

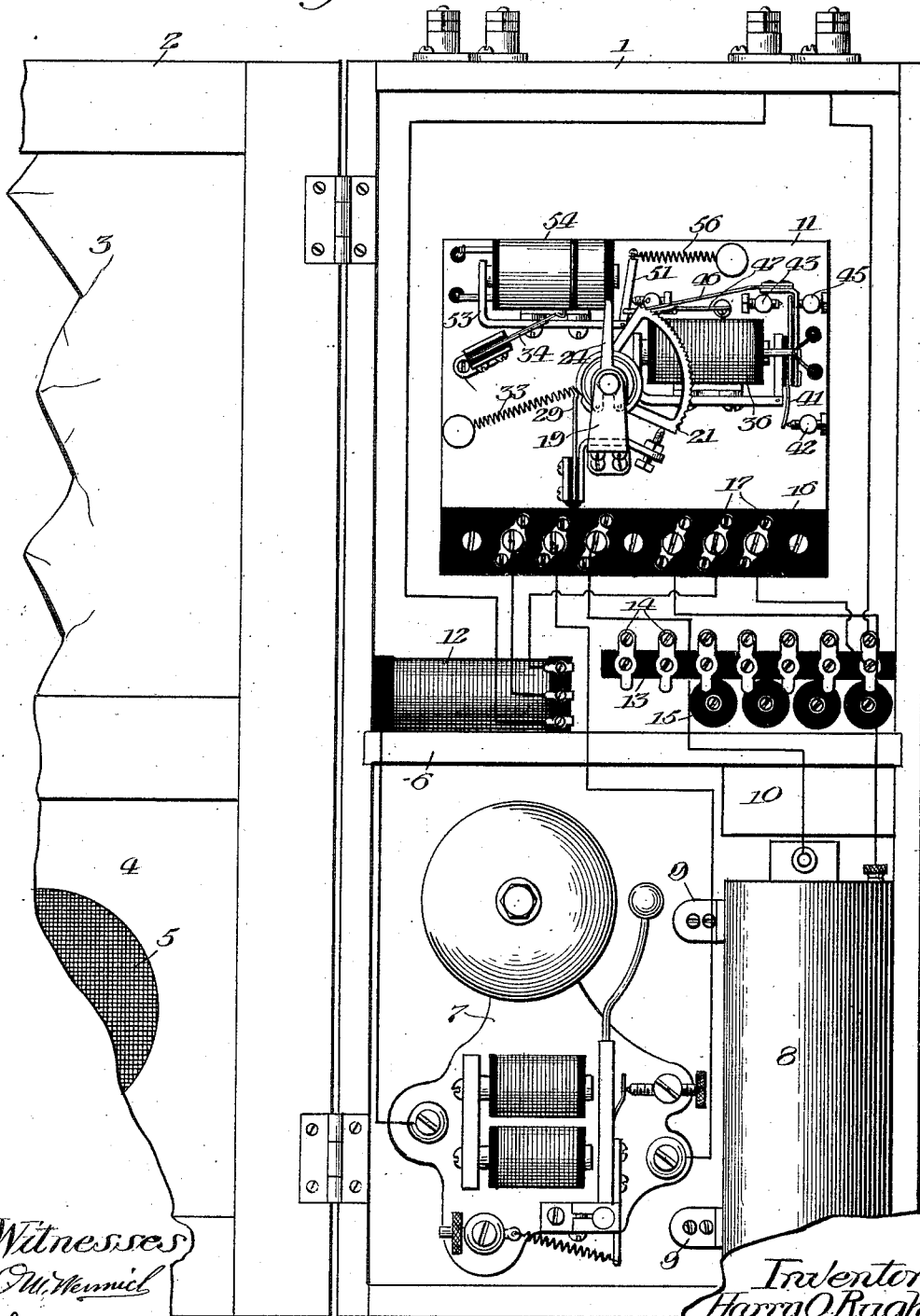
H. O. RUGH.
SELECTOR.
APPLICATION FILED FEB. 15, 1910.

1,049,537.

Patented Jan. 7, 1913.

2 SHEETS-SHEET 1.

Fig. 1.



Witnesses
O. W. Mummel
L. Fitzgerald

Inventor
Harry O. Rugh
by May W. Label Atty

H. O. RUGH.

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2 SHEETS-SHEET 2.

Fig. 2.

