C. F. BUENTE.

REINFORCED CONCRETE CRIBBING.

APPLICATION FILED JUNE 7, 1916.

1,248,070.

Patented Nov. 27, 1917.

3 SHEETS—SHEET 1.

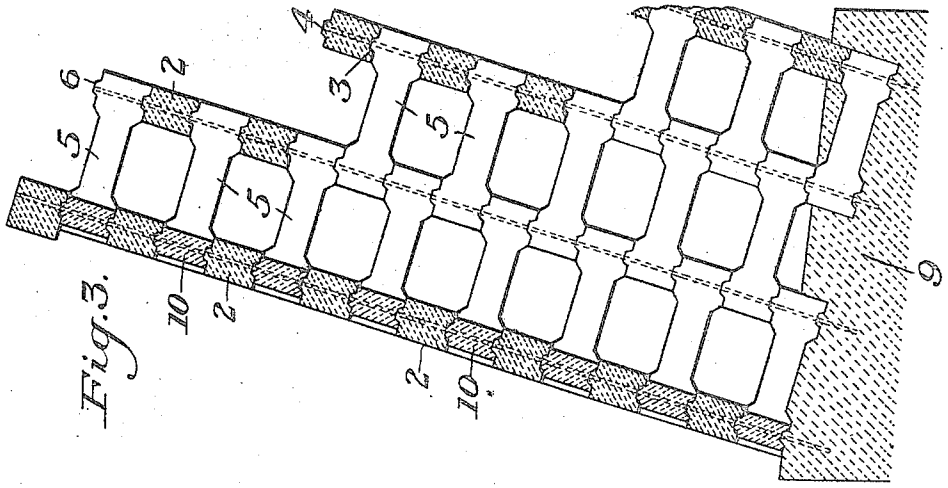


Fig. 3.

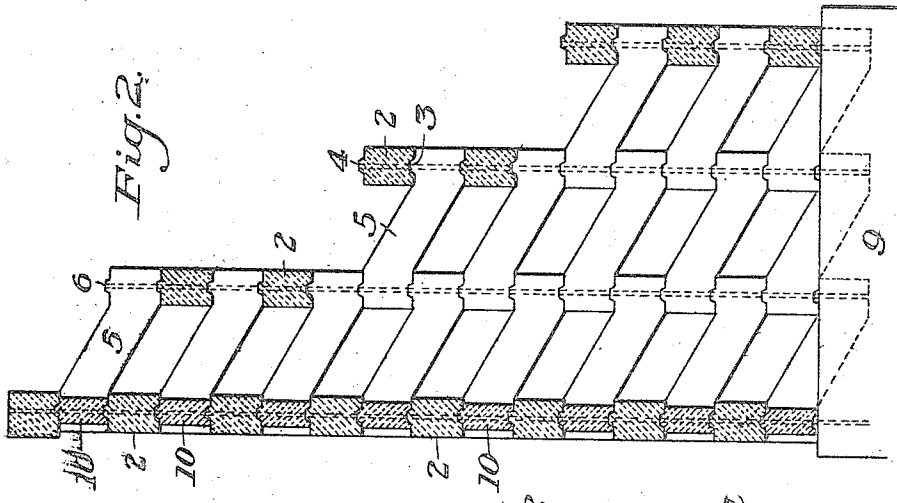


Fig. 2.

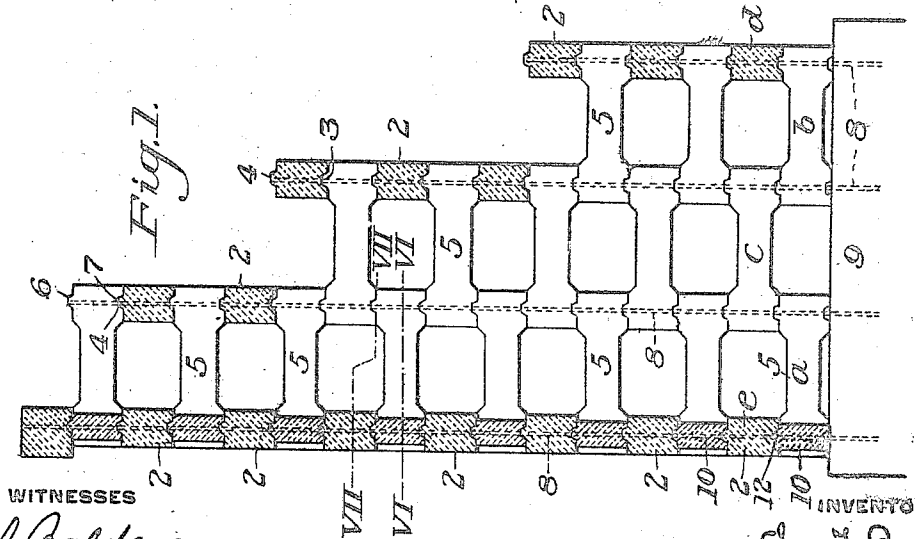


Fig. 1.

