

H. D. & W. B. EMMONS.
 DEVICE FOR FASTENING TO CONCRETE STRUCTURES.
 APPLICATION FILED DEC. 4, 1907.

956,059.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 1.

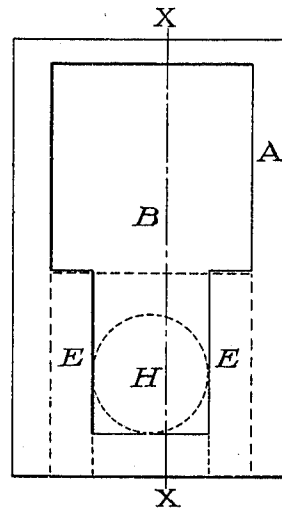


Fig. 1.

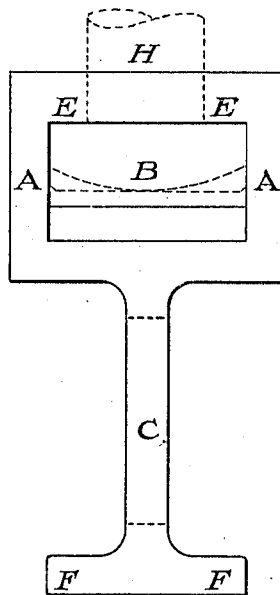


Fig. 2.

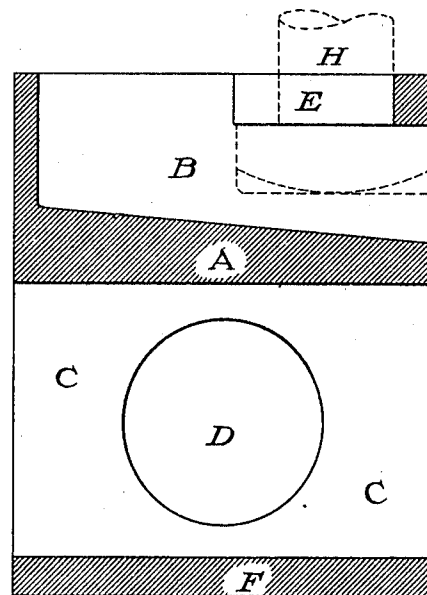


Fig. 3.

WITNESSES:

B. J. Gell.
W. E. Cushman

INVENTORS.

Harry D. Emmons
Willie B. Emmons
 BY *Charles H. Bartlett.*
 ATTORNEY.

H. D. & W. B. EMMONS.
 DEVICE FOR FASTENING TO CONCRETE STRUCTURES.
 APPLICATION FILED DEC. 4, 1907.

956,059.

Patented Apr. 26, 1910.

2 SHEETS—SHEET 2.

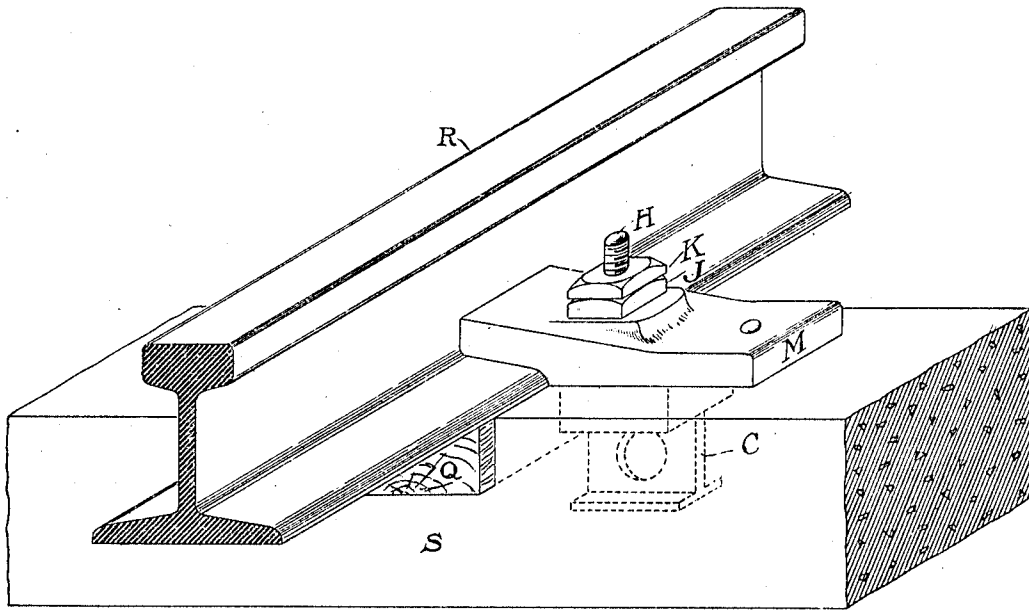


Fig. 4.

