

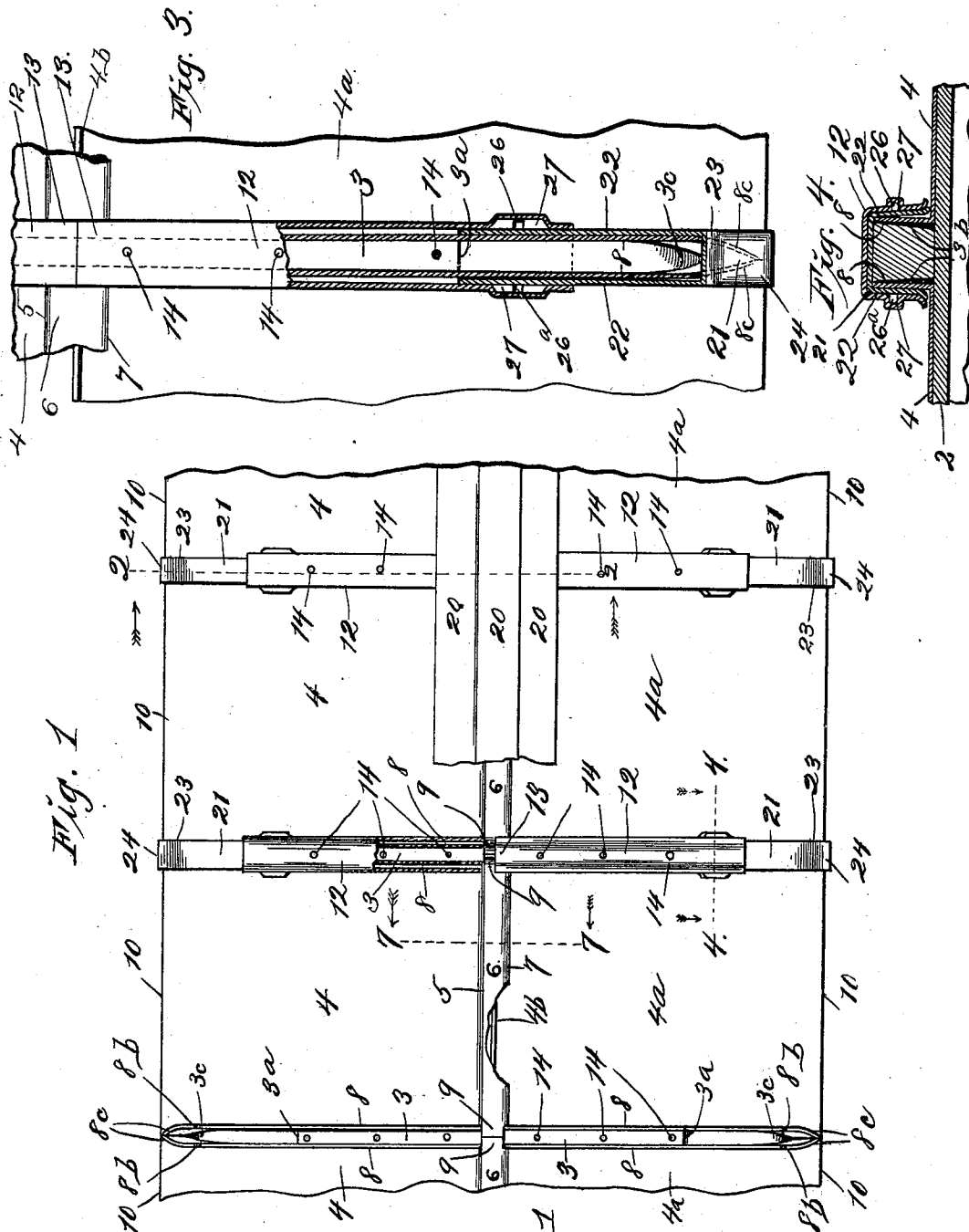
(No Model.)

2 Sheets—Sheet 1.

A. N. MONTEER.
COVERING ATTACHMENT FOR CAR ROOFS.

No. 507,627.

