SECTION No. 5

Association of American Railroads

OPERATIONS AND
MAINTENANCE DEPARTMENT

MECHANICAL DIVISION

RULES GOVERNING

THE

Loading of Forest Products

On Open Top Cars

Adopted by the

Former Master Car Builders' Association
as Recommended Practice, 1896

Advanced to Standard 1908

EFFECTIVE FEBRUARY 1, 1960

Published by the Association of American Railroads
59 East Van Buren Street, Chicago 5, Illinois

1960

Printed in U. S. A.

SECTION No. 5

RULES GOVERNING

THE

Loading of Forest Products On Open Top Cars

NOTICE

See General Rules—Section No. 1 for the following:

Preface.

Attention Shippers.

Index.

General Rules.

Instructions—Experimental Loads.

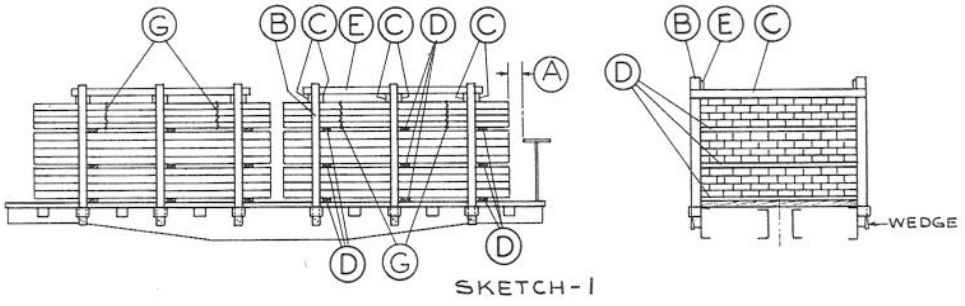
Dictionary of Car and Loading Terms.

Table Nos. 1 to 35, inclusive.

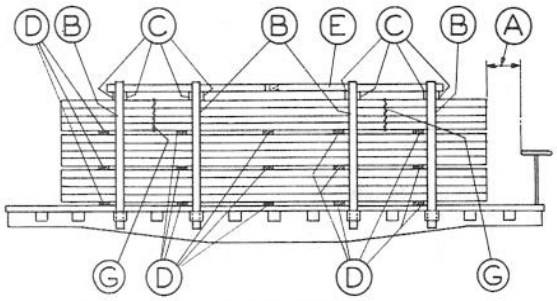
Where reference is made in the specifications of any of the figures in these rules to Fig. Nos. 1-B, 2, 3, 4, 5, 5-A or 5-B, see General Rules—Section No. 1.

Sec. 5—Fig. 1

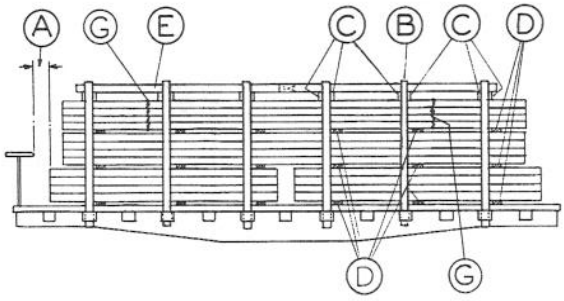
LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT OR GONDOLA CARS



SKETCH-1

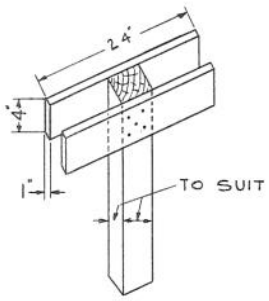


SKETCH-2

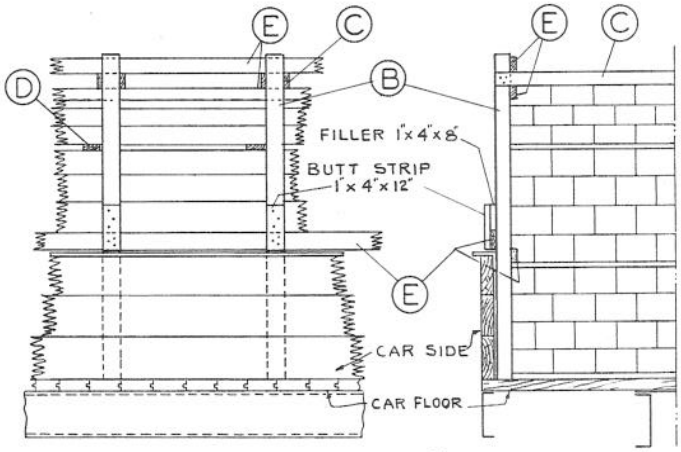


SKETCH-3

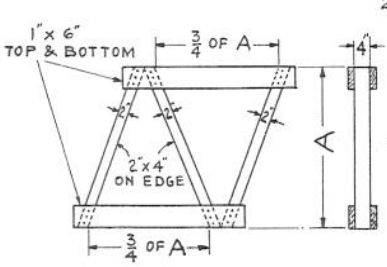
F - BRACES (NOT SHN.)
J - INTERMEDIATE STAKE TIE (NOT SHN.)



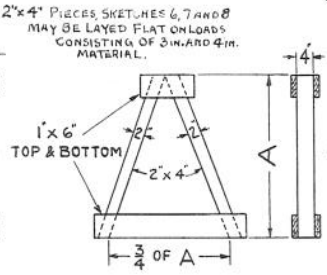
SKETCH-4



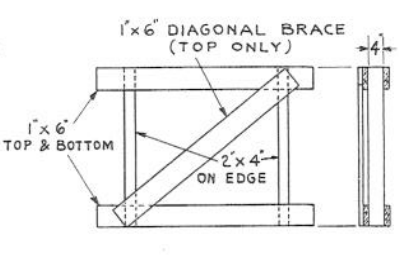
SKETCH-5



SKETCH-6
ITEM-F



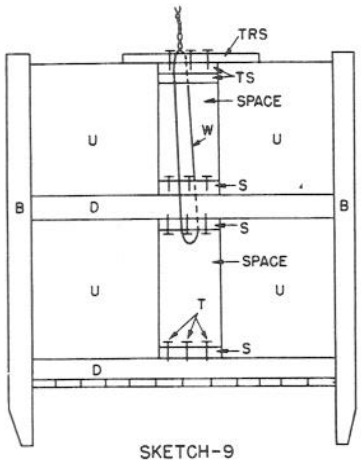
SKETCH-7
ITEM-F



SKETCH-8
ITEM-F

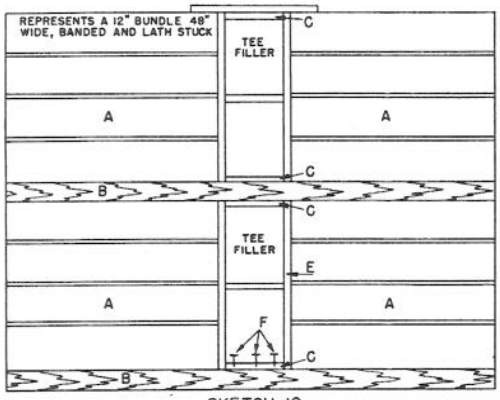
Sec. 5—Fig. 1 (Continued)

LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT OR GONDOLA CARS



SKETCH-9

B - STAKES.
D - SEPARATORS.
S - BOTTOM AND INTERMEDIATE STRUTS,- 2" X 4", FLAT.
T - NAILS, 20-D WITH 6" SPACING, MINIMUM 2 NAILS PER STRUT.
TS - TOP STRUTS - TWO 2" X 4" PIECES. LOCATE FIRST FLAT AND SECURE TO BOTTOM OF TRS. LOCATE SECOND PIECE FLAT AND SECURE TO FIRST TS.
TRS - TOP STRUT RETAINER -2"X 4", FLAT.
U - BANDED UNIT OF LUMBER.
W - TWO STRANDS, NO. 11 GAGE BLACK ANNEALED WIRE, ONE 1-1/4"X .035" HIGH TENSION BAND OR ONE STRAND NO. 8 GAGE HIGH TENSION WIRE.



SKETCH-10

A - BANDED UNITS OF LUMBER WITH STICKERS, FULL WIDTH OF PILE.
B - FLOOR BEARING PIECES AND SEPARATORS.
C - 2" X 4" NAILED TO FLOOR BEARING PIECES AND TO TOP AND BOTTOM OF SEPARATORS TAKING UP ENTIRE VACANT SPACE.
E - FOUR PIECES, 2" X 4" MATERIAL, VERTICAL.
F - NAILS, 20-D, AS REQUIRED.

THE TEE FILLER IS MADE OF 2" X 4" MATERIAL 36" LONG OR TO SUIT LOAD, BUILT LIKE NAILING TWO LADDERS TOGETHER, TWO PER PILE.

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	Sketches 1 and 2. Pile 12 ft. to 24 ft. long, inc., 3 pr. Add 1 pr. for each additional 10 ft. or less in length. Sketch 3. 6 pr. per load.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; for flat cars or gondola cars with sides less than 30 in. high, 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom; for gondola cars with sides 30 in. high or over, 4 in. x 4 in. sawed, or green saplings 4½ in. dia. measured midway between top and bottom. Substitute, if desired, stakes laminated in the following manner: Material to conform with requirements of General Rule 10 and all pieces used to be full length of completed stake. Stakes may be made up of two pieces of 2 in. x 6 in. rough lumber. The laminated pieces must be straight and in contact at least 80 per cent of the adjoining surfaces. The pieces must be joined with 16-D nails spaced 9 inches apart and staggered, applying approximately an equal number from each side. Stakes must be applied with

Sec. 5—Fig. 1 (Continued)

LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT OR GONDOLA CARS

Item	No. of Pcs.	Description
		edges of lamination against the load. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped) off, only when they exceed Railway Line Clearance, but high enough above Items "C" to permit full width contact of longitudinal ties, Items "E". Space as uniformly as possible on piles consisting of equal lengths and to protect shortest pieces on piles consisting of unequal lengths. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitably located, and secure with "T" block at top of filler, Sketch 4. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness. Substitute, if desired, vertical blocking as shown in Sketches 9 or 10.
C	As required, ea. pr. of Items "B".	Cross ties, as follows: Two 1 in. x 4 in., in one piece (free from decay and strength impairing knots), long enough to be sawed off (not chopped off) flush with outside face of each Item "B", secured to each Item "B", with three 8-D nails. or Four strands, No. 11 gage black annealed wire, secured to opposite Items "B", twisted taut. or One strand, ¾ in. x .035 in. high tension bands, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. or One strand, No. 11½ gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 11½ gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
D	Pile 12 ft. to 24 ft. long, inc., 3. Pile over 24 ft. long to 40 ft. long, inc., 4. Pile over 40 ft. long, 5.	Separators of equal thickness, preferable rough, in one piece, width 2 in. greater than thickness. Length must be equal to but must not extend beyond inside face of stakes. They may consist of two pieces of equal length nailed together with not less than three nails, clinched on back, or, one length may consist of two pieces, minimum length 3 ft., butted together and nailed to other length with three nails each, clinched on back. Locate end pieces about 2 ft. 6 in. from ends of piles 15 ft. long or less; about 3 ft. from ends of piles over 15 ft. to 24 ft.; and about 4 ft. from ends of piles over 24 ft. long, intermediate pieces to be spaced as equally as possible. Make one separation, located about midway between top and bottom of loads over 4 ft. to 8 ft. high. Add one for each additional 4 ft. or less in height, spaced as equally as possible from floor. Floor bearing pieces, if used, must conform to size and spacing of Items "D". Separators not required for loads 4 ft. high or less.
E	As required.	Longitudinal ties, 1 in. x 4 in. (free from decay and strength impairing knots), long enough to extend 4 in. beyond Items "B" nearest to each end of pile. Secure to inside face of each Item "B" directly above or below Item "C" with three 8-D nails. When ties consist of more than one piece, ends must overlap each other not less than two feet, each joint to be secured with five 8-D nails, clinched on back. When stakes are not placed in gondola car stake pockets, use another longitudinal tie, lower edge extending not less than 1 in. below top of gondola car side and secure to outside face of each stake as outlined above. It may be nailed to inside face of stakes near top of car side. When bottom tie cannot be placed between load and stakes or between stakes and car sides, nail same to outside face of each stake, as near top of car side as possible with three 8-D nails. Use suitable filler above same, covering filler and tie with one 1 in. x 4 in. x 12 in. piece, Sketch 5, nailed to tie and filler with three 8-D nails in each, or secure tie at each stake location with three 8-D nails and one strand of common wire.
F	As required.	For piles 24 ft. long, or less, use one brace, (Sketches 6 or 8). Locate at about center of pile. For piles over 24 ft. in length, use two braces, (Sketches 7 or 8). Locate about one-fourth length of pile from each end. Reverse ends of braces if Sketch 7 is used. Top layers less than 3 in. thick must be filled out solid and leveled off. Incomplete top layers of pieces 3 in. and greater in thickness must be braced.

LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT OR GONDOLA CARS

Item	No. of Pcs.	Description
G	2 per pile.	2 strands, No. 11 gage black annealed wire, cable twisted before application, encircling top half or third of pile depending on number of separators used. Substitute, if desired, at each location, one ¾ in. x .035 in. high tension band, or one No. 8 gage high tension wire, or one No. 11½ gage high tension wire. Ties must be placed as far away from ends of piles, stakes and separators as practicable and twisted taut. Required for creosoted lumber regardless of thickness or length. Required for all rough and finished lumber, except the following: (a) Loads 4 ft. high or less. (b) Rough lumber over 1 in. in thickness, but required for 2 in. material, 4 in. or less in width. (c) Finished lumber over 4 in. in thickness. Not required for 4 in. x 8 in. and wider. (d) Lumber over 20 ft. in length. Where lumber comprising the top half or third of pile is tied into two or three side by side units, individually tied with ties as specified under Item "G" and completely fills all space between Items "B", additional Items "G" tying the two or three side by side units into one unit, are not required.
*H	Pile 12 ft. to 24 ft. long, inc., 3. Pile over 24 ft. long to 40 ft. long, inc., 4. Pile over 40 ft. long, 5.	Unit separators, 2 in. x 4 in. or wider, preferably rough, in one piece. Length must be equal to but must not extend beyond side of unit, pile or package. Locate at approximate vertical center of unit, pile or package in line with Items "D". Use optional.
*J	1 ea. pr. Items "B".	Intermediate cross ties. Three wrappings No. 11 gage black annealed wire, to be located at the first and second separation from car floor. Twist taut. Required only for timbers 6 in. x 8 in. and over, exceeding 24 ft. in length and higher than 9 ft. 6 in. above car floor. Not required for gondola cars.

When load consists of two piles, inside ends of piles must be squared and loaded within 6 in. of each other; additional piles must be loaded within 6 in. of adjoining piles with the squared end toward center of car.

When lumber of unequal lengths is loaded in the same unit, pile or package, longer lengths must not overhang the shortest lengths by more than the following:

Thickness	Length	Amount of Overhang
Any	Under 12 ft.	None
Under 3 in.	12 ft. to 24 ft., inc.	4 ft.
Under 3 in.	Over 24 ft.	6 ft.

When plank or timber of unequal lengths is loaded in the same unit, pile or package, longer lengths must not overhang the shortest lengths in any tier by more than the following.

Thickness	Length	Amount of Overhang
3 in. and over	Under 12 ft.	None
3 in. and over	12 ft. to under 20 ft.	4 ft.
3 in. and over	20 ft. to 30 ft., inc.	6 ft.
3 in. and over	Over 30 ft.	8 ft.

Load lumber less than 12 ft. long on flat cars, or above gondola car sides, as follows:

(1) No lengths less than 12 ft. to be loaded on outside of end piles.

(2) Lumber of 6, 8 and 10 ft. lengths may be loaded in the same pile in center of car between end piles if unit tied with two ¾ in. x .035 in. high tension bands or two No. 8 gage high tension wires, protected with two side stakes on each side and located within 6 in. of adjacent piles.

