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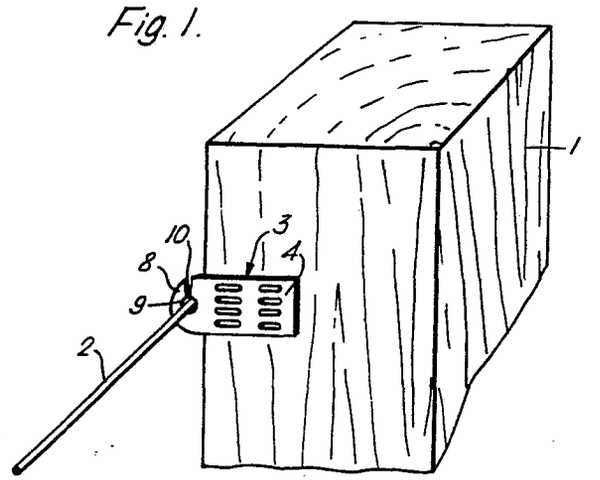
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(54) Wire support member.

(57) A wire support member for attachment of a wire to a fixed support structure such as a wooden fence post (1) consists of a metal plate (4) from which integral spikes are punched for attachment of the plate to the support structure, the plate having a projecting lug (8) formed with a hole (9) through which a wire (2) to be supported passes.

The insertion of the wire (2) into the hole (9) and its subsequent removal from the hole (9) for replacement is effected by virtue of a slot (10) in the lug communicating with the hole (9): this slot (10) can be opened up by twisting the lug (8), and re-closed after insertion of the wire (2) to trap the wire in the hole (9).

Fig. 1.



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Wire Support Member

This invention relates to wire support members. The invention has particular, but not exclusive, reference to wire support members used for supporting wires from fence posts, for example in vineyard cultivation or for other agricultural uses.

A common means of attaching wire to wooden support posts is to use wire staples which are driven into each post to clamp the wire to the post. This method of attachment of wires to fence posts proves inconvenient when it is necessary to replace the wire, as frequently occurs in vineyard cultivation. In order to remove a wire it is necessary to prise each staple out of the fence post before placing a fresh wire in position and hammering in a fresh staple. Not only is this a time-consuming operation, but the process of removing each staple and hammering in a fresh staple inevitably loosens the post anchorage in the ground.

A known type of device for joining timber frame members comprises a sheet metal plate having spikes projecting from one side, to be driven into the wooden members to be joined.

An object of the present invention is to provide a novel adaptation of this type of device in the form of a wire support member of simple construction which can be used for the attachment of wires to support structures such as posts, as an alternative to the previously used staples.

According to the invention there is provided a wire support member comprising a plate provided with spikes upstanding from one side of the plate and adapted to be driven into a support structure, characterised in that the plate is further formed with a lug which in use of the member projects beyond the support structure, the plate further having a hole passing through the lug and a fissure or slot extending from the hole to the periphery of the lug so that a wire can be located in the hole by bending the lug so as to open up the fissure or slot.

The plate can be affixed to a support structure such as a wooden post by hammering the spikes into the structure. Since the wire can be located in the hole after attachment of the plate to the support structure it is possible to affix the plate before offering up the wire. For example, when a number of wires are to be attached to a wooden support post, the wire support members can be hammered into the post before the post is erected and anchored. Once the wire support members are in position it is not necessary to remove them in order to release a wire, for example in order to replace it, since the wire can be released by simply bending the lug so as to open up the fissure or slot sufficiently to allow removal of the wire from the hole. After insertion of a wire in the hole in the lug the lug is simply bent back so that it is essentially coplanar

with the remainder of the plate, thereby effectively trapping the wire in the hole.

Preferably the hole in the lug is circular and passes through the centre of the lug. Furthermore, the fissure or slot preferably tapers in width from the periphery of the lug to the periphery of the hole, so that the hole and the slot together form a keyhole shape.

Preferably the plate is elongate and is formed with the lug at one or each end, a respective said fissure or slot extending from the or each hole to the periphery of the lug, preferably a lateral edge which is uppermost in use of the member.

The spikes in the plate may be arranged in at least one row extending transversely across the plate, the spikes in the or each row preferably being staggered relatively to each other.

The wire support member of the present invention, being of essentially simple structure, is easily fabricated from sheet metal by feeding a strip through a punch or succession of punches so that the spikes, the or each lug, the hole and the fissure or slot in the or each lug are formed in one or more punching operations.

