

No. 639,716.

Patented Dec. 26, 1899.

F. W. CUSHING.  
TELAUTOGRAPH.

(Application filed Sept. 5, 1899.)

(No Model.)

Fig. 1.

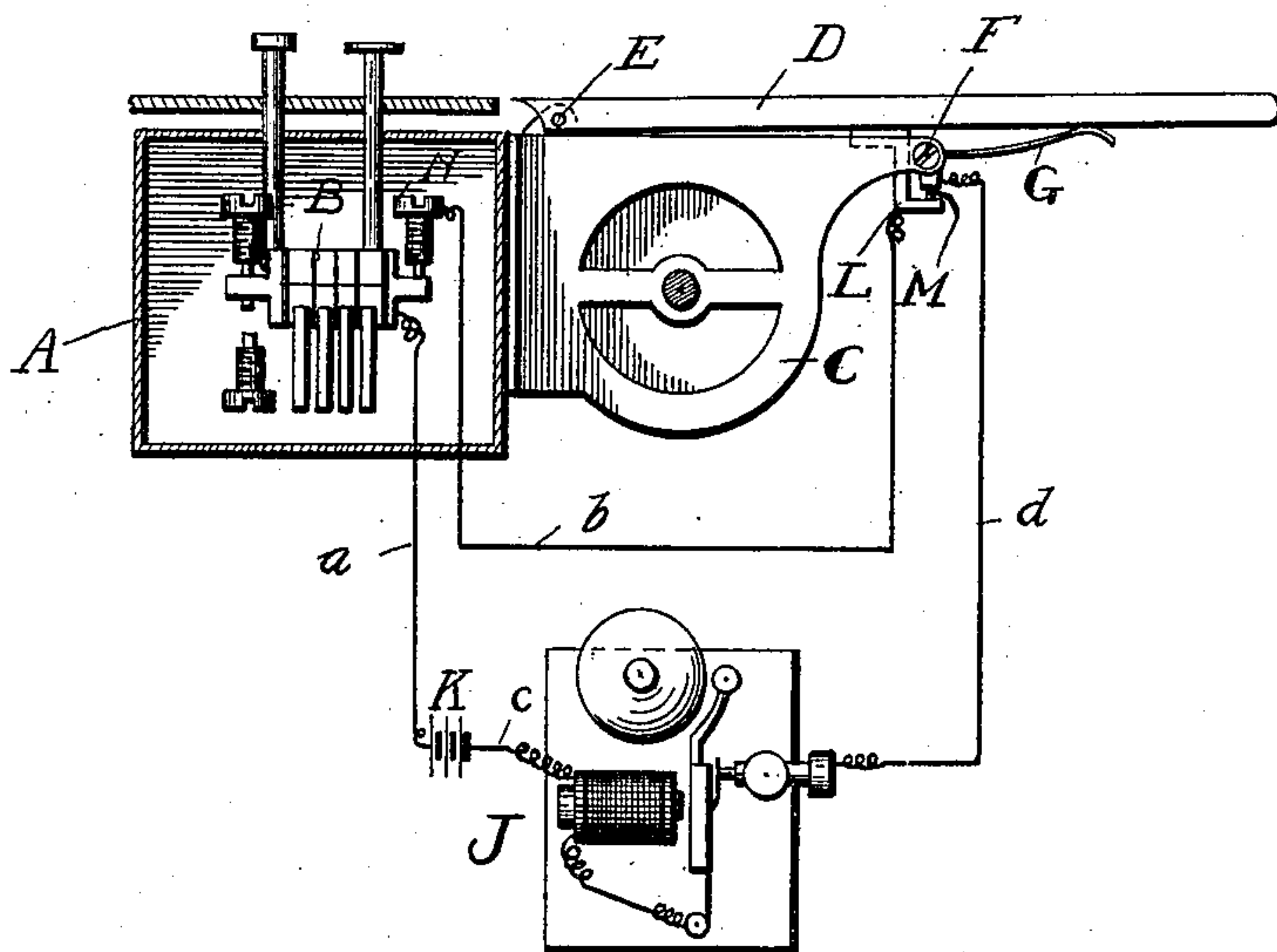
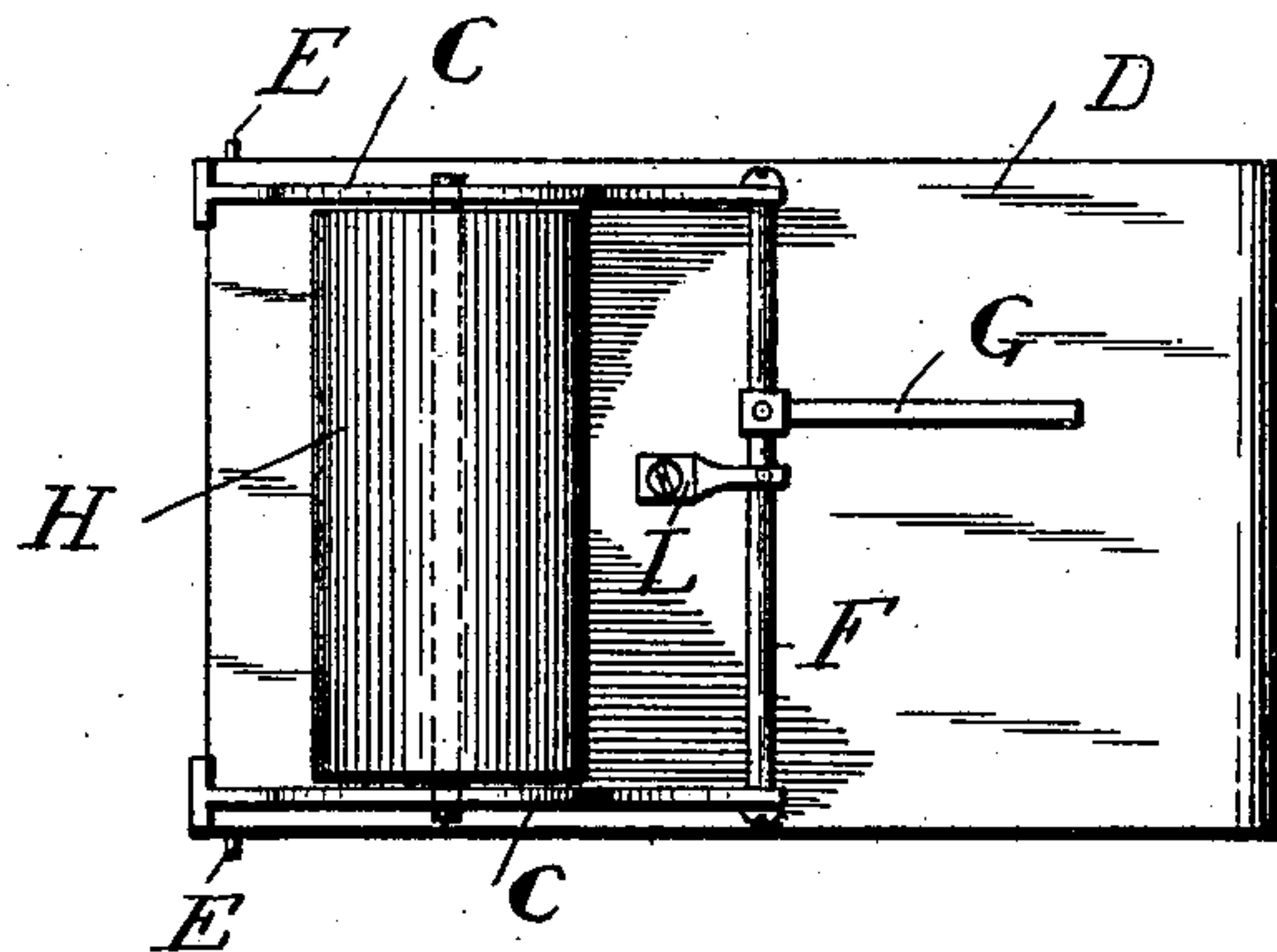


