

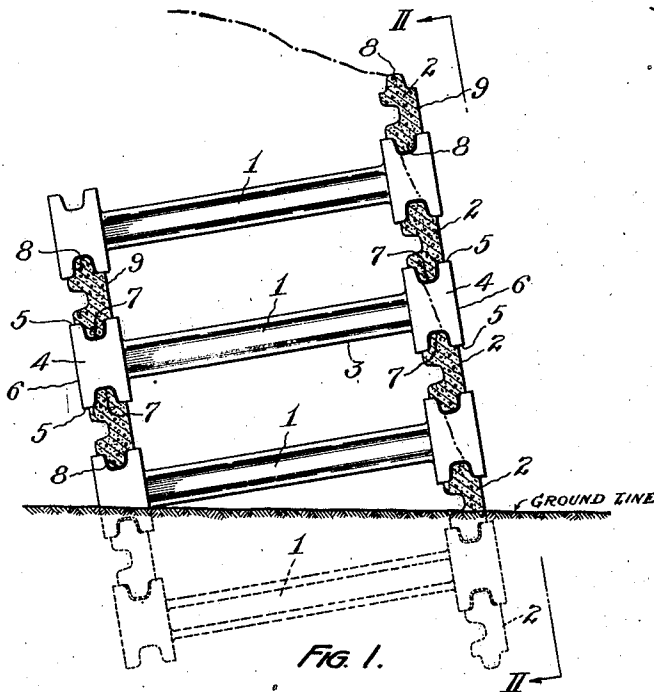
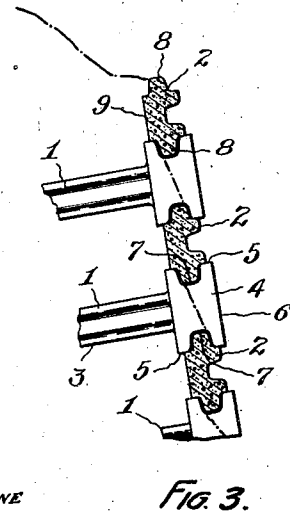
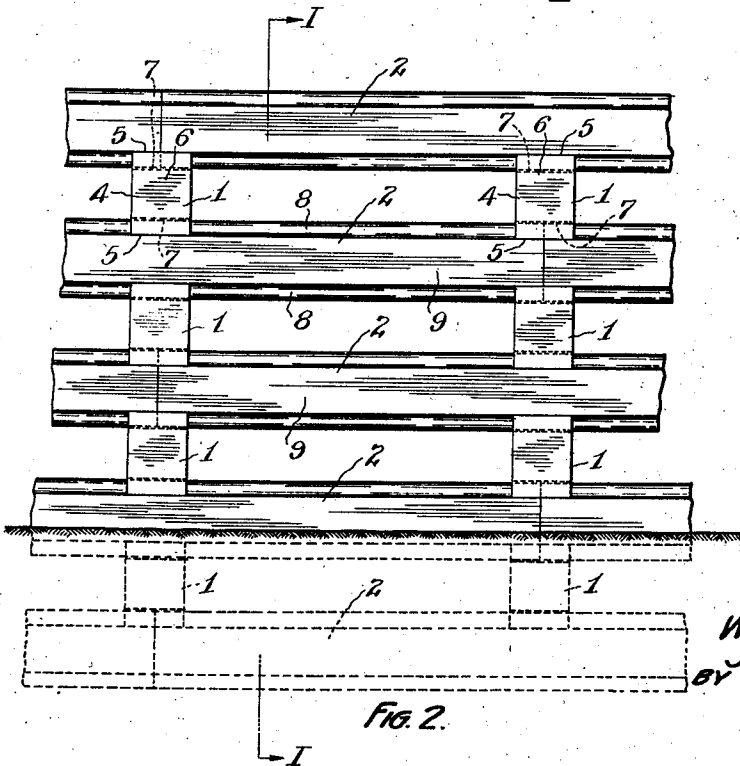
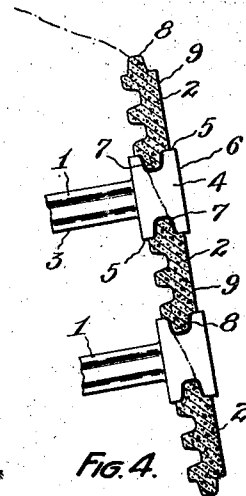
Dec. 18, 1928.

W. H. EVERS ET AL
RETAINING WALL STRUCTURE

Filed April 2, 1925

1,695,997

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

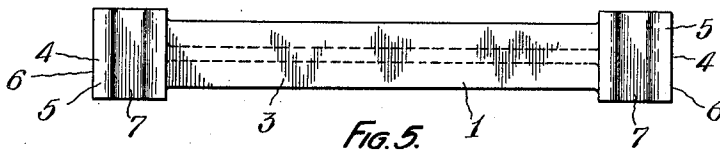


Fig. 5.

