

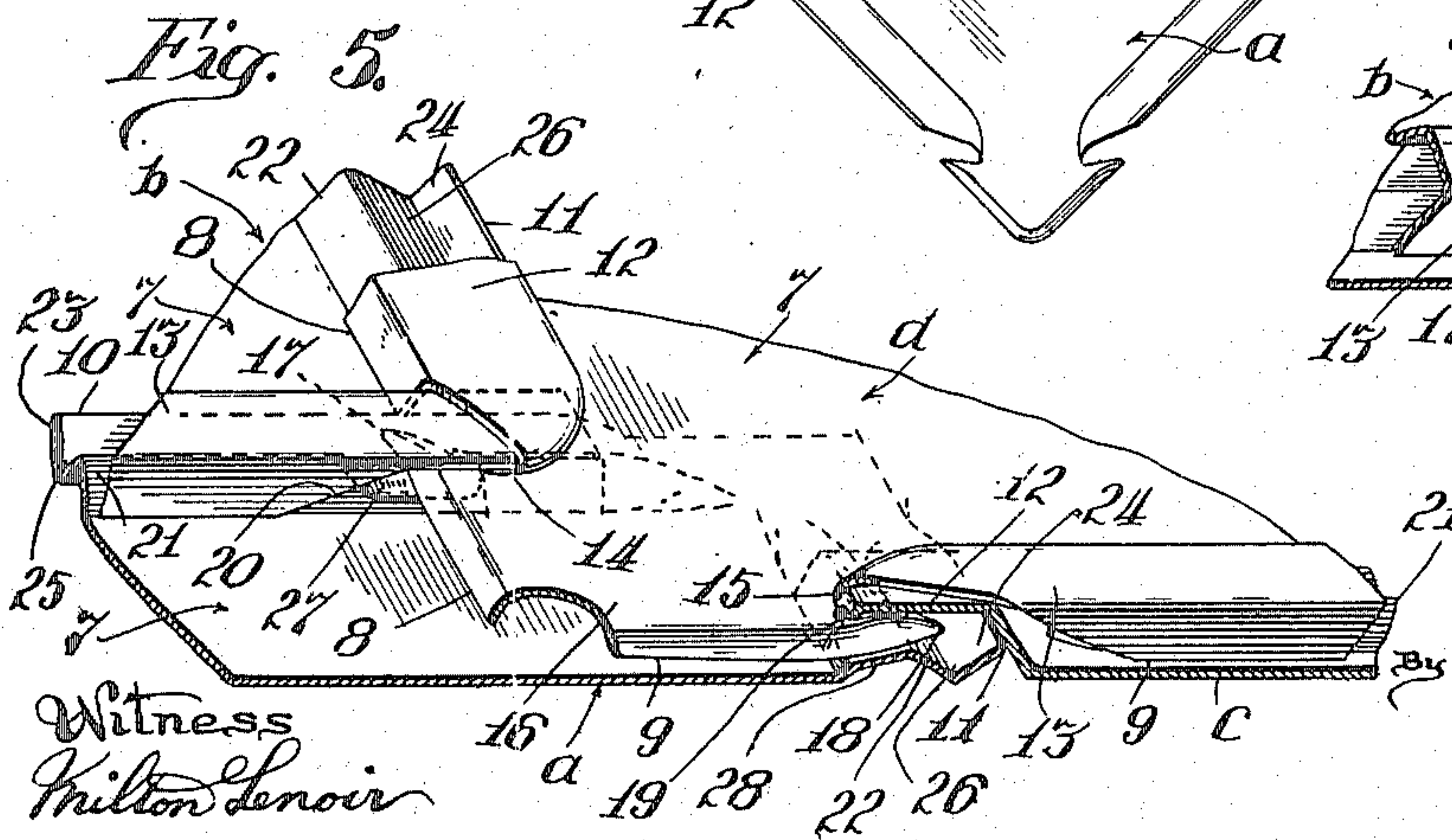
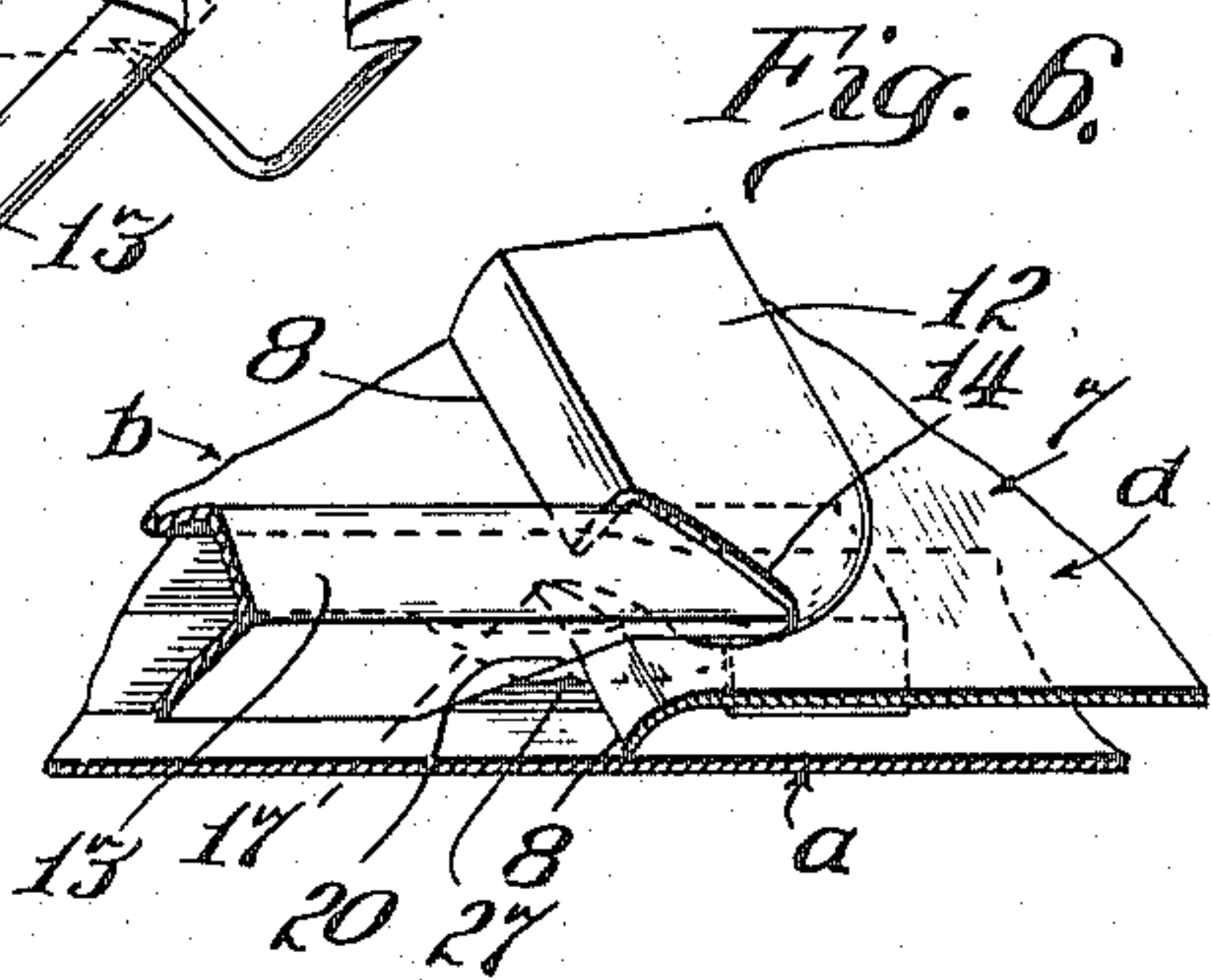