The invention will be further described by way of example only, with reference to the accompanying purely diagrammatic drawings, in which:

Figure 1 illustrates part of a fence post provided with a wire support member according to one embodiment of the invention;

Figure 2 is a plan view of the wire support member shown in Figure 1;

Figure 3 is a longitudinal cross section of the wire support member, taken on line III-III in Figure 2;

Figure 4 is an end view of the wire support member shown in Figure 2;

Figure 5 illustrates diagrammatically the sequential steps in the punching of wire support members according to the invention from a sheet metal strip, and

Figure 6 is a perspective view of a wire support member according to another embodiment of the invention.

Referring first to Figure 1, there is shown part of a vertical wooden support post 1 used, for example, to support parallel horizontal wires 2 for use in vine cultivation. Only one of the wires 2 is shown in Figure 1, and for the purpose of attaching the wire to the post 1 a wire support member 3 according to the invention is employed. The wire support member 3 comprises a plate 4 (Figure 2) formed with integral spikes 5 (Figures 3, 4) which are upstanding from one side of the plate 4 and which are formed with pointed

tips 6. The spikes 5 are disposed perpendicularly to the plane of the plate 4 and are punched out of the plate 4, leaving elongate slots 7 in the plate 6. In the embodiment illustrated in Figures 1 to 4 the plate 4 is formed with two rows of parallel slots 7 and integral spikes 5, the spikes 5 associated with each row of slots 7 being integral with alternate ends of the adjacent slots 7 in each row, so that the spikes 5 are staggered, as shown in Figure 3.

The plate 4 is substantially rectangular, but is formed at one end with an integral semi-circular lug 8 which, in the fixed position of use of the support member (Figures 1, 2) projects beyond the support structure, in this case the post 1. The lug 8 is formed with a central circular hole 9 of a diameter sufficient to receive the wire 2 to be supported. A slot 10 is formed in the plate 4 and extends from one lateral edge of the lug 8 to the periphery of the hole 9. The slot 10 tapers in width towards the hole 9, having a width at the periphery of the hole 9 which is very small compared with the diameter of the hole 9. In the fixed position of the support member 4, shown in Figures 1 and 2, the slot 10 extends vertically upwardly from the hole 9.

In order to attach a wire 2 to the support member

3 the portion of the lug 8 on the side of the slot 10 remote from the remainder of the plate 4 is twisted in order to open up the slot 10 sufficiently to admit the wire 2. After the wire 2 has been located in the hole 9 the lug 8 is twisted back so that it is again coplanar with the rest of the plate 4, thereby re-closing the slot 10 and effectively trapping the wire 2 in the hole 9. In Figure 2 the portion of the lug 8 which is twisted in order to open up the slot 10 is shown shaded at 12, and this portion is shown in broken outline in Figure 3 in its twisted position for insertion or removal of a wire 2.

The support member 3 is conveniently made by punching a sheet metal blank, preferably in strip form. Figure 5 illustrates a sequence of punching operations which may be performed on a sheet metal strip, typically a strip of CR4 galvanised sheet steel of 20 gauge thickness. The strip, indicated 13 in Figure 5, is fed in the direction of arrow A through a succession of punches which first punch out the holes 9 and slots 10, and then punch out the slots 7 with the integral spikes 5, and finally punch out the lug 8 while at the same time severing the completed support member 3 from the strip. In the version illustrated

in Figure 5 there is a single row of staggered slots 7 and integral spikes 5.

In a typical wire support member of the invention the plate 4 would have a width of 28 millimeters, a length of 40 millimeters and a thickness of 0.9 millimeters, each spike 5 having a length of 10 millimeters.

Figure 6 illustrates a variant of the wire support member according to another embodiment of the invention, the same reference numerals being used to designate the same or corresponding component parts. In this embodiment the support member is double-ended, being formed with a lug 8 at each end. Each lug 8 is formed with a respective hole 9 and slot 10, as described previously. This support device can be affixed to a fence support post or other structure so that one or the other, or both, of the lugs 8 projects beyond one edge of the post to support a fence wire or the like, as described previously.

CLAIMS

1. A wire support member comprising a plate (3) provided with spikes (5) upstanding from one side of the plate and adapted to be driven into a support structure (1),
characterised in that,
the plate (3) is further formed with a lug (8) which in use of the member projects beyond the support structure (1), the plate further having a hole (9) passing through the lug (8) and a fissure or slot (10) extending from the hole to the periphery of the lug so that a wire (2) can be located in the hole (9) by bending the lug so as to open up the fissure or slot (10).

2. A wire support member as claimed in Claim 1, in which the hole (9) is circular and passes through the centre of the lug (8).

