



• CATALOGUE 1899 & 1900 •

GOLD CAR HEATING CO.  
NEW YORK & CHICAGO.

<sup>66</sup>The Gold System<sup>99</sup>

of Car Heating  
is the Standard of  
Perfection.



**"EFFICIENCY,"**  
**"SIMPLICITY,"**  
**"ECONOMY,"**  
**"DURABILITY."**

CATALOGUE  
1899 - 1900

more economy in first cost, application and maintainance, and finally to be the most durable of any devices of a like character which are offered for sale at the present time.

It is our purpose in this book to treat the subject in as clear, intelligent and comprehensive a manner as possible, and we invite railway officials most careful consideration of our apparatus as illustrated and described in the following pages.

All prices for complete equipments and parts are given under separate cover in our 1899-1900 price list.

We will take pleasure in answering requests for further information, quoting discounts, etc., and will cheerfully furnish any desired estimates or instruct our representatives to call on prospective purchasers.

**GOLD CAR HEATING COMPANY,**

**EDWARD E. GOLD, President.**

*New York, January 2, 1899.*





## Some of the Prominent Railroads and others who have used our Appliances in whole or in part :

Alabama Great Southern Railroad.  
 Allegheny Valley Railway.  
 Annapolis, Washington & Baltimore Railroad.  
 Baldwin Locomotive Works.  
 Baltimore, Chesapeake & Atlantic Railway.  
 Baltimore City Passenger Railway.  
 Baltimore & Annapolis Short Line Railroad.  
 Baltimore & Lehigh Railway.  
 Baltimore & Ohio Railroad.  
 Baltimore & Ohio Southwestern Railway.  
 Barney & Smith Car Company.  
 Bennington & Rutland Railway.  
 Black River Traction Company.  
 Boston & Albany Railroad.  
 Boston & Maine Railroad.  
 Braintree Street Railway.  
 Brooklyn Elevated Railroad.  
 Brooks Locomotive Works.  
 Buffalo & Susquehanna Railroad.  
 Burlington, Cedar Rapids & Northern Railway.  
 Canadian Pacific Railway.  
 Central Railroad of New Jersey.  
 Central Vermont Railroad.  
 Chesapeake & Ohio Railway.  
 Chicago & Eastern Illinois Railroad.  
 Chicago, Rock Island & Pacific Railway.  
 Chicago & West Michigan Railway.  
 Chicago & Northwestern Railway.  
 Chicago, St. Paul, Minneapolis & Omaha Railway.  
 Chicago, Burlington & Northern Railway.  
 Chicago, Burlington & Quincy Railroad.  
 Chicago, Indianapolis & Louisville Railway.  
 Cincinnati, Hamilton & Dayton Railway.  
 Cincinnati Northern Railroad.  
 Cincinnati, Portsmouth & Virginia Railroad.  
 Cincinnati, Lebanon & Northern Railway.  
 Cleveland & Marietta Railway.  
 Cleveland, Lorain & Wheeling Railway.  
 Cleveland, Cincinnati, Chicago & St. Louis Railway.  
 Cleveland Terminal & Valley Railroad.  
 Colorado & Northwestern Railway.  
 Consolidated Traction Company of New Jersey.  
 Cooke Locomotive & Machine Company.  
 Cornwall & Lebanon Railroad.  
 Coudersport & Port Allegheny Railroad.  
 Dayton & Union Railroad.  
 Delaware, Lackawanna & Western Railroad.  
 Des Moines City Railway.  
 Detroit, Grand Rapids & Western Railway.  
 Detroit & River St. Clair Railway.  
 Dickson Mfg. Company.  
 Duluth & Iron Range Railroad.  
 Erie Railroad.  
 Erie & Wyoming Valley Railroad.  
 Evansville & Terre Haute Railroad.  
 Fall Brook Railway.  
 Fitchburg Railroad.  
 Fitchburg & Leominster Street Railway.  
 Grand Trunk Railway System.  
 Greenwich Gas & Electric Lighting Co.  
 H. K. Porter & Company.  
 Halifax Electric Tramway Company.  
 Hamilton Autographic.  
 Harlan & Hollingsworth Company.  
 Hartford Street Railway.  
 Hartford, Manchester & Rockville Tramway Company.  
 Hays & Falls Car Company.  
 Hoboken Ferry Boats.  
 Holyoke Street Railway.  
 Huntington Electric Railroad.  
 Illinois Central Railroad.  
 J. G. Brill Company.  
 Jackson & Sharp Company.  
 Laconia Car Company.  
 Laconia Street Railway.  
 Lake Erie & Western Railroad.  
 Lake Shore & Michigan Southern Railway.  
 Lehigh Valley Railroad.  
 Long Island Electric Railway.  
 Long Island Railroad.  
 Louisville, Evansville & St. Louis Consolidated Railroad.  
 Louisville & Nashville Railroad.  
 Lynn & Boston Street Railway.  
 Manchester Street Railway.  
 Manhattan Railway.  
 Memphis Street Railway.  
 Memphis & Charleston Railroad.  
 Metropolitan Street Railway.  
 Michigan Central Railroad.  
 Milford, Holliston & Framingham Street Railway.