Fig. 2.



WITNESSES—

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# UNITED STATES PATENT OFFICE.

FREDERICK W. CUSHING, OF HIGHLAND PARK, ILLINOIS.

## TELAUTOGRAPH.

SPECIFICATION forming part of Letters Patent No. 639,716, dated December 26, 1899.

Application filed September 5, 1899. Serial No. 729,471. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK W. CUSHING, a citizen of the United States, residing at Highland Park, in the county of Lake and State of Illinois, have invented a new and useful Telautograph, of which the following is a specification.

The invention relates to telautographs.

The object of the invention is to provide a signaling arrangement to denote whether the telautographic apparatus is in proper position to secure the desired sequential operation thereof.

The invention consists, substantially, in the construction, combination, location, and arrangement, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally set forth in the appended claims.

Referring to the accompanying drawings and to the various views and reference-signs appearing thereon, Figure 1 is a diagrammatic view of parts of a telautograph, showing the application thereto of a signaling apparatus embodying the principles of my invention. Fig. 2 is a view in bottom plan of the arm-rest of a telautograph, showing the application of a form of my invention.

The same part is designated by the same reference-sign wherever it occurs in both views.

In the operation of telautographs as heretofore constructed it is the usual custom to employ a main or, as it is sometimes called in this art, a "master-switch," through which the transmitting and receiving circuits are controlled. This switch is moved to one position in order to properly establish the necessary circuits for transmitting a message and to another position to properly establish the necessary circuits to receive a message. It sometimes occurs, through negligence or otherwise, that when an operator has completed the transmission of a message the master-switch is not properly actuated to place the instrument in condition to receive a message. By reason of this failure to properly set the switch no message can be received. It is the special purpose of the present invention to provide a signal whereby the attention of the operator is attracted to the incorrect or improper position of the master-switch in

case of a failure to return said switch to its proper position after the transmitting operation is completed, thus giving an alarm, and hence insuring the proper actuation of the switch to secure the continuity of or sequential operation of the apparatus.

In the accompanying drawings is shown an illustrative embodiment of operative means which are simple, reliable, automatic, and efficient, whereby the desired results are secured, and wherein reference-sign A designates the main frame or casing of the instrument, and B the main or master switch, which may be of any suitable or convenient construction and arrangement, through which the desired battery-terminal and circuit connections are made.

C C' designate suitable brackets which may be secured or attached to the main frame or casing A of the machine and which serve as supports for the arm-rest D and the paper-roll H. The arm-rest is hinged or pivoted at its inner end, as at E E, to the brackets C C'. The outer ends of the brackets are connected by a rod F, upon which is mounted or otherwise suitably secured a spring G, upon which the outer or free end of the arm-rest D bears. The tension of this spring is normally exerted to maintain the outer or free end of the arm-rest elevated or raised slightly above the rod F; but such tension is overcome by the weight of the arm of the operator resting thereon while transmitting a message, thereby causing said outer or free end of the arm-rest to be depressed; but when the operator's arm is removed the arm-rest is again elevated or raised by the spring. In carrying out the principles of my invention I make use of these movements of the arm-rest to effect a signal whereby when the operator has completed the transmission of a message and has failed to properly restore the master-switch so as to place the apparatus in condition to receive a reply or other message such failure will at once be announced or made apparent when he raises his arm from the arm-rest. This signal may be of any suitable or convenient construction and arrangement and may be either visual or audible.

In the particular form shown as illustrative of the principle involved, but to which the invention is not limited or restricted, an audi-



ble signal comprising an ordinary or common vibrating electric bell J of the usual or any well-known construction is employed. A battery K may be employed for supplying current to the signal device. Suitably carried by or attached to the arm-rest D, which is of suitable insulating material—such, for instance, as wood, fiberite or the like—or which, if desired, may be suitably insulated, is a lug or arm L, arranged to extend underneath the rod F. This lug or arm L is arranged to engage and bear against a stop M, carried by or formed on rod F when the outer or free end of arm-rest D is raised or elevated under the influence of spring G, said arm or lug L and stop M thus forming a limiter for the arm-rest D when the latter is raised by the spring G. When, however, the arm of the operator is placed on the arm-rest, as during the transmission of a message, and the arm-rest is thereby depressed, the arm or lug L is carried out of contact with the stop M. Now by arranging the stop M and the arm or lug L in the circuit of the signal device it will be seen that when the weight of the arm of the operator is imposed upon the arm-rest the signal-circuit is broken, and when the operator's arm is raised from the rest the signal-circuit is closed through the arm or lug L and stop M. Now by arranging a second make and break in the signal-circuit to be controlled by or coincidently with the movements of the main or master switch B it will be seen that in case the operator fails to restore the master-switch to its proper position after completing the transmission of a message the signal device will give an alarm as soon as the operator's arm is raised from the arm-rest D. A simple and convenient arrangement is shown wherein one terminal of battery K is connected through wire *a* with the master-switch, and the latter when in position, as shown, for the transmission of a message is arranged to engage a stop N, which is connected through wire *b* with arm or lug L. The other terminal of the battery is connected through wire *c* with one side of the signal device J. The other side of the signal device is connected through wire *d* to the stop M.