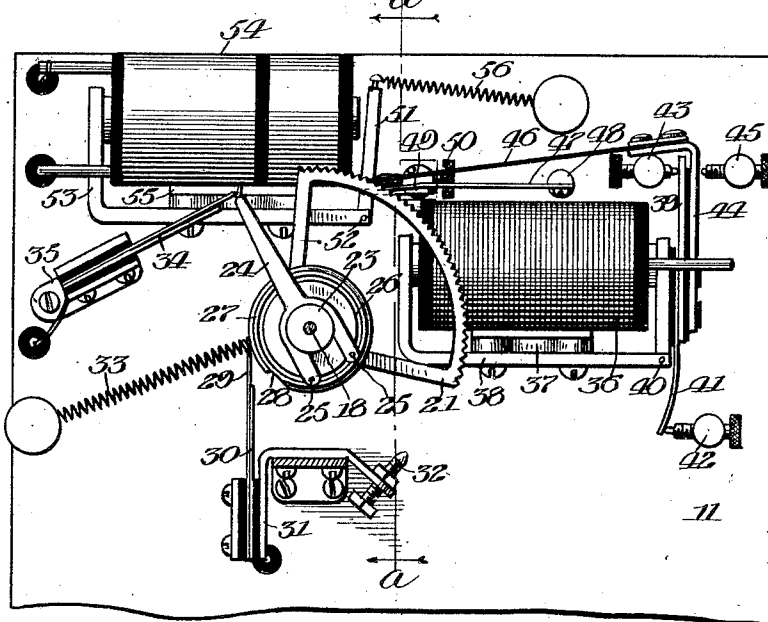
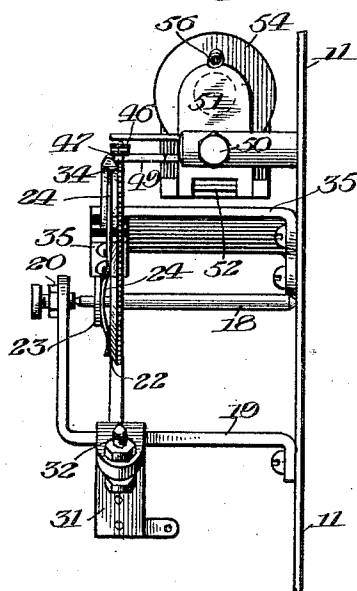


Fig. 3.



Witnesses:
Cm. Vennich

L. Fitzgerald

Inventor
Harry O. Rugh
by May W. Label
Atty.

UNITED STATES PATENT OFFICE.

HARRY O. RUGH, OF SANDWICH, ILLINOIS, ASSIGNOR TO SANDWICH ELECTRIC COMPANY, OF SANDWICH, ILLINOIS, A CORPORATION OF ILLINOIS.

SELECTOR.

1,049,537.

Specification of Letters Patent.

Patented Jan. 7, 1913.

Application filed February 15, 1910. Serial No. 543,970.

To all whom it may concern:

Be it known that I, HARRY O. RUGH, a citizen of the United States, residing at Sandwich, in the county of Dekalb and State of Illinois, have invented a certain new and useful Improvement in Selectors, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to selectors, and it is more particularly designed to provide substation selective mechanism for use in its preferred embodiment along railroad lines, wherein it is desired to call a plurality of substations over a common line circuit from the central station.

My invention herein is limited to constructional features of my improved selector, the circuit arrangements having been reserved for a co-pending application.

My invention provides mechanical features in connection with the construction of selectors, which are novel, and which provide a construction capable of very advantageous use in this connection.

I will describe my invention more in detail by reference to the accompanying drawings, illustrating the preferred embodiment thereof, in which—

Figure 1 shows my improved selector and its containing case, and Figs. 2 and 3 are enlarged views showing various portions of the apparatus, Fig. 3 being on the line *a—**a* of Fig. 2.

Referring more particularly to Fig. 1, I provide a box 1, having a cover 2, with a front panel of glass, 3, in its upper half, and a panel of wood in its lower portion. A circular portion of the lower panel is cut away, and the screen 5 is placed thereon to prevent the entrance of dust and to permit the sound of the ringing bell to pass there-through. The box 1 is divided into two compartments by a shelf 6, the lower compartment containing a signal 7 and a battery 8, which battery is held in place by means of brackets 9, 9. A block 10 further prevents dislocation of the battery.

My improved selector mechanism is mounted upon a plate 11 placed in the upper compartment, which upper compartment likewise contains an induction coil 12, utilized for giving the return indication from the operating signal 7. A cross-con-

necting board 13 is also provided in the upper compartment, having cross-connecting springs 14, 14, below which are associated resistance coils 15, used in the connection of the apparatus. Upon the plate 11 there is also mounted a cross-connecting board 16, carrying binding posts 17, 17, from which connection is made between the apparatus in the box and the apparatus on the plate 11. In the enlarged view, Fig. 2, the apparatus is shown in circuit closing condition, while in Fig. 1, the apparatus is shown in its normal condition.

