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Patented Aug. 6, 1901.

G. SÉLIGMANN-LUI.  
COUNTING TELEPHONIC MESSAGES.

(Application filed Sept. 25, 1900.)

(No Model.)

Fig. 1.

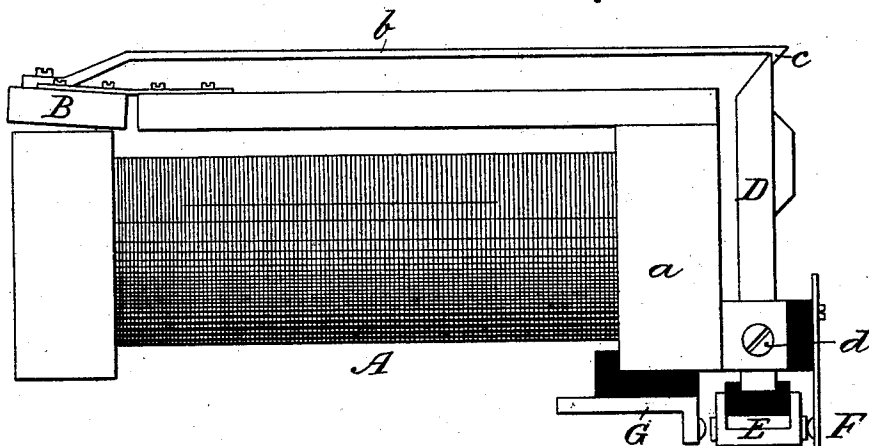
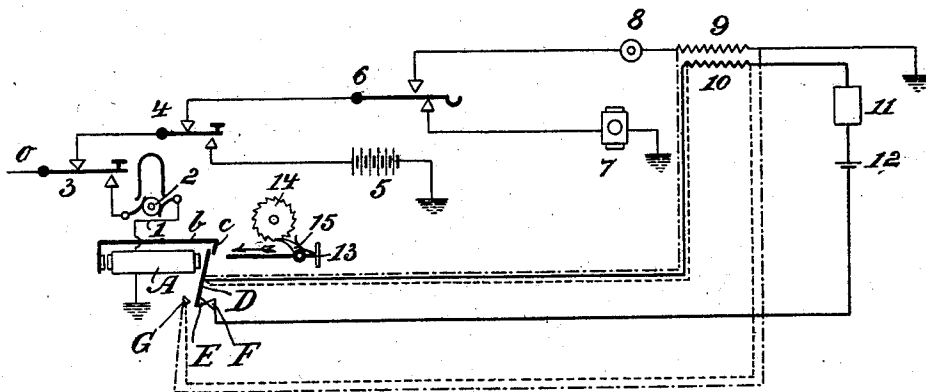


Fig. 2.



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# UNITED STATES PATENT OFFICE.

GUSTAVE SÉLIGMANN-LUI, OF PARIS, FRANCE.

## COUNTING TELEPHONIC MESSAGES.

SPECIFICATION forming part of Letters Patent No. 679,998, dated August 6, 1901.

Application filed September 25, 1900. Serial No. 31,025. (No model.)

*To all whom it may concern:*

Be it known that I, GUSTAVE SÉLIGMANN-LUI, a citizen of the Republic of France, residing at Paris, France, have invented certain new and useful Improvements in Mechanism for Counting Telephonic Messages, of which the following is a specification.

My invention has relation to a mechanism adapted to be placed at a subscriber's telephone-station to count the telephonic messages sent from that station to other stations; and in such connection it relates to the construction and arrangement of such a message-counting mechanism.

In certain telephonic systems the central station is used solely for the purpose of making or breaking the connection of the subscriber's lines, and the ringing up of a correspondent is done by the calling subscriber, whose instrument for this purpose is provided with a source of electricity, usually a local-battery circuit, which differs from the source serving to actuate the apparatus at the central exchange, which source is the main circuit. The source of electricity or main circuit used at the central office is arranged so as not to operate or modify directly the operation of the ringing up of the correspondent, and inversely the ringing-up apparatus at the subscriber's end cannot usefully operate the apparatus of the central office. My present invention is applicable to systems of this class; and its principal object is to provide a mechanism for counting the telephonic messages actually sent by the subscriber and will register only such messages or operations in which the correspondent of the subscriber has been effectually reached, to the exclusion of operations wherein connection between subscriber and correspondent has not for any reason been secured.

The nature and scope of my invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, in which—

Figure 1 is a front elevational view of an electromagnet and auxiliaries adapted to be placed in the subscriber's local circuit and constituting one of the main elements of the message-counting mechanism, and Fig. 2 is a diagrammatic view illustrating the circuits

and connections wherein the mechanism embodying main features of my invention is included.

