

H. ALDRIDGE.
METAL CAR ROOF.

No. 182,738.

Patented Oct. 3, 1876.

Fig 1.

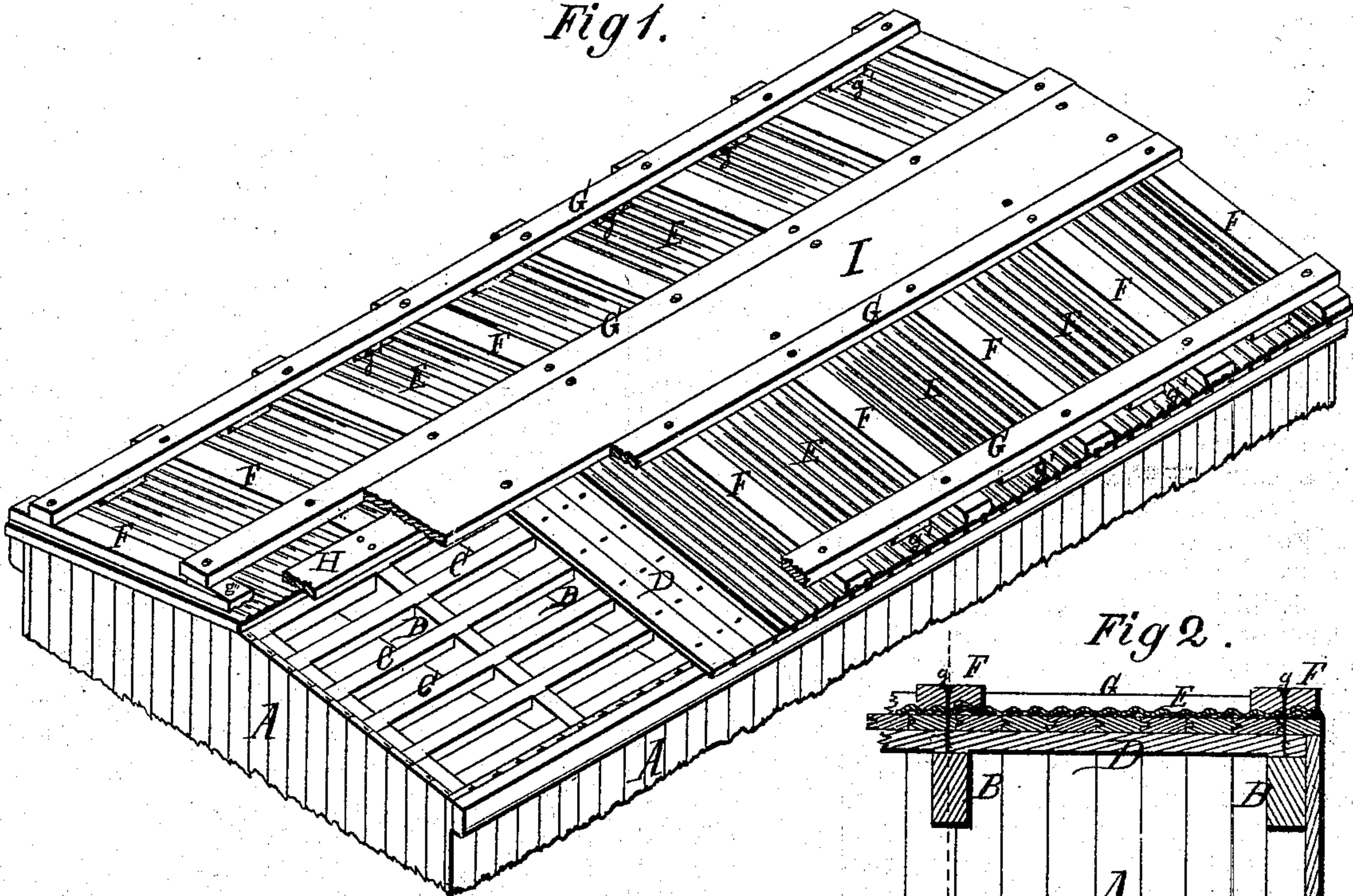


Fig 2.

