

R. R. HOBBS.  
 AUTOMATIC TELEPHONE SELECTOR OR RINGING DEVICE.  
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983,899.

Patented Feb. 14, 1911.

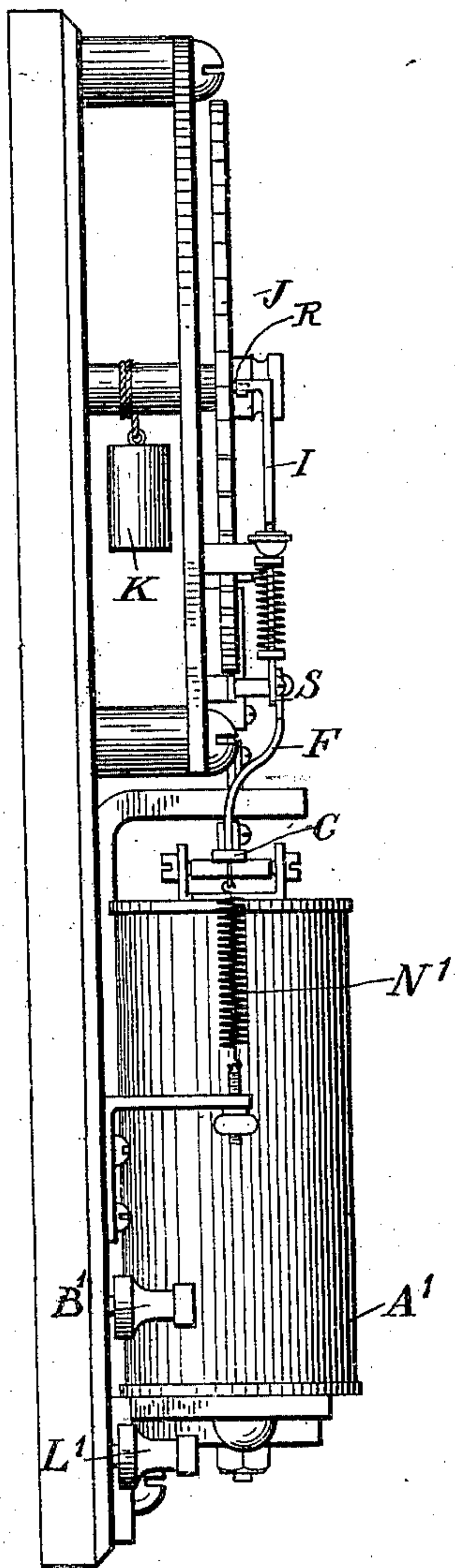


Fig. 2.

