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(54) Post support spacer

(57) A removable spacer (10) for use in a post support socket is disclosed. The post support socket (20) comprises a hollow box section and the removable spacer reduces the internal area of the socket so that undersized posts can be retained. The spacer comprises a plate (11) having one or more flanges (13) protruding therefrom, so that when in use the spacer is inserted into the socket the flanges will cut into a post inserted into the socket to rigidly fix the post in the socket.

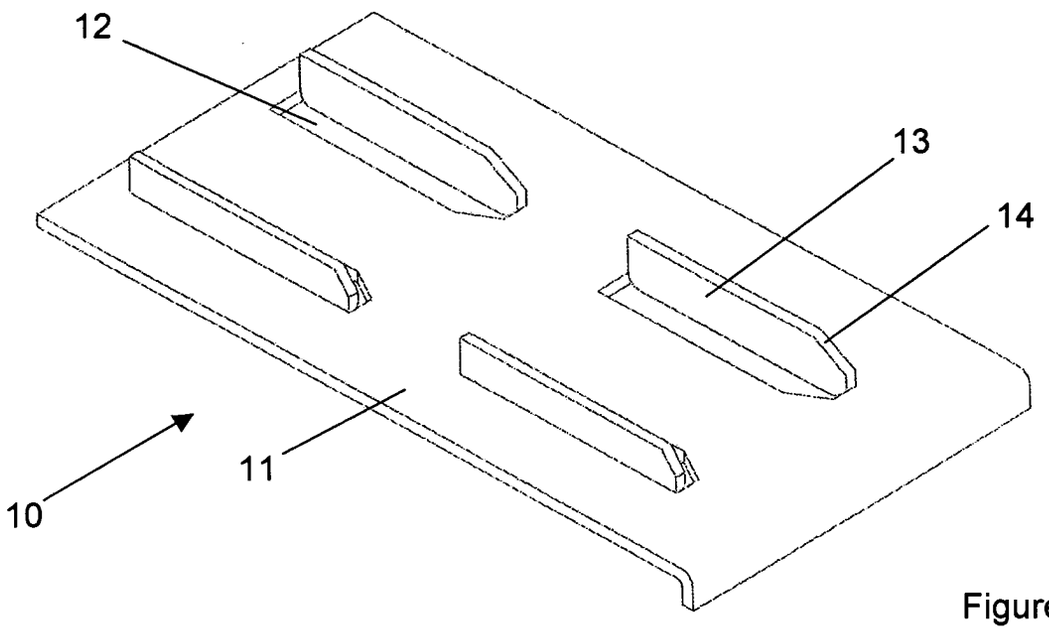

Figure 1

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Description

[0001] The present invention relates to means of supporting posts such as a fence post in a fence post support holder. More particularly, the present invention relates to a spacer which allows an undersized post in a post support to be fixed or held in a rigid manner.

[0002] A conventional fence post support as described in GB 2140057 comprises an elongate ground engaging portion and a post engaging portion or "socket" in the form of a hollow box section for receiving the fence post. Fence post support sockets are conventionally provided with internal dimensions of 50mm, 78mm and 103mm square to receive fence posts of nominal 50mm, 76mm and 100mm square size. Fence post supports can also be provided in dimensions of 72mm and 92mm for use with metric sized posts. This means there are two separate production runs for imperial and metric sized posts.

[0003] However, the fence post dimensions do not always correspond with the standard sizes and tolerances; for instance for a nominal 76mm fence post the post can be supplied at 72mm to 74mm square. This is outside of the British standard dimensions tolerances of -1 mm and +2mm. This can cause problems, as the fence post will be loose in the socket as the adjustment range of the conventional fence post socket is exceeded. With the conventional fence post support users have been able to pack the space in the fence post support with thin timber packing (say 2 to 4mm plywood) to make the fence post locally "fatter". A disadvantage with this is that the support socket is usually provided with wedge grips to grip onto the fence post to keep it stable and the use of local packing loses this stability.

