 on the cam drum 27. When playing is not proceeding, the pick-up arm 47 is held up by a thrust rod 60 located within the pick-up column 61 (Figures 11 and 12). The thrust bar 57 engages a pivoted vertical member 62 carrying an adjustable abutment screw 63 for the thrust rod 60. When the pick-up arm 47 is due to be lowered, the thrust bar 57 is allowed by the cam surface 59 to move towards the centre of the cam drum, and by this movement rocks the member 62 and abutment screw 63 so that the thrust rod 60 and pick-up arm 47 can drop. The needle in the pick-up is thus lowered onto the edge of the record.

It is as a rule necessary to exert a gentle lateral pressure on the pick-up arm for the purpose of causing the needle actually to enter the first sound groove on the record 5. Accordingly a pin 64 is provided on the thrust bar 57 to bear

against a light blade spring 65 carried by the arm 56 that is rigid with the pick-up arm, and the cam surface 59 is so shaped that the thrust bar 57 continues to move after the needle has come into contact with the record. The blade spring 65 urges the arm 56 and thus the needle inwards, but yields as soon as the needle enters the first sound groove. Before the cam drum 27 stops rotating, the thrust bar 57 is moved away from the cam drum and thus releases the engagement between the blade spring 65 and the pin 64. At this stage playing can begin, and it is therefore necessary to declutch the cam drum 27 and clutch in the turntable spindle 46.

The clutch mechanism (Figures 13 and 14) comprises a clutch bar 66 mounted to rock about a pivot 67 and engaging two dog clutches 68 and 69 mounted respectively on the mechanism spindle 39 and the turntable spindle 46. The motor 38 drives these spindles 39 and 46 through the medium of a driving spindle 72 and two worms engaging worm-wheels 70 and 71 respectively. One of the worms is formed on the spindle 72 while the other is coupled to the end of the spindle 72 by means of a flexible member 122. It will be appreciated that, since the clutch bar 66 is mounted to rock, one spindle will always be clutched in and the other will necessarily be declutched. The clutch bar 66 is permanently biased by a helical spring around the pivot 67 so that it tends always to clutch in the turntable spindle 46. However, the clutch bar 66 is normally prevented from clutching in the turntable spindle by the engagement of one arm 73 of a bell crank with one surface of the cam drum 27. The other arm 74 of the bell crank is slotted to receive a pin 75 on the clutch bar 66, so that until the bell crank can rock about its pivot 76 in a clockwise direction as seen in Figure 14, the clutch bar 66 cannot rock to put in the clutch 69 on the turntable spindle 46. The cam drum 27 is formed with a slot or niche 77 located so that when the inward biasing of the pick-up is complete and the thrust bar 57 has moved backwards a little, the slot 77 is brought into register with the arm 73, and the clutch bar 66 can rock. This rocking results in the mechanism spindle 39 stopping and the turntable spindle 46 rotating so that playing of the record proceeds.

The mechanism described is adapted for use with records having eccentric or run-off grooves entered by the needle at the end of the playing of the record, and it includes a stop mechanism of the "tap-tap" kind. This mechanism, which is shown in Figures 2 and 2a, comprises a member 78 in frictional engagement with a feeler 79 and having an arm 80 which is engaged by a pin 81 on an arm 82 rigid with the pick-up arm 47. As the pick-up arm moves inwards, the member 78 is turned and the feeler 79 moves with it, but is constantly knocked back about the frictional connection by a tapping arm 83 carried by the turntable spindle 46. The feeler 79 thus normally oscillates between the positions indicated by the double arrow in Figure 2 without actuating any other part of the mechanism. When, however, the eccentric or run-off groove is entered, the feeler is moved suddenly inwards towards the turntable spindle so that a projection 123 on the feeler 79 moves far enough to permit the end of a pawl 84, pivoted on a pivoted trigger 85, to be urged by a spring 86 into a notch 87 in the projection 123. On the next revolution of the turntable spindle 46, the tapping arm 83

