

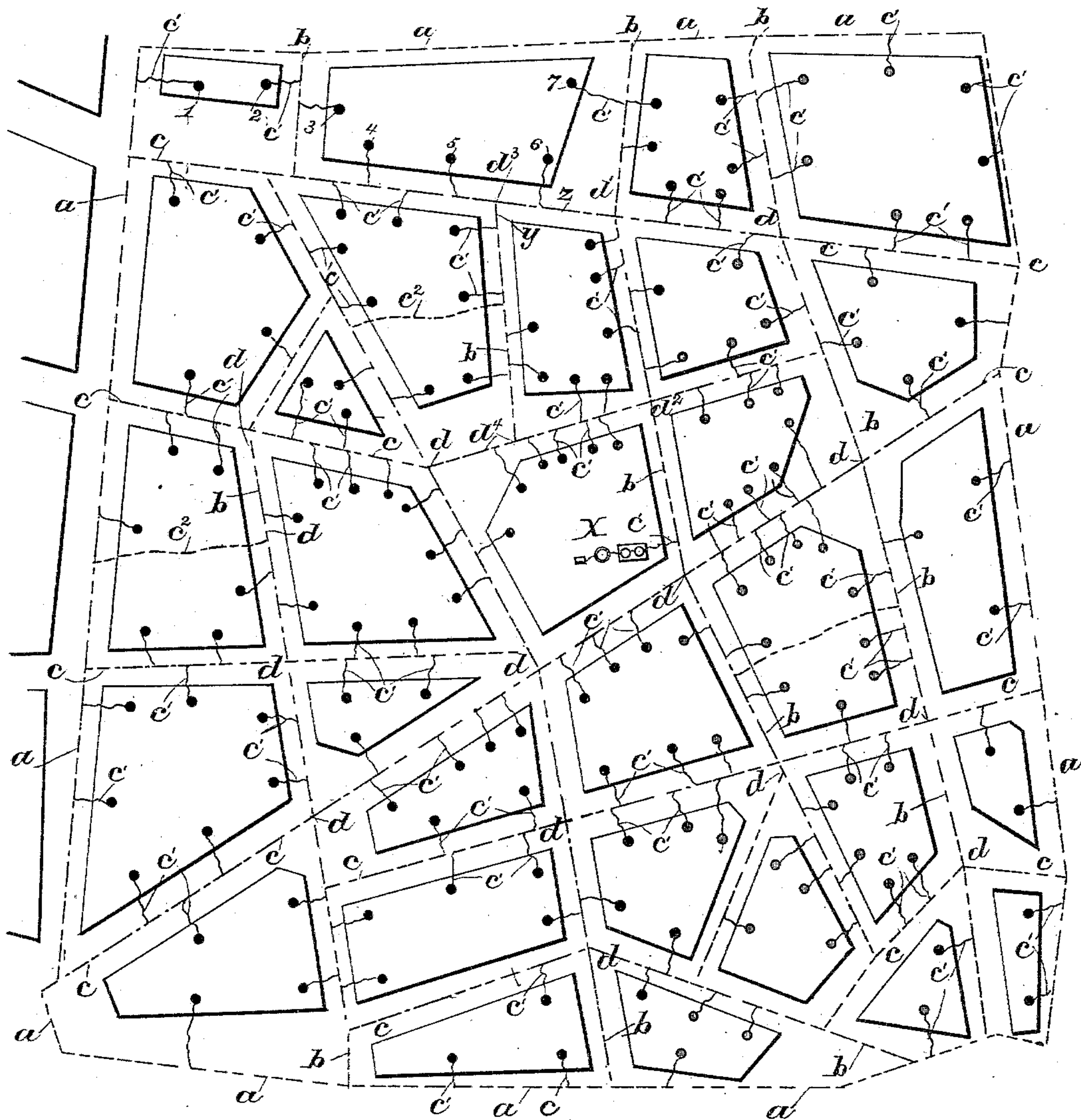
(No Model.)

S. TAUSSIG.

ELECTRIC CIRCUIT FOR TELEPHONES AND FIRE AND BURGLAR ALARMS.

No. 359,824.

Patented Mar. 22, 1887.



Witnesses

W. R. Davis
O. C. Boulter

Inventor
Sigfried Taussig
per *[Signature]*
Attorney

UNITED STATES PATENT OFFICE.

SIEFRIED TAUSSIG, OF PRAGUE, BOHEMIA, AUSTRIA-HUNGARY.

ELECTRIC CIRCUIT FOR TELEPHONES AND FIRE AND BURGLAR ALARMS.

SPECIFICATION forming part of Letters Patent No. 359,824, dated March 22, 1887.

Application filed November 23, 1886. Serial No. 219,719. (No model.)

To all whom it may concern:

Be it known that I, SIEFRIED TAUSSIG, attorney at law, a subject of the Emperor of Austria, residing at Prague, in the Province of Bohemia, in the Empire of Austria-Hungary, have invented certain new and useful Improvements in Electric Circuits for Telephones and Fire and Burglar-Alarms; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, and to letters or figures of reference marked thereon, which form a part of this specification.

