No. 691,815. Patented Jan. 28, 1902.

H. SHOEMAKER.

COHERER.

(Application filed Oct. 16, 1901.)

(No Model.)

Fig. 1.

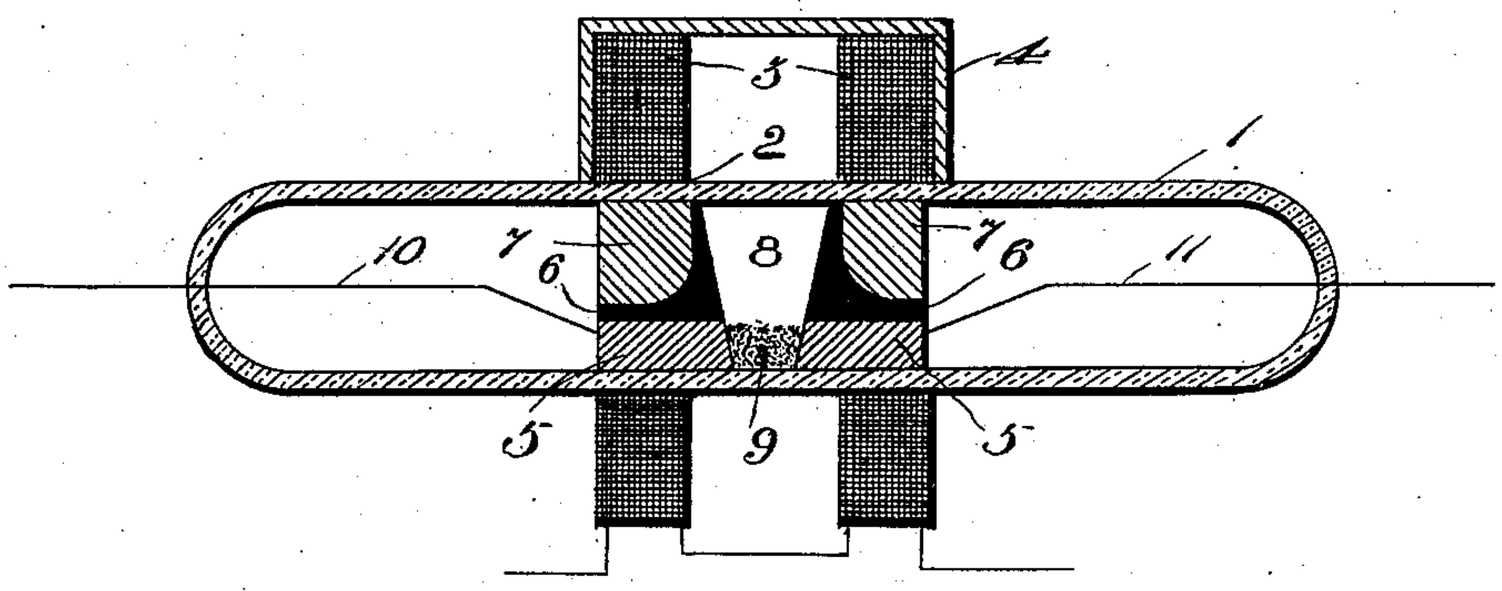


Fig. 2.

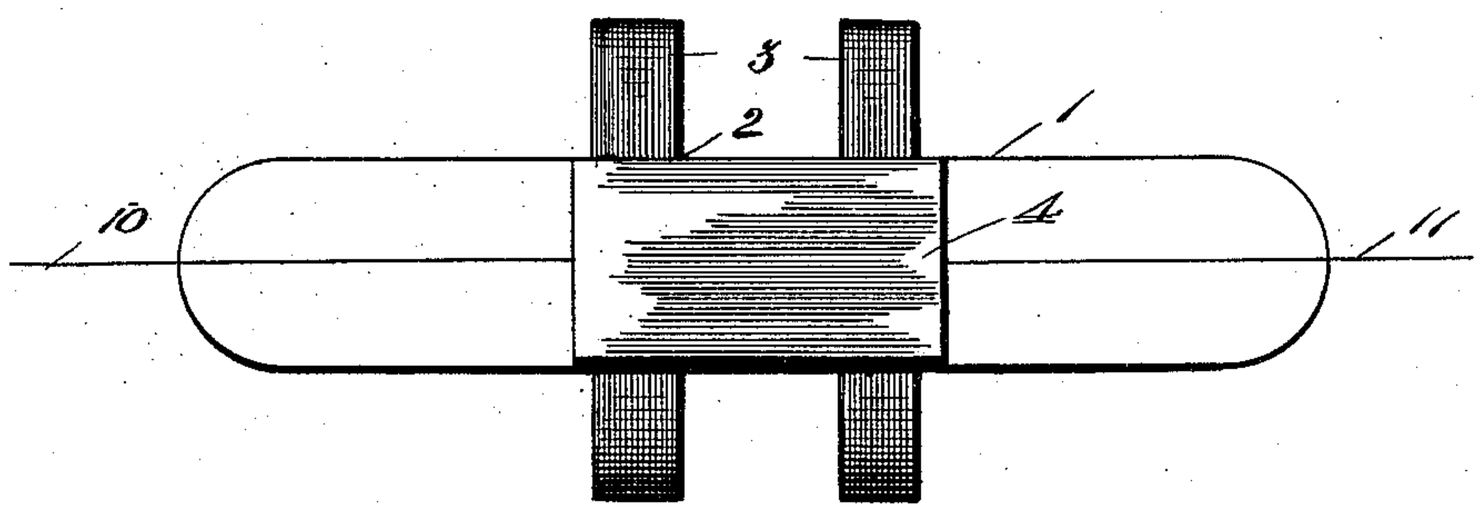
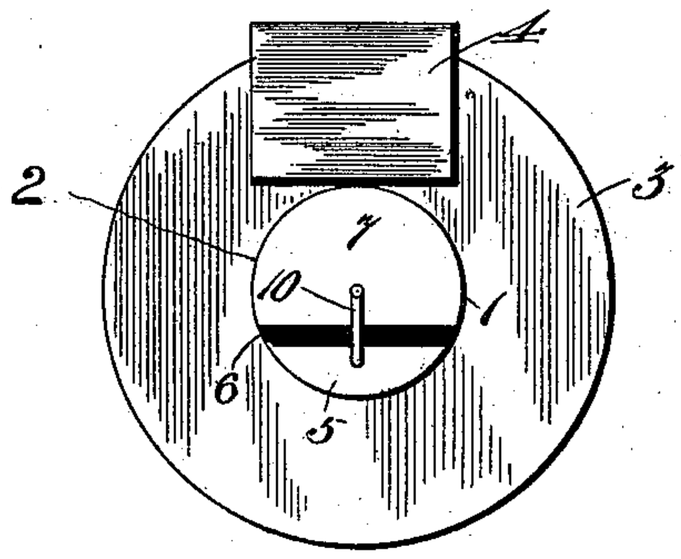


