J. H. PERRY.

SHEET METAL ROOF.

APPLICATION FILED JULY 28, 1916.

1,240,773.

Patented Sept. 18, 1917.

2 SHEETS—SHEET 1.

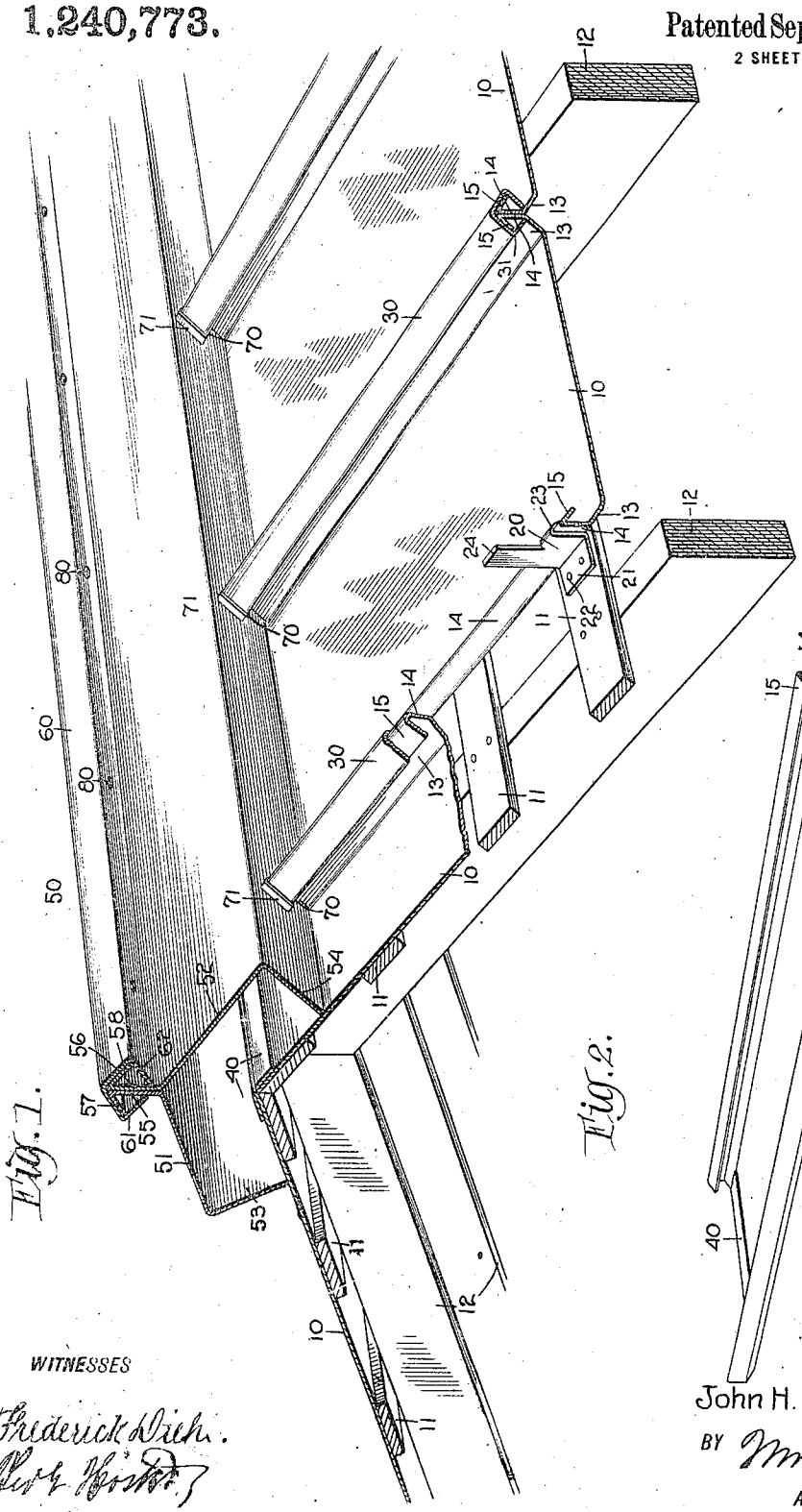


Fig. 1.

