No. 840,016. PATENTED JAN. 1, 1907.

J. H. SCHLAFLY.

BINDING SHEET FOR CONCRETE WORK.

APPLICATION FILED DEC. 26, 1905.

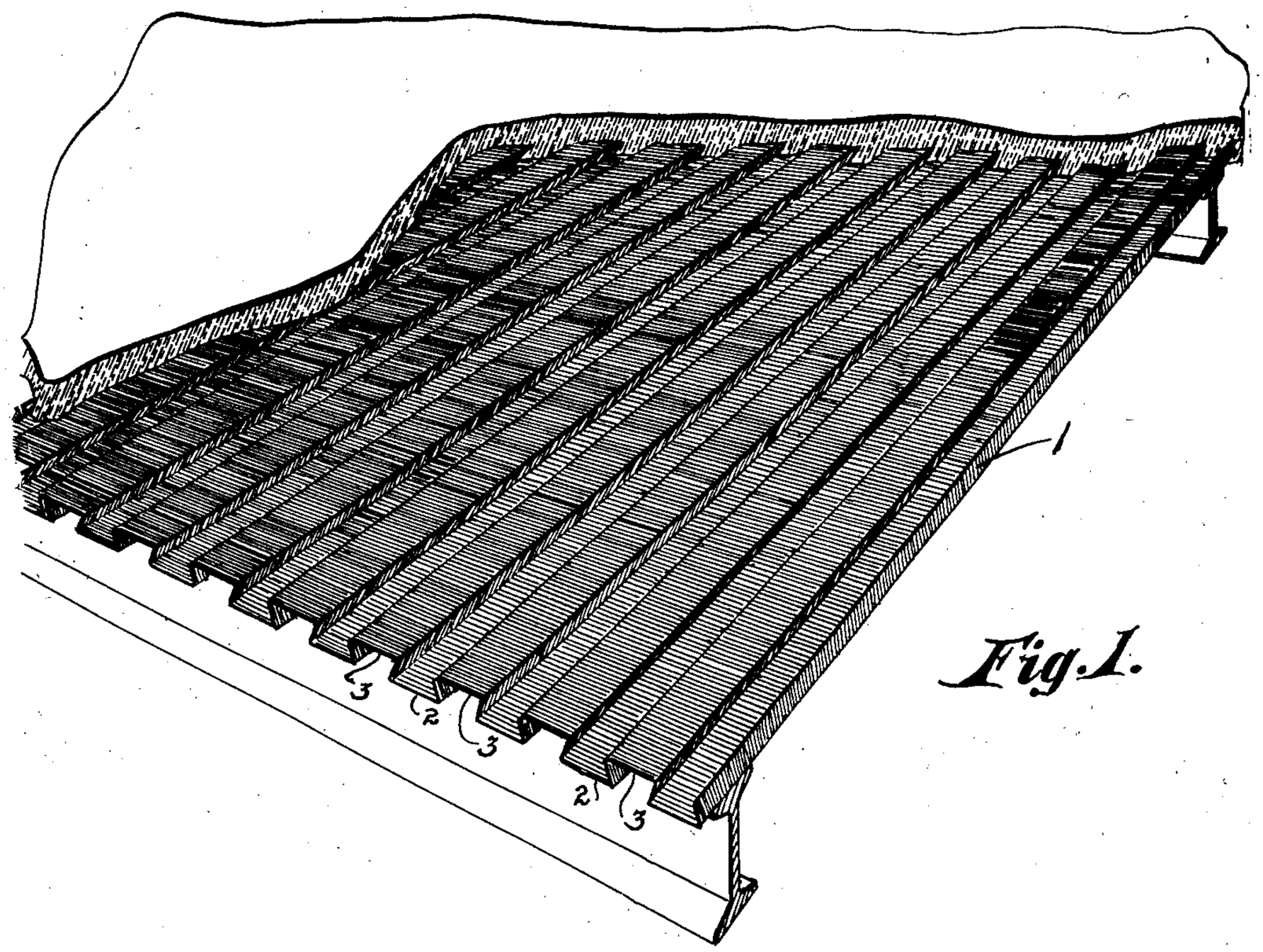


Fig. 1.

