To all whom it may concern:

Be it known that I, William M. Ducker, a citizen of the United States, residing in the 5 borough of Brooklyn, in the county of Kings, in the state and City of New York, have invented certain new and useful Improvements in Roofs of Houses, of which the following is a specification.

This invention relates in the main to the class of structures known as "portable" houses, where the parts going to make the house are constructed and fitted at the factory, so that they may be assembled on the site where the house is to be set up or erected.

The present invention has relation to the roof or covering of a house and the manner of rendering said roof fireproof or proof against ignition from sparks and the like.

In the accompanying drawings, which illustrate an embodiment of the invention as applied to a portable house, Figure 1 is a sectional view, the plane of the section being vertical and through the roof from the ridge to the eaves. Fig. 2 is a side elevation showing the roof-sections without the metal covering, and Fig. 3 is a similar view showing the same with the sheet metal in place thereon. Fig. 4 is a fragmentary sectional detail showing the bolt which secures the roof-sections in position. Fig. 5 is an illustrative detail view showing the means for drawing together the roof-sections laterally. Fig. 6 is an enlarged detail view of the ribs on the roofs and the battens. Fig. 7 is a similar view to Fig. 6, illustrating the construction where the metal covering-plates are put on the roof-sections before they are laid. Fig. 8 is a view of the wall-plate resting thereon; 9 the beveled plate resting on the wall-plate to receive the roof, and 4 the roof-sections, which will usually be of uniform width and extend from the eaves to the ridge, where they abut and are secured together by suitable interlocking metal fastenings. 5 The sections are notched onto the plate (at 6 in Fig. 1) and are secured to the plate 2 by a T-headed bolt 7. (See enlarged in Fig. 4.) This bolt passes down through the wall-plate and through the upper transverse member of the siding section 1, and it has a nut on its lower end to draw it down firmly and bury the prongs 7 on its head into the wood of the adjacent roof-sections, as shown. The roof-sections are held together at intermediate points in their length by means best seen in Figs. 2 and 5—that is to say, the meeting edges of the roof-sections are slightly beveled and in each is set or driven a hook-headed nail 8, with the hooks thereof turned in opposite directions in the adjacent sections. The roof-sections when being placed are turned up to the position seen in Fig. 5. A ring 9, cut from or formed of metal, is placed so as to engage the hooks on the nails and the sections again placed or pressed down flat, as in Fig. 2. This device serves to draw the roof-sections singly together, edge to edge.

The roof-sections are framed and made ready at the factory, and after they are laid is to say, the metal of the sheet is folded on itself to form two closely-applied plies or thicknesses. Along the margin or edge of the metal sheet exterior to the ribs 11 are formed perforations 12 to receive nails 12 for securing the sheet to the roof-section. When the sheets are laid on the roof-sections and secured, the joints between adjacent sections are covered by sheet-metal battens 13, which have their lateral margins turned under to engage the overhanging ribs 11 on the sheets 10, as shown. These battens extend from the eaves up to the ridge and along the ridge is placed a sheet-metal ridge-roll 14. (See in Fig. 1.) This roll will be fitted closely to the sheet metal of the roof and may be secured by soldering or other means.

Preferably sheets of asbestos will be inserted between the sheets of metal 10 and the wood of the roof-sections 4. This is seen at 15 in Fig. 6.

It may be explained here that the roof-section of wood may be constructed in any convenient manner—for example, it may have side bars connected by transverse members and be covered by matched boards, as illustrated in my pending application, Serial No. 188,691, and the metal-locking devices 5 may be the same as shown in my said application. These features form no essential part of the present application.
In Fig. 1 is shown an inner ceiling forming a part of the roof and sloping therewith, there being an air-space and air circulation between the roof proper and said ceiling. This feature is not specifically claimed herein, but is embodied in an application which is a division of the present one. It will therefore be only briefly described herein. In constructing this ceiling, as shown in Fig. 1, there is employed a ridge-plate 16 and intermediate plate 17, both of the desired width, and those extend lengthwise of the building parallel with the beveled wall-plate 3. These plates 16 and 17 are provided with cleats 18 to support ceiling-boards 19 of matched stuff, the lower extremities of which engage a groove in the wall-plate at 20. To insure a free circulation of air in the space between this ceiling and the roof-sections, the plates 3, 16, and 17 are perforated or apertured, as seen at 21.

It has been stated that the sheet-metal covering-plates are put on the roof-sections after the latter are placed, and this may of course be done; but they may also be covered at the factory. In Fig. 7 this mode of operation is illustrated. In this construction the metal sheet is somewhat narrower than the roof-section and does not extend quite to the lateral margin of same and the bolt 7 and nails 8 are disposed between the edges of adjacent metal plates and covered by the batten 13.

Having thus described my invention, I claim—

1. A portable house, having its roof composed of roof-sections of wood, extending from the ridge to the eaves, said sections each having its edges beveled as shown and provided along said edges with headed nails, rings which engage the headed nails on adjacent roof-sections when the latter are tilted until their beveled edges match and which draw the sections securely together edgewise when the latter are laid flat, sheets of metal which cover the respective sections, and each of which is secured along its lateral margins to the respective margins of the sections, said sheets each having two longitudinally-extending ribs near its respective margins, formed by folds of the metal and curved toward each other, and flat, flanged battens of sheet metal, the flanges of which engage the ribs on adjacent roof-sections and cover the joints between the said sections.

2. A portable house, having its roof-covering composed of sections made from wood, and each section provided with a fireproof covering composed of sheet metal provided with an inner lining of asbestos and secured to the wood, the metal sheet having near each edge a longitudinal rib of two thicknesses or plies of the metal, and having in its margins, exterior to said ribs, holes to receive securing devices, and flanged battens of sheet metal to engage the ribs on the plates and cover the joints between the sections.

3. A portable house, having its roof-covering composed of wood roof-sections beveled at their lateral edges, the rings 9, for securing the sections together, and the hook-headed nails 8 in the sections to engage said rings.

In witness whereof I have hereunto signed my name, this 20th day of December, 1904, in the presence of two subscribing witnesses.

WILLIAM M. DUCKER.

Witnesses:
HENRY CONNETT,
WILLIAM J. FIRTH.