

No. 606,912.

Patented July 5, 1898.

O. T. BLÁTHY & K. DE KANDÓ.

MEANS FOR PREVENTING DISTURBANCES IN TELEPHONIC CIRCUITS.

(No Model.)

(Application filed Apr. 27, 1897.)

2 Sheets—Sheet 1.

FIG. 1.

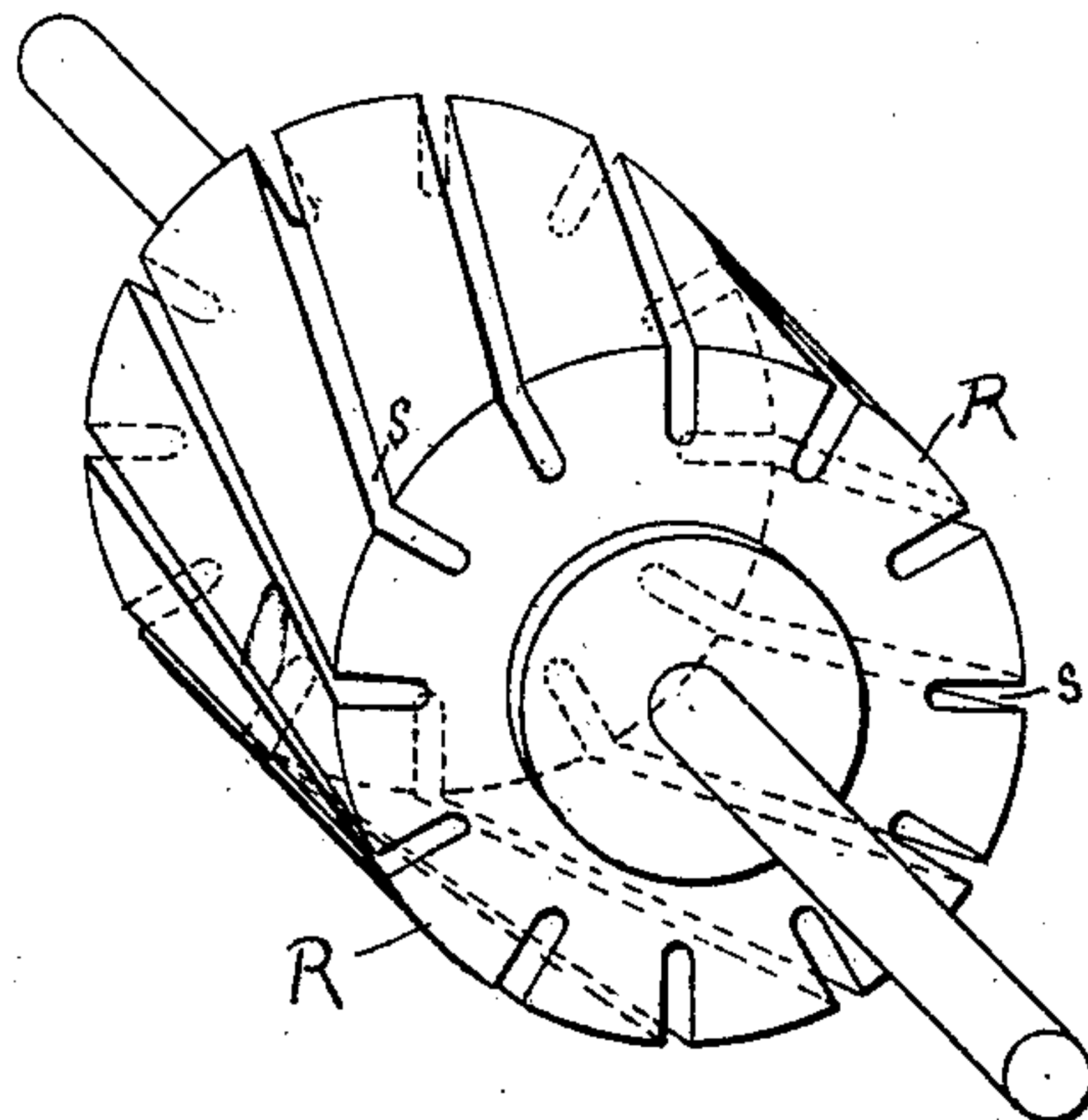
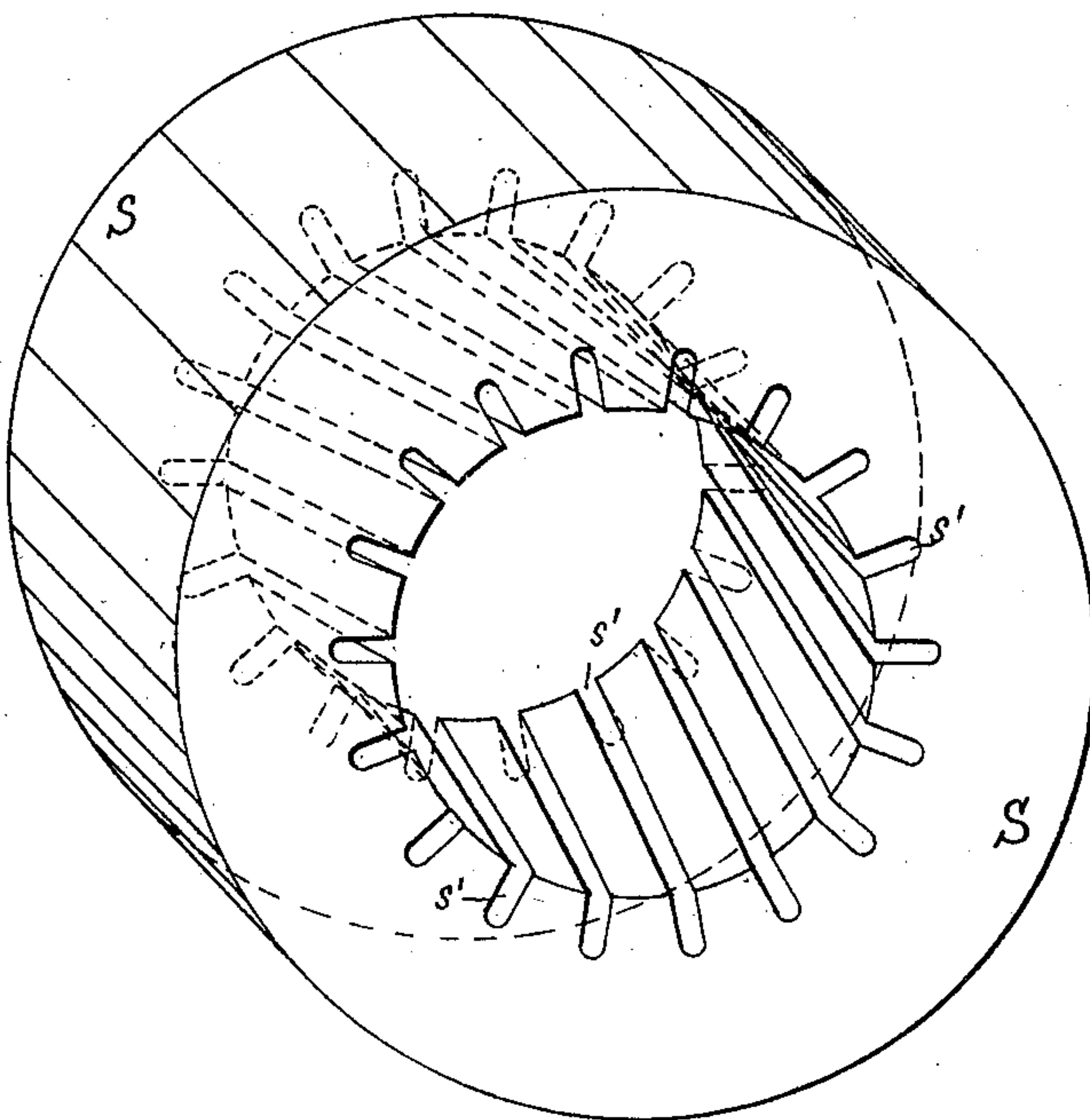