WITNESSES

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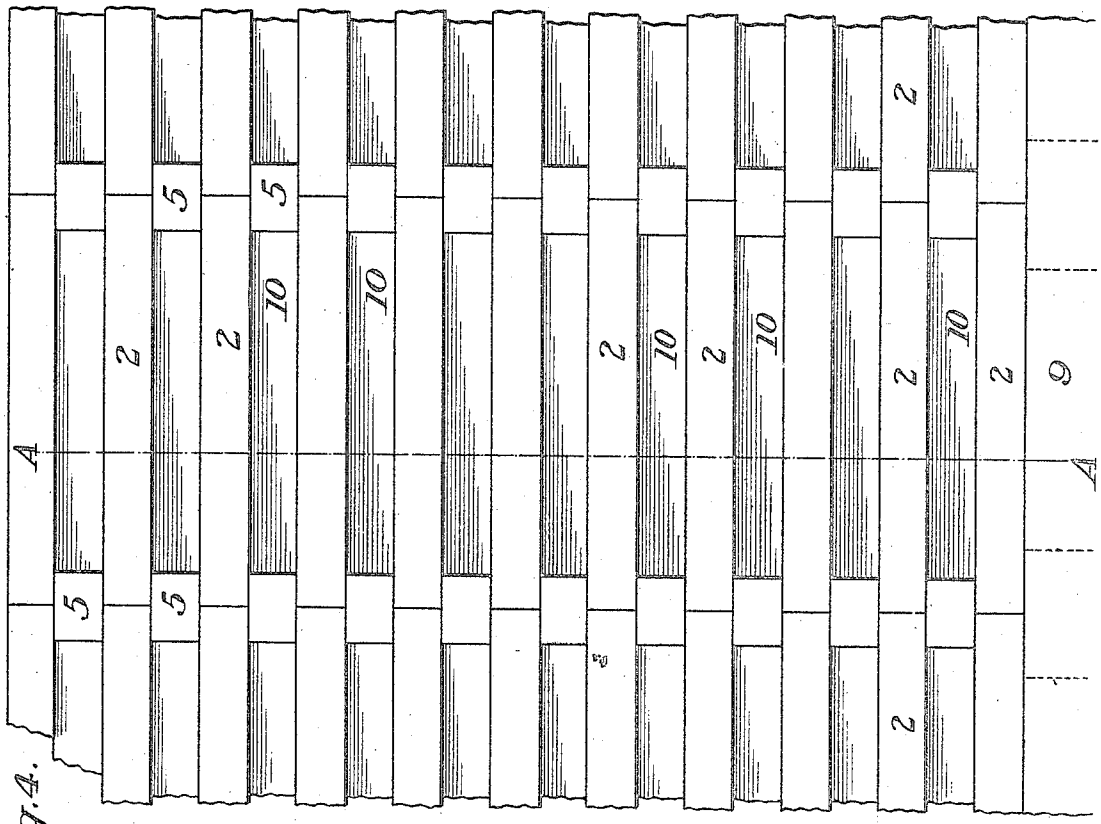


Fig. 4.