[0004] Conventional post supports may also include a socket in which the internal cross-sectional area can be reduced in size by means of bolts, as described in GB 2273118. A corner of the square socket is split, and the bolts are provided across the split to tighten the support around an undersized post.

[0005] The conventional post supports described above contain built-in adjustments to cater for posts produced to British Standards with tolerances of -1 mm to +2mm, but a post produced outside of these tolerances may not always be securely located. The post (and fence) may have some lateral movement under low loads until an equilibrium position of the post is reached.

[0006] An aim of the present invention is to provide a means for supporting and rigidly fixing an undersized post in a post support socket.

[0007] According to the present invention there is provided a removable spacer for use in a post support socket comprising a hollow box section to reduce the internal area of the socket so that undersized posts can be retained;

the spacer comprising a plate having one or more flanges protruding therefrom, so that in use when the spacer is inserted into the socket the flanges cut into a post inserted into the socket to rigidly fix the post in the socket.

[0008] An advantage of the invention is that the spacer can be retrofitted to existing post support sockets to provide stability to undersized posts.

[0009] Preferably the flanges comprise projections which are perpendicular to the spacer so that the flanges are arranged to project into the socket in use. The spacer may have two or more, preferablyfourflanges protruding therefrom.

[0010] The vertically projecting flanges may include a chamfered edge so that material of the post is cut away as the post is inserted into the socket. The flanges may be formed by material punched out of the plate of the spacer.

[0011] Preferably the spacer is provided with a protrusion at one end for locating the spacer at a predefined vertical position in the socket.

[0012] One example of a spacer constructed in accordance with the present invention will now be described with reference to the accompanying drawings, in which:-

Figure 1 is a view of the removable spacer.
Figure 2 is a view of the removable spacer inserted in a fence post socket.
Figure 3 is a view of the removable spacer inserted in a fence post socket with a built-in adjustment mechanism.

[0013] Figure 1 shows a spacer 10 for use in a fence support socket (not shown in this figure). The spacer 10 is formed from galvanised steel plate 11 (although other materials can be used which have suitable properties of strength and corrosion resistance). The spacer 10 is nominally 2mm to 2.5mm thick. The length and width dimensions in this example are 73mm by 150mm. In the spacer 10 are formed four flanges 13 to grip a fence post inserted into the socket. The flanges 13 are formed by cutting out sections 12 with a suitable tool and then bending the flanges into a position normal to the plane of the plate 11. The flanges 13 could also be fabricated by welding or otherwise fixing protrusions to the surface of the plate 11.

[0014] As can be seen from Figure 1, the flanges 13 are each provided with a chamfered edge 14. This facilitates the driving of the fence post into the socket by "chiselling" a groove in the fence post. The chamfers 14 are provided on opposite ends of the flanges 13 to allow the spacer 10 to be fabricated symmetrically, prior to the lip 23 being formed. This will reduce the costs involved in manufacturing the spacer.

[0015] Figure 2 shows the spacer 10 inserted into a fence post support socket 20. The support socket 20 is generally formed from a rectangular box section open at one end to receive a fence post (not shown). In this example the socket 20 has an internal dimensions of 78mm square. The opposite end of the support socket

is welded to a cruciform cross-section spike 21 for insertion into the ground.

[0016] In use the spacer 10 is located on one internal face 22 of the socket 20 to effectively reduce the internal cross-sectional area of the socket 20 so that undersized fence posts will have improved fixing in the socket. A spacer 10 can also be provided on other, adjacent faces of the socket 20 if required. The spacers 10 will normally be provided on one of adjacent faces of the socket so that the spacer will be parallel to the plane of the fence to provide stability in a direction perpendicular to the plane of the fence. The fence posts will be supported in the direction parallel to the plane of the fence by the fence panels themselves.

[0017] The spacer 10 is provided with a lip 23 to fix its vertical position when inserted in the support holder 20. The length and widths of the spacer are designed so that it can cover a maximum area of the face 22 to provide maximum security to the fence post.

[0018] In use a fence post (not shown) is driven into the fence post support socket 20 so that the flanges 13 will cut in to a timber fence post to provide fixity. The wedge grips 13 are formed so that they are aligned with the axis of the fence post to be driven in, i.e. in the vertical direction.