The operation is as follows: When the master-switch B is moved into position for the transmission of a message, the signal-circuit is closed from the battery K to arm or lug L through wires *a* and *b*, as by the master-switch B, contacting with contact N. Now as long as the arm of the operator is resting upon the arm-rest D the signal-circuit is broken by reason of the separation of arm or lug L and stop M. If, however, when the operator completes the transmission of his message he fails to replace the master-switch in proper position for a message to be received, the raising of his arm from the arm-rest completes the signal-circuit through wires *b* and *d*, thereby calling attention to the fact that the master-switch has not been returned or replaced, the signal device continuing to operate until the

master-switch is returned or placed in its proper position.

Of course it is evident that the make and break of the signal-circuit may be made coincident with the actuation of the master-switch in many different ways, and similarly said circuit may be opened and closed through wires *b* and *d* in many different ways. It is also obvious that many different types and constructions of signal devices may be employed and still fall within the spirit and scope of my invention. I do not desire, therefore, to be limited or restricted to the exact construction and arrangement shown and described, that shown being a simple and efficient arrangement and illustrative of a practical embodiment of operative means for accomplishing the desired objects.

A signal device and arrangement such as above set forth may be employed in connection with any suitable type or construction of telautograph—such, for instance, as that shown, described, and claimed in United States Patent No. 610,274, issued September 6, 1898, to L. O. McPherson.

Having now set forth the object and nature of my invention and a construction embodying the principles thereof, and having explained such construction, its function, purpose, and mode of operation, what I claim as new and useful and of my own invention, and desire to secure by Letters Patent, is—

1. In a telautograph, a master-switch, adapted to be moved to one position for the transmission of a message, and to another position for receiving a message, a signal device, a circuit therefor, said circuit arranged to be closed or opened coincidently with the movements of the master-switch, and means actuated coincidently with the raising of the arm of the operator after transmitting a message for completing the signal-circuit, whereby failure to restore the master-switch to receiving position will be indicated, as and for the purpose set forth.

2. In a telautograph, a signal device, a circuit therefor, two pairs of separable contacts in said circuit, a master-switch and an arm-rest, one of said pairs of contacts controlled by said master-switch and the other pair controlled by said arm-rest, as and for the purpose set forth.

3. In a telautograph, a signal device, a circuit therefor, two pairs of separable contacts arranged in said circuit, a movable master-switch arranged to control one of said pairs of contacts, and a movable arm-rest arranged to control the other of said pairs of contacts, as and for the purpose set forth.

4. In a telautograph, a signal device, a circuit therefor, a pair of contacts arranged in said circuit, an arm-rest connected to one of said contacts, and means for yieldingly maintaining said arm-rest in position for said contact to make connection with the other of said contacts, as and for the purpose set forth.

5. In a telautograph, supporting-brackets,



an arm-rest pivoted at one end upon said brackets, a spring for yieldingly supporting the other end of said arm-rest, a signal device, a circuit therefor, and means whereby  
5 when such arm-rest is depressed said circuit is broken, and when said arm-rest is raised said circuit is closed, as and for the purpose set forth.

6. In a telautograph, a master-switch, a signal device and an arm-rest, said switch and

arm-rest both arranged to control said signal device, as and for the purpose set forth.

In witness whereof I have hereunto set my hand, this 1st day of September, 1899, in the presence of the subscribing witnesses.

FREDERICK W. CUSHING.

Witnesses:

E. C. SEMPLE,  
S. E. DARBY.