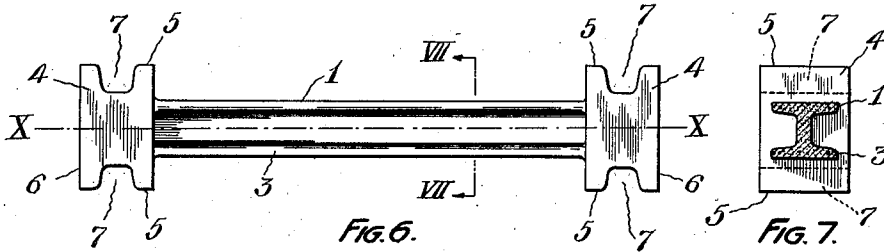


Fig. 6.

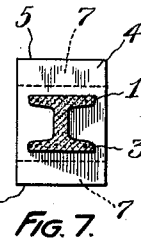


Fig. 7.

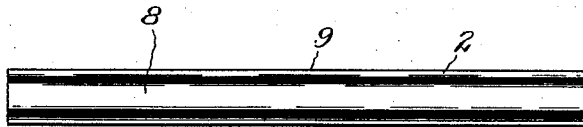


Fig. 8.

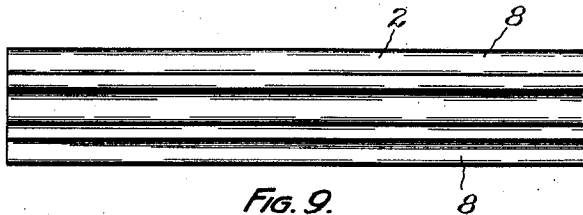


Fig. 9.



Fig. 10.

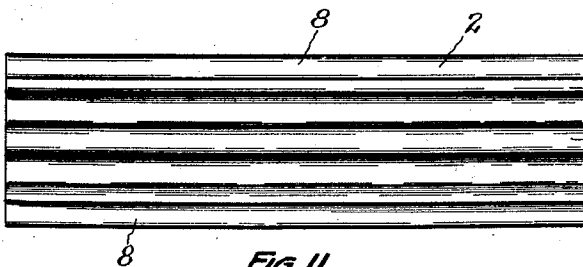


Fig. 11.

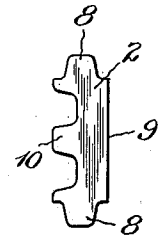


Fig. 12.

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RETAINING-WALL STRUCTURE.

Application filed April 2, 1925. Serial No. 20,038.

Our invention relates to retaining wall structures or the like, which are composed of interlocking headers and stretchers, its object being to form such structure of beams, preferably concrete, the cross-sections of whose main portions are of conventional form such as I-beam or channel, and arranged that the grooves formed by said sections will be placed so as not to catch or hold rain water or the water resulting from melting snow or ice, which upon freezing often causes the beams to crack, and thus imperil the integrity of the whole structure, the advantage of which will be apparent to those skilled in the art.

The said invention consists of means hereinafter fully described and particularly set forth in the claims.

The annexed drawings and the following description set forth in detail certain means embodying our invention, the disclosed means, however, constituting but one of various mechanical forms in which the principle of the invention may be employed.

In said annexed drawings:

Figure 1 represents a transverse section of a retaining wall structure embodying our invention, showing the lower or base portion embedded in the ground.

Fig. 2 represents a front elevation of a fragmentary portion of such a retaining wall structure, and in which the line I—I indicates the plane upon which the section shown in Fig. 1 is taken.

Fig. 3 represents a fragmentary section similar to that of Fig. 1, showing a modification of the structure.

Fig. 4 represents a fragmentary section similar to that of Fig. 3, showing a second modification.

Fig. 5 represents a plan of one of the headers forming a part of the structure.

Fig. 6 represents a side elevation of such header.

Fig. 7 represents a section of such header taken upon the plane indicated by line VII—VII, Fig. 6.

Fig. 8 represents a plan of one of the stretchers forming a part of the structure.

Fig. 9 represents a front elevation of such stretcher.

Fig. 10 represents an end elevation of such stretcher.

Figs. 11 and 12 represent respectively a

front and an end elevation of a modified form of stretcher.

The illustrated embodiment of our invention shows same as applied to a retaining wall for which latter type of structure, our said invention is particularly adapted and useful. Said wall is of the general form shown and described in Patent No. 1,340,670 issued May 8, 1920, to Pease and Suloff and consists of a plurality of laterally spaced concrete headers 1 and a plurality of upwardly and downwardly spaced concrete stretchers 2 interlocking with said headers, the latter and the stretchers, however, having a special form and relation to each other, whereby the desired beneficial results, previously referred to, are obtained, and which we shall now describe.

