

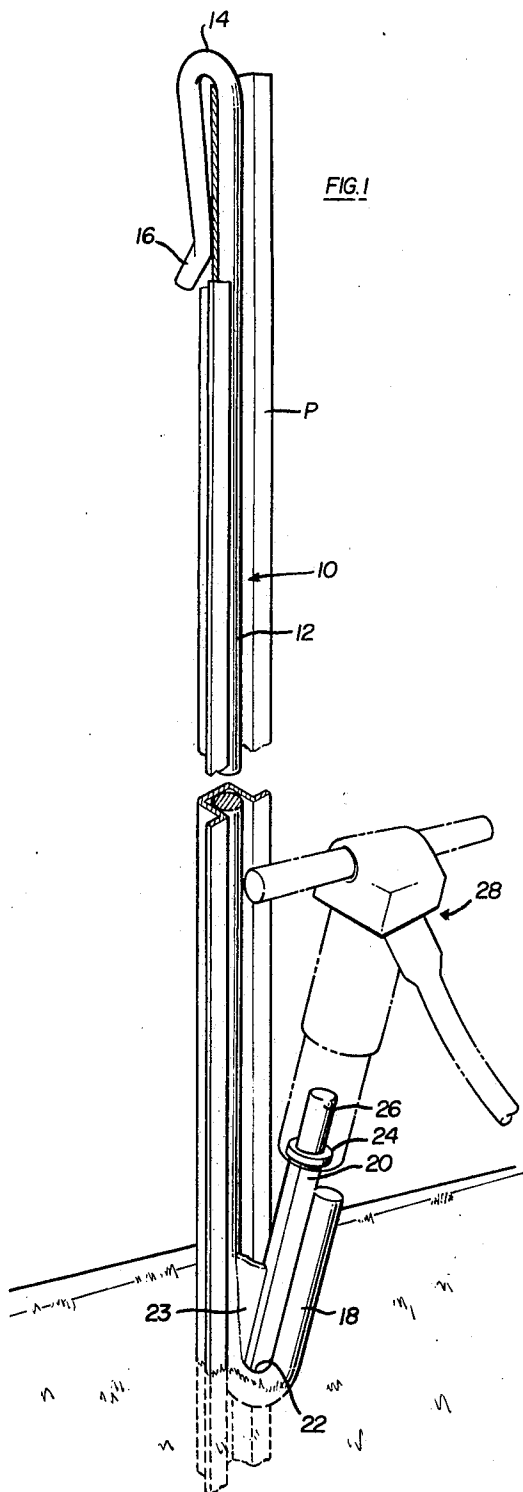
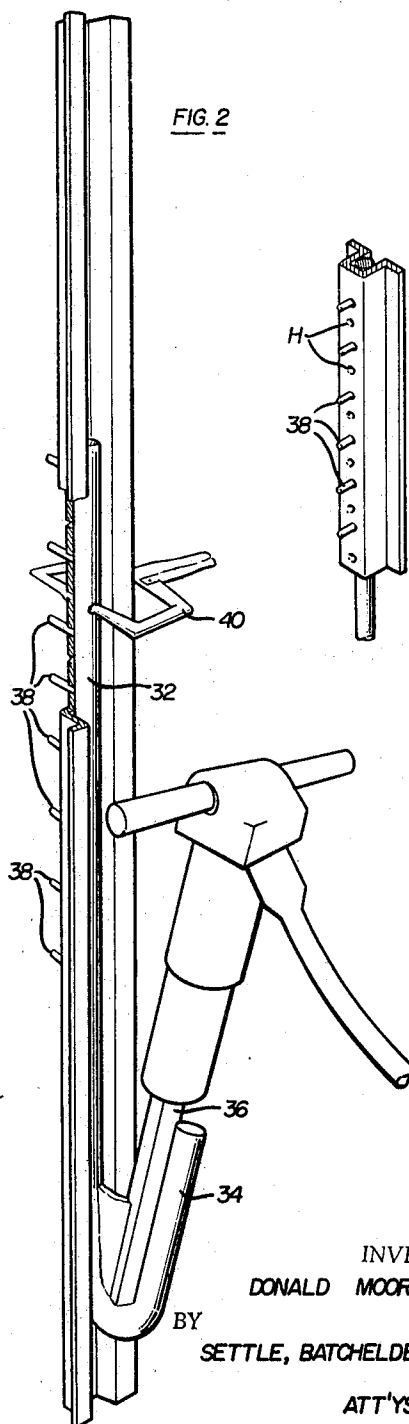
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SIGN POLE DRIVER

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5 Claims

ABSTRACT OF THE DISCLOSURE

An impact transmitting tool for driving posts, particularly of the channel-shaped metal type employed for highway or traffic signs. The device is in the form of an elongate shank member which can be detachably secured to the post to be driven and provides an anvil element engageable with a pneumatic hammer or other impacting tool with the anvil supported in a position so that the post can be driven by an operator standing at ground level.

The present invention is especially directed to, although not limited in use to, the driving of posts employed to support various traffic signs, such as stop signs, route numbers, etc. Typically, the posts employed to support such signs are approximately twelve feet long and the usual requirement is that the post be driven approximately three and one-half feet into the ground. Thus, the conventional manner of driving these posts requires that at the beginning of the operation, the person driving the post must either use a step ladder or some other elevated support in order to be able to drive the post from the top. The conventional post employed is normally of a generally U-shaped channel cross section which, although fairly sturdy, can be fairly easily buckled during the driving operation because of its substantial length. The present invention is directed to the provision of an impact transmitting member which enable the post to be driven by a pneumatic hammer or sledge hammer operated by a workman standing at ground level.

