Post Office Department

RAILWAY MAIL SERVICE

Specifications for the Construction of Sixty-Foot Postal Cars

PLAN No. 1, of 1904

(Revised January, 1911)

BODY:

Inside length in the clear, 60 feet; inside width in the clear, 9 feet; height from floor to top of plate, 6 feet 9½ inches; height from floor to ceiling, at center, 9 feet 4⅞ inches.

BODY FRAME:

Composed of ten (10) sills. Side sills each composed of two pieces; outside piece to be 5 inches by 8½ inches; inside piece, or sub-sill, to be 2½ inches by 7¾ inches.

A plate of steel ½ inch by 8 inches, to extend back from end sill to center of car, between the sills, and end turned to form angle against end sill; plates to have cover plate ⅜ inch by 12 inches by 8 inches at break, held in place by eight (8) ⅝-inch counter-sunk head bolts; main plates counter-sunk for bolt heads on side next main sill; outside sill, sub-sill and plate to be firmly bolted together with ⅝-inch bolts, staggered and not more than eighteen (18) inches apart.

Center sills 5 inches by 7¾ inches, also plated with ½ inch by 7¾ inches steel on outside face, to extend back eighteen (18) feet from each end of car and turned over to form angle against end sill. This plate must not be cut to receive tenons on bridging, but a sub-sill, 1½ inches by 7¾ inches by 15 feet 6 inches in length, of yellow pine, bolted to plate and sill, must be mortised for the bridging.

Intermediate sills: Two (2) on each side of car, 4 inches by 7¾ inches, between center and side sill.

END SILLS:

White oak, thoroughly seasoned, composed of two pieces with ¾ inch by 8 inches steel plate between them. Front piece to be 4½ inches by 8½ inches; back piece to be 3½ inches by 8½ inches; back piece rabbeted to receive first floor.

PLATFORM:

To be short standard steel "I" beam construction; to be put up in accordance with the established standard practice.

To have 14 inches by 7½ inches white oak buffer beam, plated on top surface with ¾-inch steel to conform with shape of buffer beams; plate to be held in place by counter-sunk head bolts fitted with check nuts; wearing surface, opposite door, to be machined to a diamond pattern top surface.

Buffer beam to be secured to end sills by at least eight (8) ¾-inch bolts, and to rest on, and be secured by bolts to, eye beams.

Two 7-inch bulb beams, 23.46 lbs. to the foot, as shown in drawing, will be installed at each end of car. Bulb and web of beam to be cut away, allowing flange to project down between end sill and serve as a truss-rod washer, and also fastened to top of plate covering platform by means of angle-iron brace securely bolted to each side of beams; top of beams to be butted to end plate, and flange to rest against stiffening plates on end post. The poplar strips encasing bulb beams to be formed on the inside to take the shape of beams, and be securely through-bolted by means of round-head bolts and nuts. All bolts to be center-punched on nut end after tightening up nut in place. When bulb beams can not be readily obtained "T" rails 80 pounds to the yard may be used instead.

END PLATES:

End plates to be three (3) inches thick, with steel plate, ⅜ inch by 6 inches, on inner side and turned in to angle at end against side plate.

BRIDGING:

Two and one-half inches by five and one-half inches not over 18 inches from center to center between all sills.

FLOORING:

Two courses: Lower course $\frac{3}{4}$-inch tongue and groove, diagonally; upper course $\frac{3}{4}$-inch maple tongue and groove, laid longitudinally; boards not to be over 3 inches wide and securely nailed.

There shall be two separate courses of $\frac{7}{8}$-inch matched strips well fitted in between all sills and placed crosswise, with space between floor and top course filled with mineral wool or other suitable sound-deadening material.

STUDDING:

Studding to be not less than 2 inches by $3\frac{1}{2}$ inches, placed about 18 inches center to center.

First and fourth posts from end of car to have 2 inches by 2 inches angle iron fitted to inside corner, with one leg turned in to form angle against both sill and plate.

