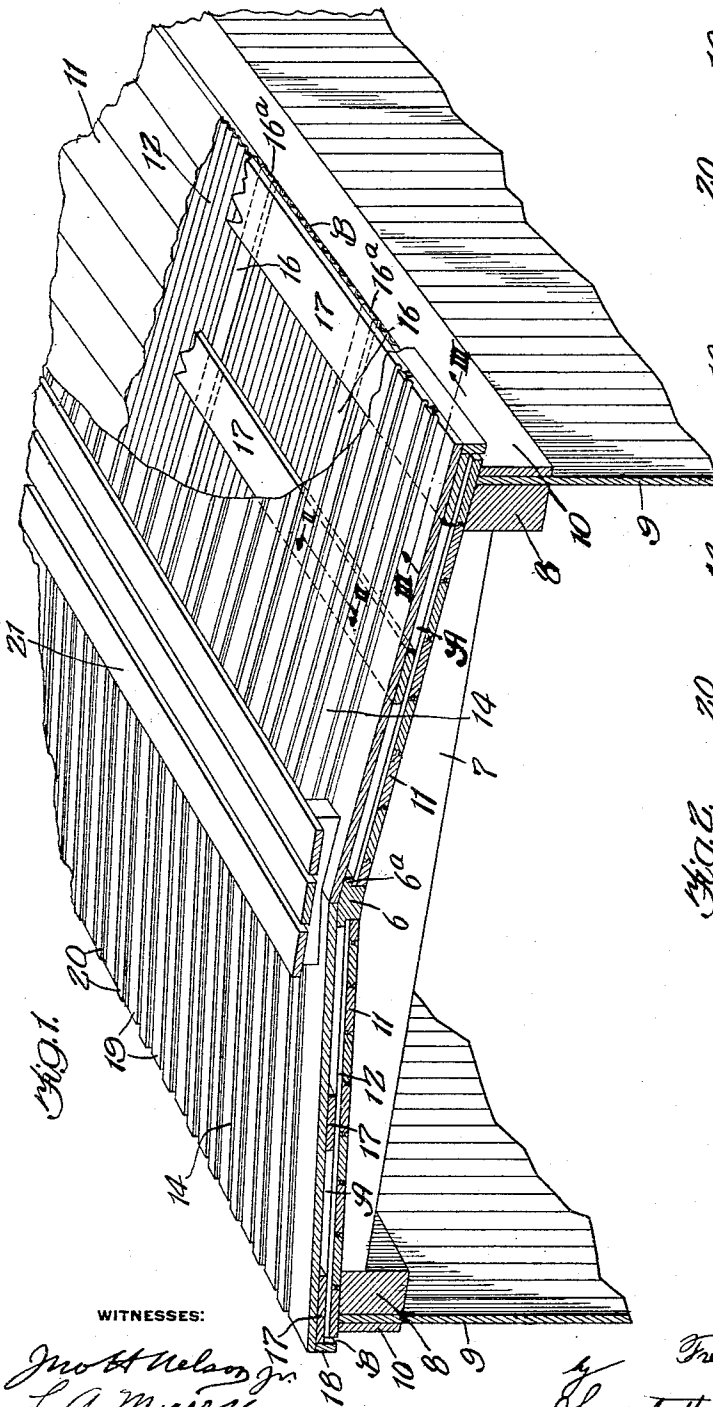
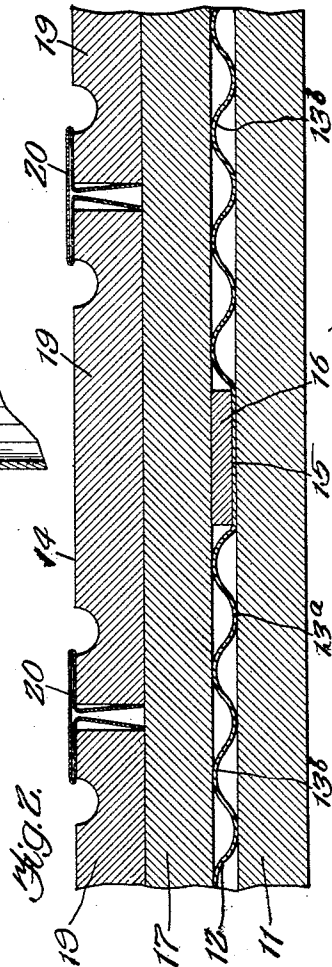


F. A. LESTER.
CAR ROOF.
APPLICATION FILED JULY 30, 1914.

1,150,133.