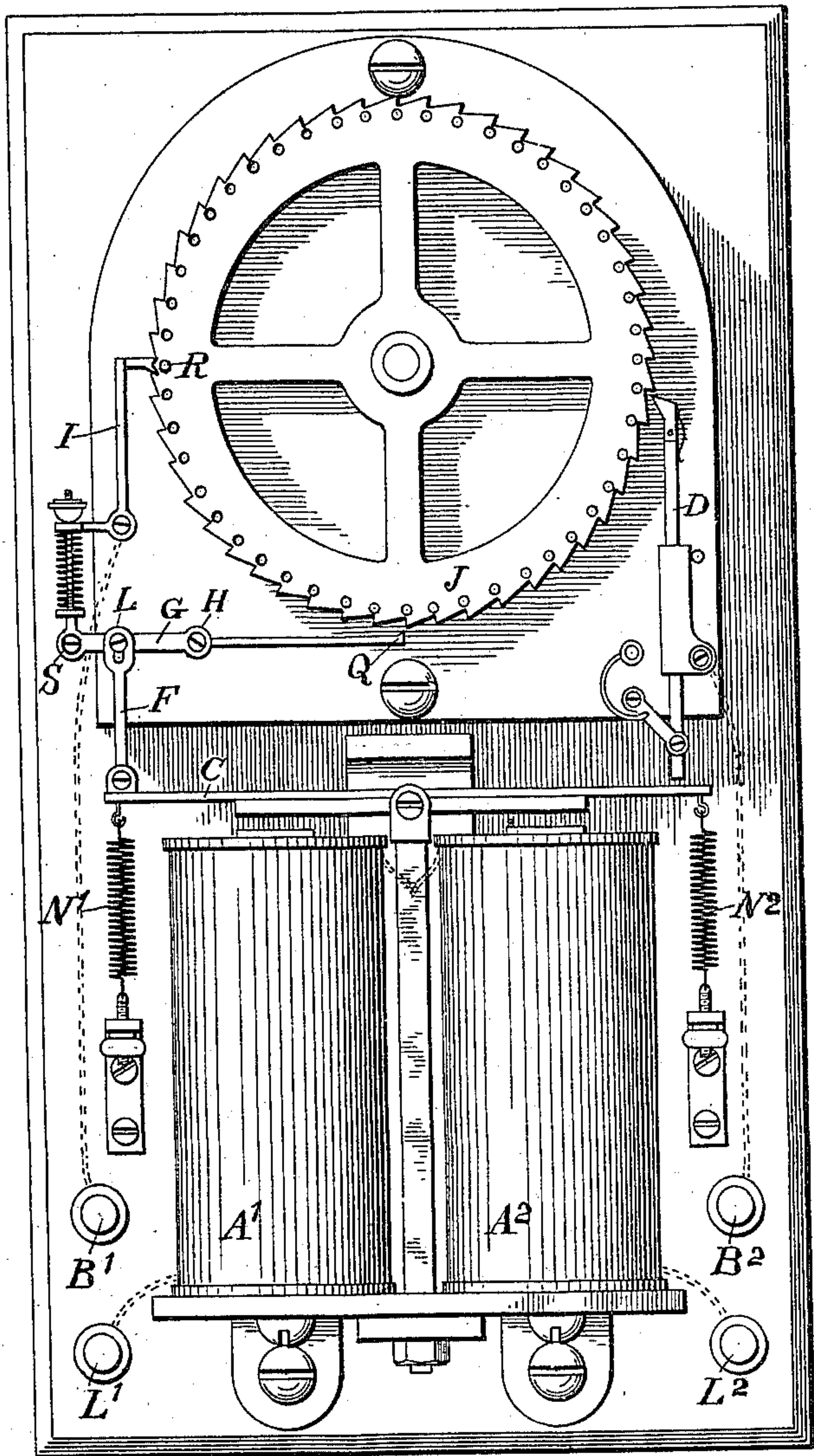


Fig. 1.

Witnesses.

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# UNITED STATES PATENT OFFICE.

ROE R. HOBBS, OF LOUISVILLE, KENTUCKY.

AUTOMATIC TELEPHONE-SELECTOR OR RINGING DEVICE.

983,899.

Specification of Letters Patent.

Patented Feb. 14, 1911.

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*To all whom it may concern:*

Be it known that I, ROE R. HOBBS, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented new and useful improvements in automatic telephone-selectors or ringing devices for use on telephone party-lines, railroad telephone despatching-lines, and for general use on other telephone-lines with more than two stations for the purpose of ringing any particular bell desired without disturbing or ringing the other bells connected to the same circuit, of which the following is a specification.

My invention relates to improvements in an electric telephone selector, or ringing device, and consists of a polarized relay, wound to the proper resistance, operating on positive and negative electrical impulses, and a ratchet-wheel mounted on a suitable frame above the said relay so arranged with arms, dog and pawl that the operation of one side of the said relay armature will cause the ratchet-wheel to move one tooth in a specified direction and automatically lock the same at the point where impulses cease on that side. When the opposite side of the relay armature is worked through or by reason of electric impulse the ratchet-wheel is released automatically and a contact point is caused to touch a pin placed at the desired position on the face of the ratchet-wheel, thereby closing a local bell circuit. The ratchet-wheel is returned to normal position instantly by means of a spring, or weight, as desired, when all current ceases through both sides of the polarized relay.

This invention is designed to provide for a system of telephone ringing or signaling apparatus whereby any particular telephone station may be called without causing all the other telephone stations on that particular line to be called, or signaled.

Furthermore, this invention provides means whereby the direct action of the polarized relay upon the ratchet-wheel will reduce and minimize the failure to operate the said ringing device successfully under all circumstances.

