

No. 820,970.

PATENTED MAY 22, 1906

J. J. HAROLD.  
METAL PILING.

APPLICATION FILED DEC. 22, 1904.

Fig. 1

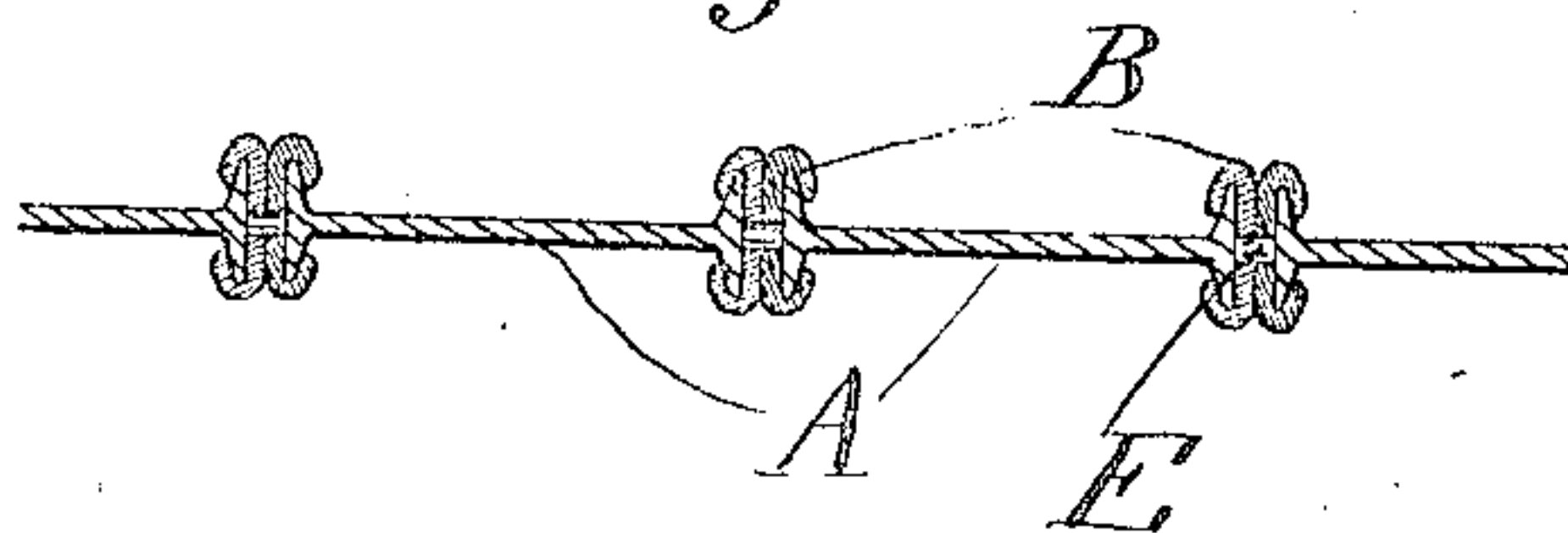


Fig. 2

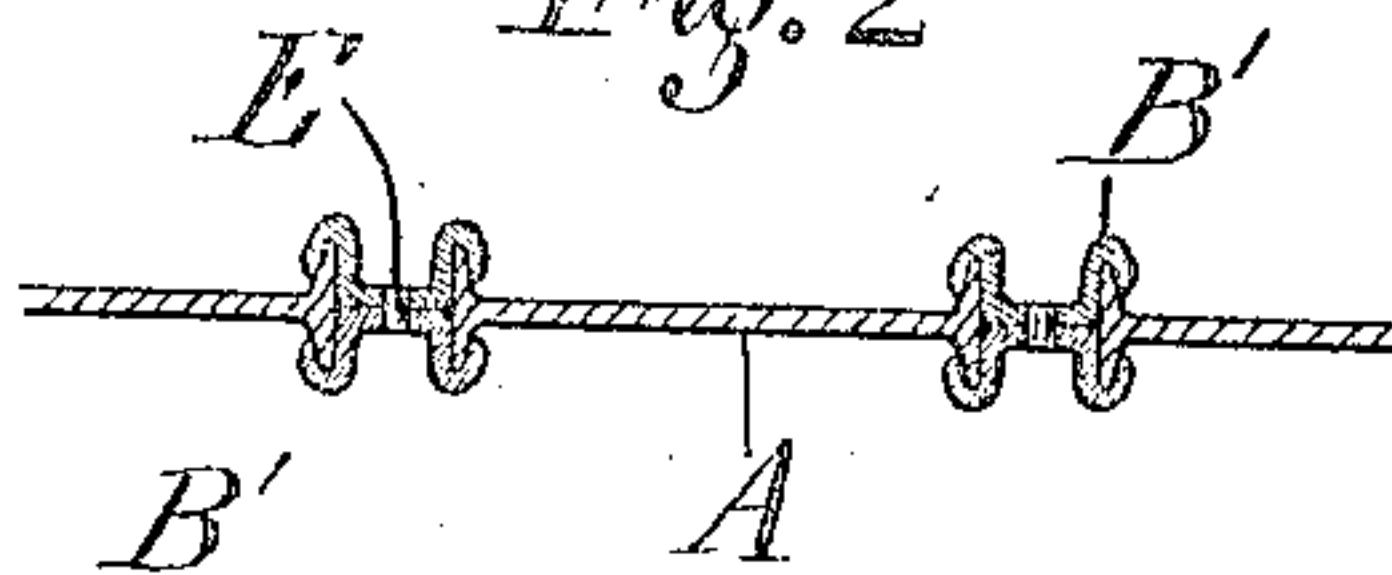