(3) Lengths ranging downward to 8 ft. minimum except as provided in Section (2) may be loaded on inside of end piles on flat cars or gondola cars provided:
   (a) Lumber in piles of uniform lengths less than 12 ft. must not be loaded within 24 in. of the top of pile.
   (b) Random length lumber, under 4 in. in thickness, lapped and interwoven, including 6, 8 and 10 ft. lengths must have at least six layers on the top with no lengths less than 12 ft. in these layers.
   (c) Random length lumber 4 in. and over in thickness, lapped and interwoven, including 6, 8 and 10 ft. lengths, must not be loaded within 24 in. of the top of pile.

Stickers—They must be of uniform thickness throughout in one piece, (minimum ¼ in.), width greater than thickness. Length must be equal to but must not extend beyond side of unit, pile or package. On lumber 4 in. and under in thickness, one set of stickers must be used near bottom and one set near top of unit; on lumber over 4 in. in thickness, one set must be used, location optional.

Lumber used on top of loads to protect it from the elements must be secured in a complete unit so as to prevent it from becoming disarranged or dislodged. It must be secured by Items "G" when they are used or by two similar ties encircling all lumber above the top separators when Items "G" are not used.

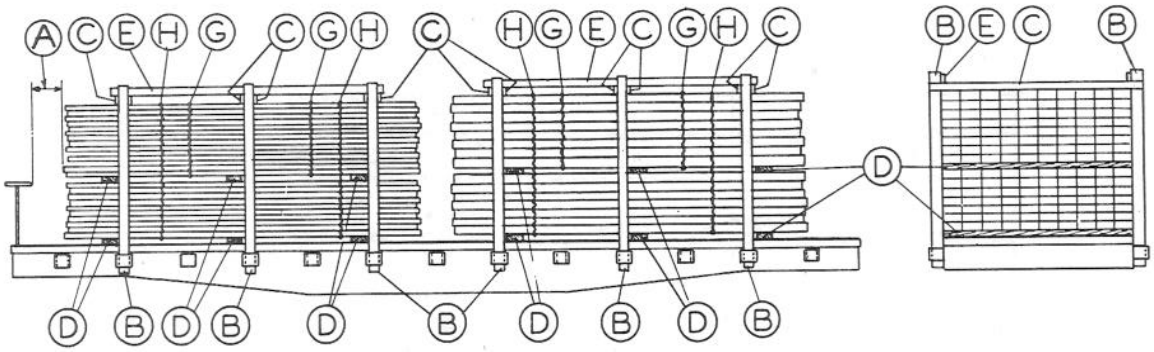
When load contains lumber 3 in. or over in thickness of various lengths, the longest lengths should preferably be placed in the lower portion of the load.

See General Rules 4, 5, 9, 10, 11, 14 and 15 for further details.

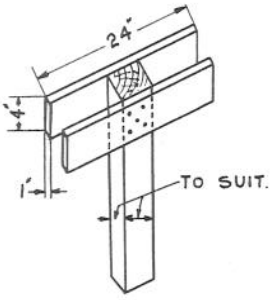
*Not shown on drawing.

Sec. 5—Fig. 2

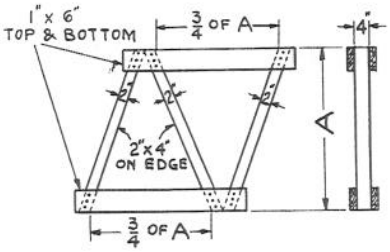
LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT CARS



F- BRACES (NOT SHOWN)



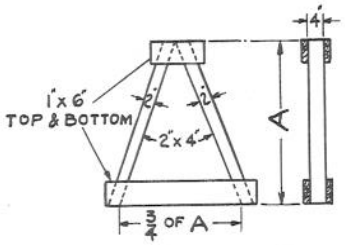
SKETCH-1



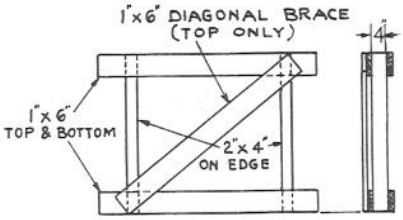
SKETCH-2
ITEM-F

2"x 4" PIECES

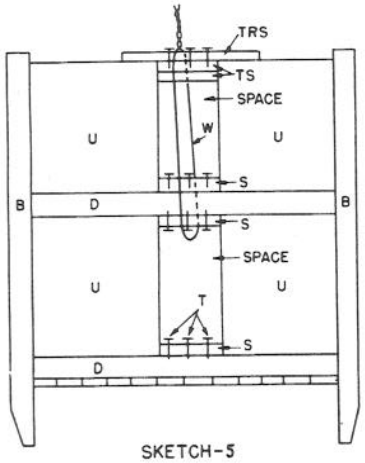
SKETCHES-2, 3, AND 4
MAY BE LAID FLAT ON LOADS
CONSISTING OF 3" IN.-
AND 4" IN. MATERIAL



SKETCH-3
ITEM-F



SKETCH-4
ITEM-F

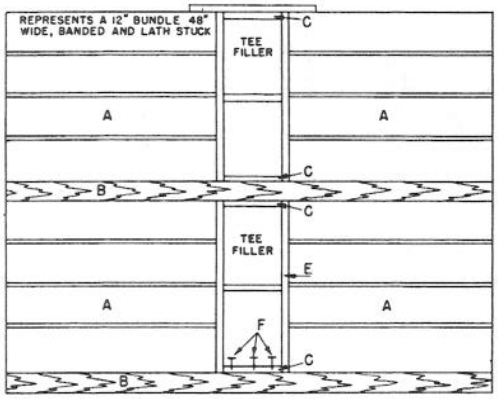


SKETCH-5

B - STAKES.
D - SEPARATORS.
S - BOTTOM AND INTERMEDIATE STRUTS,- 2" X 4", FLAT.
T - NAILS, 20-D WITH 6" SPACING, MINIMUM 2 NAILS PER STRUT.
TS - TOP STRUTS - TWO 2" X 4" PIECES. LOCATE FIRST FLAT AND SECURE TO BOTTOM OF TRS. LOCATE SECOND PIECE FLAT AND SECURE TO FIRST TS.
TRS - TOP STRUT RETAINER -2"X 4", FLAT.
U - BANDED UNIT OF LUMBER.
W - TWO STRANDS, NO. 11 GAGE BLACK ANNEALED WIRE, ONE 1-1/4"X .035" HIGH TENSION BAND OR ONE STRAND NO. 8 GAGE HIGH TENSION WIRE.

Sec. 5—Fig. 2 (Continued)

LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT CARS



SKETCH-6

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	3 pr. per pile.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped off), only when they exceed Railway Line Clearance, but high enough above Items "C" to permit full width contact of longitudinal ties, Items "E". Space as uniformly as possible on piles consisting of equal lengths and to protect shortest pieces on piles consisting of unequal lengths. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitably located, and secure with "T" block at top of filler, Sketch 1. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness. Substitute, if desired, vertical blocking as shown in Sketches 5 or 6.
C	As required, ea. pr. of Items "B".	Cross ties, as follows: Two 1 in. x 4 in., in one piece (free from decay and strength impairing knots), long enough to be sawed off(not chopped off) flush with outside face of each Item "B", secured to each Item "B", with three 8-D nails. or Four strands, No. 11 gage black annealed wire, secured to opposite Items "B", twisted taut. or One strand, ¾ in. x .035 in. high tension band, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
D	Pile 12 ft. to 24 ft. long, inc., 3. Pile over 24 ft. long, 4.	Separators of equal thickness, preferably rough, in one piece, width 2 in. greater than thickness. Length must be equal to but must not extend beyond inside face of stakes. They may consist of two pieces of equal length nailed together with not less than three nails, clinched on back, or, one length may consist of two pieces, minimum length 3 ft., butted together and nailed to other length with three nails each, clinched on back. Locate end pieces about 2 ft. 6 in. from ends of piles 15 ft. long or less; about 3 ft. from ends of piles over 15 ft. to 24 ft.; and about 4 ft. from ends of piles over 24 ft. long, intermediate pieces to be spaced as equally as possible. Make one separation, located about midway between top and bottom of loads over 4 ft. to 8 ft. high. Add one for each additional 4 ft. or less in height, spaced as equally as possible from floor. Floor bearing pieces, if used, must conform to size and spacing of Items "D". Separators not required for loads 4 ft. high or less.
E	As required.	Longitudinal ties, 1 in. x 4 in. (free from decay and strength impairing knots), long enough to extend 4 in. beyond Items "B" nearest to each end of pile. Secure to inside face of each Item "B" directly above or below Items "C" with three 8-D nails. When ties consist of more than one piece, ends must overlap each other not less than two feet, each joint to be secured with five 8-D nails clinched on back.

Sec. 5—Fig. 2 (Concluded)

LUMBER, INCLUDING TIES, FENCE POSTS, ETC.—FLAT CARS

Item	No. of Pcs.	Description
F	As required.	For piles 24 ft. long, or less, use one brace (Sketches 2 or 4). Locate at about center of pile. For piles over 24 ft. in length, use two braces (Sketches 3 or 4). Locate about one-fourth length of pile from each end. Reverse ends of braces if Sketch 3 is used. All incomplete top layers must be braced regardless of dimensions of lading.
G	2 per pile.	3 strands, No. 11 gage black annealed wire, cable twisted before application, encircling top half or third of pile, depending on number of separators used, twisted taut. Locate one tie about one-third length of pile from each end. Substitute, if desired, at each location, one ¾ in. x .035 in. high tension band, or one No. 8 gage high tension wire. Wires or bands must be placed as far away from stakes, bearing pieces or separators as practicable. Where lumber comprising the top half or third of pile is tied into two or three side by side units, individually tied with ties as specified under Item "G" and completely fills all space between Items "B", additional Items "G" tying the two or three side by side units into one unit, are not required.
H	2 per pile.	3 strands, No. 11 gage black annealed wire, cable twisted before application, encircling entire pile twisted taut, one tie located about one-fourth length of pile from each end. Substitute, if desired, at each location, one 1¼ in. x .035 in. high tension band, or one No. 8 gage high tension wire. Wires or bands must be placed as far away from stakes and separators as practicable.
*J	Pile 12 ft. to 24 ft. long, inc., 3. Pile over 24 ft. long to 40 ft. long, inc., 4. Pile over 40 ft. long, 5.	Unit separators, 2 in. x 4 in., or wider, preferably rough in one piece. Length must be equal to but must not extend beyond side of unit, pile or package. Locate at approximate vertical center of unit, pile or package in line with Items "D". Use optional.

When load consists of two piles, inside ends of piles must be squared and loaded within 6 in. of each other; additional piles must be loaded within 6 in. of adjoining piles with the squared end toward center of car.

When lumber of unequal lengths is loaded in the same unit, pile or package, longer lengths must not overhang the shortest lengths by more than the following:

Thickness	Length	Amount of Overhang
Any	Under 12 ft.	None
Under 3 in.	12 ft. to 24 ft., inc.	4 ft.
Under 3 in.	Over 24 ft.	6 ft.

When plank or timber of unequal lengths is loaded in the same unit, pile or package, longer lengths must not overhang the shortest lengths in any tier by more than the following:

Thickness	Length	Amount of Overhang
3 in. and over	Under 12 ft.	None
3 in. and over	12 ft. to under 20 ft.	4 ft.
3 in. and over	20 ft. to 30 ft., inc.	6 ft.
3 in. and over	Over 30 ft.	8 ft.

Load lumber less than 12 ft. as follows:

(1) No lengths less than 12 ft. to be loaded on outside of end piles.

(2) Lumber of 6, 8 and 10 ft. lengths may be loaded in the same pile in center of car, between end piles if unit tied with two ¾ in. x .035 in. high tension bands or two No. 8 gage high tension wires, protected with two side stakes on each side and located within 6 in. of adjacent piles.

(3) Lengths ranging downward to 8 ft. minimum except as provided in Section (2) may be loaded on inside of end piles, provided:

(a) Lumber in piles of uniform lengths less than 12 ft. must not be loaded within 24 in. of the top of pile.

(b) Random length lumber under 4 in. in thickness, lapped and interwoven, including 6, 8 and 10 ft. lengths must have at least six layers on the top with no lengths less than 12 ft. in these layers.

(c) Random length lumber 4 in. and over in thickness, lapped and interwoven, including 6, 8 and 10 ft. lengths, must not be loaded within 24 in. of the top of pile.

Stickers—They must be of uniform thickness throughout in one piece, (minimum ¼ in.), width greater than thickness. Length must be equal to but must not extend beyond side of unit, pile or package. On lumber 4 in. and under in thickness, one set of stickers must be used near bottom and one set near to top of unit; on lumber over 4 in. in thickness, one set must be used, location optional.

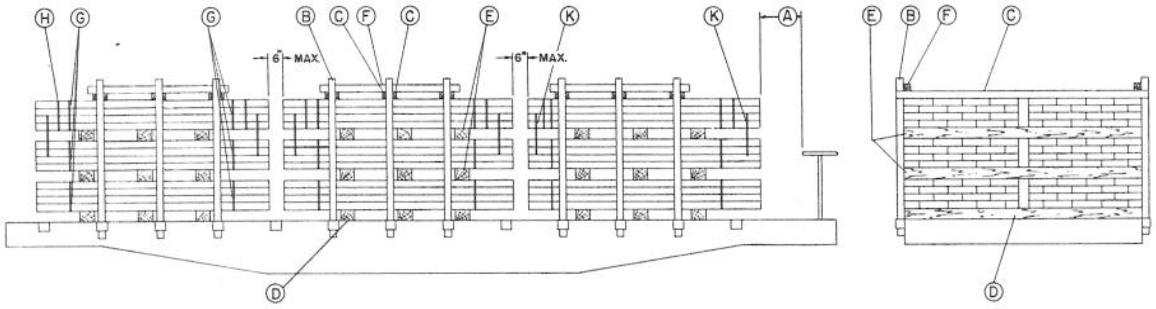
Lumber used on top of loads to protect it from the elements must be secured in a complete unit so as to prevent it from becoming disarranged or dislodged. It must be secured by Items "G" when they are used, or by two similar ties encircling all lumber above the top separators when Items "G" are not used.

When load contains lumber 3 in. or over in thickness of various lengths, the longest lengths should preferably be placed in the lower portion of the load.

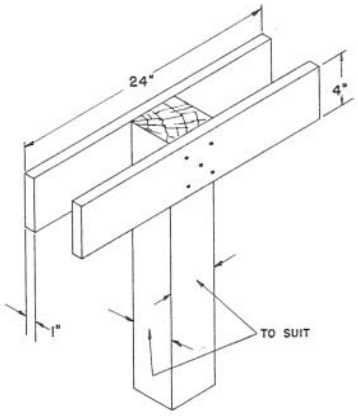
See General Rules 4, 5, 9, 10, 11, 14 and 15 for further details.

*Not shown on drawing.

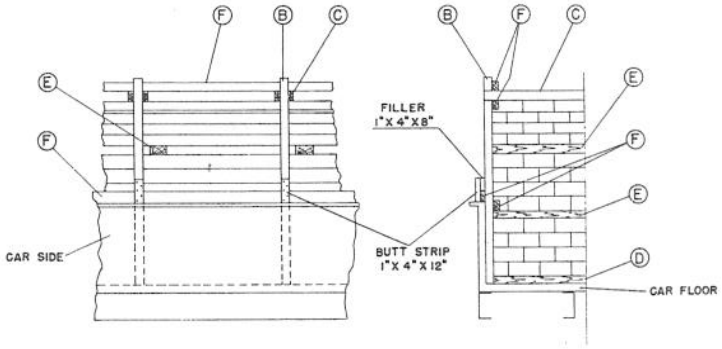
Sec. 5—Fig. 3
PACKAGED LUMBER, 8 FT. LONG OR OVER—FLAT OR GONDOLA CARS



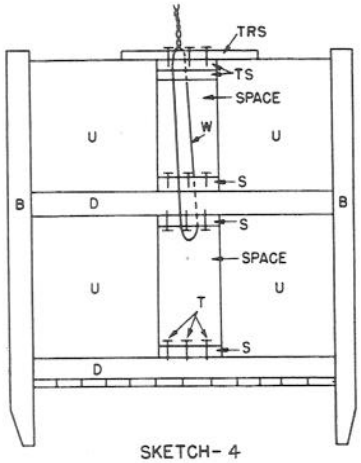
SKETCH NO. 1



SKETCH NO. 2



SKETCH NO. 3



SKETCH- 4

B - STAKES.

