I. KITSEE.

ELECTRIC TRANSMISSION OF INTELLIGENCE.

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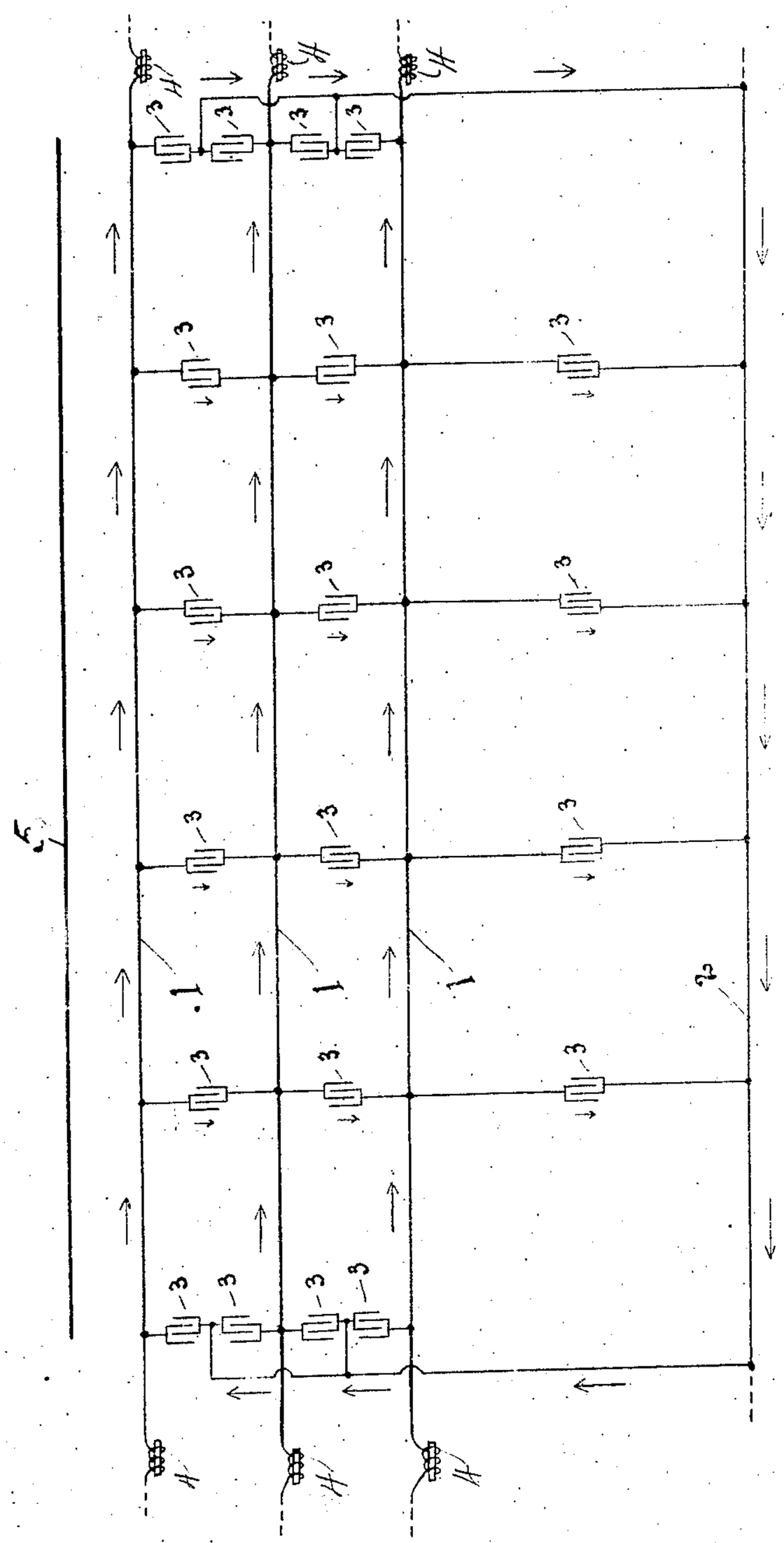
1,091,579. Patented Mar. 31, 1914.



Witnesses
Alvah Rittenhouse
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UNITED STATES PATENT OFFICE.

ISIDOR KITSEE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO AMERICAN TELEPHONE AND TELEGRAPH COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ELECTRIC TRANSMISSION OF INTELLIGENCE.

1,091,579. Specification of Letters Patent. Patented Mar. 31, 1914.

Application filed August 3, 1906, Serial No. 329,080. Renewed January 13, 1914. Serial No. 811,901.

To all whom it may concern:

Be it known that I, ISIDOR KITSEE, a 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 provide means so as to reduce, or to eliminate entirely the inductive effect of wires carrying a current for light or power on lines of transmission, and this, my invention, has more special reference to such lines in which the transmitted current cannot pass through devices, such as condensers. The invention is, therefore, more applicable to lines used for telegraphic purposes.

The drawing illustrates in diagrammatic view three lines of transmission provided with my invention.

In this drawing 1, 1, 1, are the lines of transmission connected together electrically but not conductively through the condensers 3, 3, 3, and connected also with the interposition of such condensers 3, 3, 3, to the line 2, which I call the idle line or return.

In the drawing, 5 designates the power or inducing line. When the lines of transmission are not connected with each other and with a conductor not in the region of inducing influence, the effect of the inducing current is augmented in nearly equal proportion to the length of the line, that is, the longer the line, the greater the effect at the terminals of said line. With my arrangement, the line is—as far as the effect of the inducing currents are concerned—divided into a series of sections, each section only comprising a small length of the line.

In the drawing, I have illustrated only one section of a line and this section is subdivided into five sub-sections; the section is, as stated above, only a small part of the line and does not need to be shorter than about one thousand feet; each sub-section, therefore, would comprise a length of wire of about two hundred feet. Certainly, these figures are only given as a guide and may be altered to suit requirements. It is now supposed that the inducing current has induced in the line, that is, in each of the sections, an impulse flowing in the direction of the unfeathered arrow. The impulses induced in one of these sections will not flow through the whole length of the line, but they will flow in the circuit composed of the line sections. Instead, therefore, to have a comparatively long line with augmented induced impulses, we have a series of comparatively short lines in which the induced impulses have a complete circuit of their own. It has to be stated, that the line 2, should be removed from the zone of inductive influence and it is best, if this line is buried under ground, to insulate the same, as it was found that purely ground connections do not serve the purpose as well. If required, a choking coil may be inserted in the line between the different sections and I have designated such coil by the numeral 4.

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

1. Means to nullify the inducing effect of a power wire on lines of transmission, said means comprising condensers connecting the lines of transmission to each other, impedance for each of said lines of transmission and a metallic return connecting electrically all the lines of transmission, said return line removed from the zones of the first named lines.

2. A series of telegraphic lines electrically but not conductively connected with each other at different points, in combination with a metallic line removed from the zone of the first lines and connected electrically to all of the first lines.

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

ISIDOR KITSEE.

Witnesses:
ALVAH RITTENHOUSE,
MARY C. SMITH.