No. 708,070.

G. W. PICKARD.

Patented Sept. 2, 1902.

COHERER.

(No Model.)

(Application filed Oct. 18, 1901.)

Fig. 1.

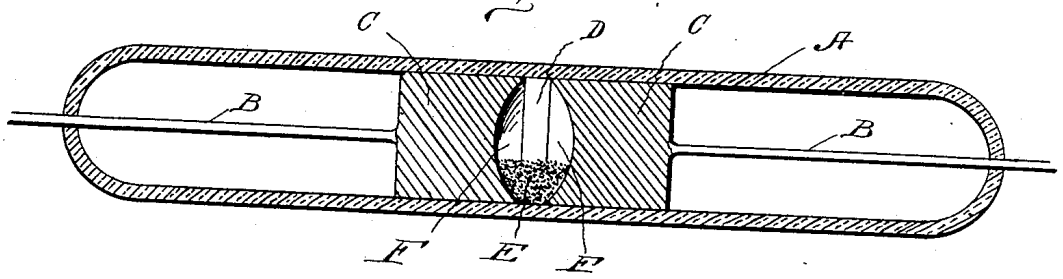


Fig. 2.

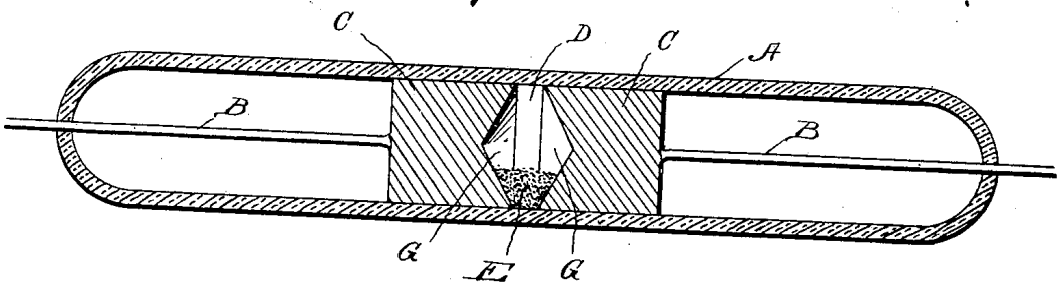


Fig. 3.

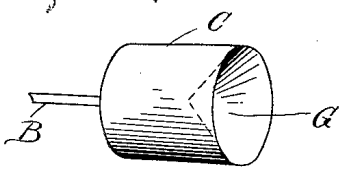
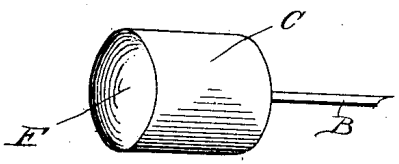


Fig. 4.



Witnesses
Bernard M. Offutt.
M. W. Johnson.

Greenleaf A. Pickard
Inventor
by David T. Moore
Attorney

UNITED STATES PATENT OFFICE.

GREENLEAF W. PICKARD, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO CONSOLIDATED WIRELESS TELEGRAPH AND TELEPHONE COMPANY, A CORPORATION OF ARIZONA TERRITORY.

COHERER.

SPECIFICATION forming part of Letters Patent No. 708,070, dated September 2, 1902.

Application filed October 18, 1901. Serial No. 79,107. (No model.)

To all whom it may concern:

Be it known that I, GREENLEAF W. PICKARD, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Coherers, of which the following is a specification.

This invention relates to improvements in coherers—that is, a device which is employed in a receiving apparatus of a wireless-telegraph system.

