

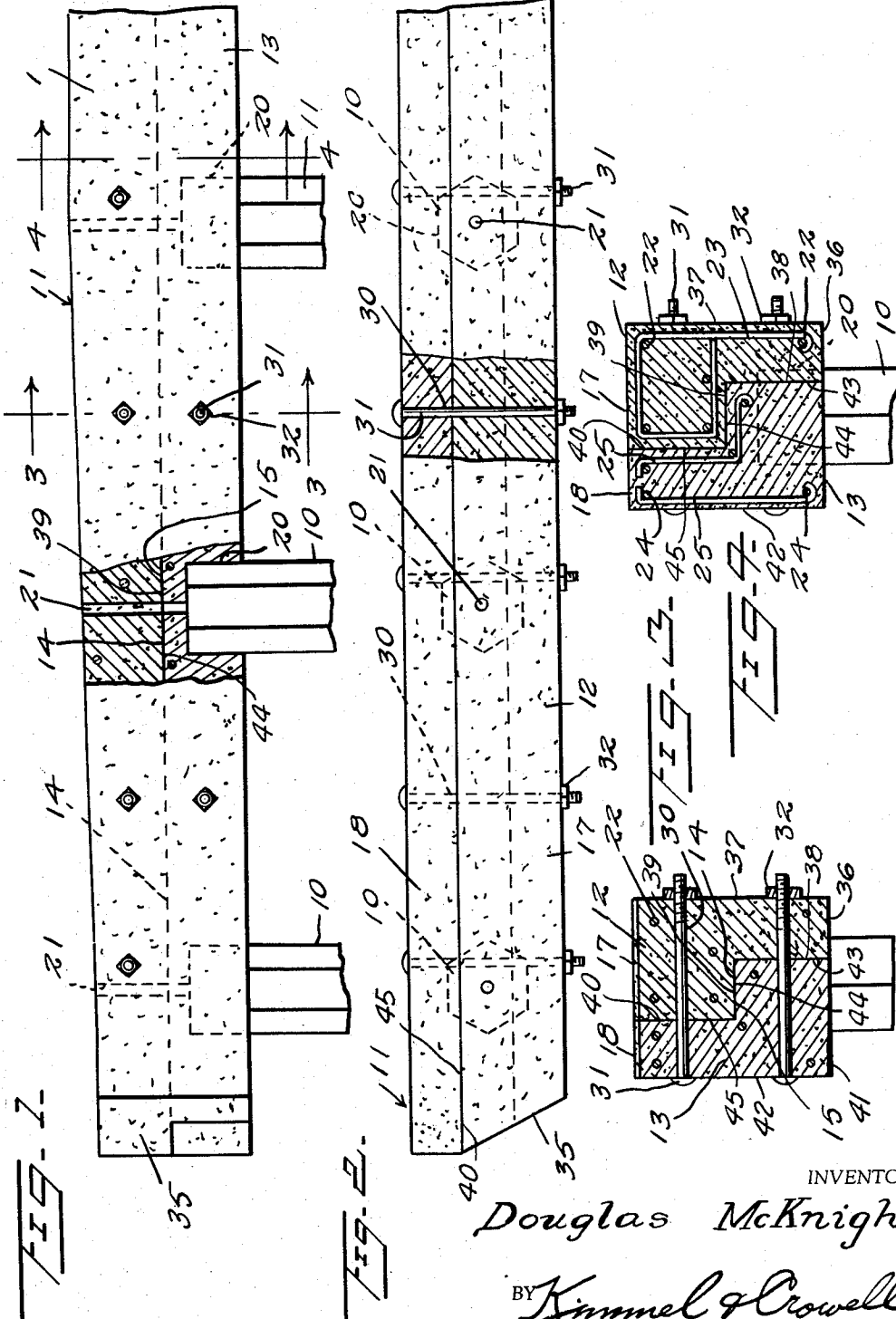
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PILE COPING

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PILE COPING

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This invention relates to a pile coping, and has as its primary object the provision of an improved, prefabricated sectional pile coping which may be readily transported to the place of use, and installed with ordinary field working equipment with a minimum of effort and difficulty.

