

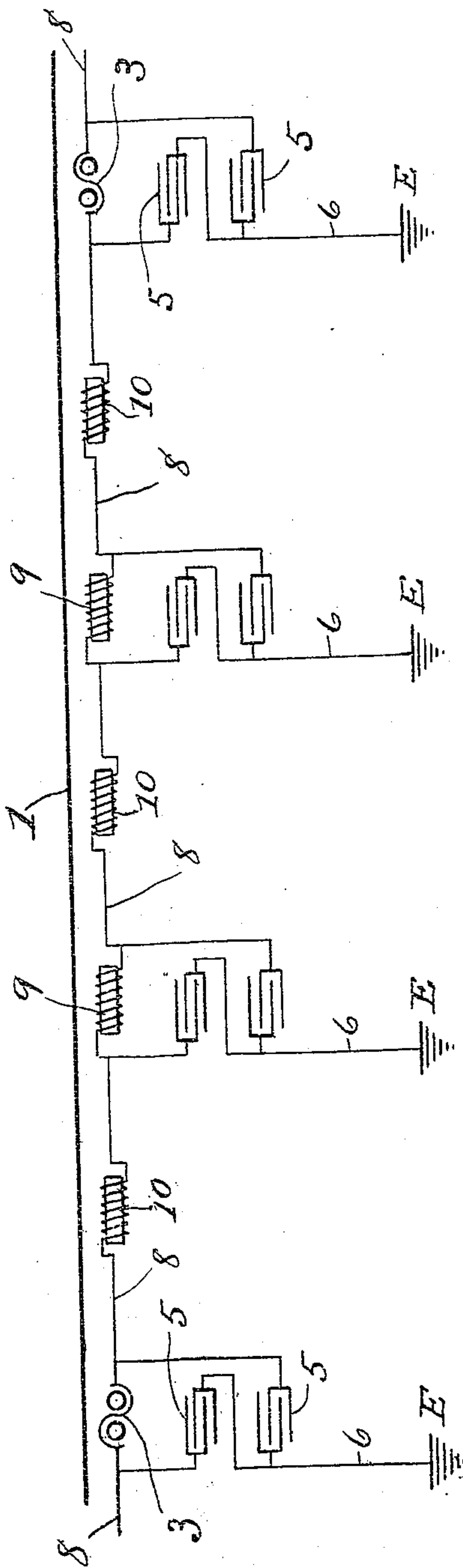
No. 879,650.

PATENTED FEB. 18, 1908.

I. KITSEE.

ELECTRIC TRANSMISSION OF INTELLIGENCE.

APPLICATION FILED MAY 14, 1906.



Witnesses

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ELECTRIC TRANSMISSION OF INTELLIGENCE.

No. 879,650.

Specification of Letters Patent.

Patented Feb. 18, 1908.

Application filed May 14, 1906; Serial No. 316,747.

To all whom it may concern:

Be it known that I, ISIDOR KITSEE, citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Electric Transmission of Intelligence, of which the following is a specification.

My invention relates to an improvement in electric transmission of intelligence. Its object is to protect the instruments used in lines of transmission, such as telegraph instruments, from the inductive influence of neighboring wires.

It is also the aim of my invention to prevent the undue accumulation of such inductive influence on a line of transmission.

It is well known that a line carrying heavy current will induce on a neighboring wire impulses through the variations of such current and more so, if these heavy currents are alternating or phase. Induced impulses will readily flow through electro-static devices, such as condensers, but their flow will be retarded through such devices as inductive resistances, and if two paths are presented for the flow of such induced impulses, one path including condensers and one path including inductive resistances, the impulses will select the path with the condensers and more so if this path leads to the ground. In carrying out my invention, I have taken advantage of these properties of induced impulses in the following manner: The receiving devices in telegraphy consist generally of electro-magnetic coils, offering more or less inductive resistances, and I therefore shunt these coils with electro-static devices, such as condensers, connecting these condensers to the ground. But as in a wire of comparatively great length, the accumulated inductive influence is of such volume that they may still interfere with the working of the receiving devices, I insert in the line at different points inductive resistances, placing again a shunt including condensers, around such resistances and connecting these condensers, as the first named condensers, to the ground. To still further prevent the accumulation of the inductive influence, I place also at different points in this line inductive resistances, but do not shunt the same. Impulses induced in this line at any point, will not flow over the whole line, but will seek the path of least resistance for them, that is, the path

consisting of the condensers and ground, and the undue accumulation of induction, even in a very long wire, is thereby prevented.

Referring to the drawing, which illustrates in diagrammatic view my invention, 1 is the circuit carrying the inducing currents 8 the circuit for transmission of intelligence, here shown as a telegraph line; 3 are the electro-magnetic receiving instruments inserted in said line. I have not shown in this line the transmitting devices or the necessary batteries, as the same has no influence on my invention, are well known and may differ in the different types of transmission.

9 are the inductive resistances placed in the line and shunted; 10 are the inductive resistances placed in the line but not shunted; the shunt around the receiving device as well as the inductive resistances 9 comprises the condensers 5, 5, connected through the wire 6 to the ground E.

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

1. In combination with a power line, a line of transmission positioned in the region of the inducing influence of said power line and means to shield the terminal devices from the induced impulses, said means comprising a series of impedance coils distributed along the line in series, a direct shunt for one or the other of said impedance coils, said shunt including capacity devices and a ground connection for said shunt.

2. In combination with a power line, a line of transmission positioned in the inducing region thereof, electro-magnetic receiving devices for the line of transmission and means to shield said devices from the induced impulses, said means comprising for the devices a direct shunt having no impedance but capacity and a ground for said shunt and further comprising a series of impedance coils distributed along the line, a direct shunt, having practically no inductance but capacity, for said coils and a ground therefor.

3. Means to induce impulses in a telegraphic line connected to electro-magnetic receiving devices, said means comprising a neighboring wire carrying a phase current, in combination with means to shield said receiving devices from the induced impulses, said means comprising a direct shunt with practically no impedance but capacity for

each of said receiving devices, a ground for each of said shunts and further comprising a series of impedance coils distributed along the line, a direct shunt with practically no impedance but capacity for said coils and a
5 ground for each of said shunts.

4. A telegraphic circuit, electro-magnetic receiving devices in said circuit and means to shield said receiving devices from impulses
0 induced through neighboring wires, said means comprising a direct shunt with practically no impedance but capacity for each of said electro-magnetic devices, a ground

for each of said shunts, in combination with a series of inductance coils distributed along
15 the line, part of said coils provided with a direct shunt having practically no impedance but capacity, each shunt connected to the ground.

In testimony whereof I affix my signature
20 in presence of two witnesses.

ISIDOR KITSEE.

Witnesses:

MARY C. SMITH,

ALVAH RITTENHOUSE.