Dec. 27, 1949 R. W. OLMSTED 2,492,882

STEEL POST

Filed March 18, 1946

Fig 1 Fig 1a Fig 2 Fig 2a

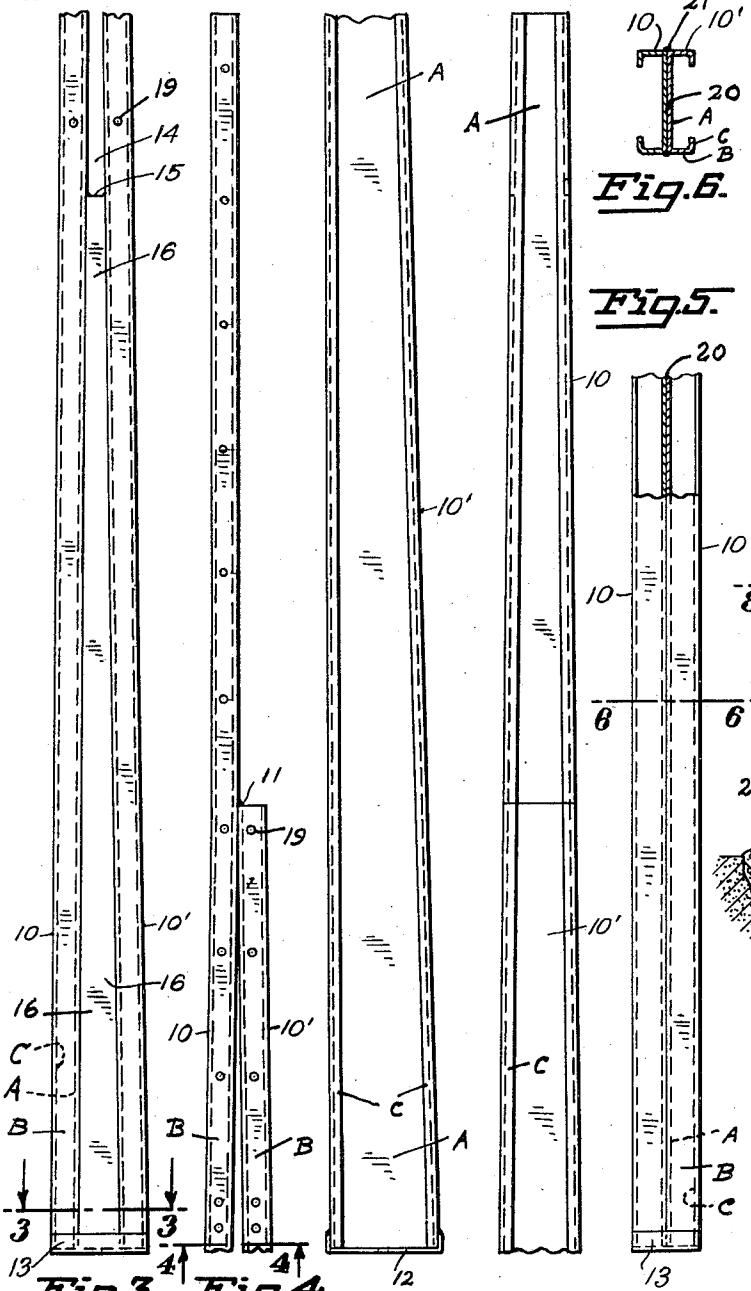


Fig 3. Fig 4.

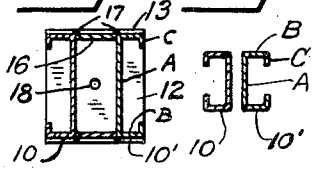


Fig 6.

Fig 5.

Fig 8.

