July 5, 1927. 1,634,967

R. E. VAUGHAN ET AL

TRANSMITTER

Filed Sept. 23, 1922

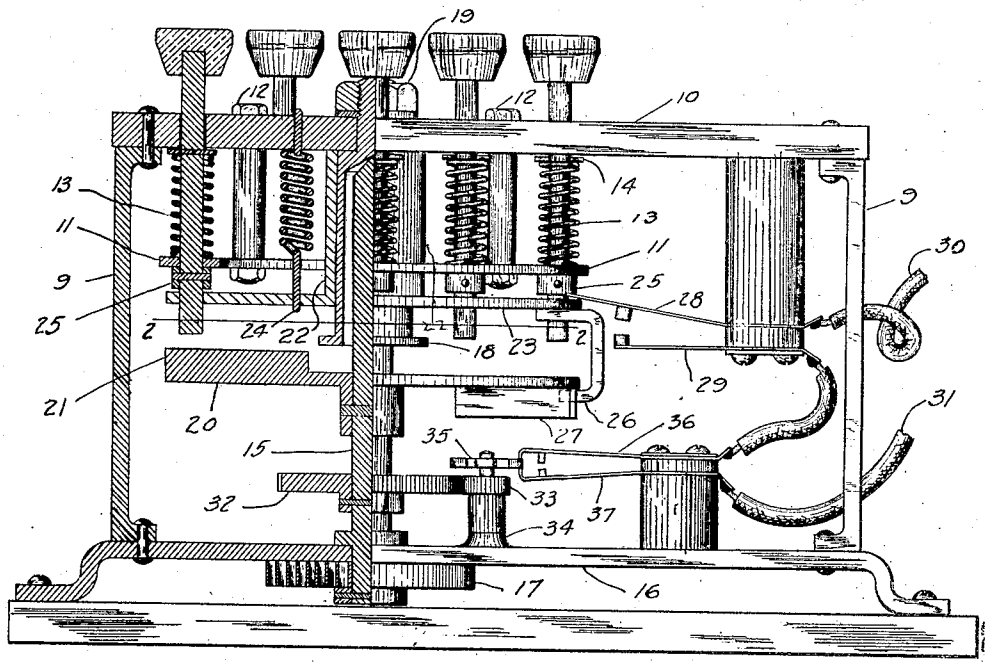


FIG. 1.

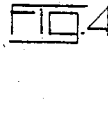


FIG. 4.

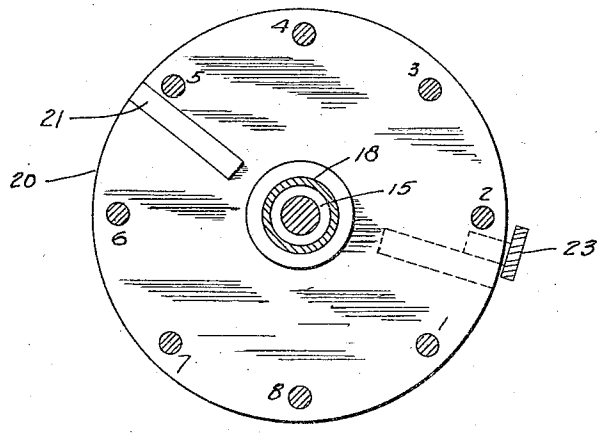


FIG. 2.

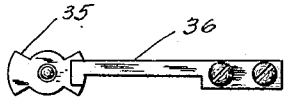


FIG. 3.

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UNITED STATES PATENT OFFICE.

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TRANSMITTER.

Application filed September 23, 1922. Serial No. 590,068.

This invention relates to a transmitter for use in connection with any radio, telegraph, or bell ringing system by means of which any desired number of signals or a combination of signals may be sent by pressing a single key.

More particularly the object of this invention is to provide a transmitter which will start a train of signals immediately upon pressing the desired key, the signals continuing until the proper number of signals have been sent, depending upon the key pressed, the last signal being maintained as long as the key remains pressed. Upon release of the key pressed the apparatus returns to its normal position and is ready for another cycle of operation.

Further objects will be further set forth in the annexed description and claims.

In the drawings,

Figure 1 is a side elevation view of the transmitter showing one half of the device in section.

Figure 2 is a sectional view on line 2—2 of Figure 1.

Figure 3 is a detail view of the circuit breaker and contact.

Figure 4 is a detailed and end elevation showing the structure of my circuit breaking means.

