

LIST OF LOADING PAMPHLETS—CLOSED CARS

(Bracketed date indicates latest issue)

No.	TITLE
1	Automobiles—Motor Vehicles Shipped in Auto Loader Cars (April, 1949)
2	Automobiles—Motor Vehicles Shipped L.C.L. or Carload in Other than Auto Loader Cars (April, 1949)
3.	Bags—Commodities In—Flour and Other Grain Products, Sugar and Kindred Commodities, Rice, Salt, Coffee, Beans, Peanuts, etc. (Feb. 1945)
4	Barrels, Drums or Kegs (Jan. 1948)
5	Batteries—Storage (Dec. 1941)
6	Brick and Hollow Building Tile (Dec. 1941)
7	Brick—Hot Top (Jan. 1942)
8	Butter in Tubs in Refrigerator Cars (Dec. 1941)
9	Cable on Reels and Wire Commodities (Oct. 1948)
10	Car Doors—Battening as Protection Against Damage by Weather, Cinders, etc. (Dec. 1941)
11	Car Wheels—Loose (Dec. 1941)
12	Cylinders—Empty, With or Without Caps (June 1945)
13	Fibreboard Containers (Solid or Corrugated)—Commodities in (Sept. 1943)
14	Freight—Loading, Bracing and Blocking Of (May 1947)
15	Furniture—Carload (Aug. 1947)
16	Furniture—Less-Carload (Nov. 1941)
17	Grain and Grain Products in Fibreboard Containers and Sacks (Jan. 1945)
18	Ink and Like Commodities in Six-Gallon Steel Pails and Similar Containers (Dec. 1941)
19	Livestock—Loading and Handling (Jan. 1942)
20	Lumber (Dressed) and Mill Work (Dec. 1941)
21	Machinery (July 1945)
22	Marble in Slabs—"A" Frame Method (Dec. 1941)
23	Sheet Steel, Tin Plate and Other Steel Products (Nov. 1942)
24	Mixed Loads of Commodities in Wooden Cases, Cartons, Drums, Barrels or Pails (Dec. 1944)
25	Paper and Similar Commodities on Skids (April 1945)
26	Plasterboard, Wallboard and Lath of Similar Composition—Either in Solid Loads or with Bagged Commodities as Mixed Loads (Dec. 1941)
27	Projectiles, Bombs and Cartridge Cases (Empty) (Nov. 1943)
28	Radiators—Cast Iron (Jan. 1942)
29	Refrigerators—Mechanical (Dec. 1941)
30	Roofing Materials—Prepared (Dec. 1941)
31	Soda Ash (Dec. 1941)
32	Stones—Pulp Grinder (Dec. 1941)
33	Stoves and Ranges (July 1943)
34	Tank Cars—Transporting Non-Dangerous Commodities (Aug. 1941)
35	Untreated Cross Ties (May 1942)
36	Bulk Grain (Nov. 1947)
37	Pig Lead, Copper Bars and Similar Commodities (July 1944)
38	Unsaturated Roofing Felt and Pulpboard Paper (March 1945)
39	Newsprint (Oct. 1944)
40	Vitrified Clay Sewer Pipe (Jan. 1947)
41	Dictionary of Standard Terms (June 1947)

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SECRETARY

FREIGHT LOADING AND CONTAINER SECTION

59 EAST VAN BUREN STREET
CHICAGO 5, ILLINOIS

Rules Regulating The Safe Loading of Motor Vehicles Shipped L. C. L. or Carload in Closed Cars Other Than Auto Loader Cars And Protection of Equipment

ISSUED APRIL, 1936

REVISED APRIL, 1949

Prepared and Published by

Association of American Railroads

Operations and Maintenance Department

Operating-Transportation Division

FREIGHT LOADING AND CONTAINER SECTION

59 EAST VAN BUREN STREET
CHICAGO 5, ILLINOIS

Printed in U. S. A.

**RULES REGULATING THE SAFE LOADING OF
MOTOR VEHICLES SHIPPED L.C.L. OR CAR-
LOAD IN CLOSED CARS OTHER THAN
AUTO LOADER CARS, AND PROTEC-
TION OF EQUIPMENT**

GENERAL RULES

The General Rules, as contained in Circular No. 42, or supplements thereto, issued by the Operating Transportation Division, Association of American Railroads, which have been formulated for the purpose of providing safe methods of loading in closed cars must be observed.

A—SELECTION AND PREPARATION OF CARS

A-1—Cars must have sound floors and end and side walls. All nails or other projections, not an integral part of the car, should be removed. Nails, bolts, etc., necessary in car construction, when loose, should be made tight rather than removed.

A-2—Use cars having doors not less than 12 feet wide. Do not use cars equipped with auto loader devices for loading automobiles unless absolutely necessary. If an auto loader car is used, however, all loose parts, such as hold-down assembly chains and legs, that might cause damage by falling on the vehicle loaded beneath the suspended loader, must be secured to the loader frame. Also, the loader must be pulled up in position against the roof of the car and securely wired in place; the floor chains must be placed in the receptacles in the floor, and the vehicle braced in the manner detailed herein.

Approved by
General Committee
Operating-Transportation Division

B—PREPARATION OF VEHICLES

B-1—During period named in tariffs, shipper must comply with requirements for draining liquid from cooling system, unless cooling system contains anti-freeze solution and owner assumes risk of freezing per tariff rule, proper notation of which should be made on bill of lading, on shipping order or form of receipt, and on the waybill. In draining cooling system, open the drain cock provided for draining the radiator and, if so equipped, also open the drain cock provided for draining the engine block.

B-2—The spare tire must be properly secured on the spare tire rack.

B-3—Vehicles must be pushed into cars—do not attempt to drive them in. Care must be observed to prevent fenders, and other parts, from coming into contact with car doors, doorposts or sidewalls.

B-4—Windows must be closed and doors firmly latched and all rear compartments or trunk lids must be firmly latched and locked with key. Attach the keys, with the ignition key, to the steering wheel.