Minneapolis, St. Paul & Sault Ste Marie Railway.  
 Montreal Park and Island Railway.  
 New England Railroad.  
 New Jersey Electric Railway.  
 New London Street Railway.  
 New Orleans & Northeastern Railway.  
 New York Central & Hudson River Railroad.  
 New York, Chicago & St. Louis Railroad.  
 New York, New Haven & Hartford Railroad.  
 New York & Queens County Railway.  
 New York & Northern Railroad.  
 New York, Ontario & Western Railway.  
 New York, Susquehanna & Western Railroad.  
 Newark & South Orange Electric Railway.  
 Newton & Boston Street Railway.  
 Newton Street Railway.  
 Norfolk & Western Railway.  
 North Jersey Street Railway.  
 North German Lloyd Steamship Company.  
 North Hudson County Railway.  
 Northern Pacific Railway.  
 Norwalk Tramway Company.  
 Ocean City Electric Railroad.  
 Ogdensburg & Lake Champlain Railroad.  
 Ohio Falls Car Mfg. Company.  
 Ohio Southern Railroad.  
 Palmer & Monson Street Railway.  
 Pittsburgh, Bessemer & Lake Erie Railroad.  
 Pittsburgh, Cincinnati, Chicago & St. Louis Railway.  
 Pittsburgh Locomotive & Car Works.  
 Pittsburgh & Lake Erie Railroad.  
 Philadelphia & Reading Railway.  
 Pittsburgh & Western Railway.  
 Pullman Palace Car Company.  
 Queen Anne's Railroad  
 Quincy & Boston Street Railway.  
 Richmond Traction Company.  
 Rochester Railway.  
 Rutland Railroad.  
 Schenectady Locomotive Works.  
 South Side Elevated Railroad of Chicago.  
 Southern Indiana Railway Company.  
 Southern Railway.  
 Springfield Railway.  
 St. Charles Car Company.  
 Staten Island Electric Railroad.  
 Staten Island Midland Railway.  
 Staten Island Rapid Transit Railroad.  
 Terre Haute & Indianapolis Railroad.  
 Third Avenue Railroad.  
 Toledo, St. Louis & Kansas City Railroad.  
 Toledo & Ohio Central Railway.  
 Utica Belt Line Street Railway.  
 W. S. Laycock, Sheffield, England, who supplies our  
 apparatus to all the leading Railroads in Great  
 Britain.  
 Wabash Railroad.  
 Wagner Palace Car Company.  
 Washington, Arlington & Falls Church Railway.  
 Wason Mfg. Company.  
 Western Maryland Railroad.  
 West Virginia Central & Pittsburgh Railway.  
 Western New York & Pennsylvania Railroad.  
 Wheeling & Lake Erie Railway.  
 White Star Line.  
 Wilmington, Newbern & Norfolk Railway.  
 Winchester Avenue Railroad.

