





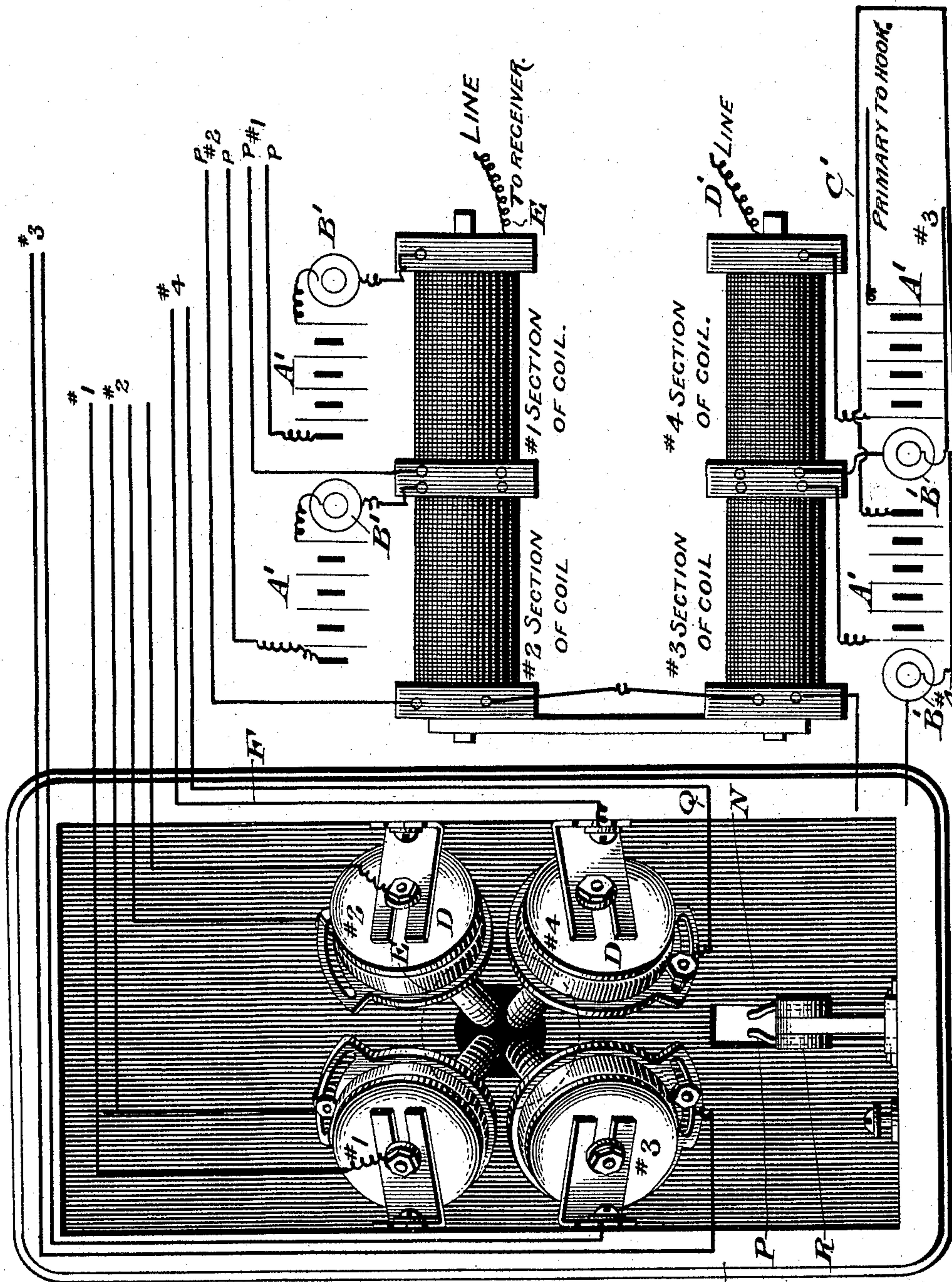
(No Model.)

C. C. GOULD.  
TELEPHONE.

2 Sheets—Sheet 2.

No. 584,737.

Patented June 15, 1897.



WITNESSES

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*Fig. 5.*

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# UNITED STATES PATENT OFFICE.

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THREE-FOURTHS TO URIAH G. FOX, LOT P. EVANS, AND LOT P. EVANS,  
TRUSTEE, OF SAME PLACE.

## TELEPHONE.

SPECIFICATION forming part of Letters Patent No. 584,737, dated June 15, 1897.

Application filed February 9, 1897. Serial No. 622,633. (No model.)

*To all whom it may concern:*

Be it known that I, CORNELIUS C. GOULD, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Telephones, which improvement is fully set forth in the following specification and accompanying drawings.

My invention relates to telephones, and more especially to the transmitting devices employed therein, provision being made for producing impulses of greater electric intensity or force than heretofore from the vibrations or undulations or sound-waves caused by articulate speech or vocal or other sounds in a connected electric telephone-circuit, whereby I am enabled to transmit the increased impulses to longer distances and through greater resistances than can be effected in the telephone transmitting apparatus in use at the present day; and to this end my invention consists in the employment of a plurality of transmitters having conductors, conduits, or other connections leading directly thereto from a single mouthpiece, whereby said transmitters are operated simultaneously by said sound-waves, said transmitters being independent of each other and being supported independently of said mouthpiece.

