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EUROPEAN PATENT APPLICATION

⑰ Application number: **82201060.9**

⑤① Int. Cl.³: **H 01 R 4/66**

⑱ Date of filing: **27.08.82**

④③ Date of publication of application:
07.03.84 Bulletin 84/10

④④ Designated Contracting States:
AT BE CH DE FR GB IT LI LU NL SE

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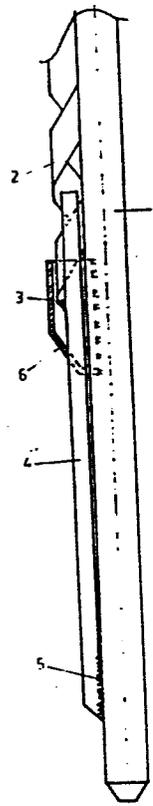
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⑤④ **Earth ground assembly comprising an electrode and a driving rod which may be driven into the ground.**

⑤⑦ **Earth ground assembly comprising an earth electrode, a driving rod (1) which may be driven into the ground and at least one metal clamping wire (2) which by means of welding (3, 8) either directly or indirectly is secured to the lower end of the driving rod (1) and which is wound helically with a number of windings clampingly around the lower end of the earth electrode, use being made of an anchor rod (4, 7) which is shifted into the clamping wire (2) to obtain the connection between the driving rod (1) and the clamping wire (2).**

FIG. 1



Earth ground assembly comprising an electrode and a driving rod which may be driven into the ground.

The invention relates to an earth ground assembly comprising an earth electrode, a driving rod which may be driven into the ground and at least one metal clamping wire which is secured to the lower end of the driving rod and which is wound helically, with a number of windings, clampingly around the lower end of the earth electrode and of which the pitch is greater than the diameter of the earth electrode.

Such an assembly is known from the Figures 2 and 4 of the U.S. patent specification 4,227,034 in the name of applicant.

An advantage of this known assembly is, that the upper part of the metal clamping wire can be connected easily and firmly with the lower end of the earth electrode at the place where the earth electrode has to be brought into the ground.

A disadvantage of the known construction is, however, that the lower end of the clamping wire has to be clamped around a second rod provided parallel to the lower part of the driving rod proper, which rod is secured to the driving rod by means of welding.

For obtaining a firm connection it is required that the length of that part of the clamping wire which is connected to the second rod equals the length of that part of the clamping wire which can be connected to the earth electrode.

This requires a relatively long clamping wire, which is rather expensive to manufacture due to high demands to the quality of the type of steel used for it and the shaping and treatment of this.

In particular in case of an earth electrode of limited length the costs of the clamping wire will attribute so much to the costs of the assembly, that the assembly as such will not be used at all.

The present invention aims to overcome this drawback by providing an assembly of the above indicated type which is characterized in that the lower part of the metal clamping wire is secured to the driving rod by means of welding use being made of an anchor rod shifted into the clamping wire.

It has appeared that only a rather short length of the clamping wire has to be welded to the anchor or driving rod so that the required total length of the clamping wire is considerably reduced.

Surprisingly it appeared to be possible to obtain a firm enough connection of the metal clamping wire by means of welding, which up to now was considered to be impossible.

According to a first embodiment of the invention the clamping wire is welded to the anchor rod, the anchor rod proper being welded to the driving rod at some distance from the first mentioned weld.

In this case some flexibility is obtained between the upper end of the metal clamping wire in which the earth electrode has to be mounted and the driving rod which is driven into the ground so that the mounting of the earth electrode in the clamping wire is made easily.

It is, however, also possible to weld the clamping wire together with the anchor rod directly to the driving rod. In this case less length of anchor rod material is used. This, however, is not so very important because this material can be a cheap one.

The invention will be explained in the following with reference to the drawing in which by means of example two embodiments of the device according to the invention are shown schematically.

In the drawing:

Fig. 1 shows a lateral view, partly in section, of a first embodiment of the device according to the invention; and Fig. 2 shows a similar view of a second embodiment.

Fig. 1 shows the lower part of a driving rod 1, which at its upper end, in the known not shown way, can be connected to further driving rods during driving the part 1 into the ground.

A helically wound wire 2 is with its lower end 3 welded to the anchor rod 4 and the lower end 5 of the anchor rod 4 is welded to the driving rod 1.

In order to protect the lower end of the clamping wire 2 a screen 6 with the shape of a half tube, which is closed at its lower end, can be welded or otherwise secured to the driving rod in a known way.

