

PATENT SPECIFICATION

DRAWINGS ATTACHED

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COMPLETE SPECIFICATION

Appliances for Detecting the Presence of Water, Metals and other materials

I, LAWRENCE JOHN VEALE, a British Subject, of Orchard Drive, Kingskerswell, Newton Abbot, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to an appliance for detecting the presence of water, metals and other materials.

According to this invention the appliance comprises an L-shaped metal rod, the lower upright limb of which depends into a metal tube, the said depending portion being supported at the longitudinal axis of the tube in spaced relation from the tubular wall, and is capable of rotation about the said axis. Two of such appliances are held one in each hand of the prospector with the horizontal limb of each rod pointing forward. The presence of water or metals is indicated by a deviation of the horizontal limb from the forwardly pointing position.

One form of the invention is illustrated in the accompanying drawing, wherein:—

Fig. 1 is a sectional elevation;

Fig. 2 is a sectional plan taken on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of the appliance in use, and

Fig. 4 is a modified form of rod.

Referring to Figs. 1 to 3, an L-shaped chromium-plated rod of one eighth inch diameter has a horizontal portion 2 two feet in length and a vertical portion 3 nine inches in length. If desired, the rod can be made in two parts for convenience of transport, the two parts being joined by a sleeve 4 into which the two parts are screw-threaded.

The vertical portion 3 of the said rod is adapted to depend into a cylindrical copper tube 5 three quarters of an inch in diameter, nine inches in length, and closed at the lower

end by means of a cap 6 made of brass. There is also a top cap 7 which is bored to take an inner sleeve 8 which is five sixteenths of an inch in diameter and sealed at the base 9. The interior of the tube is divided into compartments by floating copper discs 10 the outer edges of which just clear the inner surface of the tube 5. Each disc 10 has an aperture 11 in the centre to receive the sleeve 8 and vertical limb 3 of the rod. The discs 10 divide the tube into needle compartments 12, spring compartments 13 and dust compartments 14. Each needle compartment 12 contains eight copper needles 15 having a pin point at each end adapted to seat in dimples provided in the surface of the discs, the said dimples being arranged so that the needles 15 are spaced in a circle around the axis of the tube 5. The dust compartments 14 are filled with metal filings 16, for example, brass or copper dust, and the spring compartments 13 each contain a light gauge coil spring 17 the purpose of which is to hold the needles 15 in position.

In use, the vertical limb 3 of the rod is placed in the sleeve 8 in the tube 5 where it is just balanced to stay in the position in which it is placed, but will rotate about a vertical axis on very slight movement. Two of such appliances are grasped one in each hand of the prospector about ten inches apart and the horizontal portions 2 of the rod are made to point forward. As the prospector moves over metal, water or other material or objects to be detected, the rods converge.

In order to make the appliance more sensitive the rod 2 may be provided with a wire 21, see Fig. 4, which serpentines in and out through apertures 20 in the rod. Twenty-four loops are provided in all alternating above and below the rod 2. The distance between the crest of each loop and the rod is three quarters of an inch.

Other material or objects that can be detected by the use of the appliance are: water mains (iron or asbestos), concrete pipes, sewers (in use or disused), stone drains, electric cables (underground, concrete or wood floors) and reinforcing irons in concrete and many other substances.

The dimensions given above are by way of example only and can be varied to suit individual requirements.

WHAT I CLAIM IS:—

1. Appliance for detecting the presence of water, metals and other materials comprising an L-shaped metal rod the lower upright limb of which depends into a metal tube the said depending portion being supported at the longitudinal axis of the tube in spaced relation from the tubular wall and is capable of rotation about said axis.

2. Appliance according to Claim 1 wherein the vertical portion of the rod is mounted in a metal sleeve supported at the longitudinal axis in the metal tube.

3. Appliance according to Claim 1 or 2 wherein the metal tube contains a plurality of spaced discs forming compartments.

4. Appliance according to Claim 3 wherein some of the compartments contain needles arranged parallel with the axis of the tube.

5. Appliance according to Claim 3 or 4 wherein some of the compartments contain metal filings.

6. Appliance according to Claim 3, 4 or 5 wherein some of the compartments contain light coil springs for holding the needles in position.

7. Appliance according to Claim 1 wherein the horizontal arm of the L-shaped metal rod is provided with a wire which serpentines in and out of the metal rod providing loops on either side of said rod.

8. Appliance according to any one of the preceding claims wherein each metal rod is formed in two parts screwed or otherwise secured together.

9. Appliance substantially as described with reference to the drawing filed herewith.

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PROVISIONAL SPECIFICATION

Appliances for Detecting the Presence of Water, Metals and other materials

I, LAWRENCE JOHN VEALE, a British Subject, of Orchard Drive, Kingskerswell, Newton Abbot, do hereby declare this invention to be described in the following statement:—

This invention relates to an appliance for detecting the presence of water, metals and other materials.

According to this invention the appliance comprises an L-shaped metal rod, the lower upright limb of which depends into a metal tube. The mounting for the rod is such that the rod is supported at the longitudinal axis of the tube in spaced relation from the tubular wall, and is capable of rotation about the said axis. Two of such appliances are held one in each hand of the prospector with the horizontal limb of each rod pointing forward. The presence of water or metals is indicated by a deviation of the horizontal limb from the forwardly pointing position.

According to one form of the invention an L-shaped chromium-plated rod of $\frac{1}{8}$ " diameter has a horizontal portion 2 ft. in length and a vertical portion 9". If desired, the rod can be made in two parts for convenience of transport, the two parts being joined by a sleeve.

The vertical portion of the said rod is adapted to depend into a cylindrical copper tube $\frac{3}{4}$ " in diameter, 9" in length, and closed at the lower end. The interior of the tube is

divided into three equal compartments 2" in length by pairs of copper washers, the washers of each pair being spaced apart from each other by a distance of $\frac{3}{8}$ ", said space being filled with copper or brass dust. Each washer has an aperture in the centre to receive the vertical limb of the rod, each compartment being provided with at least eight copper or brass upright rods loosely arranged between adjacent pairs of washers. The upper and lower ends of the tube are provided with three washers and two layers of dust. The washers make a hand tight fit with the inner surface of the tube and the rod makes a hand tight fit with the apertures in the washers.

In use, the vertical limb of the rod is placed in the tube where it is just balanced to stay in the position in which it is placed, but will rotate about a vertical axis on very slight movement. Two of such appliances are grasped one in each hand of the prospector and the horizontal portions of the rod are made to point forward. As the prospector moves over metal, water or other material or objects to be detected the rods converge.

Other material or objects that can be detected by the use of the appliance are: water mains (iron or asbestos); concrete pipes; S.G. pipes; sewers (in use or disused); stone drains; electric cables (underground, concrete or wood floors) and reinforcing irons in concrete.

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The dimensions given above are by way
of example only and can be varied to suit
individual requirements.

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This drawing is a reproduction of the Original on a reduced scale.

