



## The PENNSYLVANIA

inaugurates its newly equipped

"MORNING CONGRESSIONAL"

"AFTERNOON CONGRESSIONAL"

"SENATOR"

Placed in regular service March 17

Four completely new Budd-built trains, incorporating 64 cars, will make daily New York-Washington round trips (two trains) and Boston-Washington trips (two trains), the latter in conjunction with the New Haven between Boston and New York. Schedules of the "Senator" and "Afternoon Congressional" are unchanged. The "Morning Congressional" northbound is scheduled to leave Washington at 7:00 a.m. and arrive at New York at 10:55 a.m.; southbound this train is scheduled to leave New York at 6:30 a.m. and arrive at Washington at 10:20 a.m. The new equipment is described and illustrated on the following pages.



Color illustrations courtesy the Budd Company

A parlor car. The main colors are strong, relieved by neutral window shades and head rests touched with red.

## Two "Congressionals" and The "Senator" Re-equipped

*Pennsylvania advances the attractiveness, quality and scope of the service of these Washington-to-New York and -Boston trains*

**W**ith the inauguration on March 17 of the newly equipped "Morning Congressional" and "Afternoon Congressional" in the Washington-New York service and the "Senator" in the Washington-New York-Boston service, the Pennsylvania has placed in operation a fleet of 64 new passenger cars, deliveries of which have just been completed by the Budd Company.

### **Nine Car Types**

Outstanding features of the new trains include Bell System radio telephone service, all-drawing-room parlor cars on the "Congressionals," and coffee-shop cars to furnish convenient and attractive meal service to the coach passenger on both runs. Other feature cars are the dining room and kitchen-bar-lounge cars on the "Congressionals," and observation parlor cars with lounges and bar service on all trains. In each of the two

all-drawing-room parlor cars of the "Congressionals" there is a telephone room and booth with provision for coin-box service.

There are nine car types in the fleet. The number of cars of each type and their assignments to the two services are shown on page 78. The "Congressionals" are arranged with the coaches forward and the coffee-shop car is placed between the fourth and fifth coaches. Behind the eighth coach is the dining room car, followed by the kitchen-bar-lounge car and the all-drawing-room parlor car. Behind the five parlor cars at the end of the train is the observation-parlor car. Each one of the "Congressionals" has seats for 703 passengers, plus 270 seats in the lounges, dining room and observation-parlor cars.

In the "Senator" five coaches are at the head end, followed by the coffee-shop car, then three more coaches. Following the last coach, in order, are the kitchen-diner





Lounge in an observation-parlor car. The mural is an oil painting on canvas.



The lounge in one of the kitchen-bar-lounge cars for the "Congressional."

car, three parlor cars, and the parlor-telephone-bar-lounge-observation car. Because there is no all-drawing-room parlor car in the "Senator," a telephone room, identical with that in the all-drawing-room parlor car of the "Congressional," is included in the observation-parlor car at the expense of four seats in the parlor section. These trains each have seats for 596 passengers and 229 additional seats in the dining, coffee shop and observation-parlor cars.

The exteriors of these trains are unpainted, except for the letterboards, a continuous stripe at the belt rail, and panels for the car numbers or names, and the Pennsylvania keystone monogram near the ends of the cars. These are Tuscan red with gold lettering.

The panels for coach numbers are affixed near each end on both sides of a car. The panels for the parlor car names are centered on each side. The parlor, all-drawing-room parlor and observation-parlor cars are named after famous Colonial and Revolutionary War personages.

A number of unusual features are encompassed in these cars. There are four systems of car heating, two employing low-pressure steam as the distributing medium and two employing liquid. Cooking in the coffee-shop cars and all the dining-car kitchens is done electrically.

On the "Congressional" one car is given over completely to a telephone room and seven drawing rooms, of which six are so arranged that they may be thrown together in pairs. Each drawing room has seats for five.

### Design of the Coaches

The interior decorations of all cars are unified by employing various combinations of red, white and blue throughout. An impressive variety of effects has been achieved, however, by reversals of red and blue and by



One of the coffee-shop cars for coach passengers. It seats 36, half at tables and half at the counter.

including a neutral wood tone in some of the combinations.

The coaches each seat 74 passengers—60 in the main passenger compartment and 14 in the smoking lounge. The latter occupies the full width of the car, is furnished with metal-frame arm chairs, and is separated



# NEW CARS FOR THE "CONGRESSIONALS" AND "SENATOR"

	Two "Congressional" (Two trains)	The "Senator" (Two trains)	Total Cars
Coaches .....	16	16	32
Coffee Shop cars .....	2	2	4
Kitchen-Bar-Lounge cars .....	2	2	4
Dining Room cars .....	2	2	4
Dining cars .....	2	2	4
All-Drawing-Room Parlor cars with telephone room .....	2	2	4
Parlor cars .....	10	6	16
Observation Parlor cars .....	2	2	4
Observation cars with telephone room .....	2	2	4
	36	28	64

by wing partitions from the main compartment. Etched safety-glass panels are set in the aisle side of the upper part of the wing partitions, and etched mirrors on the end bulkheads of the coach and lounge sections. All depict historical places or events related to the territory through which the trains pass.

Coach seats are the reclining type, with folding center arm rest. Seat cushions and arm rests are foam rubber; backs have hair and spring cushions. Foot rests are attached to the seat base.