Patented Oct. 31, 1893.



Witnesses:
M. P. Smith.
G. P. Thorpe

Inventor:
Alexander N. Monteer.
By Higdon & Higdon
Attys.

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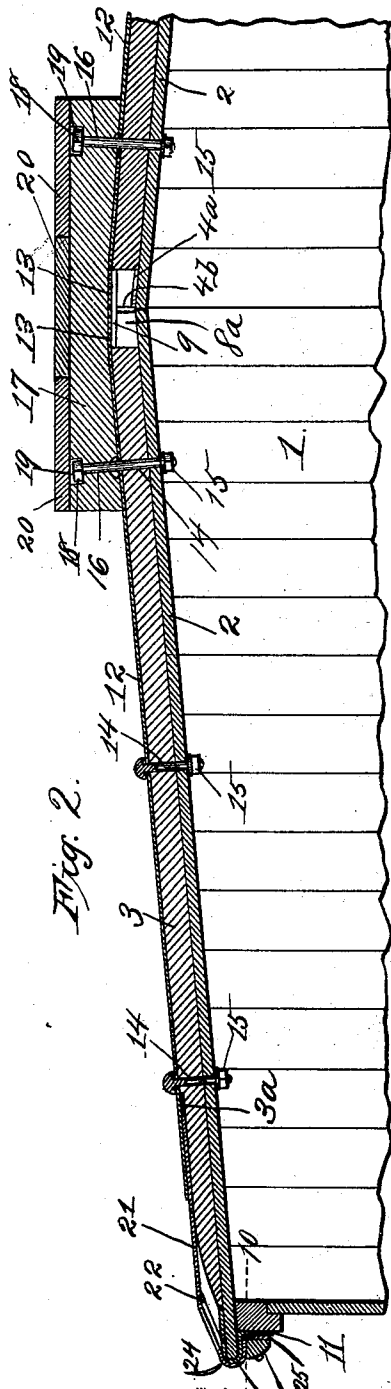


Fig. 2.

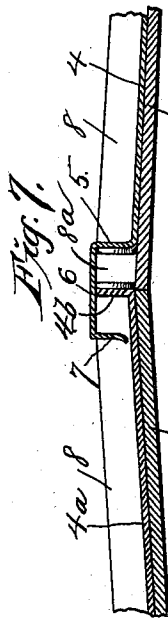


Fig. 7.

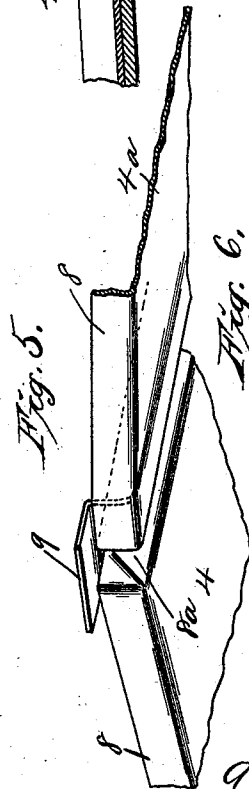


Fig. 5.

Fig. 10.

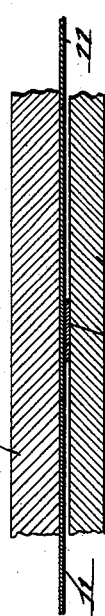


Fig. 9.

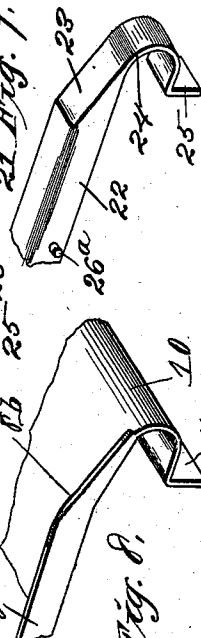
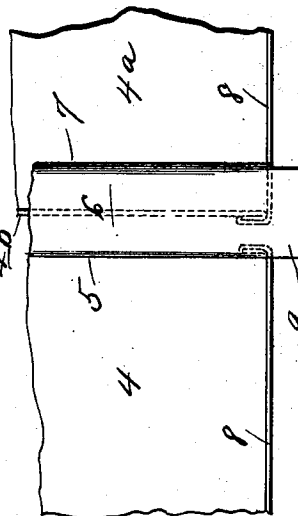


Fig. 8.