Fig. 2.

WITNESSES

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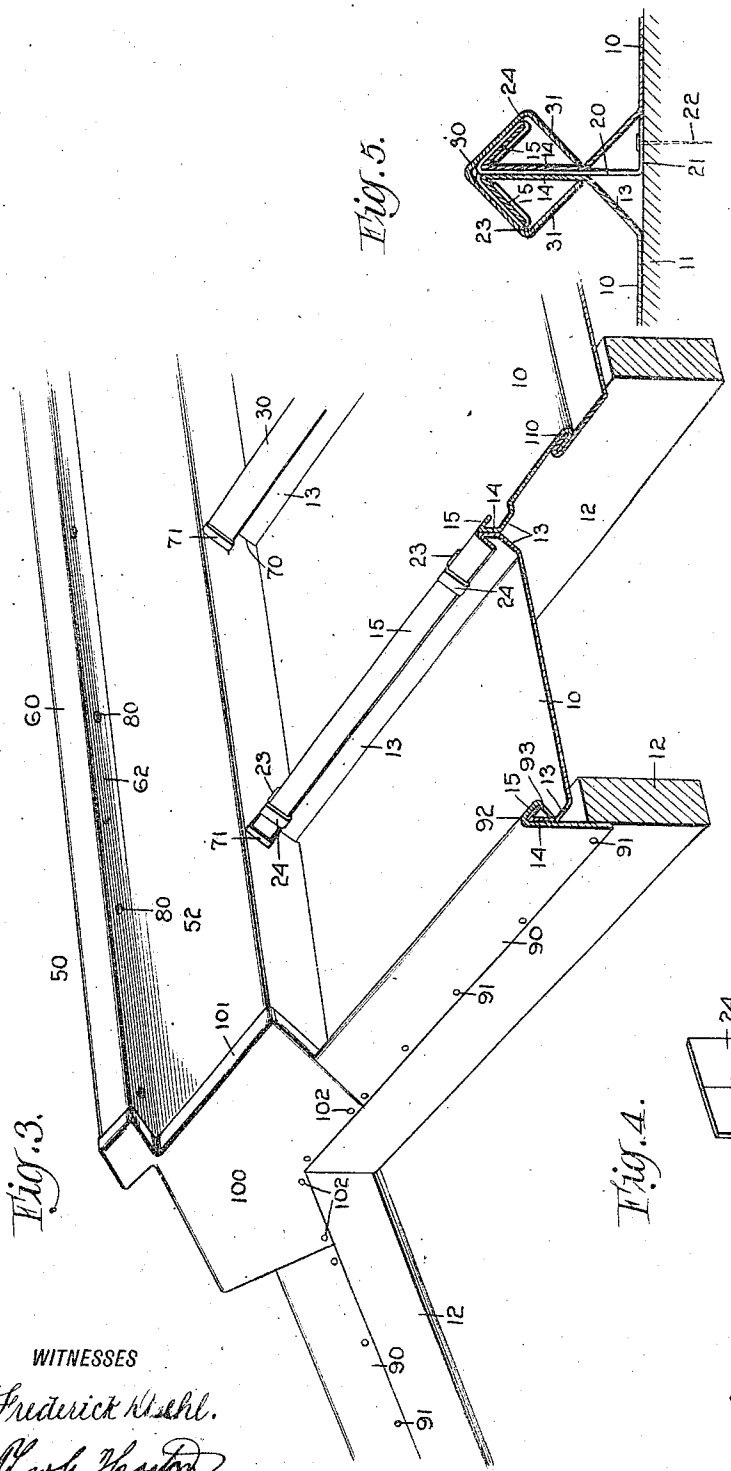


Fig. 3.

Fig. 5.

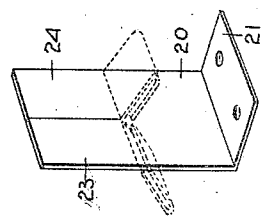


Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN HENRY PERRY, OF MIDDLETOWN, NEW YORK.