There are four color schemes in the coaches. In all of them the walls above the wainscot and the ceilings are French gray with a stripe on the bag rack of blue with the red wainscot and vice versa. In two of them the wainscot is in a strong but soft tone of red. In one of these schemes the seats are upholstered throughout in a deep blue; in the other, the backs are in woodtone with cushions and arms in blue. The floors are covered in marbleized Linotile, with brightly patterned aisle strips. The fields under the seats are coral gray and the body of the stripe is alabaster, outlined in one case with stripes of ruby red and relieved with spots of a marine blue and in the other outlined with blue stripes and relieved with red spots.

In the other two color schemes the wainscot is in a soft medium blue. Upholstery in one case is burgundy on backs, cushions and arms, and in the other the backs are woodtone with burgundy cushions and arms. With the burgundy and woodtone upholstery combination the Linotile under the seats is marine blue, the body of the aisle strip coral gray, the stripes at the sides alabaster, and the spots ruby red.

In the cars with the blue upholstery in the main passenger compartment the chairs in the smoking room are upholstered in cream or red. The burgundy upholstery in the main compartment is combined with lounge chairs in cream or blue. With the two woodtone combinations the chairs are in blue or red. The reverse color is used for piping.

Entries and passageways at the ends of the cars have walls and ceilings finished in the reverse color from that on the wainscot in the passenger compartment, with the end door in the wainscot color. In the parlor cars as well as the coaches the walls and ceilings of toilets are in French gray, with either red or blue on the inside of the doors.

## The Parlor Cars

Throughout the train in parlor cars and coaches alike the window shades are a beige background with wavy coral red stripes. The same colors and pattern are repeated on the head rests. These add remarkably to the feeling of liveliness throughout the train.

At the vestibule end of the parlor car the men's toilet, the regulator, control and linen lockers and open luggage shelves are disposed along the sides of the central passage. At the opposite end is a side corridor from which open the drawing room and the women's toilet. In the passenger section between are parlor car seats for 29 persons. These are center-pedestal rotating type with reclining backs. Seat cushions and arm rests are foam rubber. Backs have hair and spring cushions.

In the decoration of the parlor cars the same three main colors used in the coaches are employed with slight variations. In all Pullman-operated cars, however, off white is applied on the side above the wainscot and on the ceiling instead of the French gray which is used on the coaches, and the floors are carpeted. The parlor cars follow two decorative color arrangements. One combines a blue wainscot and blue feather-pattern carpet with Alpine rust upholstery on the chairs, blue figured drapes, and a red stripe along the front of the hat rack. The other combines a red wainscot and a rose and gray carpet in a cornucopia pattern with blue upholstery, garnet figured drapes, and a blue stripe along the front of the hat rack.

## Murals and Decorative Mirrors

As in the coaches, the partitions at the vestibule end of the parlor car are decorated with etched mirrors. The wide partition between the chair section and the drawing room at the other end of the chair section is decorated with a colorful mural painted in oil on canvas. The paintings in the parlor cars are associated with some phase of early American life.

The drawing rooms of the cars decorated according to the first scheme have the inside wall, including the entrance door, as well as the wainscot on the outside and transverse walls, painted blue. They have a ruby red acorn pattern carpet, blue sofa and woodtone chair upholstery. Drapes are garnet and white. In the other cars the inside wall and wainscot of the drawing room are red, the carpet blue and the sofa upholstery Alpine rust. The chair upholstery is woodtone and the drapes are blue and white. Transverse walls are in off white, with a colored mural of carved linoleum above the sofa. At one end of the car passageway walls and end doors are red and room doors blue. The colors are reversed at the other end of the car.

## Observation Cars

At the vestibule ends of these cars are the control and regulator lockers, and open luggage shelves. Between these and the parlor section, men's and women's toilet and wash rooms are placed on opposite sides of the center passageway. The parlor section of the two cars for the "Congressional" seats 18 persons; in the "Senator," 14.

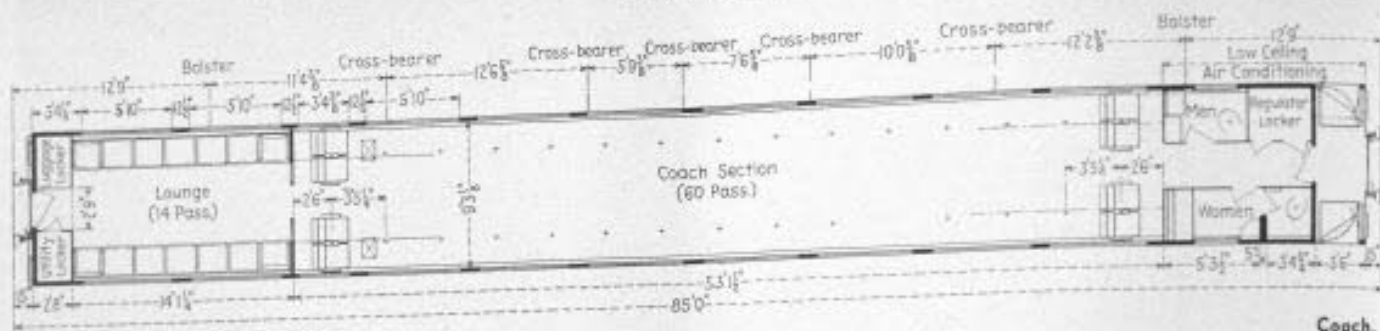
Between the parlor section and the lounge is an enclosed bar. Against the lounge partition is a built-in curved seat extending around the side of the car. This seats five. Adjacent to this section is a fixed table and seats for four. On the opposite side of the section are seats for four in a settee and two chairs. Separated from the lounge by low glass partitions is the observation section with seats for 12. Facing the rear against the lounge partitions are double seats for two on each side. Four persons may be seated on each side of the section in six chairs and a settee.