Fig. 6.



Witnesses:
M. S. Smith.

[Signature]

Inventor:
Alexander A. Monteer.

By *[Signature]* & *[Signature]*
Attys.

UNITED STATES PATENT OFFICE.

ALEXANDER N. MONTEER, OF SPRINGFIELD, MISSOURI.

COVERING ATTACHMENT FOR CAR-ROOFS.

SPECIFICATION forming part of Letters Patent No. 507,627, dated October 31, 1893.

Application filed May 12, 1893. Serial No. 473,945. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER N. MONTEER, of Springfield, Greene county, Missouri, have invented certain new and useful Improvements in Covering Attachments for Car-Roofs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in car roof attachments.

The objects of my invention are to produce a car roof covering attachment, which shall allow for expansion and contraction in every direction; and which shall be so constructed as to render the roof absolutely water-proof at all times.

A further object of my invention is to produce car roof attachments which shall be simple, strong, durable and inexpensive of construction, which shall be applicable to a great variety of car roofs, and which shall be secured thereon without the use of nails or rivets.

With these objects in view the invention consists in certain peculiar and novel features of construction and combinations of the parts, as will be hereinafter described and pointed out in the claims.

In order that my invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1, is a plan view of a portion of a car roof and showing my covering attachments applied thereto. Fig. 2, is a vertical sectional view taken on the line 2—2 of Fig. 1, and as viewed in the direction indicated by arrows. Fig. 3, is a top plan view of a portion of the car roof, and showing a portion of my car roof covering attachments broken away to more clearly expose the construction thereof. Fig. 4, is a vertical sectional view taken on the line 4—4 of Fig. 1, and is viewed in the direction indicated by arrows. Fig. 5, is a perspective view showing the manner of connecting the top plates of the covering attachment, so as to allow for lateral movement. Fig. 6, is a top plan of the attachments shown in Fig. 5. Fig. 7, is a vertical sectional view taken on the line 7—7 of Fig. 1. Fig. 8, is a detail perspective view of one of the outer corners of the top plates. Fig. 9, is a detail perspective

view of the end of one of the telescopic casings for the cross strips or cleats of the roof, and Fig. 10, is a horizontal sectional view taken on the line 10—10 of Fig. 2.

Referring to the drawings, 1 designates a portion of the car which may be of any suitable construction for the transportation of the more valuable classes of freight, and 2 designates the roof. Extending transversely of the roof at suitable intervals are cross strips or cleats 3, which preferably end a slight distance from the side margins of the roof, and from the apex thereof.

4 and 4^a designate a number of top plates which are adapted to rest upon the roof and between the cleats or cross-strips 3. These cleats 3, have their sides inclined downwardly and inwardly at 3^b; the object of which will be hereinafter explained. The top plates 4 are bent vertically at 5 near their upper ends; then horizontally at 6 for a suitable distance, and are then bent vertically downward to form a retaining flange 7; thus forming a space 8^a, extending longitudinally of the roof and for the entire width of each top-plate 4. Each top plate 4 and 4^a is also provided with vertical flanges 8 at each side margin; these flanges being adapted to rest against the adjacent inclined-sides 3^b of each pair of cross strips or cleats 3; the outer ends of said vertical flanges 8 terminating a short distance from the side margins of the car, and are turned outwardly preferably as shown in Figs. 1 and 8, and are tapered downwardly as at 8^b to the upper side of the top-plate. At the outer end of this tapered portion, each top-plate is adapted to meet a similar portion of the adjacent top-plate as shown in Fig. 1; thus forming a V-shaped space between each pair of top-plates for the reception of the pointed end 3^c of the cross-strips or cleats, and also forming a guide or way 8^c upon each side of the strips, by which the water at those points will be conveyed to the edge of the roof. The outer end of each top plate is also bent downward and inward in U-form at 10, so as to inclose the outer edges or eaves of the roof, and the lower end 11 of each top plate is extended downward a short distance so as to lie against the upper portion of the sides of the car as shown. Each top plate 4 is also provided with an extension 9, project-

ing horizontally from and preferably formed with the horizontal portion 6 and at each end thereof, and about half way the width of the cross strips or cleats 3 as shown in Fig. 1.