All end posts to be reinforced with steel plates, $\frac{3}{4}$ inch by $3\frac{1}{2}$ inches, twisted at right angles at both top and bottom, and securely bolted to both sill and plate. These plates must not be cut to receive tenons of bracing, but an extra piece, $1\frac{1}{2}$ inches by $3\frac{3}{4}$ inches, extending from end to end over flat surface of plate and mortised to receive tenons of bracing, and all to be securely bolted together.

BLOCKING:

One and one-half inches blocking on sides and ends. All spaces between post braces and girths to be tightly fitted, glued in and toe-nailed.

BRACES:

Braces to be 2 inches by 5 inches, gained, glued and screwed to posts.

SAFETY BARS:

Two bars composed of one-inch gas pipe suspended at a level of 7 feet 3 inches from top of floor to center of bar and 19 inches from center of car. The bars to extend the full length of car, care being taken to clear lamps. The bars suspended by hangers not more than 8 feet apart, secured to deck ceiling with four No. 18 wood screws. Filling blocks between ceiling and roof at each hanger. The hanger, composed of 1-inch gas pipe, screwed into collar at top and a pipe tee at bottom, receiving sections of the bar screwed in same. One iron brace $1\frac{1}{2}$ inches by $\frac{3}{8}$ inch at each hanger, extending from bar to deck sill, and secured to same with four No. 16 wood screws. The bars to be gilded.

BELT RAIL:

Belt rail not less than $1\frac{1}{2}$ inches by 4 inches, securely fastened by screws.

SIDE PLATE:

Side plate to be long-leaf yellow pine, thoroughly seasoned, 3 inches by 5 inches, with one splice on each piece, located diagonally from splice on opposite plate.

RAFTERS AND CARLINES:

Rafters to be $1\frac{5}{8}$ inches thick, placed about 17 inches center to center.

Ten (10) iron carlines, $\frac{5}{8}$ inch by 2 inches, following the contour of upper and lower deck.

ROOF:

Roof to be coverered with best quality of canvas, excepting hoods, which are to be covered with galvanized iron.

NEEDLE BEAMS:

Four (4) needle beams of white oak, each 5 inches by 7 inches, trussed with two $\frac{5}{8}$-inch truss rods, applied in the usual manner.

TRUSS RODS:

Four (4) truss rods, $1\frac{1}{2}$ inches in diameter, with $1\frac{3}{4}$-inch ends, and connected in center with turnbuckle.

BODY BOLSTER:

The body bolster should be of the double type; top plate, 1 inch by 10 inches; bottom plate, $1\frac{1}{4}$ inches by 10 inches.

VESTIBULES:

Standard short vestibule with diaphragm complete.

TRUCKS:

Axles should not be smaller than M. C. B. standard for 40-ton cars, with bearings and oil boxes in proportion. There should be safety straps under the spring plank and brake beams. Wheel pieces should be plated on both sides with ½-inch iron. There should be six wheels (steel tired preferred) to each truck, with total wheel base of not less than ten (10) feet. Side bearings should be of a section of not less than 2 inches by 3 inches. Equalizing bars, 2½ inches by 7 inches, made of axle steel.

BRAKES:

Automatic high-speed air brakes of the latest design.

LUMBER:

All lumber must be thoroughly seasoned and of the very best quality for the purpose intended. Framing timbers of white oak, yellow poplar and long-leaf southern yellow pine.

PAINTING STRUCTURAL STEEL:

All structural steel used in the cars to be given two coats of red lead and linseed oil, over shop coat of paint, before placing such metal in position. All exposed steel work to receive two additional coats of graphite paint of approved color.

ALEXANDER GRANT,
General Superintendent.

APPROVED:

JOSEPH STEWART,
Second Assistant Postmaster General.

APPROVED:

FRANK H. HITCHCOCK,
Postmaster General.

WASHINGTON, D. C., *January 27, 1911.*

NOTE 1.—For cars of shorter length, no change is to be made in end construction, in sections, in number of sills, or in plating. The intermediate framing for shorter cars to be fully proportionate to that for sixty (60) foot cars. Where four-wheel trucks are used on short cars, the bolster may be single, instead of double, and, where single, to have top and bottom plates 8 inches by 1 inch.

