No. 670,753.

Patented Mar. 26, 1901.

F. A. ABELEVEN.

CONNECTING CORRUGATED METAL SHEETS FOR ROOFING.

(Application filed Dec. 10, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

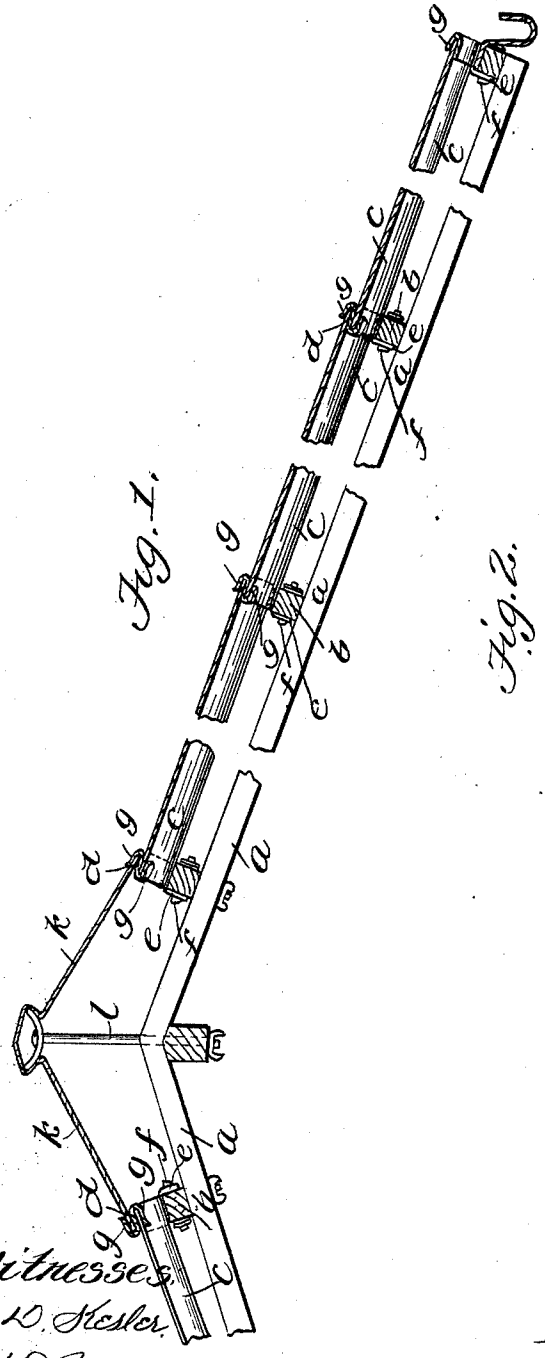
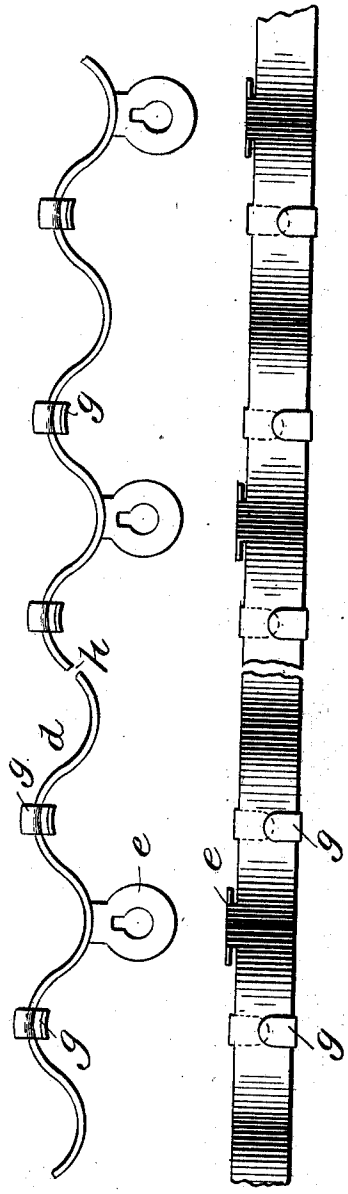


Fig. 2.



Witnesses,
C. D. Kesler.
H. C. Haynes.

Inventor
Frederik A. Abeleven
By James L. Norris.
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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(No Model.)

(Application filed Dec. 10, 1900.)