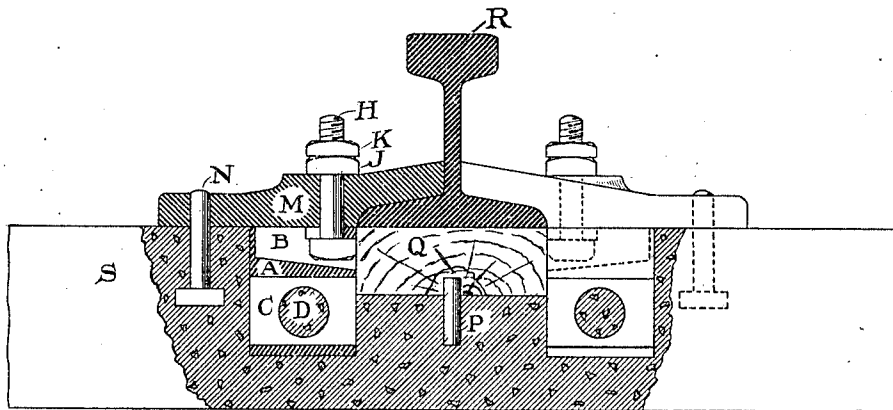


Fig. 5.

WITNESSES:
G. B. Baldwin
C. J. Bartlett

INVENTORS
Harry D. Emons
Willie B. Emons
 BY *Charles H. Bartlett*
 ATTORNEY.

UNITED STATES PATENT OFFICE.

HARRY D. EMMONS, OF WOODSTOCK, AND WILLIE B. EMMONS, OF THORNTON, NEW HAMPSHIRE.

DEVICE FOR FASTENING TO CONCRETE STRUCTURES.

956,059.

Specification of Letters Patent.

Patented Apr. 26, 1910.

Application filed December 4, 1907. Serial No. 405,083.

To all whom it may concern:

Be it known that we, HARRY D. EMMONS and WILLIE B. EMMONS, citizens of the United States, and residents, respectively, of Woodstock, in the county of Grafton and State of New Hampshire, and of Thornton, in said county and State, have invented certain new and useful Improvements in Devices for Fastening to Concrete Structures, of which the following is the specification.

The invention relates to a metallic device permanently set in concrete and so constructed as to allow anything to be fastened to the concrete or removed at will as rails to concrete railroad ties. It is also evident that this device may be used to fasten a great variety of objects as machinery to concrete structures.

The same letters of reference are used to indicate corresponding parts in all views.

Figure 1 of the accompanying drawings shows the top or exposed surface of the device. Fig. 2, an end view, and Fig. 3, a section at *x x*. Fig. 4 shows an application of the device as it may be used in fastening rails to concrete ties and Fig. 5 a longitudinal section through the center of the tie shown in Fig. 4.

In the accompanying drawings A C E and F represent parts of the I-shaped casting embedded in the concrete of which A represents one flange, with an opening B in the exposed side, partially closed at one end by the lugs E E adapted to receive the head of a bolt H; C the web having an opening D through it; F F the other flange; S a concrete tie; R a rail; M clips; Q a cushioning block under the rail; P a pin for holding the block in place; N pins for holding the clips in place and K and L nuts which in connection with the bolt H secure the clips to the casting A which is held firmly in the concrete by the web C aided by the opening D, and the flanges F F.

The device is buried in concrete, the only exposed surface being that shown in Fig. 1. The head of a bolt is inserted in the opening B and moved toward and under the lugs E E. The bolt is made to pass through a hole in the body to be fastened to the concrete or through a hole in the metallic clip resting against the body and the whole is made fast by a nut on the bolt bearing against the body or clip. The body can be readily disconnected by removing the nut

and the bolt removed by sliding the head away from the lugs E E. The opening D and the flange F F are buried in the concrete and serve to prevent the device being pulled from the concrete.

Having thus described the invention, what is claimed is:—

1. A device for fastening bodies to concrete structures comprising an I-shaped casting embedded in concrete, said casting having a hole in the web and a rectangular opening in the exposed surface of one flange and lugs at one end of said opening adapted to receive and secure the head of a bolt and a bolt having suitable nuts and clamps and a square head to fit said opening, substantially as described and for the purpose set forth.

2. In a device for fastening bodies to concrete structures an I-shaped casting embedded in the concrete having an opening through the web and an opening with suitable lugs adapted to receive and secure the head of a bolt in the exposed flange of said casting substantially as described and for the purposes set forth.

3. In a device for fastening bodies to concrete structures the combination of a bolt having suitable nuts and clips with an I-shaped casting embedded in the concrete having an opening in the exposed flange adapted to receive and secure the head of said bolt and a perforated web connecting the flanges of said castings, said web and flanges coöperating to hold said casting in the concrete and secure the bolt, substantially as described and for the purposes set forth.

4. In a device for fastening bodies to concrete structures the combination in an I-shaped casting of a rectangular opening in one flange opposite the web partially closed by lugs at one end and adapted to receive and secure the head of a bolt with a second flange and a perforated web connecting said flanges, substantially as described and for the purposes set forth.

In witness whereof we have affixed our signatures in the presence of two witnesses.

HARRY D. EMMONS.
WILLIE B. EMMONS.

Witnesses:

HAZEL E. MORRILL,
ALVIN BURLEIGH.