

R. A. SMITH.
Sheet-Metal Roofing.

No. 143,471.

Patented Oct. 7, 1873.

Fig 1.

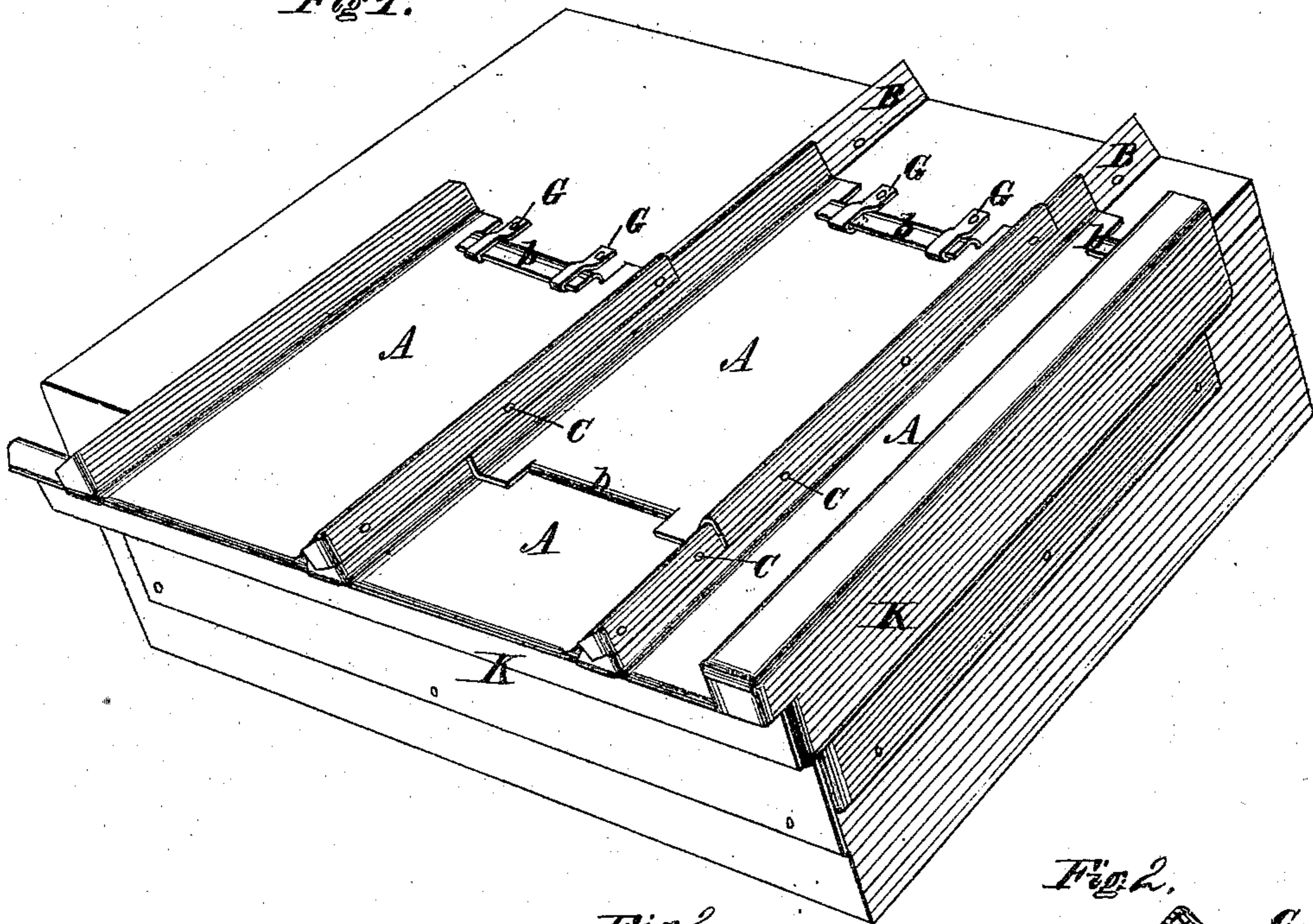


Fig 3.

