

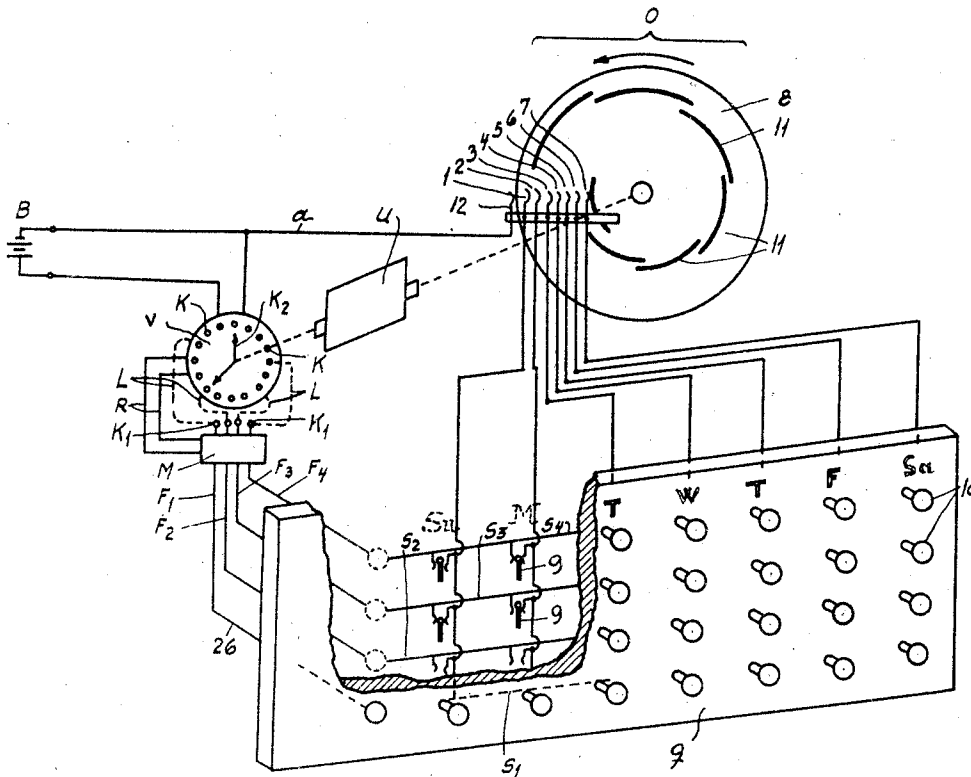
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CLOCKWORK OPERATED CIRCUIT SELECTOR

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CLOCKWORK OPERATED CIRCUIT
SELECTOR

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1 Claim. (Cl. 161—1)

The invention relates to clockwork operated circuit selectors for selecting the moment when a control circuit is to be closed in order to put a wireless receiver in action.

It is well known in the art to use selectors for automatically closing the supply circuit of a wireless receiver at predetermined times of the day. It is also well known in the art to arrange the said selector so as to automatically tune the receiver to any desired wave length at the same time that the selector puts the receiver in operation. It is further well known to cause this automatic tuning by way of a number of different tuning impedances of different values, which separately and alternately are connected up in the tuning circuit, for instance by way of push button switches.

The object of the present invention is to provide wireless receivers combined with selectors of the above mentioned kind, with a further selector which is hereinafter called the week-day selector for predetermining the day within a certain period of time comprising more than one day, for instance the seven days of a week, on which the wireless receiver is to be switched on at one or more fixed times of the day by way of the first mentioned selector, so that on any desired day the receiver may be so adjusted by said selectors that the receiver is automatically put in operation on any predetermined time on one or more subsequent days within the said period of time so as to receive wireless signals on a desired predetermined wave length.

By the above mentioned known selector for switching on a receiver at a predetermined time of the day, which is hereinafter called a time-selector—the receiver is put in operation by the closing of a control circuit operating the switching device of the receiver and, by also closing if the time-selector simultaneously should automatically tune the receiver, the tuning device of same. If the selector is adjusted to automatically switch on the receiver up at different predetermined times on a day the control circuit would comprise a number of sub circuits corresponding each to one of said predetermined times.

