

1,039,369.

Fig. 1.

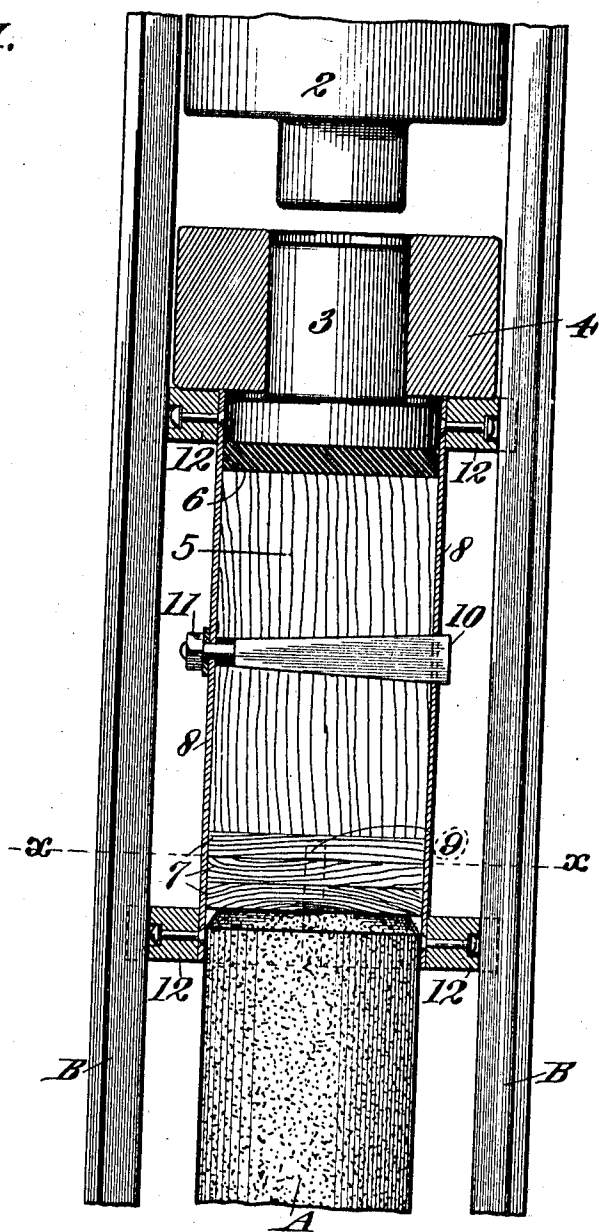
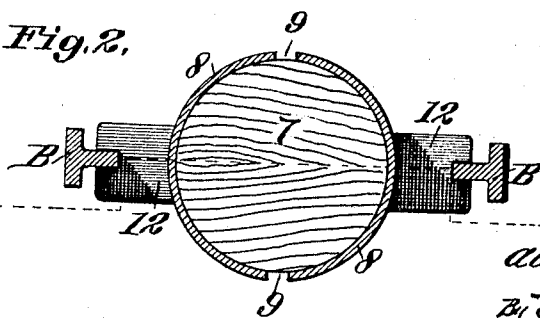


Fig. 2.



Charles Pickles
C. S. Berry

Albert R. Eichler,
by G. H. Strong, atty.

UNITED STATES PATENT OFFICE.

ALBERT R. EICHLER, OF SACRAMENTO, CALIFORNIA.

CUSHION-HEAD FOR CONCRETE PILES.

1,039,369.

Specification of Letters Patent.

Patented Sept. 24, 1912.

Application filed December 7, 1911. Serial No. 664,316.

To all whom it may concern:

Be it known that I, ALBERT R. EICHLER, a citizen of the United States, residing at Sacramento, in the county of Sacramento and State of California, have invented new and useful Improvements in Cushion-Heads for Concrete Piles, of which the following is a specification.

This invention relates to a cushion head for concrete piles.

It is the object of this invention to provide a cushion head for concrete piles and the like, for protecting the pile while driving.

A further object is to provide a cushion head, which is simple in construction, efficient and durable, and which can be readily applied.

The invention consists of the parts and the construction and combination of parts as hereinafter more fully described and claimed, having reference to the accompanying drawings, in which—

Figure 1 is a view in vertical section of the invention. Fig. 2 is a horizontal section on the line X—X, of Fig. 1.