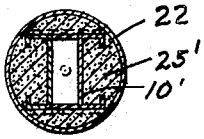
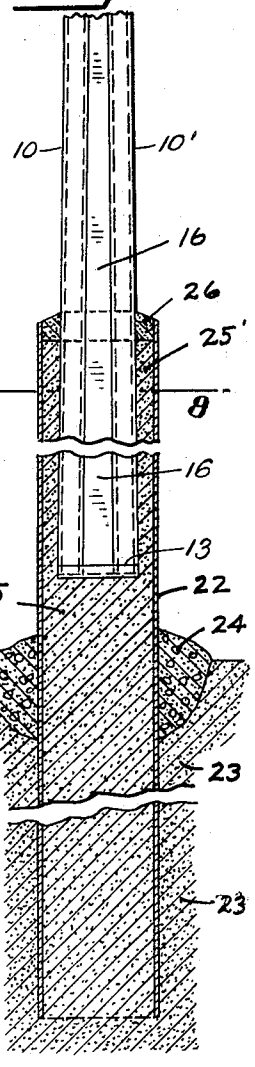


Fig 7.



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STEEL POST

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1 Claim. (Cl. 189—25)

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This invention relates to outdoor billboards or large advertising signs, and has to do with the supporting structure therefor.

More particularly the invention comprises an improved construction in a steel post, generally four of which are used to support the standard large size billboard.

The principal object of the invention is to provide an improved steel post for the purpose mentioned which will be both light and strong, which can be cheaply and quickly produced in quantity from sheet steel, a post easily handled manually on account of its flange formation, and a post which, with its foundation tube provides for various heights of mounting the signboard with a standardized set of bolt holes, or for installations on uneven ground.

Other features and advantages of the post and its mounting will appear in the following description and accompanying drawings.

In the drawings, Fig. 1 is a front elevation of the lower half of a steel post made in accordance with my invention.

Fig. 1*a* shows the upper half of the post of Fig. 1, also in front elevation.

Fig. 2 is a side view of the portion of the post shown in Fig. 1.

Fig. 2*a* is a side view of the portion of the post shown in Fig. 2.

Fig. 3 is a cross section of the post as seen from the line 3—3 of Fig. 1.

Fig. 4 is a cross section of the post as seen from the line 4—4 of Fig. 1*a*.

Fig. 5 is a front elevation of the lower end of a post showing a modified form of construction from that of Fig. 1.

Fig. 6 is a cross section of Fig. 5 as seen along the line 6—6 of Fig. 5.

Fig. 7 is an elevation partly in section of the lower portion of one of my posts showing the post erected in its tubular ground extension.

Fig. 8 is a cross section of Fig. 7 taken along the line 8—8 of Fig. 7.

Before describing the drawings in detail it may be stated that my improvements comprise a steel post made of sheet metal by braking or otherwise bending or forming the sheet metal into tapered special channel form. Two such channel-bars are secured together as by welding or riveting, and a base plate 5 similarly attached so as to cooperate with a tubular extension which is driven into or otherwise embedded in the earth, and filled with sand or earth and preferably stabilized by concrete or cement collars. The post is provided with a standardized arrangement of bolt

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holes for securing the standardized sign or billboards in place. The special construction and erection lends itself not only to quick and easy installation but also to dismantling of the signboards, as they are frequently taken down or removed to other locations.

In the drawings, and with reference to Figs. 1 to 4 the post comprises two sheet steel channels 10, 10′ placed back to back in spaced downwardly diverging relation.

The channels are preferably made of galvanized sheet steel bent, as by a sheet metal worker's "brake," or otherwise formed substantially to the shape of a square letter "C" in cross section, (as shown in the cross sections Figs. 3 and 4). Each comprises a back web A, two side walls B, each with a return bend or reentrant flange or outer edge C. It should be noted that the outer corners are all slightly rounded from the bending operations, so that the channels are smooth to handle manually and have no sharp corners to injure the workman's hands in erecting or removing them.

In the construction of Figs. 1 to 4 the channels are of uniform depth of side walls for their full length, but their back walls or webs A are tapered to smaller breadth toward the upper end of the post as shown in Figs. 2 and 2*a*.