The parlor section of all of these cars is finished in marine blue on the wainscot and the carpet is rose, brown

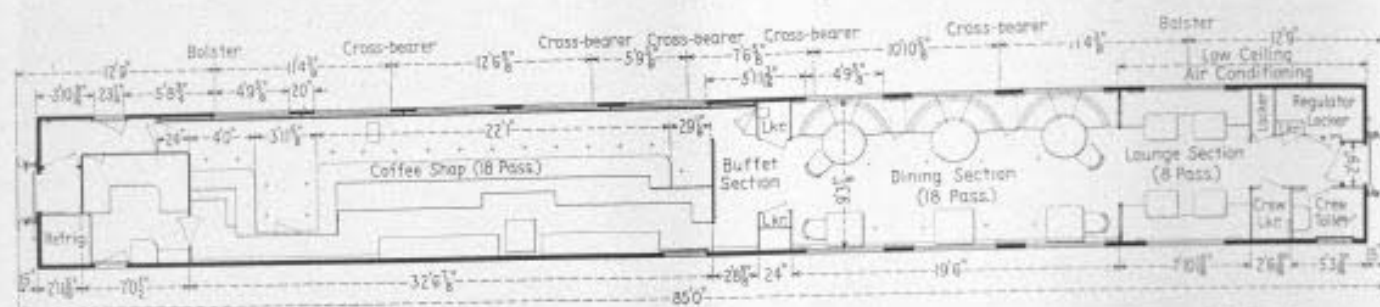


Etched glass panels in the wing partitions and mirrors on partitions at the end of the lounge section of the reclining-seat coaches depict the Revolutionary period. Color combinations in these cars are similar to those in the parlor cars.

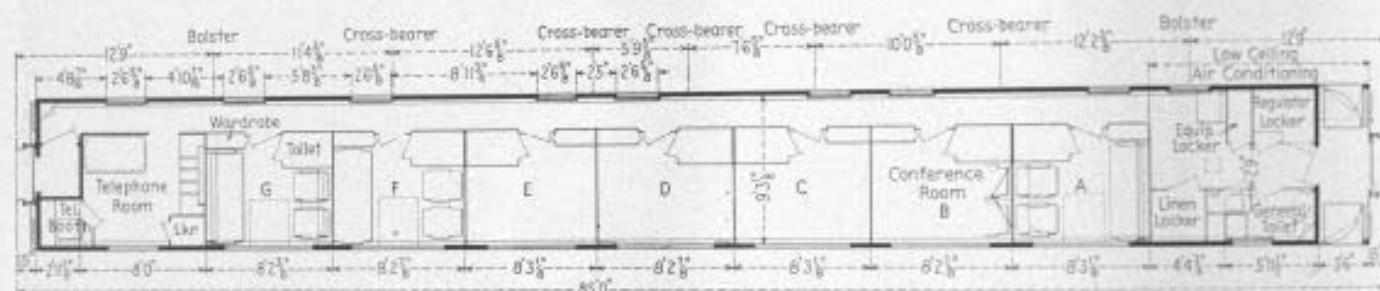
# Floor plans of the new passenger-train cars for the two



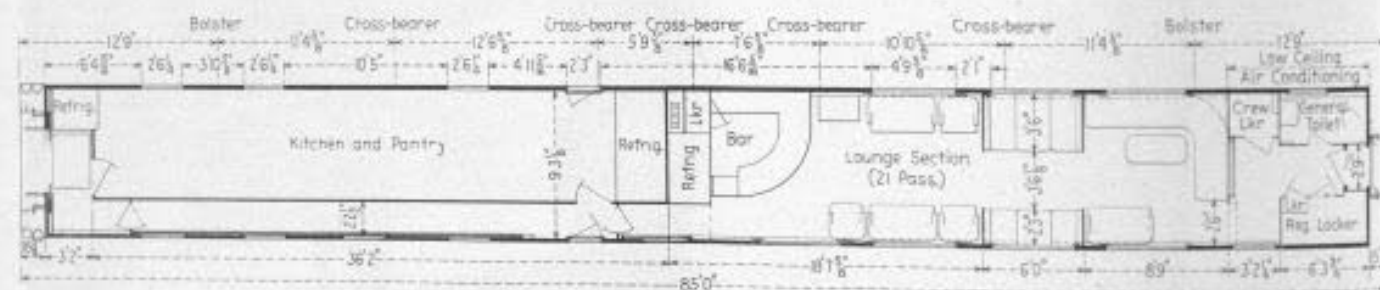
Coach.



Coffee-shop car.



All-drawing-room parlor car, with telephone room, for the "Congressional."



Kitchen-bar-lounge car for the "Congressional."

and blue in a feather pattern. The chairs are upholstered in Alpine rust and drapes are blue and cerise. The lounge and observation sections have floor and walls like the parlor section. Sofas and settees are in blue, cream with red piping, and red with blue piping. Chairs in the observation section are blue. The slats of the venetian blinds at the windows in the observation section are off white and the tapes red. In this section the blinds are locked in the raised position.