NOTE 2.—It is desired that all railway post office cars built hereafter shall be equipped with Pintsch gas or electric light, if any of the other cars on the same line are so equipped.

NOTE 3.—The Gould Coupler Company's "Z" Beam construction for platforms and the American Car and Foundry Company's Twin Steel Channel Platform having been found to be as satisfactory as the "I" Beam construction called for in these specifications, they may be used in place thereof.

NOTE 4.—The American Steel Body Double Bolster may be substituted for the made-up bolster in these specifications.

NOTE 5.—Asbestos, mineral wool or other non-inflammable substance must be used as a deafening material.

Note 6.—The foregoing specifications are intended to indicate the minimum in strength of construction that will be acceptable in a railway postal car. The Department will insist upon railway postal cars comparing favorably as to strength of construction with any other cars in the same train. When a railway postal car is operated in a train with steel or steel underframe cars, the railway postal car must also be of steel or steel underframe construction.

Note 7.—Before a car is constructed, the railroad company should confer with the division superintendent, Railway Mail Service, in regard to the interior fittings and their arrangement. Provision must be made for not less than—

600 separations for letters and 200 for papers in 60-foot cars.
500 " " " " 150 " " " 50 " "
400 " " " " 120 " " " 40 " "

POST OFFICE DEPARTMENT

Railway Mail Service

SPECIFICATIONS FOR THE CONSTRUCTION OF SIXTY-FOOT POSTAL CARS

Plan No. 1, of 1904

(Revised January, 1911)

PLAN NO. 1

BODY:

Inside length in the clear, 60 feet; inside width in the clear, 9 feet; height from floor to top of plate, 6 feet 9½ inches; height from floor to ceiling, at center, 9 feet 4 7/8 inches.

BODY FRAME:

Composed of ten (10) sills. Side sills each composed of two pieces; outside piece to be 5 inches by 8½ inches, inside piece, or sub-sill, to be 2½ inches by 7 3/4 inches.

A plate of steel ½ inch by 8 inches, to extend back from end sill to center of car, between the sills, and end turned to form angle against end sill; plates to have cover plate 3/8 inch by 12 inches by 8 inches at break, held in place by eight (8) 5/8-inch counter-sunk head bolts; main plates counter-sunk for bolt heads on side next main sill; outside sill, sub-sill and plate to be firmly bolted together with 5/8-inch bolts, staggered and not more than eighteen (18) inches apart.

Center sills 5 inches by 7 3/4 inches, also plated with ½ inch by 7 3/4 inches steel on outside face, to extend back eighteen (18) feet from each end of car and turned over to form angle against end sill. This plate must not be cut to receive tenons on bridging, but a sub-sill, 1½ inches by 7 3/4 inches by 15 feet 6 inches in length, of yellow pine, bolted to plate and sill, must be mortised for the bridging.

Intermediate sills: Two (2) on each side of car, 4 inches by 7 3/4 inches, between center and side sill.

END SILLS:

White oak, thoroughly seasoned, composed of two pieces with 3/4 inch by 8 inches steel plate between them. Front piece to be 4½ inches by 8½ inches; back piece to be 3½ inches by 8½ inches; back piece rabbeted to receive first floor.

PLATFORM:

To be short standard steel "I" beam construction; to be put up in accordance with the established standard practice.

To have 14 inches by 7½ inches white oak buffer beam, plated on top surface with 3/4-inch steel to conform with shape of buffer beams; plate to be held in place by counter-sunk head bolts fitted with check nuts; wearing surface, opposite door, to be machined to a diamond pattern top surface.

Buffer beam to be secured to end sills by at least eight (8) 3/4-inch bolts, and to rest on, and be secured by bolts to, eye beams.

Two 7-inch bulb beams, 23.46 lbs. to the foot, as shown in drawing, will be installed at each end of car. Bulb and web of beam to be cut away, allowing flange to project down between end sill and serve as a truss-rod washer, and also fastened to top of plate covering platform by means of angle-iron brace securely bolted to each side of beams; top of beams to be butted to end plate, and flange to rest against stiffening plates on end post. The poplar strips encasing bulb beams to be formed on the inside to take the shape of beams, and be securely through-bolted by means of round-head bolts and nuts. All bolts to be center-punched on nut end after tightening up nut in place. When bulb beams can not be readily obtained "T" rails 80 pounds to the yard may be used instead.