D - SEPARATORS.

S - BOTTOM AND INTERMEDIATE STRUTS,- 2" X 4", FLAT.

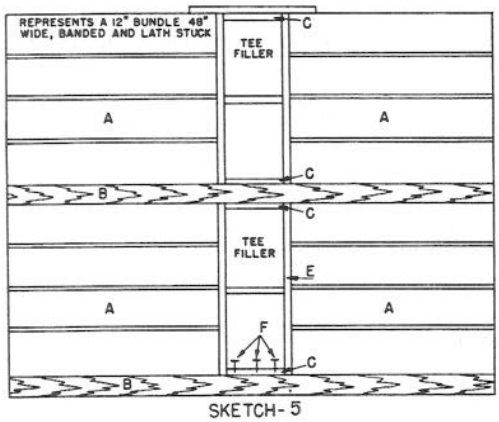
T - NAILS, 20-D WITH 6" SPACING, MINIMUM 2 NAILS PER STRUT.

TS - TOP STRUTS - TWO 2" X 4" PIECES. LOCATE FIRST FLAT AND SECURE TO BOTTOM OF TRS. LOCATE SECOND PIECE FLAT AND SECURE TO FIRST TS.

TRS - TOP STRUT RETAINER -2"X 4", FLAT.

U - BANDED UNIT OF LUMBER.

W - TWO STRANDS, NO. 11 GAGE BLACK ANNEALED WIRE, ONE 1-1/4"X .035" HIGH TENSION BAND OR ONE STRAND NO. 8 GAGE HIGH TENSION WIRE.



SKETCH- 5

A - BANDED UNITS OF LUMBER WITH STICKERS, FULL WIDTH OF PILE.

B - FLOOR BEARING PIECES AND SEPARATORS.

C - 2"X 4" NAILED TO FLOOR BEARING PIECES AND TO TOP AND BOTTOM OF SEPARATORS TAKING UP ENTIRE VACANT SPACE.

E - FOUR PIECES, 2"X 4" MATERIAL, VERTICAL.

F - NAILS, 20-D, AS REQUIRED.

THE TEE FILLER IS MADE OF 2"X 4" MATERIAL 36" LONG OR TO SUIT LOAD, BUILT LIKE NAILING TWO LADDERS TOGETHER, TWO PER PILE.

Sec. 5—Fig. 3 (Continued)

PACKAGED LUMBER, 8 FT. LONG OR OVER—FLAT OR GONDOLA CARS

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	3 pr. per pile.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; for flat cars or gondola cars with sides less than 30 in. high, 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom; for gondola cars with sides 30 in. high or over, 4 in. x 4 in. sawed or green saplings 4½ in. dia. measured midway between top and bottom. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped off), only when they exceed Railway Line Clearance, but high enough above Items "C" to permit full width contact of longitudinal ties, Items "F". Space as uniformly as possible on piles consisting of equal lengths and to protect shortest pieces on piles consisting of unequal lengths. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-d nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitable located, and secure with "T" block at top of filler, Sketch 2. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness. Substitute, if desired, vertical blocking, as shown in Sketches 4 or 5.
C	As required, ea. pr. of Items "B".	Cross ties, as follows: Two 1 in. x 4 in., in one piece (free from decay and strength impairing knots), long enough to be sawed off (not chopped off) flush with outside face of each Item "B", secured to each Item "B", with three 8-D nails. or Four strands, No. 11 gage black annealed wire, secured to opposite Items "B", twisted taut. or One strand, ¾ in. x .035 in. high tension band, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
D	3 per pile.	Floor bearing pieces of equal thickness, preferably rough, in one piece, width 2 in. greater than thickness. Length must be equal to but must not extend beyond inside face of stakes. They may consist of two pieces of equal length nailed together with not less than three nails, clinched on back, or, one length may consist of two pieces, minimum length 3 ft., butted together and nailed to other length with three nails each, clinched on back. Locate end pieces about 2 ft. from ends of pile and intermediate piece suitably spaced.
E	3 between ea. layer, per pile.	Separators of equal thickness, preferably rough, in one piece, width 2 in. greater than thickness. Length must be equal to but must not extend beyond inside face of stakes. They may consist of two pieces of equal length nailed together with not less than three nails, clinched on back, or, one length may consist of two pieces, minimum length 3 ft., butted together and nailed to other length with three nails each, clinched on back. Locate in line with Items "D".
F	As required.	Longitudinal ties, 1 in. x 4 in. (free from decay and strength impairing knots), long enough to extend 4 in. beyond Items "B" nearest to each end of pile. Secure to inside face of each Item "B" directly above or below Items "C", with three 8-D nails. When ties consist of more than one piece, ends must overlap each other not less than two feet, each joint to be secured with five 8-D nails, clinched on back. When stakes are not placed in gondola car stake pockets, use another longitudinal tie, lower edge extending not less than 1 in. below top of gondola car side and secure to outside face of each stake as outlined above. It may be nailed to inside face of stakes near top of car side. When bottom tie cannot be placed between load and stakes, or between stakes and car sides, nail same to outside face of each stake, as near top of car side as possible with three 8-D nails. Use suitable filler above same, covering filler and tie with one 1 in. x 4 in. x 12 in. piece, Sketch 3, nailed to tie and filler with three 8-D nails in each, or secure tie at each stake location with three 8-D nails and one strand of common wire.
G	2 per package or bundle.	Three strands No. 11 gage black annealed wire, cable twisted before application, twisted taut. Locate one tie about one-third length of pile from each end. Substitute, if desired, at each location, one ¾ in. x .035 in. high tension band, or one No. 8 gage high tension wire. Wires or bands must be placed as far away from stakes, bearing pieces or separators as practicable.

Sec. 5—Fig. 3 (Concluded)

PACKAGED LUMBER, 8 FT. LONG OR OVER—FLAT OR GONDOLA CARS

Item	No. of Pcs.	Description
H	2 per pile.	3 strands, No. 11 gage black annealed wire, cable twisted before application, encircling all packages or bundles above top separators, twisted taut. Locate one tie about one-third length of pile from each end. Substitute, if desired, at each location, one ¾ in. x .035 in. high tension band, or one No. 8 gage high tension wire. Wires or bands must be placed as far away from stakes and separators as practicable. Not required when Items "K" are used.
*J	Pile 12 ft. to 24 ft. long, inc., 3. Pile over 24 ft. long to 40 ft. long, inc., 4. Pile over 40 ft. long, 5.	Unit separators, 2 in. x 4 in. or wider, preferably rough in one piece. Length must be equal to but must not extend beyond side of unit, pile or package. Locate at approximate vertical center of unit, pile or package in line with Items "D" and "E". Use optional.
K	Two per pile.	1¼ in. x .035 in. high tension bands or No. 8 gage high tension wires. Locate suitably spaced through horizontal center of all packages or bundles in bottom or intermediate layer and pass through horizontal center of all packages or bundles in top layer. Not required when Items "H" are used.

When load consists of two piles, inside ends of piles must be squared and loaded within 6 in. of each other; additional piles must be loaded within 6 in. of adjoining piles with the squared end toward center of car.

Stickers—They must be of uniform thickness throughout in one piece, (minimum ¼ in.), width greater than thickness. Length must be equal to but must not extend beyond side of unit, pile or package. On lumber 4 in. and under in thickness, one set of stickers must be used near bottom and one set near top of unit; on lumber over 4 in. in thickness, one set must be used, location optional.

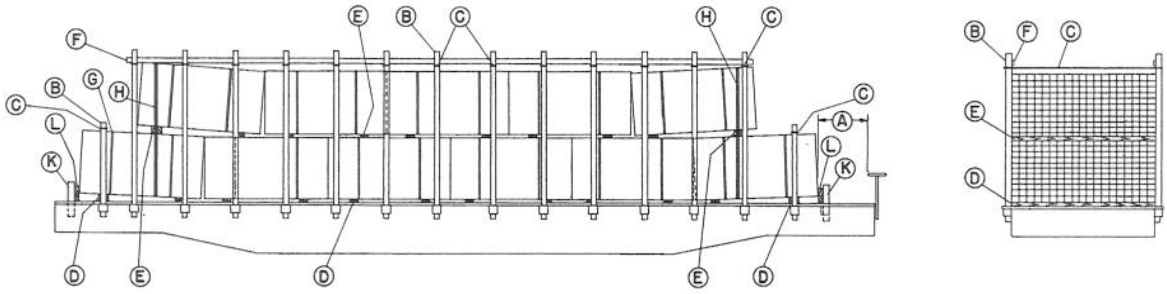
Packages or bundles must not overhang outside ends of other packages.

See General Rules 4, 5, 9, 10, 11, 14 and 15 for further details.

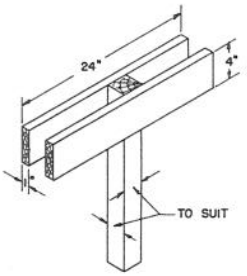
*Not shown on drawing.

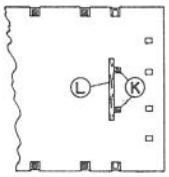
THIS PAGE WAS LEFT BLANK INTENTIONALLY

Sec. 5—Fig. 4
PACKAGED LUMBER, 4 IN. OR LESS IN THICKNESS, 7 FT. LONG OR OVER, IN UNIFORM LENGTH BUNDLES—FLAT CARS

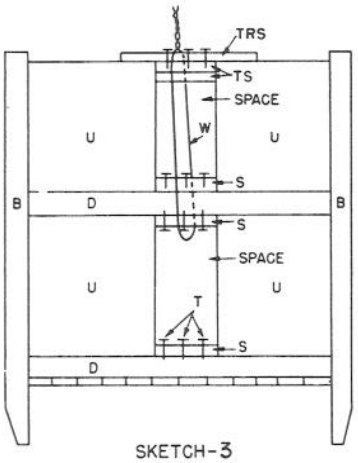


SKETCH 1



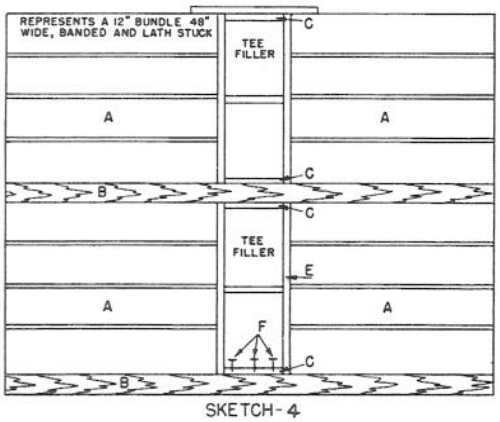


SKETCH 2



SKETCH-3

B - STAKES.
D - SEPARATORS.
S - BOTTOM AND INTERMEDIATE STRUTS,- 2" X 4", FLAT.
T - NAILS, 20-D WITH 6" SPACING, MINIMUM 2 NAILS PER STRUT.
TS - TOP STRUTS - TWO 2" X 4" PIECES. LOCATE FIRST FLAT AND SECURE TO BOTTOM OF TRS. LOCATE SECOND PIECE FLAT AND SECURE TO FIRST TS.
TRS - TOP STRUT RETAINER -2"X 4", FLAT.
U - BANDED UNIT OF LUMBER.
W - TWO STRANDS, NO. 11 GAGE BLACK ANNEALED WIRE, ONE 1-1/4"X .035" HIGH TENSION BAND OR ONE STRAND NO. 8 GAGE HIGH TENSION WIRE.



SKETCH-4

A - BANDED UNITS OF LUMBER WITH STICKERS, FULL WIDTH OF PILE.
B - FLOOR BEARING PIECES AND SEPARATORS.
C - 2"X 4" NAILED TO FLOOR BEARING PIECES AND TO TOP AND BOTTOM OF SEPARATORS TAKING UP ENTIRE VACANT SPACE.
E - FOUR PIECES, 2"X 4" MATERIAL, VERTICAL.
F - NAILS, 20-D, AS REQUIRED.

THE TEE FILLER IS MADE OF 2"X 4" MATERIAL 36" LONG OR TO SUIT LOAD, BUILT LIKE NAILING TWO LADDERS TOGETHER, TWO PER PILE.

PACKAGED LUMBER, 4 IN. OR LESS IN THICKNESS, 7 FT. LONG OR OVER, IN UNIFORM LENGTH BUNDLES—FLAT CARS

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	1 ea. side stake pocket full length of load.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped off), only when they exceed Railway Line Clearance, but high enough above Items "C" to permit full width contact of longitudinal ties, Items "F". Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitably located, and secure with "T" block at top of filler, Sketch 2. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness. Substitute, if desired, vertical blocking as shown in Sketches 3 or 4.
C	As required, ea. pr. of Items "B".	Cross Ties, as follows: Two 1 in. x 4 in., in one piece (free from decay and strength impairing knots), long enough to be sawed off (not chopped off) flush with outside face of each Item "B", secured to each Item "B", with three 8-D nails. or One strand, ¾ in. x .035 in. high tension band, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
D	2 per pile.	Floor bearing pieces, preferably rough, in one piece, width 2 in. greater than thickness. Length must be equal to but must not extend beyond inside face of stakes. They may consist of two pieces of equal length nailed together with not less than three nails, clinched on back, or, one length may consist of two pieces, minimum length 3 ft., butted together and nailed to other length with three nails each, clinched on back. Locate about 12 in. from ends of piles. They must be of equal height, except the one located at outside ends of load which must be 2 in. higher and wider than intermediate bearing pieces.
E	2 between each layer, per pile.	Separators, preferably rough, in one piece, width 2 in. greater than thickness. Length must be equal to but must not extend beyond inside face of stakes. They may consist of two pieces of equal length nailed together with not less than three nails, clinched on back, or, one length may consist of two pieces, minimum length 3 ft., butted together and nailed to other length with three nails each, clinched on back. Locate about 12 in. from ends of pile. They must be of equal height, except the one located at outside ends of load which must be 2 in. higher and wider than intermediate separators.
F	As required.	Longitudinal ties, 1 in. x 4 in. (free from decay and strength impairing knots), long enough to extend 4 in. beyond Items "B" nearest to each end of pile. Secure to inside face of each Item "B" directly above or below Items "C" with three 8-D nails. When ties consist of more than one piece, ends must overlap each other not less than two feet, each joint to be secured with five 8-D nails, clinched on back.
G	2 per package or bundle.	¾ in. x .035 in. high tension bands or No. 8 gage high tension wires. Locate one tie about one-fourth length of pile from each end. Bands or wires must be placed as far away from stakes, bearing pieces or separators, as practicable.
H	1 ea. end pile of load.	1¼ in. x .035 in. high tension band or No. 8 gage high tension wire encircling all packages or bundles of piles at each end of load. Locate about one-third length of pile from end of load. Bands or wires must be placed as far away from stakes, floor bearing pieces or separators, as practicable.
*J	2 per package.	Unit separators, 2 in. x 4 in. or wider, preferably rough in one piece. Length must be equal to but must not extend beyond side of unit, pile or package. Locate at approximate vertical center of unit, pile or package in line with Items "D" or "E". Use optional.
K	2 ea. end of load.	Stakes, per General Rule 10, long enough to extend 15 in. above floor of car. Locate, as shown, in end stake pockets.
L	1 ea. end of load.	12 in. high, width sufficient to fill space between Items "K" and load, length to suit. Secure to Items "K" with 30-D nails.

All piles must be butted together.

Packages or bundles must not overhang outside ends of packages in bottom layer.

Stickers—They must be of uniform thickness throughout in one piece, (minimum ¼ in.), width greater than thickness. Length must be equal to but must not extend beyond side of unit, pile or package. One set of stickers must be used near bottom and one set near top of unit.

