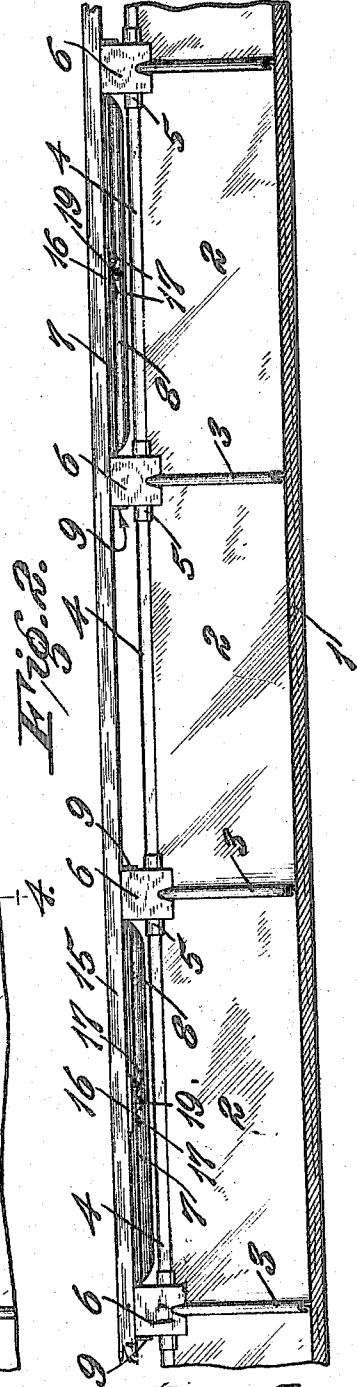
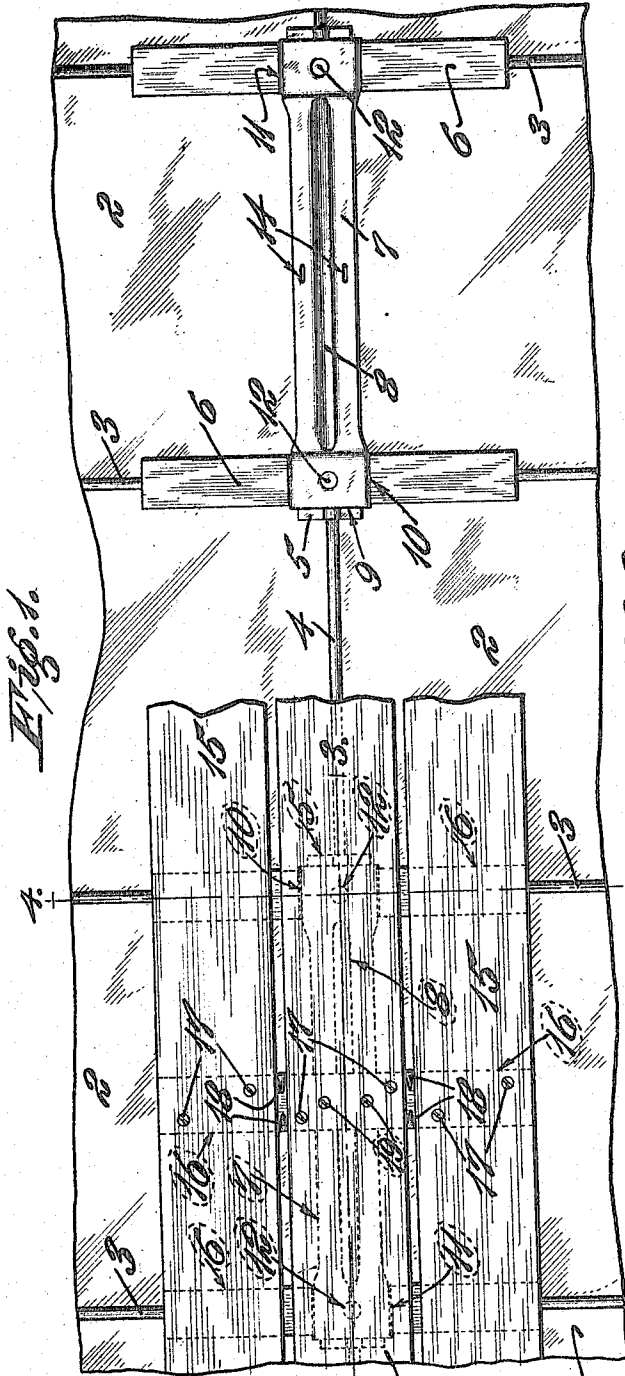