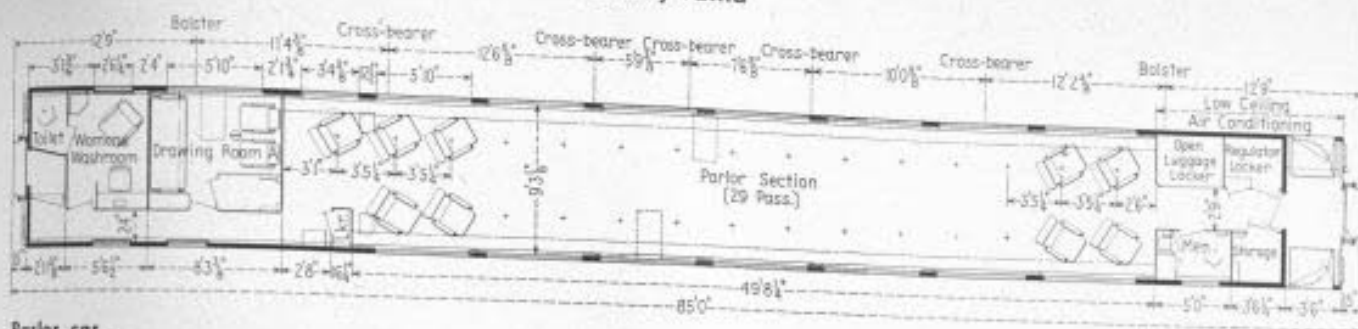
One of the most interesting cars in the "Congressional" is the all-drawing-room parlor car, designed primarily for business men and government officials

traveling between Washington-Philadelphia-New York, who wish to work or carry on conferences en route. There are seven rooms, each with seats for five persons. These rooms are nearly identical in arrangement and dimensions with the drawing room in each parlor car. At the blind end of the car is the telephone waiting room with its soundproof booth. Six of the rooms are arranged in pairs separated by a folding partition, permitting each pair to be opened up into a room for ten.

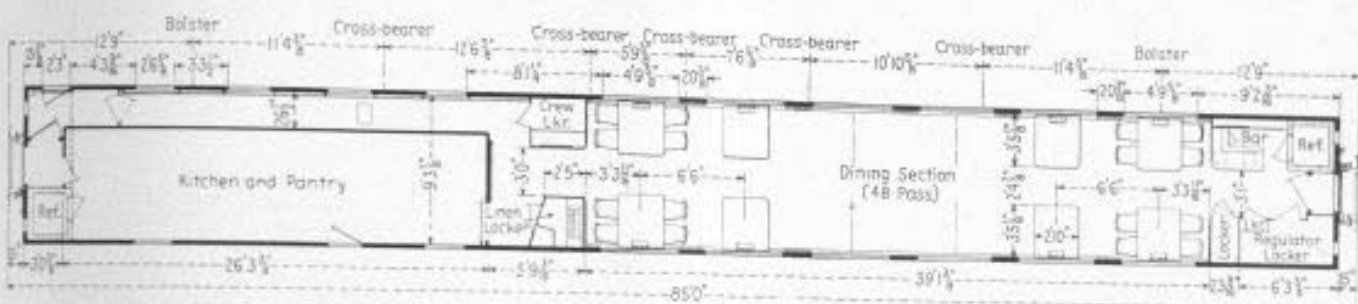
The six rooms have blue walls and blue wainscot under the window. The door is red and the ceiling and upper



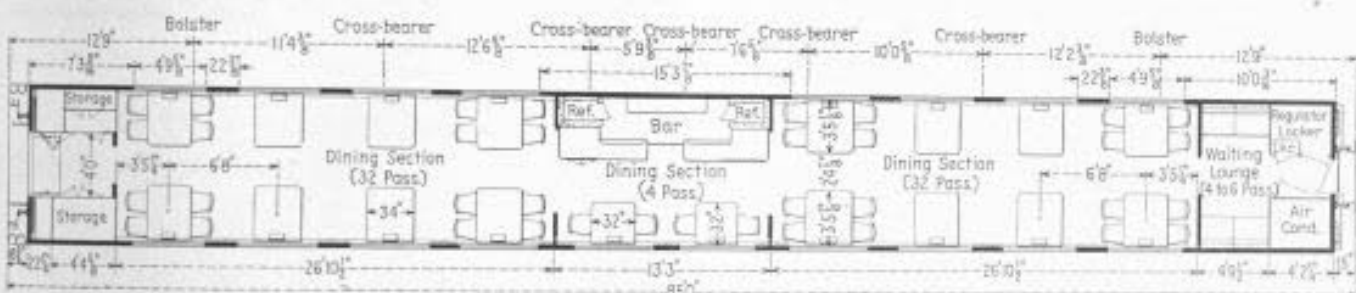
# "Congressional" and the "Senator" of the Pennsylvania



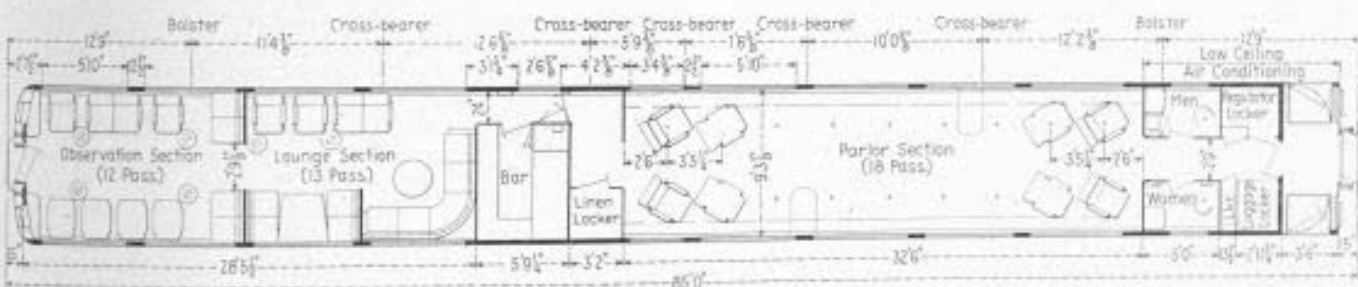
Parlor car.