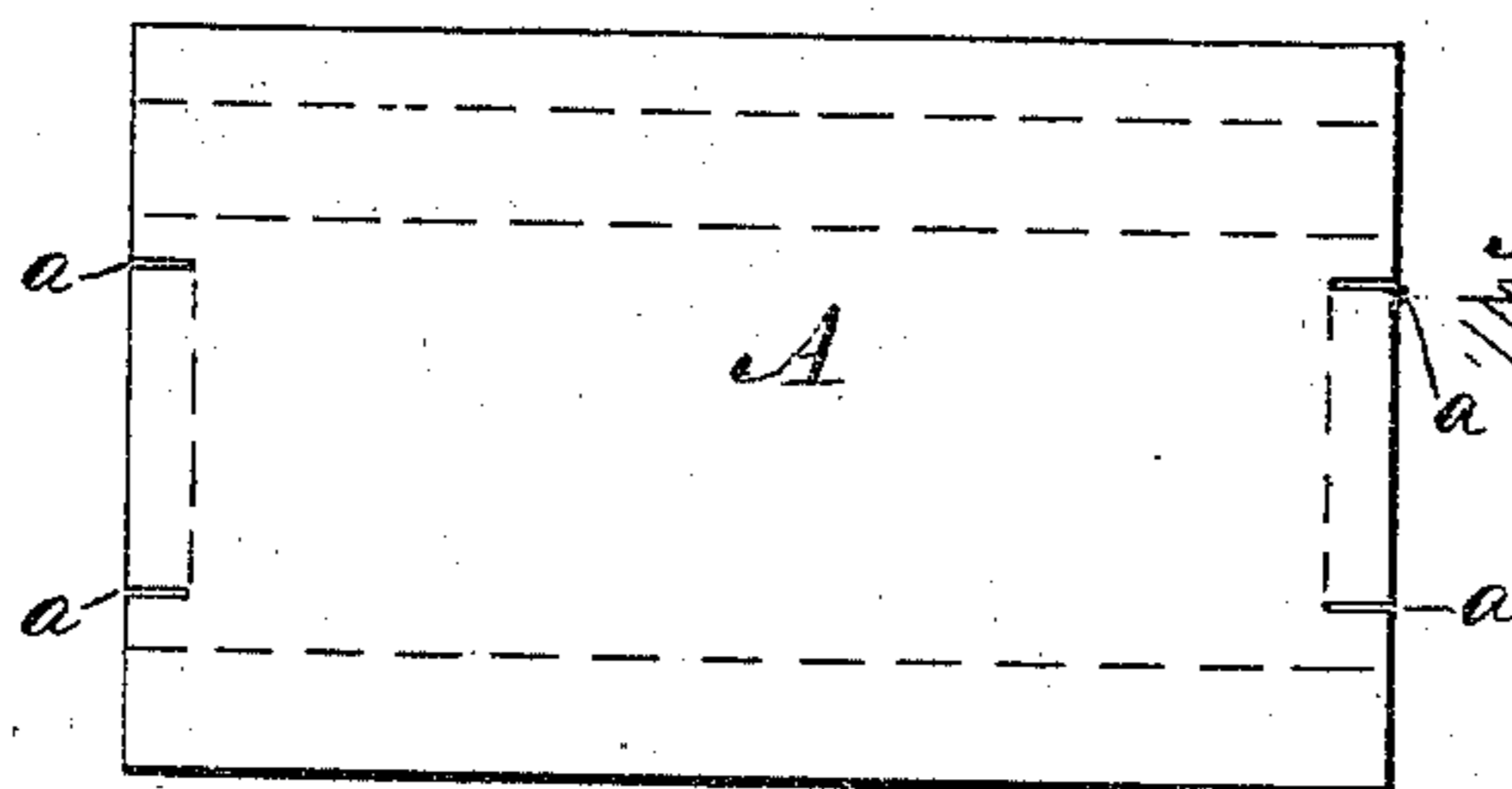
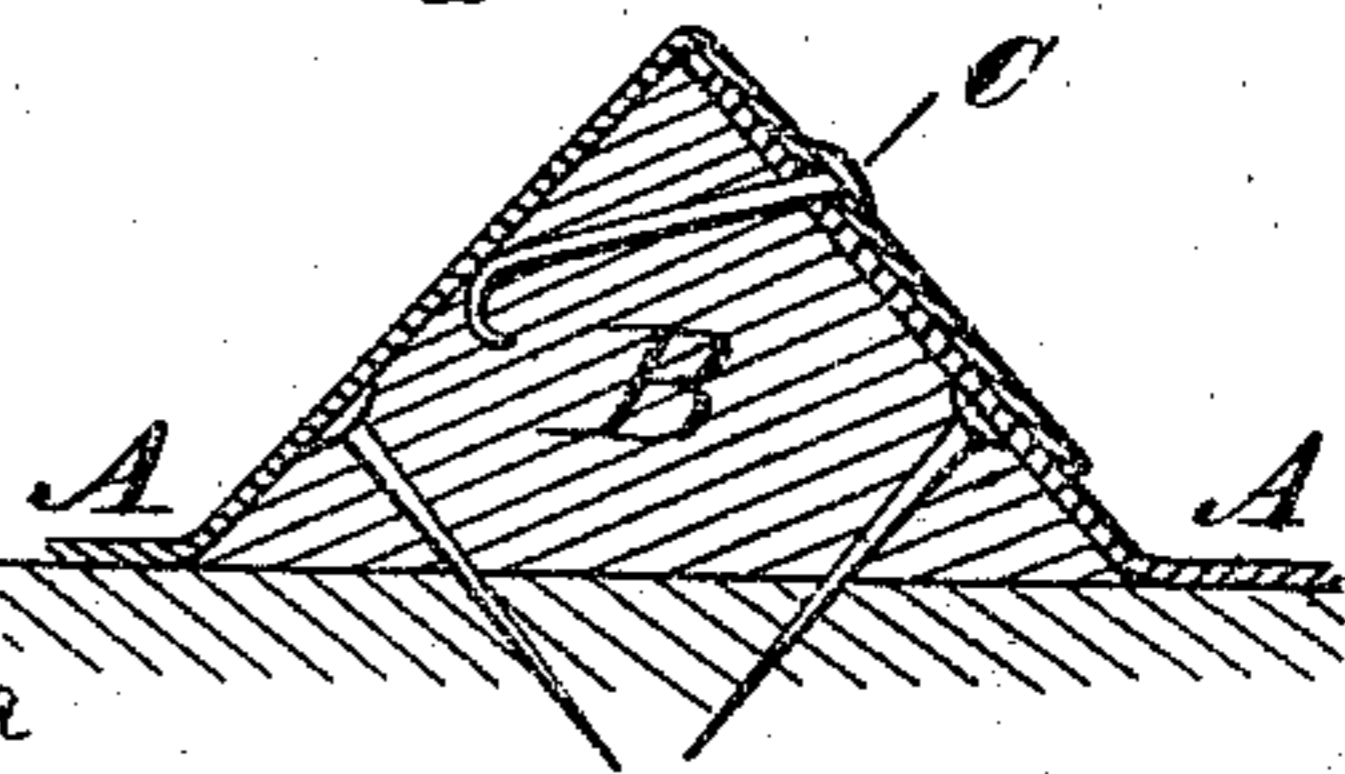