## Gold's Improved Electric Heaters.

THE EFFICIENCY of an electric heater depends very largely upon the access which the flow of air has over the heated wires. The principle of a free circulation of air through the heater, so that all of the electrical energy developed into heat is utilized to the

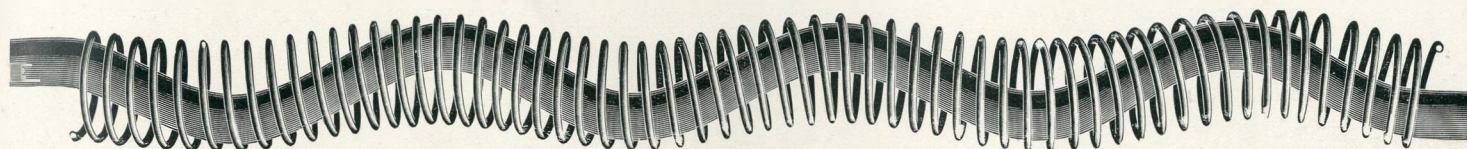


Fig. 81.

best advantage by being carried off of the resistance wire and into the car body, in an even and steady flow of warmed air, has been demonstrated to be the most satisfactory, and proven itself the means of warming the cars at the least expense of current.

Our object, therefore, has always been to so arrange the construction of our electric heaters that the freest possible circulation of air may be had, so that the air as it passes through the heater should be divided into the smallest particles, and each particle of air come in contact with the heated surface, and as a result, carry with it into the car body its full and equal share of the heat generated. It is now, and always has been, our constant aim to get the benefit in the form of thoroughly warmed air in the car body of all of the electrical current expended in the heater, and the only known practical way of accomplishing this is by having a free circulation of air through the resistance coils.

The construction of our improved heater provides for the perfect features desired. We have arranged to support our resistance coils in such a way that the support itself, while holding the wire firmly in place and not permitting vibration, will offer the smallest possible



Fig. 82.

amount of friction to the flow of air through the heater. This new method is shown in Fig. 81, and as can be readily seen from the illustration, this method of supporting the resistance coil of an electric heater is quite novel, and is radically different from anything of

a like character that has ever been attempted. It is compact, efficient, simple and durable, and that as a heating factor it far surpasses all other forms on the market to-day is at once manifest.

This support consists of a one-quarter inch steel rod, which is thoroughly covered with an insulating enamel and which enamel is burned on the rod at over two thousand degrees of heat. It is therefore not affected by any heat to which it will ever be subjected,

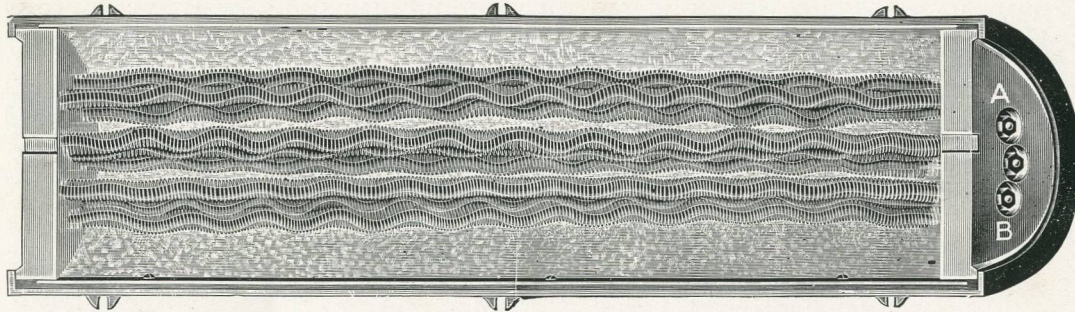


Fig. 83.

and is at the same time an absolute non-conductor. This rod is shaped in a zig-zag form, and the resistance coil when slipped on in place assumes the position shown by the illustration, Fig. 81.

We have given special attention to the composition of the resistance wire used in these coils, and in that which we are now producing we have combined a high resistance with absolute non-corrosive qualities. This wire is our own product and it is the result of long and careful experimenting.

It has been tried under all sorts of conditions, and has never been known to fail. The result shown by this wire has made a very great demand for it as it has earned the complete approval of every one who has used it. We are certain, in fact we know from experience, that for heating purposes, this wire combining, as it does, a high resistance, being positively non-corrosive and always maintaining its original condition, it is without any equal.