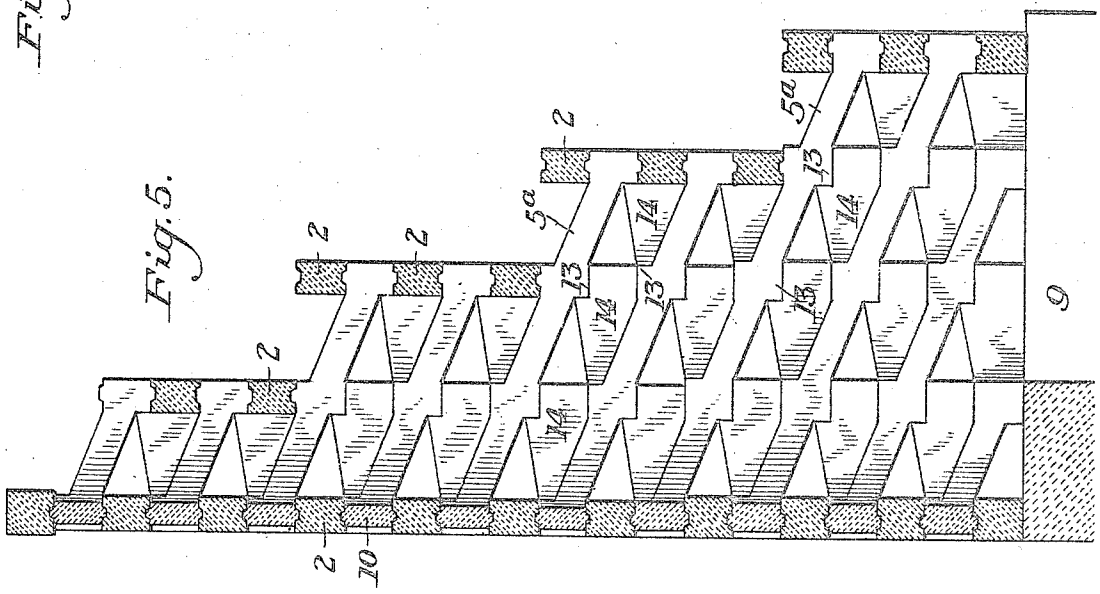


Fig. 5.

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3 SHEETS—SHEET 3.

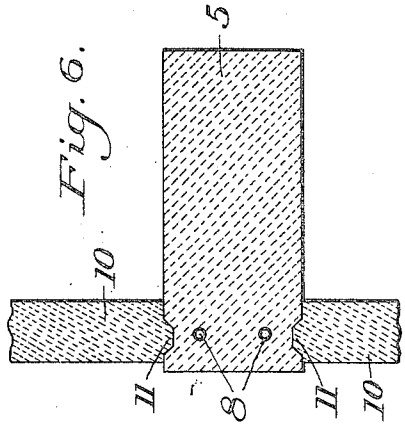


Fig. 6.

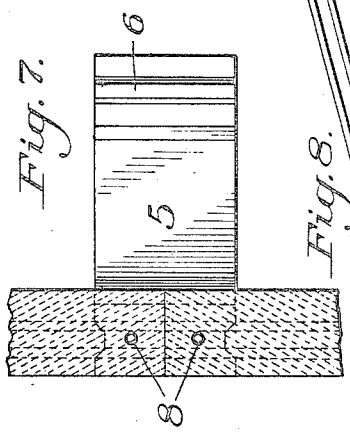


Fig. 7.

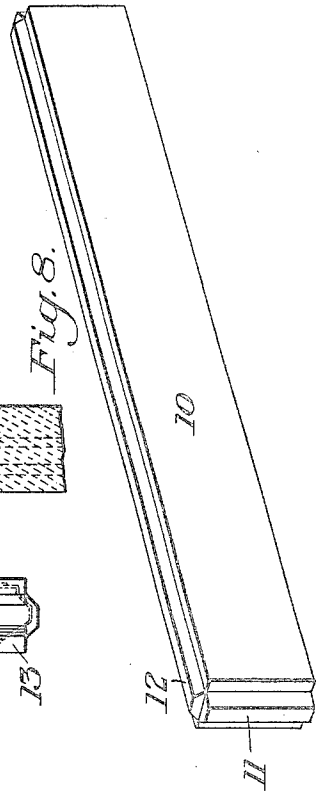


Fig. 8.

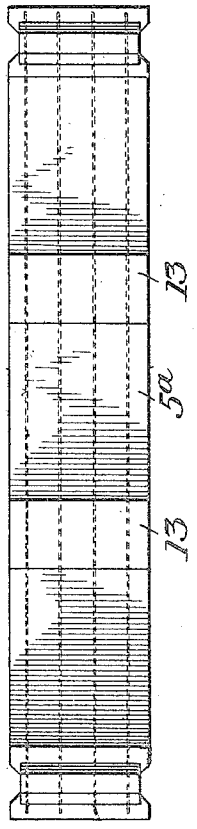


Fig. 9.

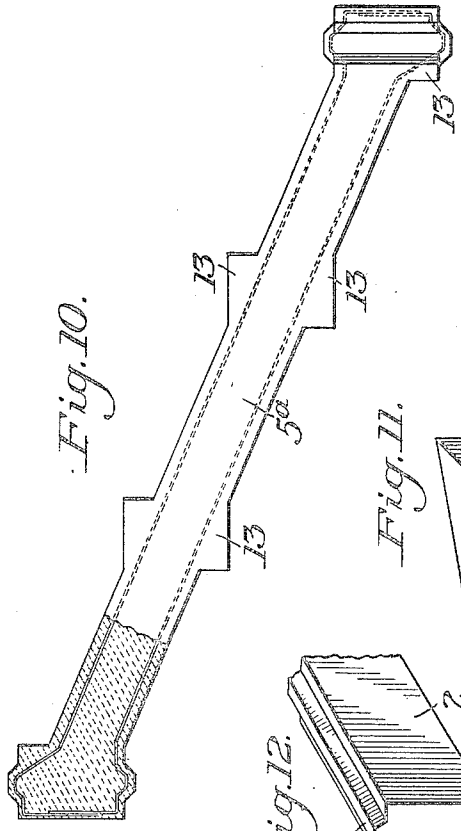


Fig. 10.