3. A wire support member as claimed in Claim 1 or Claim 2, in which the fissure or slot (10) tapers in width from the periphery of the lug (8) to the periphery of the hole (9).

4. A wire support member as claimed in any one of Claims 1 to 3, in which the plate (3) is elongate and is formed with a said lug (8) at one or both ends, a respective said fissure or slot (10) extending from the or each hole (9) to a lateral edge of the lug (8) which is uppermost in use of the member.

5. A wire support member as claimed in Claim 4, in which the spikes (5) are arranged in at least one row extending transversely across the plate (3).

6. A wire support member as claimed in Claim 5, in which the spikes (5) in the or each row are staggered relatively to each other.

7. A wire support member as claimed in any one of the preceding claims, in which the plate (3) is fabricated in sheet metal, the spikes (5), the or each lug (8), the hole (9) and the fissure or slot (10) in the or each lug, being formed by one or more punching operations.

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Fig. 1.

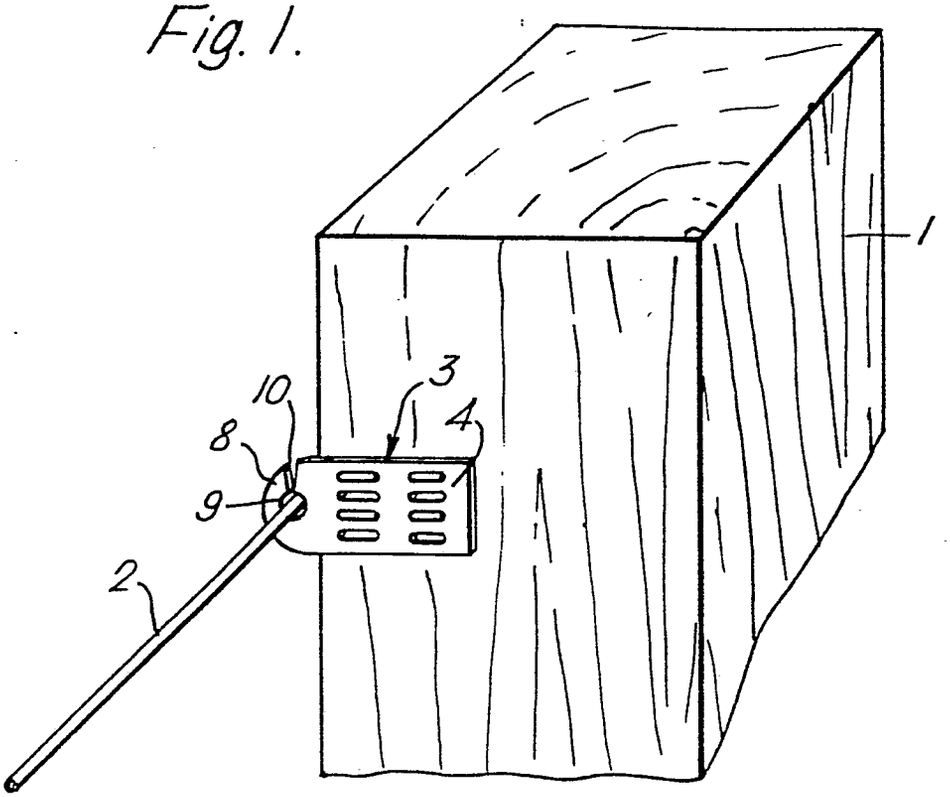


Fig. 2.

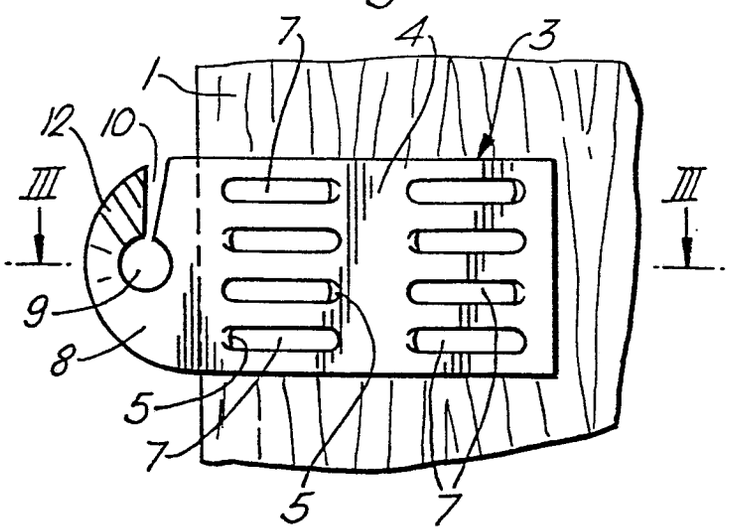


Fig. 4.