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 SUPPORT FOR RUNNING BOARDS OF FREIGHT CARS.  
 APPLICATION FILED NOV. 25, 1914.

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 2 SHEETS—SHEET 1.



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# UNITED STATES PATENT OFFICE.

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## SUPPORT FOR RUNNING-BOARDS OF FREIGHT-CARS.

1,145,548.

Specification of Letters Patent.

Patented July 6, 1915.

Application filed November 25, 1914. Serial No. 873,921.

*To all whom it may concern:*

Be it known that I, WILLIAM A. BREWER, a citizen of the United States, and a resident of the city of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Supports for the Running-Boards of Freight-Cars, of which the following is a specification.

My invention relates to devices for supporting the running boards commonly secured to the roofs of freight cars, and particularly to devices for supporting running boards on a metal car roof.

The running boards of freight cars are commonly supported by saddles to which they are fastened, and which saddles in turn are fastened to the roof substructure. These saddles are held from movement by the running boards and bear directly upon the roof sheets, and any movement of the roof sheets relative to the car substructure causes the saddles to rub the roof sheets and wear the galvanizing coating of the roof sheets. In order to lessen injury to the roof sheets wooden saddles are used, and the running boards are secured to these wooden saddles by nails or screws. It is desirable to make the saddles of a soft wood, like yellow pine, because hard woods, like oak, emit acids which injure the galvanizing coating of the roof sheets. The nails or screws which fasten the running boards to the saddles are not sufficiently secure fastenings, particularly when the saddles are made of a soft wood; and they often work loose, thus making the runway dangerous for trainmen because of the projecting end of a nail or screw, or the loose end of a running board. Metallic running board saddles, while they permit the running boards to be bolted more securely to them, are objectionable because they wear the roof sheets.

My invention has for one of its objects to obviate the objectionable features above mentioned and to provide a cheap and durable supporting means for the running boards of railway cars which will hold the running boards securely in place and prevent them from working loose, and which will not injure the galvanizing coating of the roof sheets, or cramp or bind the seams of the roof sheets.

A further object is an arrangement of supports for running boards which enables

the running boards to be easily and cheaply assembled and secured together, either on or off of the car, and readily mounted upon the car, removed therefrom and replaced as often as need be.

A still further object is to support the running boards and fasten them to the roof substructure in a way which will not allow water to leak into the car.

Further objects are to attain certain advantages which will appear more fully hereinafter.

Generally stated, the invention consists in an arrangement of running boards and supporting members therefor wherein the running boards are secured to metal supporting members which are supported by wooden saddle blocks resting upon the roof of the car and movable with respect to the running boards, said saddle blocks and said supporting members being secured to the roof substructure.

The invention further consists in the parts, and in the arrangements and combinations of parts which will be set forth more fully hereinafter.

Referring to the accompanying drawings which form part of this specification and in which like reference characters refer to like parts in the several views, Figure 1 is a fragmentary plan view of a car roof construction embodying the invention, parts of the running boards being broken away; Fig. 2 is a vertical longitudinal section through a car roof at one side of the ridge, showing the running boards and supports in side elevation; Fig. 3 is an enlarged section on the line 3—3 in Fig. 1; Fig. 4 is an enlarged section on the line 4—4 in Fig. 1; and Fig. 5 is a transverse section through the running boards and supports, showing the running boards detached from the car roof, the cross-plate to which the running boards are secured being shown in elevation.