[0019] In this example four flanges 13 are provided arranged in a rectangular pattern. Other number of flanges and patterns can be provided, such as one in the centre of the plate, or two provided on the centreline of the plate. A greater number of flanges will improve the fixing of the post. In this example the flanges are 40mm by 8mm.

[0020] The spacer 10 has been shown in Figure 2 to be inserted into a socket 20, the socket having no form of adjustment built into the socket itself. Figure 3 shows how the spacer may be inserted into a socket 30 already provided with adjustment means for undersized posts. The socket 30 is a conventional socket as described in GB 2273118.

[0021] The spacer 10 allows one support socket to cater for two different sized fence posts, say 76mm (imperial size - 3 inches) and 72mm (metric size) by using one or more spacers provided between the internal faces of the socket and the post. The dual size ability will allow a supplier to stock only one socket size; hence costs can be reduced. Users of the fence posts will also avoid the problem of buying an imperial sized support socket and then finding that a supplier of posts only stocks metric sized fence posts.

Claims

1. A removable spacer (10) for use in a post support socket (20) comprising a hollow box section to reduce the internal area of the socket so that undersized posts can be retained;
   the spacer (10) comprising a plate (11) having one or more flanges (13) protruding therefrom, so that in use when the spacer is inserted into the socket (20) the flanges cut into a post inserted into the socket to rigidly fix the post in the socket.

2. A spacer (10) according to claim 1, wherein the flanges (13) comprise projections perpendicular to the plate (11).

3. A spacer (10) according to claim 1 or claim 2, wherein the spacer has four flanges (13) protruding therefrom, arranged in two aligned points.

4. A spacer (10) according to any of claims 1 to 3, wherein the projecting flanges (13) include a chamfered edge (14) to facilitate cutting into the post as the post is inserted into the socket (20).

5. A spacer (10) according to any of claims 1 to 4, wherein the flanges (13) are formed by material punched out of the plate (11) of the spacer.

6. A spacer (10) according any of claims 1 to 5, further including a protrusion (23) at one end, projecting away from the plate (11) on the side opposite the flanges (14), for retaining locating the spacer at a predefined position in the socket (20).

