To all whom it may concern:

Be it known that I, Claude S. Friddle, a citizen of the United States, residing at Dayton, in the county of Marengo and State of Alabama, have invented a new and useful Guide for Sheet-Metal Piling, of which the following is a specification.

The invention relates to a guide for sheet metal piling.

The object of the present invention is to provide a simple, inexpensive and efficient device adapted for guiding and supporting sheet metal piling while the same is being driven into the ground at an embankment or other place and capable of enabling relatively thin interlocking sheet metal piling to be handled and driven by unskilled labor and with the use of an ordinary pile driver without bending the piling.

With these and other objects in view, the invention consists in the construction, and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims hereto appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing—Figure 1 is a side elevation of a guide, constructed in accordance with this invention and shown applied to the sheet metal piling. Fig. 2 is a longitudinal sectional view on the line 2—2 of Fig. 1. Fig. 3 is a horizontal sectional view on the line 3—3 of Fig. 1. Fig. 4 is a detail perspective view of the bottom section of the guide. Fig. 5 is a similar view of the driving cap.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

In the accompanying drawing in which is illustrated the preferred form of the invention, the guide, which consists of a plurality of sections 1, 2 and 3, is designed for driving relatively thin sheet metal piling composed of members 4, having their vertical side edges bent inwardly to form interlocking hook-shaped portions 5, which provide longitudinal grooves 6 to receive the interlocking hook-shaped portions of the contiguous piling members. The piling members are maintained in their interlocked relation by means of longitudinal bars 7, secured by rivets or other suitable fastening devices to the piling members in spaced relation with one of the inwardly bent side edges thereof. The lower ends 8 of each piling member 4 is sharpened to enable it to penetrate readily the ground, and each piling member is driven separately by an ordinary pile driver. In driving the first piling member, both grooves will be closed to prevent them from filling up with earth. In driving each subsequent piling member, the groove at one edge is closed and the hook-shaped engaging portion at the opposite edge is slidably engaged with the adjacent engaging portion of the contiguous piling member.

The piling guide is employed to enable long thin sheet metal piling members to be driven into the ground by a pile driver without bending them. Each of the sections 1, 2 and 3 of the guide is composed of two separable side pieces having flat vertical side edges or flanges 9, fitted together and provided at intervals with registering perforations for the reception of bolts 10, which are preferably equipped with winged nuts 11. The side pieces, which are longitudinally grooved or bowed between the flat side edges or flanges 9 to form longitudinal openings 12, are adapted when separated to be placed on either side of the piling member and to be bolted together to form an upright guide and support for the piling member, which is guided in the openings 12 adjacent to the side flanges 9. By this construction, the guide may be placed in position around a sheet metal piling member while the same is supported at the upper end by the hoisting device of a pile driver. The side pieces are further bowed or offset at 13 between the side guiding portions of the openings to provide a space for coupling plates 14, located at opposite faces of the piling member and adapted to connect two sections thereof and secured to the same by rivets 15 or other suitable fastening devices, which have their heads countersunk in the said coupling plates. In driving the piling, the members are alternately arranged in reverse positions to slidably interlock their engaging portions, as clearly shown in Fig. 3 of the drawing, and the central enlargements of the longitudinal opening 12 formed by the offset 110.
portions 13 provide the necessary space for the coupling plates. The coupling plate, which is located at the side to which the longitudinal bar is secured, does not require the central enlargement of the opening 12, but the enlargement is necessary to accommodate the other coupling plate, and the reverse arrangement of the piling members necessitates such enlargement at both sides of the sections of the guide.

The bottom section 1 of the guide is provided with an enlarged base, adapted to rest upon the ground and consisting of horizontal flanges 16 braced by inclined plates 17 riveted, or otherwise secured to the flanges and to the side pieces above the lower ends thereof. The lower section 1 is also provided at the top with horizontal attaching flanges 18 having perforations 19 for the reception of bolts 20, which also pass through perforations of lower attaching flanges 21 of the intermediate section 2. The section is provided at the top with a horizontal attaching flange 22, which is detachably secured to a bottom attaching flange 23 of the top section by bolts 24. The horizontal attaching flanges of the sections are supported by inclined bracing plates 25, riveted or otherwise secured to the plate or pieces and to the attaching flanges. The bolts 20 and 24, which are equipped with thumb nuts, enable the sections of the vertical guide to be readily separated and assembled. It is unnecessary to provide an attaching flange at the upper end of the top section. In the accompanying drawing a guide consisting of three sections is shown to illustrate the character of sections employed, but any number of intermediate sections may, of course, be used to provide a guide of the desired length, and each of the side plates or pieces of the sections is provided with a loop 25, forming a handle to enable the sections to be readily grasped by the operator and also to enable them to be lifted by a hoisting device, which may be used in placing the upper sections in position.