Various objects and features of the invention will become apparent by reference to the following specification and to the drawings.

In the drawings:

FIGURE 1 is a perspective view with certain parts broken away showing one form of the invention in use;

FIGURE 2 is a view similar to FIGURE 1 showing an alternative form of the invention; and

FIGURE 3 is a detail perspective view showing a portion of the device of FIGURE 2 from the rear of the post.

Referring first to FIGURE 1, one form of impacting device 10 embodying the present invention includes an elongate shank 12 formed from a standard steel rod stock. The upper end of shank 12 is reversely bent as at 14 to form a downwardly opening hook, the lower end of which is preferably bent somewhat outwardly as at 16. The lower end of shank 12 is bent upwardly as at 18 and an anvil element in the form of a bar 20 is seated in the pocket 22 at the bottom of the upwardly bent section 18. Anvil 20 is fixedly held in position, preferably by a plate 22 welded to the bar and to the lower end of shank 12. Depending upon the impacting tool to be employed, the upper end of anvil 20 is provided with a fixed striking seat. In the particular form shown, this seat takes the form of a flange 24 and post 26 welded on the upper end of bar 20 and dimensioned to cooperate with a complementary seat formed in the hammer element of a pneumatic hammer designated generally 28.

The use of the device described is believed to be apparent from FIGURE 1. The post being driven P is of

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the familiar generally U-shaped channel section, and the diameter of shank member 12 is chosen so that the shank can be loosely received within the channel. The upper end of the shank is hooked over the top of the post. The driving impact is applied to the anvil member 20 and is transmitted by shank 12 to the top of the post. In this particular form of the invention, the impacting device 10 is dimensioned in accordance with one particular type of post to be driven. For example, with the conventional 12 foot post, typically employed for stop signs, the post is normally driven three and one-half feet into the ground. Thus, the distance between the inner surfaces of the upper hook portion 14 and the bottom of the lower hook portion 18 is selected to be eight and one-half feet. At the beginning of the driving operation, the anvil 20 is thus positioned at approximately chest level of the hammer operator while standing on the ground, the operator thus drives the post until the bottom of hook portion 18 is at ground level. Thus, when this form is used with a standard post, it provides not only the convenience of being able to drive the post from ground level, but also automatically indicates when the post has been driven to the correct depth. It will further be noted that because the shank member lies within the channel, the impact as applied at the top of the post is always applied vertically downwardly, the seating of shank member 12 within the channel further providing some bracing of the post against bending or horizontal vibratory movement during the driving operation. If further bracing is desired, the shank member may be clamped to the post as by quick acting clamp assemblies to be described below in connection with the FIGURE 2 embodiment, at various points along its length.

An alternative embodiment is shown in FIGURES 2 and 3. The device of FIGURES 2 and 3 provides for a more compact implement than that of FIGURE 1, but is limited in use to that type of post in which the base of the channel is pierced by a plurality of uniformly spaced holes as at H (FIGURE 3). The device of FIGURES 2 and 3 also provides a greater area of bearing engagement between the impacting device and the post being driven, this feature being of some interest in minimizing damage to the post when being driven in hard or rocky soils.

The device of FIGURES 2 and 3 includes a vertically elongate shank 32 which, like the device of FIGURE 1 is formed with an upwardly bent hook section 34 at its bottom end. As in the previous case, an anvil bar 36 is fixedly secured within the bight of the hook as by welding. A plurality of horizontally projecting studs 38 are fixedly secured to shank 32 at uniformly spaced positions corresponding to the spacing of the holes H in a post with which the tool is to be employed. The studs 38 thus provide a means for detachably mounting the impacting device at any selected position of longitudinal adjustment along the post and thus the length of shank 32 need not have any specific relationship to the length of the post being driven. Preferably, for ease in mounting, studs 38 project horizontally from the vertical shank 32 and a quick acting clamp assembly, schematically shown at 40 is employed to hold the device in position on the post. The impact applied by the hammer to anvil element 36 is transmitted by the studs to the post, the studs retaining the device against downward movement relative to the post, as did the hook 14 in the previously described embodiment.

While I have described two exemplary embodiments of my invention, it will be apparent to those skilled in the art that the disclosed embodiments may be modified. Therefore, the foregoing description is to be considered exemplary rather than limiting, and the true scope of my invention is that defined in the following claims.

I claim:

1. An impact transmitting device for use in driving a post of channel shaped cross section comprising an upwardly facing anvil element, a vertically elongate shank adapted to be received within the channel of the post fixedly secured at its lower end to said anvil member and extending upwardly therefrom, means for coupling the upper end of said shank to said post to positively retain said shank against downward movement relative to said post and to support said anvil at an elevation accessible to a hand held impacting tool operated by a person standing at ground level.

2. An impact transmitting device as defined in claim 1 wherein said means for coupling the upper end of said shank to said post comprises a downwardly opening hook integral with the upper end of said shank and adapted to be seated upon the upper end of said post.

3. An impact transmitting device as defined in claim 2 wherein the length of said shank is equal to the desired height of said post above ground level at the conclusion of the post driving operation.

4. An impact transmitting device as defined in claim 1 wherein said means for coupling the upper end of said shank to said post comprises means for detachably se-

curing said shank to said post at selected positions of longitudinal adjustment along said post.

5. An impact transmitting device as defined in claim 4 wherein said post is formed with a plurality of uniformly spaced holes, and said means for coupling comprises a plurality of studs having a uniform spacing corresponding to the spacing of said holes and fixedly secured to said shank in horizontally projecting relationship thereto.

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61—53.5; 175—19, 135