W. SCHLOEMILCH & P. F. PICHON.

WAVE DETECTOR FOR WIRELESS TELEGRAPHY.

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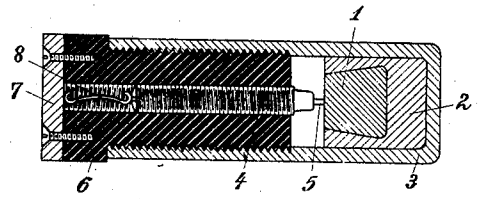
1,003,374. Patented Sept. 12, 1911.



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UNITED STATES PATENT OFFICE.

WILHELM SCHLOEMILCH, OF BERLIN, AND PAUL FERNAND PICHON, OF STEGLITZ, NEAR BERLIN, GERMANY, ASSIGNORS TO GESELLSCHAFT FÜR DRAHTLOSE TELEGRAPHIE M. B. H., OF BERLIN, GERMANY, A CORPORATION OF GERMANY.

WAVE-DETECTOR FOR WIRELESS TELEGRAPHY.

1,003,374. Specification of Letters Patent. **Patented Sept. 12, 1911.**

Original application filed April 14, 1906, Serial No. 311,678. Divided and this application filed August 17, 1909. Serial No. 513,352.

To all whom it may concern:

Be it known that we, WILHELM SCHLOEMILCH, a subject of the King of Prussia, residing at Berlin, Germany, and PAUL FERNAND PICHON, a citizen of the Republic of France, residing at Steglitz, near Berlin, Germany, have invented certain new and useful Improvements in Wave-Detectors for Wireless Telegraphy, of which the following is a full, clear, and exact description, illustrated by the accompanying drawings.

Our present invention is a divisional application of our application Serial No. 311,678, filed April 14, 1906, which relates to wave detectors in which the contact of two substances under suitable pressure is influenced by electric waves and in which the action of the substances is of a thermo-electric or rectifying character, and which action does not depend upon an auxiliary electromotive force or potential. Among the substances mentioned in this application as suitable for the purpose described in combination with a non-oxidizable or difficultly oxidizable substance, is copper pyrite, which forms the subject matter of our present application. This material may be employed for either both contacts or only one. It is, however, preferable to form one of the contact bodies of a good conducting material, preferably of a material which does not oxidize or only oxidizes with difficulty, for instance, platinum, gold, silver, aluminium, operate to the best advantage and without an auxiliary electromotive force in the circuit in which the detector is located.

In the accompanying drawings we have illustrated diagrammatically, as an example, a manner in which the two contact substances may be arranged. In this diagram, 1 indicates a piece of copper pyrite, which is preferably embedded in tin 2 which is surrounded with a brass sheath or socket 3. Against the upper surface of the pyrite bears a platinum pin 5, soldered to a screw 4, with suitable pressure. The screw is arranged in a vulcanite plug 6 which in turn is displaceably held by means of screw thread in the brass sheath or socket 3. On the upper end of the vulcanite plug 6 a metal plate 7 is attached by means of screws and a short conductor 8 establishes an electric connection between the screw 4 and the metal plate 7. The connection of this detector and the contact members 1 and 5 respectively of the same with the circuits for the wireless telegraphy takes place by means of the brass socket or sheath 3 on the one hand and the metal plate 7 on the other. The form and size of the contact surfaces of both bodies according to the choice of the same has also been found to be of importance for obtaining favorable action as has been already mentioned in our aforesaid application. It is preferable for instance, as has also been stated in said application, to cause the pressure contact to act with a point upon a polished surface of the wave sensitive substance. Since now copper pyrite possesses naturally polished surfaces in the form of crystallihic surfaces, we prefer to have the contact point act upon one of these crystallinic surfaces of the pyrite. In this case only a comparatively small pressure between the contact elements may be used. If, however, the contact elements are touching each other with a larger surface a suitably higher pressure is necessary.

What we claim is:

1. A wave detector for wireless telegraphy consisting of two contact bodies touching each other with a predetermined pressure, one of which consists of copper pyrites.

2. A wave detector for wireless telegraphy consisting of two contact bodies one of which is formed of copper pyrites and the other of a material which oxidizes with difficulty.

3. A wave detector for wireless telegraphy consisting of two contact bodies one of which is formed of copper pyrites and the other of platinum, said contacts touching each other with a predetermined pressure, and operating without the aid of an auxiliary electromotive force.

In witness whereof we hereunto subscribe our names this 30th day of July A. D. 1909.

WILHELM SCHLOEMILCH.
PAUL FERNAND PICHON.

Witnesses:
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