Preferably there are a number of helically wound wires 2 so that the outer surface of a not shown earth electrode will be completely engaged by the wires 2.

In case of the second embodiment, shown in Fig. 2, the anchor rod 7 only has a small length and this anchor rod 7 is together with the clamping wire 2 welded to the driving rod 1 by means of the weld 8. The anchor rod 7 ends inside the screen 6.

C l a i m s :

1. Earth ground assembly comprising an earth electrode, a driving rod (1) which may be driven into the ground and at least one metal clamping wire (2) which is secured to the lower end of the driving rod (1) and which is wound helically, with a number of windings clampingly around the lower end of the earth electrode, and of which the pitch is greater than the diameter of the earth electrode, characterized in that the lower part of the metal clamping wire (2) is secured to the driving rod (1) by means of welding (3,8) use being made of an anchor rod (4,7) shifted into the clamping wire (2).
2. Assembly according to claim 1, characterized in that the clamping wire (2) is welded (3) to the anchor rod (4), this anchor rod (4) proper being welded (5) to the driving rod (1) at some distance from the first mentioned weld (3).
3. Assembly according to claim 1, characterized in that the clamping wire (2) together with the anchor rod (7) is directly welded (8) to the driving rod (1).

FIG. 1

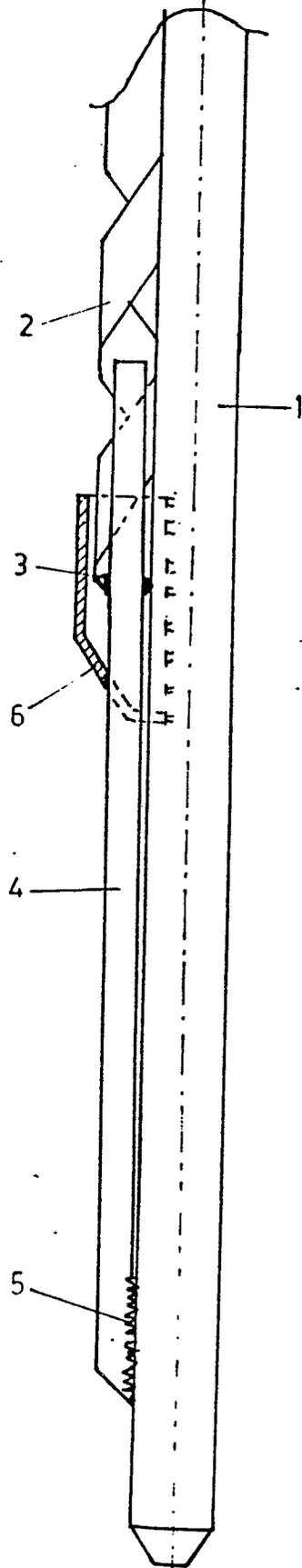
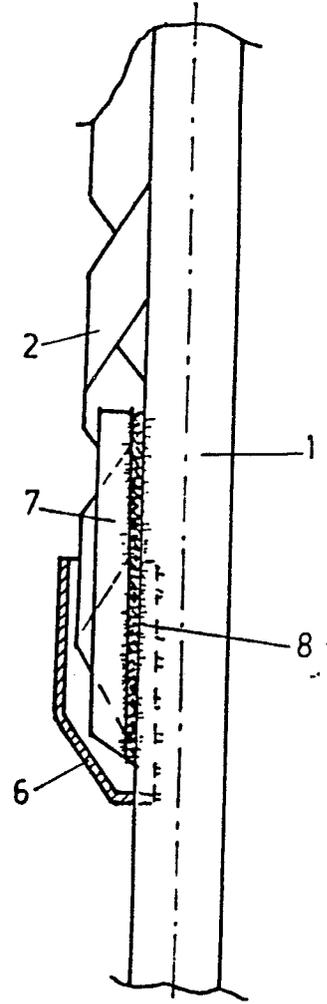


FIG. 2





European Patent
Office

EUROPEAN SEARCH REPORT

0101763

Application number

EP 82 20 1060

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A, D	US-A-4 227 034 (B.P.J.M. VAN RIJSWIJCK) * Column 1 - column 4, line 25; figures 1-10 *	1	H 01 R 4/66
A	--- NL-A-7 508 718 (S. VAN DER HEIDE) * Page 3, lines 9-32; figures 1-5 * -----	1	
			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			H 01 R 4/00
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 16-05-1983	Examiner LOMMEL A.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			