END PLATES:

End plates to be three (3) inches thick, with steel plate, 3/8 inch by 6 inches, on inner side and turned in to angle at end against side plate.

BRIDGING:

Two and one-half inches by five and one-half inches not over 18 inches from center to center between all sills.

FLOORING:

Two courses: Lower course 3/4-inch tongue and groove, diagonally; upper course 3/4-inch maple tongue and groove, laid longitudinally; boards not to be over 3 inches wide and securely nailed.

There shall be two separate courses of 7/8-inch matched strips well fitted in between all sills and placed crosswise, with space between floor and top course filled with mineral wool or other suitable sound-deadening material.

STUDDING:

Studding to be not less than 2 inches by $3\frac{1}{2}$ inches, placed about 18 inches center to center.

First and fourth posts from end of car to have 2 inches by 2 inches angle iron fitted to inside corner, with one leg turned in to form angle against both sill and plate.

All end posts to be reinforced with steel plates, 3/4 inch by $3\frac{1}{2}$ inches, twisted at right angles at both top and bottom, and securely bolted to both sill and plate. These plates must not be cut to receive tenons of bracing, but an extra piece, $1\frac{1}{2}$ inches by 3 3/4 inches, extending from end to end over flat surface of plate and mortised to receive tenons of bracing, and all to be securely bolted together.

BLOCKING:

One and one-half inches blocking on sides and ends. All spaces between post braces and girths to be tightly fitted, glued in and toe-nailed.

BRACES:

Braces to be 2 inches by 5 inches, gained, glued and screwed to posts.

SAFETY BARS:

Two bars composed of one-inch gas pipe suspended at a level of 7 feet 3 inches from top of floor to center of bar and 19 inches from center of car. The bars to extend the full length of car, care being taken to clear lamps. The bars suspended by hangers not more than 8 feet apart, secured to deck ceiling with four No. 18 wood screws. Filling blocks between ceiling and roof at each hanger. The hanger, composed of 1-inch gas pipe, screwed into collar at top and a pipe tee at bottom, receiving sections of the bar screwed in same. One iron brace 1½ inches by 3/8 inch at each hanger, extending from bar to deck sill, and secured to same with four No. 16 wood screws. The bars to be gilded.

BELT RAIL:

Belt rail not less than 1½ inches by 4 inches, securely fastened by screws.

SIDE PLATE:

Side plate to be long-leaf yellow pine, thoroughly seasoned, 3 inches by 5 inches, with one splice on each piece, located diagonally from splice on opposite plate.

RAFTERS AND CARLINES:

Rafters to be 1 5/8 inches thick, placed about 17 inches center to center.

Ten (10) iron carlines, 5/8 inch by 2 inches, following the contour of upper and lower deck.

ROOF:

Roof to be covered with best quality of canvas, excepting hoods, which are to be covered with galvanized iron.

NEEDLE BEAMS:

Four (4) needle beams of white oak, each 5 inches by 7 inches, trussed with two 5/8-inch truss rods, applied in the usual manner.

TRUSS RODS:

Four (4) truss rods, 1½ inches in diameter, with 1¾-inch ends, and connected in center with turnbuckle.

BODY BOLSTER:

The body bolster should be of the double type; top plate, 1 inch by 10 inches; bottom plate, 1¼ inches by 10 inches.

VESTIBULES:

Standard short vestibule with diaphragm complete.

TRUCKS:

Axles should not be smaller than M.C.B. standard for 40-ton cars, with bearings and oil boxes in proportion. There should be safety straps under the spring plank and brake beams. Wheel pieces should be plated on both sides with ½-inch iron. There should be six wheels (steel tired preferred) to each truck, with total wheel base of not less than ten (10) feet. Side bearings should be of a section of not less than 2 inches by 3 inches. Equalizing bars, 2½ inches by 7 inches, made of axle steel.