2 Sheets—Sheet 2.

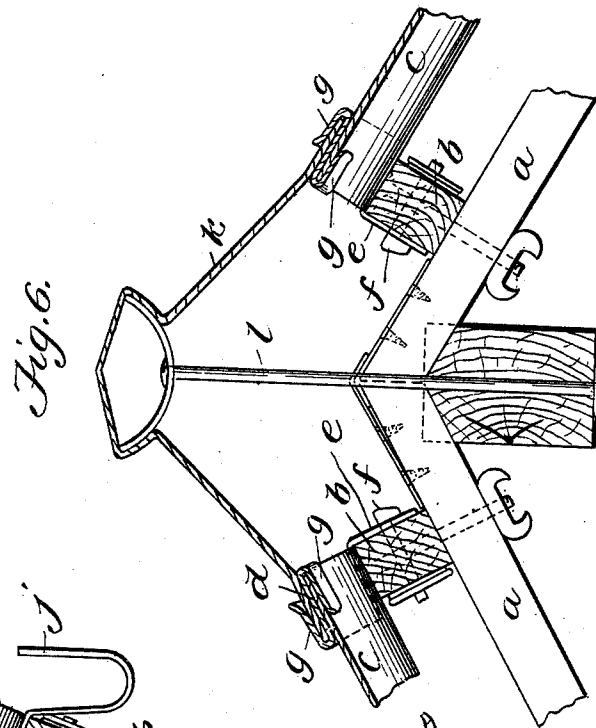


Fig. 6.

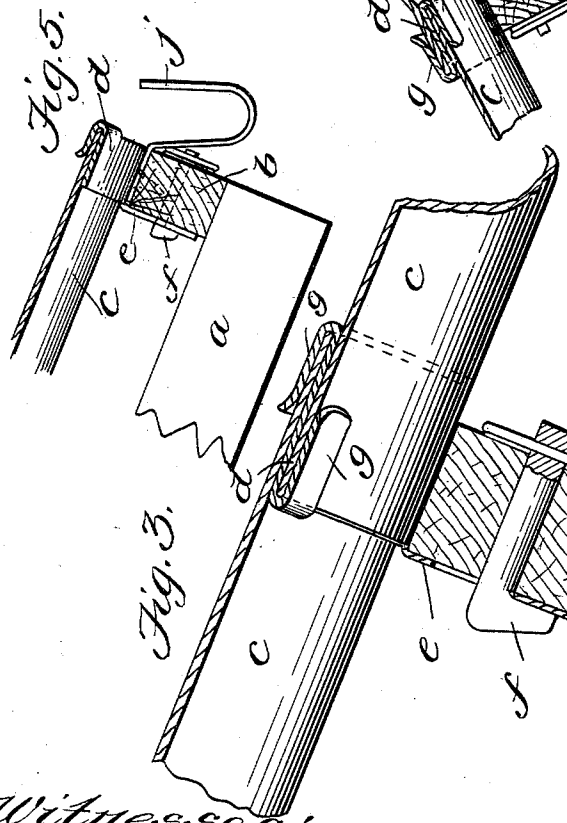


Fig. 3.

Fig. 5.

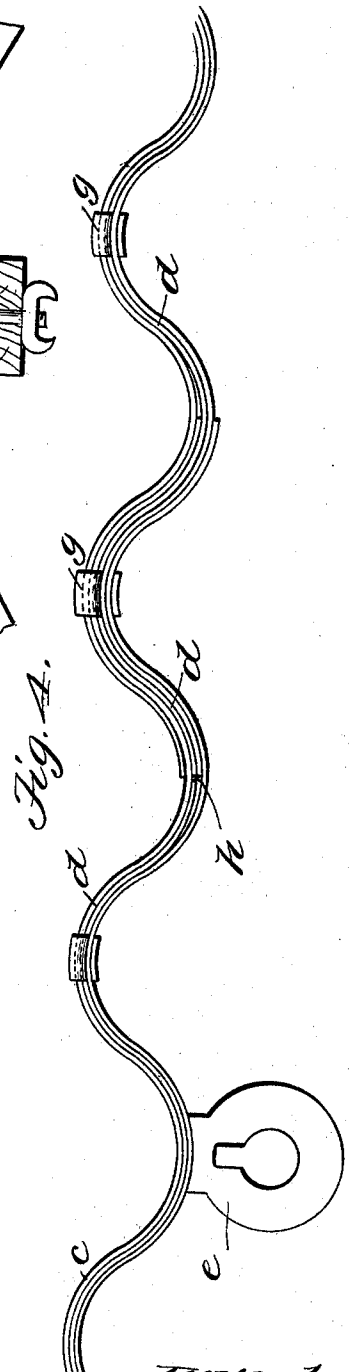


Fig. 4.

Witnesses:
C. D. Kesler
H. C. Maynes.

Inventor
Frederik A. Abeleven
By James L. Norris.
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

FREDERIK ANTON ABELEVEN, OF SAMARANG, JAVA.