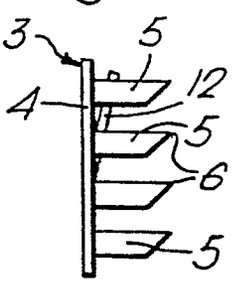


Fig. 3.

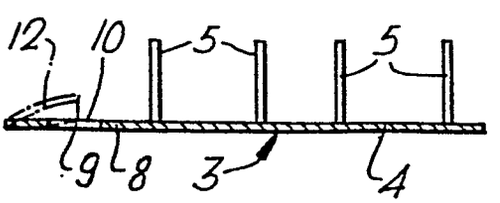


Fig. 5.

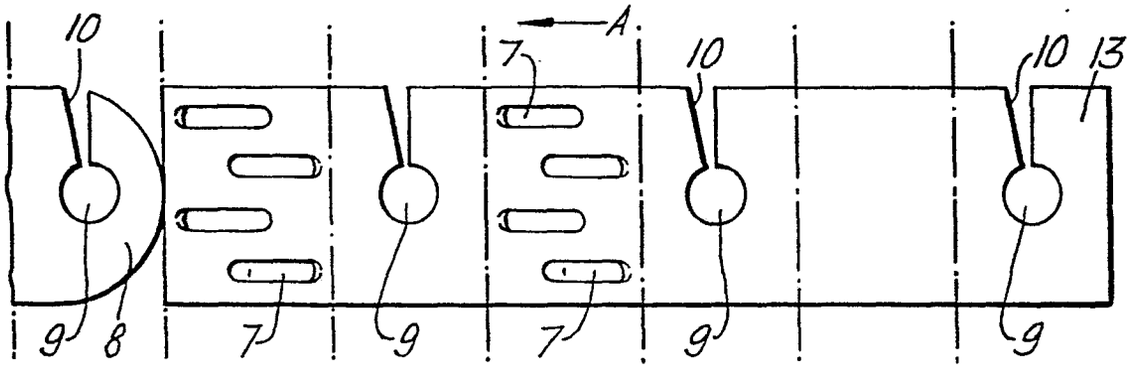
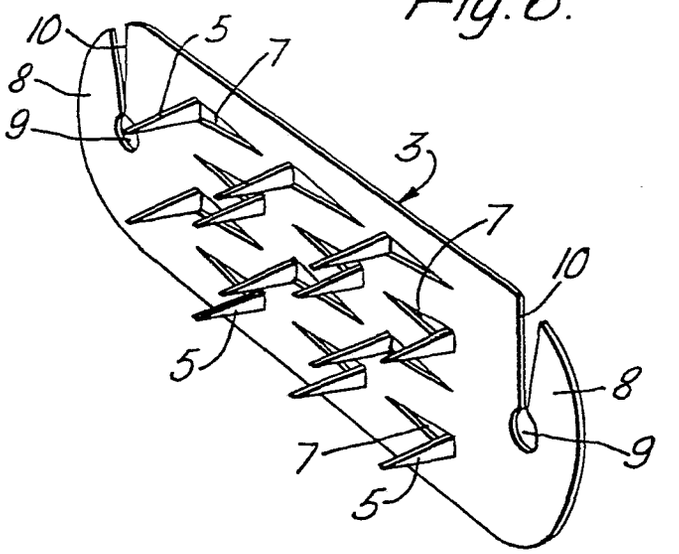


Fig. 6.



European Patent Office

EUROPEAN SEARCH REPORT

Application number

EP 80 30 1070.1

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim
P	DE - A1 - 2 922 541 (F. SILLER) * claims 1, 2; fig. 1 to 7 *	1-4
A	AT - B - 230 608 (E. KLAUSNER) * fig. 1 to 3 *	
A	US - A - 970 722 (W.C. KRAMER, JR.) * fig. 1 to 4 *	

CLASSIFICATION OF THE APPLICATION (Int. Cl.3)

E 04 H 17/10
E 04 H 17/12

TECHNICAL FIELDS SEARCHED (Int.Cl.3)

E 04 H 17/00
H 02 G 7/20

CATEGORY OF CITED DOCUMENTS

X: particularly relevant
A: technological background
O: non-written disclosure
P: intermediate document
T: theory or principle underlying the invention
E: conflicting application
D: document cited in the application
L: citation for other reasons

&: member of the same patent family, corresponding document

X The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Berlin	09-07-1980	v.WITTKEN