Referring to the accompanying drawings, the invention is shown applied to an outside car roof comprising roof sheathing 1 and metal roof sheets 2. The roof sheets 2 extend from the ridge to the eaves and are joined along their side margins by upstanding side seams 3, and at the ridge by upstanding end seams 4. The adjacent corners of the roof sheets 2 at the ridge are covered by corner-caps 5.

Resting upon the roof sheets 2 are wooden

saddle blocks 6, preferably of a soft wood like yellow pine. There is one of these saddle blocks 6 over each side seam 3. The saddle blocks 6 are shaped to conform to the pitch of the roof and have suitable grooves and recesses in their under faces to accommodate the side seams 3 and the end seams 4 of the roof sheets 2, and the corner-caps 5. Supported between every other two saddle blocks 6 is a supporting member 7 preferably made of pressed steel. Each supporting member 7 and the corresponding saddle blocks 6 constitute a support for the running boards of the car. There are several such running board supports throughout the length of the car, but as their construction is the same, a description of one will suffice for all. Each supporting member 7 is strengthened by a downwardly projecting longitudinal corrugation 8. Each supporting member 7 has at each end thereof an end flange 9 which projects downwardly adjacent to the outer side of the saddle block 6 upon which the corresponding end portion of the supporting member 7 is supported. Each end portion of the supporting member 7 which rests upon the saddle blocks 6 has a narrow downwardly projecting flange 10 along each edge thereof. The flanges 10 fit loosely in grooves 11 extending transversely of the saddle blocks 6. The saddle blocks 6 and the supporting member 7 are held in place by bolts 12 which extend downwardly through the ridge pole of the car. There is one bolt 12 for each saddle block 6. The heads of the bolts 12 are countersunk into conical depressions 13 pressed into the supporting member 7, said depressions 13 being preferably reamed to fit the heads of the bolts tightly. The conical depressions 13 are seated in corresponding recesses located in the tops of the saddle blocks 6. The saddle blocks 6 have their middle portions cut away slightly to receive the end portions of the supporting members 7, the top faces of said saddle blocks, said end portions, and the heads of the bolts 12 being flush with each other. Midway between the ends of each supporting member 7 are two elongated holes or slots 14.

The running boards 15 are secured to a metal cross-plate or strap 16 by stove-bolts 17 whose heads are countersunk into the running boards 15. Triangular humps or protuberances 18 are pressed upwardly from each cross-plate 16 along each longitudinal edge thereof, said humps 18 being spaced apart a distance corresponding to the width of the running boards 15. The cross-plate 16 rests upon the supporting member 7 between the ends thereof, the middle portion of said supporting members 7 being depressed a distance corresponding to the

thickness of said cross-plate 16, so that the top face of the cross-plate 16 and the top faces of the saddle blocks 6 will lie in the same plane. Extending downwardly through the middle running board 15, the cross-plate 16 and the slots 14 in the supporting members 7 are stove-bolts 19 whose heads are countersunk into the middle running board 15. The bolts 19 secure the cross-plate 16 and the running boards 15 to the supporting member 7.

In applying the running boards to the car roof, the saddle blocks 6 and the supporting members 7 are first applied, and the bolts 12 holding said saddle blocks and said supporting members in place are tightened. The running boards are bolted to the cross-plates 16 on the ground or in some other suitable place, the humps 18 facilitating this operation by spacing the running boards on the cross-plates 16 so that the bolts 17 can be easily inserted. The cross-plates 16, together with the running boards 15 secured thereto, are then raised to the car roof and placed upon the saddle blocks 6 and the supporting members 7. The bolts 19 may be easily passed downward through the slots 14 in the supporting members 7, the length of the slots 14 allowing for any inaccuracy in securing the cross-plates 16 to the running boards at proper distances apart. After the nuts have been placed on the bolts 19, these nuts may be held by a wrench or other suitable means, and the bolts tightened from above by a screw-driver. In this way the running boards can be quickly and cheaply applied, since it is not necessary to tighten any nuts in the limited space between the car roof and the under faces of the running boards.