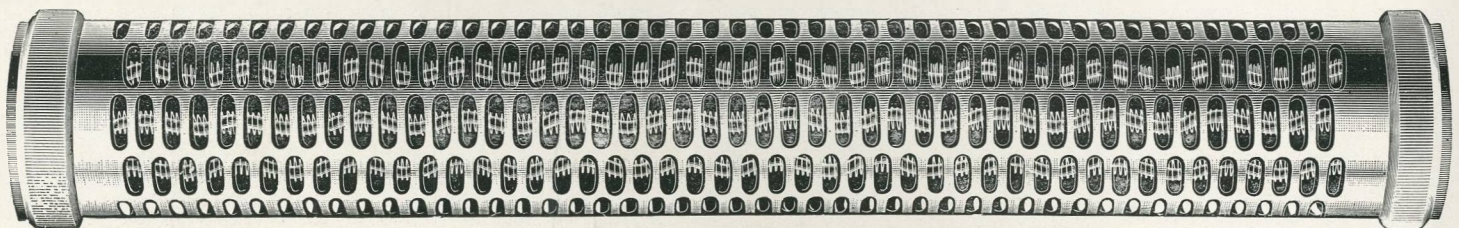


Fig. 84.

Our resistance coil is wound on an open pitch, so that when it is placed on the zig-zag rod the wire is in its natural condition and is not subjected to any strain whatever. It has only tension enough to keep it firmly in place.

The many advantages of this method of construction are apparent.

A large amount of wire is secured in a small space without resorting to the use of a bulky and solid core.

Persons familiar with the use of electric heaters know that when resistance wire is wound around a solid core, the unevenness of the temperature on the wire caused by insufficient circulation of the air over the heated surfaces, has resulted in a great many instances, in the complete failure of such forms of electric heaters.

Another disadvantage which was found with electric heaters was that in all others, except the Gold Electric Heaters, the wire of the resistance coils was wound on a close pitch, and when applied to the support was necessarily pulled out under a tension. When the current was turned on to these coils, the inequality in the temperature of different parts of the coil caused it to draw apart or pull open in some places, and draw together in others, thus cutting out a large amount of the resistance, and consequently increasing from time to time the consumption of current.

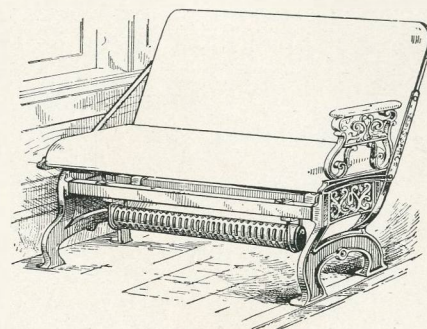


Fig. 85.

Fig. 81 is an exact reproduction of the Gold Resistance Coil and Support.

This construction is certainly the acme of simplicity. There is no bulky core to obstruct the passage of the air, but, on the contrary, the very freest circulation of air through the coil takes place, and it is a known fact that to thoroughly heat air it must be circulated, or in other words, must be divided up into the smallest particles and passed over the heated surfaces.

The wire is evenly heated over the entire surface and always maintains its original and natural condition. In the improbable event of a wire breaking, it would be held fast on the supporting rod, whereas, in heaters which have the wire wound around a core under tension, when a wire does break it will unwind and short-circuit with the heater casing.

Extensive tests made by disinterested parties have always proven that electric heaters using this improved coil far surpass in every way all other heaters on the market, and we may assuredly say that we can show at least thirty per cent. more efficiency in delivering the warmed air into the space to be heated with our improved heaters than is possible with any others.

We are using this improved construction in all of the electric heaters which we are now manufacturing, and the results given by it in our many different forms of heaters are all that could be desired.

Fig. 82 shows our most improved form of Electric Car Heater. This heater sets into the panel under the seat, the front of the heater being flush with the panel. It is the standard size of such electric heaters in use to-day. Like all of our apparatus, it is solidly built, the mechanical details are all perfect, and it is very easily applied.

Fig. 83 shows the interior of this heater. It is lined with asbestos, and has an air space provided at the top, which prevents the back of the heater case from becoming unduly heated.



The ends of the enameled supports are fitted into solid porcelain blocks. The resistance coils are connected to the binding posts on the inside of the porcelain ends and from the outside terminal of the binding posts connection is made direct to the adjacent heater, as shown in diagram 9. As two circuits are used, one for the single series and the other for the parallel series, two wires are run from the regulating switch to the first heater and thereafter from heater to heater around the car, terminating at the ground. This arrangement of the binding posts in the solid porcelain end plate of our electric heater is a decided advantage, as it affords the simplest possible method of wiring and avoids all liability of breakage, short circuits or mistakes in wiring.