Dining car for the "Senator."



Dining-room car for the "Congressional."



Observation-parlor car for the "Congressional." The "Senator" is the same, except for inclusion of a telephone room.

outside wall is off white. The folding partition is Formica with a natural wood surface. The carpet is ruby red; the upholstery of the sofa is woodtone, and of the chairs blue. The patterned drapes are garnet. Above the sofa in each room is a carved linoleum plaque, different in each room.

The seventh room is essentially the same as the others, except that the partition opposite the sofa is permanent. This is finished with the wainscot in blue and the upper wall in off white.

The telephone room and booth are carpeted in a blue acorn pattern matching the corridor. The walls are red

and the ceiling off white. The two-place settee for passengers waiting for calls is covered with red saddle-finish plastic. Sides and ceiling of the corridors are blue; the doors, red.

## Coffee Shop Cars

The coffee shop car, which is designed primarily to serve coach passengers attractively, is divided into three sections: a lunch counter which seats 18, a dining section with six tables for 18, and a small lounge for 8.

All cooking is done behind the counter on the electric



Drawing room of a parlor car. The mural (in back of man's head) is carved linoleum, colorfully painted.



Looking through the lounge section toward the

appliances, including an electronic Radarange. Dishwashing and food storage are concealed in a pantry at the end of the car and adjacent to the cooking area behind the counter.

Walls in the dining and lounge sections are gray above the wainscot and built-in seats. The ceiling of the lounge section is red; that in the dining section, gray. The floor in both sections is covered with acorn pattern blue carpeting and the drapes are red. Venetian blinds in the lounge have gray slats with red tapes. In the dining section the slats are red with gray tapes.

The dining section has three round tables seating four each and three rectangular tables for two each. At each circular table there is a built-in settee and two chairs covered in red saddle-finish plastic with blue piping on the settees. Between the settees are cabinets for various supplies. These are natural wood finish on the front and black Formica on top.

Between the dining section and the lunch counter is a small buffet section. The partitions between the dining section and buffet section have etched glass mirrors and the area around them is painted red.

The coffee-shop section has a coral-gray Linotile floor with a border of ruby-red and broad black stripes. On the coffee shop side of the buffet partition is an etched glass panel. The wall below this is in red. The transverse wall at the pantry end of the counter is decorated with an oil painting. The front of the counter is decorated with a design executed in carved linoleum. The counter top is black Formica. The canopy over the counter is blue with a red stripe and a white chevron decoration. Seats are upholstered in blue plastic.

### The Dining Cars

The kitchen portion of the kitchen-bar-lounge car serves the dining room car which is directly ahead of

it in the consist of the "Congressional." The kitchen is completely electrified.

The lounge section of the car is decorated with blue wainscot, a rose, brown and blue fern feather pattern carpet, and a red ceiling above off white pier panels. Valances over the windows are satin-finish metal with a blue center stripe. Built-in seats are upholstered in red saddle-finish plastic, in Alpine rust mohair, and blue saddle finish plastic. Chairs are done in blue fabric with vertical stripes. Tables and bar are covered with a red skylark pattern Formica. On the front of the bar is a carved linoleum plaque.

The lining on the side walls above the wainscot of the full-length dining room car and the dining car is of the so-called "tumble-home" type, in which the walls taper inward toward the ceiling.

Immediately adjoining the kitchen there are lockers on both sides of the full-length dining car. At the opposite end of the car is a small lounge seating four persons. Adjoining this lounge section are lockers, one of which houses the air-conditioning evaporator and the air-distributing fans. Between the lounge and the end of the car are lockers on each side of the center passageway. The dining room has 16 tables seating four each. These are divided in the middle by a bar and steward's station, in front of which are two tables seating two each and increasing the total seating capacity of the room to 68.

In the dining room, including the bar, the wainscot and carpet are blue and the walls off white. Ceilings in the two dining sections are also off white. In the bar section the ceiling is red. The dining chairs and the seats in the waiting lounge are covered with magenta plastic. Venetian blinds have red slats with natural linen tapes. The drapes are pink. These are confined to the pilasters. The partitions at the end of the waiting lounge and at the opposite end of the dining room are decorated





observation section of the  
observation-parlor cars.



A group at work in a drawing-room suite in one of the  
"Congressional" all-drawing-room parlor cars.



The "Congressional" dining-room car looking from the lounge end.

with etched mirrors. The bar and the lounge are separated from the dining section by full-height wing partitions in which are panels of etched safety glass. The front of the bar is blue with a red stripe and white chevron near the top.

Behind the bar is a gold tinted mirror on which is etched a blockhouse scene. At either side of the mirror is a carved linoleum plaque.

The dining car for the "Senator" is of conventional arrangement but has a completely electric kitchen. The dining section seats 48 at 12 tables. At the end opposite the kitchen is a bar and steward's station.

The floor of this car is covered with a ruby-red carpet and the wainscot is red. Side walls and ceilings are off white relieved by a red stripe along each side just under the cove lights. End walls, venetian blind slats, and plastic chair covering are blue.