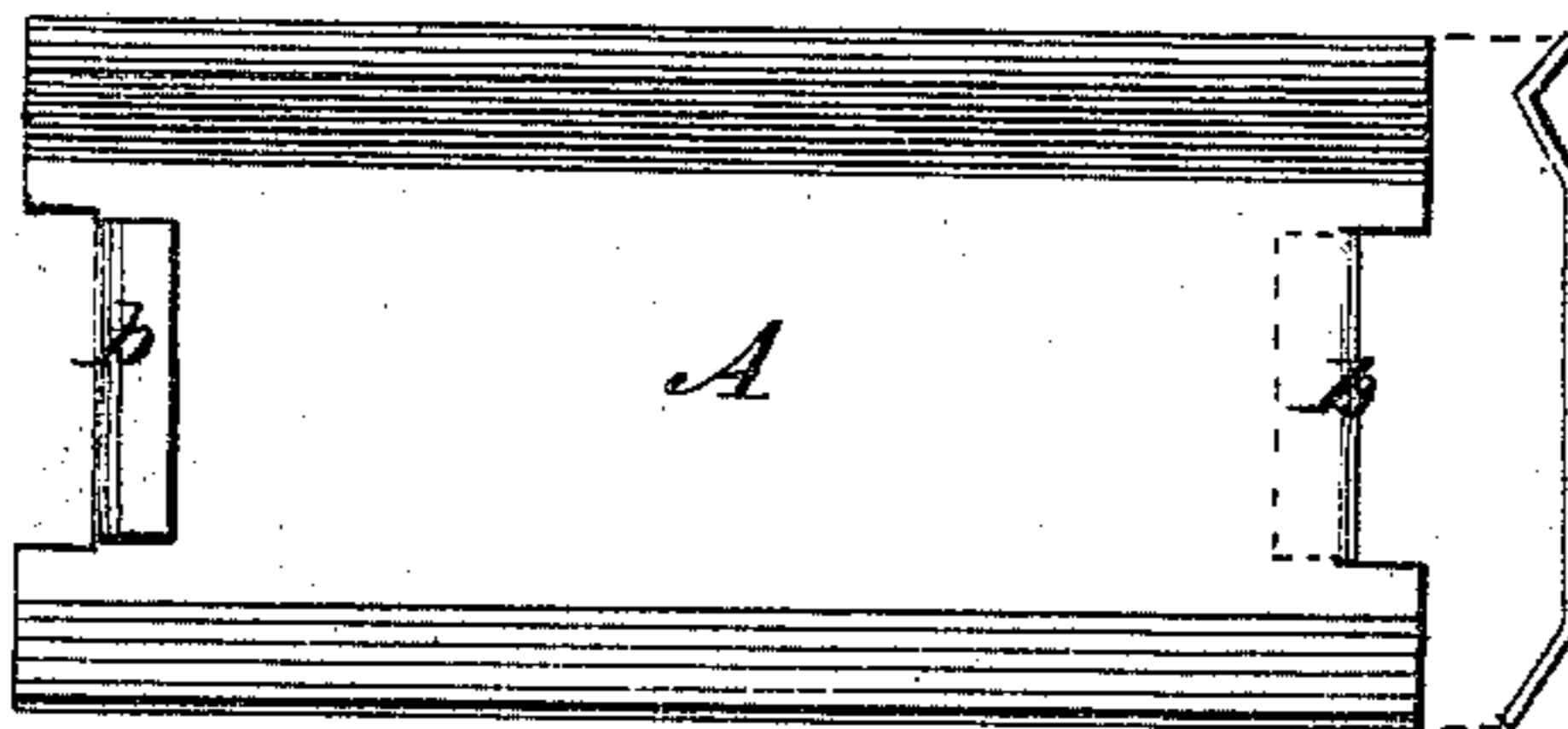
Fig 2.