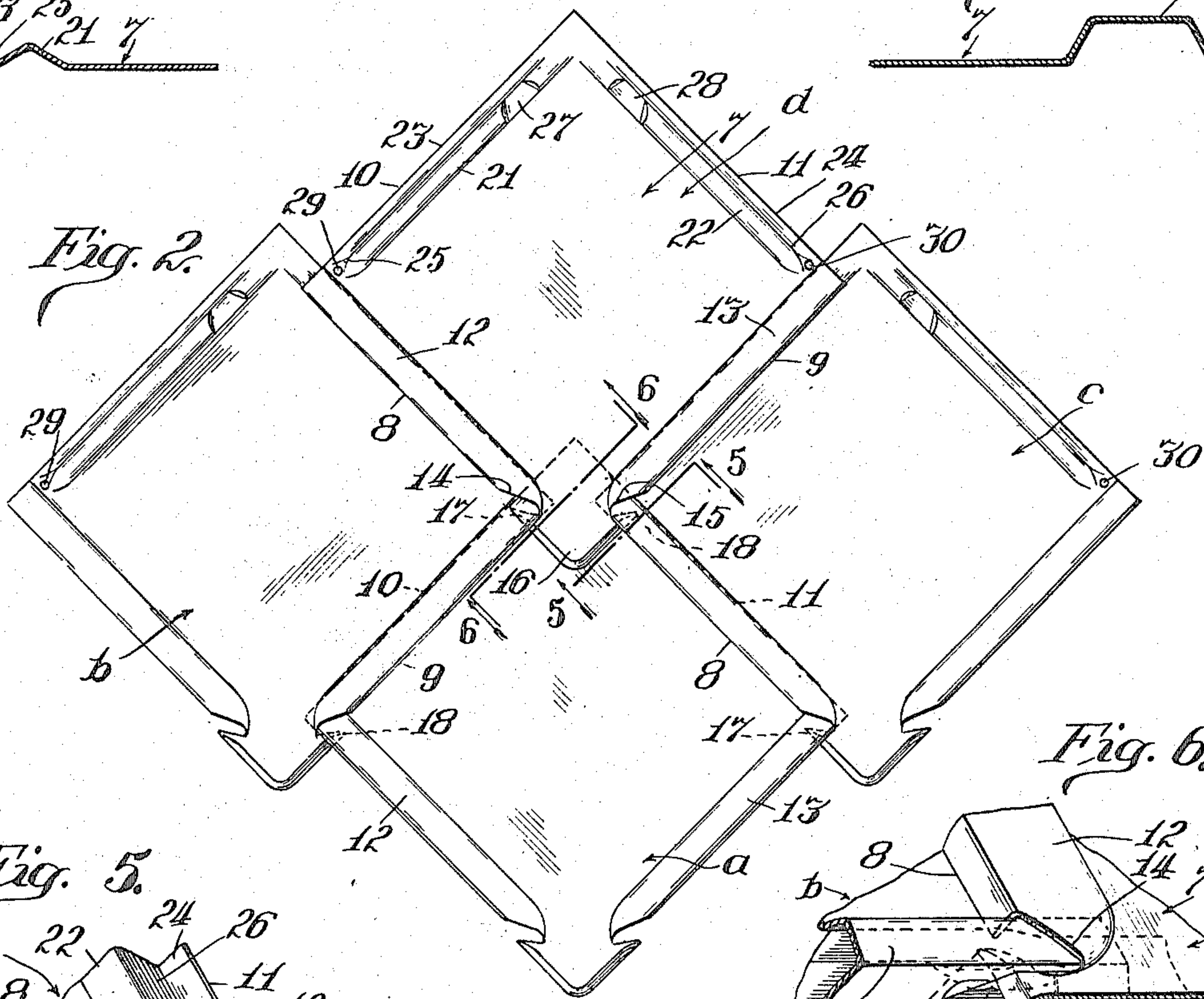
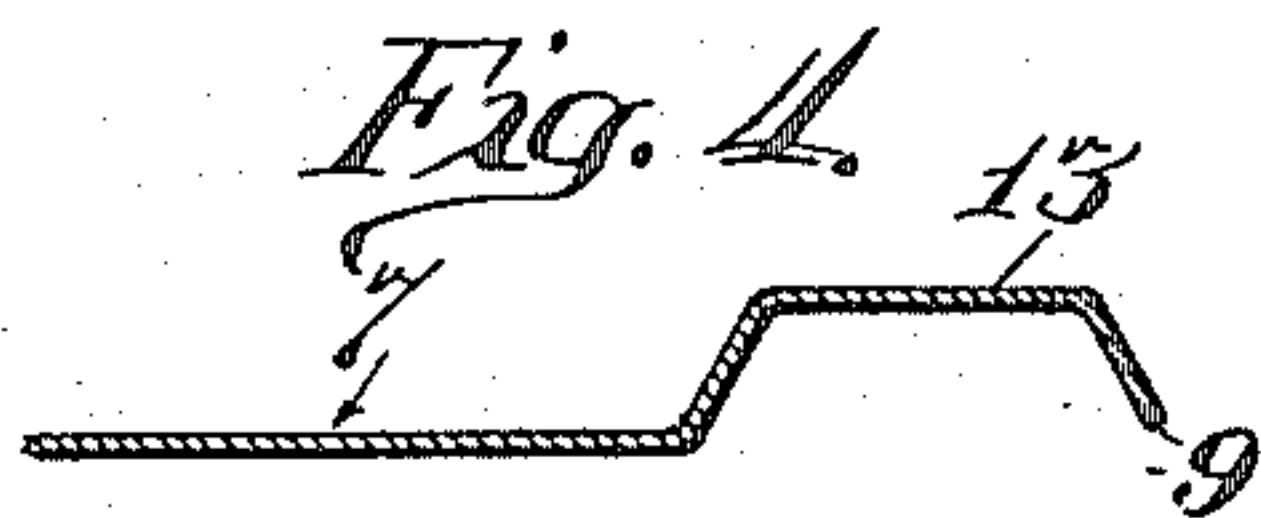