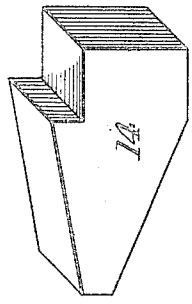


Fig. 11.

Fig. 12.

WITNESSES

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UNITED STATES PATENT OFFICE.

CHARLES F. BUENTE, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO CONCRETE PRODUCTS COMPANY OF PITTSBURGH, OF PITTSBURGH, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

REINFORCED-CONCRETE CRIBBING.

1,248,070. Specification of Letters Patent. Patented Nov. 27, 1917.

Application filed June 7, 1916. Serial No. 102,235.

To all whom it may concern:

Be it known that I, CHARLES F. BUENTE, a citizen of the United States, residing at Pittsburgh, Allegheny county, Pennsylvania, have invented a new and useful Improvement in Reinforced-Concrete Cribbings, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view on the line A—A of Fig. 4.

Fig. 2 is a similar view of another form of structure.

Fig. 3 is a view similar to Fig. 1, showing the device placed at an angle to the vertical and horizontal.

Fig. 4 is a front view of the structure shown in Fig. 1.

Fig. 5 is a view similar to Fig. 1, showing another modified structure.

Fig. 6 is a sectional view on the line VI—VI of Fig. 1.

Fig. 7 is a similar sectional view on the line VII—VII of Fig. 1.

Fig. 8 is a perspective view of one of the filler blocks.

Fig. 9 is a plan view of one of the headers shown in Fig. 5.

Fig. 10 is a side elevation thereof partially in section.

Fig. 11 is a perspective view of one of the shear blocks shown in Fig. 5, and

Fig. 12 is a perspective view of one end of one of the stretchers.

This invention relates to an improvement in concrete cribbing, and is designed to provide a cheap and efficient device of this character in which the various parts can be built at a factory and shipped to the point at which it is to be erected, and in which the various members are so interlocked with each other that none of the headers can slide longitudinally with relation to the other headers.

Another object of my invention is to so form headers and stretchers that cribbing of any size can be built from one form of header and one form of stretcher, so that it will not be necessary to design molds for headers for different sized structures.

Still another object of my invention is to provide filler members for the front of the cribbing which are interlocked with the headers and stretchers surrounding the space in which the filler is inserted.

The precise nature of my invention will be best understood by reference to the accompanying drawings, which will now be described, it being premised, however, that various changes may be made in the details of construction and general arrangement of the parts without departing from the spirit and scope of my invention as defined in the appended claims.

Referring to Figs. 1 and 4 of the drawings, the reference character 2 designates a plurality of stretchers in vertical rows, each of said rows being formed of a plurality of courses of stretchers. In these drawings each stretcher is provided with a longitudinal groove 3 in the bottom thereof, and a longitudinal tongue 4 along the top thereof. 5 are headers which are provided with transverse tongues 6 on the upper surfaces thereof and at each end, while on the lower surfaces thereof immediately below the tongues are transverse grooves 7 for the reception of the tongues on the stretchers, or tongues on headers in adjacent courses in the rows of stretchers.

Each of the headers and stretchers is provided with vertical openings for the reception of anchor rods 8 which extend upwardly from a foundation 9.

In the construction shown in Figs. 1 and 4 the foundation is first erected, and the anchor rods 8 placed in proper position, as indicated in Fig. 1. The lower headers indicated at *a* and *b* along the entire length of the structure are then placed in position, and headers are placed at *c* along the entire structure to interlock with the headers *a* and *b*.

Filler blocks 10 having tongues 11 at their ends, and tongues 12 along their upper surfaces are then placed in position between the stretchers *a*, *a*, the tongues 11 on the ends thereof engaging vertical recesses in the headers, as indicated in Fig. 6. Stretchers 2 are then placed above the headers *a* and the filler blocks 10, as indicated at *e* in Fig. 1, and which stretchers extend from the center of one header to the center of an adjacent header in the same row. The tongues 12 of the filler blocks 10 being seated with-

in the grooves 3 of the stretchers 2 in this course. Stretchers 2 are then placed in the course *d* connecting the rear ends of the headers *b* to each other. The various headers, stretchers and filler blocks are then erected as shown in Fig. 1, the number of headers being reduced as the courses increase, as clearly indicated in Fig. 1.