BRAKES:
Automatic high-speed air brakes of the latest design.

LUMBER:
All lumber must be thoroughly seasoned and of the very best quality for the purpose intended. Framing timbers of white oak, yellow poplar and long-leaf southern yellow pine.

PAINTING STRUCTURAL STEEL:
All structural steel used in the cars to be given two coats of red lead and linseed oil, over shop coat of paint, before placing such metal in position. All exposed steel work to receive two additional coats of graphite paint of approved color.

Alexander Grant,

General Superintendent

Approved:

Joseph Stewart,

Second Assistant Postmaster General.

Approved:

Frank H. Hitchcock,

Postmaster General.

Washington, D. C., January 27, 1911.

Note 1.-For cars of shorter length, no change is to be made in end construction, in sections, in number of sills, or in plating. The intermediate framing for shorter cars to be fully proportionate to that for sixty (60) foot cars. Where four-wheel trucks are used on short cars, the bolster may be single, instead of double, and, where single, to have top and bottom plates 8 inches by 1 inch.

Note 2.-It is desired that all railway post office cars built hereafter shall be equipped with Pintsch gas or electric light, if any of the other cars on the same line are so equipped.

Note 3.-The Gould Coupler Company's "Z" Beam construction for platforms and the American Car and Foundry Company's Twin Steel Channel Platform having been found to be as satisfactory as the "I" Beam construction called for in these specifications, they may be used in place thereof.

Note 4.-The American Steel Body Double Bolster may be substituted for the made-up bolster in these specifications.

Note 5.-Asbestos, mineral wool or other non-inflammable substance must be used as a deafening material.

Note 6.-The foregoing specifications are intended to indicate the minimum in strength of construction that will be acceptable in a railway postal car. The Department will insist upon railway postal cars comparing favorably as to strength of construction with any other cars in the same train. When a railway postal car is operated in a train with steel or steel underframe cars, the railway postal car must also be of steel or steel underframe construction.

Note 7.-Before a car is constructed, the railroad company should confer with the division superintendent, Railway Mail Service, in regard to the interior fittings and their arrangement. Provision must be made for not less than --

600 separations for letters and 200 for papers in 60-foot cars.
500 " " " " 150 " " " 50 " "
400 " " " " 120 " " " 40 " "

C O P Y

POST OFFICE DEPARTMENT

Railway Mail Service

SPECIFICATIONS FOR THE CONSTRUCTION OF SIXTY-FOOT POSTAL CARS

Optional Plan No. 2.
June 1, 1904.

BODY:

Inside length in the clear, 60 feet; inside width in the clear, 9 feet 1 inch; height from floor to top of plate, 6 feet 9½ inches; height from floor to ceiling, at center, 9 feet 4-7/8 inches.

SILLS:

Side sills, each composed of one piece 5 by 8 inches and one piece 2½ by 8 inches, well bolted together. A plate of iron ½ by 8 inches extends back 18 feet from each end of car between the sills. The inner sill being gained ½ inch to receive plate, which is bent around and forms an angle against the end sill. Center sills 5 by 8 inches, also plated with ½ by 8 inch iron, extending back at the ends to receive plate similar to construction for side sills. Intermediate sills, two on each side of car, 4 by 8 inches, between center and side sills. The foregoing eight longitudinal sills of full section and four longitudinal sills of 2½ by 8 inch section must be long leaf southern yellow pine or Oregon fir, thoroughly seasoned.

END SILLS:

Each end sill shall be made of two pieces of white oak of a minimum cross section of 4 by 8 inches, sandwiched together with an iron or steel plate ¾ by 8 inches between, and well bolted together.

END PLATES:

To be three inches thick, with iron plates, 3/8 by 6 inches on inner side at bottom, and plate turned in to angle at end against side plates.

BRIDGING:

One and three-fourths inches wide every 36 inches between all sills.

CROSS TIES:

The cross ties or needle beams shall be made of 8-inch "I" beam section, Carnegie B-15, or its equivalent, to weigh a minimum of 18 pounds per foot.