This heater has the coils so arranged that the upper sets are in multiple and the lower set in single series. We usually apply six of these heaters to a car of about twenty-four foot body, and graduate the heat into three different degrees by turning the handle of the switch to any of the three points noted on the dial.

We use an especially constructed switch, with which the first or lowest degree, the

second or medium degree, or the third and hottest degree may be had by turning the handle of the switch to points 1, 2 or 3, noted on the dial, for such degree of heat as may be desired.



Fig. 86.

Diagram 9 shows a plan of a car equipped with six of our heaters, having the three degrees on each heater. When the regulating switch is turned to the first point the current passes through the lower set of coils in every heater; at point number two the lower set of coils is cut out, and the current passes through the upper sets in every heater in parallel series, and at point number three the current passes in multiple series through all the coils

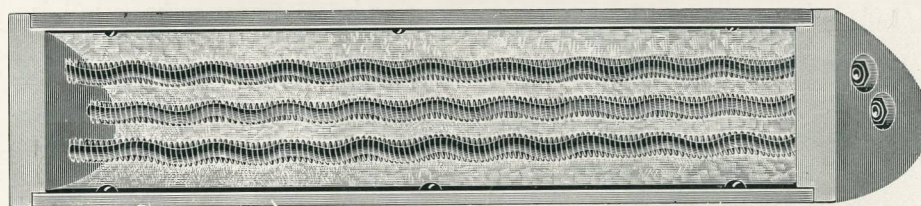


Fig. 87.

of every heater in the car, and, as a consequence, all of the heaters distribute the warmed air at an even temperature at all times, no matter at which point the switch may be set,

thus maintaining in the simplest possible manner a perfect regulation of temperature, which is even, agreeable and uniform in all parts of the car.

Our heaters have received special commendation on account of the uniform manner in which we distribute the heat throughout the car body. We have learned from our years of experience that an even, agreeable and uniform temperature should always be maintained throughout the car, and we have, therefore, arranged the construction of our electric heaters so that all passengers are benefitted alike in this respect.



Our long and most successful career as leaders in the steam railroad car-heating field, coupled with the additional knowledge acquired by equipping a large number of street cars, has given us the advantage of becoming more thoroughly acquainted with the many requirements of practical and satisfactory car-heating than others.

The regulating switch, as well as all other parts used in our electric heating equipment are as simple as it is possible to make them, and their durability has already been proven. All of the material used by us for our appliances is of the best quality to be obtained in the market, the workmanship is first-class in every respect, and a great deal of mechanical skill and ability is embodied in the heaters which we are now producing.

We manufacture and carry in stock a great many different styles and designs of electric heaters.

Fig. 84 shows a large view of the Gold Standard Electric Heater.

This heater consists of three Gold Improved Resistance Coils and Supports shown in Fig. 81. These rest in porcelain plugs or caps at either end, and are encased in a cylindrical perforated sheet-iron casing, as shown. This heater is three inches in diameter and about twenty inches long. It has been greatly admired for its simple construction and surprising efficiency. It is particularly adapted for cross-seat cars, elevated railway or regular railroad cars which are propelled by electricity.

Fig. 85 is an illustration of a car seat underneath which is suspended a Gold Standard Electric Heater. As may be seen, this heater is supported in neat iron brackets and is held very firmly in position where it will not come in contact with the feet or clothing of the passengers. The method of connecting this heater is simple and the style of hanger used permits of its being attached or released very quickly.

Fig. 86 shows our smaller size panel electric heater. It is lined with asbestos and has an air space provided at the top which prevents the back of the casing from becoming overheated. This heater is made to furnish three degrees of heat from every heater, or two degrees, or simply one degree, as desired. We recommend the use of ten or twelve of these heaters in cars from twenty to thirty feet long.

For smaller cars six of these heaters may be used, furnishing but one degree of heat, and the cost of applying this latter equipment would be very small, in fact it would be the most economical form of an equipment in the way of electric heaters on the market at the present time. The original cost of the installation is not only reduced to a minimum but the consumption of current is correspondingly small. These heaters may be used in this way with very good effect.