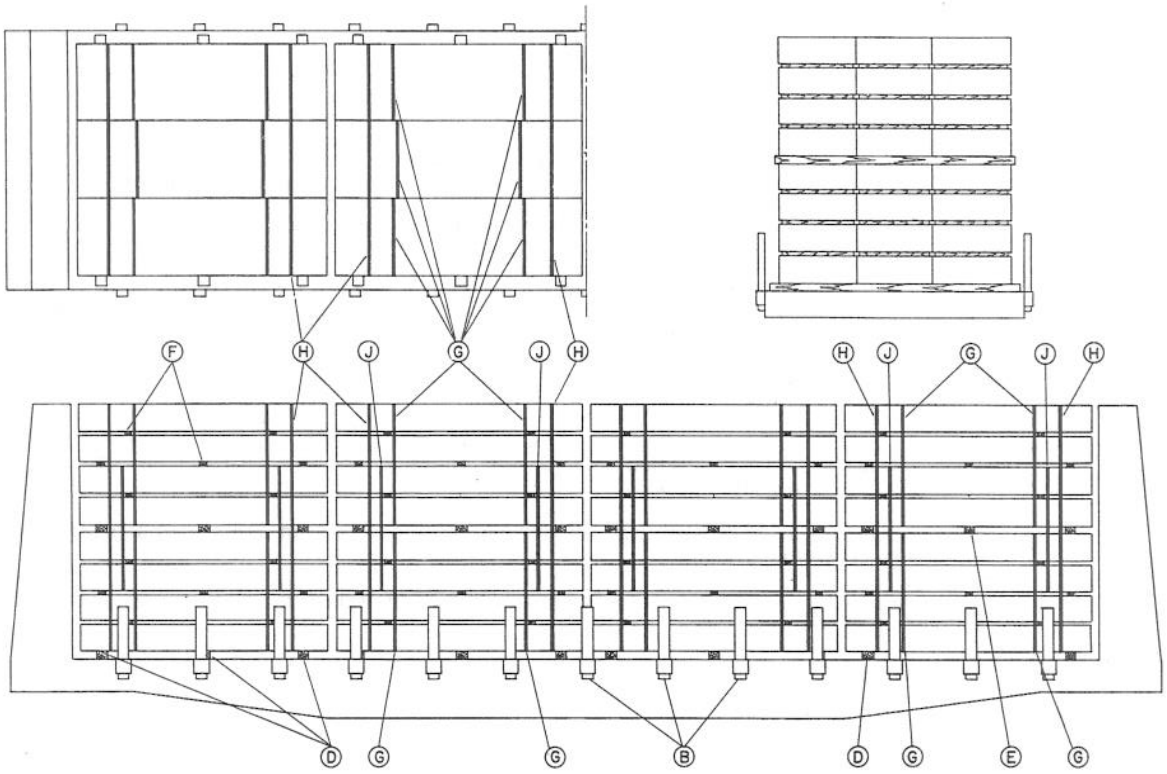
Where end stake pockets are not available for the application of Items "K", they may be located in side stake pockets beyond ends of load.

See General Rules 4, 5, 9, 10, 11, 14 and 15 for further details.

*Not shown on drawing.

Sec. 5—Fig. 5

PACKAGED LUMBER, 4 IN. OR LESS IN THICKNESS, 7 FT. LONG OR OVER, UNIFORM LENGTH IN BUNDLES—FLAT CARS WITH PERMANENT END BULKHEADS



Item	No. of Pcs.	Description
*A		Brake wheel clearance. See Fig. 2.
B	1 ea. side stake pocket, full length of car.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom. They must extend 18 in. above top of car floor and 4 in. below bottom edge of stake pockets 7 in. deep or less or as far as possible below bottom edge of stake pockets more than 7 in. deep. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Total space between stakes and load must not exceed 6 in.
C		VACANT.
D	3 per pile.	Floor bearing pieces, preferably rough, in one piece, minimum thickness 2 in., width 2 in. greater than thickness. Length must be equal to width of load but must not extend beyond inside face of stakes. They may consist of two pieces nailed together with not less than three nails clinched on the back. Bearing pieces at each location to be of equal height. Locate under each pile, one about 15 in. from each end and one in center.
E	3 between each layer, per pile.	Separators, preferably rough, in one piece, minimum thickness 2 in., width 2 in. greater than thickness. Length must be equal to width of load but must not extend beyond inside face of stakes. They may consist of two pieces nailed together with not less than three nails clinched on the back. Separators at each location to be of equal height. Locate between layers of each pile one directly over each floor bearing piece.
F	3 sets per package.	Stickers, to be of uniform thickness throughout, in one piece, minimum size ¾ in. x 2 in. Length must be slightly less than width of package. Three stickers in center set in each package and two in each top and bottom set in each package located as shown.
G	2 per package.	1¼ in. x .035 in. high tension bands. Locate one tie about 24 in. from each end of each package as shown.
H	2 per pile.	1¼ in. x .035 in. high tension bands. Locate one tie about 12 in. from each end of each pile, encircling all packages in pile as shown.
J	2 per pile.	1¼ in. x .035 in. high tension bands. Locate one tie about 18 in. from each end of each pile through horizontal center of all packages in bottom or intermediate layer and pass through the horizontal center of all packages in the top layer, to tie all packages into a single unit.

The tensioning of Items "G" must be great enough to draw the sections of the package together between Items "F" thus preventing slippage of the individual pieces.

The top layer of a pile can be made up of packages loaded in tandem on the bottom layer. When loading packages in this manner, each unit in the length of the top layer must be regarded as an individual pile and braced in accordance with the instructions covering the securement of piles.

The finished package must have sides and ends squared and be of uniform height.

When load consists of two or more piles, end piles must be loaded within 6 in. of bulkhead, with intermediate piles as close to end piles as practicable.

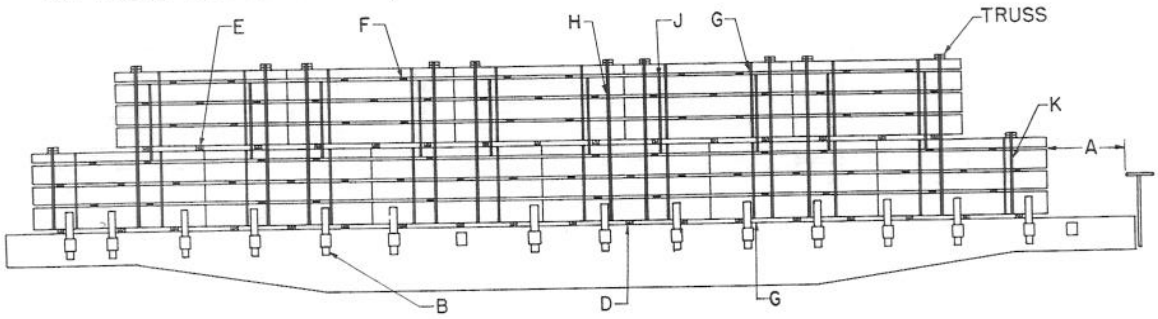
Lumber or paper used to protect lading from the elements must be secured by Items "H".

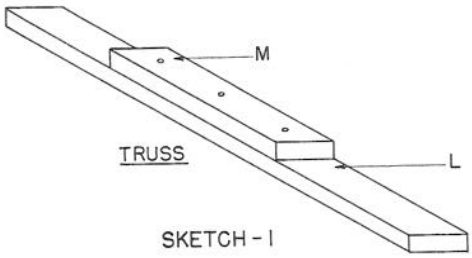
*Not shown on Figure.

See General Rules 4, 5, 9, 10, 11, and 14 for further details.

Sec. 5—Fig. 6

PACKAGED STUDS 2 IN. X 4 IN., OR 2 IN. X 6 IN. BY 7 FT. LONG OR OVER, OR LUMBER EQUAL TO OR GREATER IN WIDTH AND THICKNESS, UNIFORM SIZE AND LENGTH, IN BUNDLES—FLAT CARS





SKETCH - 1

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	3 pr. per bottom end piles. 2 pr. per other bottom piles.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom. They must extend 12 in. above top of car floor and 4 in. below bottom edge of stake pockets 7 in. deep or less or as far as possible below bottom edge of stake pockets more than 7 in. deep. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Total vacant space across car between stakes must not exceed 6 inches.
C		VACANT.
D	3 per pile.	Floor bearing pieces, preferably rough, in one piece, minimum thickness 2 in., width 2 in. greater than thickness. Length must be equal to width of load but must not extend beyond inside face of stakes. They may consist of two pieces nailed together with not less than three nails clinched on the back. Bearing pieces at each location to be of equal height. Locate under each pile, one about 15 in. from each end and one in center.
E	3 between each layer, per pile.	Separators, preferably rough, in one piece, minimum thickness 2 in., width 2 in. greater than thickness. Length must be equal to width of load but must not extend beyond inside face of stakes. They may consist of two pieces nailed together with not less than three nails clinched on the back. Separators at each location to be of equal height. Locate between layers of each pile one directly over each floor bearing piece.
F	3 sets per package.	Stickers, to be of uniform thickness throughout, in one piece, minimum size ¾ in. x 2 in. Length must be slightly less than width of package. Three stickers in center set in each package and two in each top and bottom set in each package located as shown.
G	2 per package.	1¼ in. x .035 in. high tension bands. Locate one tie about 24 in. from each end of each package as shown.
H	2 per pile.	1¼ in. x .035 in. high tension bands. Locate one tie about 12 in. from each end of each pile, encircling all packages in pile as shown. Secure to Items "L" and "M" with 4 — 1¼ in. staples.
J	2 per pile.	1¼ in. x .035 in. high tension bands. Locate one tie about 18 in. from each end of each pile through top separation of all packages in lower or intermediate layer and top layer, to tie all such packages into a single unit. Note: May be placed over top of top layer if so desired.
K	1 per end pile of bottom layer.	1¼ in. x .035 in. high tension bands, encircling bundles in lower layer. Bands must be placed as far away from stakes, separators and floor bearing pieces as practicable. Pass over and seal on truss and block, Items "L" and "M". Secure each to Items "L" and "M" with 4 — 1¼ in. staples. Not required when top layer extends to within 36 in. of end of bottom layer.
L	1 per each Item "H" and "K".	2 in. x 4 in. truss, Sketch 1. Length to be slightly less than width of pile.
M	1 per each Item "L".	2 in. x 4 in. x 24 in. truss block, Sketch 1. Secure to center of Item "L" with three 8-D nails.

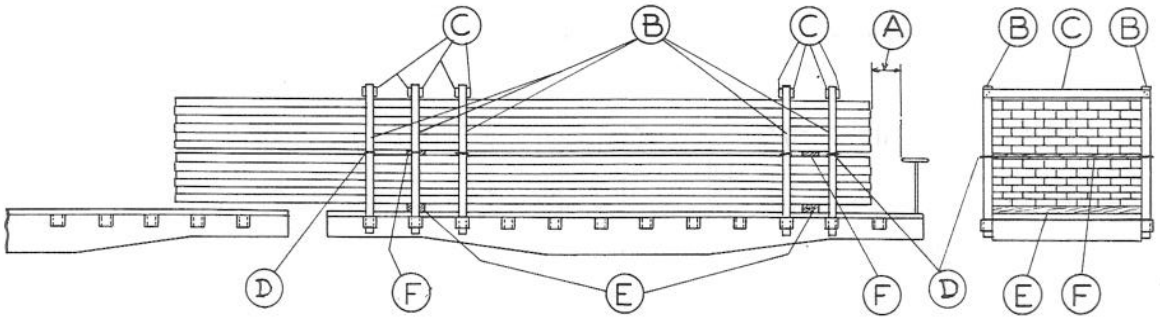
The top layer can be made up of packages loaded in tandem on the bottom layer. Packages in top layer must not overhang outside ends of packages in bottom layer.

The finished package must have sides and ends squared and be of uniform height.

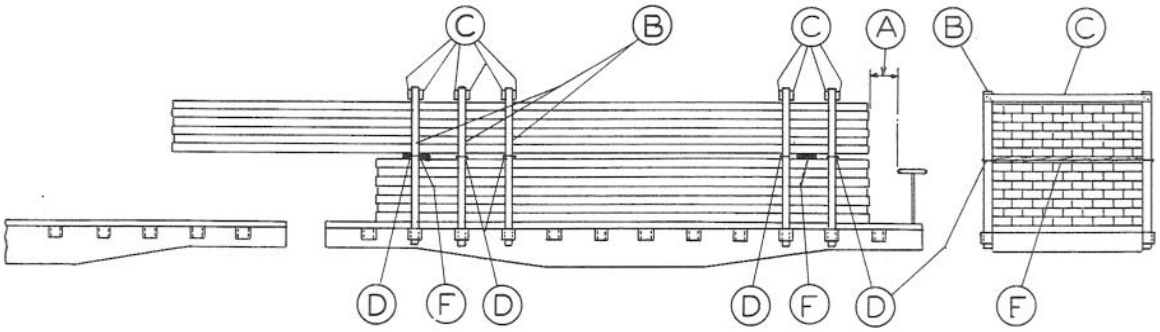
See General Rules 4, 5, 9, 10, 11, 14 and 15 for further details.

Sec. 5—Fig. 7

SINGLE OVERHANGING LOADS OF LUMBER—FLAT OR GONDOLA CARS



SKETCH-1



SKETCH-2

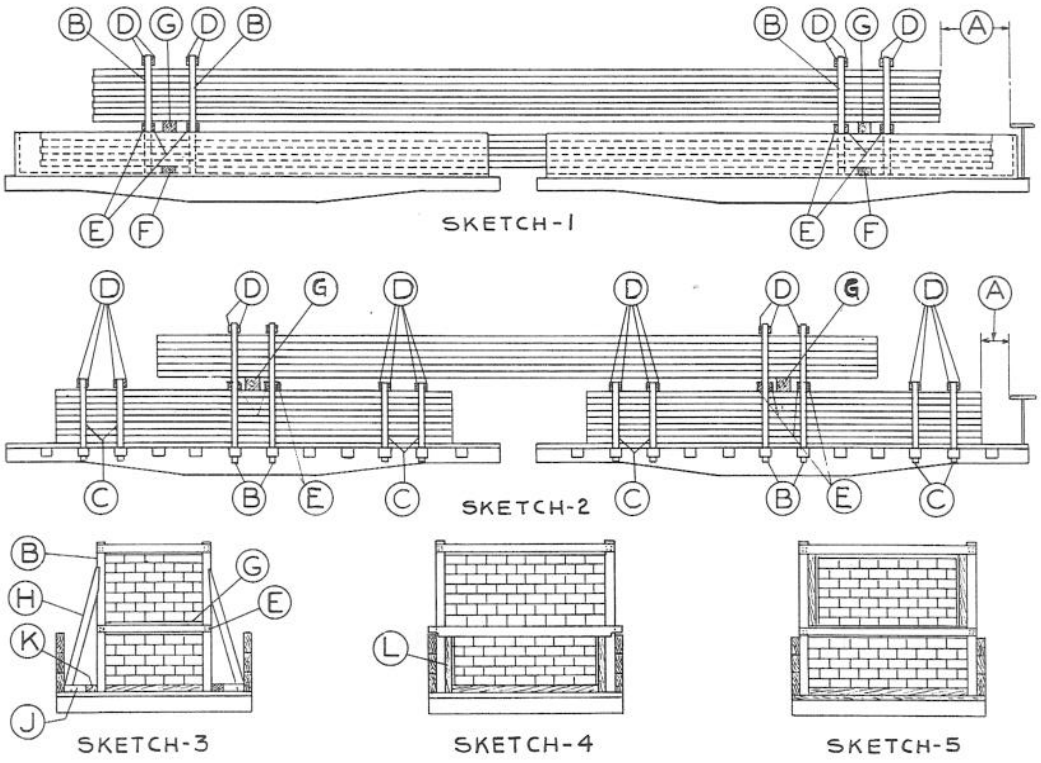
Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	5 pair.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; for flat cars or gondola cars with sides less than 30 in. high, 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom; for gondola cars with sides 30 in. high or over, 4 in. x 4 in. sawed, or green saplings 4½ in. dia. measured midway between top and bottom. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped off), only when they exceed Railway Line Clearance. Space as uniformly as possible on piles consisting of equal lengths and to protect shortest pieces on piles consisting of unequal lengths. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitably located, and secure with "T" block at top of filler. See Sketch 4, Fig. 1. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness.
C	As required ea. pr. Items "B".	Cross ties, as follows: Two 1 in. x 4 in., in one piece (free from decay and strength impairing knots), long enough to be sawed off (not chopped off) flush with outside face of each Item "B", secured to each Item "B", with three 8-D nails. or Four strands, No. 11 gage black annealed wire, secured to opposite Items "B", twisted taut. or One strand, ¾ in. x .035 in. high tension band, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
D	1 ea. pr. Items "B".	6 strands, No. 11 gage wire, secured to opposite Items "B".
E	2	Floor bearing pieces, 8 in. wide, high enough to keep load 4 in. above floors. Length must be equal to but must not extend beyond inside face of stakes. Secure in position with two ¾ in. dia. bolts or by placing two 2 in. x 6 in. x 12 in. blocks, or equivalent, against each side securely nailed or bolted to floor. Not required for loads per Sketch 2.
F	2	Separators, ⅞ in. x 8 in., length equal to width of load, not to extend beyond inside face of stakes.