The intermediate cross ties shall be made of a "T" section, Carnegie T-60, or its equivalent, to weigh a minimum of 11.4 pounds per foot. All cross ties to be substantially secured to the longitudinal sills.

BODY BOLSTERS:

The body bolsters shall be of the double type; the top section of each portion being 1-1/8 by 10 inches and the bottom section 1¼ by 10 inches.

BLOCKING:

The sides of the car shall be blocked solidly from bottom to top; the blocking to

be rabbeted into the posts three-sixteenths of an inch and well glued and toe-nailed. The blocking shall be 1-1/8 inches thick.

SIDING:

The siding used on the car shall be of the standard shape used by the road owning the car and shall be glued and nailed substantially to the blocking and framework.

FLOORING:

Two courses, lower crosswise or diagonal, upper longitudinal, and made of rift-sawed southern yellow pine or maple for upper course.

DEAFENING:

A false floor shall be nailed to the under side of sills of matched lumber, which shall be continuous the full width of car. Upon this floor shall be laid $2\frac{1}{2}$ inches of deafening material, covered by one course of 7/8-inch matched lumber fitted in between all sills and supported on cleats.

STUDDING:

$2\frac{1}{4}$ by $2\frac{3}{4}$ inches, placed about 18 inches center to center. First and third posts from end of car shall be plated on both sides with $\frac{1}{4}$ by $2\frac{3}{4}$ inch iron turned 6 inches top and bottom to plate and sill.

BELT RAIL:

Not less than $1\frac{3}{4}$ by 4 inches, securely fastened by screws.

SIDE PLATE:

Long-leaf southern pine, thoroughly seasoned, $2\frac{3}{4}$ by $5\frac{1}{2}$ inches, with one splice in each piece, located diagonally from splice in opposite plate.

RAFTERS AND CARLINES:

The roof framing of the car shall be strengthened by the application of twelve iron carlines $\frac{3}{4}$ by 2-1/3 inches in size, with wood carlines and rafters bolted to each side. Cars less than 60 feet in length shall be provided with ten iron carlines of the same size.

TRUSS RODS:

Four truss rods, $1\frac{1}{2}$ inches in diameter, with $1\frac{3}{4}$-inch ends, and connected in center with turnbuckle.

ROOF:

Covered with cotton duck with flashings of copper, all to be thoroughly painted.

STUB ENDS:

Mail cars should be constructed without platforms and the end timber construction of the stub ends should be enclosed by the sheathing as a measure of strength and safety. The end posts should be plated with six iron plates $\frac{3}{4}$ by 3 inches, with ends twisted at right angle at both top and bottom and securely bolted to both end

sill and end plate. The outside end plates shall be placed on a studding which shall be placed immediately against the end face of corner posts and be fastened to those posts with lag screws extending through studding. Corner posts shall also be plated on the side face with ¾ by 3 inch iron with ends turned to side plate and longitudinal sill 6 inches. The end plate should be faced with an iron plate 3/8 by 6 inches with ends turned 6 inches to side plates. The iron plate in the end construction of the car in conjunction with the plates on longitudinal and end sills forms the anti-telescoping feature of the car.

TRUCKS:

Axles should not be smaller than M. C. B. standard for 30-ton cars, with bearings and oil boxes in proportion. There should be safety straps under the spring plank and brake beams. Wheel pieces should be plated on both sides with 3/8-inch iron. There should be six wheels (steel tired preferred) to each truck, with wheel spread not less than 10 feet. Side bearings should be of a section not less than 2 by 3 inches. Equalizing bars, 2 by 4½ inches, made of the best hammered scrap.

BRAKES:

Air and automatic, latest improved form of application.

SAFETY BARS:

Two bars composed of one-inch gaspipe suspended at a level of 7 feet 3 inches from top of floor to center of bar and 19 inches from center of car. The bars to extend the full length of car, care being taken to clear lamps. The bars suspended by hangers not more than 8 feet apart, secured to deck ceiling with four No. 18 wood screws. Filling blocks between ceiling and roof at each hanger. The hanger, composed of 1-inch gaspipe, screwed into collar at top and a pipe tee at bottom, receiving sections of the bar screwed in same. One iron brace 1½ inches by 3/8 inch at each hanger, extending from bar to deck sill, and secured to same with four No. 16 wood screws. The bars to be gilded.