As shown in Fig. 87, the coil used in this smaller heater and the support is the same as used in our three-degree heater, being the construction shown in Fig. 81.

Diagram 10 shows a plan of cross-seat street car equipped with fourteen Gold Standard Electric Heaters, controlled by a three-point regulating switch.

A great advantage of this Gold Standard Heater is that being of such compact form it is a very desirable size and style with railroads, as it can be used in so many different positions.

Perfect uniformity of distribution of the heat can always be secured from this style of heater, for they can be placed about the car in such a way that this condition can always be maintained. They are light in weight and very durable.

Diagram 11 is an illustration of a car equipped with Gold Standard Electric Heaters. We give a description of the wiring of the car, etc., such synopsis being directly under the illustration. We might mention that this system has recently been adopted by the South Side Elevated Railroad, of Chicago, after that road had made extensive tests of the electric heaters of five of the leading manufacturers in this country. The first order covering about three thousand Gold Standard Electric Heaters. The results obtained from this large number of heaters during one severe winter were so satisfactory to the railroad company that the following year we were given an order to furnish electric heaters to equip the balance of the road, over two thousand additional heaters being required for this purpose.

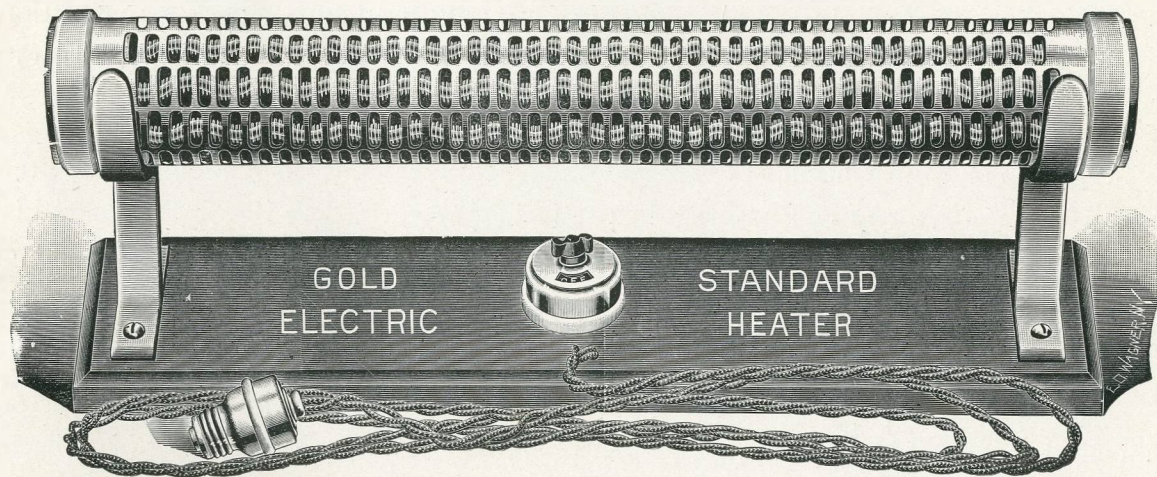


Fig. 88.

Fig. 88 shows a Gold Standard Heater, supported on cast-iron base and made up complete, with cord and plug ready for attachment. The switch on the base is for the purpose of turning the current "on" or "off."

We have constructed a number of electric heaters of different styles and sizes, for dwellings, office buildings, etc. Fig. 89, shows one of our portable heaters, which is fitted with a three-point switch, making it possible to have three graduations of temperature.

This portable heater has a flexible cord, with plug attached, so that it may be connected to the ordinary lamp socket. It is compact, very efficient and is ornamental as well. Being of small weight, it can easily be removed from one room to another.

Fig. 90—Gold's Electric Heater for Boats, Buildings, etc. (Front view.) Can be screwed fast to the wall.

We make electric heaters similar to the small, round gas stoves (see Figs. 91 & 92) which are very ornamental as well as efficient. They are so constructed that they will boil water by placing a vessel on the support arranged at the top of the heater for this purpose.

This is a very desirable form of electric heater, as it can be used for heating liquids or for ordinary room heating.

As the original cost of installation and the expense of maintaining these electric heaters compare very favorably with the other systems of heating now in use, they are certainly a very valuable adjunct to any well-equipped building.

