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TRANSMITTING APPARATUS FOR USE IN WIRELESS TELEGRAPHY AND TELEPHONY.

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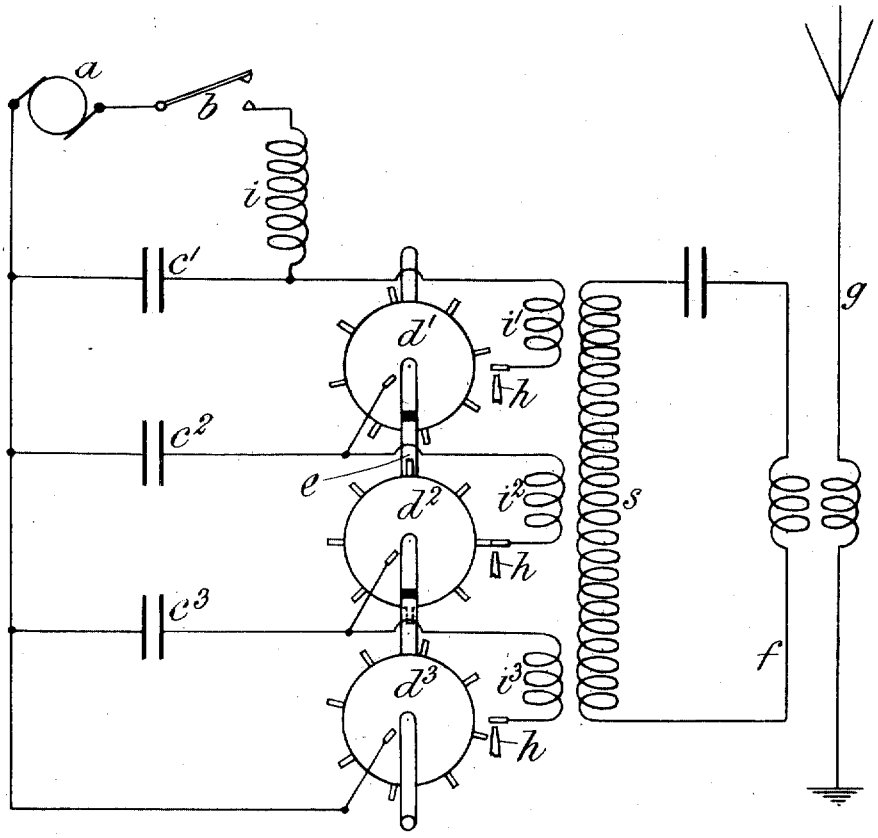
1,226,099. Patented May 15, 1917.



Witnesses

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TRANSMITTING APPARATUS FOR USE IN WIRELESS TELEGRAPHY AND TELEPHONY.

1,226,099. Specification of Letters Patent. Patented May 15, 1917.

Application filed December 31, 1913. Serial No. 809,712.

To all whom it may concern:

Be it known that I, GUGLIELMO MARCONI, a subject of the King of Italy, residing at Marconi House, Strand, London, England, have invented new and useful Improvements in Transmitting Apparatus for Use in Wireless Telegraphy and Telephony, of which the following is a specification.

This invention relates to improvements in transmitting apparatus for use in wireless telegraphy and telephony whereby continuous oscillations or groups of continuous oscillations may be generated.

The drawing is a diagram illustrating the invention. c', c^2, c^3 are condensers. c' is connected in series with a source of current a preferably continuous, a key b and an inductive resistance i. The condenser c' is also connected in series with the condenser c^2 and with an inductive resistance i'. d' is a toothed disk discharger mounted on a shaft e which can be rapidly rotated so as to cause the teeth on the disk almost to bridge a gap in the circuit containing c' c^2 and i'. c^2 is similarly connected in series with a third condenser c^3, an inductive resistance i^2 and a discharger d^2 also fast on the shaft e and the condenser c^3 is connected in series with an inductive resistance i^3 and a discharger d^3 also fast on the shaft e. The dischargers are insulated from one another and are so adjusted that the circuits c' i' c^2, c^2 i^2 c^3, c^3 i^3 are completed and broken in the above order and at equal intervals. The inductive resistances i' i^2 i^3 act as primaries to the common secondary s which forms part of an intermediate oscillating circuit f which is coupled to the aerial g. All the circuits should be in resonance with the aerial.

It will be seen that condenser c' discharges into condenser c^2 which discharges into condenser c^3 which is finally discharged through discharger d^3 and inductive resistance i^3. The spacing of the teeth and the speed of rotation of the disks should be such that the aerial is impulsed at each complete period or otherwise in synchronism with its natural period of oscillation.

I may use a larger number of circuits than the three shown.

Suitable means such as an air blast h may be provided in each circuit for quenching the discharge and for preventing the condensers from discharging in the wrong direction.

What I claim is:—

1. In a device of the character described, a closed oscillatory circuit, a plurality of auxiliary oscillatory circuits connected thereto, each provided with a stationary and a movable terminal, means for charging one of said circuits, and means for actuating said movable terminals whereby the auxiliary circuits are discharged in sequence, said auxiliary circuits being so arranged that the discharge of each one but the last, charges a succeeding one.

2. In a device of the character described, a closed oscillatory circuit, a plurality of auxiliary oscillatory circuits connected thereto, each provided with a stationary terminal and a movable terminal consisting of a toothed disk, means for charging one of said auxiliary circuits, and means for rotating said disks whereby the auxiliary circuits are discharged in sequence, said auxiliary circuits being so arranged that the discharge of each one but the last, charges a succeeding one.

3. In a device of the character described, a closed oscillatory circuit including an inductance which constitutes the secondary of a transformer, a plurality of auxiliary oscillatory circuits each including an inductance, all of said last-mentioned inductances constituting the primary of the transformer, means for charging one of said auxiliary circuits, and means for discharging said auxiliary circuits in sequence, said auxiliary circuits being so arranged that the discharge of each one but the last, charges a succeeding one.

4. In a device of the character described, a plurality of oscillatory circuits, each provided with a stationary terminal and a movable terminal, means for charging one of said circuits, means for actuating said movable terminals whereby the circuits are discharged in sequence, and an aerial conductor operatively connected to said circuits, said circuits being so arranged that the discharge of each one but the last, charges a succeeding one.

5. In a device of the kind described, an oscillatory circuit, a plurality of exciting circuits connected therewith each compris-

ing a condenser, means for discharging a condenser in one exciting circuit into a condenser in another exciting circuit and then discharging the condenser in the last-mentioned circuit and continuing and repeating these steps in orderly manner for the purpose of maintaining continuous oscillations in said oscillatory circuit.

6. The combination of a condenser connected in series with an inductive resistance, a toothed disk and a second condenser, a third condenser, a second inductive resistance and a second toothed disk all connected in series with the second condenser, a third inductive resistance and a third toothed disk both connected in series with the third condenser, means for charging the first condenser, and a rapidly rotating shaft carrying the three disks.

7. The combination of a source of continuous current, a key, an inductive resistance and a condenser all connected in series, a second condenser, a second inductive resistance and a toothed disk all connected in series with the first condenser, a third condenser, a third inductive resistance and a second toothed disk all connected in series with the second condenser, a fourth inductive resistance and a third toothed disk both connected in series with the third condenser, a rapidly rotating shaft carrying the three disks and a winding adapted to act as secondary to the second, third and fourth inductive resistances.

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Witnesses:
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