The buffet section between the dining section and the passageway beside the kitchen has a coral gray Linotile

floor with red walls and ceiling. A carved linoleum plaque is affixed to the kitchen bulkhead and above it is a blue stripe and white chevron.

### Unity—But No Monotony

The use of strong colors, combined with gray or white walls, skillfully relieved by neutral beige and woodtone, is the conception of the train architects, Harbeson, Hough, Livingston & Larson. Designs for the etchings on mirrors and glass panels were also furnished by this organization. Oil paintings are the work of Auriel Bessemer of New York City and J. Hopkins of Beth Ayres, Pa.

While the repetition of the same basic colors throughout the train creates an impression of unity, no two adjacent cars are alike in the way these colors have been used. Nowhere in a train is there an impression of dullness or monotony.

## SIXTY-SIX YEARS OF SERVICE BEHIND NEW "CONGRESSIONAL"

Today's "Congressional," though new in equipment, is rich in tradition; its history goes back almost exactly two-thirds of a century, to December 7, 1885, which makes it one of the oldest named trains in America.

On that day, the "Congressional Limited" — the "Limited" was dropped some years ago — was established as a daily train in each direction between Washington and New York, in response to the request of a number of members of Congress, whose duties required frequent trips between the two cities, for a fast train that would enable them to make the trip after the legislative day. In the ensuing 66½ years, it has traveled over 11,000,000 miles — equal to 3,700 transcontinental trips — and is said to have carried "more passengers of fame and distinction than any other train in America." Presidents Harrison, McKinley, Theodore Roosevelt, Taft and Coolidge have been among its riders.

Its original northbound schedule, including the then necessary ferry trip across the Hudson river between Jersey City and New York, was 5½ hours; departure from Washington was at 3:50 p.m., with arrival at New York at 9:20. Southbound, the train was five minutes faster, leaving New York at 3:40 p.m. and arriving in Washington at 9:05. Reduction to the present 3-hour 35-minute schedule in each direction was accomplished in five steps over the years, including a major improvement in 1910, when the opening of New York's Pennsylvania Station made it possible to run the train directly into mid-Manhattan,



"A vision in cream and green, set off by touches of red and gold"—that was the "Congressional" at the turn of the century, because Frank Thomson had gone to Mexico in 1898.

and eliminated the Hudson river ferry crossing.

Equipment, too, has been radically changed over the years. The first "Congressional" consisted of baggage, parlor, dining and observation cars, all painted the then-standard Pullman black. In 1898, Frank Thomson, then president of the Pennsylvania, visited Mexico, where he saw the private train of Mexican President Diaz — "a vision in cream and green, set off by touches of red and gold." Mr. Thomson immediately ordered a similar color scheme for the "Congressional," and its specially painted cars provided a unique contrast with other trains until the present familiar Tuscan red, with gold trim, was adopted for all P.R.R. passenger trains. The new "Congressional" and "Senator" are the first

Pennsylvania-owned trains to appear in unpainted metal finish, though some of the road's cars in jointly equipped Florida trains have been left unpainted.

Originally, the "Congressional" was an all-parlor-car, extra-fare train; its first motive power, of course, was steam. The extra fare was dropped, and coaches were added, in 1931, and on February 10, 1935, the "Congressional" became the first train to operate through between New York and Washington by electric power.

The "Senator"—joint Washington-Boston operation of the Pennsylvania and the New Haven—is a much younger train; it was not established until July 14, 1929. But because its daily run is just about double that of the "Congressional," its aggregate mileage is already past 7,500,000.





One of the "Congressional," newly equipped from end to end. The body color of the locomotive is Tuscan red. Striping and lettering are gold.

## New Cars for the "Congressional" And the "Senator"

*Four systems of heating in Budd-built trains—Electric kitchens and radio telephone on each train*

The 64 passenger-train cars delivered to the Pennsylvania by the Budd Company for the re-equipment of the "Congressional" between Washington and New York and the "Senator" between Washington-New York-Boston are of Budd modified girder construction. They are designed for a minimum strength under compression load of 1,250,000 lb., applied at buffer-sill height, and of 1,000,000 lb. at the center line of draft, with collision posts designed to withstand 300,000 lb. applied 18 in. above the floor.

The cars are all 85 ft. long, coupled, and all are carried on four-wheel trucks. The weights are given in an accompanying table.