It will be understood by those familiar with the art that as the various courses are laid up the openings through the headers and stretchers through which the anchor rods extend are filled up with concrete to entirely fill the space between the walls of the openings and the anchor rods.

In Fig. 2 I have shown a structure similar to that shown in Fig. 1, but in this case the bodies of the headers extend at an angle to the horizontal, so that the two ends thereof are in different horizontal planes.

In Fig. 3 I have shown a structure similar to that shown in Fig. 1, but in which the headers and stretchers are placed at an angle to the horizontal and vertical, respectively.

In Fig. 5 I have shown another form, in which I have shown headers of different lengths. In this construction the headers extend from back to the front of the structure, and in which the headers 5^a are provided with projections 13 which engage shear blocks 14 interposed between the projections 13 of adjacent headers, and which are arranged to resist any sliding movement of the headers relative to each other under pressure of the fill or earth.

In the construction shown in Figs. 1 to 4, inclusive, the longitudinal rows of stretchers are laid up in courses which alternate with headers extending at right angles thereto and interlocked therewith. The headers extend from one row of stretchers to the next row of stretchers. The rear rows of stretchers are in different horizontal planes, as well as in different vertical planes, so that the headers between two adjacent rows of stretchers alternate with the stretchers extending from one of said rows to the next row of stretchers, the arrangement being such that the upper rows of stretchers are provided with supporting columns beneath the points of intersection of the stretchers and headers by means of the alternate headers.

In former cases, the headers extended from one row of stretchers to the next row of stretchers in the same horizontal plane, so that the upper headers were considerably shorter than the lower headers. In constructions of this character the entire load of the upper rows of stretchers were supported on one of the headers, so that there was danger of said header fracturing under the load, as there are no supports provided for said headers below the intersection of the headers and stretchers in the upper rows, which extended to the foundation of the structure.

In structures, such as shown in Figs. 1 to 4, a support is formed by the alternate headers, while in structures such as shown in Fig. 5, a support for the headers is formed by the shear blocks.

In Fig. 5 the lateral movement of the headers relative to each other is prevented by means of the shear blocks.

The advantages of my invention result from the provision of a cribbing formed of a plurality of headers and stretchers, in which the various headers are interlocked with each other and with the stretchers so that one header cannot move or slide relative to another.

I claim:

1. A concrete cribbing having longitudinally extending rows of stretchers, and transverse rows of headers interlocked therewith, one of the rows of stretchers being in a different horizontal and different vertical plane than another row of stretchers, the stretchers in the different rows resting on headers, and supporting members between adjacent headers in the same rows below the highest row of stretchers and below the point of intersection of the stretchers and headers to form a support for said row of stretchers and the headers between said stretchers; substantially as described.

2. A concrete cribbing having a longitudinal front wall built up of a plurality of courses of stretchers, a plurality of rows of headers extending at right angles thereto, each row of headers having a plurality of courses which alternate with the different courses of stretchers, a plurality of longitudinal rear walls built up of a plurality of courses of stretchers alternating with the headers and extending parallel to the front wall, the rear walls being in different horizontal and different vertical planes and supporting members for the upper walls between the headers below said walls, substantially as described.

3. A concrete cribbing having a longitudinal front wall built up of a plurality of courses of stretchers, a plurality of rows of headers extending at right angles thereto, each row of headers having a plurality of courses alternating with the different courses of stretchers, a plurality of longitudinal rear walls built up of a plurality of courses of stretchers alternating with the headers, the rear walls being in different horizontal and different vertical planes, each of the headers only extending from one wall to the next wall, some of the headers in each row alternating with other headers in the same row, so that one end each of such header forms a support for one end of another such header, and thereby forms a

supporting column for one of the longitudinal rear walls, substantially as described.

4. A concrete cribbing having a longitudinal front wall built up of a plurality of courses of stretchers, a plurality of rows of headers extending at right angles thereto, each row of headers having a plurality of courses alternating with the different courses of stretchers, a plurality of longitudinal rear walls built up of a plurality of courses of stretchers alternating with the headers, the rear walls being in different horizontal and different vertical planes, each of the headers extending from one wall to the next wall, the headers between two walls alternating with the headers between one of said walls and the next wall; substantially as described.

In testimony whereof, I have hereunto set my hand.

CHARLES F. BUENTE.

Witnesses:
W. C. LYON,
H. M. CORWIN.