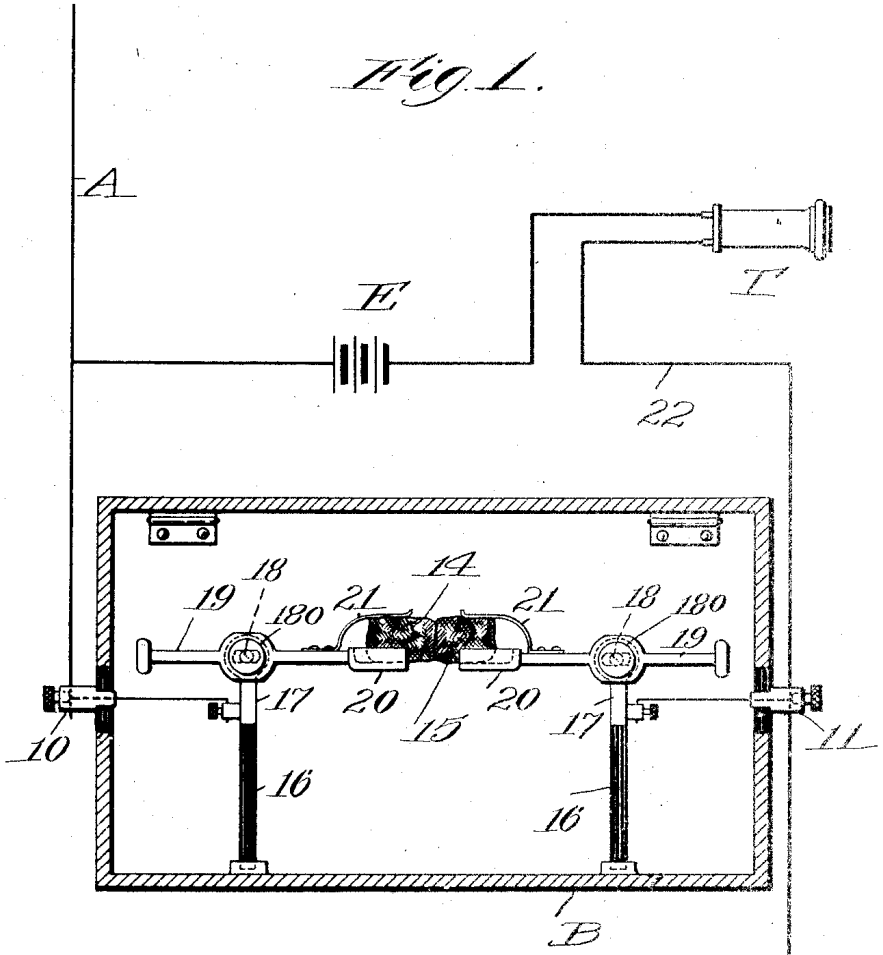
W. E. D. STOKES, Jr. & G. W. DAVIS.

COHERER.

APPLICATION FILED OCT. 9, 1908.

985,854. Patented Mar. 7, 1911.

Fig. 1.



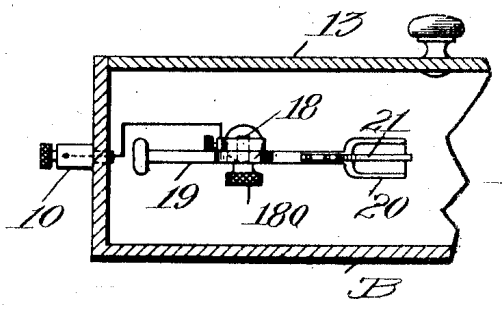


Fig. 2.

Witnesses:

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UNITED STATES PATENT OFFICE.

WILLIAM E. D. STOKES, JR., OF NEW YORK, N. Y., AND GEORGE W. DAVIS, OF GALILEE, NEW JERSEY, ASSIGNORS TO WILLIAM E. D. STOKES, OF NEW YORK, N. Y.

COHERER.

985,854. Specification of Letters Patent. Patented Mar. 7. 1911.

Application filed October 9, 1908. Serial No. 457,014.

To all whom it may concern:

Be it known that we, WILLIAM E. D. STOKES, Jr., and GEORGE W. DAVIS, citizens of the United States, residing at New York, in the county of New York and State of New York, and at Galilee, in the county of Monmouth and State of New Jersey, respectively, have invented a new and useful Coherer, of which the following is a specification.

The object of this invention is to provide a new and improved coherer for use in connection with wireless telegraphy and telephony.

We have discovered that a contact between galena or sulfuret of lead and arsenical copper ore forms an extremely sensitive de-cohering coherer, which contact will instantly decohere when the electric waves or oscillations cease.

A further object of the invention is to provide additionally a convenient adjusting mechanism for this contact.

This invention is illustrated in the accompanying drawing, referring to which,

Figure 1 is a sectional elevation of our improved form of coherer; and Fig. 2 is a sectional plan view illustrating the arrangement of adjusting devices.

Referring to the drawing and in detail A designates an aerial, and B a box in which the coherer is housed. The aerial A is connected to a binding post 10 in the side of the box. The box is also provided with another post 11 which connects by a wire 12 to the ground G. The box B is made of iron, and the binding posts are embedded with insulating material. The box has one of its sides 13 hinged to the top so that the box can be opened at the side for the purpose of adjusting the action of the coherer. By housing the coherer in an iron box, the same is shielded from any oscillations, other than those which are directed into the same through the binding posts 10 and 11.

The coherer is made up of a piece of galena 14 arranged in contact with a piece of arsenical copper ore 15. This last is found in nature and consists of chalcopyrite bornite and mispickle. These two compounds are kept in adjusted contact, a convenient means for this purpose being illustrated.

16—16 designate two posts of insulating material secured to the bottom of the box B. Secured to the top of each of the insulating posts 16—16 is a metallic arm 17, one of which connects by a wire to the binding post 10, and the other by a wire to the binding post 11. A screw 18 having a head or knob 180 is threaded into each section 17. An arm 19 is arranged between each section 17 and the screw head 180 so as to turn thereon and to be adjustable forward and backward thereon. By this arrangement, each arm 19 can be turned and slid backward and forward on its screw 18, and when in proper adjusted position can be clamped in such position by turning up the screw head 180 to cause the same to clamp the arm tightly. Each arm 19 is provided at its ends with a trough 20 for receiving the material which makes up one side of the coherer. A spring-arm 21 is also secured to the arm 19 to hold the material in the trough 20. By this arrangement the elements of the coherer can be accurately adjusted to get any desired pressure or contact.

A receiving circuit 22 is connected to the binding posts 10 and 11, which circuit may include a telephone receiver T and, if desired a battery E.

By the arrangements described an efficient de-cohering coherer is provided which can have its contact easily adjusted, and by housing the same in an iron receptacle the same is shielded from extra oscillation, such as may emanate from the sending apparatus or from other sources.

The details and arrangements herein shown and described may be greatly varied by a skilled mechanic without departing from the scope of our invention as expressed in the claims.

Having thus fully described our invention, what we claim and desire to secure by Letters-Patent is:—

1. A coherer having contact faces formed of galena and arsenical copper ore.

2. A coherer comprising posts carrying arms pivoted thereto and adjustable back

and forth thereon, and two independent coherer elements, one carried by each arm.

3. A coherer consisting of galena and arsenical copper-ore elements, an iron box in which the same are housed, and means for adjusting the contact between the coherer elements.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

WILLIAM E. D. STOKES, JR.
GEORGE W. DAVIS.

Witnesses:
FREDERICK L. SEARING,
A. H. GLEASON.