

J. H. SCHLAFLY.  
 PERMANENT SHEET METAL CENTERING.  
 APPLICATION FILED MAY 19, 1908.

934,939.

Patented Sept. 21, 1909.

Fig. 1.

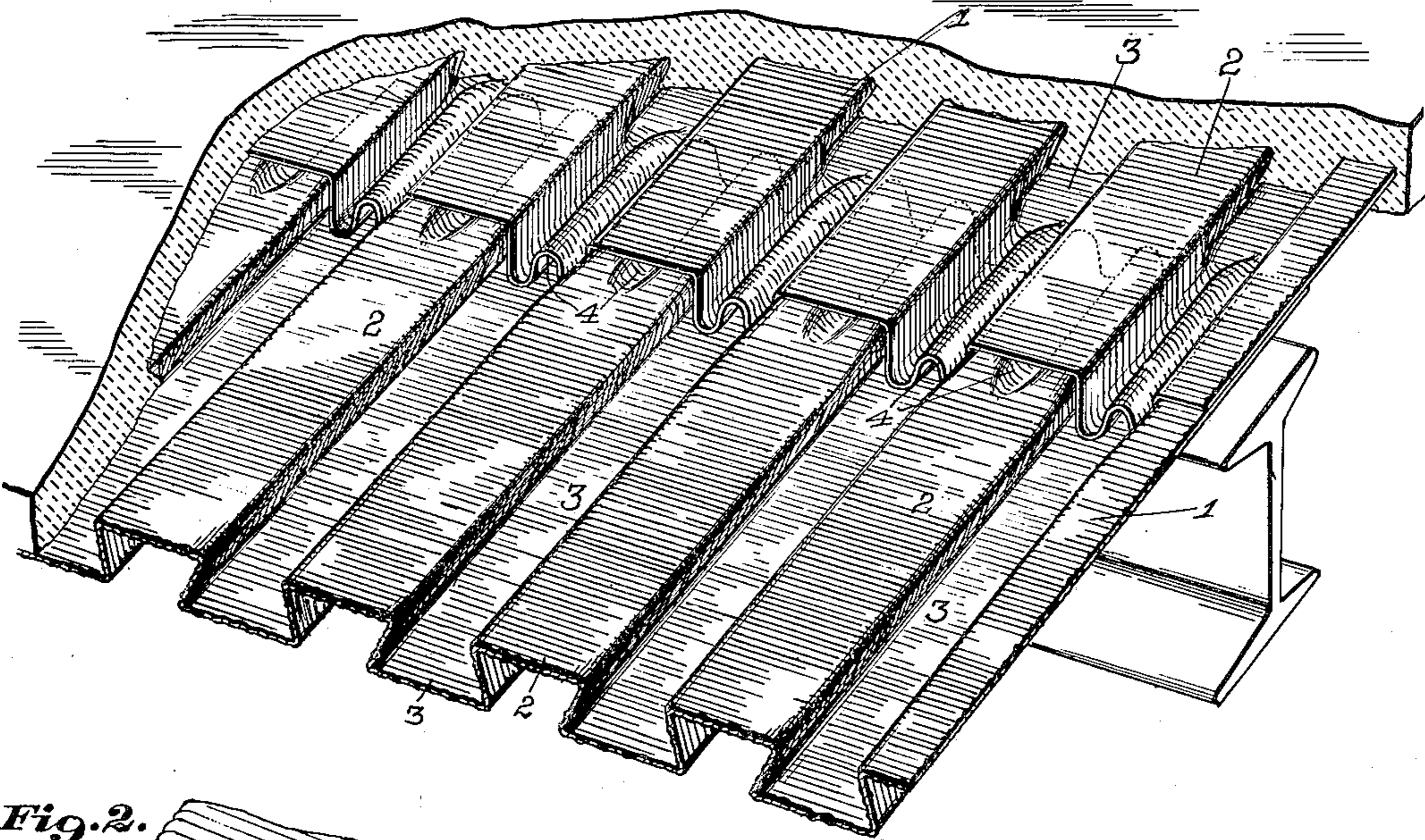
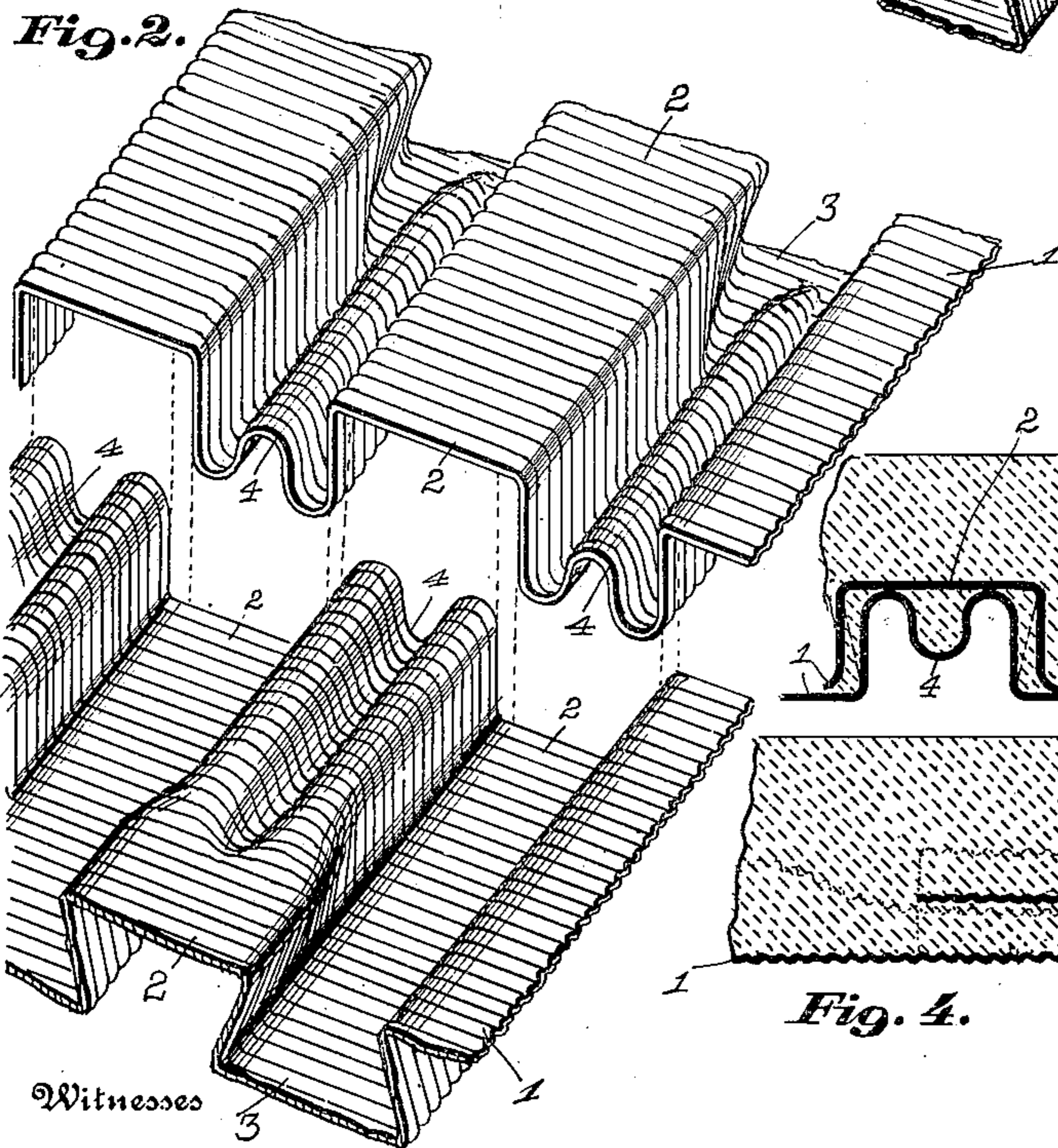


Fig. 2.



