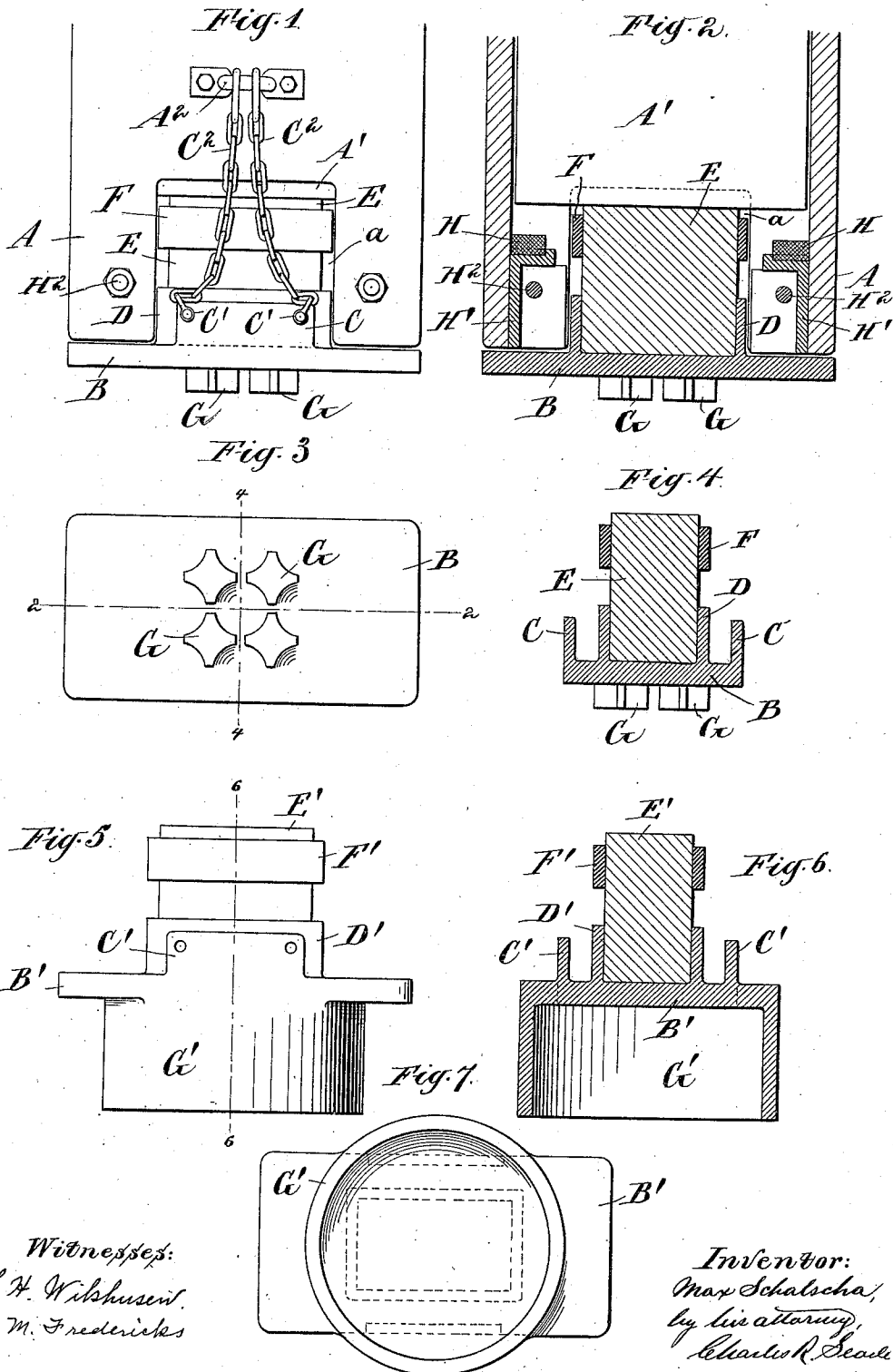


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PILE CAP.
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UNITED STATES PATENT OFFICE.

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PILE-CAP.

1,062,363.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, MAX SCHALSCHA, a citizen of the United States, residing at Summit, in the county of Union and State of New Jersey, have invented a certain new and useful Improvement in Pile-Caps, of which the following is a specification.

The invention relates to devices designed to rest upon and protect the end of a pile beneath a hammer and transmit to the pile the force of the blows delivered by the hammer-ram, and the object of the invention is to provide a cap or striking-plate of this character, of simple and economical construction, which shall serve efficiently and offer easily applied cushioning means for softening the impact of the ram.

The invention consists in certain novel features and details of construction and arrangement by which the above objects are attained, to be hereinafter described.

The accompanying drawings form a part of this specification and show approved forms of the invention.

