

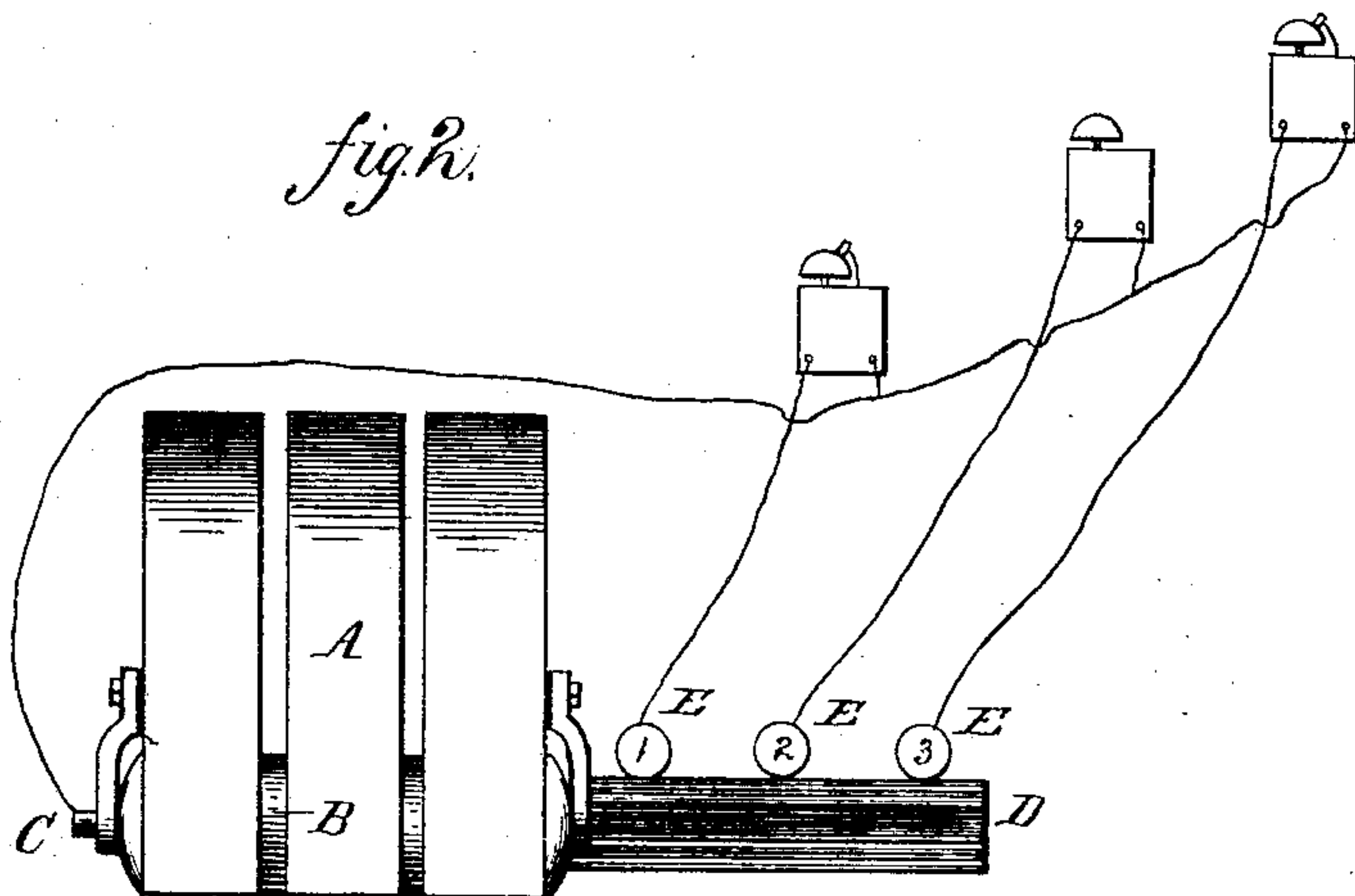