An additional object of this invention is the provision of such a pile coping comprised of a pair of stepped separable sections which may be readily handled, and which are adapted to be clamped together tightly about the pile head.

Still another object of the invention is the provision of a device of this character which may be preformed readily to accommodate irregular spacing of piles, such as may occur through inadvertence or irregularity in the pile driving.

An additional object of the invention is the provision of a device of this character provided with means whereby various sizes of piles may be readily accommodated.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter, and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side elevational view, partially in section, disclosing one form of pile coping embodying features of the instant invention, certain concealed parts thereof being indicated in dotted lines;

Figure 2 is a top plan view of the structure of Figure 1, parts thereof being shown in section, and parts being indicated in dotted lines;

Figure 3 is a sectional view taken substantially along the line 3—3 of Figure 1, as viewed in the direction indicated by the arrows; and

Figure 4 is a sectional view taken substantially along the line 4—4 of Figure 1, as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawing.

Having reference now to the drawings in detail (Figure 1), there are disclosed at 10 a plurality of piles, which in the illustrative embodiment herein shown are hexagonal in shape, but which may be of any other polygonal or circular shape if desired. The pile coping of the instant invention is generally indicated at 11, and is adapted to extend transversely of a roadway bridge or the like and cap a series of aligned piles.

The coping 11 (Figure 2) is comprised of two sections 12 and 13 (Figure 3) which for descriptive purposes may be termed the top and bottom sections. Section 12 includes a bottom face 36, a side face 37 extending perpendicularly upwardly from the bottom face 36, a top face 17 extending perpendicularly away from the side face 37 and overlying the bottom face 36 in parallel relation thereto, and a step face 14 extending between and connecting the top face 17 and the bottom face 36. The

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step face 14 includes a lower inner face 38 extending perpendicularly upwardly from the bottom face 36 and terminating medially of the top face 17 and the bottom face 36, a step member 39 extending perpendicularly away from the upper edge of the inner face 38 in a direction away from the side member 37 and in a plane parallel to the plane of the bottom face 36, and an upper inner face 40 extending upwardly from the outer edge of the step member 39 to the top face 17 in parallel relation to the side face 37. Section 13 includes a bottom face 41, a side face 42 extending perpendicularly upwardly from the bottom face 41, a top face 18 extending perpendicularly away from the side face 42 and overlying the bottom face 41 in parallel relation thereto, and a step face 15 extending between and connecting the top face 18 and the bottom face 41. The step face 15 includes a lower inner face 43 extending perpendicularly upwardly from the bottom face 41 and terminating medially of the top face 18 and the bottom face 41, a step member 44 extending perpendicularly away from the upper edge of the inner face 43 in a direction toward the side member 42 and overlying the bottom member 41 in a plane parallel thereto, and an upper inner face 45 extending upwardly from the inner edge of the step member 44 to the top face 18 in parallel relation to the side face 42. In the formation or molding of the steps 14 and 15 they are cast in a unitary mold which is provided with movable cylindrical drums or the like (not shown) over which the cement is adapted to be poured, to form a series of circular pile receiving apertures 20 (Figure 4). Obviously, the spacing of these apertures may, by arrangement of the drums, be varied to conform to the exact spacing of the particular piles. Above each aperture 20 there is positioned a pipe or the like, as indicated at 21, for the purpose of forming a communicating passage from the top of member 12 into the associated opening, the pipe being allowed to remain in position after hardening of the cement if desired, or alternatively removed to provide an aperture into which cement may be poured to fill the space in aperture 20 above its associated pile 10. As best shown in Figure 4, section 12 is provided with a plurality of longitudinally extending reinforcing rods 22 surrounded at spaced intervals by transverse bent locking wires 23 extending completely around all the reinforcing rods 22.

Similarly, portion 13 is provided with a plurality of longitudinally extending reinforcing rods 24, about which are positioned transverse reinforcing wires 25, the latter terminating above the top of recesses 20.