The frame of the transmitter consists of upright members 9 and a top plate 10. The uprights are suitably mounted upon a base as shown. The particular embodiment illustrated shows 8 keys mounted in the plate 10 for vertical movement, and numbered from 1, to 8, although it will be understood that any desired number of keys may be supplied. These keys are arranged in a circle and their lower ends are movable within holes in a guide plate 11, attached by bolts 12, 12 to the top plate 10. A spring 13 bearing against a pin 14 on the shank of the key and against the plate 11 is provided for each key and serves to normally keep the keys raised.

Shaft 15 is rotatably mounted in a suitable bearing in the lower plate 16 of the frame and prevented by suitable pins as shown from moving vertically. A spring or other motor 17 which may be provided with a governor similar to these in use in a phonograph, is provided for rotating the shaft 15. This shaft finds a bearing at its upper end in a hollow stud 18, which is rigidly attached to the top plate 10 by nut 19. A stop plate 20, fixed to shaft 15 so as to revolve therewith, is provided with a stop 21, adapted to meet a key when the latter is pressed, so as to stop the rotation of the stop plate 20 and shaft 15.

Mounted for vertical sliding movement on stud 18, is a hollow cylinder 22, which is provided with a moving plate 23 at its lower end. A spring 24 at each side of the shaft 15 normally maintains the plate 23 in its raised position. When any one of the keys is pressed, a collar 25 on the shank of the key forces the plate 23 down, against the tension of the springs. A projection 26 extending from the plate 23 is normally in engagement with a stop 27 on the lower side of the stop plate, and prevents the plate 20 and shaft 15 from rotating until a key is pressed; at which time the projection 26 is lowered and moves out of the path of the stop, and the plate and shaft start rotating. The rotation of the plate and shaft continues until the stop 21 meets the depressed key. When the key is released again the shaft 15 continues its rotation until the stop 27 meets the projection 26 which has been raised by the release of the key. A contact is made between points 28, 29 when the key, and consequently the plate 23, is depressed, and this connection is broken when the key is released so that no signals will be sent out through the wires 30, 31, when the plate 20 is returning to its normal position.

A gear 32 is provided on the shaft 15 and meshes with a smaller gear 33, mounted on a support 34 for rotation on a vertical axis. Fixed to gear 33 so as to rotate therewith, is a hard rubber circuit breaker 35 which causes a circuit through spring leaves 36, 37 to be made and broken as the shaft 15 revolves. As shown in Fig. 4, the ends of elements 36, 37 are beveled at either side to allow entry of breaker 35.

It will be understood that as the stop plate 20 makes one full revolution, as when key 8 is pressed, the contact between parts 36, 37 will be made and broken 8 times so that 8 signals will be sent out over the wires 30, 31 which may be connected to a suitable source of E. M. F. and to a radio telegraph, or other signalling system. Assuming that key No. 3 is pressed, the plate 23 being depressed by the key will close the contacts 28, 29 and the shaft and circuit breaker will start to revolve. The circuit will be made and broken 3 times by the circuit breaker. The stop 21 meeting the shank of key No. 3 will then stop

the rotation of the circuit breaker, the contact being closed at this time between spring leaves 36, 37 so that as long as the key remains pressed, the last signal will be held and the electricity flows through the external circuit. As soon as the key is released, the circuit is broken at contacts 28, 29 as described, and no signals are sent out while the plate 20 is revolving to its normal position with its stop 27 against projection 26, ready for another cycle of operation.

We claim:

1. In a transmitter, in combination, electrical connections adapted to be connected to an external circuit, a circuit breaker, for said connections, a rotatable member operably connected to said circuit breaker, a spring for rotating said member, a stop on said member, a plurality of keys adapted when pressed to be moved into the path of said stop at different points along said path, means for normally preventing rotation of said member, two contacts in said electrical connections interconnected with said rotation preventing means for closing said contacts when any of said keys is pressed, for the purpose described.

2. In a transmitter, in combination, electrical connections adapted to be connected to an external circuit, a circuit breaker for said connection, a rotatable member operably connected to said circuit breaker, a spring for rotating said member, a stop on said member, a plurality of keys adapted when pressed to be moved into the path of said stop at different points along said path, means for normally preventing rotation of said member, two contacts in said electrical connections interconnected with said rotation preventing means for closing said contacts when any of said keys is pressed, and means for throwing said rotation preventing means out of operation when any of said keys is pressed.

In testimony whereof we affix our signatures.

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