June 3, 1930. B. C. COLLIER 1,761,614

PILE AND WALL CONSTRUCTION

Filed Nov. 17, 1926

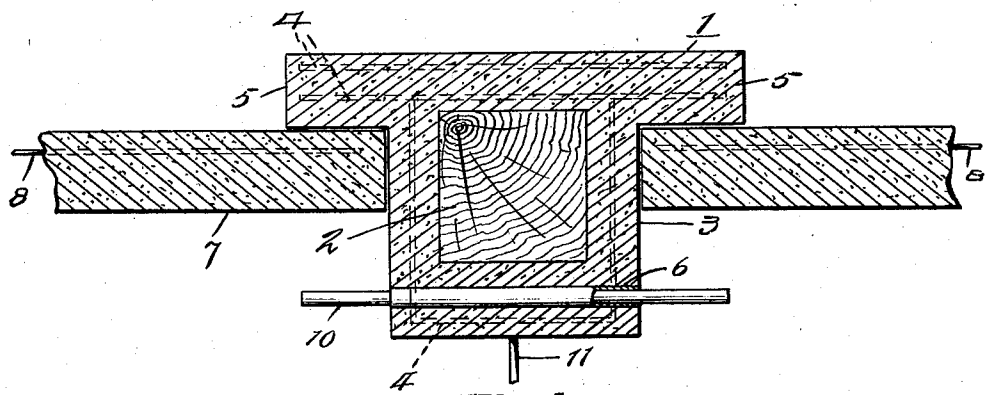


Fig. 1.

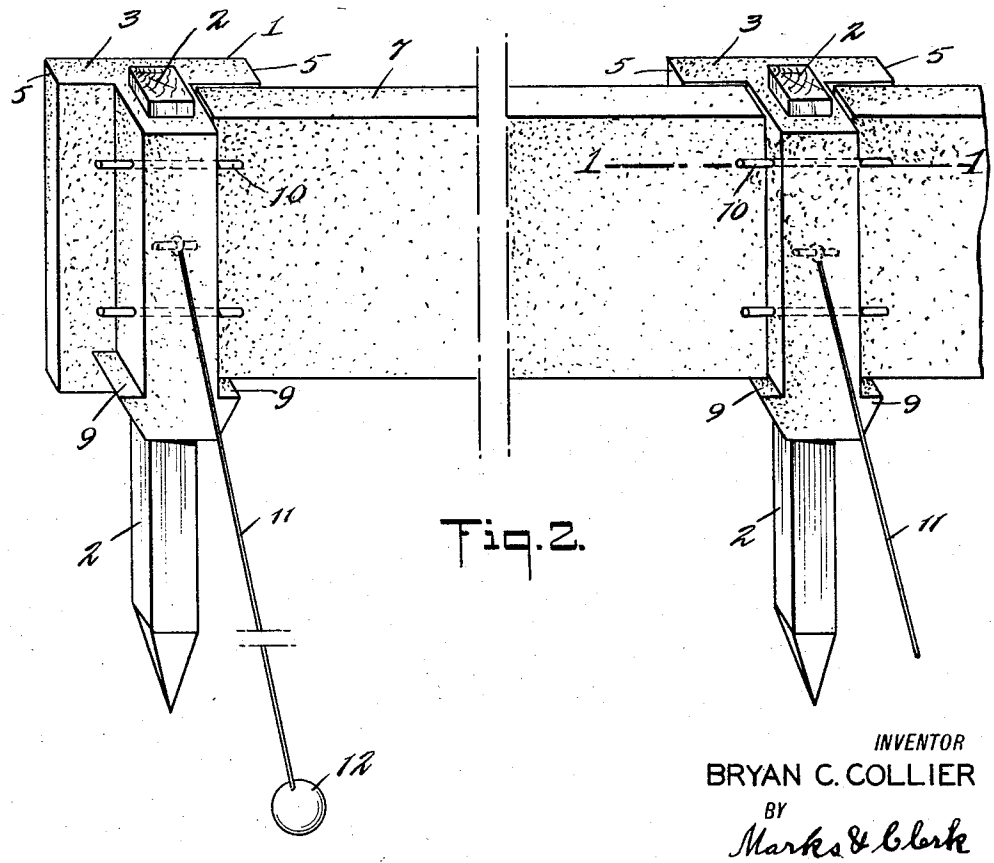


Fig. 2.