Also to be noted is that channel 10′ is about a fourth shorter than channel 10 and is welded to it at 11 or riveted or otherwise firmly secured to it, and the channels 10 and 10′ are from this point downward gradually spread apart to the lower end of the post where they are secured in spread apart relation, as by welding or otherwise, to a flat bottom or foot plate 12, also preferably of sheet metal and formed with upwardly bent margins 13 embracing opposite side walls of the channels as clearly shown in Figs. 1 and 3.

The tapering space 14 is open for about third the length of channel 10′ to the point 15 and from this point down to the lower end of the post the tapering space is filled with a steel plate 16 preferably cut to fit and welded along its edges to the channels as at 17 and as well to the bottom plate 12.

Foot plate 12 is provided with one or more drainage holes 18 positioned between the spread apart webs A of the channels.

Spaced along the front legs of the channels are holes 19 arranged in a predetermined spacing to receive bolts for holding a standardized large size signboard or panel, not shown.

In the modified construction shown in Figs. 5 and 6, all features are the same as explained for

Figs. 1 to 4 except that the two channels 10 and 10' are not spaced, but are placed in contact back to back as indicated at 20 in Figs. 5 and 6 and are secured together as by riveting and/or welding along the juncture as at 21.

In Figs. 7 and 8, the post of Fig. 1 is shown erected in its tubular ground extension 22, which comprises a tubular steel shell, such as a short length of well casing of an internal size to freely receive the foot plate dimension of the post for supporting it at any desired height to compensate for lower ground at one or more post positions, or at all posts when it is desired to raise the elevation of the sign board above what it would be if the posts were simply erected directly in the earth.

When using the tubular extension, the open ended pipe or casing 22 is firmly planted in the earth 23 a sufficient distance to make a good foundation, preferably by forming a snug fitting hole as with a post-hole auger and thereafter driving the casing down the desired distance, or otherwise firmly imbedding the lower portion of the casing. The earth is compacted about the casing and preferably formed with a depression or sump about it which is filled with a "button" or collar 24 of fast setting concrete slightly rounded above the earth to divert rain water.

The post is supported within the casing on a sand, gravel, or hard earth filling 25 or mixture of these at a depth to yield the desired height of the post, and the filling 25 is continued up the sides of the post as at 25' in Figs. 7 and 8 to within a short distance of the upper end of the casing. A sealing cap 26 of cement-sand mixture is placed on top to both brace the post against lateral movement as well as to keep out water.

Generally the space within the spread apart channels 10, 10' may be left open as little or no rain will gain entrance and what does is free to drain out below through hole 18, tho it is obvious that the welding at 15 at the upper ends of the side plates 16 may be enough to close off the upper end of the space if desired.

In installations where the sign boards are shielded from high winds, or the maximum lateral stiffness of the posts is not required, the simpler structure of Figs. 5 and 6 is used, and which has no space between its oppositely directed post channels 10, 10'.

In dismounting the posts they may be separately pulled over to fall, preferably after breaking away the concrete 24 (if any) and if necessary loosening the earth about the casing, and the casing removed by cracking out the cement cap 26.

Since Fig. 5 shows only the lower end of the post the sign attaching holes are not shown, but it is understood that suitable holes for attaching the sign board or panel are also provided.

Having thus described my improved construction in a steel post, especially adapted for large advertising billboard supporting structures, what I claim is:

A post comprising a pair of substantially straight channel bars secured together in back to back relation, said channel bars being formed of sheet steel bent to channel form, one of said channel bars being shorter than the other and diverging downwardly from the other to a maximum separation at the foot of the post, means at the upper end of said shorter channel bar securing the channel bars in abutting relation, a transverse metal plate at the foot of the post secured to said channel bars and holding them in spaced relation, said plate defining a lowermost bearing surface for said post, and filler plates substantially closing the edges of the space between said channel bars and being secured thereto to define with said channel bars a rigid tapered boxlike structure.

ROGER W. OLMSTED.

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