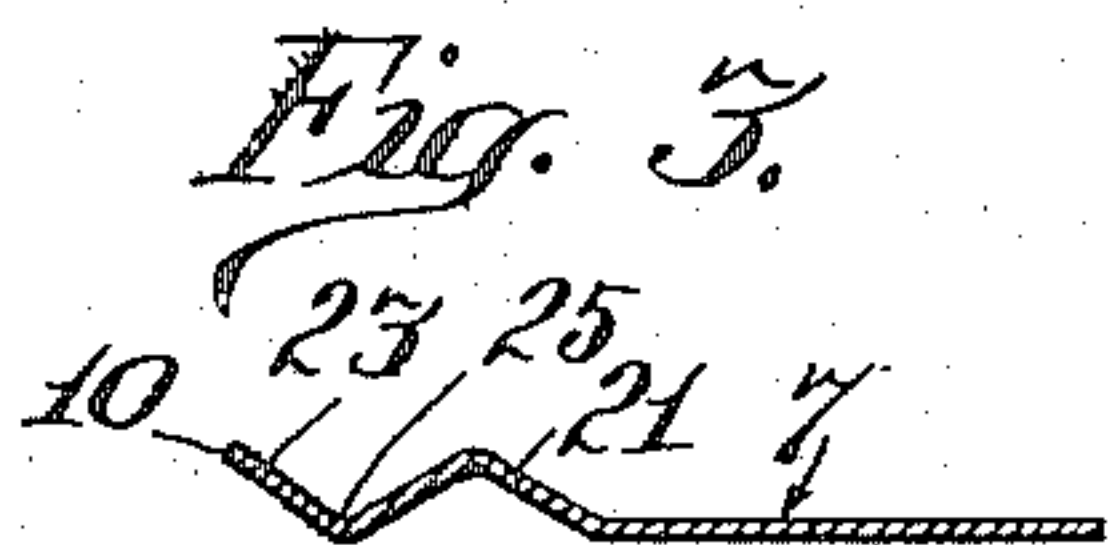
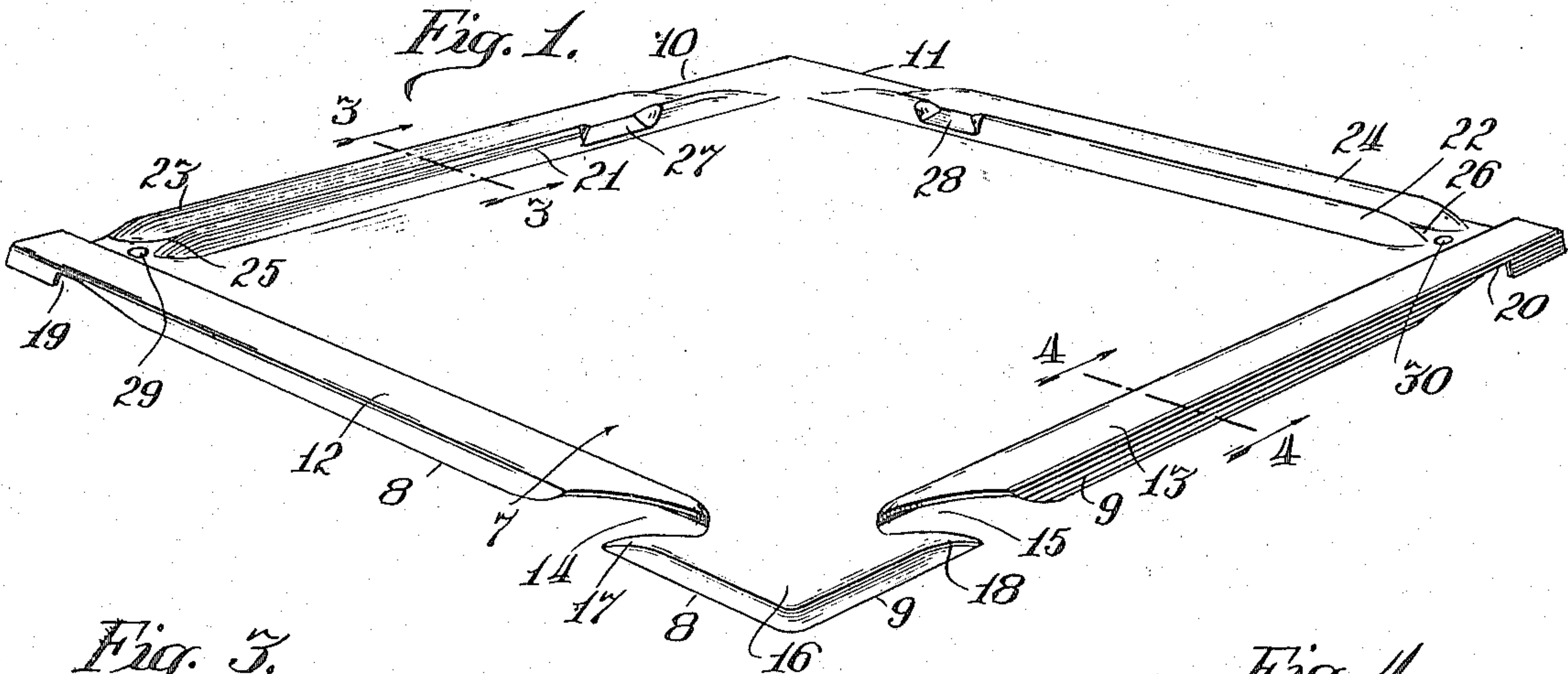
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N. G. OLSSON