INVENTOR
BRYAN C. COLLIER
BY
Marks & Clerk
ATTORNEYS

Patented June 3, 1930 1,761,614

UNITED STATES PATENT OFFICE

BRYAN C. COLLIER, OF ALLENTOWN, PENNSYLVANIA, ASSIGNOR TO CEMENT GUN CONTRACTING COMPANY, OF ALLENTOWN, PENNSYLVANIA, A CORPORATION OF DELAWARE

PILE AND WALL CONSTRUCTION

Application filed November 17, 1926. Serial No. 148,791.

This invention relates to piles, walls including said piles and intermediate slabs, and methods of forming such walls; and more particularly to the construction of walls from piles and slabs preformed from cement or cementitious material, as by casting or by hydrating the concrete material and immediately shooting or blowing it into position as by means of compressed air.

An important object of this invention is to provide an improved wall of panel construction.

Another object of the invention is to provide a novel and superior form of pile for the purpose specified.

A further object of the invention is to provide a novel method of forming a wall from piles and intermediate panels.

Other objects of the invention are to provide a form and design of a wall such as to economize material and labor; a wall of comparatively light weight and corresponding small material content; and a pile having provisions for the attachment thereto of temporary means for guiding slabs into position.

The wall of the present invention is of especial importance for use in water-fronts, docks, piers, breakwaters, jetties, retaining walls, bulkheads, etc.

Other objects and advantages will appear upon consideration of the following detailed description and of an illustrative embodiment of the invention shown in the accompanying drawings, in which:—

Fig. 1 is a sectional view along the line 1—1 of Fig. 2; and

Fig. 2 is a perspective view of a portion of a wall embodying one form of the invention.

According to the illustrated form of the invention, each pile 1 comprises a core or pile 2 preferably of wood and of any suitable cross-sectional shape such as round or square; and a T-section casing or jacket 3 of cement or concrete provided with reinforcing material 4. The upper part of the T provides lateral flanges 5 at the front of the pile, and the rearwardly projecting part of the T-shaped casing is provided with openings formed preferably by placing pipes 6 at the rear of the core 2 before applying the cement or concrete to form the casing 3. Preferably the casing 3 is formed by hydrating concrete material and immediately thereafter shooting the hydrated material into position around the core 2. The wall also includes panels 7 reinforced by material 8 and preformed as by casting or shooting the concrete or cementious material into place in a suitable form. Preferably the casings 3 for the cores 2 are provided with laterally extending seats 9 to support the panels or slabs 7 when the latter are lowered into their final positions as illustrated in Figure 2.

In forming a wall of a class referred to above, the piles 1 are driven into position at suitable intervals and to suitable depths, the cores or wooden piles 2 being sharpened at their lower ends to facilitate such driving. Preferably the cores 2 project above the casings 3 to provide suitable driving heads. After the piles 1 have been driven in the proper positions and to the proper depths, members such as rods 10 are inserted in one or more pipes 6 which provide openings or sockets in the rearwardly extending portion of each pile 1 and slabs or panels 7 are lowered from above between the pipes 6 and the flanges 5 of the piles 1, until the lower edges of each panel or slab 7 rest on the corresponding seats 9. Upon filling in material back of the panels 7, the latter are held firmly against the flanges 5. After the slabs or panels 7 have been properly positioned, the members or rods 10 may be removed if desired. It should be understood that according to the present invention the piles 1 are preferably preformed as by casting or by shooting the hydrated material into a form. Preferably the piles 1 are tied back by suitable means such as rods 11 connected with piles or dead men 12.

It should be understood that various changes may be made in the construction and arrangement of the parts, that certain parts may be used without others, and that the method of constructing the wall may be varied in various respects without departing from the true spirit and scope of the invention.

Having thus described my invention, I claim:

1. A preformed T-section concrete pile adapted for use with the top of the T at the front and forming side extensions, and provided in its rearwardly extending portion with a transverse opening to receive a guide of which the ends serve to direct the edges of adjacent panels into position at the rear of said side extensions.

2. A pile adapted for use in a wall of the pile and panel type, said pile having a laterally projecting panel holding flange and a body at the rear of said flange provided with a socket to receive a member effective during construction for holding the edge of a panel adjacent to said flange.

In testimony whereof I affix my signature.

BRYAN C. COLLIER.