Witnesses

Harry O. Rastetter?  
 Sylvia Boron.

Fig. 3.

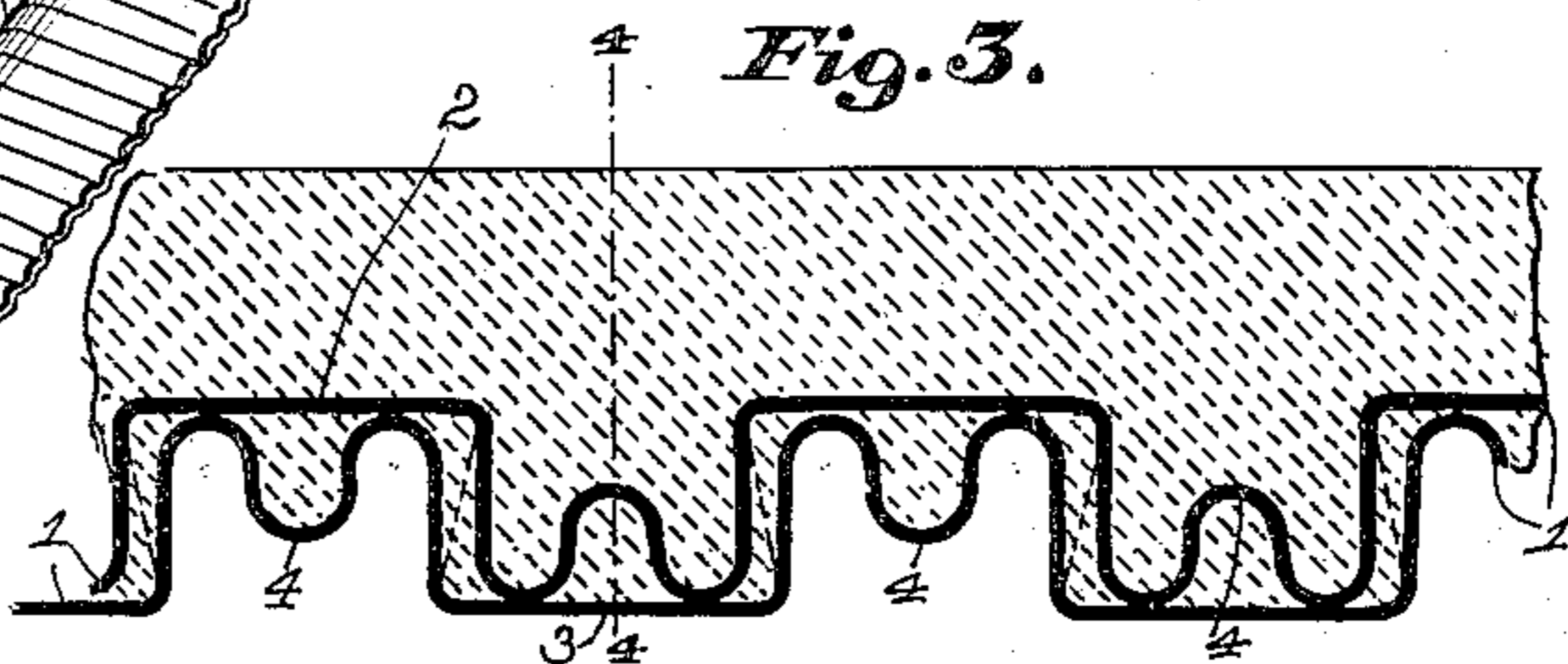
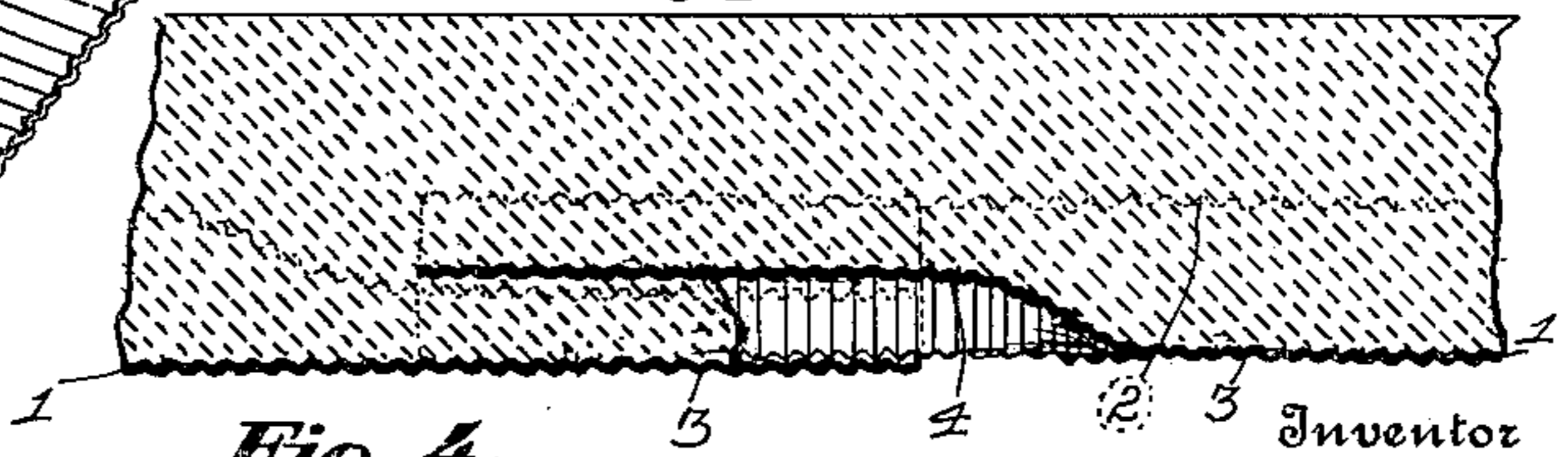