CONNECTING CORRUGATED METAL SHEETS FOR ROOFING.

SPECIFICATION forming part of Letters Patent No. 670,753, dated March 26, 1901.

Application filed December 10, 1900. Serial No. 39,401. (No model.)

To all whom it may concern:

Be it known that I, FREDERIK ANTON ABELEVEN, engineer, a subject of the Queen of the Netherlands, residing at Samarang, Java, have invented certain new and useful Improvements in Connecting Corrugated Metal Sheets for Roofing, (for which I have made application for a patent in Germany, dated April 5, 1900,) of which the following is a specification.

The present invention relates to a new connection for corrugated metal sheets for roofing, for which purpose galvanized corrugated metal sheets are particularly suitable.

For buildings which have to be erected and taken down frequently—such as huts, sheds, fair-stalls, booths, exhibition-buildings, and the like—there is some objection to the use of corrugated metal sheets in the difficulty which exists in connecting them. Connecting such sheets by rivets or screws is ill-fitted for cases where repeated erection and removal are necessary, since this method takes some time when new sheets are being connected and the holes in old sheets no longer coincide. Moreover, the iron is liable to lose its protective zinc coating at the places where the holes are, so that the metal rusts and the sheet does not remain tight.

With the new method of fastening the sheets they need no longer be formed with holes for rivets or screws and they can be fixed or removed in a very short time.

For the new method of fastening strips of galvanized corrugated sheet metal are employed having corrugations of the same shape as those of the metal sheets. These sheet-metal strips are laid with the width between two sheet-metal plates which are placed together so as to overlap each other slightly for this purpose and are pressed upon each other by means of the hooks that are provided on the strips. The sheet-metal strips are further provided with lugs or pieces bent at right angles, which bear against the roof-rafters and are attached thereto by means of bolts.

The new connection is illustrated in the accompanying drawings.

Figure 1 is a cross-section through a roof covered with corrugated metal sheets. Fig. 2 is a side elevation and a plan of the connecting sheet-metal strips; and Figs. 3 to 6, inclusive, illustrate, on a larger scale, detail constructions of the corrugated sheet-metal connections.

For the sake of clearness a small space is shown in the drawings between the several metal sheets, although in reality the metal sheets bear firmly or closely against each other. Upon the roof-joists *a* are carried the rafters *b*, on which the corrugated metal sheets *c* rest. The rafters *b* are arranged at each point where the successive metal sheets overlap each other. At each of these points a strip of sheet metal *d* (shown in Fig. 2) is placed between the metal sheets *c*. These strips are provided in their upper corrugations with hooks *g*, which on one side are bent up and on the other side are bent down, and lugs *e*, bent at right angles, are provided at short intervals on the lower corrugations of the strips.

Fig. 3 shows how the two metal sheets *c*, which meet, are slipped under the hooks *g* of the strips *d* and how these strips have their lugs *e* attached to the rafters *b* by means of bolts *f*. The heads of the bolts and the holes in the lugs *e* are so shaped that in order to remove the strips *d* it is only necessary to turn the bolts *f* until the lugs *e* can be drawn away over the heads of the bolts.

It is to be understood that the hooks *g* are so constructed that the corrugated sheets have to be forcibly inserted between them and the strip to which they belong, so that the sheets are firmly held by the elastic pressure of the hooks.

Fig. 4 shows the connection where four metal sheets come together. Here the middle hook *g* takes four metal sheets, and therefore the gap in the hook must be made of corresponding size. When the sheet-metal strip *d* cannot be made in one length, it is advisable to arrange the several pieces so as to abut together at the place in Fig. 4 marked *h* and to arrange a lug *e* near this.

Fig. 5 shows how the gutter *j* is fixed under the sheet-metal strip *d* on the lowest rafter *b*.

Fig. 6 shows how the roof-ridge is covered with a bent metal sheet *k*, which is carried by the supports *l* and is slipped on both sides under the upper hooks *g* of the sheet-metal strips *d*.

Having thus described the nature of this in-

vention and the best means I know for carrying the same into practical effect, I claim—

Roofing by means of corrugated sheet metal, characterized by employing at the joints, where two corrugated sheets overlap similarly-corrugated strips *d* having at their upper corrugations hooks *g* bent up on one side and bent down on the other side; having also at their lower corrugations lugs *e* bent at right angles, in such a manner that the overlapping sheets are slipped into the hooks *g*, and gripped therein, and so that the lugs *e* are attached to the roof-rafters by bolts that can readily release them.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERIK ANTON ABELEVEN.

Witnesses:
G. M. J. FITZ G. O'SULLIVAN,
REGINALD BUTTERWORTH.