ROOF AND SHINGLE THEREFOR

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UNITED STATES PATENT OFFICE.

NILS G. OLSSON, OF AURORA, ILLINOIS, ASSIGNOR OF ONE-HALF TO HIMSELF AND ONE-HALF TO WILLIAM D. FOULKE, OF AURORA, ILLINOIS.

ROOF AND SHINGLE THEREFOR.

Application filed October 17, 1921. Serial No. 508,298.

To all whom it may concern:

Be it known that I, NILS G. OLSSON, a citizen of the United States, and a resident of Aurora, in the county of Kane and State of Illinois; have invented certain new and useful Improvements in Roofs and Shingles Therefor, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to shingle roofs and has for its object to provide not only an improved roof but also a new and improved shingle for use in constructing shingled roofs. I accomplish this object as illustrated in the drawings and hereinafter described. What I regard as new is set forth in the claims.

In the accompanying drawings,—

Fig. 1 is a perspective view of my improved shingle, showing the upper surface thereof;

Fig. 2 is a plan view of several shingles assembled showing the relation of the several shingles to each other when laid to form a roof;

Fig. 3 is a detail, being a cross-section on line 3—3 of Fig. 1;

Fig. 4 is a detail, being a cross-section on line 4—4 of Fig. 1;

Fig. 5 is an enlarged view partly in perspective and partly in section on line 5—5 of Fig. 2; and

Fig. 6 is an enlarged view partly in perspective and partly in section on line 6—6 of Fig. 2.

Referring to the drawings,—7 indicates my improved shingle as a whole, which is in the form of a substantially rectangular sheet metal plate. While the structural features of the shingle which will be hereinafter described may be embodied in a shingle made of any suitable material, an important feature of my present invention consists in making the shingle of aluminum, and inasmuch as I believe myself to be the first in the art to make an aluminum shingle capable of being associated with other similar shingles to form a shingle roof, my invention includes broadly the making of a shingle of that material. I am well aware that aluminum has been used for a great variety of purposes, and that its lightness and non-corrosive qualities have been generally appreciated. Nevertheless, and notwithstanding the fact that those qualities make aluminum

a material especially suitable for use in constructing metal roofs, no prior inventor has, so far as I know, proposed to use that material in the production of a shingle, or has produced a practicable aluminum shingle.

In constructing a shingle roof from metal shingles it is necessary that the shingles be properly overlapped so that rain falling on or being blown against the roof will be shed properly and be prevented from getting under the shingles. It is also necessary that the shingles be firmly secured in position so that they will not be loosened by storms, and that any nail holes be covered so that there will be no leakage at those points. It is desirable further that the points of contact with each other between the several shingles be of limited area, as extended contacting metal surfaces are apt to induce corrosion. My improved shingle meets all these requirements, as will be made clear by an examination of the drawings in connection with the description thereof which follows.