According to the present invention a week day selector is arranged in the above mentioned control circuit. This selector comprises a control switch, which is inserted in the portion of the control circuit common to all of the sub circuits of this circuit. Said selector is fitted with seven mutually isolated contacts and with a further contact, which is arranged to slide on the

said seven contacts and to be moved in relation to same by means of a clockwork so as to pass any of the said seven contacts once in the course of a week and to slide continuously on one of these contacts during a period of twenty-four hours, whereafter the contact moved by the clockwork is moved over on the next of said seven contacts.

In series with each of the said seven contacts there is arranged in the control circuit a circuit selector, or a group of circuit selectors, which are manually operated and comprise a number of switches. These switches are operated for instance by means of push buttons and are adapted to connect any of the said seven contacts to any of the above mentioned sub circuits of the control circuit in such a way that the control circuit is closed at a desired time of the day determined by the time selector on the predetermined week day only, on which the one of the said seven contacts of the week day selector, which by way of the said manually operated circuit selector is connected up in a sub circuit of the control circuit, will be in contact with the said clockwork operated contact.

The invention is exemplified in the accompanying drawing, which shows a diagram of a circuit including time and manually actuated switches for modifying the circuit.

M is a wireless receiver, and V is a time-selector of any well known kind arranged to be driven by a clockwork *u* and to put the receiver M in operation on a previously fixed time of a day so as to receive signals on a predetermined wave length. Diagrammatically this is indicated by way of a circular row of fixed contacts K in the selector V, any one of which contacts may be connected to any one of a number of terminals K₁ of different tuning members on the receiver by means of the manually operated conductors L. K₂ is a movable contact member of the selector V and slides on the circular row of contacts K. When the movable contact member K₂ passes a contact K, which has been connected to one of the terminals K₁ by means of one of the said conductors L, a conductive connection is established from one pole of a source of power B across the contact K in question to the terminal K₁ connected thereto, and if at the same moment the terminal K₁ is conductively connected to the other pole of the current source B, viz. by means of the week-day selector described below, then a current would pass from the current source B through the said conductive connection and cause the tuning de-

vice (not shown) of the receiver to be operated.

The time selector V and the receiver M are shown diagrammatically only on the drawing, since the details of these two devices do not form part of the present invention but are well known in the art.

The terminals K₁ may represent a corresponding number of tuning impedances of different values so that the receiver M when the terminals K₁ are connected to different contacts K of the selector V would be tuned to different wave lengths at the times of a day predetermined by the contacts K in question of the selector V.

The circuit *a* connecting the current source B to the selector V and to the receiver M and to the week day selector *o*, *q* described below in greater detail, is a control circuit comprising a number of subcircuits F₁, F₂, F₃ and F₄ corresponding to the number of selected contact connections established manually between the contacts K and the terminals K₁. The said sub circuits extend from the contacts K across the selected terminals K₁ and the receiver M to a corresponding number of group conductors S₁, S₂, S₃ and S₄. Any one of these conductors may be conductively connected to any one of a number of stationary contacts 1, 2, 3, 4, 5, 6 and 7 in a clockwork operated control switch O by way of a group of manually operated switches 10 which may be push button switches.

The clockwork operated switch *o* is driven by the clockwork *u* operating the selector V, and this clockwork, which may be of the mechanically or of the electrically operated type, rotates a movable contact member 8 of the control switch *o*, which contact member is connected to one pole of the current source B by way of a stationary contact 12 sliding upon the rotatable contact member 8.

The clockwork operated contact member of the control switch *o* is so arranged that it is continuously in sliding contact with one of the contact members 1—7 and so that the contact member 8 is rotated once in the course of a certain number of days for instance in the course of a week and the stationary contacts 1—7—the number of which corresponds to the said number of days—are arranged to come alternatively into sliding contact with the contact member 8 once within every entire revolution of this member so that each of the contacts 1—7 is in conductive connection with the contact member 8 for a period of 24 hours, whereafter the next one of the contact members 1—7 contacts with the contact member 8. On the drawing this is indicated diagrammatically by way of the seven contact sections 11 on the contact member 8.