Fig. 3.



Witnesses
Bernard M. Offutt.
A. S. Carroll

Inventor
Harry Shoemaker,
by David T. Moore. Attorney

UNITED STATES PATENT OFFICE.

HARRY SHOEMAKER, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO GUSTAVE P. GEHRING, OF PHILADELPHIA, PENNSYLVANIA.

COHERER.

SPECIFICATION forming part of Letters Patent No. 691,815, dated January 28, 1902.

Original application filed February 1, 1901, Serial No. 45,587. Divided and this application filed October 16, 1901. Serial No. 78,873. (No model.)

To all whom it may concern:

Be it known that I, HARRY SHOEMAKER, 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 Coherers, of which the following is a specification.

My invention relates to improvements in coherers to be used in the detection of etheric waves or oscillations sent by the transmitting apparatus of a wireless-telegraph system.

The application is a divisional one of my original application, filed February 1, 1901, Serial No. 45,587.

The main object is to produce a coherer embodying novel features of construction and yet an arrangement of parts which will produce a very simple and efficient device for this purpose.

In this invention I employ a pair of solenoids which surround the tube containing a peculiar arrangement of interior construction which is affected by the solenoids so as to allow the coherer to always be in a condition to conduct.

To attain the desired objects, I have illustrated a coherer and decohering device made according to my invention and which will perform its functions in a thorough manner.

In the drawings, Figure 1 is a sectional view of the entire construction. Fig. 2 is a top elevation thereof, and Fig. 3 is a view taken from one end thereof.

Referring by numeral to the drawings, the numeral 1 designates the coherer-tube, which fits in the opening 2 and is surrounded by the solenoids 3, which are connected together by means of the yoke 4. In this tube are the silver plugs 5, separated by the strips of insulation 6 from the iron cores 7 of the magnet, said insulation providing the V-shaped pocket 8 for the reception of the metallic particles or powder 9. Connected to the wires 10 and 11 are the silver plugs 5, said wires entering the tube from opposite ends and being connected to the air and ground connections of a wireless-telegraph receiving apparatus.

From this description, taken in connection with the drawings, the operation of my improved coherer and decoherer is readily understood; but, briefly stated, it is as follows: When an impulse is detected by the coherer, the particles bridge across the space between the plates and cause the coherer to conduct, and by means of a relay (not shown) the solenoids are energized, causing the coherer to lose its resistance and be placed in a condition to again conduct.

It is evident that I provide a coherer and decoherer which is very simple in construction and thoroughly efficient and practical in use.

I claim—

1. A coherer, comprising a non-conducting tube, a pair of metallic plates located therein, a pair of magnetic cores also located therein, sheets of insulation between said plates and cores, a pocket formed in the tube between the adjacent ends of the sheets of insulation and plates, and metallic particles located in said pocket.

2. A coherer and decoherer, comprising a tube, solenoids surrounding the tube, a pair of metallic plates located therein, a pair of magnetic cores also located therein, sheets of insulation between said plates and cores, a pocket formed in the tube between the adjacent ends of the sheets of insulation and plates, and metallic particles located in said pocket.

3. A coherer comprising a non-conducting tube, a pair of metallic plates located therein, a pair of magnetic cores located therein, insulation between the plates and cores, metallic particles located between the adjacent ends of the plates, and conductor-wires entering the tube from the ends and connected to the plates.

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

HARRY SHOEMAKER.

Witnesses:
E. B. HUME,
R. LEAMAN.