SHEET-METAL ROOF.

1,240,773. Specification of Letters Patent. **Patented Sept. 18, 1917.**

Application filed July 28, 1916. Serial No. 111,811.

To all whom it may concern:

Be it known that I, JOHN H. PERRY, a citizen of the United States, and a resident of Middletown, in the county of Orange and State of New York, have invented a new and Improved Sheet-Metal Roof, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved sheet metal roof arranged to enable a tinsmith or other person to readily join the metal sheets for forming the roof sides and the ridge without the use of solder, and to render the joints rainproof and thereby prevent leakage.

In order to accomplish the desired result, use is made of metal sheets provided at each side with an upturned abutting member terminating at its upper end in an inwardly and downwardly bent flange, and a peak-shaped seam cap fitting over the said flanges of adjacent sheets and having flanges extending downwardly and toward each other, the edges of the said seam cap flanges abutting against the lower ends of the abutting members of adjacent sheets. Use is also made of a sheet metal roof ridge formed of two sheets extending downwardly and outwardly, one relatively to the other, the sheets having inwardly and downwardly extending flanges at their lower ends and having upwardly extending abutting members at their upper ends, the said abutting members terminating in outwardly and downwardly extending flanges, and a ridge cap of inverted V shape and fitting over the said top flanges of the abutting members, the said ridge cap having at its lower end inwardly and downwardly extending flanges abutting against the outer faces of the said abutting members.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional perspective view of the sheet metal roof with parts broken out;

Fig. 2 is a reduced perspective view of one of the sheets for forming the roof;

Fig. 3 is a sectional perspective view of one end of the roof and with one of the seam caps removed;

Fig. 4 is a perspective view of one of the anchors prior to bending the holding clips thereof; and

Fig. 5 is an enlarged sectional side elevation of the joint of two adjacent roof sheets and their seam cap.

The metal sheets 10 for forming each side of a gable roof rest on slats 11 attached to the rafters 12 of the roof. Each side of the metal sheet 10 is provided with an outwardly and upwardly turned draining member 13 terminating in an upwardly extending abutting member 14, the upper end of which terminates in a downwardly and inwardly bent flange 15. Adjacent sheets 10 have their abutting members 14 at corresponding sides abutting against each other, as plainly indicated in the drawings.

In order to hold the sheets 10 in position on the slats 11, use is made of two or more anchors 20, each extending between each pair of abutting members 14 of adjacent sheets, each anchor being made of sheet metal and being provided at the lower end with an attaching flange 21 resting on a slat 11 and secured thereto by nails 22 or other suitable fastening means. The upper portion of the anchor 20 is split to provide two retaining tongues 23 and 24 bent in opposite directions to overlie the flanges 15 and to be crimped around the lower ends thereof so as to securely hold the sheets 10 in position on the slats 11. A peak-shaped seam cap 30 is slipped endwise over a pair of flanges 15 and the lower ends of the seam cap 30 are provided with inwardly and downwardly extending flanges 31, the lower edges of which rest against the outer faces of the abutting members 14 at the junction of the abutting members 14 with the draining members 13. It will be noticed that by this construction rain water is not liable to pass between the abutting members 14 of adjacent sheets 10 as such rain water is de-

flected downward on the draining portions 13 by the flanges 31 and any rain water that may be driven up into the space between the abutting members 14 and the flanges 15 and 31 is not liable to pass between the seam cap 30 and the flanges 15 to reach the joint between the abutting members 14 and thus pass down into the space below the roof. It will be noticed that a very effective check is had to prevent leakage of rain water even if such is driven by a strong wind. The upper ends of the uppermost sheets of the roof are preferably provided with double flanges 40 (see Fig. 1) to reinforce the sheets at the ridge of the roof.