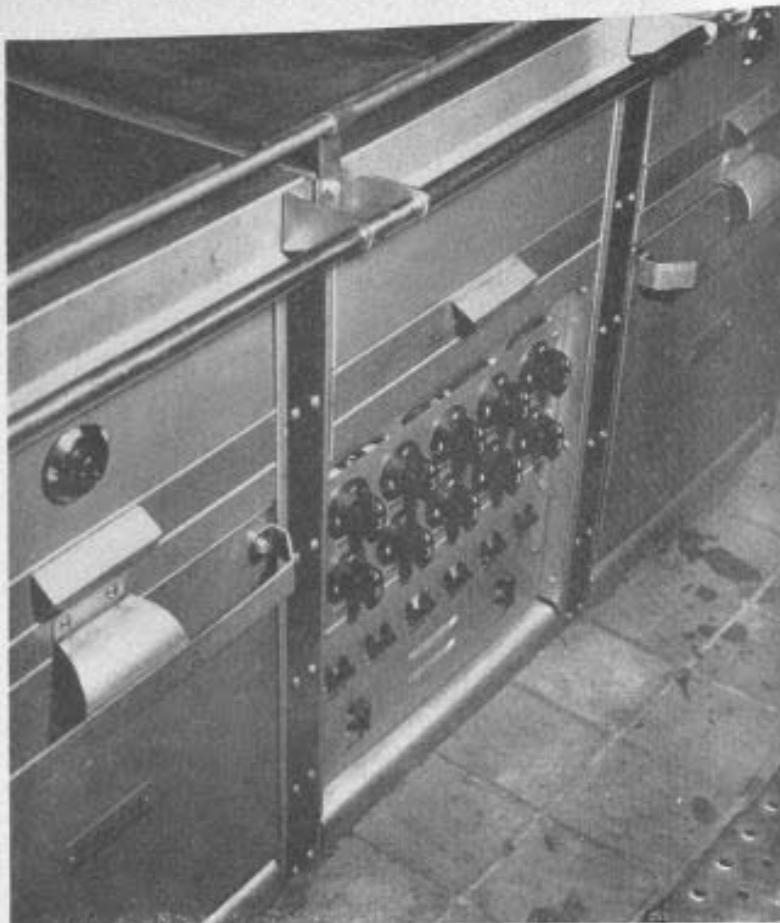
Outstanding among the technical features of this equipment are the electric kitchens in the dining, dining room and coffee shop cars. Adequate power is made available for the cooking as well as refrigeration, lighting

and air-conditioning. Four systems of car heating are also installed on the various cars in these trains, two of which employ circulating hot liquids. End doors of all cars are operated by pneumatic door operators. The end dining room doors between the dining room and kitchen cars are sliding. The door engine for the dining room is controlled by a foot pedal in the floor.

### Structural Details

In the construction of these cars particular attention has been paid to the comfort of the passengers. Insulation in the roofs, sides and floors of all cars is 3 in. thick. That in the 32 coaches is asbestos; that in the other cars, Fiberglas. An additional sound barrier consisting of 3 in. of the body insulation, compressed to 2 in., enclosed in a metallic cover, is applied to the under side of the floor pans over the trucks at both ends of the parlor cars, observation-parlor cars, dining room cars and all-drawing-room parlor cars, under the dining rooms of the coffee shop and dining cars, and under the lounge end of the kitchen-bar-lounge cars.

Ceilings, side walls and end walls in the coaches, lounges, dining and observation sections are finished with aluminum sheets, sound deadened with asbestos paper on the unexposed side. Perforated metal panels are applied to close the under side of the air ducts along



The electric range in the kitchen, showing the controls.



Radarange in the coffee-shop car.

toasters, a French fryer, and two electric coffee dispensers.

Most of the refrigeration throughout the train is electrically operated. Ice is used in the low refrigerators in the kitchen for fish and in the pantry which serves also for ice storage, and in the beer coolers at the bars. Frozen-food refrigerators are cooled by coils; others by forced-air evaporators.

### **Illumination**

In general, with the exception of the all-drawing-room parlor car, the major illumination consists of 30-watt and 40-watt fluorescent tubes running in one or more continuous lines of fixtures along the ceiling. Within the same fixtures are 15-watt incandescent emergency lamps operating on either 110 volt or 32 volt d.c. power, which are spaced at regular intervals. In the event of failure of the a.c. power supply the incandescent lamp circuit is closed automatically by a relay, the coil of which is normally energized by the a.c. circuit.

In the coaches there are four lines of fluorescent tubes, one above each bagrack for ceiling illumination and one under each baggage rack. In the parlor cars two continuous lines of tubes are placed slightly to the right and left of the center of the ceiling.

In the dining cars the general illumination is furnished from cove lights. This is supplemented by 15-watt incandescent table lamps operating on 110-volt power. In the parlor sections of the observation-parlor cars the lights are placed along the ceiling similar to the parlor cars.

In the lounge and observation sections of these cars the tubes are arranged along the sides of the ceiling in lensed glassware which directs high-intensity light to the reading, writing and card playing areas.

The coffee shop is lighted with continuous lensed glassware over the counter areas. In the dining section glareless lighting comes from continuous cornice fixtures.

In the all-drawing-room parlor cars the lighting in each room consists of one Circline 32-watt 110-volt tube in the center of the ceiling and two 15-watt tubes in the reading-light fixture designed as an integral part of the baggage rack. Three separate similar tubes are placed in other locations.

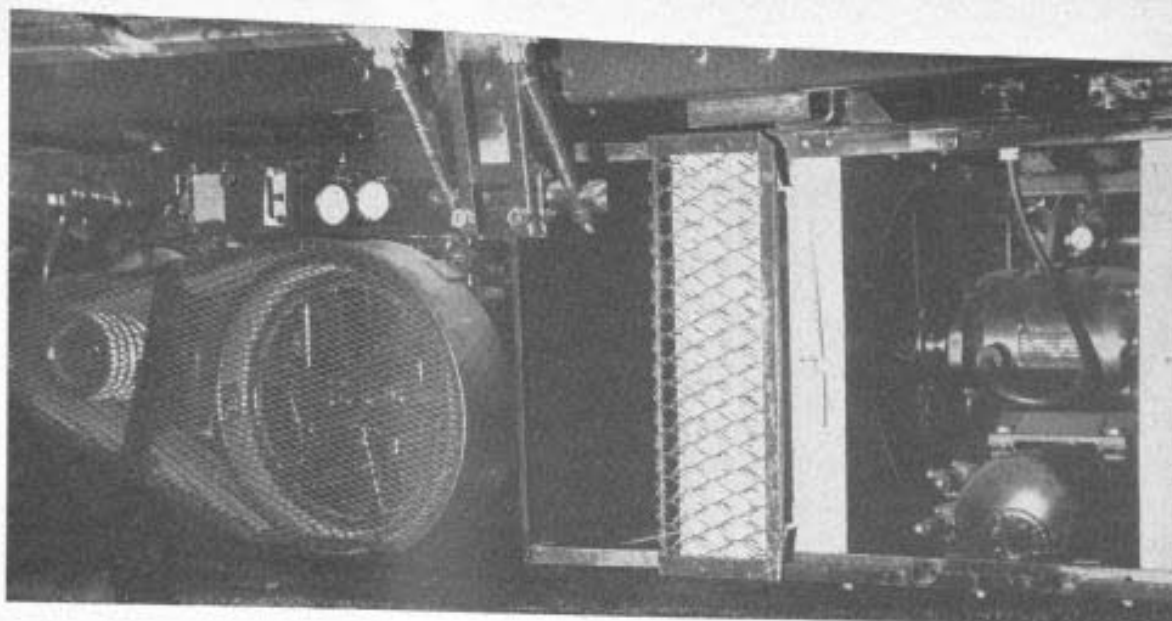
### **Radio Telephone and P.A. Systems**