This invention further provides for a method of placing a ratchet-wheel above, and in proximity with, the armature of an ordinary polarized relay so that the said ratchet-wheel will operate one notch at a time with each and every impulse passing through one of the coils of said polarized re-

lay, thereby placing the ratchet-wheel in any desired position at a distant telephone station, this position bringing a contact point on said ratchet-wheel within reach of an arm controlled by the opposite coil of the polarized relay.

The invention will be best understood by consideration of the following detail description taken in connection with the accompanying drawing forming part of this specification, in which drawings,

Figure 1 is a full size front view, showing all mechanism in normal position. Fig. 2 is a side view showing all parts in normal position also.

Referring to the drawings, and more especially to Fig. 1,  $A^1$  and  $A^2$  are the coils of a polarized relay, wound to a required resistance, connected in series, and the outside wires from coils connected to binding-posts  $L^1$  and  $L^2$ , which are in turn connected, or bridged, directly across the two sides of the telephone or other electrical circuits. The sending of a positive electrical impulse through the coils of the polarized magnet attracts armature C toward the core of coil  $A^1$  thereby raising arm D which, by means of a pawl on its upper end, engages ratchet wheel J and moves it one notch or tooth, this movement of armature C also depressing arm F which engages arm G by means of an elongated hole and a center pin which moves pawl Q into engagement with ratchet wheel J, the upper part of the elongated hole engaging the center pin on arm G moving it in a downward direction and moving pawl Q, by means of tight slipping joint H, into engagement with ratchet wheel J; a positive movement of armature C toward coil  $A^2$  raises arm F and causes the lower edge of the elongated hole to engage pin on arm G, moving arm G in an upward direction and, by means of tight slipping joint H, withdrawing pawl Q from engagement with ratchet wheel J. Joint H, on arm G, is a tight slipping joint which causes pawl Q to remain in any position in which it is left by arm G. The sending of a negative electrical impulse through the coils of the polarized magnet causes armature C to be attracted toward the core of coil  $A^2$ , thereby raising arm F which, acting on arm G and through a coiled spring and adjusting nut on arm T, throws bell crank lever I bent horizontally at its upper end, into engagement with contact pin R on ratchet wheel J,



thereby closing an electrical circuit between arm I and binding post B<sup>2</sup>; there being a vibrating bell connected to binding posts B<sup>1</sup> and B<sup>2</sup> with battery in series. Springs N<sup>1</sup> and N<sup>2</sup> are for the purpose of equalizing the movement of armature C and causing it to stand in a neutral position when not in use. In the negative movement of armature C, lever F being raised also acts on lever G, pulling catch Q out of the ratchet-wheel and allowing the ratchet-wheel to return to normal position as soon as current is discontinued in coil A<sup>2</sup> which releases lever I. Joint H. on lever L. is a tight slipping joint allowing lever L. to stand in any position placed by lever F. Joint S. is insulated from lever G. by fiber or other insulated bushing. Ratchet-wheel J. is bored with hole opposite each tooth so that contact pin R. can be placed in any desired position.

In Fig. 2, K. is a weight attached to the ratchet-wheel J. by spring or cord and the function of this weight K. is to cause the ratchet-wheel J. to return to normal position when released by lever D and catch Q.

What is claimed is:—

In a selective system, the combination of

a polarized magnet, a frame, a ratchet wheel mounted thereon having holes bored opposite and adjacent to each tooth thereof, a contact pin adapted to be inserted in any one of said holes, a bell crank lever on said frame bent horizontally at its upper end, said lever having a contact point at the end of its horizontally bent portion to engage with said contact pin, a horizontally arranged holding pawl pivoted to said frame and frictionally engaging its pivot, a link connecting one end of the armature of said magnet to said holding pawl through a pin and slot connection, and a link adjustably connecting said holding pawl with the lower arm of said bell crank lever whereby the polarized magnet is adapted to throw said contact point into engagement with said contact pin when desired.

In testimony of the fact that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

ROE R. HOBBS.

Witnesses:

P. C. McINTOSH,  
S. T. GADDIE.