My invention relates to a combination of a radio receiver with an electromechanical device, in which the introduction of a counter or of a coin causes the closing of one or more circuits which are essential for the operation of the radio receiver.

A feature of the invention involves the inclusion of the mentioned electromechanical device in a detachable casing which may be termed a collector box adapted to receive the checks, counters or coins deposited in the apparatus, and also includes the feature of having certain of the essential parts of the radio indispensable to operation deliberately located within said detachable casing.

According to my invention, the electromechanical device contained in the collector box, aside from certain connecting members allowing the detaching of the whole box from the radio receiver, comprises essentially a clock work and a system of levers operating two groups of spring contacts, connected in series, the one with the other. The said spring contacts have as their function to open and to close the aforesaid circuits which are essential for the operation of the radio receiver, as for example, the supply circuit. Each of the two groups of spring contacts is adapted to interrupt the circuit, and according to the invention the first interruption is caused to take place every day in order to induce the owner or tenant to introduce a new counter or coin into the box, where as the second interruption is caused to take place after a certain number of days, for example after 30 days, in order to induce the owner or tenant to detach the box, to pour out the coin contents, or to bring the box to the office where the payment is to be made and where the mechanism is set for a new period of operation.

The invention will now be described with reference to the annexed drawing showing by way of example a coin-operated radio receiver with collector box according to the principles of the invention.

Figure 1 is a perspective view of a radio receiver with the collector box detached and Figure 2 is the same perspective view with the same collector box attached.

Figures 3 and 4 are an end view and a side view of the inner mechanism of the box, respectively, and Figure 5 is a detail of the push button.

In Figures 1 and 2 of the drawing, a radio receiver is shown, having on a side panel a plurality of connecting pins adapted to be introduced into a corresponding number of sockets of the detachable collector box, which has externally a key or a similar winding device, a slot for the introduction of a coin, a push button for obtaining by the advancement of the coin the closing of a circuit and thereby the release of the clock work for 24 hours, and an observation hole allowing the user to observe an interior dial-plate of a wheel, to be further explained.

As has already been stated, the inner mechanism of the box comprises essential parts of the radio receiver circuit which is automatically interrupted at predetermined intervals of time by means of a clock work and of two groups of spring contacts. The spring contacts 18 (Fig. 4) have the purpose of causing a daily interruption and the spring contacts 16 cause the interruption at longer intervals, for example of one or two months.

The operation of the spring contacts 16 is obtained as follows: when a coin has been introduced in the slot 5, this coin by effect of gravity will take itself between the small base 11 and the arm 20 of the lever 15. Pushing of the button 7 by the user will cause the lever 5 pivoted on the pivot 23 to push the coin, which, advancing on the base 11 will raise the arm 20, and turn the lever 15 counter-clockwise about its pivot 37.

The dog 31 on lever 15 will then engage the catch 32 so that the lever 15 is not allowed to return to in-active rest position. In this way the tappet 30 of the lever 15 closes an electric contact to be made between the spring contacts 19 and this contact is maintained until the lever 15 returns to its rest position. The spring 28 of the clock work is intended to be wound practically each time that a coin is inserted in order to cause actuation of the mechanism operated by the introduction of a coin, etc. During the time when member 30, which is moved by the introduced coin, is effective to close the contact between the group of contact springs 16, permitting the reception of a radio program, the disk like member 18 is intended to cover winding 45 spindle 34 so as to obstruct access to the winding spindle, thus preventing winding of the clock spring. The operation of the lever 15 and the contact springs or spring contacts may only be had when the extension or expansion of the spring 29 of the clock work as indicated at 28' (or an eccentric turned by the mechanism itself) causes an angular displacement of the lever 14 pivoted at 33.

Due to the operation of the clock work the ap
The apparatus is so made that after the passing of a period of twenty-four hours said clockwork causes lever 14 to swing downwardly and release dog 3. Dog 3, immediately under the influence of a return spring 26 to swing away in a clockwise direction about its pivot from the obstructing position over winding spindle 24 and to simultaneously release the contact springs 18, thus allowing the latter to spring back into engagement with the toothed member 15 as shown in Fig. 2. The direction of this movement is counter-clockwise as in a normal clock action. The above movement is an essentially mechanical movement of winding the clock. The same movement of lever 14, by means of the connecting rod 16 pivoted 40 on lever 14, as well as the tappet 17 pivoted on lever 42 which is swingable about pivot 43 concentric with wheel 21, causes the rotation of the wheel 21 to occur by one tooth every 24 hours.