Fig. 4.



Inventor  
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By

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# UNITED STATES PATENT OFFICE.

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## PERMANENT SHEET-METAL CENTERING.

934,939.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed May 19, 1908. Serial No. 433,687.

*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 Permanent Sheet-Metal Centering; 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 my invention is to so form the sheets that they can be connected together so that the lapped portions of the corrugations will be so locked in such a manner that there can be no relative movement as between any two or more sheets after they have been connected together and the cement placed in position and afterward transformed from a plastic state to a rigid condition.

Referring to the drawings: Figure 1 is a view illustrating two of my improved binding sheets connected together and illustrating the sheets partly covered with cement-work. Fig. 2 is a view showing a portion of two sheets spaced from each other and in proper relative position to be connected or joined together. Fig. 3 is a sectional view. Fig. 4 is a view showing two sheets connected together, section being taken on the line 4-4 in Fig. 3 and the plane of said view being at right angles to the section of Fig. 3.

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

My improved structure comprises a sheet of metal bent into similar parallel ribs alternately projecting in opposite directions, dove-tailed in cross section and having their exterior faces lying in parallel planes, the thickness of the ribs being small in comparison with the other dimensions of the sheet.

In the accompanying drawing, 1 represents the binding sheets, which are formed of metal and of any desired size and thickness reference being had to convenience in manufacture and the specific use or place where the sheets are to be used. For the purpose of increasing the rigidity of the sheets they are provided with the alternating corrugations 2 and spaces 3, which are dove-tailed for a portion of their length. For the purpose of causing the cement to better adhere to the surfaces of the sheets, said sheets