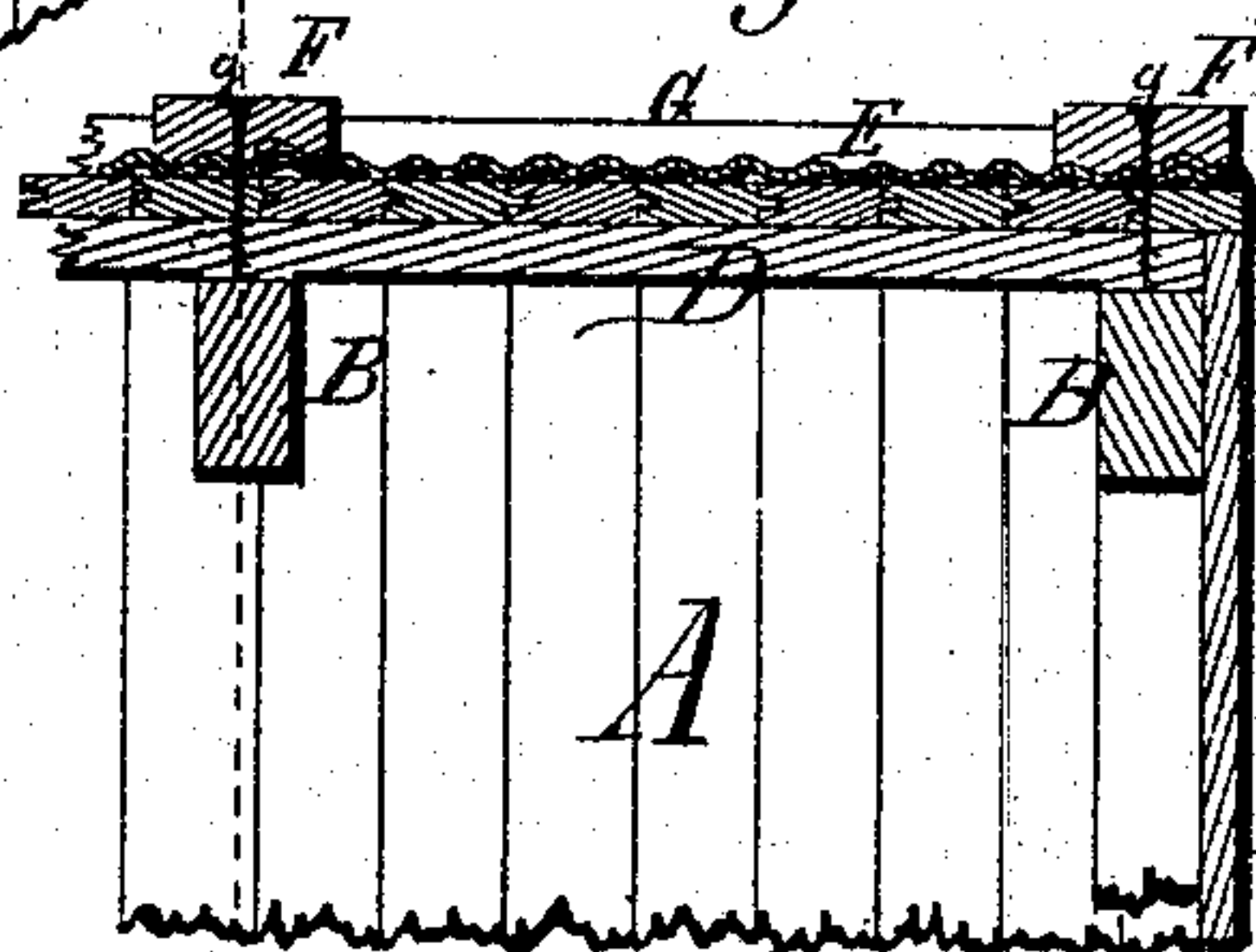
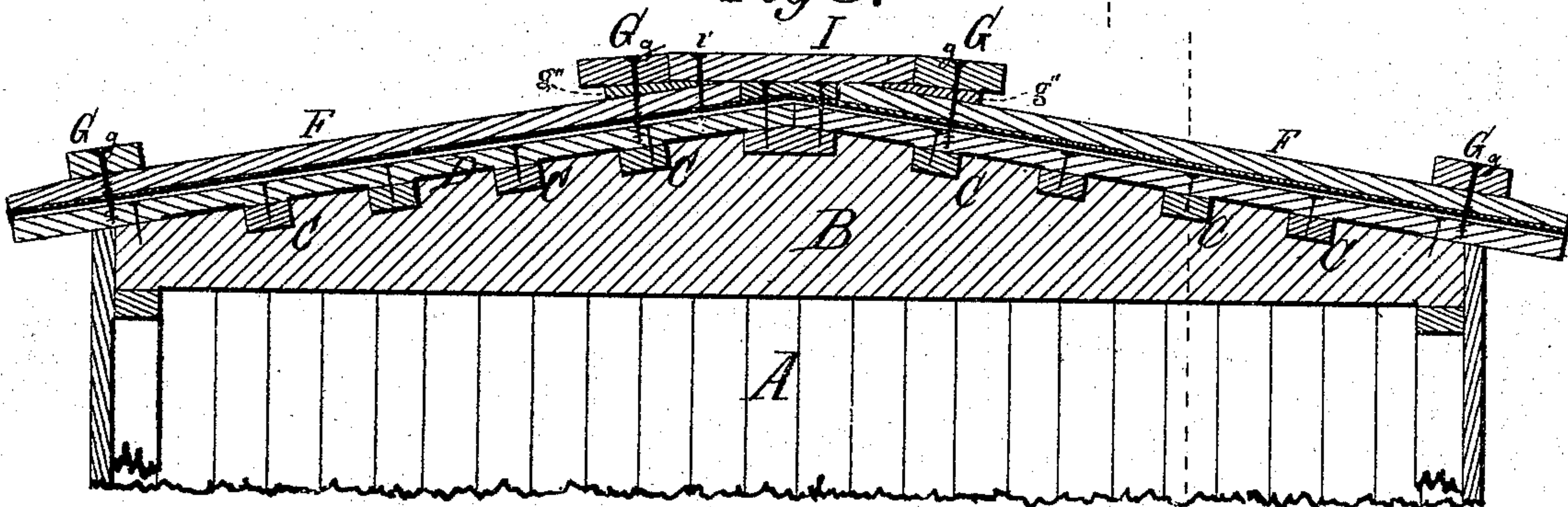


