ABSTRACT: An integral rigid catwalk metal sheet bent along a transverse fold line to provide a post engaging portion and a step portion, the post engaging portion having a laterally inwardly extending notch for engaging the post. The post is engaged by opposing edges of the notch wherein one of the edges is the inner edge portion of the step portion. The step is placed on the post from the side and the weight of the step portion will cause the unit to pivot downwardly bringing the opposing edges of the notch into engagement with the post thereby locking it in place. The post engaging portion forms an obtuse angle with the step portion and the step portion is normally positioned in a horizontal plane. A series of vertically spaced apart steps may be placed on a post and extend alternately from the post at angles of 90° to each other. Oppositely facing concave portions may be formed in the opposing edge portions for matingly engaging the rounded peripheral edge of a round post.
PORTABLE POST STEP

The maintenance work along streets and highways concerned with conventional sign structures requires using some sort of ladder device to reach the top portions of the signs since they are taller than the ordinary workman. The use of a stepladder or the like is terribly time consuming and unsatisfactory for among other reasons the reason that a suitable support for the ladder cannot be found. It is desired to utilize a minimum number of work pieces in working on the sign structures since the structures may be some distance apart and the work pieces will have to be carried from one structure to the next.

The portable post step of this invention is simple in design and is self supporting on the post being worked upon and thereby requires no external support surface or ladder structure to reach any part of the ordinary sign post.

The portable sign post of this invention also may be placed directly on the post at any height and does not have to be fitted over the top of the post which in many cases would be impossible anyway since a sign board would prevent the step from moving along the length of the post. An open notch is provided in the step which extends inwardly from one side thereof permitting the step to be placed directly on the post. The step comprises a post engaging portion which forms an obtuse angle with the step portion which is substantially longer and due to its own weight causes the opposing edges of the notch to bite into the opposite sides of the post to hold the step in place when first installed on the post. As additional weight is applied to the step portion the opposing edges of the notch bite deeper into the post, usually made of wood, and consequently provide even a more positive locking engagement between the post and the step unit.

Preferably, relatively heavy catwalk metal material is used which is inherently strong enough to support the ordinary person without additional strengthening means being employed. The catwalk material also has the roughened top surface to provide gripping means for the workmen's feet. If desired, several step units may be placed in vertically spaced apart relationship on the post preferably at 90° relative to each other such that the workmen may walk up the post.

These and other features and advantages of this invention will become readily apparent to those skilled in the art upon reference to the following description when taken in consideration with the accompanying drawings, wherein:

FIG. 1 is a fragmentary perspective view of a post having both right and left hand engaging portable step units positioned thereon in vertically spaced apart relationship with a 90° angle between adjacent steps;

FIG. 2 is a perspective view of a right hand engaging step unit;

FIG. 3 is a top plan view of the step unit on a post structure;

FIG. 4 is a cross-sectional view taken along line 4-4 in FIG. 3;

FIG. 5 is a perspective view similar to FIG. 1 but showing a round post in cross section and the step units having opposing concave portions formed in the opposing edges of the notch for mating engagement with the rounded peripheral edge of the round post; and

FIG. 6 is a top plan view of the step unit seen in FIG. 5.

As shown in FIG. 4, an obtuse angle is formed between the step portion 16 and the post engaging portion 14 and the step being rectangular in shape includes a rectangular notch 20 in the post engaging portion only. The opposing concave portion 22 of the step portion 16 is on a line in a plane extending through the fold line 12 and cooperates with a side edge 24 and an opposite transverse edge 26 from the edge 22 to form the notch opening 20.

It is seen that the edges 22 and 26 are roughened at 33 by means such as torch cutting to provide additional gripping means for engagement with the sides 28 and 30 of a wooden post 32.

It is seen that the post engaging portion 14 with the notch 20 formed therein is basically L-shaped with one end of one of the legs being integrally connected at the fold line 12 to the step portion 16. Depending on which side the notch 20 is cut into the post engaging portion 14 will determine whether the step unit 10 is a rignt or left-hand unit such as is seen in FIG. 4 wherein the two top units are left handed as indicated by the reference numeral 10A and the bottom step unit is right handed similar to the unit of FIG. 2. It is further seen in FIG. 4 that the step unit 10 may be placed on the post at any height by movement in a horizontal plane and that on a rectangular in cross section post the notch will appropriately engage any side of the post such that the adjacent step units may extend at an angle of 90° to each other which makes for ease in walking up the post. Otherwise, it would be difficult to move from the lower post 10 to the intermediate post 10A if they were directly above each other. It is however seen that the top post 10A is superimposed over the bottom post 10 but this will present no problem since while standing on the intermediate post 10A the workmen can easily move on upwardly to the top step 10A which is turned 90° in superimposed relationship with the bottom step 10.

The workmen will have a sure footing on the step portion 16 because of the raised teethlike portions 40 uniformly covering the top surface of the catwalk sheet metal.

The step unit of this invention may also be used on cylindrical posts circular in cross section and as seen in FIGS. 5 and 6, the opposing edges 22A and 26A forming the notch 20A have additionally inwardly facing concave portions 42 and 44 cut therein to mattingly engage the peripheral rounded surface of the round post 46.

In use a single step unit 10 may be employed or a series of them as seen in FIG. 1. In any event the step unit is placed at the desired height along the post and moved into engagement therewith by the notch 20 or 20A receiving the post and the inherent weight of the step portion 16 will cause the opposing edges of the notch to automatically bite into the post as seen in FIG. 4 for example and lock the step unit 10 rigidly in place such that a workman may immediately step onto the step portion 16 and perform the normal maintenance work on the post and/or sign structure. When the job is completed the step unit 10 may be easily removed from the post by simply raising the outer end of the step portion 16 to disengage the opposing edges of the notch 20 from the post and then moving the step unit laterally away from the post. The step unit may then be moved onto the next post and the same procedure repeated.

I claim:

1. A post step comprising:
   a sheet of rigid integral metal having inner and outer end portions;
   said inner and outer end portions meet along a fold line and said outer portion is adapted to extend in a horizontal plane while said inner portion extends at an obtuse angle relative thereto;
   said inner portion including a laterally inwardly extending notch from one side whereby said step may be placed on and removed from a post by moving it in a horizontal plane such that said notch moves into and out of engagement with a post, said notch being formed for one of two of which having opposing edges parallel to said fold line for biting engagement with said post, one of said opposing edges being the inner end of said outer portion and said one opposing edge being in a transverse plane including said fold line, said outer portion having a substantially greater length than said inner portion, and is adapted to provide space for the 2 feet of a workman and said sheet being rectangular in shape, said notch being substantially rectangular in shape and the distance between said opposing edges being slightly greater than the corresponding dimension of the post on which said step is to be positioned, said opposing edges including opposing concave
inwardly facing portions for engagement with a round post; said notch has a uniform width between said opposing edges at the mouth and the base of said notch; said top surface of said outer portion being roughened to provide frictional means for engagement by a person's fast; said post step is one of a plurality of similar post steps mounted on a post and said adjacent post steps alternately extend in directions approximately 90° apart outwardly from said post; and said rigid integral metal being formed from catwalk metal and thereby having inherent strength to support a person's weight.