It further consists of novel details of construction, all as will be hereinafter set forth, and pointed out in the claims.

Figure 1 represents a vertical sectional view of a portion of a telephone and its adjuncts embodying my invention. Fig. 2 represents a front elevation of a portion of Fig. 1, showing the mouthpiece and the passages leading therefrom to the transmitters. Fig. 3 represents a section on line *x x*, Fig. 1, through one of the induction-coils. Fig. 4 represents a section on line *y y*, Fig. 1. Fig. 5 represents a rear elevation of the interior of the apparatus seen in Fig. 1, showing especially the location of the transmitters and the conductors leading therefrom in diagrammatic view.

Similar letters of reference indicate corresponding parts in the figures.

Referring to the drawings, A designates a box or casing in which the principal operative

parts of my invention are contained or supported.

B designates the mouthpiece, which may be made of hard rubber or other suitable material and is secured to the flange C, which is attached to said casing A.

C' designates nipples which are screwed into engagement with the base B' of the mouthpiece, said nipples having communicating therewith the independent tubes, passages, or conduits E, which are out of communication with each other and lead to the transmitters D, which latter are supported in any suitable or convenient manner independently of said mouthpiece and are, in the present instance, four in number, it being of course evident that said number may be increased or diminished according to requirements, it being, however, essential in carrying out the principle of my invention that a plurality of transmitters be employed.

The transmitters D may be of any suitable or convenient construction, and I have deemed it unnecessary to illustrate or describe the same in detail, since their construction will be apparent to those skilled in the art.

Referring to the lower transmitter D, (seen in Fig. 1,) F designates a conductor leading from a suitable portion thereof to the binding-post G of the induction-coil H, the current passing through the primary coil K' of the latter and out therefrom by the binding-post J through a suitable conductor to the battery K, thence by the conductor L to the binding-post M.

N designates a contact-strip which is held in position by the binding-post M, a second contact-strip P being located adjacent thereto and having a conductor Q leading therefrom to the binding-post Q' of the lower transmitter, as will be understood from Figs. 1 and 4.

R designates the lever of the telephone-hook W, which is adapted to support the receiver X, said lever being fulcrumed at T to a suitable post or support and having the pin or projection U depending therefrom, to which one end of the spring V is attached, the other extremity of said spring being secured to a suitable fixed point, as the casing A.

The greater portion S of the arm R, which is contained within the casing A, is made of



insulating or non-conducting material, to the upper portion of which is attached at intervals the inverted-V or other shaped contact-plates T, which are composed of any suitable  
 5 conductive material, it being noted that said contact-plates are four in number in the present instance to correspond to the numbers of pairs or sets of contact-strips N and P, which  
 10 R and have their free ends bowed inwardly, so that although said lever is normally removed from contact with said strips N and P when the receiver X is in position the instant that said receiver is removed the spring  
 15 V will pull the lever R upwardly and cause the contact to be made and the primary circuit to be closed between the strips N and P by means of the plate T, the free ends of said strips contacting with said plate.

20 The passage or direction of the current from the upper transmitter D (seen in Fig. 1) is substantially the same as has been already described with respect to the lower transmitter D of said figure.

25 In Fig. 5 I have shown in the diagrammatic view the different transmitters and the conductors or passage-ways leading therefrom, said transmitters being numbered in said figure 1, 2, 3, and 4, and having leading there-  
 30 from, respectively, the circuits designated by the same nomenclature, namely, 1, 2, 3, and 4, while the coils are designated, similarly, 1, 2, 3, and 4.

A' designates batteries employed, and B' designates transmitters, the primary circuit to the hook being designated by C' and the line and receiver by D' E', respectively, it being evident from the foregoing that by the  
 35 employment of two or more transmitters and their adjuncts in the manner described im-  
 40 pulses of greater intensity are produced from the vibrations of the sound-waves than heretofore.

It will be evident from the construction seen  
 45 in Fig. 5 that the connections from each of the four transmitters lead to the four primary coils, which latter are separate and insulated

from each other, the secondary coil being continuously wound around each of said primary coils, and said secondary coil being in the form of a horseshoe.

I am aware that it is old to employ a resonator interposed between a mouthpiece and a plurality of transmitters, but such construction is open to great objections in practice, all of which I overcome by making the connections direct from the mouthpiece to the transmitters in the manner hereinbefore described.

The device is to be applied more particularly in the use of telephones, phonographs, gramophones, and other electric apparatus generally constructed for the purpose of conveying sounds by electricity.

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

1. In a telephone transmitting apparatus, a mouthpiece, a series of nipples secured in a wall thereof, a plurality of transmitters, and a connection leading from each nipple to each of said transmitters.

2. In a telephone transmitting apparatus, a mouthpiece, a series of nipples secured therein, a plurality of transmitters suitably supported, an independent passage or connection leading from each of said transmitters to one of said nipples, a plurality of primary coils and batteries, connections common to the latter and each of said transmitters, and a series of secondary coils wound around said primary coils.

3. In a telephone transmitting apparatus, a mouthpiece, a series of nipples secured in a wall thereof, a plurality of transmitters supported independently of said mouthpiece, and a connection leading directly from each nipple to each of said transmitters, each of said connections being out of communication with each other.

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Witnesses:

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