LUMBER:

All lumber must be thoroughly seasoned and of the very best quality for the purpose intended. Framing timbers of clear white oak, yellow poplar and long-leaf southern yellow pine.

PAINTING STRUCTURAL STEEL:

All structural steel used in the cars to be given two coats of red lead and linseed oil, over shop coat of paint, before placing such metal in position. All exposed steel work to receive two additional coats of graphite paint of approved color.

JAMES E. WHITE,

General Superintendent.

Approved:

W. S. Shallenberger,

Second Assistant Postmaster General.

Approved:

H. C. Payne,

Postmaster General.

Washington, D. C., June 1, 1904.

Note 1.--For cars of shorter length, no change is to be made in the end construction, nor in section or number of sills nor plating. The intermediate framing for shorter cars to be fully proportionate to that for sixty-foot cars. Where four-wheel trucks are used on short cars, the bolsters may be single instead of double, and, where single, to have top and bottom plates 8 inches by 1 inch.

Note 2.--It is the express desire of the Postmaster General that all railway post office cars built hereafter by authority of the Post Office Department shall be vestibuled and equipped with Pintsch gas or electric light, if any of the other cars on the same line are so equipped.

Note 3.--The Gould Coupler Company's "Z" Beam construction for platforms and the American Car and Foundry Company's Twin Steel Channel Platform having been found to be as satisfactory as the "I" Beam construction called for in these specifications, they may be used in place thereof.

Note 4.--The American Steel Body Double Bolster may be substituted for the made-up bolster in these specifications.

Note 5.--Shavings or excelsior must not be used as a deafening material.

COPY

POST OFFICE DEPARTMENT

Railway Mail Service

SPECIFICATIONS FOR THE CONSTRUCTION OF SIXTY-FOOT POSTAL CARS

Optional Plan No. 2.
June 1, 1904.

BODY:

Inside length in the clear, 60 feet; inside width in the clear, 9 feet 1 inch; height from floor to top of plate, 8 feet 9½ inches; height from floor to ceiling, at center, 9 feet 4-7/8 inches.

SILLS:

Side sills, each composed of one piece 5 by 8 inches and one piece 2½ by 8 inches, well bolted together. A plate of iron ¼ by 8 inches extends back 18 feet from each end of car between the sills. The inner sill being gained ½ inch to receive plate, which is bent around and forms an angle against the end sill. Center sills 5 by 8 inches, also plated with ¼ by 8 inch iron, extending back at the ends to receive plate similar to construction for side sills. Intermediate sills, two on each side of car, 4 by 8 inches, between center and side sills. The foregoing eight longitudinal sills of full section and four longitudinal sills of 2½ by 8 inch section must be long leaf southern yellow pine or Oregon fir, thoroughly seasoned.

END SILLS:

Each end sill shall be made of two pieces of white oak of a minimum cross section of 4 by 8 inches, sandwiched together with an iron or steel plate ¾ by 8 inches between, and well bolted together.

END PLATES:

To be three inches thick, with iron plates, 3/8 by 6 inches on inner side at bottom, and plate turned in to angle at end against side plates.

BRIDGING:

One and three-fourths inches wide every 36 inches between all sills.

CROSS TIES:

The cross ties or needle beams shall be made of 8-inch "I" beam section, Carnegie B-15, or its equivalent, to weigh a minimum of 18 pounds per foot.

The intermediate cross ties shall be made of a "T" section, Carnegie T-60, or its equivalent, to weigh a minimum of 11.4 pounds per foot. All cross ties to be substantially secured to the longitudinal sills.

BODY BOLSTERS:

The body bolsters shall be of the double type; the top section of each portion being 1-1/8 by 10 inches and the bottom section 1¼ by 10 inches.

BLOCKING:

The sides of the car shall be blocked solidly from bottom to top; the blocking to

e rabbeted into the posts three-sixteenths of an inch and well glued and toe-nailed. The blocking shall be 1-1/8 inches thick.