In the construction shown and hereinbefore described, the running boards are not secured directly to wooden saddle blocks 6; and consequently said saddle blocks may be made of some soft wood, without there being any danger that the running boards will work loose. Since each wooden saddle block 6 has only one bolt passing through it, these saddle blocks are not injured by attaching or detaching the running boards, and may be used more than once. The supporting members 7 and the cross-plates 16, being of metal, may also be used more than once.

In the construction shown and hereinbefore described, the heads of the bolts 12 which secure the saddle blocks 6 to the roof substructure are protected by the middle running board 15. The heads of the bolts 12 make a tight joint of metal against metal with the conical depressions 13 in the supporting members 7. This joint is not affected by the swelling or shrinking of the wooden saddle blocks 6. The end flanges 9 and the side flanges 10 of the end portions

of the supporting members 7 prevent water from working underneath said end portions and down around the bolts 12 into the car.

The construction shown and hereinbefore described gives additional support to the running boards between the saddle blocks, and enables thinner running boards to be used if desired.

Sometimes the frame of a car in service becomes distorted so that the roof is bowed up or down longitudinally of the car. The tendency of the running boards is, however, to remain level and as the saddles are moved up or down out of line, severe stresses are placed upon the devices which fasten the running boards to the saddles, and these fastening devices soon become loosened. In the construction shown and hereinbefore described the running boards are not directly secured to the saddle blocks 6 but are fastened to the sheet metal supporting members 7, which in turn are supported by said saddle blocks. These supporting members 7 are slightly resilient, and as the car roof bows up or down, they can yield and relieve the fastening bolts 17 of severe stresses.

Sometimes the frame of the car will be thrown out of square, that is, the side plates will move longitudinally relative to each other. The roof sheets are commonly joined by flexible or loose seams in order to permit the roof sheets to adjust themselves to the distorted shape of the car frame. In the construction commonly used, wherein the running boards are fastened directly to the running board saddles, the running boards keep the saddles in a fixed position transversely of the car; and sometimes, as the roof sheets shift upon the roof substructure, the seams thereof press against the running board saddles and are crushed or distorted. In the construction shown and hereinbefore described, however, the saddle blocks 6 may turn about the bolts 12 and move with the roof sheets. The end flanges 9 of the supporting members 7 are spaced from the saddle blocks 6 to permit limited movement of the saddle blocks relative to the supporting members. Likewise, the side flanges 10 of the supporting members 7 are loose in the grooves 11 of the saddle blocks 6 to permit the same movement.

The construction shown and hereinbefore described may be considerably changed without departing from the invention, and I do not wish to be limited to the details of this construction.

What I claim is:

1. A running board support for freight cars comprising saddle blocks resting upon the roof of the car, a supporting member supported by said saddle blocks at their middles, means for securing said saddle blocks and said supporting member to the

roof substructure, and means for securing running boards to said supporting member. 65

2. A running board support for freight cars comprising wooden saddle blocks resting upon the roof of the car, a metal supporting member supported by said saddle blocks, each saddle block and the corresponding end of said supporting member being fastened to the roof substructure, and means for fastening running boards to said supporting member, said running boards being supported on said saddle blocks and said supporting member. 70 75

3. A runway for freight cars comprising a plurality of saddle blocks supported on the roof of the car, a plurality of resilient members each supported by a number of said saddle blocks, and running boards secured to said members between said saddle blocks, said running boards being movable on said saddle blocks. 80 85

4. A running board support for freight cars comprising saddle blocks resting upon the roof of the car, a supporting member supported by said saddle blocks, and bolts for fastening running boards to said supporting member, said bolts having slotted heads and being accessible from above the running boards. 90

5. A running board support for freight cars comprising a metal supporting member supported by wooden saddle blocks which rest upon the roof of the car, said supporting member and said saddle blocks being secured to the roof substructure, a plate to which the running boards are secured, and means for fastening said plate to said supporting member. 95 100

6. A running board support for freight cars comprising wooden saddle blocks resting upon the roof of the car, a metal supporting member supported by said saddle blocks, and bolts passing through said blocks and said supporting member and fastened to the roof substructure, said bolts having their heads fitting tightly in depressions in said supporting member. 105 110