Patented Aug. 17, 1915.
2 SHEETS—SHEET 1.



WITNESSES:

John H. Nelson
L. A. Myers

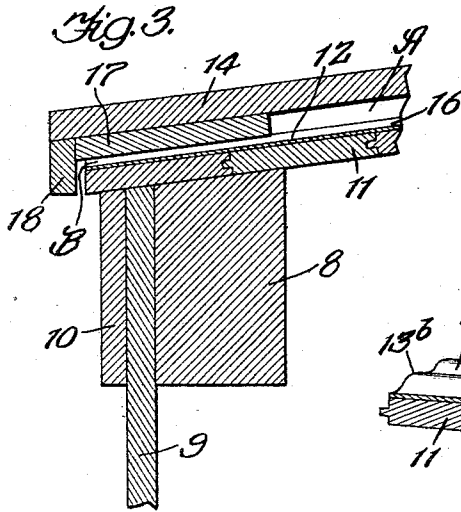
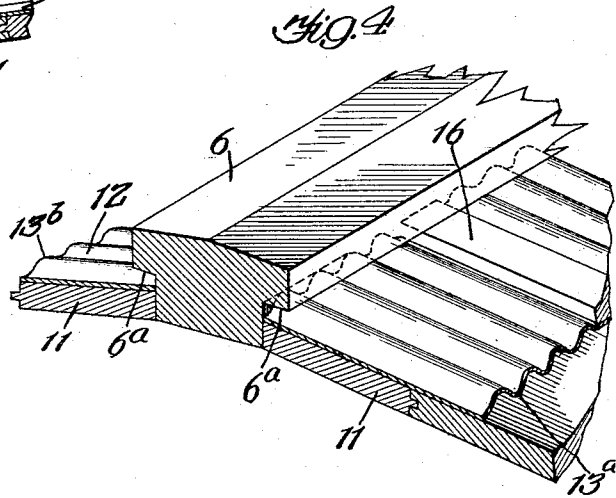
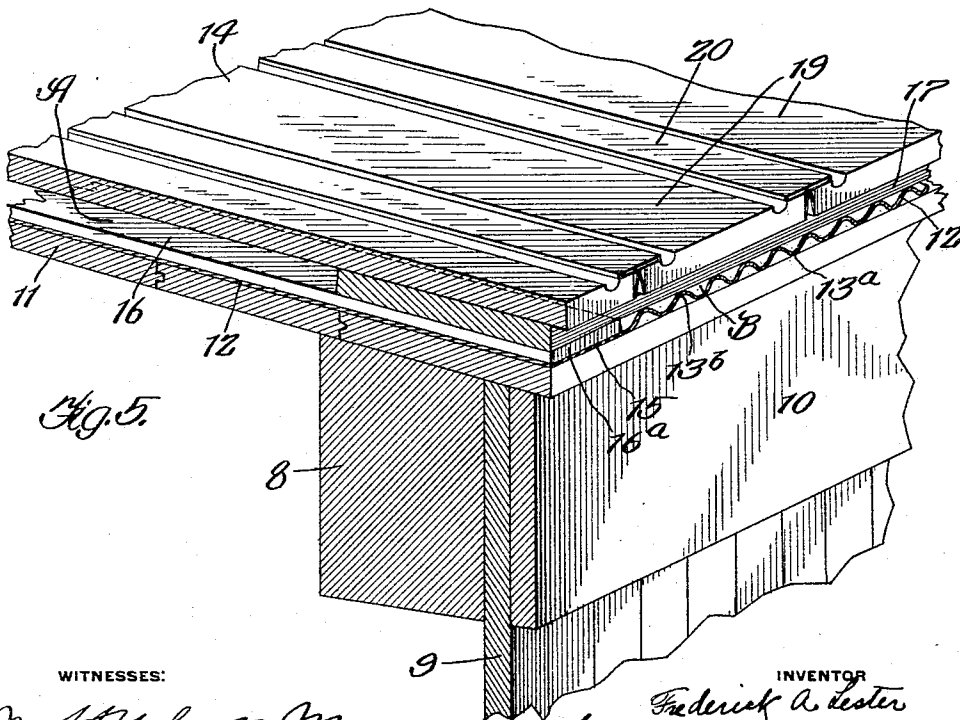
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WITNESSES:

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UNITED STATES PATENT OFFICE.