Each train has a mobile radio telephone system. This is installed in the all-drawing-room parlor cars of the "Congressional" and in the observation-parlor cars of the "Senator." The equipment, installed by the Bell Telephone System, includes a coin-box telephone, two antennas—one for receiving and one for transmitting—and a directory rack, with space for seven directories. These are for cities along the route.

Each train is equipped with a public-address system with stations in the coffee shop, dining and observation-parlor car. Speakers are installed in all cars.

All of the cars are equipped with Westinghouse HSC type air brakes with D-22-AB control valves. The cars are fitted for individual speed-governor control. All cars





Air-conditioning compressor and condenser mounted under the car.

#### Weights (Lb. Ready to Run) of the New Cars for the Pennsylvania

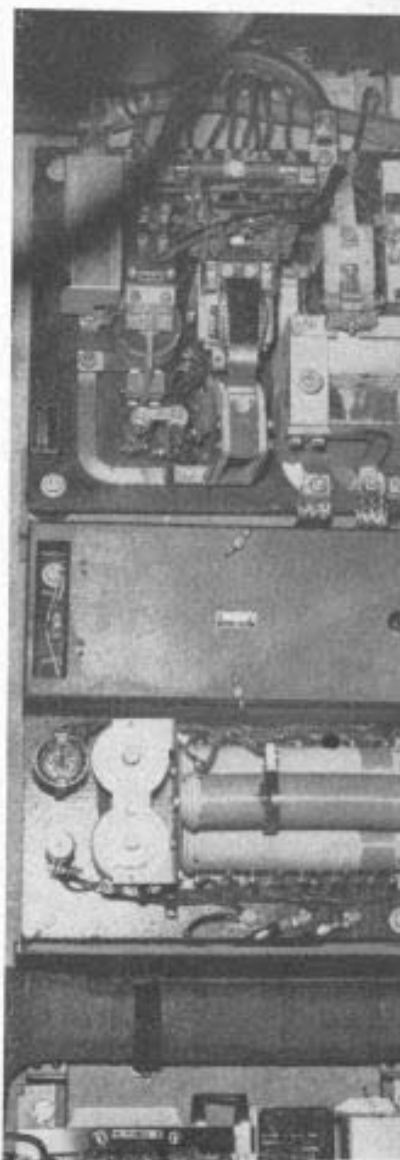
Dining-room car	86,570
Dining car	108,160
Coffee-shop car	106,060
Kitchen-bar-lounge car	115,340
All-drawing-room parlor car	90,450
Observation-parlor car with telephone room	89,450
Observation-parlor car	88,260
Parlor car	83,770
Coach	86,390

except coaches and parlor cars have decelostats applied to one end of each axle. Back-up equipment is installed in a cabinet at the rear end of each observation-parlor car.

Trucks are cast steel four-wheel type with 8-ft. 6-in. wheel base. The axles have 6-in. by 11-in. journals and are fitted with roller bearings with smoke- and stench-bomb hot-box alarm signals. There are single drop equalizers and combination coil and elliptic springs under the bolsters as developed by the Pennsylvania Railroad. The frames and bolsters are alloy steel castings. Wheels are 36-in. multiwear rolled steel. For sound deadening, composition pads have been placed under the side bearings, under the truck center plates, under the ends of the equalizers, at the equalizer spring seats and at the swing-hanger bearings. Rubber bumper pads cushion the ends of the bolsters.

The trucks have unit cylinder clasp brakes designed for a braking ratio of 250 per cent of the light weight of the car. They are operated by two cylinders on each truck. At 60 lb. brake-cylinder pressure the braking ratio is 150 per cent. Each car has one lever-type hand brake which is connected to both wheels on one side of one truck and designed to develop a braking ratio of 25 per cent or more of the total weight of the nominally loaded car.

All cars have tight-lock couplers. Rubber draft gears are installed throughout, except on the coupled ends of the dining-room car and the kitchen-bar-lounge car. Diaphragms are of the single-loop type. No outer diaphragms are employed except between the coupled ends of the dining room and kitchen cars. In addition to brackets for oil marker lamps, two red electric marker lights are built into the end sheets of each end of all cars except the coupled ends of the dining room and kitchen cars.



Left—Control locker in coach showing lighting, air-conditioning and radio controls. Right—A regulator locker.