B-5—Each vehicle shipped L.C.L. must be tagged to indicate shipper's and consignee's name and destination. Each vehicle must be tagged so that it may be matched with the waybill covering the movement in order to insure correct delivery.

B-6—Shippers must inflate tires to a pressure 10 lbs. greater than that recommended by the manufacturer for road service. This higher pressure is required in order to make the tires sufficiently rigid to insure a firm surface against the blocking. Arrange gear shift in neutral and set hand emergency brakes. The front and rear wheels of the vehicle must be in line and the vehicle so located that the weight on both sides of the car is about equal.

B-7—Carrier's agent must carefully inspect the vehicle and note visible damage on body, windshield and tires and list any parts missing at the time of shipment. Visible damage on the vehicle should be marked with soft chalk or crayon and a notation of this damage, as well as list of the missing parts, should be written on the waybill or bill of lading.

B-8—One cable of the battery must be disconnected and secured away from the battery. The caps must be securely tightened and the clamp bolts securely tensioned.

B-9—Inspect and, where necessary, tighten bumper connection bolts prior to application of hold-downs thereto.

B-10—Drainage of Gasoline: Section 105, Supplement 18, Agent Campbell's Tariff No. 4 reads as follows: "When offered for transportation by carriers by rail freight or highway, drainage of fuel tanks is not required. When offered for transportation by rail express, fuel tanks must have been drained and securely closed."

C—LOADING, BRACING AND BLOCKING

C-1—Braces, blocks and cleats must be sound wood, free from cross grain or an excess of knots or other defects that would materially weaken it or interfere with proper nailing.

C-2—Load and brace passenger cars as shown in Illustrations Nos. 1, 2, 3 and 4. Load and brace trucks as shown in Illustrations Nos. 5 and 6. Load and brace trailers as shown in Illustration No. 7.

C-3—Wheel blocks are Patterns A, B, and C as shown in Illustrations Nos. 9, 10 and 11. The blocks should be hardwood or a good grade of softwood. Two blocks are required for each wheel. Wheel blocks are applied to each outside wheel on rear axle of dual wheel trucks as shown in Illustration No. 6. Patterns B and C require a side block, Pattern E, Illustration No. 12.

C-4—When the automobile is too low to permit application of wheel blocks in accordance with Illustrations Nos. 1 and 2, or where application of wheel blocks in these illustrations will not allow clearance between the block and fender aprons, follow the methods shown in Illustrations Nos. 3 or 4. When applying alternates for Patterns A, B and C in accordance with Illustration No. 3, the blocks will be placed at a slight angle sufficient to obtain nailing clearance beyond the apron.

C-5—Hold-downs for passenger cars are shown in Illustrations Nos. 13 and 14, Patterns F and G. Hold-downs for trucks are shown in Illustrations Nos. 15, 16 and 17, Patterns H, I, and J. Hold-downs for trailers are shown in Illustrations Nos. 15, 16, 17 and 18, Patterns H, I, J and K. When applying truck hold-downs shown in Illustrations 16 and 17, the anchor plates should be located on sound floor boards to provide maximum nail holding power.

C-6—Hold-down wires for passenger cars, Patterns F and G, must consist of at least three double strands of 10 gauge annealed wire per hold-down. A pad consisting of a sufficient thickness of duck or light gauge sheet metal is folded over the bumper connection to prevent shearing the wires and to protect the finish.

C-7—Hold-down floor cleats for passenger cars, Patterns F and G, must be 2"x4"x24" and are applied lengthwise of the car. As nearly as possible, locate the cleats so that the wires will be at a 45° angle with the floor and avoid contact of wire with under edge of the bumper. Nail the cleats to the car floor with at least eight 16d nails to each cleat, and with two nails driven into each floor board. The cleats must be located so that the hold-down wires will be on a slight diagonal toward the car side wall in order to prevent sidewise movement of the vehicle.

C-8—Hold-down wires for trucks, Pattern H, must consist of at least four double strands of 10 gauge annealed wire per hold-down.

C-9—Hold-down pre-formed steel straps, Pattern I, must be 1" x 0.083" hot rolled steel with two special anchor plates for each strap. Secure each plate to the car floor with seven 8-gauge 1 $\frac{3}{4}$ " anchor plate nails. Hold-down steel strap in Pattern J is 1 $\frac{3}{4}$ " x 0.035" and each strap is threaded into an anchor plate at each end. When applying truck hold-downs shown in Illustrations Nos. 16 and 17, the anchor plates should be located on sound floor boards to provide maximum nail holding power.

C-10—Hold-downs for trucks or trailers weighing in excess of 6,000 lbs. require a total of four hold-downs over each front and rear axle instead of the two shown in Illustrations Nos. 5, 6 and 7.

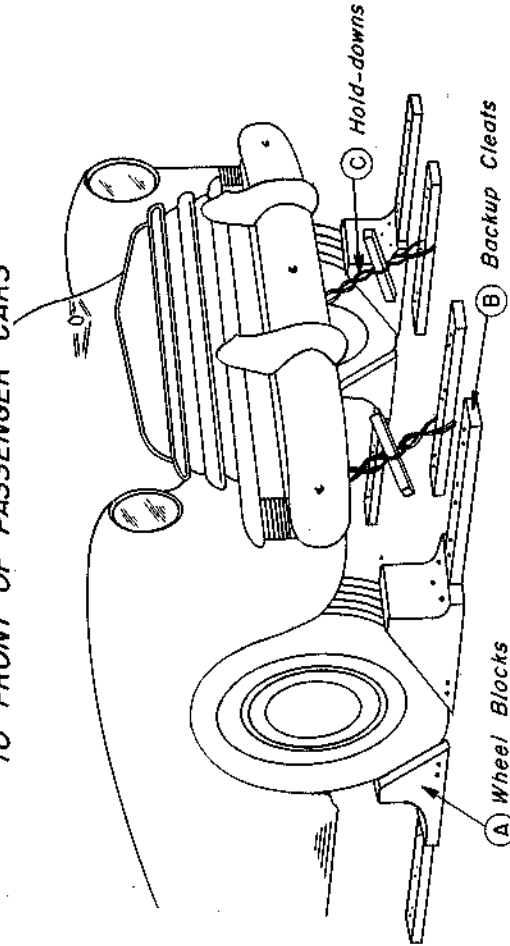
C-11—Care must be observed in applying the hold-downs to prevent damage to hydraulic brake lines.