Fig. 3

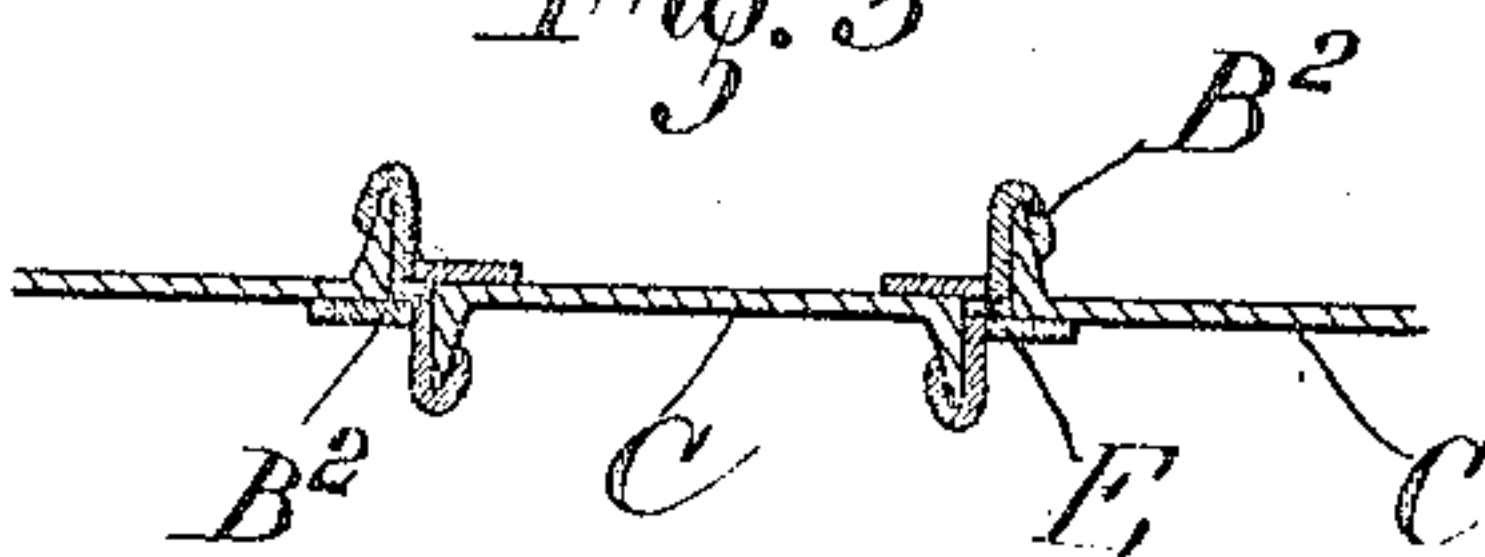


Fig. 4

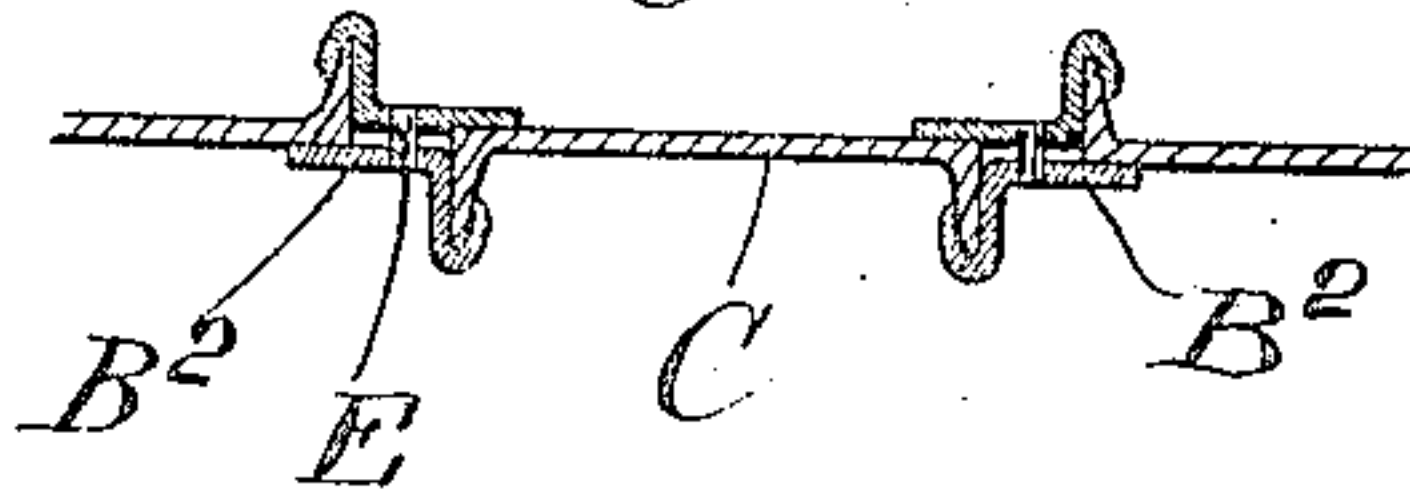


