

930,611.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.

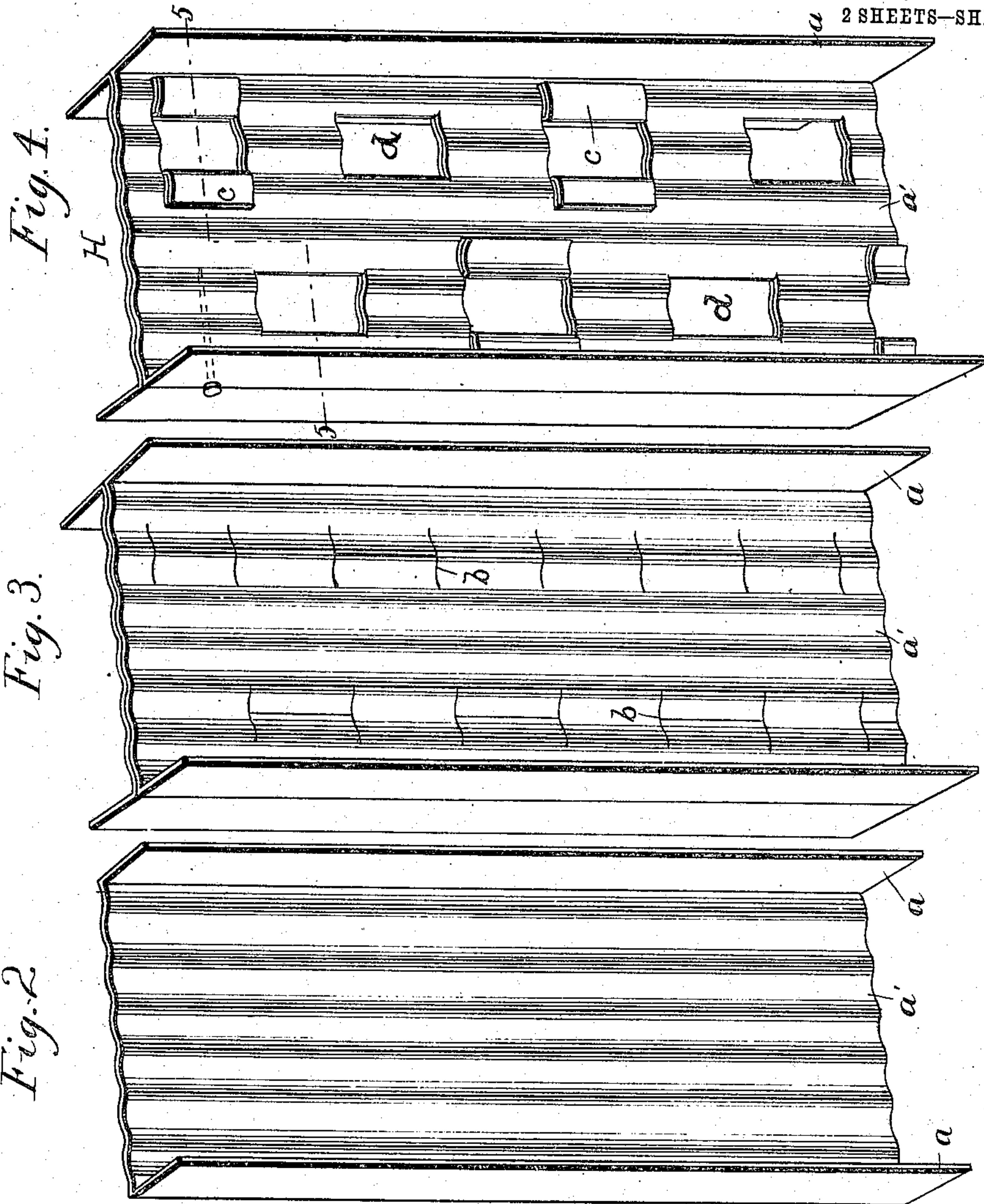


Fig. 4.