C-12—It is important to slightly compress springs on passenger cars or trailers. This can be done by twisting the wire with the twisting pieces in Patterns F, G and H. The twisting pieces must be allowed to remain in the wire to prevent the hold-downs from loosening while in transit. A lever may be used to compress the springs, such as shown in Illustration No. 21.

C-13—Do not load other freight in the same end of the car with a passenger car, trailer or truck. Household goods or other freight loaded in the opposite end of the car must be secured with a suitable bulkhead or gate. See Illustration No. 8.

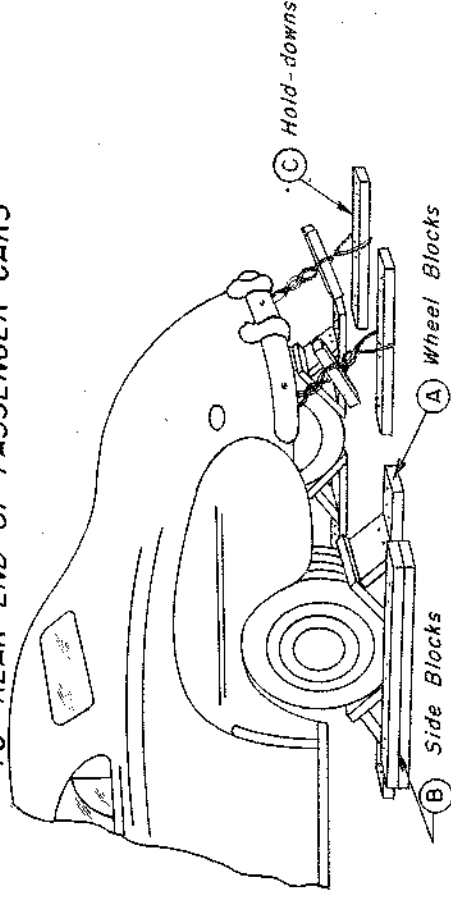
ILLUS. NO. 1

APPLICATION OF WHEEL BLOCKING AND HOLD-DOWNS TO FRONT OF PASSENGER CARS



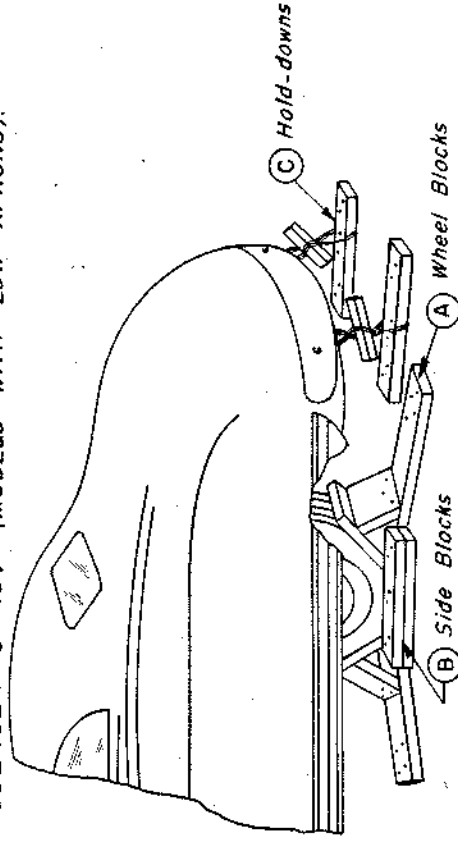
- LEGEND:** A—Wheel Blocks, Pattern A (Illus. No. 9). Use 20d Nails. Patterns B, C or D may be used (Illus. Nos. 10, 11 or 4).
 B—Backup Cleats, 2" x 4" x 12" nailed to floor with not less than four 16d nails.
 C—Hold-downs, Pattern F, apply over bumper connection. Complete details of application shown in Illus. No. 13.

ILLUS. NO. 2
APPLICATION OF WHEEL BLOCKING AND HOLD-DOWNS
TO REAR END OF PASSENGER CARS

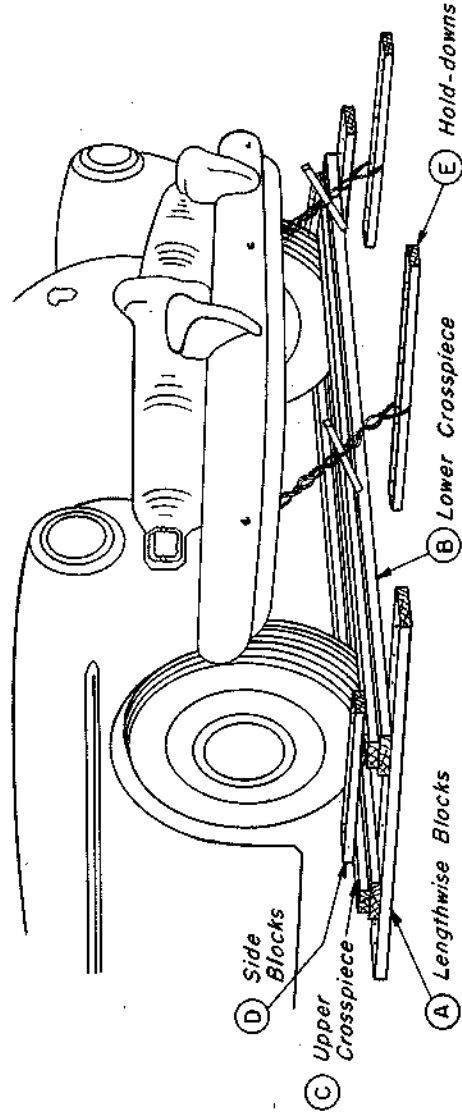


LEGEND: A—Wheel Blocks, Pattern C (Illus. No. 11). Patterns A, B or D may be used (Illus. Nos. 9, 10 or 4).
Nail to floor with five 16d nails.
B—Side Blocks, Pattern E (Illus. No. 12). Use waterproof paper or burlap between blocks and tires.
C—Hold-downs, Pattern G, apply over bumper connection. Complete details of application are shown in Illus. No. 14.