The ridge of the roof 50 is formed of two sheets 51 and 52 inclined downwardly and outwardly one relatively to the other and terminating at their lower ends in flanges 53 and 54 bent inwardly and downwardly to rest with their lower ends on the upper portion of the sheets 10. The upper ends of the sheets 51 and 52 are provided with abutting members 55 and 56 extending upwardly and terminating in flanges 57 and 58 then downwardly and outwardly, as plainly indicated in Fig. 1. A ridge cap 60 made peak-shape in cross section is slipped endwise over the flanges 57 and 58 and this ridge cap 60 is provided at its lower end with inwardly and downwardly extending flanges 61 and 62 abutting with their lower edges against the faces of the abutting members 55 and 56. The lower or bottom flanges 53 and 54 are provided with openings 70 for the passage of the upper ends of the seam caps 30 and the draining portions 13 of the sheets 10. The walls of the openings 70 are preferably provided at the top with struck-up outwardly extending flanges 71 overlying the cap 30 so as to form a firm joint between the seam cap 30 and the ridge 50 to hold the ridge against longitudinal movement as well as against transverse movement. The flanges 62 are preferably provided with spaced ventilating apertures 80 to prevent undue expansion or contraction of the underlying members of the ridge 50.

At each end of the roof use is made of short plates 90 fastened by nails or other fastening means 91 to the ends of the rafters 12 (see Fig. 3), and each plate 90 passes along the abutting members 14 and is provided at its upper end with a downwardly and outwardly inclined flange 92 overlying the flanges 15 of the abutting member 14 of the end sheet 10. The flange 92 terminates in a flange 93 extending inwardly and downwardly and rests against the abutting member 14 at the joint of the latter with the draining portion 13 the same as the flange 31 of the seam caps 30.

Each end of the ridge 50 is closed by a plate 100 conforming to the cross sectional shape of the ridge 50 and provided with a flange 101 fitting over the corresponding portion of the ridge cap 60, its flanges 61, 62, the sheets 51 and 52 and their flanges 53 and 54, the lower portions of the flanges being joined with the plates 90 and the parts being all fastened together by soldering. Nails 102 are used for attaching the bottom portion of the plate 100 to the end rafters 12, as will be readily understood by reference to Fig. 3.

The lower end of a sheet 10 is connected with the upper end of the next following sheet below by a double seam 110, as plainly indicated in Fig. 3.

From the foregoing it will be seen that by the arrangement described a tinsmith or other person can readily join the several members of the metal roof and the joints are rendered rainproof both at the sides of the roof and at the ridge to prevent leakage.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. In a sheet metal roof, the combination of sheet metal side plates having upturned abutting members and a seam cap slipped over the upturned abutting members, and a ridge formed of two sheets having upturned abutting members at their upper ends and inwardly turned angular bottom members at their lower ends, the said bottom members having openings for the passage of the said seam caps, the upper ends of the said abutting members having outwardly and downwardly bent flanges, and a peak-shaped ridge cap fitting onto the said flanges, the said ridge cap having downwardly and inwardly extending flanges abutting with their lower edges against the outer faces of the said abutting members of the ridge.

2. In a sheet metal roof, a ridge formed of two sheets extending downwardly and outwardly one relatively to the other, the sheets having inwardly and downwardly extending flanges at their lower ends and having upwardly extending abutting members at their upper ends, the said abutting members terminating in outwardly and downwardly extending flanges, and a ridge cap of inverted V shape and fitting over the said flanges of the abutting members, the said ridge cap having at its lower ends inwardly and downwardly extending flanges abutting against the outer faces of the said abutting members.

3. In a sheet metal roof, a ridge formed of two sheets extending downwardly and outwardly one relatively to the other, the sheets having inwardly and downwardly extending apertured flanges at their lower

ends and having upwardly extending abutting members at their upper ends, the said abutting members terminating in outwardly and downwardly extending flanges, a ridge cap of inverted V shape and fitting over the said flanges at the abutting members, the said ridge cap having at its lower ends inwardly and downwardly extending flanges abutting against the outer faces of the said abutting members at the junction of the said members with the sheets, and an end cap for each end of the ridge and formed of a single sheet provided with uninterrupted flanges fitting over the ridge cap and its flanges and the said sheets and their lower flanges.

JOHN HENRY PERRY.