7. A running board support for freight cars comprising wooden saddle blocks resting upon the roof of the car, a metal supporting member supported by said saddle blocks, a metal plate to which the running boards are bolted, and bolts for securing said metal plate to said supporting member, said bolts having slotted heads accessible from above the running boards. 115 120

8. A running board support for freight cars comprising two wooden saddle blocks resting upon the roof of the car, and a pressed steel supporting member supported by said saddle blocks at their middles and having a longitudinal corrugation pressed therein. 125

9. A running board support for freight

- cars comprising a metal supporting member supported at its ends by wooden saddle blocks, a bolt passing through each saddle block and said supporting member near the corresponding end thereof, said bolt being fastened to the roof substructure, the end portions of said supporting member which bear upon said saddle blocks having flanges projecting downwardly below the top faces of said saddle blocks.
- 10 10. A running board support for freight cars comprising a supporting member supported at its ends by saddle blocks which rest upon the roof of the car, a plate to which the running boards are secured, and bolts for fastening said plate to said supporting member, the holes in said supporting member for said bolts being elongated.
- 15 11. A running board support for freight cars comprising saddle blocks resting upon the roof of the car, a supporting member supported by said saddle blocks, each saddle block being fastened by a bolt to the roof substructure, said bolts also securing said supporting member to said saddles, and means for fastening running boards to said supporting member, said saddle blocks being rotatable about said bolts relative to the running boards.
- 20 12. A running board support for freight cars comprising wooden saddle blocks resting upon the roof of the car, and a pressed steel supporting member supported at its ends by said saddle blocks, the end portions of said supporting member which rest upon said saddle block having a downwardly projecting flange along each edge thereof and a downwardly projecting flange at the outer end thereof, said end portions of said supporting member being above the middle portion thereof.
- 25 13. A running board support for freight cars comprising saddle blocks resting on the roof of the car, a supporting member supported by said saddle blocks, each of said saddle blocks being secured to the roof substructure by one bolt, said bolts passing through said supporting member, and means for securing running boards to said supporting member.
- 30 14. A running board support for freight cars comprising wooden saddle blocks resting on the roof of the car, a supporting member of pressed steel supported by said saddle blocks, each of said saddle blocks being secured to the roof substructure by one bolt, said bolts passing through said supporting member, a metal plate detachably secured to said supporting member, and means for fastening running boards to said plate.
- 35 15. A runway for freight cars comprising a plurality of wooden saddle blocks resting on the roof of the car, a plurality of metal supporting members each supported by a number of said saddle blocks, each of said saddle blocks being secured to the roof substructure by a bolt which passes through the corresponding supporting member, and means for fastening running boards to said supporting members.
- 40 16. A runway for freight cars comprising a plurality of saddle blocks resting on the roof of the car, each of said saddle blocks being secured to the roof substructure by one bolt, and means for fastening running boards to said saddle blocks, said means permitting said saddle blocks to turn about said bolts relatively to said running boards.
- 45 17. A runway for freight cars comprising a plurality of saddle blocks resting on the roof of the car, a plurality of metal supporting members supported by said saddle blocks, each of said saddle blocks being secured to the roof substructure by a bolt which passes through the corresponding supporting member, said bolts having conical heads, the holes in said supporting members through which said bolts pass being conical and reamed to fit the heads of said bolts tightly, and means for fastening running boards to said supporting members.
- 50 18. A running board support for freight cars comprising two wooden saddle blocks resting on the roof of the car, a supporting member of pressed steel supported by said saddle blocks and having the middle portion thereof below the end portions thereof, each of said saddle blocks being fastened to the roof substructure by one bolt which passes through said supporting member, the heads of said bolts fitting tightly in the holes therefor in said supporting member, a plate to which the running boards are fastened, and detachable means for securing said plate to said supporting member.
- 55 Signed at Pittsburgh, Pa., this 20th day of November, 1914.
- WILLIAM A. BREWER.
- Witnesses:  
FRANK W. WOLFF,  
JOHN P. DESMOND.