ILLUS. NO. 3
APPLICATION OF WHEEL BLOCKING AND HOLD-DOWNS TO REAR END
OF PASSENGER CARS. (MODELS WITH LOW APRONS).



LEGEND: A—Wheel Blocks, Alternate Pattern C (Illus. No. 11). Alternate Patterns A and B may be used (Illus. Nos. 9 or 10). Place the blocks at a sufficient angle with the tire to obtain clearance beyond apron. If blocks are not available, method shown in Illus. No. 4, Pattern D, may be used.
B—Side Blocks, Pattern E (Illus. No. 12). Use waterproof paper or burlap between blocks and tires.
C—Hold-downs, Pattern G, apply over bumper connection. Complete details of application are shown in Illus. No. 14.

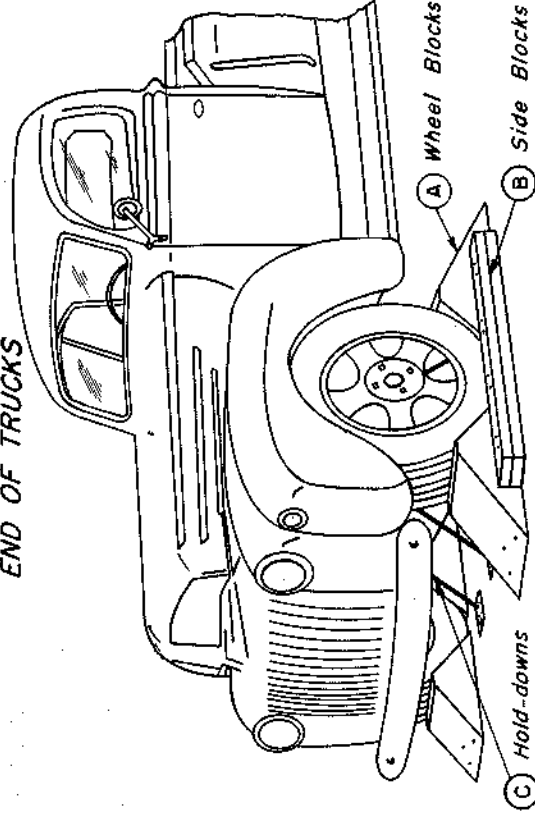


ILLUS. NO. 4 PATTERN D

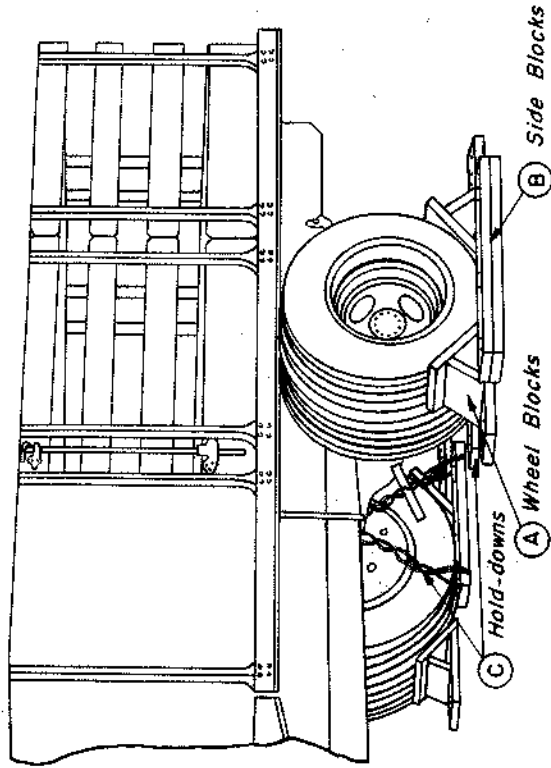
APPLICATION OF WHEEL BLOCKING AND HOLD-DOWNS TO FRONT OF PASSENGER CARS. (MODELS WITH LOW APRONS)

(Alternate construction for use when wheel blocks, Patterns A, B or C are not available.)

- LEGEND:** A—Lengthwise Blocks, 2" x 6", nail to floor with not less than six 16d nails. Locate opposite wheel and at sufficient distance from the apron to have clearance for nailing.
 B—Lower crosspiece, 2" x 6", place against tire with each end on Block A. Nail to Block A with 20d Nails.
 C—Upper crosspiece 2" x 4", place against tire and nail to lower crosspiece and block A with 20d nails.
 D—Side Blocks, 2" x 4", apply burlap cloth or waterproof paper between block and tire. Nail each end of side block to upper crosspiece with 20d nails.
 E—Hold-downs. Pattern F, apply over bumper connection. Complete details of application are shown in Illus. No. 13.