Fig. 5

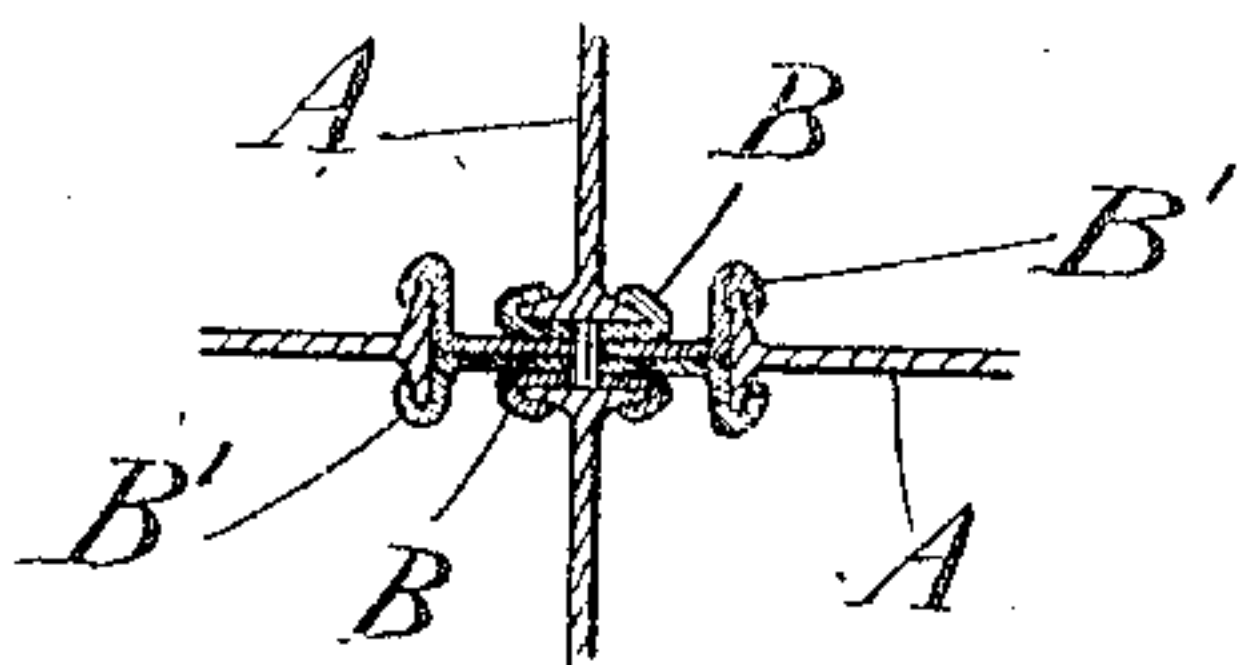
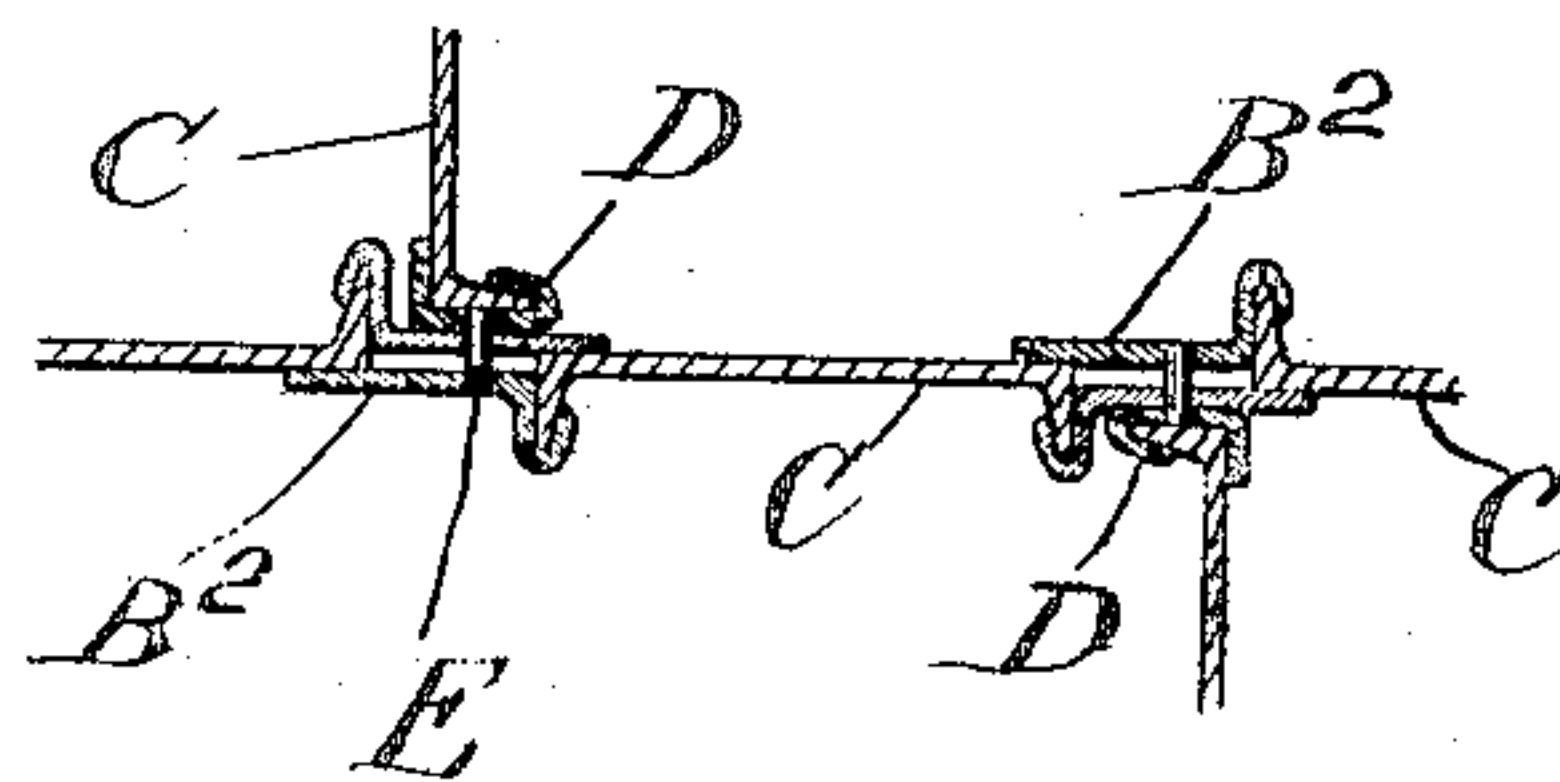