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CAR-ROOF.

1,150,133.

Specification of Letters Patent.

Patented Aug. 17, 1915.

Application filed July 30, 1914. Serial No. 854,030.

To all whom it may concern:

Be it known that I, FREDERICK A. LESTER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Roofs, of which the following is a specification, reference being had to the drawings forming a part hereof.

My invention relates generally to roofs, and has reference more particularly to improvements in a double board roof adapted for use in connection with railway freight cars.

One of the principal objects of my invention is to construct the roof so that the parts thereof may be readily applied to the car and at a minimum cost. Another object is to provide a double board car roof formed with an air or ventilating space between the inner sheathing and outer covering composing the roof whereby to prevent checking or splitting thereof, and more particularly of the top surface of the roof boards forming the outer covering. A further object is the provision of a flexible inner covering in the air space conformed and adapted to positively conduct leakage away from the roof and discharge the same at the eave, and wherein the area of discharge aperture at the eave is restricted so as to overcome any likelihood of leakage or rain being driven back into the larger ventilating space existing between the inner and outer coverings.

My invention further contemplates generally the production of a water-tight car roof which is of a simple, cheap and durable construction especially adapted to withstand hard usage.

These, together with such other objects as may hereinafter appear, or are incident to my invention, I obtain by means of a construction which is illustrated in preferred form in the accompanying drawings, wherein:—

Figure 1 is a perspective view of a portion of a freight car illustrating the application of my improved roofing thereto, parts of the outer covering being broken away to better disclose the invention.

Figures 2 and 3 are enlarged sections taken respectively along the lines II—II and III—III of Figure 1.

Figures 4 and 5 are views in perspective showing the relation of the roof members at the ridge and eaves respectively.

Referring to the drawings, the numeral 6 indicates the longitudinal ridge member of the roof supported intermediate its ends by carlines 7, which extend transversely between the side plates 8, siding 9, and fasciæ 10, in a manner well known and common to this art.

In carrying out my invention, I provide the inner sheathing 11 which is supported by the carlines and extends continuously across the roof to have its bottom edges terminate at or near the fasciæ 10 and its top edges received in a cut-away portion at each side of the ridge member 6, there being a clearance between the shoulder 6^a of the ridge and the contiguous upper surface of the sheathing.

The numeral 12 indicates a covering of a waterproof flexible character preferably in the form of corrugated tar paper, which is laid upon the sheathing 11 in such a manner that the depressions or grooves 13^a thereof rest on its upper surface and extend in a direction transversely of the roof from within the clearance at the ridge to the eave to serve as a water conducting channel in the event of leakage past the outer roof board covering 14. Positioned at intervals on flattened portions 15 of the corrugated paper covering 12 are transverse filler blocks 16 which may extend from ridge to eave and are preferably of a height corresponding to that of the ridges 13^b; and interposed between the blocks 16 and the outer roof covering 14 are longitudinal nailing strips 17 secured to and extending cross-wise of the blocks 16 and to which the outer roof board covering 14 may be attached.

A nailing strip 17 is disposed at each of the eaves to extend lengthwise of the car and laterally of the grooves 13^a, and as the end portions 16^a of the transverse filler blocks 16 are in a supporting relation with the strip, the latter, as best shown in Figure 5, sub-

stantially coincides with the plane of the ridges 13^b. With the parts positioned as thus far described, it will be apparent that an adequate air or ventilating space A is formed between the sheathing 11 and the outer roof board covering 14 by the interposition of the blocks 16 and strips 17, and that the area of discharge aperture B at the eave is effectually restricted or lessened by the eaves strip 17 whereby to prevent drainage being driven back into the space by the action of driving wind, while at the same time permitting a free discharge of the drainage over the side of the car.