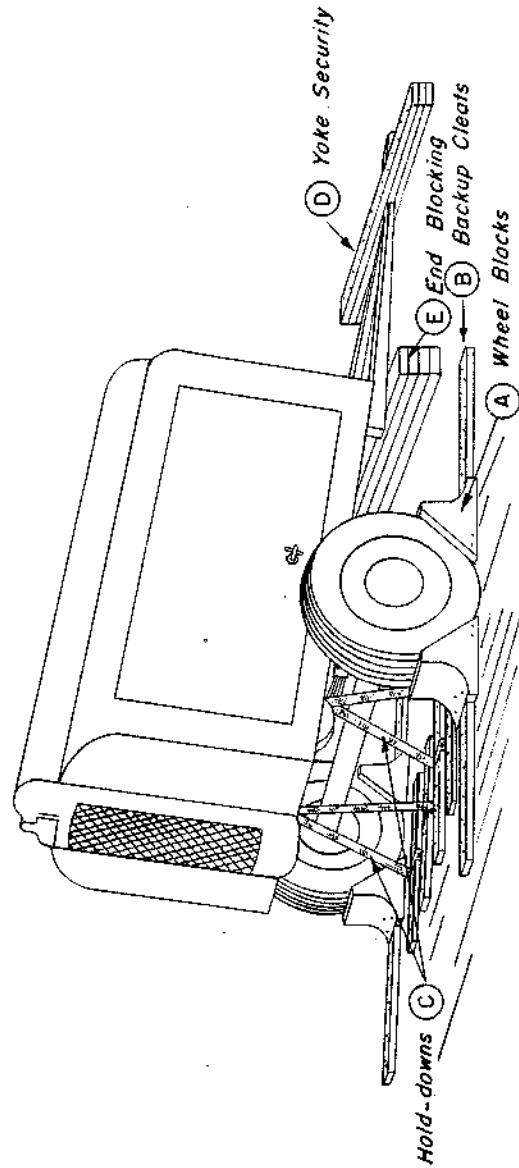
ILLUS. NO. 5
APPLICATION OF WHEEL BLOCKING AND HOLD-DOWNS TO FRONT END OF TRUCKS

- LEGEND:** A—Wheel Blocks, Pattern B, Illus. No. 10. Patterns A or C may be used (Illus. Nos. 9 or 11).
 B—Side Blocks, Pattern E (Illus. No. 12). Use waterproof paper or burlap between blocks and tires.
 C—Hold-downs. Pattern I, apply over axle. Complete details of application are shown in Illus. No. 16. Patterns H or J may be used (Illus. Nos. 15 or 17).



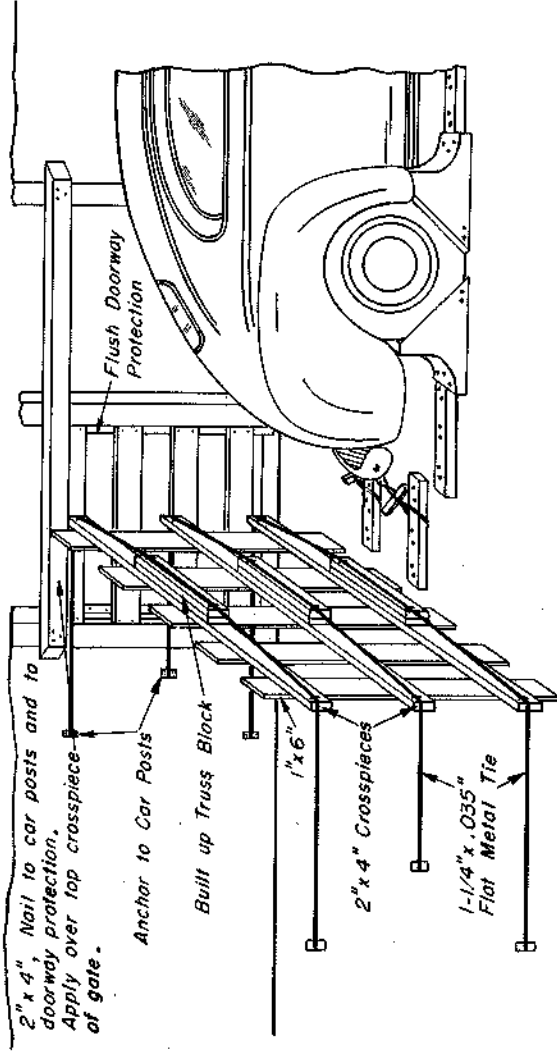
ILLUS. NO. 6
APPLICATION OF WHEEL BLOCKING AND HOLD-DOWNS TO REAR END OF TRUCKS.

LEGEND: A—Wheel Blocks, Pattern C, Illus. No. 11. Patterns A or B may be used (Illus. Nos. 9 or 10).
 B—Side Blocks, Pattern E, (Illus. No. 12). Use waterproof paper or burlap between blocks and tires.
 C—Hold-downs, Pattern H, apply over axle. Complete details of application are shown in Illus. No. 15. Patterns I or J may be used (Illus. Nos. 16 or 17).

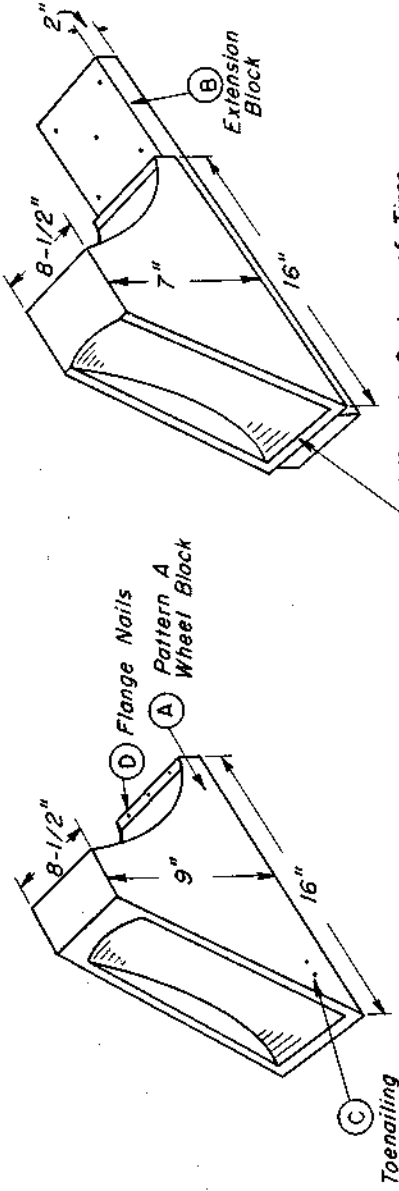


ILLUS. NO. 7
WHEEL BLOCKING, HOLD-DOWNS, AND YOKE SECURITY FOR TRAILERS

LEGEND: A—Wheel Blocks, Pattern A (Illus. No. 9). Use 20d nails. Patterns B or C may be used (Illus. Nos. 10 or 11).
 B—Backup Cleats—2" x 4" x 12" nailed to floor with not less than four 16d nails.
 C—Hold-downs, Pattern K, apply over springs. Complete details of application are shown in Illus. No. 18. Patterns H, I or J may be used (Illus. Nos. 15, 16 and 17).
 D—Yoke Security—Pattern M (Illus. No. 20). Pattern L may be used (Illus. No. 19).
 E—End blocking built up to fit beneath yoke.