are provided with roughened surfaces, which roughened surfaces may be formed as shown and as shown the surfaces consist of corrugations, but in the present instance other forms may be employed as the only object to be accomplished is to provide the sheets with surfaces so formed that when the cement becomes set there can be no relative movement at any point as between the cement and the metal sheets and at the same time produce an equal adhesiveness as between the cement and the surfaces of the sheets at all points, thereby preventing any slipping movement of the concrete work upon the surfaces of the binding sheets. This is an important feature, owing to the fact that if there is any relative movement as between the sheets and the concrete work such movement has a tendency to crack or break the concrete work after it becomes set. In structures extending over considerable space it is necessary to join a number of sheets together and in order to provide for connecting the sheets so that the alternating spaces and corrugations may be continued in parallelism the ends of the sheets are provided with the convexo-concave portions 4, which portions are struck or formed from the metal constituting the corrugations and spaces.

A convexo-concave portion 4 is formed in each ridge 2 of the one sheet and in each groove 3 of the adjacent sheet, as best understood from Fig. 1, so that, when the two sheets are lapped for a portion of their length, there will be a convexo-concave portion 4 oppositely disposed in each adjacent space between the ribs.

It will be understood that by forming the convexo-concave portions 4, the flare of the dovetailed corrugations and spaces will be taken up, thereby removing the dovetailed features of the spaces and corrugations as best illustrated in Fig. 2, thereby allowing the corrugations to be seated in the spaces as illustrated in Fig. 1, but the relative size between the corrugations and spaces should be such as for instance by making the grooves of slightly less width than the ridges so that some spring of the metal is necessary in order to properly seat the alternating corrugations in the alternating spaces. This is clearly illustrated by the vertical dotted lines in Fig. 2. When thus pressed into place, the inherent resiliency of the metal will serve to frictionally hold the sheets to-

gether. In use I prefer to enter the corrugations in the space and afterward so move the sheets with reference to each other that they will be lapped together for a distance substantially equal to the length of the convexo-concave portions 4, thereby snugly connecting the ends of the sheets together.

In use the cement while in a plastic state is placed upon the sheets substantially as shown in the drawings, and the cement located between the surfaces of the lapped portions of the sheets substantially as shown in Figs. 3 and 4.

It will be understood that the amount of concrete located between the adjacent surfaces of the lapped portions of the sheets may vary. It will be understood that by providing the convexo-concave portions or ribs 4, the rigidity of the sheets is increased thereby producing a rigid joint as between two connected sheets.

It will be seen that by providing the sheet with corrugations and spaces, the sheets are all "sized" in special machinery so that the variation caused by the well-known wide variation in the quality of sheet steel is overcome by providing the said ribs in the sheet at the ends of the same.

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 comprising a corrugated sheet with the corrugations and the spaces between them made dove-tailed in cross section, and provided at one end with a central longitudinal rib, whereby the size or extent of the corrugations at one end is reduced and the spaces between the corrugations correspondingly enlarged whereby two adjacent sheets may

be joined together by telescoping the adjoining ends thereof.

2. A binding sheet for concrete work comprising a corrugated sheet with the corrugations and the spaces between them made dove-tailed in cross section, and provided with a central longitudinal rib at one end, whereby the size or extent of the corrugations at one end is reduced and the spaces between the corrugations correspondingly enlarged whereby two adjacent sheets may be joined together by telescoping the adjoining ends thereof, said sheet being provided with roughened surfaces.

3. A reinforcing element for concrete construction consisting of a sheet of corrugated metal, the corrugations and spaces between them being dove-tailed in cross section, each corrugation being provided for a short distance from its end with a rib reducing the width of the corrugations and widening the spaces between them, whereby adjacent sheets can be joined together.

4. A reinforcing element for concrete construction consisting of a sheet of corrugated metal, the corrugations and spaces between them being dove-tailed in cross section, the corrugations having at their ends concavo-convex ribs receivable in the spaces of a juxtaposed reinforcing element whereby adjacent elements can be telescopically joined together.

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

JULIUS H. SCHLAFLY.

Witnesses:

J. T. ENLOW,  
GEO. J. SMITH.