Furthermore, the arrangement at the eave is such that the grooves 13^a virtually act as a series of independent water conducting channels continued throughout the length of the car, since only at the eave is encountered the full effect of wind or rain, which, when the car is in motion, is prevented from moving in an angular direction through the aperture B and into the air space A. As to the function of the latter, it is well known that air dried lumber is becoming more and more difficult to obtain and then only at a prohibitive cost so far as car roofs are concerned, and this space serves to prevent checking or splitting of the roof, which is a common occurrence in car roofs which use kiln dried lumber, and also materially reduces any tendency of the corrugated tar paper covering from sticking to the inner sheathing or other roof members, which would be disadvantageous in the event of expansion or contraction of the roofing members and would to a greater or lesser extent have a tendency to effect its integrity as a flexible and water-tight member. The aperture B is further protected by an eaves cap or strip 18 carried by the outer board covering 14 to overhang at the eaves.

The outer roof covering is preferably composed of a series of spaced roofing strips 19 and interposed battens 20, which arrangement is described and claimed in my co-pending application for Letters Patent, Serial Number, 854,029.

At the ridge, the meeting edges of the outer roof covering 14 are supported by the ridge pole 6 and covered in by providing the usual run board 21. Any leakage past the joint at this point is received and conducted away by the intermediate covering 13, which, as previously indicated has its top edge received in the cut-away portion of the ridge, as shown in Figure 4.

From the foregoing, the essential features and elements of the construction together with its simplicity and other advantages thereof, will be readily apparent to those skilled in the art.

Having thus described my invention and illustrated its use, what I claim as new and

desire to secure by Letters Patent, is the following:—

1. In a compound car roof, and in combination, an outer roof covering and an inner sheathing extending from ridge to eave and having an air space therebetween, an intermediate corrugated fabric covering laid on said inner sheathing and disposed in said space to conduct leakage therefrom for its discharge at the eave, intervalled filler blocks engaging portions of the intermediate covering for retaining the latter in position on the sheathing, and a longitudinally disposed strip interposed at the eave between the filler blocks and the outer covering and extending laterally and adjacently over the corrugations of the intermediate covering to form a restricted discharge aperture at the eave wherein the water-conducting corrugations are terminally located, substantially as and for the purpose set forth.

2. In a car roof, the combination of an inner sheathing supported at the eave and an outer roof covering having an air or ventilating space extending therebetween to the eave, an intermediate covering disposed in said space on the sheathing and formed throughout with alternate ridges and grooves for conducting leakage to the eave, filler blocks disposed at intervals to engage flattened portions of the intermediate covering, for retaining the latter in position on the inner sheathing, and a longitudinal strip located at the eave intermediate the filler blocks and said outer covering and disposed with reference thereto and substantially in the same plane as that of the top line of the ridges to form a restricted discharge aperture at the eave, the lower edge of the intermediate covering being terminally located in said restricted aperture whereby to provide a series of water conducting channels extending continuously between the filler blocks, substantially as and for the purposes set forth.

3. In a double board car roof, the combination of an inner sheathing and an outer roof covering having an air space extending therethrough to the eave, an intermediate flexible waterproof covering laid on said inner sheathing and formed with alternate ridges and grooves for conducting leakage away from the space for discharge at the eave, intervalled filler blocks engaging flattened portions of the intermediate covering and of a height approximating that of the ridges, and a longitudinal nailing strip interposed between the filler blocks and the outer covering and extending laterally over the ridges and blocks to form a restricted discharge aperture at the eave, said intermediate covering having its lower edge portion terminally located in said aperture thereby providing intermediate the filler

blocks a series of water-conducting channels and wherein the top line of the ridges substantially coincides with the plane of the inner face of the strip and the bottom line
5 of the grooves with that of the inner face of the sheathing.

In testimony whereof, I have hereunto

signed my name in the presence of the two subscribed witnesses.

FREDERICK A. LESTER.

Witnesses:

W. HERBERT FOWKES,
FRANK JAGER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."