This rotation will be possible only until the tappet 11 will encounter the toothless sector 25 of the toothed wheel 21. As a result, the wheel 21 will be brought to rest by means of the resistance of the resilient return spring 26, which is disposed over the arm 20 of the lever 14. The angular displacement of 14 in a clockwise direction lowers the catch 32, which is pivoted on lever 14 and urged in a counter-clockwise direction toward the main body of lever 15 by a tension spring 25 connected at one end to said lever 14 and at the other end to catch 32. In this construction, it is quite practical to have the catch 32 operate in practically the same plane as the toothed wheel 21 so that the movement of the contact springs 18, capable of being swung up in a position to engage against the dog 3, the lever 14 carries a stop 14 which limits counterclockwise rotation of the catch 32 through tension of spring 25, although it may be freely rotated a greater degree in a clockwise direction in opposition to said spring. Hence, when lever 14 rises, due to winding up of spring 29 from unwound condition indicated at 29's and under the action of its tension spring 30 and a coil is then inserted so as to operate member 20 on disk lever 15 and swing the latter in the same direction as the rising end of lever 14, said member 20 operates the pivot of the spring 29 and part 39 is resiliently urged into contact there with by a spring 38 connected to lever 4, which spring 29 and part 39 is resiliently urged into contact there with by a spring 38 connected to lever 4.

The same movement of lever 14, by means of the connecting rod 16 pivoted 40 on lever 14, as well as the tappet 17 pivoted on lever 42 which is swingable about pivot 43 concentric with wheel 21, causes the rotation of the wheel 21 to occur by one tooth every 24 hours.

The electric contact of the other group of springs 18 is also allowed the lever 14 to swing away in a clockwise direction about its pivot from the obstructing position over winding spindle 24 and to simultaneously release the contact springs 18, thus allowing the latter to spring back into engagement with the toothed member 15 as shown in Fig. 2. This movement is an essentially mechanical movement of winding the clock.

The same movement of lever 14, by means of the connecting rod 16 pivoted 40 on lever 14, as well as the tappet 17 pivoted on lever 42 which is swingable about pivot 43 concentric with wheel 21, causes the rotation of the wheel 21 to occur by one tooth every 24 hours.
purpose of resetting said second means in operative position.

2. In a radio receiver provided with exterior contacts connected to the interior circuits thereof, and a detachable coin collector box adapted to engage with said exterior contacts, the combination of coin operated mechanism exclusively contained within and associated with said collector box and comprising interior circuit making and breaking means connecting in said box with said contacts, and a clockwork periodically operating to open said circuit making and breaking means so as to interrupt operation of the receiver, said circuit making and breaking means being again closed by an introduced coin, and including a plurality of contacts and a system of spring actuated levers operated by the clockwork at the expiration of a predetermined period of time to open said contacts, the clockwork being manually wound and having a winding shaft, pivoted shiftable means for obstructing access to said winding shaft displaced by said levers when operated by said clockwork at said predetermined period and the radio circuit is closed. DOMENICO MASTINI.

3. In a radio receiver, the combination, with interior circuits in said receiver and exterior contacts connected to said interior circuits and comprising contact pins, of a detachable coin collector box comprising a control means for the receiver which, upon removal, renders said receiver inoperative, there being sockets upon said collector box adapted to engage upon said contact pins, and coin operated mechanism exclusively contained within and associated with said collector box and comprising interior circuit making and breaking means connecting in said box with said contacts, and a clockwork periodically operating to open said circuit making and breaking means so as to interrupt operation of the receiver, said circuit making and breaking means being again closed by an introduced coin, and including a plurality of contacts and a system of spring actuated levers operated by the clockwork at the expiration of a predetermined period of time to open said contacts, the clockwork being manually wound and having a winding shaft, pivoted shiftable means for obstructing access to said winding shaft displaced by said levers when operated by said clockwork at said predetermined period to allow access to said winding shaft and means operable upon the introduction of a coin for manually resetting said levers and causing said shiftable means to shift about its pivotal mounting into obstructing position with respect to the winding shaft.

4. In a radio receiver provided with exterior contacts connected to the interior circuits thereof, and a detachable coin collector box adapted to engage with said exterior contacts, the combination of coin operated mechanism exclusively contained within and associated with said collector box and comprising interior circuit making and breaking means connecting in said box with said contacts, a clockwork periodically operating to open said circuit making and breaking means so as to interrupt operation of the receiver, said circuit making and breaking means being again closed by an introduced coin, and a manually operated push button upon said gold collector box for releasing an introduced coin, the circuit making and breaking means include a plurality of contacts and spring actuated levers, the clockwork being manually wound and having a winding shaft, a pivoted shiftable means for obstructing said winding shaft operable by said levers to obstruct said shaft and also to shift about its pivotal mounting and allow access thereto and means setting said levers in initially operative position upon depression of said button and release of said coin, the clockwork causing said levers to become released at the expiration of a predetermined period and open said contacts so as to interrupt operation of the radio receiver.

5. In a radio receiver having a detachable coin collecting box containing at least an essential link in the radio circuit of said radio receiver, the combination of a clockwork within said collecting box for interrupting said radio circuit at the expiration of a predetermined time period, coin operated means disposed within said box for re-establishing said circuit, a system of spring actuated levers, contacts forming portions of the essential link in the radio circuit and when closed serving to establish said circuit upon setting of said levers, the removal of said collecting box removing said link in the radio circuit so as to render said radio receiver inoperative, and the clockwork having a driving spring and winding means for manually winding up the same and upon running down after a predetermined period of time, said spring expanding and operating said lever system and causing the same to open said contacts and break said radio circuit, and a pivoted swingable obstructing means operated by said lever system to obstruct said winding means when the latter is set into operative position and the radio circuit is closed. DOMENICO MASTINI.