5 The upper or inner end of each top plate 4^a is formed with a vertical and upwardly extending flange 4^b which in its normal position, occupies the center of space 8^a, and which is adapted as the car expands or contracts as hereinafter referred to in the operation, to move laterally in the space 8^a formed between the vertical portions 5 and 7 and the horizontal portion 6 of the plates 4; the body-
 10 portions of said plates 4^a passing under the free end of the flange 7 as clearly shown in Fig. 7, and the side flanges 8 of said top-plates 4^a, fitting at opposite ends of said flange 7, and inclosing the same.

Each of the cross strips or cleats 3 is inclosed at its top and two sides by an elongated metal casing or cap 12 which is of approximately inverted U-form in cross-section, and which is of such length as to extend from the outer side of the vertical portions 5 and
 25 7 of the top plates 4 to within a suitable distance of the outer ends of said cleats or cross strips 3. The top of each of these caps or casings 12 is of slightly greater width than the width of the top of the cleat or strip 3, the height of the sides of said casing or caps corresponding approximately to the thickness of the strips 3, and closely embracing the lapped or flanged edges 8 of the top plates 4 and 4^a, so as to form a perfectly water-tight
 35 joint, as shown. The inner end of each cap or casing 13 is preferably formed with an extension 12, which is adapted to fit upon and extend about half way the width of the horizontal portion 6 of the top plates 4, in such manner that the inner edge of the extension 13 of each oppositely disposed pair of caps or casings 12 is adjacent to each other, or in contact as shown in Fig. 3. Extending vertically through each cap or casing 12 and inclosed cross strip or cleat 3, on the roof 2 are
 45 a number of bolts 14, and the lower ends of these bolts are engaged by the retaining nuts 15, which bear against the under side of the roof of the car. The innermost bolt 14 of each cleat and casing, is provided with an extension 16, which projects through an opening in the cross-piece 17, and their upper ends are engaged by retaining nuts 18 which rest in recesses 19 in the upper edge of the cross pieces 17. The running boards 20 are secured longitudinally of the car and upon the cross-pieces 17 in the usual manner. It will thus be seen that the juncture points of the extensions 9 of the top plates 4, and the
 50 overlapping extensions 13 of the caps or casings 12, are covered by the cross-pieces 17, which in turn are covered by the running boards 20 at the top of the casing; thus preventing any water leaking through the roof at those points. The lower or outer ends of the cross strips 3, a suitable distance inward of the free ends of the caps or casings 12 are

formed with a recess 3^a and inclosing the recessed ends of said cross strips or cleats 3, are the movable caps 21; said caps being provided with side flanges 22 inclosing the adjacent side flanges 8 of the top-plates, upon each side of the cleats or cross strips, and inclosed by or within the side flanges of the caps or casings 12. These movable casings
 75 or caps 21, are also formed with the inclined ends 23; said inclination being adapted to strengthen or stiffen said caps, and also preferably corresponding to the inclination 8^b of the ends of side flanges 8 of the top plates. 8c
 The movable caps or casings 21 are also provided with the curved end 24 which is adapted to inclose the curved end 10 of the top plates, and is further formed with a pendent vertical extension 25 which is adapted to rest
 85 against the outer side of the vertical extension 11 of the top plates. A horizontally extending strip 26 is located at each side of the car, and each of said strips has its vertical face fitting against the outer side of extensions 25 of the movable caps 21 and has its upper horizontal side bearing against the under side of the curved portion 24 thereof; these strips 26 being secured to the sides of the car by screws or other suitable means. 95
 Each of the caps 21 is provided near its inner end and projecting outwardly from the outer sides of the flanges 22, with a pin or lug 26^a; these pins fitting and adapted to slide in the guide grooves 27 formed longitudinally
 100 in the inner sides of the vertical flanges of the outer caps or casings 12, and near their free ends. The edges of the pendent flanges 7 of the top-plates 6, and also the edges of the pendent flanges of the caps or casings 12
 105 and 21, as shown in Fig. 4, are turned or bent outwardly to stiffen said flanges, and also to prevent wear of the adjacent parts of the top-plates, by frictional contact, as would be the case, were the sharp corners of the margins of said flanges to impinge directly upon said top-plates. 110