moves the feeler 79 outwards again and the projection 123 thrusts the pawl 84 and the trigger 85 about the pivot of the latter against a spring 88. The trigger 85 then releases a two-armed lever 89 which is promptly swung about its pivot by a spring 90. The lever 89 is connected by a pin 91 passing through a slot 92 in the motor board 4 to a link 93 connected to a lever 94 pivoted at 95 (Figure 15). This lever 94 is accordingly swung into engagement with an eccentric 96 on the turntable spindle 46 and is rocked as the latter rotates. The lever 94 carries a pivoted thrust bell crank 97, one arm of which is connected by a spring 98 to a point on the lever 94, so that the other arm of the bell crank 97 tends always to project out at right angles to the lever 94. This arm thrusts against a projection 99 on a clutch-operating slide 100 and moves this to the right as seen in Figure 15. The slide 100 has a tail 101 which engages an arm 102 projecting up from the clutch bar 66, and accordingly the movement of the slide 100 results in the clutch bar 66 being rocked over against the action of its spring to declutch the turntable spindle 46 and clutch in the mechanism spindle 39.

The rocking-over of the clutch bar 66 brings the projection 73 out of the slot 77, and this projection would tend to drop back into the slot immediately if a delay mechanism were not provided. This delay mechanism comprises a latch 103 carried by the slide 100 and arranged to slip over a pin 104 on the motorboard 4 as the slide 100 moves. The latch 103 therefore holds the slide 100 and the clutch bar 66 in position until the cam drum 27 has moved sufficiently to take the slot 77 out of register with the projection 73. The slide 100 is unlatched later by the engagement of a pin 105 on the thrust bar 57 with the tail 106 of the latch 103 and is returned by a spring 108.

The thrust bar 57 begins to move directly the cam drum starts again, and it serves to lift the pick-up arm 47. At the same time the pin 25 moves from position F in the cam groove 26, which is the position in which it lies during the playing of the record, into position G, and accordingly the plunger 32 is withdrawn from the socket 45. Until the plunger has been withdrawn, the carrier arm 30 must not be moved, and accordingly lost motion equivalent to 30° rotation of the cam drum is provided between the crank pin 42 and the connecting rod 43. When this lost motion has been taken up, the carrier arm 30 moves the record 5 outwards. At the same time a claw 107 on the end of the selector bar 52 engages the pin 55 and moves the pick-up arm 47 outwards. This claw is so shaped as shown that it does not prevent the pick-up arm being swung manually outwards through the opening left by the flap 3 when it is desired to change the needle, and yet will engage the pin 55 whatever the inward position of the pick-up arm may be when playing stops. As the record 5 moves outwards through the gate, it engages the pin 15 of the trigger mechanism and forces it in the opposite direction to that in which it was moved during the insertion of the record. This results as shown in Figure 5 in the bar 17 being moved and in release of the pawl 12, so that the gate closes after the record has passed through it.

As the cam drum returns to its starting position, it rocks the rocker bar 14 by virtue of the movement of the pin 25 into position H, and allows the abutment formed by the end of the

lever 18 to engage beneath and hold the rocker bar. Simultaneously, of course, the plunger is extracted from the hole in the record and the motor is stopped. Owing to the momentum of the parts, the pin moves from position H to position A after the electric motor has been cut out.

The stop mechanism is reset by a pin 110 projecting through a slot 111 in the motor board 4 and carried by the thrust bar 57. This pin engages an arm 109 on the member 78.

A rejector rod 112 projecting through the casing 3 and mounted to slide in a straight line against a spring 113 is provided for actuating the stop mechanism at any time that it is desired to stop the playing of a record. This rod 112 bears on a pin 114 on the member 78 and thus turns the member. In case the tapping arm 83 is in contact with the feeler 79 at the instant of turning of the member 78, an arm 117 upturned to engage the feeler 79 is provided. Thus the actions that lead to playing being stopped and the record ejected are initiated.

In order to ensure that the carrier arm 30 and plunger 32 shall be left in exactly the right position to engage the centre hole of the next record that is inserted, a spring 115 is provided to engage the connecting rod 43 in its outermost position and force it and the carrier arm inwards to take up any backlash.

