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ARRANGEMENT FOR JOINTING PILE SECTIONS

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FIG. 1

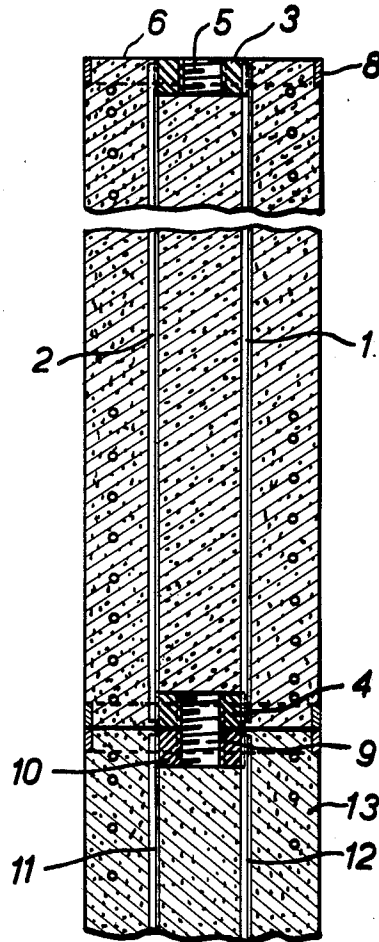
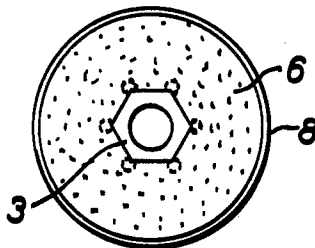


FIG. 2



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ARRANGEMENT FOR JOINTING PILE SECTIONS

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142,653

2 Claims. (Cl. 61—56)

The present invention relates to an arrangement for jointing pile sections of the type used for ground work, and which have to endure high loads when being driven into the ground and where, accordingly, the requirements of the jointing of each section are high.

Such arrangements are known where the pile ends are provided with caps and where the caps are provided with a type of bayonet lock, so that the caps become inter-engaged upon turning of the pile sections in relation to each other. However, this arrangement is not quite satisfactory, because such caps are relatively expensive in manufacture and moreover such a bayonet joint cannot provide a solid, firm connection which will tighten the two pile sections sufficiently together. It therefore became necessary to insert, after jointing of the pile sections in said manner, locking screws in order to maintain the caps in unmovable position relative to each other.

The object of the present invention is to provide a jointing arrangement which gives a rigid, unmovable connection, so that the reinforcing rods of each pile section are connected with the reinforcing rods of adjacent sections thereby providing the character of through-reinforcement rods for the entire pile of jointed pile sections.

According to the invention this is achieved thereby that the jointing device proper consists of a nut-like body, which is welded to the ends of the through-extending reinforcement rods, so that a rigid whole is formed, and the concrete of the pile section is cast around this device in such a manner that the nut-like body at each end is placed centrally within the pile section with its internally threaded aperture coaxially located with respect to the pile section and with its end face flush with the end face of the pile section. The jointing operation proper may then be effected by screwing a threaded bolt or stud into the nut-like body so that the end of said threaded bolt or stud extends at right angles to the end face of the pile section, centrally thereof. The next pile section may then be placed upon said bolt, turned and thereby tightened, so that the end faces of the adjacent pile sections are drawn tightly together and, in practice, a unit having the equivalent of through-extending reinforcement rods is formed.

In order that the invention may be easily understood, the same is explained below with reference to the drawing, in which:

FIG. 1 is a longitudinal sectional view through a pile section and part of an adjacent pile section, and

FIG. 2 is a plan view of a pile section according to the invention.

The end portions of a plurality of through-extending reinforcement rods as shown in FIG. 2 and illustrated in FIG. 1 by rods 1 and 2 are secured by welding to two nuts 3 and 4 respectively, so that the end face 5 of each nut lies flush with a concrete body 7 cast around the nuts

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3 and 4 and the reinforcement rods, together forming a pile section. In the embodiment illustrated a part 6 of the end face of the pile section forms a part of the concrete body proper, and said end face must be cast very carefully, e.g. by being cast against a plane steel surface, so that the end face of the pile section becomes plane and at the same time extends at right angles to the longitudinal axis of the pile section. In order to protect the edges of the end faces a flat iron annulus 8 is provided around the end face.

The nut 3 and the nut 4 may consist of a body that extends over the entire end face, thus consisting of a circular or of a multiple-edged plate, which forms the entire end face of the pile section and thus may be made plane by machining.

For interconnecting pile sections a threaded bolt or stud 9, illustrated in FIG. 1 as a section of an externally threaded round bar, is screwed into the nut 10, which in the manner described has been welded to a plurality of reinforcing rods, illustrated in FIG. 1 by the reinforcing rods 11 and 12 of a pile section 13. Then the pile section carrying the nut 4 is screwed down upon the extending portion of the bolt 9, and may by turning be tightened so that the two end faces are pressed against each other. Due to the fact that the nuts 4 and 10 are drawn together by means of the bolt 9 and that both nuts are welded to the through-extending reinforcement rods, these will act as a coherent unity which extends through all pile sections; thus a very rigid and effective connection which endures high loads is obtained.

I claim:

1. In a sectional cast reinforced concrete pile construction including a plurality of end-to-end abutting cast concrete pile sections each having longitudinally-extending reinforcing rods therein, the adjacent abutting ends of adjacent pile sections having similar flat end face structures respectively located in planes at right angles to the longitudinal axes of said adjacent sections, which axes are in alignment with each other, the reinforcing rods in said adjacent sections respectively extending to the adjacent ends thereof, means interconnecting said abutting adjacent ends and the ends of the reinforcing rods thereat of both adjacent sections providing a structure having the equivalent of a unitary concrete pile provided with through-extending metal reinforcing rods, said interconnecting means including a threaded nut welded to the end portions of the longitudinally extending metal reinforcing rods at each of said adjacent ends and located with its outer face in said plane at right angles to the axis of the pile section, and said interconnecting means also including an externally threaded member threaded into the nuts of said adjacent ends of adjacent sections joining the flat end faces of said adjacent end tightly together in end-to-end alignment and thereby providing a coherent unity in which the longitudinally extending reinforcing rods of said adjacent sections are rigidly interconnected by the tension applied thereto by said externally threaded member.

2. A sectional reinforced concrete pile construction as claimed in claim 1, in which each of the adjacent concrete pile sections include therein a plurality of reinforcing rods the end portions of which at each of said adjacent ends are spaced with respect to each other and welded to the periphery of the nut thereat.

(References on following page)

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References Cited by the Examiner

UNITED STATES PATENTS

1,388,584	8/1921	Marsh.	
1,567,301	12/1925	Ross.	
1,907,522	5/1933	Eaton	287—125
2,065,507	12/1936	Alexander	61—56
2,698,520	1/1955	Lloyd	61—56
2,983,104	5/1961	Burns	61—56
3,104,532	9/1963	Severinsson	61—53

4

FOREIGN PATENTS

1,044,695	6/1953	France.
576,515	4/1946	Great Britain.
582,249	11/1946	Great Britain.
747,249	3/1956	Great Britain.

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