Fig. 6



Witnesses  
Fran Konigsberg  
Beatrice Unger.

James J. Harold

Inventor

By his Attorney

Thompson & Co.

# UNITED STATES PATENT OFFICE.

JAMES J. HAROLD, OF JERSEY CITY, NEW JERSEY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO EMMA HAROLD, OF JERSEY CITY, NEW JERSEY.

## METAL PILING.

No. 820,970.

Specification of Letters Patent.

Patented May 22, 1906.

Application filed December 22, 1904. Serial No. 237,871.

*To all whom it may concern:*

Be it known that I, JAMES J. HAROLD, a citizen of the United States of America, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Metal Piling, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to improvements in metallic piling as used in subway, foundation, and irrigation work, dams, mine-shafts, caissons, sea-walls, locks, coffer-dams, retaining-walls, and similar structures, and comprises flanged beams, preferably of the channel-beam or I-beam type, provided with interlocking members.

Referring to the accompanying drawings, Figure 1 is an end view of a run of my piling, showing the interlocking members fastened back to back and locking the flanges of I-beams. Fig. 2 is another end view showing the same interlocking members with U-shaped back fastened face to face and also locking the flanges of I-beams. Fig. 3 is an end view of a run of my piling, showing the use of channel-beams and the interlocking members shown in Fig. 2 with one end cut off. Fig. 4 shows another method of fastening the interlocking members shown in Fig. 3, so that the fastening-bolts are at right angles to the channel-beams instead of parallel with the piling, as in Fig. 3. Fig. 5 shows a combination arrangement of Figs. 1 and 2, and Fig. 6 a combination arrangement of Figs. 3 and 4.

A represents the I-beams. C represents the channel-beams, and B, B', and B<sup>2</sup> the interlocking members.

In Fig. 1 the interlocking members are

formed with a straight back, so that when fastened together by a bolt E or other suitable means the jaws of each member are adapted to receive the flanges on one side of an I-beam.

In Fig. 2 the back of each interlocking member is U-shaped, and the flat surfaces are fastened as in Fig. 1, so that the flanges on one side of each I-beam may be engaged and retained by one of the jaws of each of the interlocking members.

One side of the interlocking members E may be cut off where channel-beams are used, and the flat surfaces may be bolted together in the usual way, as shown in Fig. 4, or by bending the flat surface around beneath the channel, as shown in Fig. 3. Where a combination of the interlocking members is employed the back of the members B' and B<sup>2</sup> are preferably longer, as shown in Figs. 5 and 6, so as to allow enough room for the other interlocking members B and D.

Modifications may be made without departing from the spirit of the invention.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

In metal piling, interlocking members and flanged beams, said interlocking members provided with channels and flat surfaces, said flat surfaces of said members fastened together and said channels adapted to engage and retain the flanges of said beams.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES J. HAROLD.

Witnesses:

BEATRICE UNGER,  
THOMAS A. HILL.