Regulation of the speed of the motor is effected in the usual way through a regulator lever 116.

It will now be appreciated that with the mechanism of our invention, all that is necessary is to insert a record through the slot in the casing and push it inwards a little after it is initially engaged by the mechanism within the casing. The mechanism then performs the functions of centralizing the record on the turntable, playing it, and returning it when played through the slot into a position such that it can readily be pulled out by hand again. The same record may then be reinserted and replayed, or reversed so that the other side is played, or a fresh record may be inserted.

Although the preferred embodiment of our invention has been described in detail, we do not intend that our invention should be limited to this, but only by the scope of the appended claims which are to be construed as widely as the prior art will permit.

The terms "pick-up" or "reproducer" are, of course, alternative terms and should be considered as equivalent elements.

We claim:

1. In an automatic talking machine comprising a permanently closed casing formed with a slot-like opening through which records may be fed into the casing by hand, a turn-table mounted within said casing and adapted to receive a record fed laterally on to its surface through said opening, mechanism within said casing having means for their actuation in sequence for delivering and centralizing said record on said turn-table and for returning said record through said opening after the record has been played, means for carrying through the playing of said record, and a motor for actuating all the aforesaid means and mechanism.

2. In an automatic talking machine having a permanently closed casing formed with a slot-like opening through which records may be fed into the casing by hand, a turn-table mounted within said casing in position to receive a record fed on to its surface through said opening, mechanism having means operating in sequence within said

casing for delivering and centralizing said record on its turn-table and for returning the record through the opening after it has been played, means within said casing for carrying through the playing of said record, and means and mechanism for actuating the aforesaid means synchronously or in time.

3. An automatic talking machine mechanism in which the turntable and mechanism are mounted within and enclosed by a casing having a slot-like opening through which a record may be passed onto the turntable, and which includes a reproducer, mechanism having means for operating in sequence for automatically engaging the record on its insertion through the slot, and conveying it to the centre of the turntable, and for automatically returning the record through the slot-like opening after the record has been played, means actuated by virtue of the engagement for automatically bringing the reproducer into position on the record, and means for automatically removing the reproducer from the record at the end of the playing of the record.

4. An automatic talking machine mechanism in which an adjustable gate is disposed close to the turntable in a position in which a record slid onto the turntable must pass through the gate, and means actuated by the engagement of the record with the gate for initiating and carrying through the operations of centralizing the record on the turntable, playing it, and removing it from the turntable at the end of playing.

5. An automatic talking machine including means for engaging a record, means for playing it, means for removing it when played including two driven spindles and a driving spindle, means for alternately clutching and declutching the driven spindles to the driving spindle, means for permanently biasing the clutch of one of the said spindles, means for moving the clutch mechanism against the bias, and a delay mechanism for temporarily holding it against the bias action, and means for holding the clutch against the bias action after its release by the delay mechanism during a cycle of operation.

6. An automatic talking machine mechanism comprising in combination a casing formed with a lateral opening, a turn table mounted within said casing, said turn table being adapted to receive a record fed laterally on to its surface through said opening, means including a motor within said casing for carrying through the operations of playing the record and returning it through the opening, and a switch arranged to control said motor, and means operated by the insertion of a record through said opening for closing said switch so that said means are thereby set into operation.

7. An automatic talking machine mechanism comprising in combination a casing formed with a lateral opening, a turn table mounted within said casing, said turn table being adapted to receive a record fed laterally on to its surface through said opening, means, including a motor, within said casing for carrying through the operations of playing the record and returning it through the opening, a switch adapted to control said motor including a latch adapted normally to hold the switch open and so located relatively to said opening as to release said switch when engaged by a record inserted through said opening.

8. An automatic talking machine in which the machine mechanism is contained within a casing formed with a lateral opening for the passage of a record, a turntable for the record comprising a

part of said mechanism within the said casing, said turntable being in position to receive a record fed laterally onto the surface of the turntable through said opening, mechanism including a carrier arm within said casing for automatically placing the record centrally on the turntable and for returning it to the said opening after it has been played, means for carrying through the operation of playing the record after it is deposited on the turntable and before it is removed therefrom, and means for operating the first mentioned mechanism in sequence for placing the record and removing it.