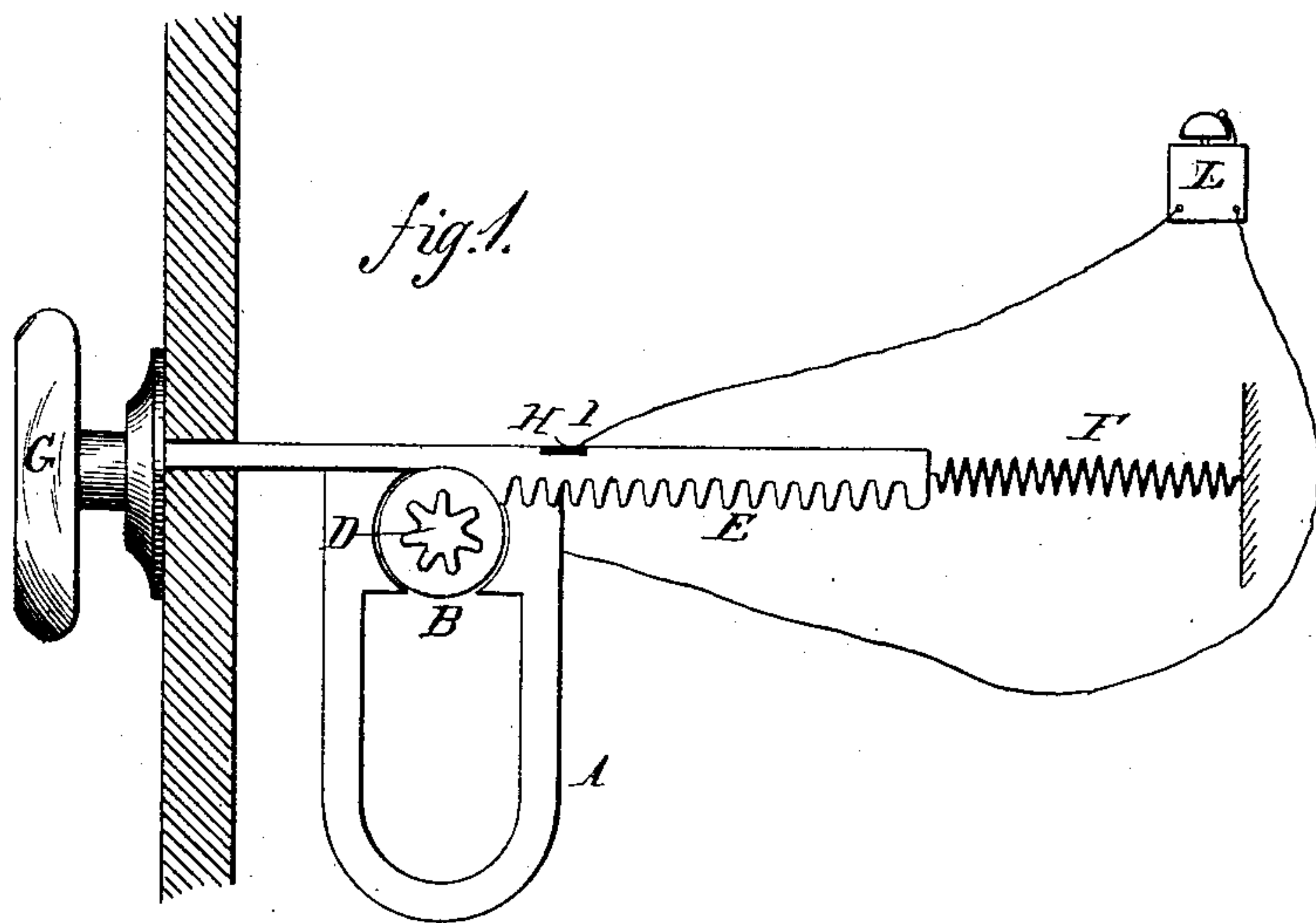
(No Model.)