ILLUS. NO. 8.
 GATE FOR BRACING OTHER FREIGHT LOADED WITH VEHICLES
 (SEE PAMPHLET NO. 14 FOR CONSTRUCTION
 OF OTHER TYPES OF GATES THAT MAY BE USED.)

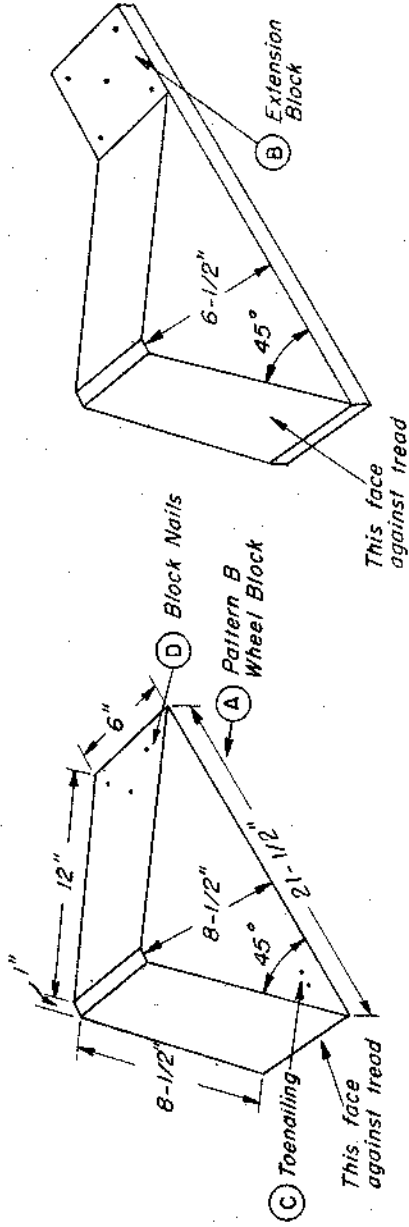


Pattern A

Alternate Pattern A
 (For Models With Low Aprons)

ILLUS NO. 9.
 WHEEL BLOCK

- LEGEND:**
- A—Pattern A, Wheel Block, Grooved and shaped to fit tire.
 - B—Extension Block, 2" x 6" length 20" to 30", or sufficient to clear aprons and allow Nailing surface for five 16d nails to be driven into car floor. Nail to bottom of alternate Pattern A with not less than four 20d nails.
 - C—Toenailing. Two 20d nails.
 - D—Flange nails. 20d, use three for passenger cars and four for trucks.



Pattern B

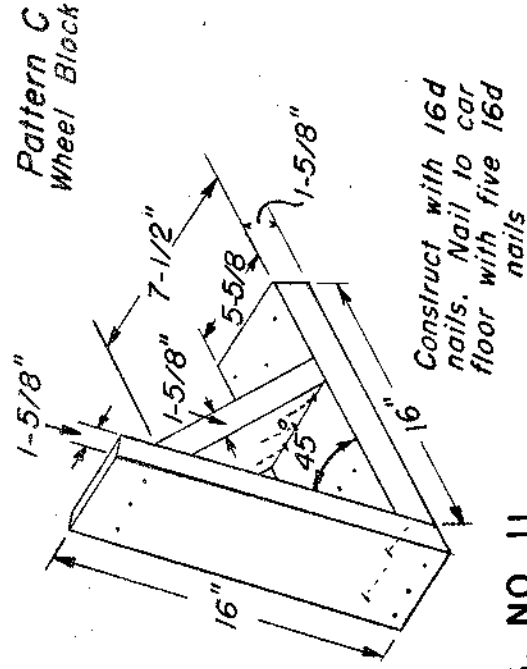
Alternate Pattern B
(For Models With Low Aprons)

ILLUS. NO. 10 WHEEL BLOCK

(Pattern E Required Against Side Tires See Illustration No. 12)

LEGEND:

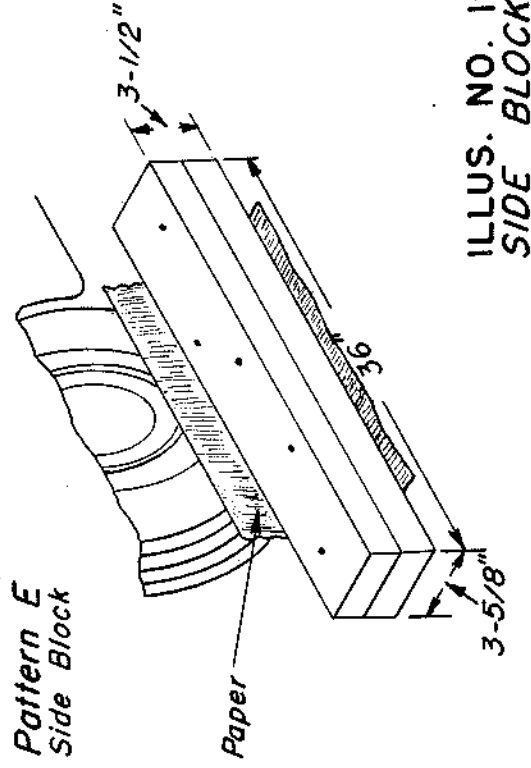
- A—Pattern B, Wheel Block.
- B—Extension Block, 2" x 6", length 20" to 30", or sufficient to clear aprons and allow nailing surface for five 16d nails to be driven into car floor. Nail block to bottom of Item B with not less than four 20d nails.
- C—Toenailing. Two 40d nails. Locate high on block and drive into car floor before applying pattern E.
- D—Block Nails, 20d, use three for passenger cars, four for trucks.



