BAR MAT CLIP

This invention relates to bar mats such as are used as reinforcements in connection with concrete road building. These mats are made of a plurality of right-anglerely crossed bars that are commonly fastened by wire clips, and the present invention is particularly concerned with these clips and their use, one of the inventors' objects being to provide clips which interfasten the bars of these mats so their right-angular relationship is positively maintained regardless of the rough handling which such structures frequently encounter. Other objects may be inferred from the following disclosure of a specific example of a clip embodying the features of the present invention, and of a specific manner of using this clip according to the teachings of this invention.

Referring to the accompanying drawing:

Figure 1 shows two of the right angularly crossed bars of a bar mat and shows a top view of the clip in use.

Figure 2 is a side view of Figure 1.

Figure 3 is also a side view but differs in that it shows the clip in a released condition.

Figures 4 and 5 are cross-sections respectively taken from the lines IV—IV and V—V in Figure 2.

The above drawing illustrates the clip as comprising a piece of spring wire in the form of an elongated loop of approximately rectangular outline, the respective end portions 1 and 2 of this piece being arranged so they can be crossed at the side of one end of the loop, as at 3, and being respectively crimped, as at 4 and 5, in opposite directions to form interlocking surfaces when so crossed. The portions 6 and 7 of the piece of wire forming the sides of the loop are looped at their centers, as at 8 and 9, in planes at right angles to that of the first mentioned loop so as to provide a pair of aligned bar-seats that open in similar directions, and the portions of this piece, 10 and 11, forming the ends of this loop are looped at their centers in planes also at right-angles to that of this loop so as to provide a pair of aligned bar-seats which likewise open in similar directions, these directions being, however, opposite to that of the first mentioned pair so that the clip can be wrapped around crossed bars and function to interfasten them upon crossing the end portions of the piece of wire from which the clip is made. The sides of the loop are angled apart in the plane of the loop toward their respective centers so as to spread the pair of bar-seats formed by the looped portions 8 and 9.

In use, the clip is wrapped around two of the right-angularly crossed bars 12 and 13 and the ends of the piece of wire are crossed, as is described above. Hence the pairs of bar-seats are respectively engaging opposite sides of these bars. Since the crimped portions 4 and 5 of these portions are interlocked the latter cannot shift relative to one another, and the clip, therefore, positively maintains the right-angular relationship of the bars 12 and 13. Furthermore, the length and central width of the clip are sufficient to provide relatively long spans between the respective bar-seats, whereby distortion of the mat, of which the bars 12 and 13 are a part, cannot permanently set the clip, while good structural bracing is obtained.

Now it is to be noted that the bar 12 terminates adjacent the crossing portions of the two. Therefore, it is possible that very rough handling might longitudinally draw this bar through the clip to a sufficient extent to clear the latter and, possibly, effect its release. However, this is prevented by providing the bar 12 with a means 14 for preventing this action, such means being illustrated as comprising a flattening and consequent widening of this bar's extreme end. This feature of the invention is particularly important when reinforcement mats are shipped on flat cars with stakes thrust through their outer bars to retain the mats in position.

We claim:

1. A clip for interfastening right-angularly crossed bars, said clip comprising a piece of spring wire in the form of an elongated loop of approximately rectangular outline, the respective end portions of said piece being arranged so they can be crossed at the side of one end of said loop and being respectively crimped in opposite directions to form interlocking surfaces when so crossed, the portions of said piece forming the sides of said loop being looped at their centers in planes at right angles to the plane of said loop so as to provide a pair of aligned bar-seats that open in similar directions, and the portions of this piece, forming the ends of said loop are looped at their centers in planes also at right-angles to that of this loop so as to provide a pair of aligned bar-seats which likewise open in similar directions, said pairs of bar-seats respectively opening in opposite directions so that said clip can be wrapped around said crossed bars and said portions forming the sides of said loop angling apart in the plane of the latter towards their respective centers so as to spread the first named pair of bar-seats.

2. The combination of right-angularly crossed
bars at least one of which terminates adjacent the
crossing portions of the two, a clip comprising a
piece of spring wire in the form of an elongated
loop of approximately rectangular outline, the re-
spective end portions of said piece being arranged
so they can be crossed at the side of one end of
said loop and being respectively crimped in op-
posite directions to form interlocking surfaces
when so crossed, the portions of said piece form-
ing the sides of said loop being looped at their
centers in planes at right-angles to the plane of
said loop so as to provide a pair of aligned bar-
seats that open in similar directions and the por-
tions of said piece forming the ends of said
loop being looped at their centers in planes also
at right-angles to the plane of said loop so as to
provide a pair of aligned bar-seats which likewise
open in similar directions, said pairs of bar-seats
respectively opening in opposite directions and
said clip being wrapped around said crossed bars
with said pairs of bar-seats respectively engag-
ing opposite sides of said bars, said portions
forming the sides of said loop angling apart in
the plane of the latter toward their respective
centers so as to spread the first named pair of
bar-seats, and means on the end of said bar that
terminates adjacent the crossing portions of said
bars for preventing the same from being pulled
longitudinally through the one of said bar-seats
most adjacent thereto.

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