The idler must be a flat car and when used for carrying a load, such load must be secured as per a single load.
Stakes must not be used on idler car to confine the overhanging portion of load.
When necessary to reduce with of load to meet provisions of General Rule 16, use method as outlined in Fig. 5-B.
See General Rules 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15 and 16 for further details.

THIS PAGE WAS LEFT BLANK INTENTIONALLY

Sec. 5—Fig. 8

LUMBER—TWO OR MORE FLAT OR GONDOLA CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	4 pair.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; for flat cars or gondola cars with sides less than 30 in. high 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom; for gondola cars with sides 30 in. high or over, 4 in. x 4 in. sawed, or green saplings, 4½ in. dia. measured midway between top and bottom. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped off), only when they exceed Railway Line Clearance. Two pair each end of load for loads per Sketch 1 and near each end of upper portion of load for loads per Sketch 2, spaced 2 ft. minimum, 4 ft. maximum. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitably located, and secure with "T" block at top of filler. See Sketch 4, Figure 1. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness.
C	4 pr. per car.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom. Not required for loads per Sketch 1.

Sec. 5—Fig. 8

LUMBER—TWO OR MORE FLAT OR GONDOLA CARS

Item	No. of Pcs.	Description
D	As required ea. pr. Items "B" and "C".	Cross ties, as follows: Two 1 in. x 4 in. in one piece (free from decay and strength impairing knots), long enough to be sawed off (not chopped off) flush with outside face of each Items "B" and "C", secured to each Items "B" and "C", with three 8-D nails. or Four strands, No. 11 gage black annealed wire, secured to opposite Items "B" and "C", twisted taut. or One strand, ¾ in. x .035 in. high tension band, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
E	2 ea. pr. Items "B".	Intermediate cross ties, 1 in. x 4 in., nailed to opposite Items "B" with three 10-D nails at each location.
F	2	Floor bearing piece, 10 in. wide, high enough to keep load 4 in. above floor and end gate. Length must be equal to but must not extend beyond inside face of stakes. Secure in position with two ¾ in. dia. bolts or by placing two 2 in. x 6 in. x 12 in. blocks, or equivalent, against each side, securely nailed or bolted to floor. Not required for loads per Sketch 2.
G	2	Separators, 10 in. x 10 in., larger if necessary, to maintain 4 in. clearance between top and bottom portion of load, or between bottom of top portion of load and top of car sides. Length equal to width of load for loads per Sketch 3; long enough to rest on car sides for loads per Sketch 4, notched or cleated to prevent lateral movement.
H	8	Diagonal braces, 4 in. x 6 in., gained into Items "B" one inch. Nail to Item "B" with three 40-D nails. Not required for loads per Sketches 4 and 5.
J	2 ea. Item "H".	Cleats, 2 in. x 4 in., long enough to extend from Items "K" to car sides. Nail to floor, against each side of Items "H", with three 20-D nails. Not required for loads per Sketches 4 and 5.
K	8	Cleats, 2 in. x 4 in. x 18 in. Nail each to floor against outside face of Items "B", with four 20-D nails. Not required for loads per Sketches 4 and 5.
L	As required.	Suitable filling pieces, secured to inside face of stakes, per Sketches 4 and 5.

Total weight of load must not exceed 90 percent of designated load weight of cars. The weight of top portion must not exceed the combined weight of both single loads.

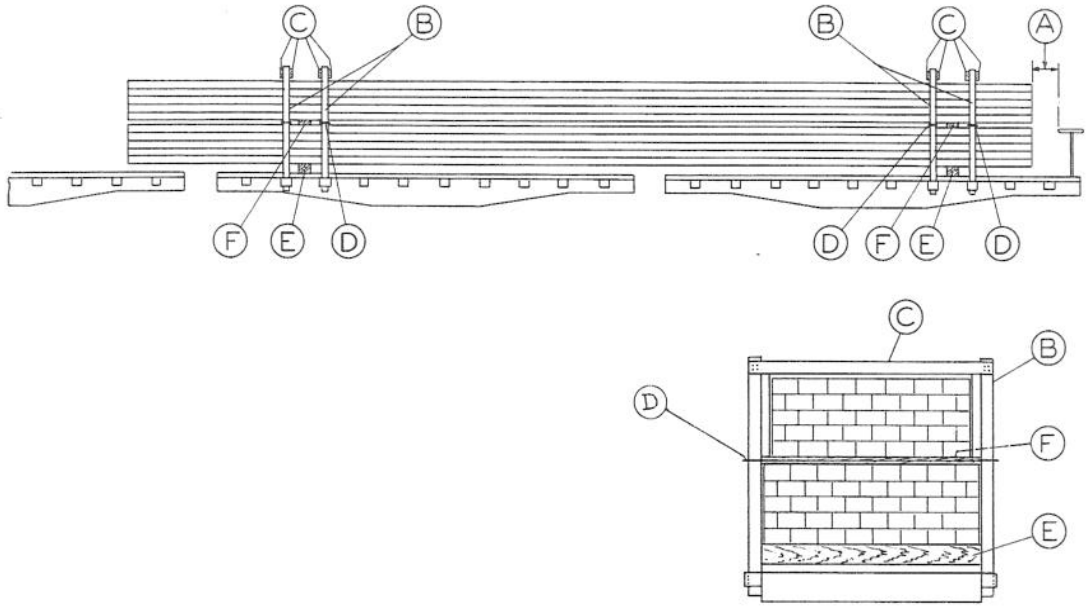
Locate each lower pile centrally on each car.

Items "H", "J" and "K", or Item "L", required only when necessity demands narrowing load.

See General Rules 4, 5, 6, 7, 9, 10, 11, 12, 14, 15 and 18 for further details.

Sec. 5—Fig. 9

LONG LUMBER, WITH OR WITHOUT OVERHANG—TWO OR MORE FLAT CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	4 pr.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size; 4 in. x 5 in. sawed, or green saplings 5 in. dia. measured midway between top and bottom. They must extend 4 in. below bottom edge of stake pockets 7 in. deep or less, and as far as possible below bottom edge of stake pockets more than 7 in. deep. They must be sawed off at the top (not chopped off), only when they exceed Railway Line Clearance. Place in adjoining stake pockets near each end of load. Wedge from under side of stake pocket so as to provide tight fit and securely nail to stake with at least two 8-D nails. Wedges not required for stake pockets 10 in. or more in depth. When wedges are not required or cannot be used, drive a 40-D nail into stake directly below and with head even with outside of stake pocket, or into stake through hole in center of stake pocket. Load tight against stakes. Space between stakes to be filled solid if dimensions of lumber will permit. If not, pack with vertical filler stakes, two or three per pile, suitably located, and secure with "T" block at top of filler. See Sketch 4, Figure 1. Thickness of filler to be equal to width of space to be filled, width to be equal to or greater than thickness.
C	As required ea. pr. Items "B".	Cross ties, as follows: Two 1 in. x 4 in., in one piece (free from decay and strength impairing knots), long enough to be sawed off (not chopped off) flush with outside face of each Item "B", secured to each Item "B" with three 8-D nails. or Four strands, No. 11 gage black annealed wire, secured to opposite Items "B" twisted taut. or One strand, ¾ in. x .035 in. high tension band, looped around and sealed at least 12 in. from inside face of each stake. or One strand, ¾ in. x .035 in. high tension band, encircling opposite stakes and sealed near center of loop. or One strand, No. 8 gage high tension wire, looped around and machine tied at least 12 in. from inside face of each stake. or One strand, No. 8 gage high tension wire, encircling opposite stakes and machine tied near center of loop. Locate about 1 in. above top of load.
D	1 ea. pr. Items "B".	6 strands, No. 11 gage wire secured to opposite Items "B".
E	2	Floor bearing pieces, 10 in. x 10 in., larger if necessary, to maintain 4 in. clearance throughout load above floors. Length must be equal to but must not extend beyond inside face of stakes. Secure in position with two ¾ in. dia. bolts or by placing two 2 in. x 6 in. x 12 in. blocks, or equivalent, against each side, securely nailed or bolted to floor.
F	2	Separators, ⅞ in. x 8 in., length equal to width of load, not to extend beyond inside face of stakes.

Idler, when used, must be a flat car, and when used for carrying a load, such load must be secured as per a single load.

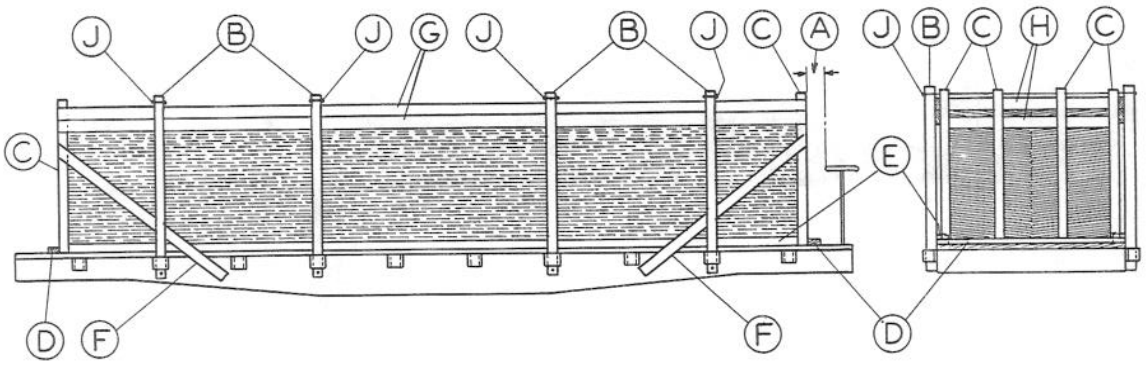
Stakes must not be used on idler car to confine the overhanging portion of load.

When necessary to reduce width of load to provide proper clearance, use method as outlined in Fig. 5-A.

See General Rules 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16 and 18 for further details.

Sec. 5—Fig. 10

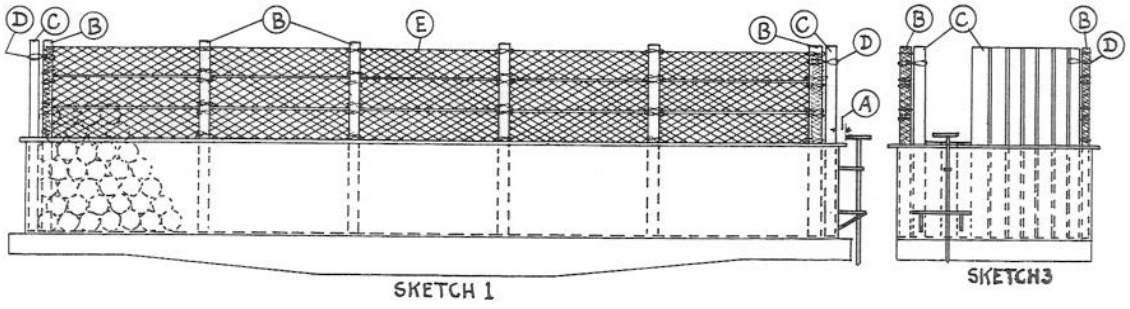
TAN BARK, SLAB WOOD, LATH, ETC.—FLAT OR GONDOLA CARS

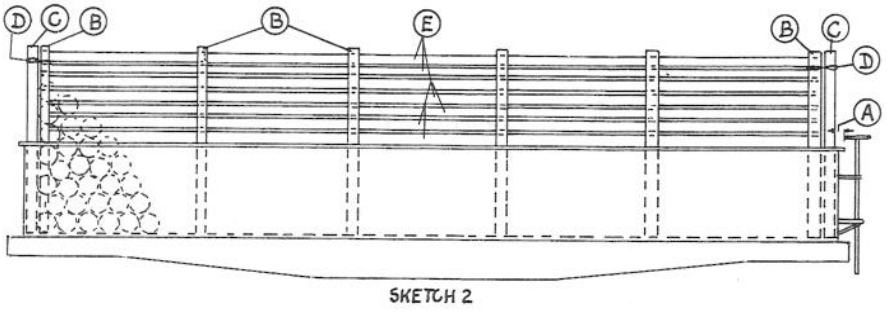


Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	4 pr.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch, hemlock or green saplings. When flat cars are used, drive a 40-D nail into stake or sapling directly below and with head even with outside of stake pocket.
C	4 ea. end of load.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch, hemlock or green saplings.
D	2	2 in. x 4 in., length equal to width of car. Nail each to floor against outside of Items "C" with twelve 40-D nails. Not required when Items "C" can be placed in end stake pockets or for loads in gondola cars.
E	2	4 in. x 4 in., full length of load, or sufficient tan bark or slab wood, 4 in. high, to incline load towards center of car.
F	4	1 in. x 6 in., nailed to outside face of upper portion of Items "C", inside face of Items "B" and to floor or sides with three 10-D nails at each location.
G	1 or 2 ea. side of load.	Two 1 in. x 6 in., or one 1 in. x 12 in., full length of load. Nail to inside of Items "B" and to outside of Items "C" with three 10-D nails at each location for 6 in. boards and five 10-D nails at each location for 12 in. boards. Upper edge of top board must be flush with top of load.
H	1 or 2 ea. end of load.	Two 1 in. x 6 in., spaced 4 in. apart, or one 1 in. x 12 in. full width of load. Nail to inside face of each Item "C" with three 10-D nails at each location for 6 in. boards and five 10-D nails at each location for 12 in. boards. Upper edge of top board must be flush with top of load.
J	1 ea. pr. Items "B".	4 strands, No. 11 ga. wire, secured to opposite Items "B".

See General Rules 4, 5, 9, 10, 14 and 15 for further details.