The contact sections 11 are displaced relatively to one another in the direction of revolution of the contact member 8 so that the contact sections 11 are moved on to the group of stationary contacts 1—7 one after the other and each is brought into sliding contact with a certain one of the contacts 1—7 for the said period of 24 hours or preferably a little more so that any one of the contact sections 11 going to leave one of the stationary contacts 1—7 would not be moved out of connection with same, before the subsequent contact section 11 has moved on to get in contact with another of the stationary contacts 1—7.

Each of the stationary contacts 1—7 is connected to one terminal of a number of manually operated switches 9, the number of which corresponds to the number of group conductors

S₁, S₂, S₃ and S₄. The other terminals of each of the said switches are connected to one of the conductors S₁, S₂, S₃ and S₄ so that any one of the stationary contacts 1—7 of the selector switch *o* may be connected conductively to any one of the said group conductors by way of one of the switches 9.

The switches 9 are arranged in groups, the number of which corresponds to the number of contacts 1—7 and these groups correspond each to one of the days of a week indicated on the drawing by the signs Su, M, T, W, Th, F and Sa.

It would be evident that the control circuit *a* will be closed on the time determined by the contact K in the time selector V only if the said contact K through the receiver M and one of the group conductors S₁, S₂, S₃, S₄ is in conductive connection with one of the stationary contacts 1—7 of the selector switch *o*, viz. in connection with the one of these contacts, which on the day in question is in conductive connection with a contact section 11 of the contact member 8. Otherwise the receiver would not be put into operation on the time in question. Consequently it is possible by way of the switches 9 and the selector switch *o* to predetermine the week day, on which the receiver M should be brought into function at a preselected clock hour determined by way of the time selector V.

Above the week day selector was assumed to be used in combination with a wireless receiver being put into operation at certain times of the day by way of a time selector V, which closes the main supply circuit R of the receiver and simultaneously connects the tuning impedances selected by way of the terminals K₁ and the movable conductors L up to the circuits of the receiver so as to make the latter operative for reception on the desired wave length. The invention, however, is not limited to such use but may also be applicable in connection with automatic clockwork controlled selectors which not only connect the circuits of the receiver up to put the receiver in operation at certain predetermined clock hours of a day, but simultaneously operates the tuning devices of the receiver so as to tune the latter on a desired wave length. Receivers having time selectors operating in this manner are known in the art, and it would be evident that a receiver arrangement of this kind may also be fitted with a week day selector according to the invention inserted in the control circuit of the receiver in a manner similar to that described above.

Further, above it was assumed that the number of days, among which a certain one, on which the receiver should be put into operation at a desired time, may be preselected, comprises seven days. The number of days and consequently the corresponding number of stationary contact members in the control switch *o* and the number of groups of switches 9 may be any other desired one, and, further, the number of the subcircuits F₁, F₂, F₃, F₄ and the corresponding number of different tuning impedances represented by the terminals K₁ may be any desired one other than four as mentioned above.

Having now particularly described and ascertained the nature of my invention and in what manner the same is to be performed I declare that what I claim is:

A clockwork operated circuit selector for selecting the moment on which a control circuit is closed in order to put a wireless receiver in function, comprising a clockwork, a selector

switch operated by the said clockwork, a number of stationary contacts in the said selector switch, a receiver, a number of means for operating the tuning device of said receiver, means for inter-
5 connecting a number of said stationary contacts with a number of said means for operating the said tuning device, a current source, a control circuit including the said selector switch and the
10 said interconnecting means, a control switch connected up in the said control circuit in series with the said selector switch, comprising a rotary contact member driven by the said clockwork and a number of mutually insulated con-
15 tact members arranged to be engaged each through a period of time, by the movable con-

tact member, a manually operated selector comprising a number of electrical switches arranged in groups the number of which corresponds to the number of the said stationary contact mem- 5
bers in the control switch, each stationary contact member being connected to one terminal of
all of the said switches in one group of the manually operated selector, and a number of group
conductors being connected up in parallel in the control circuit and arranged to interconnect the 10
other terminal of one switch in each of the said groups to the means for operating the tuning device of the receiver.

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