Referring to Fig. 1 of the drawings, A represents an electromagnet having an armature B, arranged as illustrated and carrying a rod *b*, provided with a hook *c*. The hook *c* normally engages and maintains in elevated position a weighted shutter D, which tends when the hook *c* is elevated to fall downward of its own weight. The apparatus as a whole resembles the ordinary annunciator apparatus. The shutter D is hinged at *d*, preferably to the frame *a*, carrying the magnet A, and has a portion projecting below the hinge *d*, carrying an insulated metallic piece E, which normally when the shutter D is elevated makes contact with an insulated spring-contact F. When the shutter D falls, the piece E breaks contact with the spring-contact F and makes contact with a metallic contact-piece G. The arrangement and shape of all these parts can be varied mechanically as desired. As will be hereinafter more fully explained, the shutter D, when it is released and has reached its lowest position, contacts with the end of a push counter-rod and is returned to its normal locked position, when the push counter-rod is actuated to turn the counter one unit.

Referring now to Fig. 2, *o* represents the line connecting the calling subscriber with the central station. The magnet and shutter mechanism hereinbefore described is indicated at 1, and the coil of the magnet A is in circuit with a source of electricity 2, utilized in the ringing up of the correspondent's instrument. 3 is the key which is used as occasion requires to either connect the line *o* with the source of electricity 2 or with other instruments. 4 is the key used to close the circuit of the source of electricity 5, which is disposed to act upon the apparatus of the central office. The battery 5 may be located at the subscriber's end, as illustrated in the drawings, or located at the central office as the central battery. 6 is the usual switch, adapted to bring into circuit either the subscriber's bell 7 or the subscriber's telephone apparatus, which consists, ordinarily, of the receiver 8 and the secondary 9 of the induction-coil. 10 is the primary of the induction-

coil, 11 is the microphone, and 12 is the microphone-battery. 13 represents the push rod and button of the counting apparatus, which consists, primarily, of a ratchet-wheel 14 and a pawl 15, mounted upon the rod 13, which pawl as the rod 13 is pushed in is adapted to advance the ratchet 14 one unit. The rod 13 has its inner end resting adjacent to the shutter D, and when forced inward, as indicated by the arrow, the rod 13 not only operates through the pawl 15 the ratchet 14, but it also forces the shutter D to its elevated or locked position in engagement with the hook c. The mechanism 1 is not placed in action, but remains at rest so long as the subscriber is only sending through the key 4 and the source of electricity 5, which it controls, the currents intended to cause the operation of the apparatus of the central office. When, however, the necessary operations of the central office are completed, the subscriber rings up the correspondent by means of the source of electricity 2, which alone is capable of acting upon the ringing apparatus of the correspondent's instrument. The electromagnet A is then energized and attracts the armature B, which through the rod b and hook c releases the shutter D. The shutter D in falling breaks the primary circuit of the microphone between the spring F and the piece E. In this position of the parts the subscriber may continue to call the correspondent and may even hear who comes to the correspondent's instrument; but he cannot converse with the correspondent until the shutter D is replaced in engagement with the hook c. The sole means of replacing the shutter D is the push-rod 13, which in the act of replacing the shutter D will, through the pawl 15, actuate the ratchet counter-disk 14 to cause said disk to advance one unit. Instead of breaking the primary circuit between the piece E and the spring F the contact of the piece E with the contact G may be utilized to short-circuit the primary or secondary wire of the induction-coil. In these instances the dotted lines (.....) in Fig. 2 indicate the circuit and connections when the primary 10 of the induction-coil is to be short-circuited, and the dot-and-dash lines (.-.-.-) of Fig. 2 indicate the circuits and connections when the secondary 9 of the induction-coil is to be short-circuited.

Having thus described the nature and object of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a telephonic system wherein the ring-

ing in of the correspondent is done solely by the calling subscriber, a circuit wherein the ringing apparatus is included, said circuit actuated by a source of electricity separate and distinct from the source of electricity actuating the apparatus of the central office, an electromagnet included in the ringing-circuit and adapted to be energized when said circuit is actuated by its source of electricity, a shutter adapted to be released when the magnet is energized, and said shutter adapted when released to break or short-circuit a portion of the microphone-circuit of the subscriber's instrument, substantially as and for the purposes described.

2. In a telephonic system wherein the ringing in of the correspondent is done solely by the calling subscriber, a circuit wherein the ringing apparatus is included, said circuit actuated by a source of electricity separate and distinct from the source of electricity actuating the central-office apparatus, an electromagnet included in the ringing-circuit and adapted to be energized when said circuit is actuated by its source of electricity, a shutter adapted to be released when the magnet is energized to break or short-circuit a portion of the microphone-circuit of the subscriber's instrument, a counting ratchet-disk, and a push-rod adapted to be shifted in one direction to advance the disk one unit and to replace the shutter to thereby reestablish the microphone-circuit, substantially as and for the purposes described.

3. In a telephonic system of the character described, an electromagnet placed at each subscriber's station and included in the ringing-in circuit whereby the subscriber may call up the correspondent, a source of electricity adapted to actuate the ringing-in circuit and to thereby energize the electromagnet, a shutter adapted to be released when the magnet is energized and arranged when released to break the microphone-circuit of the subscriber's instrument, and a counting mechanism adapted when operated to replace said shutter and to thereby make the microphone-circuit of said instrument, substantially as and for the purposes described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

GUSTAVE SÉLIGMANN-LUI.

Witnesses:

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