In the said illustrated embodiment of the invention, each of the headers 1 consists of a main or body portion 3 of I-beam cross-section and two end portions 4 of greater depth than said body portion, the top and bottom faces 5 of these end portions being, as shown, parallel with each other and with the body portion. The end faces 6 of these body portions 4 are perpendicular to the longitudinal axis X—X of the body portion and each of the faces 5 is intersected by a centrally placed groove 7 which extends in a transverse direction at right angles with reference to the main or body portion 3, as shown in Figs. 5, 6 and 7.

These enlarged end portions 4 are symmetrically placed with reference to the main portion of the header and are of like form so that either end of the header may be used for front or rear wall, or either face 5 of the end portion may be used for top or bottom, as will be readily seen.

When the described header is made of concrete, it of course is provided with suitable reinforcing steel bars (not shown) as is customary in the art of concrete structures.

Each of the stretchers 2, Figs. 8, 9 and 10, consists of a concrete beam of uniform and channel cross-section throughout its upper and lower faces having each projecting therefrom a longitudinal centrally placed tongue 8, the one upright face 9 being made flat as shown in Figs. 1 and 10. These tongues are made of a cross-section corresponding with the cross-section of grooves 7 and are capable of fitting therein.

As shown in Figs. 1 and 2, the headers run from front to rear, and each two oppositely disposed faces 5 of contiguous headers have a stretcher interposed between them. By reason of the continuity of the tongues 8, the headers may be placed in any desired position longitudinally of the stretchers, as will also be readily understood.

It will be observed from the above described arrangement that the groove of the main portion of each header and the groove of each stretcher is in a side face thereof and hence in a position in which the water will drain out of same. Further the grooves 7 of the end portions of the headers are substantially filled by the tongues so that practically no water can lodge therein. The structure formed by the assembled headers and stretchers is therefore self draining.

When it is desired to present a substantially flat outer or front surface to the wall, the stretchers are so placed that their flat surfaces 9 will lie in front as shown in Fig. 1, but they may be turned about as shown in Fig. 3. In either case the draining feature of the stretcher is retained.

When a stretcher of increased depth is required, an additional longitudinal strengthening side-rib 10 may be formed as shown in Figs. 4, 11 and 12.

What we claim is:

1. A concrete beam having a main portion and an integral end portion of greater depth than said main portion and having its upper and lower faces each intersected by a groove extending transversely with respect to the longitudinal axis of said main portion.

2. The structure specified in claim 1 in which the end portion is symmetrically arranged with respect to the axis of the main portion.

3. A retaining wall structure comprising interlocked stretchers and headers; the stretchers having top and bottom tongues and the headers being formed with top and bottom grooves; a stretcher being interposed between two headers; the oppositely disposed grooves in the latter respectively engaging the tongues of such interposed stretchers.

4. A retaining wall structure comprising interlocked stretchers and headers; the stretchers having top and bottom projections and the headers having a portion formed with top and bottom grooves; a stretcher being interposed between two headers; the oppositely disposed grooves in the latter respectively engaging the projections of such interposed stretcher; said header having main portions of I-beam cross-section, the

webs of which extend transversely with respect to the direction of extension of said grooves.

5. A retaining wall structure comprising alternately occurring interlocked stretchers and headers; each stretcher being provided upon opposite sides with projecting tongues extending throughout their lengths; the headers being provided with oppositely disposed grooves engaging said tongues.

6. A retaining wall structure comprising alternately occurring interlocked stretchers and headers; each stretcher being provided with an upper and a lower projecting tongue; and each header having a main portion of I-beam cross-section and a portion having a top and bottom groove; the web of the I-beam section being upright and said grooves extending transversely with respect thereto; said grooves being in engagement with said tongues.

7. A retaining wall structure comprising alternately occurring interlocked stretchers and headers; each stretcher being provided upon opposite sides with projecting tongues; and each header being of I-beam cross-section the web of which is upright, and being further provided upon opposite sides with grooves extending transversely with respect to its web.

8. A retaining wall structure comprising upwardly and downwardly spaced stretchers and laterally spaced headers, the headers being laid between successively occurring stretchers; each stretcher being provided in its top and bottom with a longitudinal tongue; each header having a portion provided with a top and bottom groove engaging the bottom and top tongues respectively of adjacent stretchers.

9. A retaining wall structure comprising upwardly and downwardly spaced stretchers and laterally spaced headers, the headers being laid between successively occurring stretchers; each stretcher being provided in its top and bottom with a longitudinal tongue; each header having a portion provided with a top and bottom groove engaging the bottom and top tongues respectively of adjacent stretchers, the main portion of each header being of I-beam section having its web upright.

10. A stretcher for a retaining wall structure having one face plane and the other grooved and having tongues on its opposite edges.

Signed by us this 13th day of March, 1925.

WILLIAM H. EVERS.
JOHN W. SHIMEK.