ILLUS. NO. 11 BUILT UP WHEEL BLOCK

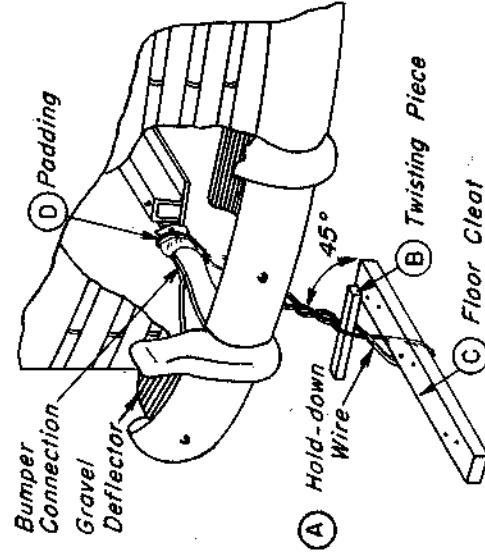
(Pattern E Required Against Side Tires See Illustration No. 12)

Alternate construction for models with low aprons involves increasing length of floor member to 20"—30", or length sufficient to clear aprons to provide nailing surface for five 16d nails. If necessary, cut two inches off top of piece which is placed against tire.

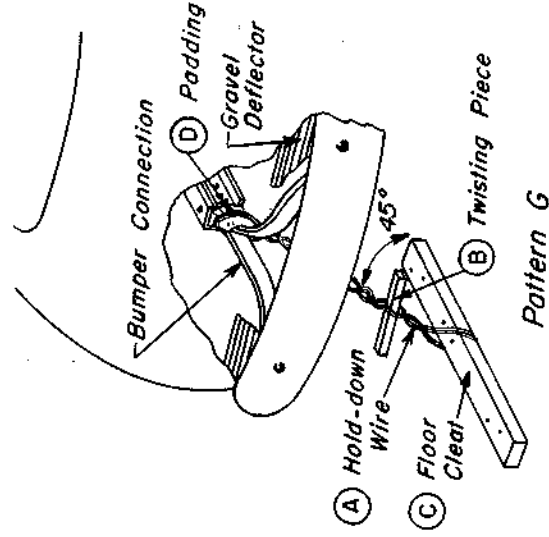


ILLUS. NO. 12
SIDE BLOCK

Use waterproof paper or burlap between blocks and tires to prevent chafing of side walls, the material to be placed under Pattern E and to extend at least 2" above the blocks. Nail Pattern E to car floor with five 16d nails. Pattern E is required when using Patterns B or C.