The main object of my invention is to so construct the plugs within the tube that no great care will have to be taken in placing the coherer in position with relation to the other parts of the receiving apparatus. With most coherers I have found by experience that the pocket for receiving the metallic particles or filings is so constructed as to necessitate very careful installation in order that the filings assume a certain position in the pocket. Where a V-shaped pocket is employed, the particles are not decohered with a certainty; but by constructing the plugs and forming the pocket as I do in the present invention the filings cannot possibly adhere in any way when the coherer is being decohered. It has also been my intention to so construct the plugs that no matter in what position the tube is placed, just so it is in a horizontal position, the filings will always assume the proper position between the plugs, as there is no top or bottom to the space or pocket to receive the filings, as there is in a V-shaped pocket, which of necessity must be installed so that the lower or converging end of the V is the lowermost point. I have found by experience that the light supports, such as the wire used to support the tube, will often be bent to one side, so as to completely reverse the tube, and where the pocket is a V-shaped one the filings will sometimes spread out and will not even form an imperfect electrical contact, whereas with a coherer constructed according to my invention no matter in what position the tube is turned or revolved the filings will always bridge the lower portion of the space between the plugs.

To attain the desired objects, the invention consists of a coherer embodying novel features of construction, substantially as disclosed herein.

In the drawings, Figure 1 is a longitudinal section of a coherer constructed according to my invention. Fig. 2 is a similar view of a modified form of coherer. Fig. 3 is a detail perspective view of one of the plugs as constructed in the modification, and Fig. 4 is a similar view of one of the plugs as constructed in Fig. 1.

Referring to the drawings, A designates a tube made of non-conducting material, through whose sealed ends pass the conductor-wires B, which are connected, respectively, to the metallic plugs C, which are surrounded and incased in said tube so as to provide a space D between their adjacent faces. Adapted to fit within this space so as to be easily shaken therein are the metallic particles or filings E. In Fig. 1 I have shown the plug C with the concaved adjacent ends F, which provide a substantially elliptical pocket for the filings, while in Fig. 2 I provide the inner faces of the plugs with the cone-shaped concavities G, which provide a substantially hexagonal (in cross-section) shaped pocket for the filings.

By constructing the plugs as herein shown and set forth no great care has to be taken in placing the filings therein, as one plug may be placed therein, a sufficient amount of filings being then poured into the tube upon the plug and the next plug slid in place so as to adjust the filings to the proper depth in the tube or the space between the plugs. It will be further observed that the space between or directly in line with the center of the inner ends of the plugs is of greater length than the space between the edges, so that when the tube is tapped in the act of decohering the filings the filings jump, as it were, and as the space above is wider they are separated, so as to insure a perfect decohering. It will also be noticed that by this construction the tube in any horizontal position is ready for use, and therefore no great care, as is

the case with coherers now in use, is necessary in installing a coherer made according to my invention.

It is evident that I provide a coherer of very simple and practical construction and one which is very easily installed and will absolutely decohere the filings when the tube is tapped.

What I claim as new, and desire to secure by Letters Patent, is—

1. A coherer, comprising a non-conducting tube, conducting-wires entering said tube from opposite ends, metallic plugs surrounded by said tube and connected to the wires, said plugs having their adjacent ends provided with a concavity so as to form a pocket whose greatest width is between the center of the adjacent ends of the plugs and whose narrowest width is between the extreme edges of the adjacent faces of the plugs and metallic filings or particles located in said pocket below the axial line of said plugs.

2. A coherer, comprising a non-conducting tube, conducting-wires entering said tube from opposite ends, metallic plugs surrounded by said tube and connected to the wires, the inner faces of said plugs being concaved so as to form a substantially elliptical or circular pocket in cross-section, and metallic particles located in the pockets so formed.

3. A coherer, comprising a non-conducting tube, metallic plugs in said tube and providing a pocket between their adjacent faces, said pocket having its greatest breadth between the axial line of the plugs, and its narrowest breadth between the extreme edges of the adjacent faces of the plugs, metallic filings or particles between said plugs below the axial line thereof, and conductor-wires connected to the outer faces of said plugs.

4. A metallic plug for a coherer, comprising a substantially cylindrical body having a concaved surface upon one end and a surface upon the other end to engage a wire, said concaved surface having its deepest concavity in its axial line and radiating in all directions to form an overhanging periphery.

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

GREENLEAF W. PICKARD.

Witnesses:
A. B. DAVIS,
DAVID P. MOORE.