9. An automatic talking machine mechanism comprising in combination a casing formed with a lateral opening, a turn table mounted within said casing, said turn table being adapted to receive a record fed laterally on to its surface through said opening, a carrier arm, a vertical plunger on said carrier arm, mechanism, actuated by the insertion of a record through said opening for moving said plunger into contact with the record at a point such that further insertion of the record permits the plunger to sink through the central hole in the record, means, set into operation by the movement of said plunger through the central hole in the record, for automatically causing said carrier arm to centralize said record on said turn table, and for automatically initiating the playing of the record.

10. An automatic talking machine mechanism according to claim 9 comprising linked pivoted arms, said arms being so arranged as to guide the record, when the latter is inserted through said opening, in a path such that the central hole in the record passes to a point beneath the plunger.

11. In an automatic talking machine mechanism the combination of a carrier arm arranged to swing in a horizontal plane and fixed against vertical movement, a plunger carried by said carrier arm, means for causing said plunger to sink into a central hole of a record to be played by the machine, means for causing said carrier arm to swing a record engaged by said plunger to a central position on the turntable, a pick-up arm and mechanism interconnecting the pick-up arm and carrier arm so that, as the latter centralizes the record on the turntable, the pick-up arm is simultaneously moved to a position such that the edge of the record lies beneath the needle in the pick-up or sound box when the record is deposited centrally on the turntable.

12. In an automatic talking machine mechanism, a record carrying turntable mounted for rotation, means for rotating said turntable, means for playing a record when on said turntable including a pick up and means for removing the record when played, an adjustable gate including two linked arms in the path of travel of the record as the latter is delivered to said turntable and moved proportional to the diameter of the record, means for holding the gate in the position in which it is moved by the record, and means actuated by the gate for regulating the

position of the pick up with relation to the record.

13. An automatic talking machine including a turntable, mechanism operating in sequence for carrying the record to the centre of the turntable and for removing the record when it has been played, means for playing the record including a reproducer, an adjustable gate including two linked arms adapted to be opened by a record fed into the machine and to guide it in a straight path to said means for carrying the record, means for holding the gate in different positions of adjustment according to the extent to which the gate is opened by the record, and means operatively connected to the gate for controlling the degree of movement of the reproducer.

14. An automatic talking machine mechanism in which the turntable and mechanical parts are mounted within and enclosed by a casing furnished with a slot-like opening through which records may be passed onto the turntable, means within the casing for intermittently rotating the turntable, means for placing the record on the turntable and thereafter returning it to the slot-like opening, a motor for operating the mechanical parts, including means for transmitting the power of the motor to the mechanical parts in timed sequence for imparting movement to the record in placing it on the turntable and removing it therefrom and for operating the mechanical parts for playing the record, means for arresting the mechanical parts when playing of the record has been accomplished, and means actuated by the insertion of the record in the slot-like opening for releasing the mechanism and resuming the playing conditions of the machine.

15. In an automatic talking machine mechanism, means for engaging a record, means for playing it including a pick-up, an adjustable gate including two linked arms in the path of travel of the record and mounted so as to be moved equal distances in opposite directions proportional to the diameter of the record, means for holding the gate in the position in which it is moved by the record, and means actuated by the gate for regulating the position of the pick-up with relation to the record.

16. In an automatic talking machine mechanism, rotatable means for holding a record, a pick-up movable into and out of operative relation to the record, a link and arms assembly comprising two arms mounted to rotate respectively about parallel spaced axes to receive a record inserted between them and to be swung about said axes in opposite directions by the edge of said record, a link pivotally connecting said arms and operative to synchronize the movements of said arms, means cooperating with said link and said arms to urge the said arms in directions opposite to that imparted to them by the record, and means operated by the link and arms assembly cooperating with the pick-up to position the latter in operative relation to the record.

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