FIG. 2.



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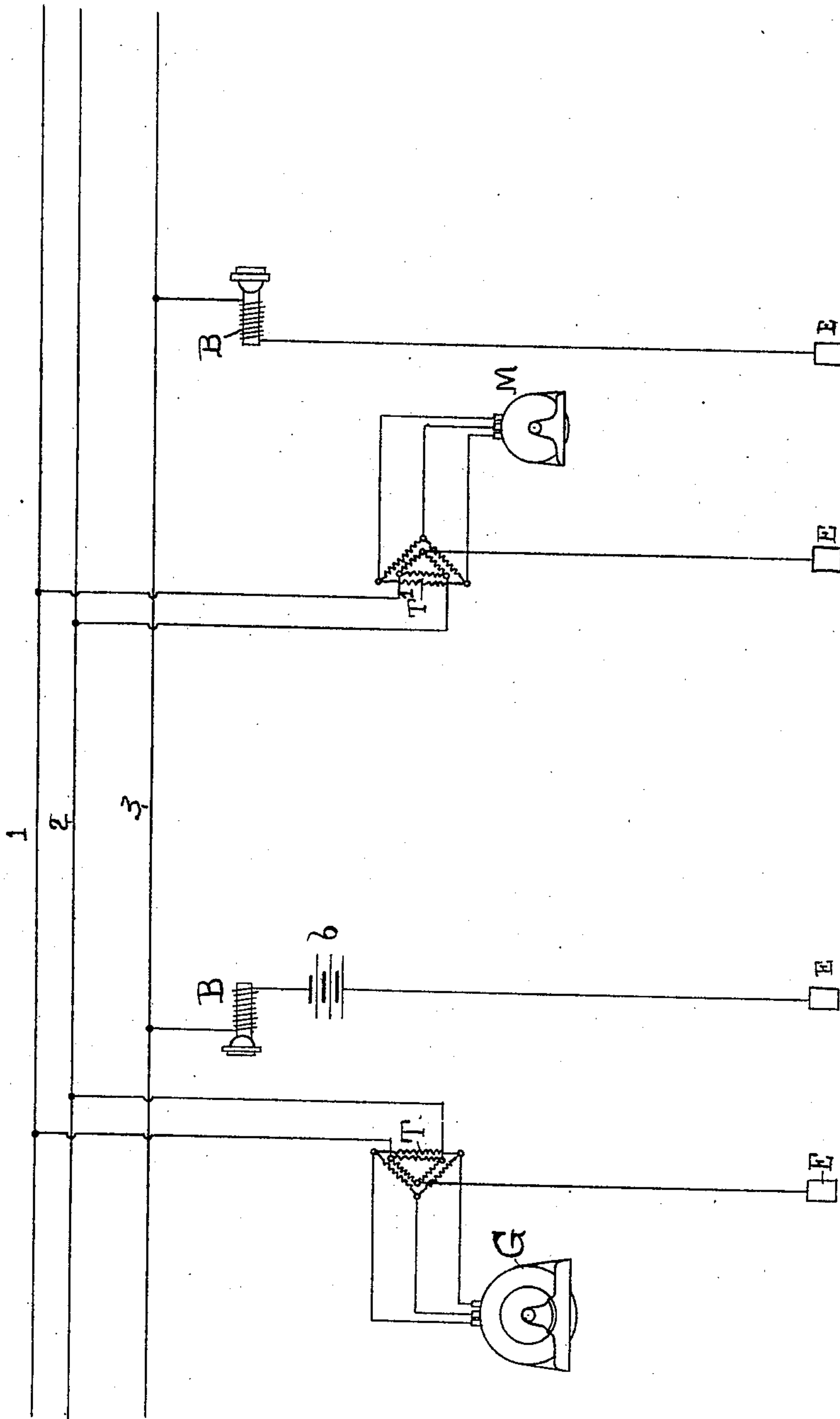
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FIG. 3.



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MEANS FOR PREVENTING DISTURBANCES IN TELEPHONIC CIRCUITS

SPECIFICATION forming part of Letters Patent No. 606,912, dated July 5, 1898.

Application filed April 27, 1897. Serial No. 634,173. (No model.)

To all whom it may concern:

Be it known that we, OTTO TITUS BLÁTHY and KOLOMAN DE KANDÓ, subjects of the Emperor of Austria-Hungary, and residents of Buda-Pesth, Austria-Hungary, have invented new and useful Means for Preventing Disturbances in Telephonic Circuits, of which the following is a specification.

It is a generally-recognized fact that alternating-electric-current circuits which are grounded at several points or which use the earth as a conductor will cause disturbances in the working of telephonic apparatus using the earth in the neighborhood as a return. These disturbances are caused by portions of the alternating current taking their way through the telephonic circuits and apparatus which are in connection with the earth. In this way the membranes of the telephone apparatus are caused to vibrate, emitting sounds which disturb the use of the telephone as a means of communication.

The purpose of the present invention is to give to the vibrations of the telephone-membranes such a character that no audible sound is emitted by them due to such disturbances. This result is attained by using alternating current following the simple sine-curve or a similar one of such a low frequency that the vibrations set up in the telephone-membranes are slower than those of the lowest tone that can be heard. Our experiments have shown that alternating currents of a sinusoidal form and of a frequency less than twenty complete periods per second do not cause audible sounds to be emitted by the telephone; but if the current contained also higher harmonic vibrations then these will cause higher tones to be heard in the telephones. Such higher harmonic vibrations are generally present in the current-curves of alternating-current motor-circuits and are caused by the fact that in the motors which have a very small air-gap the induction coefficient is variable in

consequence of the relative displacement of the teeth of the rotor and those of the stator. Now these disturbances of the telephonic apparatus by the alternating-current circuits can be avoided by the use of motors which have the conductors embedded in slantwise slots either in the rotor or the stator, or in both, but in such a way that the slots of the rotor are not parallel to those of the stator, as shown in the accompanying drawings.

Figure 1 is a perspective view of one part of the motor, and Fig. 2 is a similar view of the other part, while Fig. 3 is a diagram illustrating circuits.

Referring to Figs. 1 and 2, R may be taken as the rotor with slantwise slots *s*, while S is the stator with slantwise slots *s'*.

In Fig. 3, G is the generator, connected directly or through a transformer T to line conductors 1 2, to which are connected motors M, directly or through transformers T'. The telephone-line is indicated at 3 and the instruments at B.

E E indicate earth connections. A battery *b* is shown in the telephonic circuit, which in this instance is shown grounded.

We claim as our invention—

Monophase or polyphase alternating-current plants which have one of the conductors grounded, with alternating currents of a frequency less than twenty complete periods per second, in combination with monophase or polyphase alternating-current motors with slantwise slots, for preventing disturbing influence on telephone apparatus.

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

OTTO TITUS BLÁTHY.
KOLOMAN DE KANDÓ.

Witnesses:

LELLO PONTCEORVO,
LEOPOLD NEUSHARD.