H. E. WAITE & S. H. BARTLETT.

APPARATUS FOR OPERATING ELECTRIC BELLS.

No. 313,788.

Patented Mar. 10, 1885.



Witnesses:
John H. Hinkel
Wm. J. Fayers.

H. E. Waite & S. H. Bartlett
Inventor:
John H. Hinkel
Wm. J. Fayers

UNITED STATES PATENT OFFICE.

HENRY E. WAITE AND SAMUEL H. BARTLETT, OF NEW YORK, N. Y., ASSIGNORS TO CHARLES F. LIVERMORE, TRUSTEE, OF SAME PLACE.

APPARATUS FOR OPERATING ELECTRIC BELLS.

SPECIFICATION forming part of Letters Patent No. 313,788, dated March 10, 1885.

Application filed March 23, 1884. (No model.)

To all whom it may concern:

Be it known that we, HENRY E. WAITE and SAMUEL H. BARTLETT, citizens of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Electric Bells, of which the following is a specification.

Our invention relates to magneto call-signals wherein a magneto-electric generator is used to generate a current for ringing bells or sounding other signals at distant points; and it consists in a magneto-generator adapted to be operated by a number of door or other pulls and connections, whereby any one of a series of bells or signals may be operated from a single generator, to the exclusion of the others.

A magneto-generator of any ordinary construction is provided with the usual armature, and to the armature-shaft is securely attached a projecting rod or extension formed with longitudinal teeth. Above this rod or extension are arranged a series of knob-pulls, one side or edge of each of which is provided with a series of teeth adapted to engage with the teeth upon the longitudinal rod or extension of the armature of the generator. The teeth are cut away from one end for some distance, and the pull is retained in its normal position by a suitable spring, so that normally the teeth are not in engagement with the toothed extension. Upon the opposite side of the pull-rod is placed a piece of insulating material, and upon this rests a spring contact-arm connected to one of the binding-posts of an ordinary magneto or other bell, the other binding-post being connected with one end of the armature-coil. The toothed extension is in electrical connection with the other end of the armature-coil, and the arrangement is such that normally the connection is preferably broken on both sides of the pull—on one side by the insulating-piece, and on the other by the pull-bar being out of contact with the extension, though the insulating-piece may be dispensed with, if desired.

Upon operating any one of the designated pull-knobs the rack or teeth on its lower side engage with the teeth on the extension and rotate the armature, and the insulating-piece

on the other side of the pull passes out of contact with the connecting spring-contact, which then bears upon the face of the pull, and the electric connection is made with the desired bell or signal, which is operated by the current being generated. If desired, the extension may be connected to the armature by a clutch mechanism, so that on the retraction of the pull by the spring or otherwise the armature will not be rotated; but it will be found preferable to have the armature rotate during both movements of the pull.

Referring to the drawings for a more particular description of our invention, Figure 1 is an end elevation, partly in section; and Fig. 2 is a side view.

A is a magneto-generator, having the usual armature, B, connected therewith, and revolving upon the armature-shaft C, supported in the ordinary bearings. To one end of this shaft is attached a longitudinally-toothed bar or extension, D, which may be supported by a bearing in its extreme end, if desired. Above the toothed bar are arranged a series of draw-pulls, E, one end of the under side of which is cut away, so as not to engage with the bar D, while the other part is provided with a rack or teeth adapted to engage with the teeth on the extension. A spring, F, or other equivalent device, may be used to retract the pull-bars and to hold them normally out of engagement with the toothed extension.

Any suitable device may be used to operate the pull-bars, a knob, G, being shown, having a number or other designating-mark thereon. Upon the upper side of the pull-bar is placed a piece of insulating material, H, upon which rests the terminal I of a circuit leading to one pole of the bell or signal L, the other pole of which is connected to one end of the armature-coil. Such being the construction, the operation of the device is apparent. Upon pulling the designated pull-bar the contact-spring passes off the insulating-piece onto the bar, and the teeth upon the under side of the rack are made to engage with the longitudinal teeth of the extension of the armature-shaft, which being in electrical connection with one end of the armature-coil, the circuit is completed through the designated bell and signal connected therewith, and upon the further

movement of the pull-bar the armature is rotated and current generated, which causes the said bell to ring, to the exclusion of all others.

The many applications of our invention are so apparent that they need not be stated, as it is evident that it can be used in many places where it is desirable to send a number of signals from one place to any one of various other places without necessitating the use of a generator for each circuit.

We do not herein claim, broadly, a bell-pull connected to an electric circuit, so as to break the circuit in two places, as that is embraced in another application now pending, No. 126,137, filed by us.

Having now described our invention, what we claim is—

1. The combination, with a magneto-electric generator, of a series of draw-pulls, each mechanically and electrically connected to the armature, and adapted to complete the electric circuit through a signal upon being operated, substantially as described.

2. The combination, with the armature of an electric generator, of a longitudinally-grooved extension connected therewith, and a series of rack-bars, each adapted to engage with said extension to operate the generator, substantially as described.

3. The combination, with an armature of an electric generator, of a longitudinally-grooved or toothed extension mechanically and electrically connected therewith, and a series of rack-bars, each adapted to engage with said extension to operate the generator, and circuits and connections, substantially as described, whereby when any one of the rack or pull bars is operated the signal connected therewith will be operated, to the exclusion of the others, as set forth.

4. The combination, with an armature of an electric generator, of a longitudinally-grooved extension mechanically and electrically connected therewith, a series of rack-bars, each adapted to engage with said extension to operate the generator, the insulating-pieces attached to said bars, having a contact-arm bearing thereon, and circuits and connections, substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

HENRY E. WAITE.

SAMUEL H. BARTLETT.

Witnesses:

CHARLES SPARMAN,
WM. H. WOODHULL.