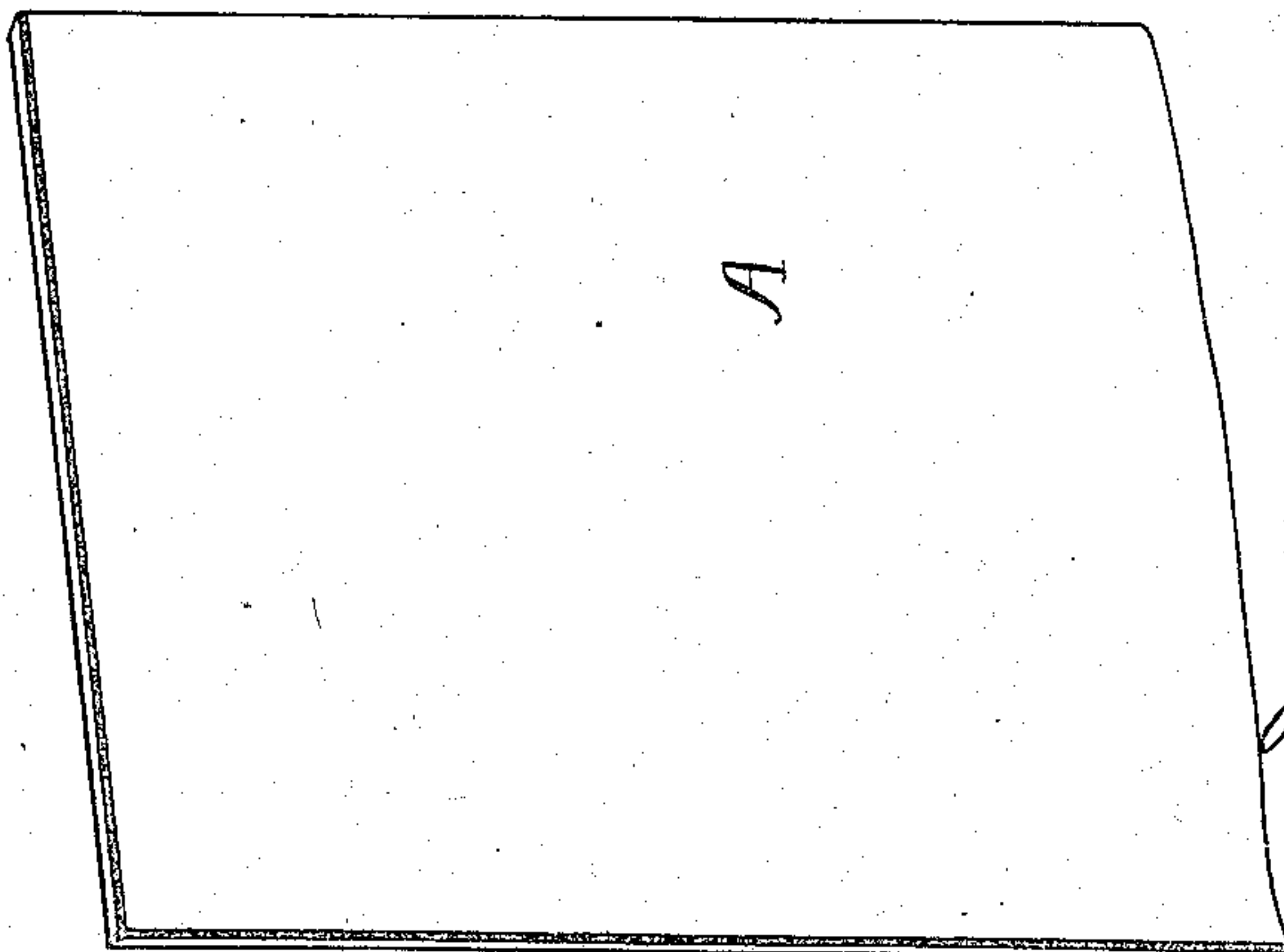
Fig. 3.

Fig. 2.

Fig. 1.

WITNESSES:

H. N. Low
Geo. B. Pitts.



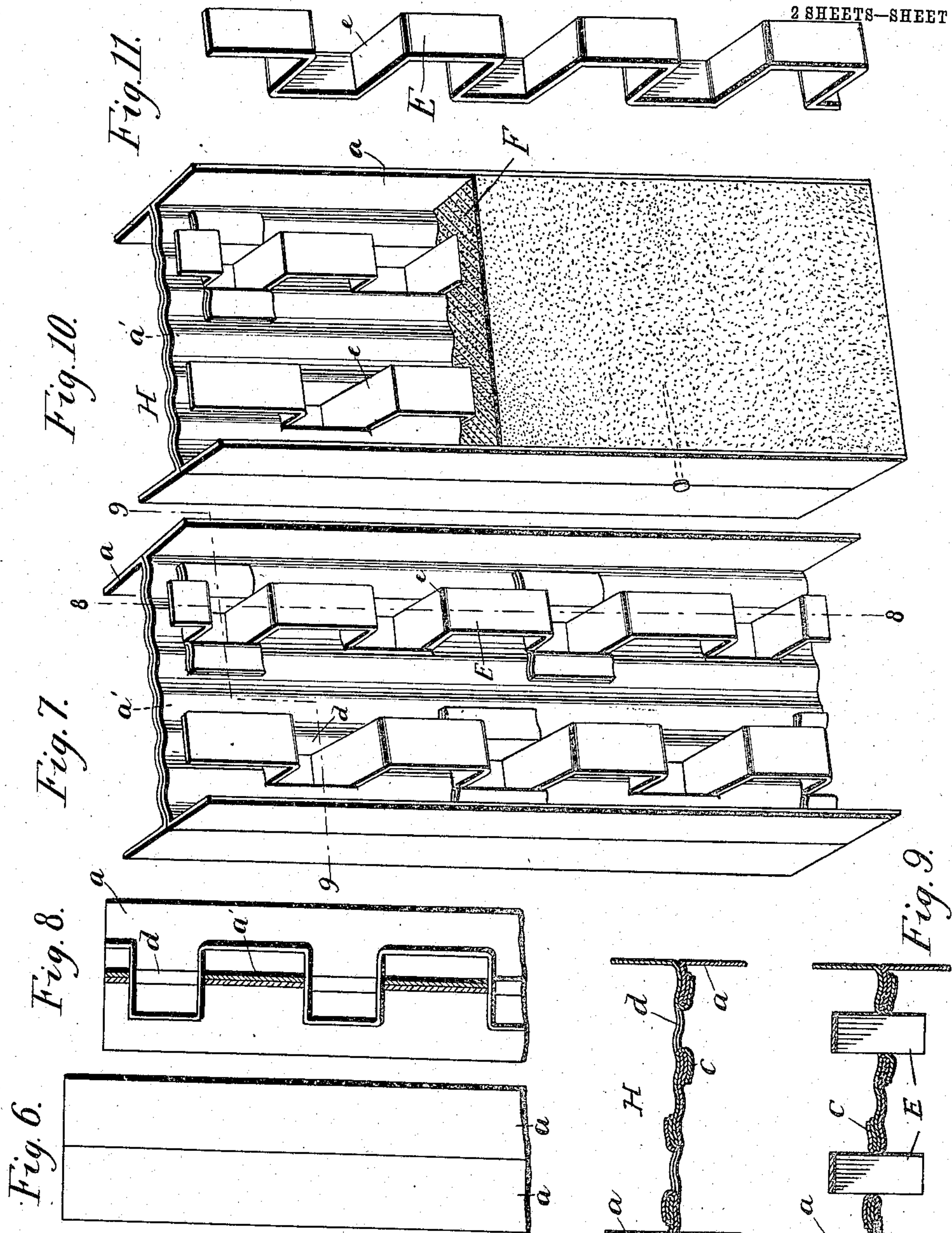
INVENTOR

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2 SHEETS—SHEET 2.



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Fig. 5.
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UNITED STATES PATENT OFFICE.

JOHN C. PELTON, OF SAN FRANCISCO, CALIFORNIA.

CONSTRUCTION MEMBER.

No. 930,611.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed October 9, 1906. Serial No. 338,167.

To all whom it may concern:

Be it known that I, JOHN C. PELTON, a citizen of the United States, residing in the city and county of San Francisco and State of California, have invented new and useful Improvements in Construction Members, of which the following is a specification.

My invention has for its object to produce a metallic construction member adapted to be used in many situations in buildings, as for instance as beams, joists, sills, lintels and the like; and also used for other purposes, as for instance fence posts.

It consists of a compound metallic construction member embodying features that will be hereinafter set forth.

In the accompanying drawings Figure 1 is a perspective view of a piece of material employed in making the improved construction member before the first steps of operation thereupon are performed. Fig. 2 is a perspective view of the piece of material shown in Fig. 1 after it has been formed into a channel bar. Fig. 3 represents two of the channel bars of Fig. 2 placed together and cut or slitted to form the flaps or tongues which serve to unite the two bars. Fig. 4 is a plan or face view of a completed construction member. Fig. 5 is a cross-sectional view taken on the line 5, 5 of Fig. 4. Fig. 6 is an edge view. Fig. 7 is a view of a form of the invention with a feature added thereto that is not shown in Fig. 4. Fig. 8 is a longitudinal sectional view on the line 8, 8 of Fig. 7. Fig. 9 is a cross-sectional view on the line 9, 9 of Fig. 7. Fig. 10 illustrates a composite construction member embodying features of my invention. Fig. 11 is a perspective view of the ribbon form of anchor or tying device shown in Figs. 7 to 10.