PEELED PULPWOOD, OVER 6 FT. LONG, HEIGHT NOT TO EXCEED 5 FT. 2 IN. ABOVE TOP OF CAR SIDES OR ENDS, MAXIMUM HEIGHT 9 FT. ABOVE FLOOR—CROSSWISE—GONDOLA CARS

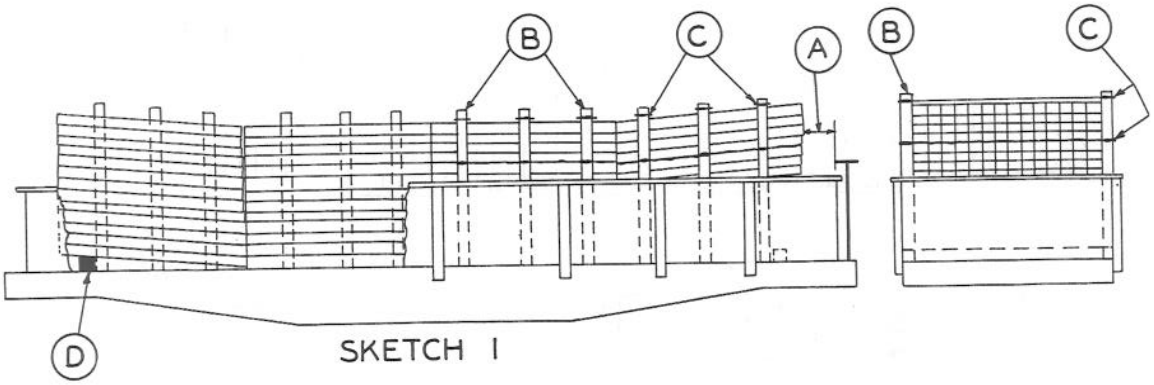




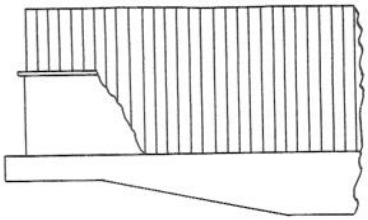
Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	As required.	Stakes, saplings or slabs not less than 3 in. thick, long enough to extend from floor to top of load. Two slabs may be nailed together to provide the 3 in. thickness. Locate, as shown, on each side of load suitably spaced and not over 7 ft. apart.
C	To suit.	Stakes, saplings or pulpwood, long enough to extend from floor to top of load. Locate vertically, side by side, to provide solid wall between car sides. Use short material to provide required brake wheel clearance.
D	2 ea. end of load.	Two strands, No. 11 ga. wire or equivalent. Wrap around end side stakes and corner end stakes about 8 in. from top of stakes per Sketch 3, twist taut.
E	As required Sketch 1.	Wire mesh, to suit, extending from top of car side to top of load, and located close enough together to prevent any portion of load from moving beyond sides of car. They must be long enough to wrap around each side stake located nearest ends of car. When 18 in. width or less is used, secure to inside face of each side stake with two wrappings of not less than No. 14 gage wire, twisted taut. Use one additional tie, located at approximate center, when wire mesh exceeding 18 in. in width is used. Use of nails, or staples, for attaching wire mesh to stakes is prohibited. Substitute, if desired, 1 in. x 6 in. boards, long enough to extend slightly beyond each side stake nearest to ends of car. Locate upper edge of top piece at top of load and pieces below close enough together to fully prevent any portion of the load from extending beyond sides of car and nail each to inside face of each Item "B" with three 10-D nails. Ends must overlap each other at least 8 in. and each overlap must be secured with four 10-D nails clinched on back.

See General Rules 4, 5, 9, 10, 14 and 15 for further details.

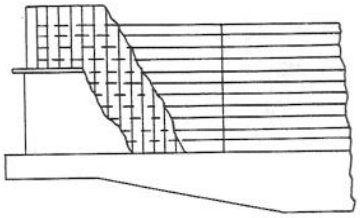
FENCE POSTS, CORDWOOD, TIES, MINE PROPS, PEELED PULPWOOD, ETC.—GONDOLA CARS WITH SIDES 42 IN. HIGH, OR OVER



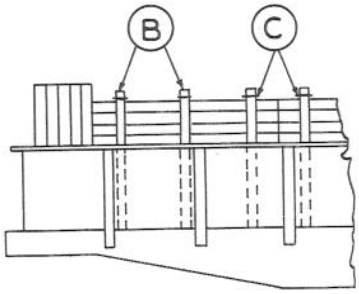
SKETCH 1



SKETCH 2



SKETCH 3



SKETCH 4

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	3 pr. per pile.	Stakes, hardwood, southern pine, long leaf pine, fir, spruce, larch, hemlock or green saplings. Not required on loads per Sketches 2 and 3.
C	2 ea. pr. Items "B".	4 strands, No. 11 ga. wire, secured to opposite Items "B", twisted taut. Lower Item "C" not required when height of load above top of car sides is 30 in. or less.
D	Sketch One, 2.	8 in. x 8 in., length about equal to width of car. Locate one under each end of load.

The height of vertical pieces in loads per Sketches 2, 3 and 4 must not exceed 5 ft. 6 in. above top of car sides. The height of longitudinal portion of load, per Sketch 3, must not be more than 50 percent above top of car sides and at least 1 ft. below top of vertical pieces.

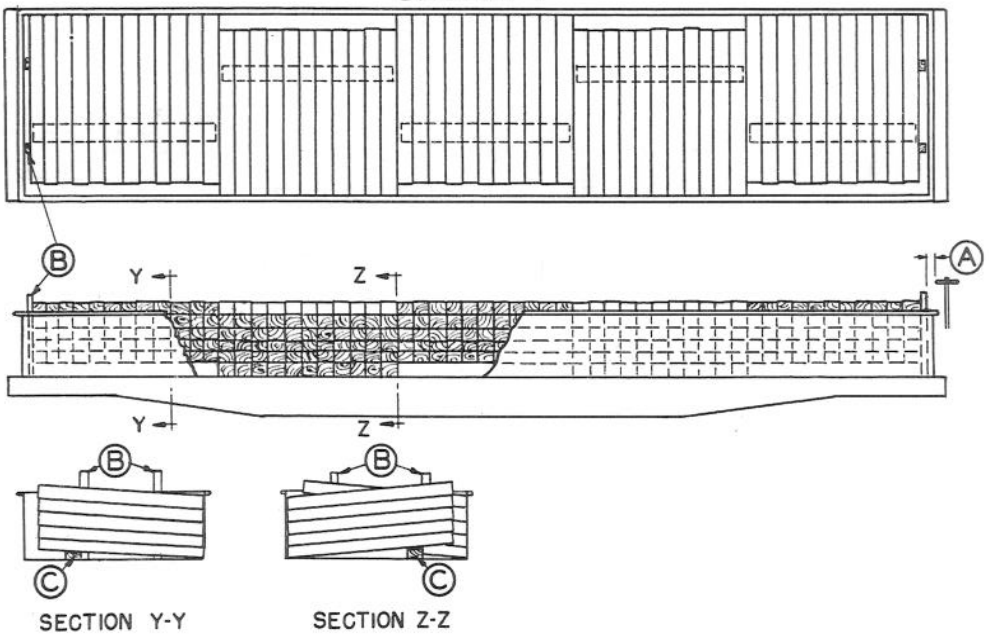
When vertical end and side pieces or walls per Sketches 2, 3 or 4 are used, the load must be filled in solid to prevent the walls from becoming displaced.

See General Rules 4, 5, 9, 10, 14 and 15 for further details.

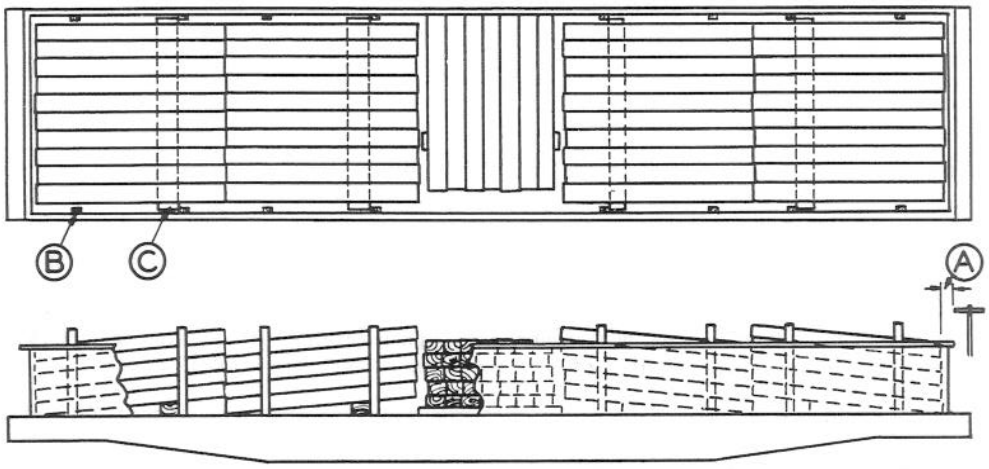
Sec. 5—Fig. 13

TIES—GONDOLA CARS WITH SIDES 42 IN. HIGH OR OVER

SKETCH 1



SKETCH 2



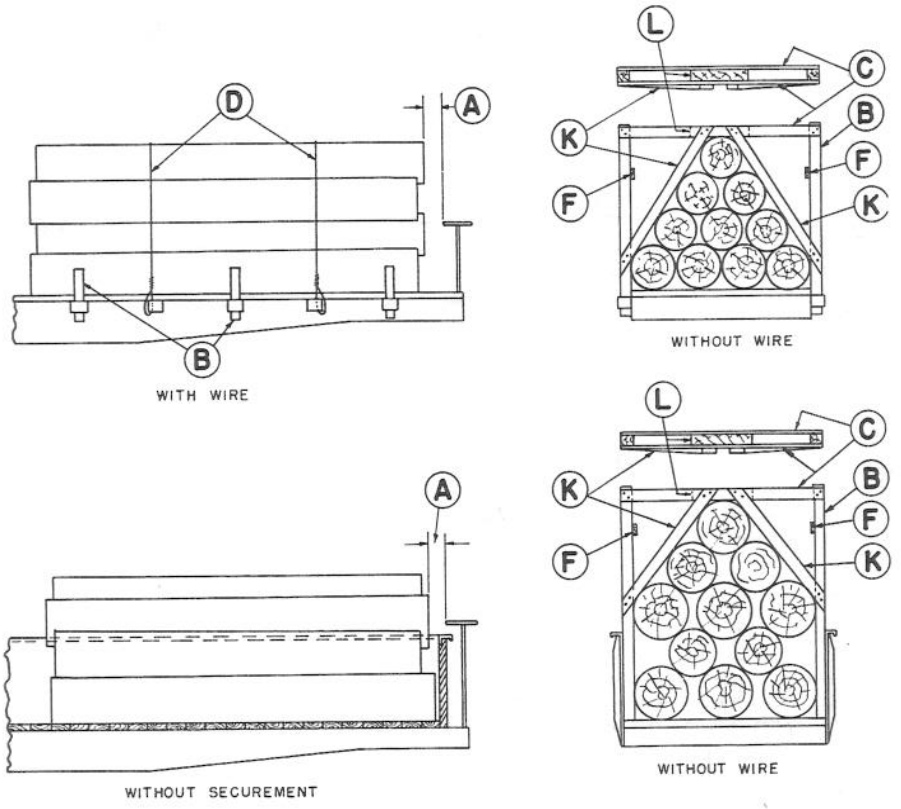
Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	As required.	2 in. x 4 in., length equal to height of pile. On loads, per sketch 1, locate two at each end of car suitably spaced. On loads, per sketch 2, locate two suitably spaced on each side of each pile.
C	1 per pile.	Bearing piece, length equal to width of pile, located as shown.

Top portion of ties in top layers of piles must not extend more than one-half their thickness above top of car sides.

See General Rules 4, 5 and 9 for further details.

Sec. 5—Fig. 14

LOGS 25 IN. OR OVER IN DIAMETER, 12 FT. LONG OR OVER, IN PYRAMIDAL FORM—FLAT OR GONDOLA CARS AND LOGS LESS THAN 12 FT. LONG IN GONDOLA CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	Pile 12 ft. to 20 ft. long, 3 pair. Add 1 pair for ea. additional 5 ft. or less in length, over 20 ft. long.	Stakes, or green saplings, per General Rule 10. Flat cars—Items "B" must be long enough to extend to center of log in lower tier when Items "D" are used. When Items "D" are not used, Items "B" must extend 6 in. above top of load. Gondola cars—Items "B" must be long enough to extend from floor to 6 in. above top of load. Not required when logs in top layer adjacent to car sides extend ⅓ or more below top of car sides and when logs between those against car sides extend 4 in. or more below top of car sides or ends.
C	2 ea. pr. Items "B".	Stake Ties, per General Rule 10.
D	Pile 12 ft. to 20 ft. long, 2. Add 1 for each additional 5 ft. or less in length, over 20 ft. long.	Binders, 5 strands No. 11 gage, common annealed wire equally spaced. Secure to opposite stake pockets on flat cars, or thread through car side, between top and second side plank on gondola cars. Not required when Items "C", "F", "K" and "L" are used. Substitute, if desired, at each location, cables of equal strength, or one 1¼ in. x .035 in. high tension band or two No. 8 gage high tension wires.
E		VACANT.
F	As required.	Longitudinal ties 1 in. x 5 in., long enough to extend 4 in. beyond Items "B" nearest to each end of pile. Nail to inside face of each Item "B" midway between Items "C" and Items "K" with three 8-D nails.
G		VACANT.
H		VACANT.
J		VACANT.
K	1 ea. Items "B".	Brace, 1 in. x 5 in., long enough to extend from Items "B" to Items "C". Locate about 2 in. from load. Nail to Items "B" and "C" with five 8-D nails at each location.
L	1 ea. pr. Items "C".	Block, 4 in. x 5 in. x 24 inches. Locate between Items "C" and nail to each Item "C" with four 8-D nails.

Items "C", "F", "K" and "L" are not required when Items "D" are used.

Logs in each pile must be nested fully and butts alternated to equalize load.

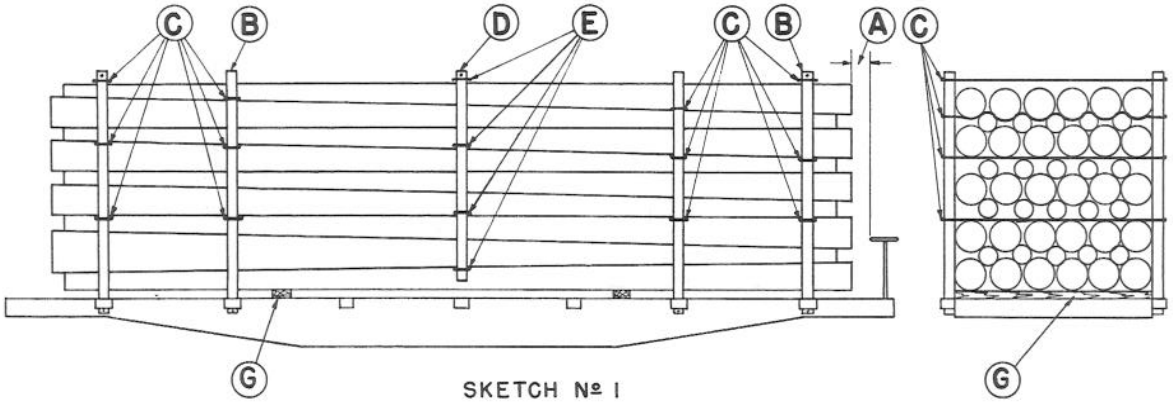
Logs of any diameter less than 12 ft. in length must be loaded in gondola cars and logs in top layer must extend not less than ⅓ of their diameter below top of car sides or ends.

Place piles as close together as possible.

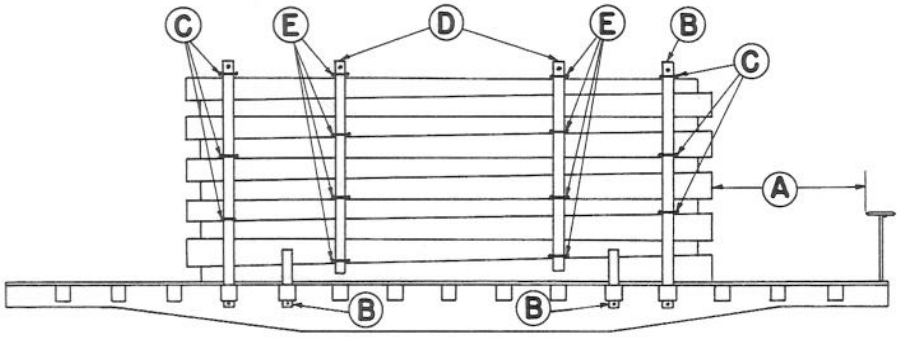
See General Rule 15 for further details.