Figure 1 is an elevation showing the lower portion of a steam hammer equipped with the improved striking-plate or cap. Fig. 2 is a corresponding vertical section, taken on the line 2—2 in Fig. 3. Fig. 3 is a view of the under face of the plate shown in the preceding figures, and Fig. 4 is a corresponding transverse section, taken on the line 4—4 in Fig. 3. The remaining figures show a modification. Fig. 5 is a side elevation showing a plate adapted for service in driving concrete piles. Fig. 6 is a corresponding transverse section on the line 6—6 in Fig. 5, and Fig. 7 is a view of the under face of such plate.

Similar letters of reference indicate like parts in all the figures.

Referring to Figs. 1 to 4 inclusive, A is the lower portion of a steam hammer having an opening or notch *a* in each side face near the lower end, and A¹ is the inclosed ram mounted to reciprocate vertically therein. The pile-cap comprises a plate B preferably of rectangular form to match the lower face of the hammer, and having an upwardly projecting wing C on each long side, received in the corresponding notch *a* and drilled to receive shackles C¹ by which the plate is secured by flexible connections as the chains C² to loops A² on the sides of the hammer. The chains are of sufficient length to permit the plate to follow the pile in the

driving operation while maintaining the attachment to the hammer. On the upper face of the plate B and preferably cast in one therewith is a centrally located upwardly projecting boxlike receptacle D open at the top and serving as a socket to receive the lower end of a block E, preferably of wood, but which may be of any suitable cushioning material. The block serves to receive the impact of the ram A¹ and transmit the force of the blow to the plate and to the pile upon which the plate rests, and thus lessen the shock of impact without reducing the force of the blow. F is a band closely inclosing the block E near the upper end of the latter, serving with the close-fitting socket D to hold the block in shape and lessen the tendency to broom or split. On the under face of the plate are projections or bosses G adapted to receive the upper edge of a sheet-pile between them and thus maintain the plate in position thereon. The bosses shown are designed for service in driving sheet-metal piles, but it will be understood that the plate may be cast with bosses adapted for service with ordinary sheet piling of wood, or for other forms to be driven. H H are bumpers or buffers of rubber held in suitable supports H¹ H¹ within the hammer beneath the ram A¹, to receive the latter at the end of its full stroke when not in contact with the pile. The supports H¹ H¹ are firmly secured to the hammer by the strong transverse bolts H² H².

In Figs. 5, 6, and 7, the plate B¹, wings C¹ and socket D¹, with the block E¹ and band F¹ are similar to the corresponding parts in the earlier described figures and perform the same functions, but in place of the bosses G the under face of the plate B¹ is equipped with a cap or circular socket G¹ adapted to receive the end of a pile of circular or polygonal section and is designed more especially for service in driving concrete piles.

The operation is as usual, the pile-hammer with its plate is lowered upon the pile and the latter engaged; the ram is then reciprocated, the blows being delivered upon the block which with the plate follows the pile as it is driven, the hammer being lowered as the work proceeds.

The plate with its socket, wings and bosses is preferably a single casting and requires but little finishing. It is therefore not expensive and the arrangement is such

as to permit a broken plate to be easily and quickly removed and a new one substituted. The form and arrangement of the socket preserves the inclosed cushioning block while
 5 permitting it to be replaced when crushed or otherwise damaged.

I claim:—

1. In a device of the character set forth, a rectangular plate matching the lower face
 10 of a hammer, a socket on the upper face of said plate, a block received in said socket and arranged to receive blows of the hammer-ram, wings on said plate, loose flexible connections from said wings to said hammer,
 15 and means on the under face of said plate for engaging the end of a pile.

2. In a device of the character set forth, a rectangular plate matching the lower face
 20 of a hammer, a socket on the upper face of said plate, a block received in said socket and arranged to receive blows of the hammer-ram, a band inclosing said block near the upper end of the latter, wings on said
 25 plate, loose flexible connections from said wings to said hammer, and bosses on the un-

der face of said plate, arranged to engage the end of a sheet-pile.

3. The pile-cap described comprising a plate, upwardly projecting wings and a
 30 socket on the upper face of such plate, means on the lower face of said plate for engaging a pile-end, said wings, socket, and engaging means cast integrally with said plate.

4. The combination of a hammer having
 35 openings in its sides at the lower end and a reciprocating ram in said hammer, with a rectangular plate matching the under face of said hammer, upwardly projecting wings on said plate received in said openings, loose
 40 flexible connections from said wings to said hammer, a socket on the upper face of said plate, a block received in said socket and arranged to serve as a cushion to receive the
 45 blows of said ram, and means on the under face of said plate for engaging the end of a pile.

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Witnesses:

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