In the drawings, A (Fig. 1) represents a plate or narrow piece of sheet metal of the desired size to form one part or section of a composite construction element like that represented either in Figs. 4, 7 or 10. The first step in the manufacture is to form the plate A into a channel bar, as represented in Fig. 2, having the upturned side edges or flanges *a* and the main web portion *a'*. As represented in this view the web part of the channel bar is longitudinally corrugated for a purpose that will be hereinafter described. A pair of these channel bars are placed together web to web as represented in Fig. 3, when by suitable machinery or tools the web parts thereof are cut or slitted entirely

through, as indicated at *b*, forming flaps or tongues *c*, each attached by one edge to the web part of a bar. The particular shape of the flaps or tongues and the form of the slits which produce them is not material. The next step in the process of manufacture is to fold or bend back the two superimposed tongues or flaps against the outer face of one of the web portions of one of the channel bars. This results in the formation of apertures *d*, and securely unites the two bars, thereby forming a compound metal bar or member, such as represented in Fig. 4. This member comprises the two channel bars placed back to back or web to web, united by folded-over flaps *c* arranged at the edges of openings *d* through the web of the member H considered as a whole. And in the preferred form of the invention the web part of the member is longitudinally corrugated. This latter feature, however, is not essential in every embodiment of my invention.

As already stated, a construction member having the features described may be used for many purposes, being particularly adapted for use in buildings, especially those formed of metal and concrete. It possesses a number of distinct advantages, some of which I will set forth. It possesses great strength for the amount of material embodied. For fire protection and other purposes it is desirable to cover and protect the metallic construction member wherever used in a building by fire-resisting material, such as plaster or concrete, and the apertures *d* are of advantage in that they permit the masses of concrete or plaster on the opposite sides of the web to be united by keys of such material passing through these apertures. Another advantage is that a member such as described is well adapted to receive and hold a nail, staple or bolt which may be driven into the edge of the member, at the joint where the two parts thereof come together.

I am aware that I am not the first to provide a metallic construction member made of two parts adapted to have driven between them a nail, but I have discovered that when the web portions of the two parts of the compound member are plane there is liability of the nail being held insecurely. By corrugating the web portions of the channel bars longitudinally, as I have described and shown, the difficulty of inserting a nail into the edge of a member is not materially increased, but the grip of the member upon the

nail is rendered certain and sufficiently powerful to meet all demands. This enables me to easily secure lathing, wire, rods or other objects to the edge of the member by 5 nails or staples, and to insure that each nail or staple shall have a secure engagement with the member into the edge of which it is driven.

In the form of the invention illustrated in 10 Figs. 7 to 10, I have introduced a feature of construction in order to insure a more intimate union of the metallic member and the incasing masses of concrete or plaster which may be applied thereto. In the manufac- 15 ture of this form of my invention I employ a corrugated band or ribbon of metal, such as illustrated in Fig. 11, and apply it to the finished element represented in Fig. 4. This ribbon is represented by E and has the cor- 20 rugations or bends *e*. I take a piece of the corrugated ribbon of a length approximately equal to the member to which it is to be applied and insert certain of the corrugations *e* through the apertures *d*, so that the alternate corru- 25 gations lie on the opposite sides of the plane of the web of the construction member. One or more of these ribbons or bands of metal may be used with each construction member, as found desirable. The band forms anchors 30 adapted to be embedded in the mass of concrete, F, and assist in securely holding it between the flanges of the member H and against the web thereof. The resiliency of the metal of the band or ribbon will usually 35 be sufficient to hold it securely in place.

The concrete filling F is usually not applied to the metallic member until it is desired to use the latter, either just before it is put in place or after it has been set up. It may 40 however be applied as indicated in the lower portion of Fig. 10, thus making a complete composite structure adapted to be set in its place of use whatever that be.

The height of the flanges *a* may be varied 45 to suit the use to which the article is put, and indeed they may under some circumstances be entirely omitted.

What I claim is:

1. A metallic construction member, con- 50 sisting of two channel bars placed together

web to web, having registering openings through the webs and one bar being formed with flaps or tongues *c* which extend through the openings and are bent back against the face of the web of the other bar, substantially 55 as and for the purposes set forth.

2. A metallic construction member consisting of two bars placed together web to web and united, the superimposed portions of the bars being longitudinally corrugated, 60 substantially as and for the purposes set forth.

3. A construction member comprising two channel bars placed together web to web, the web portions of the said bars being longitu- 65 dinally corrugated, and means for uniting the channel bars, substantially as set forth.

4. A metallic construction member consisting of two bars placed together face to face, there being openings through the mem- 70 ber, means for uniting the bars, and anchoring devices for concrete extending through the said openings comprising a corrugated metallic member, certain of the corrugations thereof being passed bodily through the 75 openings in the said bars whereby the corrugations of the said member, when the latter is in place, are disposed on opposite sides of the construction member, substantially as set forth. 80

5. A construction member consisting of a pair of channel bars united together web to web, the web portions of the bars being formed with registering openings, and a cor- 85 rugated ribbon of metal certain of the corrugations of which are passed bodily through the said openings, substantially as set forth.

6. A metallic construction member adapted to be embedded in concrete having a web or plate-like portion through which are 90 formed openings, and a ribbon of corrugated metal, certain of the corrugations of which extend bodily through the said openings the said ribbon constituting an anchoring device for holding the concrete.

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Witnesses:

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