Sec. 5—Fig. 15

ENTIRELY CREOSOTED AND OTHER POLES 12 FT. LONG OR OVER—FLAT CARS



SKETCH Nº 1



SKETCH Nº 2

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Figure 2.
B	4 pair per pile.	Stakes, or green saplings, per General Rule 10. On piles 25 ft. long or less, substitute, if desired, for the two inside pairs, stakes long enough to extend to center of poles in second layer.
C	Piles 8 ft. high or less, 2 ea. pr. Items "B". Piles over 8 ft. high, 3 ea. pr. Items "B".	Stake ties, 6 strands, No. 11 ga. common annealed wire. Place the top ties on stakes nearest ends of pile across top of pile and twist taut. Place the top ties on inside long stakes underneath top layer. Place intermediate ties as equally as possible between floor and top ties. Substitute, if desired, at each location shown, two strands of No. 8 or No. 10 gage high tension wire.
D	Piles 25 ft. long or less, 2 pr. Piles over 25 ft. long, 1 pr.	Binders, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size 4 in. x 5 in. sawed, or hardwood saplings 5 in. dia. measured midway between top and bottom. Locate approximately at center of pile when one pair is used, and one pair about 1/3 length of poles from each end of pile when two pairs are used. Lower end must clear top of floor about 2 inches.
E	As required.	Binder ties, 6 strands No. 11 ga. common annealed wire, secured to each Items "D" as follows: Place one over bottom layer and one over top layer twisted taut, top tie to contact poles. For poles in piles 4 ft. high or less, place one tie midway between top and bottom ties; on piles over 4 ft. to 8 ft. high, place 2 intermediate ties spaced equally between top and bottom ties; for loads over 8 ft. high, place 3 intermediate ties spaced equally between top and bottom ties. Tighten intermediate ties only enough to remove slack. Use staples or nails bent over to prevent top Items "E" from working off Items "D". Substitute, if desired, at each location shown, two strands of No. 8 or No. 10 gage high tension wire.
F		VACANT.
G	2 per pile.	Bearing pieces, 1 in. x 2 in., length equal to width of car, secured to prevent shifting. (Use and location optional.)

When ends of two piles are interlaced 36 inches or less, use 6 pairs of stakes, Items "B", equally spaced.

Nest poles fully and alternate butts to equalize load.

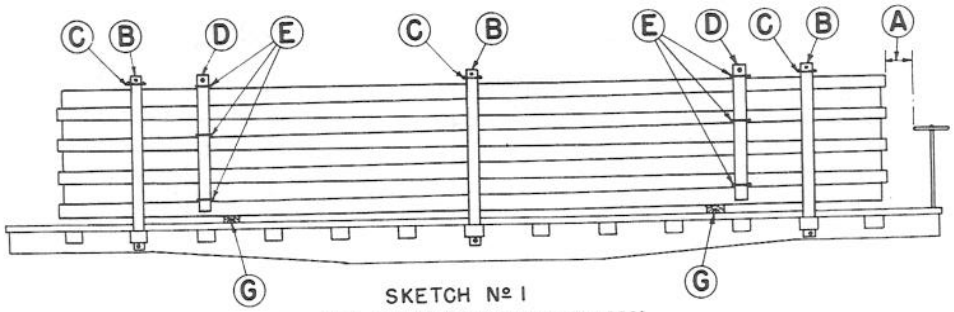
When load contains poles of various lengths, the longest poles should be placed in lower portion of load.

Place piles as close together as possible.

See General Rule 15 for further details.

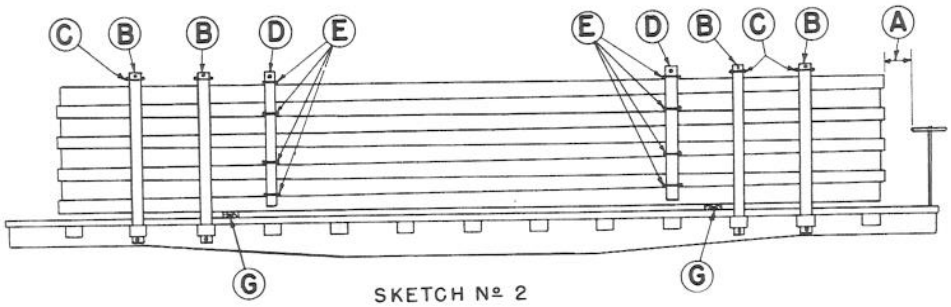
Sec. 5—Fig. 16

ENTIRELY CREOSOTED AND OTHER POLES, 12 FT. LONG OR OVER—FLAT OR GONDOLA CARS



SKETCH Nº 1

(FOR LOADS 7 FT. 6 IN. HIGH OR LESS)



SKETCH Nº 2

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
	Piles 7 ft. 6 in. high or less, 3 pr. Piles over 7 ft. 6 in. high, 4 pr.	Stakes, or green saplings, per General Rule 10.
C	1 ea. pr. Items "B".	Stake ties, 6 strands No. 11 ga. common annealed wire, twisted taut. Substitute, if desired, at each location shown, two strands of No. 8 or No. 10 gage high tension wire.
D	2 pr. per pile.	Binders, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size 4 in. x 5 in. sawed, or hardwood saplings 5 in. diameter measured midway between top and bottom. Locate above first stake pocket back of Item "B" toward center of pile. Lower end must clear top of floor about 2 inches.
E	As required.	Binder ties, 6 strands No. 11 ga. common annealed wire, secured to each pair Items "D" as follows: Place one over bottom layer and one over top layer twisted taut, top tie to contact poles. For poles in piles 4 ft. high or less, place one tie midway between top and bottom ties; on piles over 4 ft. to 8 ft. high, inclusive, place two intermediate ties spaced equally between top and bottom ties; on piles over 8 ft. high, place 3 intermediate ties spaced equally between top and bottom ties. Tighten intermediate ties only enough to remove slack. Use staples or nails bent over to prevent top Items "E" from working off Items "D". Substitute, if desired, at each location shown, two strands of No. 8 or No. 10 gage high tension wire.
F		VACANT.
G	2 per pile.	Bearing pieces, 1 in. x 2 in., length equal to width of car, secured to prevent shifting. (Use and location optional.)

Nest poles fully and alternate butts to equalize load.

When load contains poles of various lengths, the longest poles should be placed in the lower portion of the load.

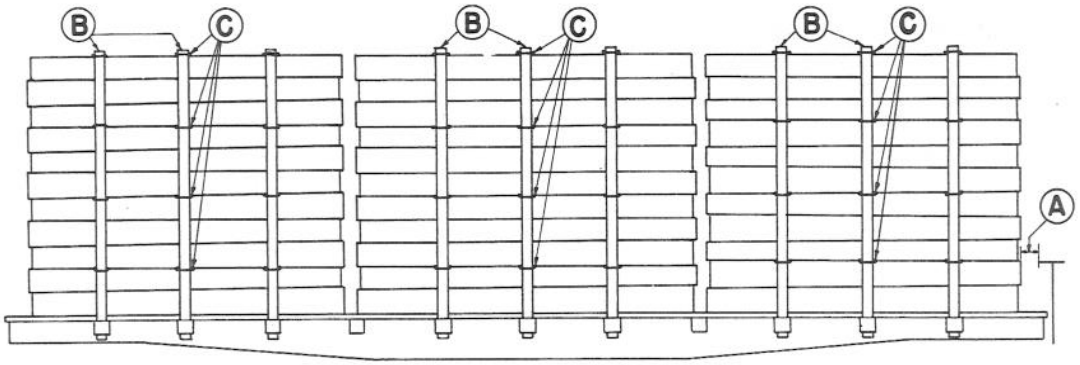
Place piles as close together as possible.

Items "D" and "E" not required on poles loaded in gondola cars. When not used, apply one Item "C" underneath first layer of poles above top of car sides and add another Item "C" to each pair of Items "B", midway between top of load and top of car sides, when height of pile exceeds 4 ft. above top of car sides.

See General Rule 15 for further details.

Sec. 5—Fig. 17

UNTREATED AND BUTT TREATED CEDAR POLES, 12 FT. TO 25 FT. LONG—FLAT CARS



Item	No. of Pcs.	Description
A		Brake Wheel Clearance. See Fig. 2.
B	Pile 12 ft. to 20 ft. long, 3 pr. per pile. Pile over 20 ft. to 25 ft. long, 4 pr. per pile.	Stakes, or green saplings, per General Rule 10.
C	Pile 8 ft. high or less, 3 ea. pr. Items "B". Pile over 8 ft. high, 4 ea. pr. Items "B".	Stake ties, 6 strands, No. 11 ga. common annealed wire. Place one not more than 24 in. above floor, and one over top layer of poles twisted taut. Space intermediate ties as equally as possible between top and bottom ties.

Nest poles fully and alternate butts to equalize load.

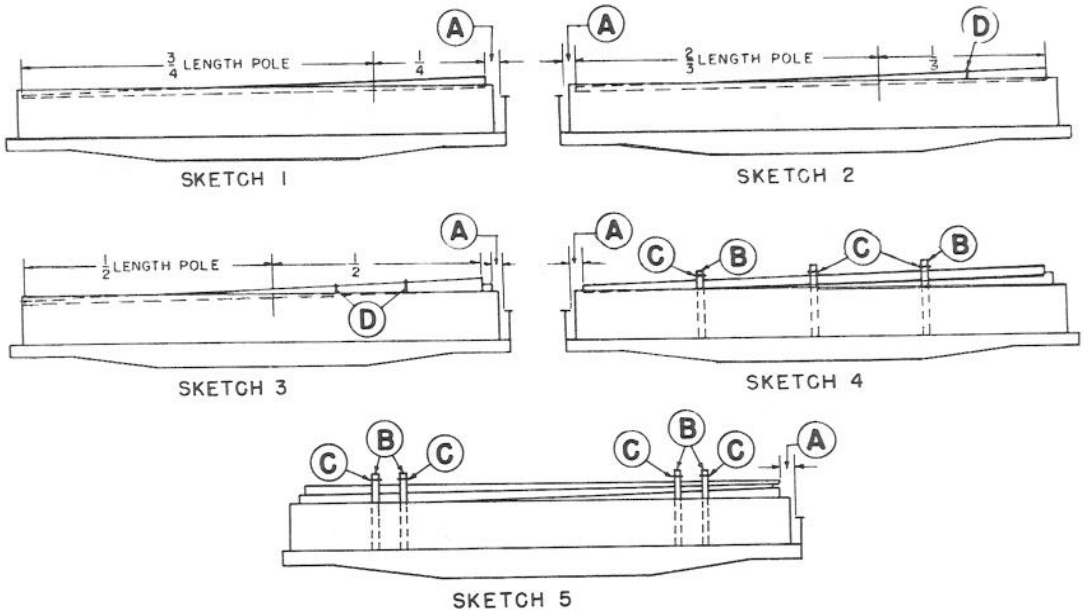
When load contains poles of various lengths, the longest poles should be placed in the lower portion of load.

Place piles as close together as possible.

See General Rule 15 for further details.

Sec. 5—Fig. 18

POLES OTHER THAN CREOSOTED 20 FT. LONG OR OVER—GONDOLA CARS

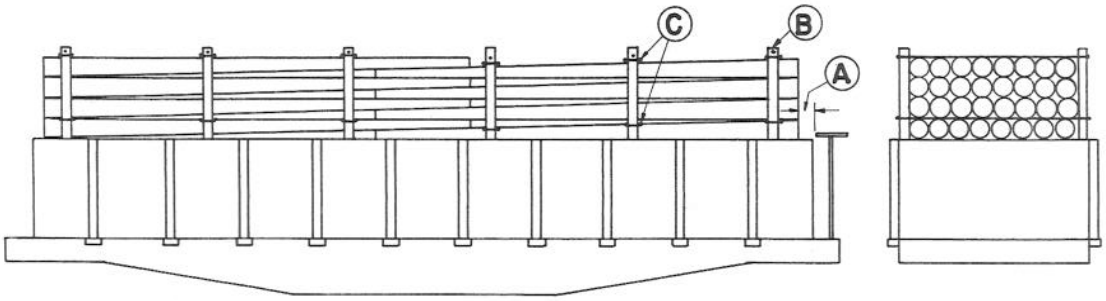


Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	Sketch 4, 3 pr. per pile;	Stakes, or green saplings, per General Rule 10. On loads per Sketch 4, locate one pair about one-fourth length of poles from each end and one pair at center.
	Sketch 5, 4 pr. per pile.	On loads per Sketch 5, locate one pair about one-fifth length of poles from each end and intermediate stakes about 4 ft. from end stakes. Not required for loads per Sketches 1, 2 or 3.
C	As required.	Stake ties, per General Rule 10. Piles less than 3 ft. high above top of car sides, 1 ea. pr. Items "B", ties to contact poles. For piles 3 ft. to 4 ft. high above top of car sides, add 1 to each pr. of Items "B" near top of car sides. For piles over 4 ft. high above top of car sides, add 1 to each pr. of Items "B" midway between top and bottom ties.
D	1 per pile, Sketch 2; 2 per pile, Sketch 3.	Binder, 4 strands No. 11 ga. common annealed wire; place over top of load and through car sides or lading anchors, secure and twist taut. For Sketch 2, locate about 6 ft. from butt ends of poles. For Sketch 3, locate each about ⅓ distance from butt ends to center of pile.

On loads per Sketches 4 and 5, nest poles fully and alternate butts to equalize load.

See General Rule 15 for further details.

ENTIRELY CREOSOTED AND OTHER POLES, PILING, ETC., 12 FT. LONG OR OVER—GONDOLA CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	When not interlaced: Pile 20 ft. long or less, 3 pr. Pile over 20 ft. long, 4 pr.	Stakes, or green saplings, per General Rule 10.
C	As required.	Stake ties, per General Rule 10. Piles less than 3 ft. high above top of car sides 1 ea. pr. Items "B". For piles 3 ft. to 4 ft. high, inclusive, above top of car sides, add 1 to each pr. of Items "B" near top of car sides. For piles over 4 ft. high above top of car sides add 1 to each pr. of Items "B" midway between top and bottom ties.

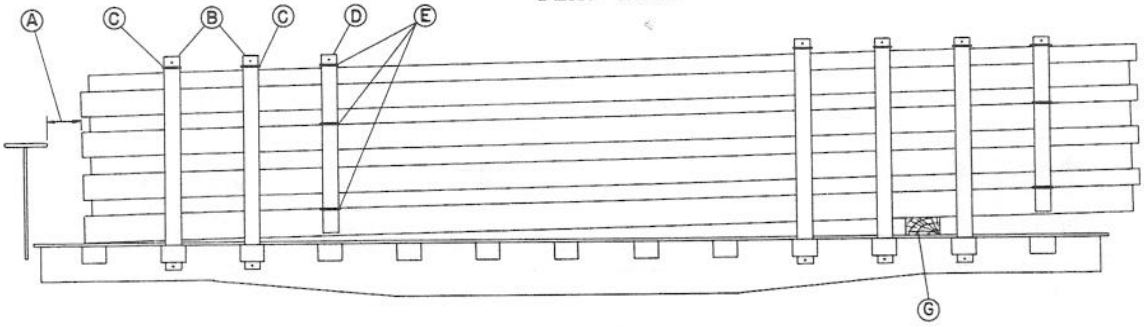
Items "B" and "C" not required when half the diameter of poles 12 in. or more in diameter in top layer is below top of car sides.

When ends of 2 piles are interlaced 36 in. or less, use 6 pr. of stakes, Item "B", for total length of load, unless interlace exceeds 36 in. when 5 pr. of stakes for total length of load may be used with one pair at center of interlaced ends.

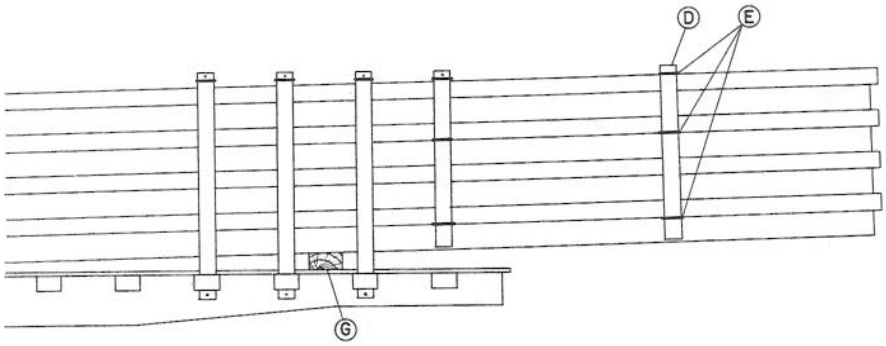
When poles are not interlaced, the butts must be alternated to equalize load.