From the above description, it will be seen that with any lateral contraction or expansion of the car, the telescopic or movable caps 21 will slide longitudinally within the free ends of the caps or casings 12; the guide pins or lugs 26^a in the grooves 27 being adapted to limit said movement, and at the same time the lateral expansion or contraction of the car allows the vertical flange 4^b of the inner end of the top plates 4^a to move laterally in the space 8^a formed by the vertical portions 5 and 7 and the horizontal portion 6 of the top plates 4. 125

The object in making the cross-strips or cleats with downwardly and inwardly inclined sides is to allow the upper side margins of said cross-strips or cleats to fit comfortably between the upper margins of the adjacent flanges 8 of each pair of top-plates 4 and 4^a, so as to prevent any rattling or noise when the car is in motion, and at the same time to allow sufficient space between

the inner sides of the inclosing caps and the said strips or cleats for any slight lateral expansion or contraction of the top-plates.

From the above description, it will be seen that I have produced covering attachments for car roofs which are simple, strong, durable and inexpensive of construction, which will allow for the expansion or contraction of the car in every direction, which shall be so constructed as to render the roof absolutely water proof at all times, and which can be very easily and equally applied to or removed from the car, and secured without the use of nails or rivets.

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

1. In a covering attachment for car-roofs, the combination with a top-plate laid upon the roof and having its outer end bent to inclose the eaves of the roof at one side, and formed with a recess in its under side which extends longitudinally and is arranged above the apex or ridge of the roof, of a second top-plate also laid upon the roof and at the opposite side of the apex or ridge thereof, and also having its outer end bent to inclose the eaves of the roof at its other side, and having an upwardly extending flange normally engaging the center of the recess of the first mentioned top-plate, and arranged to have lateral and independent movement in said recess as the car contracts or expands, substantially as set forth.

2. In a covering attachment for car-roofs, the combination with a top-plate laid upon the roof, and having upwardly extending flanges at each side margin, and also having an upwardly extending flange formed at the inner margin of the top-plate and connecting the inner ends of the side marginal flanges, and arranged longitudinally and above the apex or ridge of the roof, of a second top-plate also laid upon the roof at the opposite side of the ridge, and having a recess in its under side, formed by bending said plates, first upwardly, then horizontally over the flange at the inner end of the first-named top-plate, and then downwardly between the side marginal flanges and at the outer side of the above mentioned longitudinally extending flange of the first-mentioned top-plate, said top-plates being arranged to have lateral and independent movement toward or from each other as the car contracts or expands laterally, substantially as set forth.

3. A covering attachment for car-roofs, comprising top-plates laid upon the roof and bent at their outer ends to inclose the eaves of the roof, a recess formed in the under sides of these top-plates, by bending said top-plates, longitudinally of the roof, first upwardly, then horizontally toward the opposite side of the roof, and then downwardly, and forming a continuation or extension at each end of the horizontal portion so as to meet the similar exten-

sions or continuations of the similar and adjacent top-plates, substantially as set forth.

4. In a covering attachment for car-roofs, the combination of a number of cross-strips extending transversely from the apex or ridge of the roof transversely toward the eaves, and formed with downwardly and inwardly inclined sides, and caps or casings fitting over said cross-strips, of a number of top-plates laid upon the roof, and provided with upwardly extending flanges at each side margin, said flanges occupying the space between the inclined sides of the cross-strips and the depending flanges or sides of the caps or casings in such manner as to allow for the lateral expansion or contraction of the top-plates, substantially as set forth.