In the illustration given in Fig. 1 the shingle appears in the position which it occupies when laid in a roof, and therefore, the margins 8, 9 will be referred to as the lower margins and the margins 10, 11 as the upper margins. As clearly shown in said figure, the lower margins 8, 9 are each provided with a longitudinally-extending inverted groove or channel, indicated by reference numerals 12, 13, respectively, which extend from the juncture of said margins with the margins 10, 11, respectively, to a point near the juncture of the margins 8, 9, where inclined slots 14, 15 are provided, thereby forming a spear-head shaped apex 16 at the lower extremity or corner of the shingle. For convenience of reference the shoulders or barbs of the apex 16 are indicated by reference numerals 17, 18, respectively. Adjacent to the side corners of the shingle the margins 8, 9 are provided with notches 19, 20, respectively, as shown in Fig. 1.

The construction of the upper margins 10, 11 of the shingle is best shown in Figs. 1 and 3, from which it will be seen that upwardly-projecting longitudinally-extending ribs or beads 21, 22 are provided near said margins, and each of said margins is bent up to form lips 23, 24 between which and the ribs 21, 22 are grooves 25, 26. The ribs 21, 22 are provided with notches 27, 28 near their upper ends, as shown in Fig. 1.

The manner in which the several shingles are assembled when laid to form a roof is best shown in Figs. 2, 5 and 6, from which it will be seen that the margin 10 of the lowermost shingle *a* is overlapped by the margin 9 of shingle *b*, while the margin 11 of shingle *a* is overlapped by margin 8 of shingle *c*. In each case the channels 12, 13 of the shingles *b*, *c* extend over the ribs 21, 22 of shingle *a*. At the same time the upper end portion of the channel 12 of shingle *a* overlaps the barb 18 of shingle *b*, and the upper end portion of the channel 13 of shingle *a* overlaps the barb 17 of shingle *c*, these barbs fitting in the notches 19, 20 provided in said channels. There is thus a mutual overlapping of each shingle with its neighbor,—that is to say, the shingle *a* not only is overlapped by shingle *b*, but overlaps the latter shingle, and the same is true as to shingles *a* and *c*.

Considering now the relation of the shingles referred to to shingle *d*, it will be noted that the upper corner of shingle *a* extends under the apex 16 of shingle *d*, and that the barbs 17, 18 of the latter shingle rest in the notches 27, 28 of shingle *a* which are so placed as to register respectively with the notches 20 of shingle *b* and 19 of shingle *c*. Thus the several shingles are all interlocked, and the apexes 16 of the several shingles are held down by the overlapping margins of the adjoining shingles so that they will not be bent upward by the force of the wind. The several shingles are nailed at their side corners, as indicated at 29, 30, in Fig. 1, the nail holes being protected by the overlapping channels 12, 13 of the shingles of the next higher course.

By providing the ribs 21, 22, upturned lips 23, 24 and grooves 25, 26 a corrugated effect is obtained along the upper margins 10, 11 of the shingle so that contact between adjoining shingles is in the form of a line

rather than an extended surface, and consequently the danger of corrosion at such points is reduced to a minimum. Preferably the margins 8, 9 of the apex 16 are bent downward, as shown in Fig. 6, so that they bear closely on the surface of the next lower shingle and prevent water from being driven up under the apex by the force of the wind.

What I claim as my invention and desire to secure by Letters Patent, is—

1. A metal shingle comprising a substantially rectangular plate having its two lower margins notched adjacent to their juncture to form a spear-head like apex, said margins being shaped to form channels in the under side of the plate, the two upper margins of the plate being provided with ribs projecting above the upper surface of the plate and adapted to lie in the channels of the shingles of the next higher course.

2. A metal shingle comprising a substantially rectangular plate having its two lower margins shaped to form channels in the under side of the plate, notches in said margins adjacent to the side corners of the shingle, and a spear-head like apex at the lower corner of the shingle, said notches being adapted to receive the barbs of the apexes of adjoining shingles.

3. A metal shingle comprising a substantially rectangular plate having its two lower margins shaped to form channels in the under side of the plate, the two upper margins of the plate being corrugated and having notches in said corrugations adjacent to the upper corner of the shingle, notches in the lower margins of the shingle adjacent to the side corners thereof and adapted to register with the notches in the corrugations of adjoining shingles, and a spear-head like apex at the lower corner of the shingle.

NILS G. OLSSON.