Witnesses.

Fig 4.

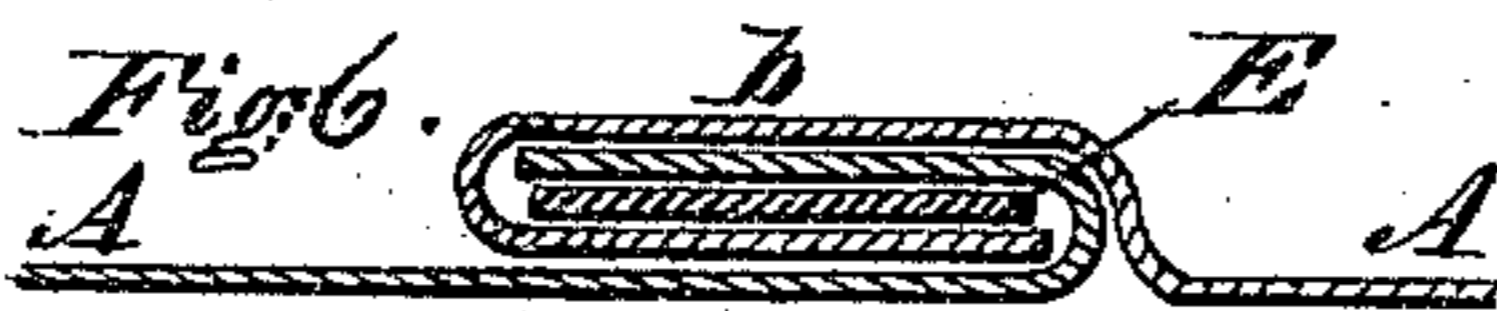
Harry King.
H. G. Dodge.