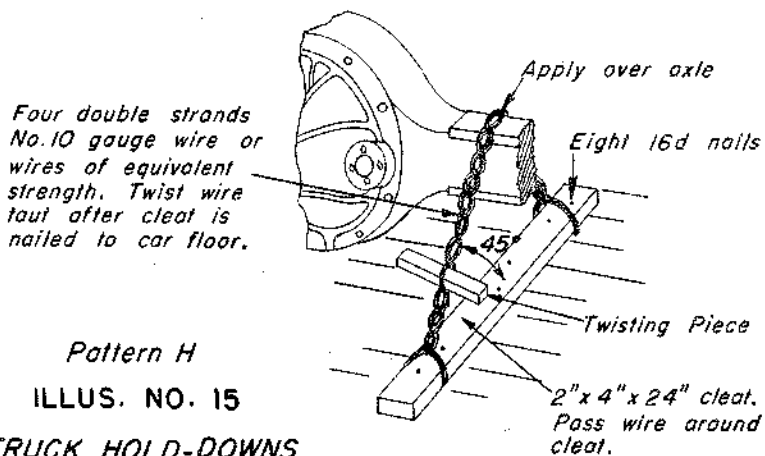


ILLUS. NO. 13
FRONT END HOLD-DOWNS
PASSENGER CARS

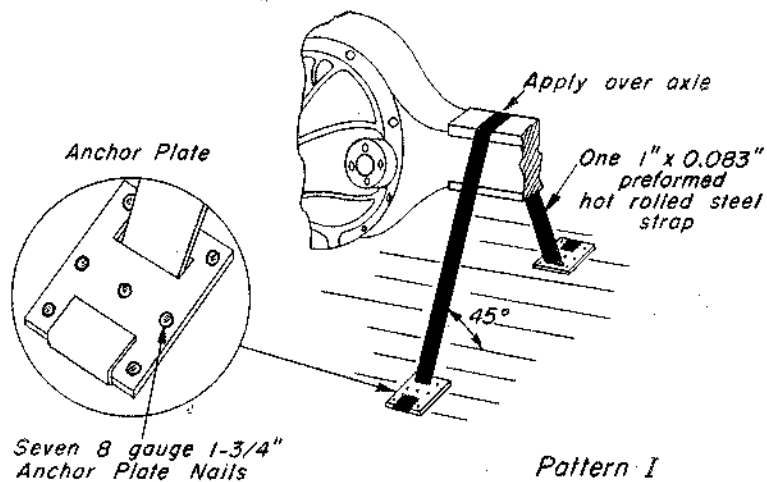


ILLUS. NO. 14
REAR END HOLD-DOWNS
PASSENGER CARS

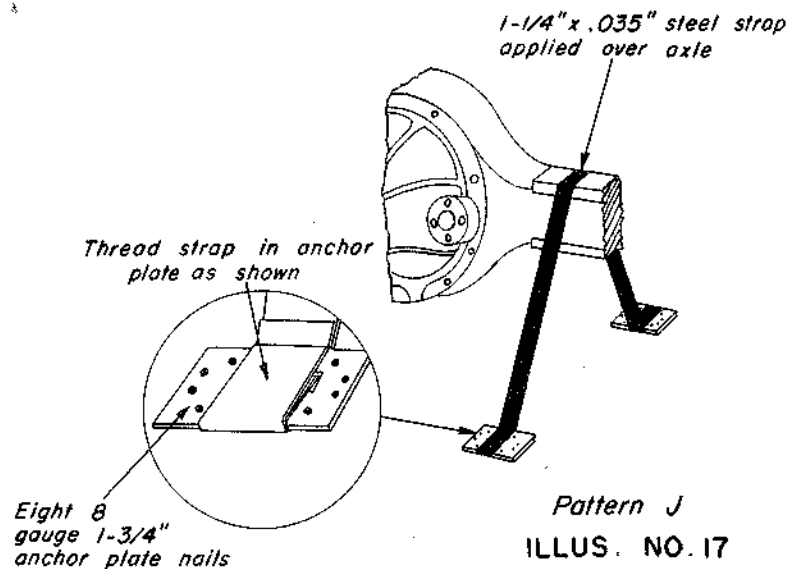
- LEGEND:**
- A—Hold-down Wire. Three double strands No. 10 gauge wire. Twist wire taut after cleat is nailed to car floor.
 - B—Twisting piece. Leave in place after tightening.
 - C—Floor Cleat, 2" x 4" x 24", Nail to car floor with eight 16d nails. Locate cleat so tension in wire is slightly towards side wall of freight car.
 - D—Padding. Duck or light metal between bumper connection and hold-down wire (A).



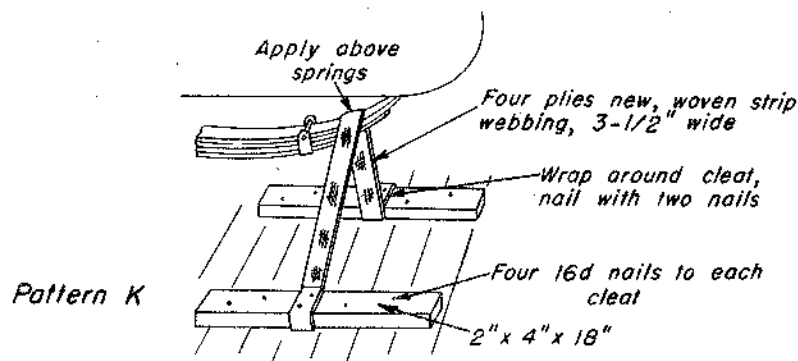
Pattern H
ILLUS. NO. 15
TRUCK HOLD-DOWNS



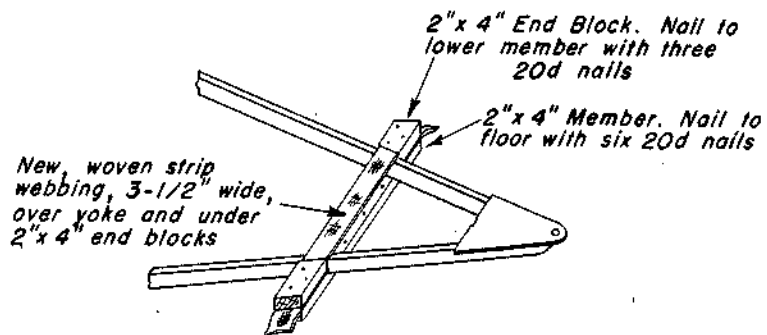
Pattern I
ILLUS. NO. 16
TRUCK HOLD-DOWNS



Pattern J
ILLUS. NO. 17
TRUCK HOLD-DOWNS



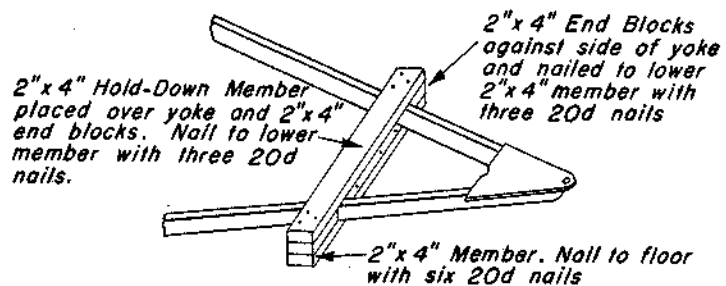
Pattern K
ILLUS. NO. 18
TRAILER HOLD-DOWNS



Pattern L

ILLUS. NO. 19

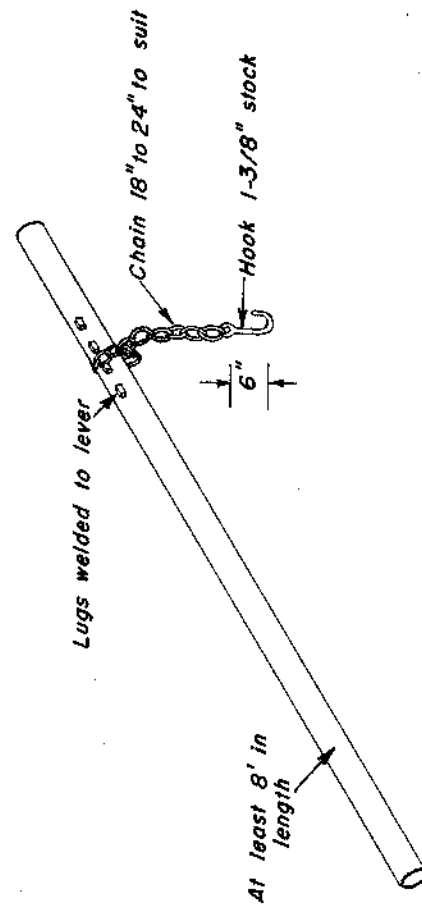
TRAILER YOKE SECURITY



Pattern M

ILLUS. NO. 20

TRAILER YOKE SECURITY

ILLUS. NO. 21
LEVER TO COMPRESS SPRINGS