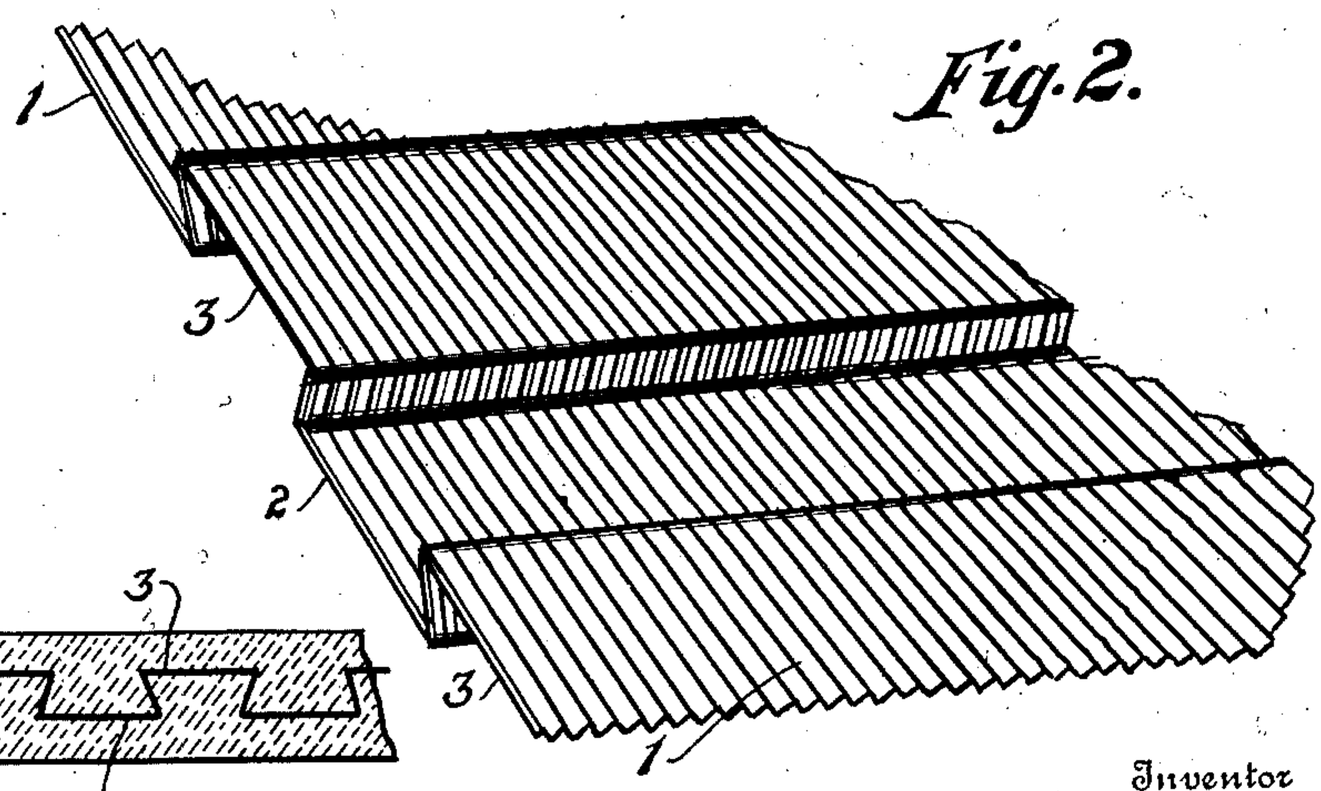
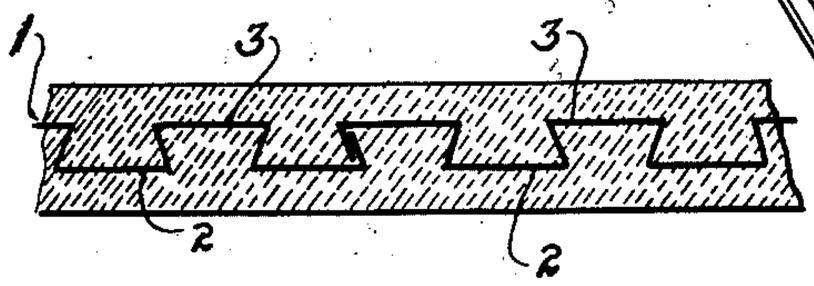


Fig. 2.

Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JULIUS H. SCHLAFLY, OF CANTON, OHIO, ASSIGNOR TO THE BERGER MANUFACTURING COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

BINDING-SHEET FOR CONCRETE-WORK.

No. 840,016. Specification of Letters Patent. Patented Jan. 1, 1907.

Application filed December 26, 1905. Serial No. 293,185.