Fig 3.



Witnesses:
James Martin Jr.
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UNITED STATES PATENT OFFICE.

HIRAM ALDRIDGE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN METAL CAR-ROOFS.

Specification forming part of Letters Patent No. **182,738**, dated October 3, 1876; application filed August 3, 1876.

To all whom it may concern:

Be it known that I, HIRAM ALDRIDGE, of the city and county of St. Louis and State of Missouri, have invented a new and useful Improvement in Roofs for Railroad-Cars, which improvement is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of one of my improved car-roofs. Fig. 2 is a detailed view in longitudinal section, and Fig. 3 is a cross-section of the same, both sections illustrating the manner of applying and fastening the metallic covering, as well as the application of a running-board to the same.

The object of my invention is to provide the roof of a car with a water and fire proof metal covering which is free from the many disadvantages to which this class of covering belongs, and which may easily be constructed by hands of average or less skill with less expense than any other metal coverings of that class.

In the accompanying drawings, A represents the vertical boarding of a freight-car of ordinary construction. B are the rafters or purlins, and C the longitudinal rafters or car-lines. The said car-lines and purlins support a flooring-roof, D, of ordinary construction. Upon the flooring D corrugated-metal sheets E are placed, so that the corrugations follow the slope of the roof. The said corrugated sheets are overlapped longitudinally to prevent leakage. The longitudinal overlapping is covered by strips F. The said strips may be of wood, in which case they are provided with grooves *f*, made to fit the corrugations of the metal covering. The several strips F on either side of the roof are united by longitudinal ties G, which are laid across the said strip at or near their ends, and fastened, by preference, with screws *g*, which pass through the strips and roof-flooring into the car-lines or purlins. The corrugated sheets abut at the ridge of the roof. Between the strips F I fasten a number of bearing-blocks, *g'*, to the ties G, which bearing-blocks serve to keep the metallic covering in contact with the roof-flooring. Upon the joints, and between the upper ends of the strips F, a ridge-board, H, is placed, and so shaped below as to conform

to the slope of the roof. Above the ridge or ridge-board I attach a running-board, I, either to the free upper ends of the strips F, or to the ridge-board, or to both, by nails or screws *i*, which are, however, not intended to penetrate the metal covering of the roof. By placing the upper ties G close to the right and left side of the running-board I, I increase the width of the same and insure a safer passage over the car. To secure a uniform level to the running-board I and the upper ties G, I place wedge-shaped blocks *g''* between the said ties and the strips F.

When an absolutely fire-proof covering is wanted the strips F and the ties G are made of metal. In this case the strips F are gutter-shaped, and the edges thereof are firmly wedged into the corrugations of the covering metal sheets, thereby perfectly excluding rain or spray in a lateral direction, while by stopping up the open spaces at both ends of the strips leakage in a longitudinal direction is prevented.

The described mode of covering roofs with corrugated sheet metal and fastening the same thereto is applicable to all manner of roofs, such as houses, stores, ships' cabins, bridges, and so on.

The advantages of my construction consist in a simple and cheap roof-covering, the lateral joints or overlappings of which are not exposed, but firmly and tightly covered, while the parts of the said covering which are perforated for the admission of screws or nails into the car-lines or purlins are rendered water-tight. The metal sheets also have perfect freedom to expand or contract without displacing one another, and the small amount of wood used for the purpose of fastening the covering is not sufficient to make the car-roof unsafe on account of fire from the locomotive.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A sectional corrugated-metal covering, fastened upon a car-roof by means of joint or lap-covering cross-strips suitably secured in position, substantially as and for the purpose set forth.

2. The ridge-board for covering up the joints of the corrugated-metal sheets, and for

firmly holding down the ends of the said sheets upon the roof of the car, in combination with the running-board, which is above the surface of the metal covering, and bears upon the ends of the joint-strips F, substantially as set forth.

3. The longitudinal ties, having bearing-blocks, substantially as and for the purpose set forth.

Witness my hand in the matter of my application for a patent for an improved railroad-car roof this 31st day of July, 1876.

HIRAM ALDRIDGE.

Witnesses:

JAMES MARTIN, Jr.,
A. G. HEYLMAN.