SIDING:
The siding used on the car shall be of the standard shape used by the road owning the car and shall be glued and nailed substantially to the blocking and framework.

FLOORING:
Two courses, lower crosswise or diagonal, upper longitudinal, and made of rift-sawed southern yellow pine or maple for upper course.

DEAFENING:
A false floor shall be nailed to the under side of sills of matched lumber, which shall be continuous the full width of car. Upon this floor shall be laid 2½ inches of deafening material, covered by one course of 7/8-inch matched lumber fitted in between all sills and supported on cleats.

STUDDING:
2¼ by 2¾ inches, placed about 18 inches center to center. First and third posts from end of car shall be plated on both sides with ¼ by 2¾ inch iron turned 6 inches top and bottom to plate and sill.

BELT RAIL:
Not less than 1¾ by 4 inches, securely fastened by screws.

SIDE PLATE:
Long-leaf southern pine, thoroughly seasoned, 2¾ by 5½ inches, with one splice in each piece, located diagonally from splice in opposite plate.

RAFTERS AND CARLINES:
The roof framing of the car shall be strengthened by the application of twelve iron carlines ¾ by 2-1/3 inches in size, with wood carlines and rafters bolted to each side. Cars less than 60 feet in length shall be provided with ten iron carlines of the same size.

TRUSS RODS:
Four truss rods, 1½ inches in diameter, with 1¾-inch ends, and connected in center with turnbuckle.

ROOF:
Covered with cotton duck with flashings of copper, all to be thoroughly painted.

STUB ENDS:
Mail cars should be constructed without platforms and the end timber construction of the stub ends should be enclosed by the sheathing as a measure of strength and safety. The end posts should be plated with six iron plates ¾ by 3 inches, with ends twisted at right angle at both top and bottom and securely bolted to both end

sill and end plate. The outside end plates shall be placed on a studding which shall be placed immediately against the end face of corner posts and be fastened to those posts with lag screws extending through studding. Corner posts shall also be plated on the side face with ¾ by 3 inch iron with ends turned to side plate and longitudinal sill 6 inches. The end plate should be faced with an iron plate 3/8 by [illegible] inches with ends turned 6 inches to side plates. The iron plate in the end construction of the car in conjunction with the plates on longitudinal and end sills forms the anti-telescoping feature of the car.

TRUCKS:

Axles should not be smaller than M. C. B. standard for 30-ton cars, with bearings and oil boxes in proportion. There should be safety straps under the spring plank and brake beams. Wheel pieces should be plated on both sides with 3/8-inch iron. There should be six wheels (steel tired preferred) to each truck, with wheel spread not less than 10 feet. Side bearings should be of a section not less than 2 by 3 inches. Equalizing bars, 2 by 4½ inches, made of the best hammered scrap.

BRAKES:

Air and automatic, latest improved form of application.

SAFETY BARS:

Two bars composed of one-inch gaspipe suspended at a level of 7 feet 3 inches from top of floor to center of bar and 19 inches from center of car. The bars to extend the full length of car, care being taken to clear lamps. The bars suspended by hangers not more than 8 feet apart, secured to deck ceiling with four No. 18 wood screws. Filling blocks between ceiling and roof at each hanger. The hanger, composed of 1-inch gaspipe, screwed into collar at top and a pipe tee at bottom, receiving sections of the bar screwed in same. One iron brace 1½ inches by 3/8 inch at each hanger, extending from bar to deck sill, and secured to same with four No. 16 wood screws. The bars to be gilded.

LUMBER:

All lumber must be thoroughly seasoned and of the very best quality for the purpose intended. Framing timbers of clear white oak, yellow poplar and long-leaf southern yellow pine.

PAINTING STRUCTURAL STEEL:

All structural steel used in the cars to be given two coats of red lead and linseed oil, over shop coat of paint, before placing such metal in position. All exposed steel work to receive two additional coats of graphite paint of approved color.

JAMES E. WHITE,

General Superintendent.

Approved:

W. S. Shallenberger,

Second Assistant Postmaster General.

Approved:

H. C. Payne,

Postmaster General.

Washington, D. C., June 1, 1904.