(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) Publication number: **0 080 237**
A2

(12) EUROPEAN PATENT APPLICATION

(21) Application number: **82201461.9**

(22) Date of filing: **17.11.82**

(51) Int. Cl.³: **E 04 H 12/00**, E 01 F 9/01, E 02 D 5/54 // E04H17/22

(30) Priority: **23.11.81 NL 8105299**

(43) Date of publication of application: **01.06.83 Bulletin 83/22**

(84) Designated Contracting States: **BE DE FR GB NL**

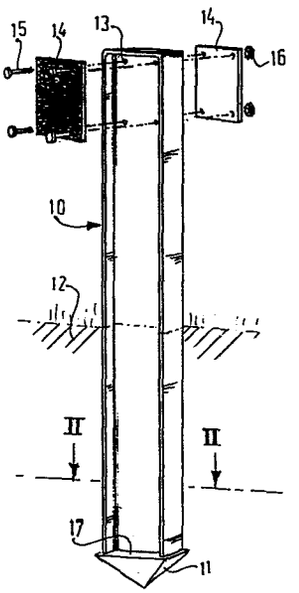
(71) Applicant: **IJzergieterij Lovink B.V., No. 3, Lovinkweg, NL-7061 DT Terborg (NL)**

(72) Inventor: **Slooter, Arie Cornelis, No. 5, Stationsweg, NL-7061 CT Terborg (NL)**
Inventor: **Van den Hout, Jan Simon, No. 3, Eksterhof, NL-7051 WP Varsseveld (NL)**

(74) Representative: **'t Jong, Bastiaan Jacobus et al, OCTROOIBUREAU ARNOLD & SIEDSMA Sweelinckplein 1, NL-2517 GK 's-Gravenhage (NL)**

(54) Pile.

(57) A pile (10) to be put into the ground having at one end a peak (11). The pile has a profile with a recessed part and a barbed surface substantially extends across the recessed part.



EP 0 080 237 A2

0080237

PILE

The invention relates to a pile to be put into the ground, as is described in the introductary part of the claim.

Such a pile, embodied as a verge pile or reflector pile, is known from NL-A-7909149 and can be simply put in the ground by driving it with its peak in the ground. Because of the barbed surface it is prevented that the pile can also be pulled out of the ground easily. With this known pile each barbed surface is formed by a surface of a notch in the pile. In the area of the notch, the pile is weakened.

The object of the invention is to provide a pile of the kind as described above, that is free of weakened places, and yet can easily be put into the ground.

According to the invention this is achieved with the measure according to the characterising part of the claim. In the area of the barbed surface, the cross section of the pile on the contrary is enlarged, so that a local reinforcement is provided. The barbed surface does not extend outside the profile of the pile, so that the resistance during driving of the pile into the ground, remains limited.

The invention will now be described more fully with reference to the accompanying drawings.

Fig. 1 shows a verge pile embodying the invention.

Fig. 2 is a sectional view taken on the line IV-IV in fig. 1.

The verge pile 10 shown in fig. 1 has an I-section profile. The barbed surface 17 formed near the peak 11 mainly extends in the re-entrant part of the profile. Thus the barbed surface 17 enlarges the external dimensions of the pile 10 only to an insignificant extent. When the pile 10 has to be placed in the ground 12, it is driven into the ground with the peak 11. Also a cylindrical hole designated by 18 can be drilled with the aid of an auger. Preferably the diameter 18 is slightly smaller than the width of the pile 10. After the pile 10 is pressed or driven into the bored hole 18, the hole is filled up and rammed tight. In this way the pile 10 is firmly anchored in the ground 12.

When the pile is driven into the ground, only the frictional forces exerted on the peak need be overcome, whereas in pulling the pile out of the ground not only the frictional forces of the pile but also frictional forces of a large amount of earth around the pile habe to be overcome.

At the top end the pile 10 is provided with a number of thin wall portions 13, which can be broken up. Thus openings are formed for passing bolts 15. By means of these bolts 15 and nuts 16 screwed thereon reflectors 14 are fastened to the pile 10.

It will be apparent from the profile shown in fig. 4 that the pile 10 is made in a mould. Preferably the pile 10 is made from thermo-hardening synthetic resin and in a single pressing run both the body of the pile 10 and the peak 11 are integrally formed. Thermo-curing synthetic resin is preferred since then the desired strength and the desired resistance to the influence of the weather can be obtained. Besides a verge pile, the pile according to the invention can also be a signalling pile for cables, a post for carrying a traffic sign, a letter box and thelike.

The profile having the recessed part, of course does not have to extend over the full lenght of the pile.

Also other profiles than the I-profile as shown in the figures, can be used.

C L A I M

A pile (10) to be put into the ground, having at one end a peak (11) and at least one barbed surface (17) substantially extending transversely of the pile near the peak, c h a r a c t e r i s e d in that the pile has a profile having a recessed part and in that the barbed surface substantially extends across the recessed part.

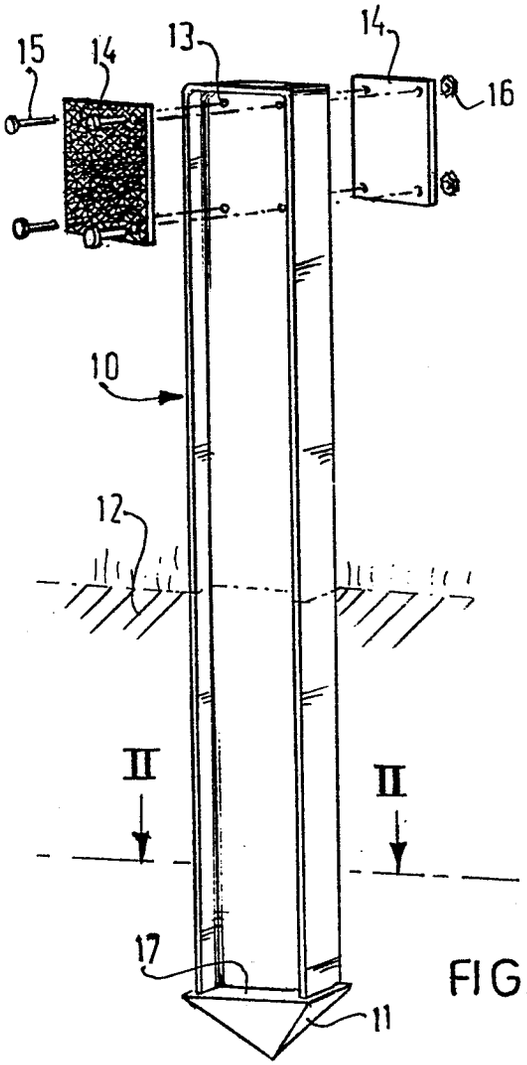


FIG.1

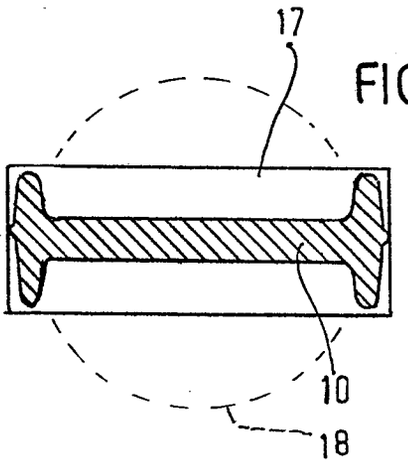


FIG.2