To all whom it may concern:

Be it known that I, JULIUS H. SCHLAFLY, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Binding-Sheets for Concrete-Work; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification.

The object of the present invention is to provide a sheet of metal adapted to bind concrete-work in such a manner that after the concrete has changed from a plastic state to a rigid or hardened condition the binding-sheet will be so connected that there can be no relative movement as between the contact-surface of the binding-sheet and the concrete. This object I accomplish by the peculiar construction of the binding-sheet shown in the annexed drawings, making a part of this specification.

Referring to the drawings, Figure 1 is a perspective view showing a portion of my improved binding-sheet and illustrating the sheet partly covered with concrete-work. Fig. 2 is a view showing a portion of the binding-sheet drawn upon a larger scale than that shown in Fig. 1. Fig. 3 is a view illustrating my improved binding-sheet located in cement-work and the cement connected upon both faces of the binding-sheet.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the binding-sheet, which is formed of metal and of any desired size and thickness. In use where it is desired to construct floors or other concrete-work of large areas a number of binding-sheets must necessarily be employed, which sheets are connected together as hereinafter described.

For the purpose of producing what might be termed an "integral" part or structure so far as the concrete-work within itself is concerned the binding-sheets are provided with roughened surfaces, which roughened surfaces may be of the form shown, and, as shown, the surface consists of corrugations; but the only object designed to be accomplished is to provide a binding-sheet having roughened surfaces of such a nature and kind that substantially and practically all of the surfaces of the binding-sheet present concrete contact-faces, so that there can be no relative movement as between the adjacent faces of the binding-sheet and the adjacent faces of the concrete-work, and at the same time provide means for embedding the binding-sheet in the concrete-work in different planes, which is accomplished by producing alternating dovetailed grooves 2 and ridges 3, which alternating grooves and ridges are connected together by integral portions of the binding-sheet proper.

It will be understood that by forming the alternating grooves and ridges the concrete while in a plastic state can be located in and upon alternating grooves and ridges, thereby producing an alternating tongue-and groove embodiment of the binding-sheet in the concrete-work, and by producing roughened surfaces upon the entire surface of the binding-sheet the entire surface of the concrete-work will be in contact with the binding-sheet, by which arrangement no particular part or spot of the binding-sheet is subjected to any overdue strain arising from any vibrations of the finished concrete-work. This feature is an important one, for the reason that the adhesiveness as between the binding-sheet and the concrete-work is uniform throughout the entire length and breadth of the concrete regardless of size.

It is well understood that where plain contact-surfaces exist, as between the binding-sheets and the concrete-work, there is a tendency toward relative movement as between metal and concrete faces, and of course the strain of the concrete-work upon the binding-sheet is shifted to a certain extent from the plain surfaces to the roughened surfaces, or, in other words, the adhesiveness is not equal and alike at all points, and by reason of the different degrees of adhesiveness at different points of the surface, as between the binding-sheet and the concrete-work, there is a tendency toward a slipping movement of the concrete-work upon the surface of the binding-sheet, thereby causing or producing greater strain upon certain portions of the concrete-work than others, the result and effect being toward producing breaks or a cracking of the concrete after it has become hardened; but by the use of my improved binding-sheets there is and can be no difference in the de-

gree of strain, or, in other words, there is and can be no shifting of the strain or the producing of overdue strain upon any particular point throughout the entire structure of a single piece of concrete-work.

It will be understood that in the construction of concrete-work such as floors and like structures a series of sheets, such as 1, must be employed, and when so employed the edges of the sheets can be hooked together, as best illustrated in Fig. 3.

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

1. A binding-sheet for concrete-work provided with alternating dovetailed grooves and ridges and corrugations located transverse to the alternating grooves and ridges, substantially as and for the purpose specified.

2. A binding-sheet for concrete-work, provided with alternating ridges and grooves, the tops, bottoms, and side wall-faces of said alternating ridges and grooves provided with roughened surfaces, and the sheet provided with roughened surfaces, intermediate the ridges and grooves, said ridges and grooves located transverse to the roughened intermediate surfaces, substantially as and for the purpose specified.

3. As an improved article of manufacture, a binding-sheet provided with dovetailed grooves and ridges and the sheet corrugated transverse to the dovetailed grooves and ridges and the corrugations extended throughout the walls of the dovetailed ridges and grooves, substantially as and for the purpose specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

JULIUS H. SCHLAFLY.

Witnesses:
ED LANGENBACH,
C. A. IRWIN.