The piling may be driven into the ground flush with the surface thereof, or it may be left in a projecting position, as illustrated in Fig. 1 of the drawing, and to permit this projecting arrangement, the bottom section 1 of the guide is cut away at one side at 26 to provide a lateral opening to enable a portion of the previously driven piling member to extend into the lower portion of the bottom section 1, which fits over the interlocking joint, as clearly shown in Fig. 1 of the drawing. The side plates or pieces of the bottom section are provided at the cut away portion 26 with stiffening ribs 27, formed by grooving the side plates or pieces at the inner faces thereof. When the piling is driven in flush with the surface of the ground, it is unnecessary to cut away the side portion, and the side flanges of the bottom section may be left continuous like the side flanges of the intermediate and upper sections.

In driving long piling members, the latter may be handled by the hoisting mechanism of an ordinary pile driver, and four or four and a half feet of the upper portion of the piling member is left exposed, as shown in Fig. 1 for the action of the pile driver. The sections are designed to be approximately four or four and a half feet in length, as this length of thin sheet metal piling may be readily driven by a pile driver without bending the material. As the piling member is driven into the ground the sections are successively removed by unbolting the side plates or pieces from each other and from the next lower section until the bottom one is reached and removed by taking out the side bolts.

In order to prevent the pile driver or other driving means from bending or denting the upper edge of the piling member and injuring the side grooves thereof, a driving cap 28 is employed. The driving head, which is constructed of steel or other suitable material, is provided with a groove 29 to receive the upper end of the piling member, and the grooved portion is recessed and cut away at 30 at the ends of the driving head to permit the side walls or flanges formed by the groove to extend downwardly between the interlocking side portions of the piling member, while the terminal portions 31 of the head project over the said interlocking portions, as clearly illustrated in Fig. 1 of the drawings.

What is claimed is:

1. A sheet piling guide having a longitudinal opening provided with interior guiding and supporting faces, said guide including separable sections detachably supported in a vertical position one upon another, whereby they are adapted to be assembled around the sheet piling member and successively removed during the driving of the said piling member.

2. A vertical sheet piling guide composed of separable sections detachably supported one upon another and provided with registering longitudinal openings to receive a sheet piling member, said sections being provided with faces and arranged to guide and support the said piling member.

3. A guide for sheet metal piling including a plurality of separable sections arranged vertically one upon the other and detachably secured together and forming a continuous guide opening adapted to receive a sheet metal piling member.

4. A guide for sheet metal piling including a plurality of separable sections detachably secured together one upon the other and composed of separable side pieces adapted.
ed to be assembled around a sheet metal piling member and forming a continuous guide opening for the same.

5. A guide for sheet metal piling including a plurality of separable sections having longitudinal openings and arranged one upon the other to form a continuous guide and provided at their contiguous ends with attaching flanges, said sections being also composed of separable side pieces and adapted to be assembled around a sheet metal piling member, and fastening means for securing the attaching flanges together.

6. A guide for sheet metal piling including a plurality of separable sections detachably secured together and composed of side plates having abutting side flanges and grooved or bowed between the same to form a guide opening, and fastening devices for securing the abutting flanges and the adjacent ends together.

7. A guide for sheet metal piling including a plurality of sections arranged one above another and provided with longitudinal openings forming a continuous guide for a sheet metal piling member, said sections being also offset at opposite sides of the openings to form enlargements of the same to permit the passage of coupling means when sectional piling is operated on, and means for detachably securing the sections together.

8. A guide for sheet metal piling including a plurality of separable sections, each composed of detachable side pieces provided with abutting side flanges and bowed between the same to form an opening and centrally offset at the bowed portion to form enlargements of the opening, said side pieces having guiding faces at opposite sides of the offset portions, and means for securing the abutting flanges together.

9. A guide for sheet metal piling including a bottom section provided at its lower end with a base and having a longitudinal opening and cut away at one side to form a lateral opening to enable the bottom sections to be placed over a projecting piling member.

10. A guide for sheet metal piling including a plurality of vertically arranged separable sections composed of side pieces provided with abutting side flanges and grooved between the same to form a longitudinal opening, the side flanges of the bottom section being cut away at one side to form a lateral opening, and means for securing the side flanges together.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CLAUDE SYDNEY FRIDDLE.

Witnesses:
E. C. BROWDER,
J. G. BROWDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."