See General Rule 15 for further details.

ENTIRELY CREOSOTED AND OTHER POLES, PILING, ETC.—SINGLE OVERHANG—DROP END GONDOLA OR FLAT CARS



SKETCH NO. 1



SKETCH NO. 2
(FOR OVERHANG 15 FT. LONG OR OVER)

Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	5 pr. per pile.	Stakes, or green saplings, per General Rule 10. Locate in adjacent stake pockets near ends of car on flat cars or not less than 2 ft. nor more than 4 ft. apart on gondola cars near ends, with 3 pairs at overhanging end.
C	1 ea. pr. Items "B".	Stake ties, 6 strands, No. 11 ga. common annealed wire, twisted taut.
D	As required.	Binders, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size 4 in. x 5 in. sawed, or green saplings 5 in. dia., measured midway between top and bottom. Locate two pairs, one above first stake pocket back of inside Items "B" at rear end of load and one above first stake pocket at overhanging end in front of Items "B." Lower ends must clear floor about 2 in. When overhang is 15 ft. long or over place additional binder, or one 2 in. x .050 in. high tension bands, on overhanging portion located not less than 6 ft. from end of load. Lower end of binder on overhanging portion must not extend below bottom layer of poles.
E	As required.	Binder ties, 6 strands No. 11 ga. common annealed wire secured to each Item "D" as follows: Place one over bottom layer and one over top layer, twisted taut, top tie to contact poles. For poles in pile 6 ft. high or less place one tie midway between top and bottom ties; on pile over 6 ft. high place two intermediate ties spaced equally between top and bottom ties. Tighten intermediate ties only enough to remove slack. Use staples or nails bent over to prevent top Items "E" from working off Items "D". Substitute, if desired, at each location, 2 strands No. 8 ga. high tension wire.
F		VACANT.
G	1 or 2.	Bearing pieces, 8 in. wide, top and bottom. Locate over center of truck and secure in position with two ¾ in. dia. bolts or by placing two 2 in. x 6 in. x 12 in. blocks, or equivalent, against each side, securely nailed or bolted to floor. Not required when poles in overhanging portion of load will clear floor of idler car 4 inches.

Nest poles fully and alternate butts to equalize load. When load contains poles of various lengths, the longest poles should be placed in the lower portion of the load.

Third pair of stakes, Items "B", at overhanging end of load per Sketch 1 may be omitted provided additional binder ties, Items "E", are applied between each layer of poles on outside binder, Item "D", at overhanging end of load.

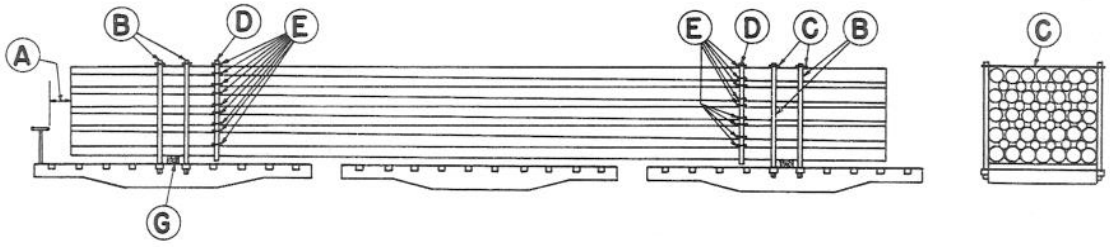
Items "D" and "E" not required on poles loaded in gondola cars, except on overhanging end when it is necessary to narrow load or where third pair of stakes are omitted. When not used, apply one Item C underneath first layer of poles above top of car sides and add another Item "C" to each pair of Items "B", midway between top of load and top of car sides, when height of pile exceeds 4 ft. above top of car sides.

For narrowing loads, use method shown in Figure 5-B.

See General Rules 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16 and 21 for further details.

Sec. 5—Fig. 21

ENTIRELY CREOSOTED AND OTHER POLES, PILING, ETC.—TWO OR THREE FLAT CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	4 pair.	Stakes, or green saplings, per General Rule 10. Place in adjacent stake pockets and locate per Tables 3 to 35, inclusive.
C	1 ea. pr. Items "B".	Stake ties, 6 strands, No. 11 ga. common annealed wire, twisted taut.
D	Pile 115 ft. long or less, 2 pr. Pile over 115 ft. to 120 ft., 3 pr. Pile over 120 ft., 4 pr.	Binders, hardwood, southern pine, long leaf pine, fir, spruce, larch or hemlock, minimum size 4 in. x 5 in. sawed, or saplings 5 in. dia. measured midway between top and bottom. When two pair are used, locate above first stake pocket back of each inside pair Items "B". When 3 pair are used, locate one pair above first stake pocket back of each inside pair Items "B" toward center of load, and one pair at center of idler car or over couplers between cars of double loads. When 4 pair are used, locate one pair above first stake pocket back of each inside pair Items "B" and one pair over coupler at each end of idler car. Items "D" must not extend below the bottom layer of poles. Substitute if desired for each intermediate Item "D", one $\frac{5}{8}$ in. steel cable or two 2 in. x .050 in. high tension bands applied at locations specified.
E	As required.	Binder ties, 6 strands No. 11 ga. black annealed wire, secured to pair Items "D" as follows: Place one over bottom layer and one over top layer, twisted taut, top ties to contact poles. For entirely creosoted poles, place intermediate ties between each layer of poles. For other poles in loads 4 ft. high or less, place one tie midway between top and bottom ties; on loads over 4 ft. high, place 2 intermediate ties spaced equally between top and bottom ties. Tighten intermediate ties only enough to remove slack. Use staples or nails bent over to prevent top Items "E" from working off Items "D". Substitute, if desired, at each location shown, 2 strands of No. 8 ga. high tension wire.
F		VACANT.
G	2	Bearing pieces, 10 in. wide, top and bottom, high enough to maintain 4 in. clearance between load and floors. Secure in position with two $\frac{3}{4}$ in. diameter bolts, or by placing three 2 in. x 4 in. x 18 in. cleats, lengthwise of car, against each side of bearing piece, securely nailed or bolted to floor. Bearing pieces must also be toe-nailed to car floor at 3 locations on each side.

For loads on two cars, the loading of short poles interlaced at least 36 in. at center is permissible, provided poles in the two bottom layers, the two top layers, and those comprising the outer walls are long enough to extend beyond the stakes nearest to outer ends of cars.

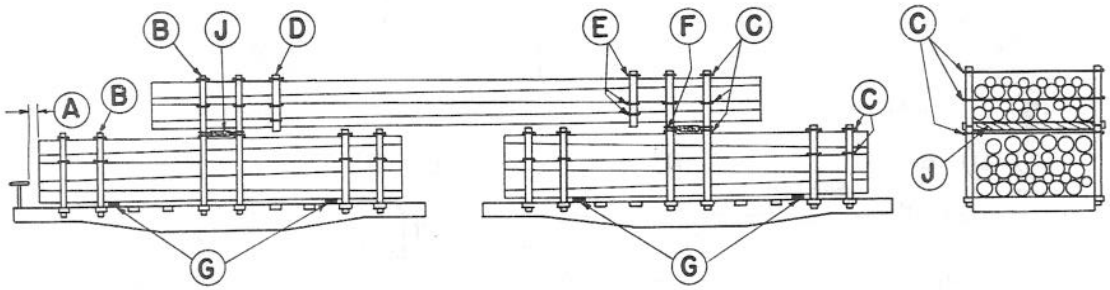
Nest poles fully and when poles are not interlaced, the butts should be alternated to equalize load.

For narrowing loads, use methods shown in Fig. 5-A.

See General Rules 4, 5, 6, 7, 8, 9, 12, 15, 16, 18 and 21 for further details.

Sec. 5—Fig. 22

LONG POLES, PILING, TELEGRAPH POLES, ETC., LOADED ON TOP OF SINGLE LOADS—FLAT OR GONDOLA CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	12 pairs.	Stakes, or green saplings, per General Rule 10. Locate 2 pair near each end of each lower portion of load and 2 pair each car long enough to extend 6 in. above upper portion of load and spaced not less than 2 ft. nor more than 4 ft. apart on gondola cars or in adjacent stake pockets on flat cars.
C	2 ea. pr. Items "B" for lower portion of load. 3 ea. pr. Items "B" for upper portion of load.	Stake ties, 8 strands No. 11 ga. common annealed wire. Lower ties may be omitted from stakes on lower portion of load when lower portion does not exceed 5 ft. above floor on flat cars, or for loads in gondola cars. Intermediate ties may be omitted from stakes on upper portion of load when upper portion does not exceed 5 ft. above bearing pieces.
D	2 pairs.	Binders, hardwood, southern pine, long leaf pine, fir, spruce, larch, hemlock, or green saplings minimum 4 in. dia. measured midway between top and bottom. Lower end not to extend below bottom layer of poles. Required only when upper portion of load exceeds 3 ft. above bearing pieces.
E	3 ea. pr. Items "D".	Binder ties, 8 strands No. 11 ga. common annealed wire, secured to each pair Items "D" as follows: Place one over bottom layer and one over top layer, twisted taut, top tie to contact poles, and one midway between top and bottom ties. Tighten intermediate ties only enough to remove slack. Use staples or nails bent over to prevent top Items "E" from working off Items "D".
F	2 ea. Item "J".	Ties, 8 strands No. 11 ga. common annealed wire, passed around Items "B" and in the notches of Item "J". Twist taut between Items "B" and "J".
G	2 per car.	Bearing pieces, 1 in. x 2 in., length equal to width of car, secured to prevent shifting. Use and location optional.
H		VACANT.
J	2 per load.	Bearing pieces, minimum 10 in. bearing surface top and bottom, long enough to extend to outer face of stakes, and thick enough to provide 4 in. clearance between upper and lower portions of load including stakes. Must be placed on lower portions of load so that height from top of car floor to top of each end of bearing pieces will remain approximately the same height in transit. Cut notches 2 in. deep top and bottom near ends to hold Items "F" in position.

The maximum aggregate weight must not exceed ninety per cent of the capacity of the two cars, and the weight of top portion must not exceed one-half the total weight of load.

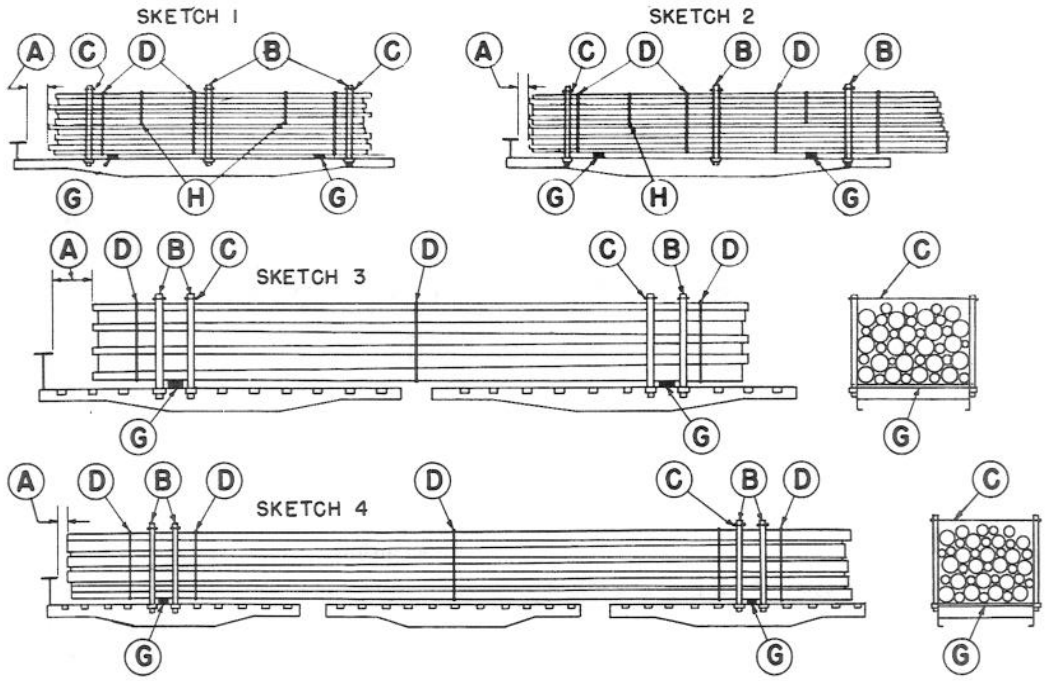
Nest poles fully and alternate butts to equalize load.

For narrowing top portion of load, use method shown in Fig. 5-A.

See General Rules 4, 5, 6, 7, 9, 12, 15, 18 and 21 for further details.

Sec. 5—Fig. 23

ENTIRELY CREOSOTED, AND OTHER POLES, WITH HIGH TENSION BANDS—FOR SINGLE LOADS OR LOADS ON ONE FLAT OR GONDOLA CAR OVERHANGING ONE OR BOTH ENDS OF CAR OR LOADS ON TWO OR THREE FLAT CARS



Item	No. of Pcs.	Description
A		Brake wheel clearance. See Fig. 2.
B	Sketches 1 and 2, 3 or 4 pair. Sketches 3 and 4, 4 pair.	Stakes, or green saplings, per General Rule 10. On loads per Sketches 1 and 2, 7 feet high or less, locate stakes as shown on sketches; when height of load exceeds 7 feet, locate 2 pair stakes not less than 2 feet nor more than 4 feet apart near each end of load. On loads per Sketches 3 and 4, place in adjacent stake pockets and locate per Tables 3 to 35, inclusive.
C	1 each pr. Items "B".	Stake ties, 1 strand ¾ in. x .035 in. band.
D	Sketches 1 and 2, 3 per pile. When more than 100 lin. ft. of poles extend beyond one end of car, add 1 band. Sketch 3, Pile 4 ft. high or less, 3; Pile over 4 ft. to 7 ft. high, inc., 4; Pile over 7 ft. high, 5. Sketch 4, Pile 4 ft. high or less, 4; Pile over 4 ft. to 7 ft. high, inc., 5; Pile over 7 ft. high, 6.	Binders, 2 in. x .050 in. bands, suitably spaced as shown, on loads per Sketches 1, 2 and 3. On loads per Sketch 4, piles 4 ft. high or less, locate 2 bands, one about 3 ft. from each Item "B" at each end of load. On piles over 4 ft. high, locate bands in a similar manner and one band at center of load for piles over 4 ft. to 7 ft. high, and two bands at, or near, center for piles over 7 ft. high.
E		VACANT.
F		VACANT.
G	Sketches 1, 3 and 4, 2 per pile. Sketch 2, 1 or 2 per pile.	Bearing pieces, softwood, length equal to width of car, high enough to maintain 4 in. clearance between load and idler car on loads per Sketches 2, 3 and 4, height must not exceed width. Minimum width 2 in. on loads per Sketch 1; 8 in. on loads per Sketch 2; 10 in. on loads per Sketches 3 and 4. Secure to prevent shifting.
H	Sketches 1 and 2, 2 per pile.	Supplemental binders, 2 in. x .050 in. bands. Locate not less than 8 ft. apart, near center of load. Apply to upper one-half of load before Items "D" are applied. Not required on loads 6 ft. high or less.

Separators, hardwood, 2 per layer, suitably spaced, 2 in. x 4 in., or 1½ in. x 6 in., length equal to width of car but not extending beyond inside face of Items "B", may be applied to facilitate unloading. When separators are used, Items "G" must be applied about 3 ft. from end Items "B" to each two layers of poles except the top two, and wires used to tie opposite stakes, Items "B", together when loading, must not be cut at loading point. When separators are not used, wires used to tie opposite stakes, Items "B", together when loading must be cut on both sides of load before loads are allowed to go forward.

Height of load to be measured from top of floor to top of load.

Nest poles fully and alternate butts to equalize load.

When loads contain poles of various lengths the longest poles should be placed in lower portion of the load.

For narrowing loads, per Sketches 3 and 4, use methods shown in Fig. 5-A.

See General Rules 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18 and 21 for further details.