A shaft 18 is mounted upon the plate 11 and the bracket 19, which bracket carries an adjustable bearing 20. This shaft carries a selector wheel, or step-by-step wheel 21, fixedly secured to said shaft, and at the same time carries two plates 22 and 23 forming preferably a collar between them, which collar is adapted to engage the forked contact spring 24, which contact spring is bent as shown more clearly in Fig. 3, to impinge against the two plates 22 and 23 by its spring action, which thereby hold said contact spring in a given position wherever it may be set, depending upon what station the selector is to be used for. Two pins or indentations 25 are provided in the forked legs of the spring 24, and engage a groove 26, which groove assures the concentric position of said spring 24 around the shaft 18. The shaft 18 likewise carries a wheel 27, having a notch 28, which wheel 27 is adapted, when the selector mechanism is out of its normal position, to contact with a spring 29, but which contact is broken when the selector mechanism is in its normal position, as illustrated in Fig. 1. The contact spring 29 has a strong retaining spring 30, so that accurate spring action may be obtained and yet the difficulty avoided of having a thin spring set freely in the air without support.

The insulated contact spring 29 is mounted upon a bracket or hanger 31, which, in turn, is supported by the bracket 19. The hanger 31 likewise is provided with an adjustable stop 32, which limits the return movement of the step-up wheel 21. A spring 33 insures the return of the selector wheel 21 to normal when the actuating pawls are released. The contact arm 24, when in its signal-operating position, is adapted to engage a spring 34, insulated and mounted upon the plate 11, by means of

the bracket 35. A step-up magnet 36 is held by the bracket 37, which is mounted upon the plate 11. This step-up magnet has a field piece 38 and the armature 39. The armature is pivoted at 40, and has a spring 41 secured thereto, which spring engages a binding post 42, which binding post serves the double purpose of exerting pressure against the armature to move it to its normal, non-contact-making position, and at the same time completes the circuit to the armature, said armature being adapted for contact with another binding post 43. The armature also carries an insulated second element 44, adapted to contact with a binding post 45, which element 44 has an actuating pawl 46 mounted thereon for stepping up the selector 21. A holding pawl 47 is mounted in the post 48, and is controlled by an arm 49, which actuates a finger 50, adapted to release both pawls, 46 and 47, when the armature 51, to which said arm 49 is attached, is attracted. This armature 51 is pivoted at 52 in a keeper 53 of the release magnet 54, which magnet is mounted upon the bracket 55, secured to the plate 11. A spring 56 normally holds the armature 51 in its non-attracted position.

I have described in detail the entire selector mechanism with its novel features, the specific description, however, not limiting the invention to such specific construction, and the novel features will now be pointed out in the claims.

While I have herein shown and particularly described the preferred embodiment of my invention, I do not limit myself to the precise construction and arrangement as herein set forth, but

Having thus described the more salient features of this invention, what I claim as new and desire to secure by Letters Patent is:

1. A device of the character described, comprising a rotatable toothed element, a contact finger movable with said element, means for retaining said element in its normal position, a notched contact element fixedly secured to and rotatable with said toothed element, and a contact spring normally electrically disengaged from said element by reason of said notch, and adapted to electrically engage said element when the latter is moved from its normal position.

2. A device of the character described

comprising a rotatable toothed element, a contact finger movable with said element, means for retaining said element in its normal position, a notched wheel fixedly secured to and rotatable with said toothed element, and a contact spring normally electrically disengaged from said element by reason of said notch, and adapted to electrically engage said element when the latter is moved from its normal position.

3. A device of the character described comprising a rotatable toothed element, means for retaining said element in its normal position, a contact finger movable with said element, and a notched contact wheel rotatable with said toothed element.

4. A device of the character described comprising a rotatable toothed element, a shaft for said element, an adjustable bearing for said shaft, a contact finger movable with said element, means for retaining said element in its normal position, a notched contact wheel fixedly secured to and rotatable with said toothed element, and a contact spring normally electrically disengaged from said element by reason of said notch, and adapted to electrically engage said element when the latter is moved from its normal position.

5. A device of the character described comprising a rotatable toothed element, means for retaining said element in its normal position, an adjustable contact finger movable with said element, and a notched contact wheel rotatable with said toothed element.

6. A device of the character described having a supporting plate, a bracket mounted on said plate having a projecting arm, a shaft, mounted between said arm and said plate, a toothed element carried by said shaft, a stop for said element, a notched wheel carried by said shaft, a spring adapted electrically to engage said wheel, and arms carried by said bracket for supporting said stop and said spring.

In witness whereof, I hereunto subscribe my name this 1st day of February A. D., 1910.

HARRY O. RUGH.

Witnesses:

MAX W. ZABEL,

J. ELLIOTT.