5. A covering attachment for car-roofs, comprising cross-strips or cleats laid transversely of and extending from the apex toward the eaves of the roof, and formed with downwardly and inwardly inclined sides, and top-plates laid upon the roof between said cross strips or cleats, and bent at their outer ends to inclose the eaves of the roof, and also formed with upwardly extending flanges at their side margins fitting against the inclined or beveled sides of the cross-strips or cleats, an upwardly extending flange rising from the inner ends of certain of these top-plates and connecting the inner ends of the side flanges thereof, and extending longitudinally of and above the apex of the roof, and a recess formed in the under side of the remainder of these top-plates and inclosing the upwardly extending flanges of the first mentioned top-plates, and extensions projecting from each end of the recess and formed integral with the last mentioned top-plates to meet the extensions of the similar and adjacent top-plates, and caps or casings fitting over the cross strips or cleats and overlapping the side flanges of the top-plates and also overlapping the extensions at each end of the recesses formed therein, and a transverse bridge piece, fitting upon and covering the adjacent inner ends of each cap or casing adjacent to the apex or ridge of the roof, substantially as and for the purpose set forth.

6. A covering attachment for car-roofs, comprising a number of transverse cross-strips or cleats, having their sides beveled downwardly and inwardly and formed with a recess in their upper sides, top-plates laid upon the roof and having their lower or outer ends bent to inclose the eaves of the roof, and having side marginal flanges fitting against the adjacent inclined or beveled sides of the cross strips or cleats, caps or casings bolted upon the upper sides of the cross-strips or cleats and overlapping the recessed portions thereof, and also having pendent side flanges overlapping the side flanges of the top-plates, and telescopic caps or casings inclosing the lower ends of the cross-strips or cleats and engaging the recessed portions thereof beneath

the end of the fixed or stationary caps or casings, and also overlapping the side flanges of the top-plates, and having their outer ends bent around the bent outer ends of the top-plates, substantially as set forth.

7. A covering attachment for car roofs, comprising a number of cleats secured transversely of and upon the roof and having their upper sides recessed, top-plates laid upon the roof and having their outer ends bent to inclose the eaves of the roof and also formed with side marginal flanges fitting against the adjacent sides of the cross-strips or cleats, telescopic caps or casings inclosing the recessed portions of said cross-strips or cleats and also overlapping the adjacent flanges of the top plates, and formed with outstanding pins or lugs at their outer sides, and having their outer ends bent around and then extended vertically downward against the lower ends of the top-plates, and a retaining strip secured to each side of the car and bearing against the outer sides of the vertically depending ends of the telescopic caps or casings, in combination with stationary caps or casings, also inclosing said cross-strips or cleats and inclosing the inner ends of the telescopic-caps or casings, and provided with depending flanges overlapping the side flanges of the top-plates and the sides of the telescopic-caps or casings, and grooves formed in

said pendent flanges engaging the pins or lugs of the telescopic caps or casings, substantially as set forth.

8. A covering attachment for car-roofs, comprising a number of cross-strips or cleats laid transversely of and extending from the apex toward the eaves of the roof, and having their outer ends beveled or tapered to a point, and top-plates laid upon the roof and interposed between the cross-strips or cleats, and having their outer ends bent to inclose the eaves of the roof, and also having upwardly extending flanges at each side margin terminating adjacent to the curved outer end, and bent outwardly a suitable distance from their points of termination to inclose the pointed ends of the cross strips or cleats and to form water-ways at their inner sides, and also beveled downwardly or tapered to the upper side of the top-plate, in combination with a cap or casing inclosing the pointed ends of the cross-strips or cleats and the turned or bent and beveled flanges of the adjacent top-plates, substantially as set forth.

In testimony whereof I affix my signature in the presence of two witnesses.

ALEXANDER N. MONTEER.

Witnesses:

MAUD FITZPATRICK,
G. Y. THORPE.