In the drawings, A represents a concrete pile of any suitable description, and B indicates the vertical guides of a pile driver, in which the hammer 2 operates upon a shoe 3 in a base 4, in the usual manner.

My present invention resides in a detachable head which is mounted on the guides B and rests upon the pile A beneath the shoe 3. This head consists of a hard-wood block 5, conforming in cross-section to the upper end of the pile A, of any suitable length, which is capped on its upper end with a hard rubber plate 6 and is covered on its lower end with a number of layers of soft wood 7, the grain of which is arranged transverse to the grain of the hard-wood block 5 and to the top of the pile A. The block 5 is surrounded by a metal jacket 8 which extends some distance beyond the ends of the block, in order to surround the rubber plate 6 and the soft wood layer 7, and project a short distance therebeyond. The upper end of the jacket 8 receives the lower end of the shoe 3 which normally rests on the rubber plate 6; and the lower end of the jacket extends over the upper end of the pile A, so that the end of the pile will be in contact with the lower soft wood block 7. The jacket 8 is slotted on diametrically opposite sides, with longitudinally extending

slots 9, which slots extend from the lower end of the jacket 8 to a point adjacent the lower end of the hard-wood block 5, and are provided as a means for allowing the lower end of the jacket to expand when placed over the pile.

The jacket 8 is secured to the block 5 in any suitable manner, this case showing a tapered key 10 which extends through the jacket 8 and block 5, as shown in Fig. 1, and is retained therein by means of a nut 11, threaded on a stud formed on the end of the key.

Fillet blocks 12 are mounted on the jacket 8 adjacent to its top and bottom edges on opposite sides thereof; these blocks being grooved vertically to extend on each side of the vertical guides B.

In the application of the invention, the pile A is set in position between the guides B, and the cushion head, which is mounted on the guides, is lowered so that the lowermost block 7 will rest on the top of the pile, the upper end of which is centered on entering the lower end of the jacket 8. The hammer 2, on being operated in the usual manner, delivers its blow to the shoe 3 in the base 4, which blow is transmitted to the pile A through the hard rubber plate 6, hard-wood block 5 and soft-wood blocks 7. The plate 6 cushions the blow of the hammer; the hard-wood block transmits the force of the blow to the blocks 7, which blocks being of softer material than the block 5 and the pile A, act as a cushion at this point, thereby protecting the pile. The soft-wood blocks 7 become crushed after being subjected to a large number of impacts and are then removed and replaced by new blocks.

Practice has shown that concrete piles, driven with the above described cushion head placed thereon, are practically uninjured or damaged by the blows of the hammer.

It is manifest that the pile A may be of any desired shape, other than that here shown, and that the cushion head may be of any shape conforming thereto.

From the foregoing it will be seen that I have provided a simple cushion head for piles which can be readily placed in position on the pile and removed therefrom and repeatedly used; the portion subject to greatest wear, consisting of the blocks 7, being removed when necessary.

Having thus described my invention, what

I claim and desire to secure by Letters Patent is—

1. A cushion head for piles comprising a jacket, a block inclosed in the jacket and
5 rigidly secured thereto, a resilient plate on one end of the block, and a layer of soft material on the other end of the block.

2. A cushion head for piles, comprising a metallic jacket, a hard-wood block inclosed
10 in the jacket and secured thereto, said jacket extending beyond the ends of the block, a resilient plate on the upper end of the block surrounded by the jacket, and a layer of soft
15 wood on the lower end of the block surrounded by the jacket.

3. A cushion head for piles, comprising a metallic jacket, a hard-wood block inclosed in the jacket and secured thereto, said jacket
20 extending beyond the ends of the block, a resilient plate on the upper end of the block surrounded by the jacket, a layer of soft

wood on the lower end of the block surrounded by the jacket, and guide-engaging members mounted on the jacket.

4. The combination with a pair of vertical guides having a hammer thereon, of a
25 metallic jacket, a hard-wood block inclosed in the jacket and secured thereto, said jacket extending beyond the ends of the block, a resilient plate on the upper end of the block
30 surrounded by the jacket, a layer of soft wood on the lower end of the block surrounded by the jacket, and guide members mounted on the jacket engaging said vertical
35 guides.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

ALBERT R. EICHLER.

Witnesses:

WILLIAM SKENS,
F. L. HOLLAND.