At suitable spaced intervals, longitudinal holes 30 are positioned in aligned relation and extending completely through the side walls of members 12 and 13. The holes 30 are adapted for the reception of securing bolts 31 provided at their extremities with nuts 32.

The ends of the pile copings may be suitably beveled as indicated at 35, for suitable positioning of ancillary members comprising components of the bridge structure.

In the assembly of the device, it will be readily apparent that the piles 10 are first driven, and the pile copings 11 are then cast in two sections, a suitable spacing medium being provided for the separation of the two, and the apertures 20 being suitably spaced in conformity to the already driven piles 10. The coping is then transported to the bridge site, and lower section 13 which, it is to be noted, contains the greater portion of each of recesses 20, suitably positioned over the piles. Upper section 12 is then positioned in face-abutting relation with section 13, with step 14 seating on step 15, and bolts 31 passed through the bores 30 and suitably tightened by means of nuts 32 thus clamping the pile 10 between the lower section 13 and the upper section 12 of the coping. Additional cement is then poured through holes 21 for the

purpose of completely filling the recess 20 above each pile 10.

After the concrete is solidified, it will be readily apparent that there will be provided a complete pile and pile coping assembly.

From the foregoing, it will now be seen that there is herein provided an improved prefabricated separable pile coping which may be readily adapted to a wide variety of sizes and spacings of piles, which due to its two-piece construction may be readily and easily handled and placed in position, and which thus accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this inventive concept, and as many modifications may be made in the embodiment hereinbefore shown and described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

1. In a prefabricated coping for a plurality of piles, a pair of stepped coping sections, each of said coping sections including a top face, a bottom face, a step face and a side face, said step faces being disposed in abutting relation, said top faces being flush with respect to each other, said coping sections having a plurality of coinciding pile receiving recesses formed in said bottom faces thereof and clamping means for securing said sections in clamping relation about said piles, said last mentioned means including aligned holes extending through said coping sections, bolts extended through said holes and nuts on said bolts.

2. A device as set forth in claim 1 wherein said coping sections are provided with a plurality of holes, each of said holes extending from said top face of one of said sections into a respective one of said pile receiving recesses formed in said lower faces.

3. A prefabricated reinforced concrete coping for a plurality of piles comprising an elongated coping section having a flat bottom face, a side face extending perpendicularly upwardly therefrom, a top face extending from said side face in parallel relation to said bottom face, a lower inner face extending upwardly from said bottom face parallel to said side face, said lower inner face terminating medially of said top and bottom faces, a step member extending from the upper edge of said inner face in a direction away from said side face and parallel to

said bottom face, and an upper inner face extending from the outer edge of said step member to said top face parallel to said side face, said coping section having a plurality of sockets extending upwardly through said bottom face and opening laterally through said lower inner face, a second coping section having a flat bottom face aligned with the bottom face of said first coping section, a side face extending perpendicularly upwardly from said second bottom face parallel to said first side face, a top face extending from said second side face in parallel relation to said second bottom face, a lower inner face extending upwardly from said second bottom face in parallel relation to said second side face, said second lower inner face terminating medially of said second top face and said second bottom face and contacting said first lower inner face, a step member extending from the upper edge of said second lower inner face in a direction toward said second side face in parallel relation to said second bottom face and contacting said first step face, an upper inner face extending upwardly from the inner edge of said second step member in parallel relation to said second side wall and contacting said first upper inner face, said second coping section having a plurality of sockets extending upwardly through said second bottom wall and opening laterally through said second lower inner wall communicating with said first named sockets, said sockets terminating below said step faces of said coping sections, said sockets having grout holes extending therefrom vertically through said coping sections, and means securing said coping sections together in clamping engagement with the upper end portions of the plurality of piles received in said sockets.

4. A device as claimed in claim 3 wherein said means clamping said coping sections together comprises a plurality of bolts extending horizontally therethrough spaced from said sockets and nuts on said bolts.

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