The invention relates to telephone, fire, burglar, and like alarm systems; and it consists in a novel mode of arranging the circuits of the system, and in the combination, with a central station and the local stations of a district, of a main circuit surrounding the district, and branch lines connected with the main circuit at both terminals and local lines connecting the branch lines with the local stations, substantially as hereinafter described, and as set forth in the claims.

As at present organized the telephone, fire, burglar, and other alarm systems operate perfectly so long as the circuits connecting the local stations with the central station remain in working order. If, however, a circuit connecting a number of local stations with a main station becomes inoperative from any cause, the instruments at all the local stations included therein become inoperative. It is true that when operating with a normally-closed circuit, as is usual, the defect therein becomes apparent at once at the central station, and may be readily located; yet this requires some time in order to find or locate the defective point and repair the same.

The object of my invention is to so connect the local stations of a city or district with the central station that the breakage of a line-wire or other interruption to the passage of the current at any one point in the circuit, will not interrupt the working thereof, except when the connection between a local station itself and the main line is interrupted or destroyed, in which case the particular local station where such interruption or breakage occurs will alone

be affected. In fact, I so arrange the connections that the interruption or breakage of the main line at more than one point would not destroy the connection between the central and local stations except by a systematic interruption or destruction of the main line by persons well acquainted with the arrangement thereof.

In the accompanying drawing I have illustrated by a diagrammatic view a district or portion of a city, showing the arrangement of the main lines and the connections with the central and local stations.

In the drawing, *a* indicates a continuous or endless line-wire that encompasses the entire district. To this wire *a* are connected branch wires *b* and *c*, shown in the drawings as extending along the streets and electrically connected at their points of intersection *d*.

It will be seen that all the branch wires *b* and *c* have their terminals connected immediately or mediately to the encompassing wire *a*, so that the whole forms a net-work circuit, the meshes of which are all in electrical connection with one another and with the encompassing wire *a*. If any given point of this net-work circuit is connected with one pole of a battery whose other pole has a ground-connection, any other given point in the net-work may be connected with an electro-magnet whose armature may serve to operate or set in operation any desired alarm or other instrument or a telephone, which apparatus or telephone has itself a ground-connection. In this manner numerous circuits are provided for the electric current from the battery, which, as is well known, always flows in the direction of least resistance, and should the circuit of least resistance be interrupted the current will then flow through the circuit of next least resistance, and so on. In no case, however, can the communication between the local stations and the central station be cut off by the cutting or interrupting of the circuit at any one point.

Of course it will be understood that the central or main station may be located at any point in the circuit. In the drawing I have shown the said central station, *X*, located nearly in the center of the net-work of conductors, which latter may be aerial or subterranean. At this central station, *X*, are located the battery, relays, and such instruments as

are required, either fire or burglar alarm or telephone, according to the uses such central station is designed for, a corresponding apparatus being provided at each local station 1 2 3 4, &c., as is well understood. If, for instance, station 6 closes the circuit, the current from the central station, X, will pass over the shortest line, or line of least resistance—namely, over $d^2 d'$, to the local station apparatus. Should, however, this line become inoperative from any cause—as by a breakage of the conductor at z —the station 6 would still be in electrical connection with the central station, X, by circuit $d^2 d^4 d^3$, which would be that of next least resistance.

Even should the conductor at station 6 be broken at two points, z and y , this would only cut out said station 6, while all the other local stations in the district would still remain in electrical communication with the central station. The malicious systematic cutting of the circuit-wires may be rendered still more difficult by running other branch wires, c^2 , either over or under the blocks of houses or through alleys intersecting said blocks and connecting the same with the wires a , b , and c , as shown. This mode of organizing the electric system has also another advantage—namely, that instead of operating with a normally-closed circuit, as has been the case generally heretofore, the circuit may remain normally interrupted, thereby effecting a great saving in battery-power, as it is not likely that a breakage will occur in the line at two or more points simultaneously; and should a breakage or interruption take place at any one point, this may be readily located.

Having now particularly described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with an encompassing continuous or endless electric conductor and a plurality of branch conductors electrically connected therewith and with each other, each of said branch conductors having a ground-connection, of an electric generator and apparatus controlled thereby, connected with one of the branch conductors, and apparatuses controlled by said electric generator connected with the other branch conductors, substantially as described, for the purpose specified.

2. The combination, with an encompassing continuous or endless electric conductor and a plurality of intersecting branch conductors, each connected at two different points with said encompassing conductor, and with each other at their points of intersection, of a plurality of branch conductors, c' , connected either with the encompassing conductor or with the intersecting branch conductors, and having each a ground-connection, a current-generator, apparatus controlled thereby interposed in one of said branch conductors c' , and apparatuses controlled by the current-generator interposed in the other branch conductors c' , substantially as described, for the purpose specified.

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

SIEFRIED TAUSSIG.

Witnesses:

ADOLF FISCHER,
WILLIAM HÜNING.