TIME CONTROLLED SWITCH

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The present invention appertains to new and useful improvements in circuit makers and breakers and more particularly to a novel time controlled switch, which in the present instance is especially adapted for use in conjunction with radios, whereby radio receivers may be set in or out at some future time.

The principal object of the invention is to provide a simple and inexpensive switch device adapted to be mounted to a clock structure and operated by the alarm mechanism thereof.

Another important object of the invention is to provide a novel time controlled switch which may be employed in conjunction with radio receivers to predeterminedly set the same for operation at some future time.

These and numerous other important objects of the invention will become more apparent to the reader after considering the invention as described and claimed hereinafter.

In the drawings:

Figure 1 represents a side elevation of a conventional lock nut showing the switch device mounted thereon.

Figure 2 represents a top plan view of an alarm clock with the invention mounted thereon.

Figure 3 represents a fragmentary transverse sectional view of the clock structure showing the device mounted thereon in end view.

Figure 4 represents a fragmentary longitudinal sectional view through the switch device.

Figure 5 represents a transverse sectional view through the switch device.

Figure 6 represents a fragmentary plan view of the bracket for supporting the switch device.

Figure 7 represents a longitudinal sectional view through the dielectric body of the switch device with the operable parts removed.

Figure 8 represents a fragmentary sectional view of the means for securing the switch operating arm to the alarm winding stem.

Referring to the drawings, wherein like numerals designate like parts, it will be seen that the present invention is especially adapted for use on an alarm clock of the style as shown in Figure 1 and denoted generally by reference character 5. In Figure 2, the numeral 6 indicates the usual alarm winding stem, while in Figure 1, the time winding stem is denoted by numeral 7.

The present invention consists of a bracket 8, one end of which is curved laterally as at 9 and provided with a key slot extending inwardly from its ends. This key slot is adapted to receive the protuberance 11 usually provided for receiving the ring 12 upon the alarm clock, and this end portion of the bracket is adapted for disposition between the top surface of the clock and the collar 13 on the protuberance 11. The bracket will extend in the direction shown in Figure 2 and upon this bracket is secured a block 14 of dielectric material. The block is denoted by the numeral 14 and has a triangular extension 15 beyond one longitudinal side thereof.

As clearly shown in Figure 7, the block is provided with a longitudinal bore 16 and a slot 17, extending inwardly from the side of the block opposite to the extension 15 and communicating with the bore 16 and extending longitudinally at the intermediary of the block 14 as clearly shown in Figures 1 and 7. At each side of the slot 17 a conductor pin 18 is vertically disposed, being anchored suitably in the material of the block for engagement with a switch arm 19 which is threaded at its inner end and engaged into the threaded opening in the slide shaft 20 which is slidably disposed within the longitudinal bore 16. This shaft 20 is adapted to protrude beyond each end of the bore and at one end is provided with a stop pin 21 and a spring 22 interposed between the stop pin and the adjacent end of the block. The opposite end of the shaft 20 is provided with a screw 23 between which and the shaft 20 may be provided a conductor 24 leading from the radio receiver.

A switch arm 25 is pivoted as at 26 to the top of the block and to the apex of the triangular portion 15 and secured to the arm 25 by the screw 26 is a conventional wire 27.
leading from the receiver. The free end of the arm 25 is provided with an actuating knob 28, and as shown in Figure 2, the conductor pins 18 are exposed through the top of the block for engagement by the arm 25.

The outer end of the alarm winding stem 6 is adapted for engagement within the threaded socket 29 of a T-shaped body 30, through the elongated portion of which the bore 31 is provided for adjustably receiving an elongated arm 32. A set screw 33 is engageable through the side wall of the elongated portion of the T-body to bite into the arm 32 to retain the same in a predetermined adjusted position. This adjusted position must be so that the upper free end portion of the arm 32 will engage the switch arm 19 when the alarm mechanism is released to shift the switch arm toward the distal contact pin 18 and should the arm 25 be in contact with the said distal contact pin, the receiver circuit will be completed. Should the arm 25 be in contact with the other contact pin when the arm 32 is operating, the receiver circuit will be broken by the displacement of the shank 19 from contact with said pin. Stop members 34 are provided upon the block to limit the movement of the arm 25, said arm is also provided with a detent for engagement with a recess in the body 36, countersunk in the top of the dielectric body 14.

It will thus be seen that the present invention presents a simple and inexpensive switch mechanism for clocks, which is especially adapted for regulating radio receivers over predetermined time periods. It is also to be understood that various changes in the specific shape, size and materials may be resorted to, without departing from the spirit or scope of the invention as claimed hereinafter.

What is claimed is:

1. A switch mechanism comprising a pair of spaced contacts, a manually operated switch arm movable into engagement with either of said spaced contacts, a shiftable switch arm between said contacts, control means normally holding said shiftable switch arm in engagement with one of said spaced contacts, and time controlled means for mechanically shifting said shiftable arm to dispose same in engagement with the other of said contact.

2. A switch mechanism comprising a block of dielectric material having a longitudinal bore and a slot communicating with said bore and extending outwardly through a face of said block, contacts in opposite side walls of said slot and disposed through a face of said block, a switch arm mounted on said block and movable into engagement with either of said contacts, a rod slideable in said bore and having a switch arm disposed in said slot and extending outwardly of the said block, tensioning means normally positioning said rod with its switch arm in engagement with one of the said contacts in the said slot, and time controlled means for mechanically shifting said rod against the tension of the holding means for positioning the same rod switch arm in engagement with the other contact of said slot.

3. A time controlled switch mechanism including, the combination with alarm clock mechanism including an alarm winding stem, a switch block having spaced apart contacts, a manually operated switch arm movable into engagement with either one of said contacts, said switch arm having means for attachment to an electrical conductor, a rod slidably supported in said block and having means for attachment to an electrical conductor, a switch arm carried by said rod for engagement with said contacts, tensioning means normally positioning said rod with its switch arm in engagement with one of said contacts, and an actuating rod mounted on the said alarm winding stem of the clock mechanism and disposed rearwardly of the switch arm of the said rod for engaging and moving said rod in the direction of the other contacts upon actuation of the alarm mechanism, said actuating rod being adjustable on said stem.

In testimony whereof, I affix my signature.

FRANCIS XAVIER RUDLER.