Inventor.

Fig 5.

Rollin A. Smith
by
Dodge & Son
Attys



UNITED STATES PATENT OFFICE.

ROLLIN A. SMITH, OF FOND DU LAC, WISCONSIN.

IMPROVEMENT IN SHEET-METAL ROOFINGS.

Specification forming part of Letters Patent No. **143,471**, dated October 7, 1873; application filed September 12, 1873.

To all whom it may concern:

Be it known that I, ROLLIN A. SMITH, of Fond du Lac, in the county of Fond du Lac and State of Wisconsin, have invented certain Improvements in Metal Roofing, of which the following is a specification:

My invention relates to an improved metal roof; and consists in a novel manner of forming, uniting, and attaching the plates of which it is composed, as hereinafter fully explained.

Figure 1 is a perspective view of a portion of a roof constructed on my plan. Fig. 2 is a cross-section of one of the longitudinal seams or joints. Figs. 3, 4, and 5 are different views of one of the sheets or plates; and Fig. 6 is a cross-section of one of the transverse seams or joints.

In constructing my roof, flat rectangular plates A are provided and two slits, *a*, cut in each end, as shown in Fig. 3. The plates are then taken and their edges bent up, as shown in Fig. 5, one obliquely and the other into an inverted-V form. After this the end portions between the slits *a* are curled over to form lips *b*, the one at the upper end being turned upward and the other one downward, as shown. Triangular wooden strips B are then nailed firmly to the top of the building, lengthwise thereof, and at a distance apart equal to the width of the plates. The plates are then arranged in place in the manner shown in Fig. 1, the inclined edge of each plate resting against the side of one of the strips, while the V-shaped edge covers the next strip and the edge of the adjoining plate resting against the same. Thus, it will be seen, the V-edge of each plate covers one of the strips and the inclined edge of the next plate, as clearly shown in Figs. 1 and 2. Nails C are then driven through the edges of the two sheets, where they lap over each other into the wooden strips, as shown in Fig. 2, so as to secure the edges tightly together and hold the plates down in place. At the time of driving the nails a metal

block is held against the opposite side of the strip, so as to prevent the ends of the nails from passing through and to cause them to clinch on the inside.

As the lapped edges stand at a sharp inclination and are nailed tightly together, there is no danger of water entering between the plates. The plates are arranged in rows lengthwise of the roof, and the lower end of each is lapped over the top of the next, and the lips of the two interlocked, as shown.

In order to form a perfectly-tight joint and prevent water from driving through, a strip of felt or similar material, E, is thoroughly saturated with tar, paint, or similar material and inserted between the two lips at the time they are hooked together, as shown in Fig. 6. For the purpose of holding the ends of the plates down with additional security, the upper end of each one has a metal strap or clip, G, hooked into its lip and nailed to the building, as shown in Fig. 1, before the next plate is applied.

The roof composed of the plates formed and arranged as described is extremely cheap, tight, and strong, may be applied with great ease and rapidity, and is unimpaired by the expansion and contraction of the metal.

I am aware that metal roofs in some respects resembling mine are now in use; but I believe that, in its construction as a whole, my roof differs from and is superior to all others of its kind.

Having described my invention, what I claim is—

The herein-described roof, consisting of the plates A, having their sides bent and secured to the strips B and their ends locked together and secured by the clips G, as shown and described.

ROLLIN A. SMITH.

Witnesses:

EDWARD COLMAN,

GEORGE T. TROWBRIDGE.