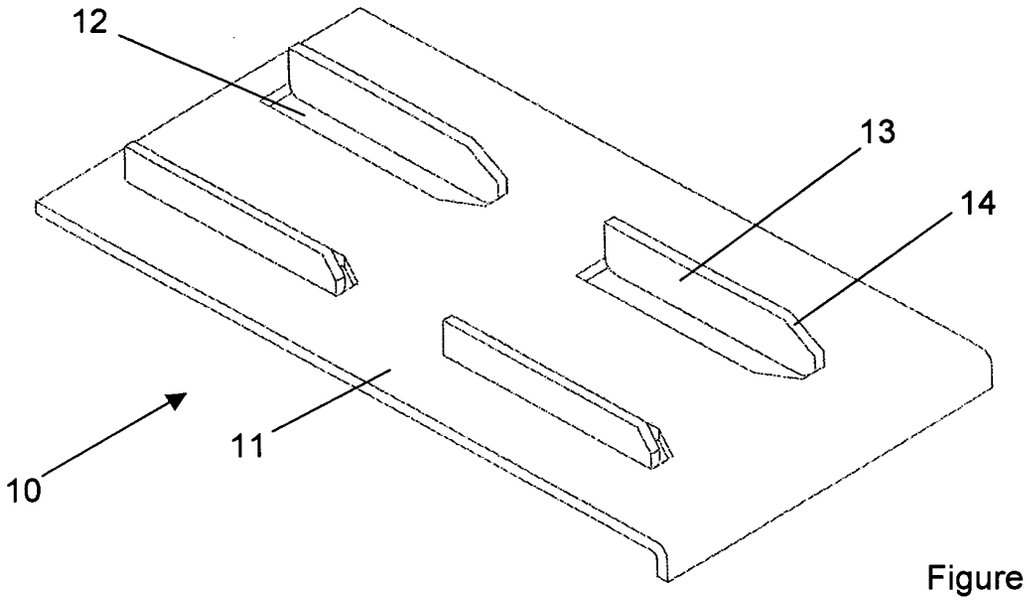

Figure 1

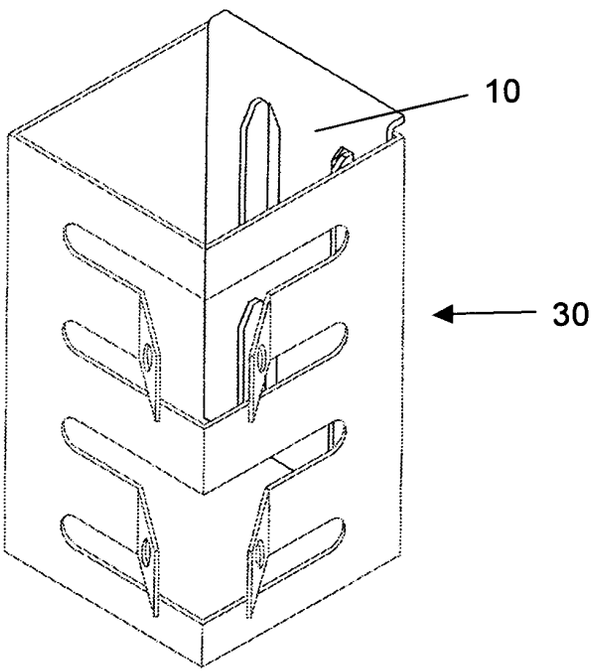

Figure 3

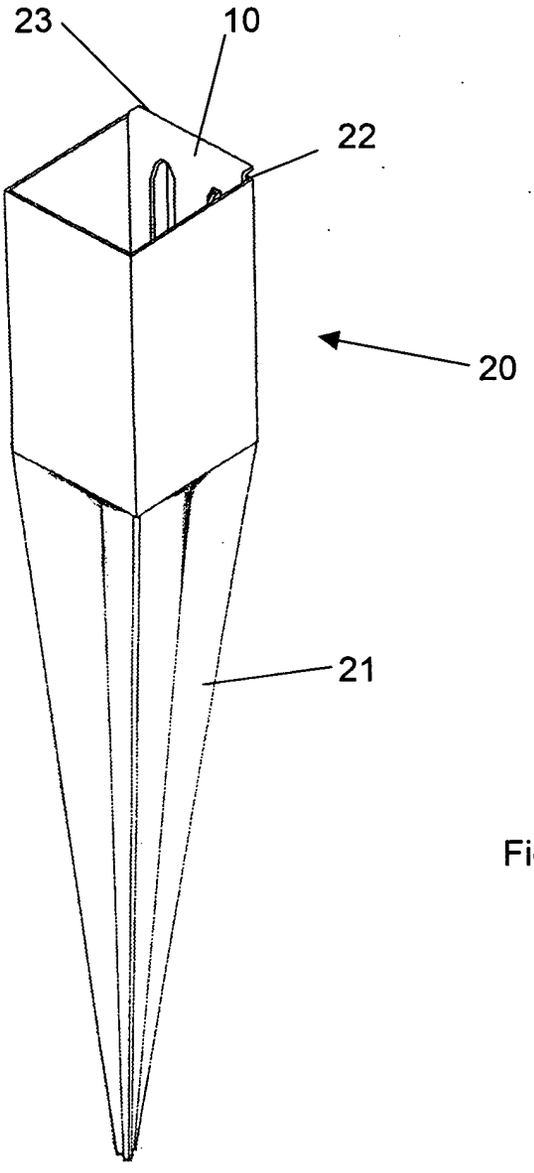

Figure 2

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EUROPEAN SEARCH REPORT

Application Number
EP 03 25 7002

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TECHNICAL FIELDS SEARCHED (Int.Cl.7)

E04H
E01F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	30 March 2004	Kriekoukis, S

CATEGORY OF CITED DOCUMENTS

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 03 25 7002

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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