We have already installed them in a number of offices, dwellings, and in many of the largest Transatlantic steamers, and in all cases the reports we have obtained of the working of our electric heaters show that they have given universal satisfaction.

It is needless to describe the advantages which such electric heaters possess over other methods of heating. The dust, dirt and ashes, together with the obnoxious gases arising from the use of coal stoves, hot air, steam, or hot water heaters, are all entirely eliminated when our electric heaters are used.

**Fig. 81—Gold's Improved Resistance Coil and Support.**

**Fig. 82—Gold's Improved (three degree) Panel Electric Heater.**

**Fig. 83—Gold's Improved (three degree) Panel Electric Heater. (Sectional View.)**

**Fig. 84—Gold Standard Electric Heater (Plain).**

**Fig. 85—View of cross seat fitted with Gold Standard Electric Heater.**

**Fig. 86—Gold's Panel Electric Heater (Smaller size).**

**Fig. 87—Gold's Panel Electric Heater (Smaller size, sectional view).**

**Fig. 88—Gold's Standard Electric Heater. (Complete with base and all attachments.)**

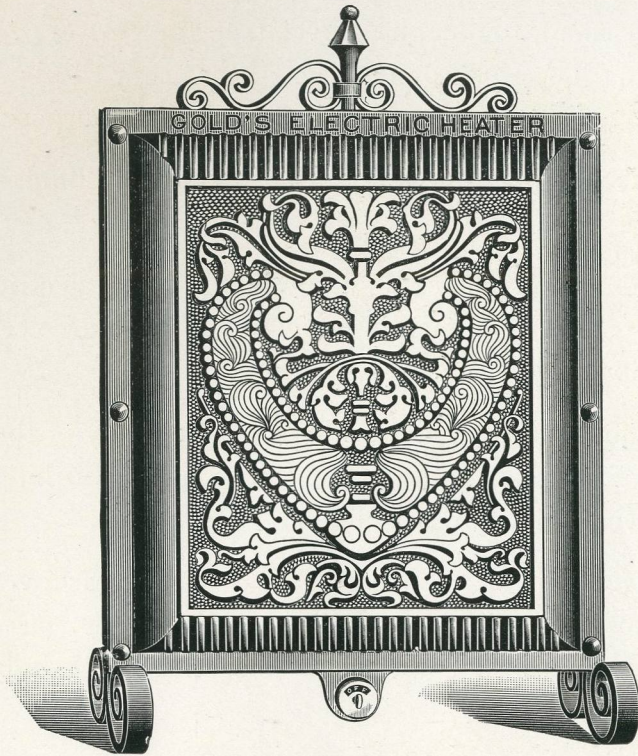


Fig. 89.



Fig. 90.

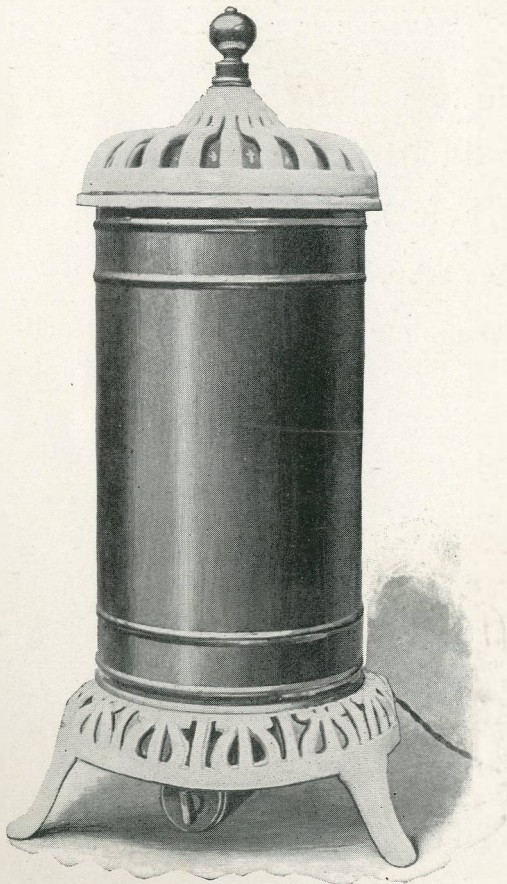


Fig. 91.

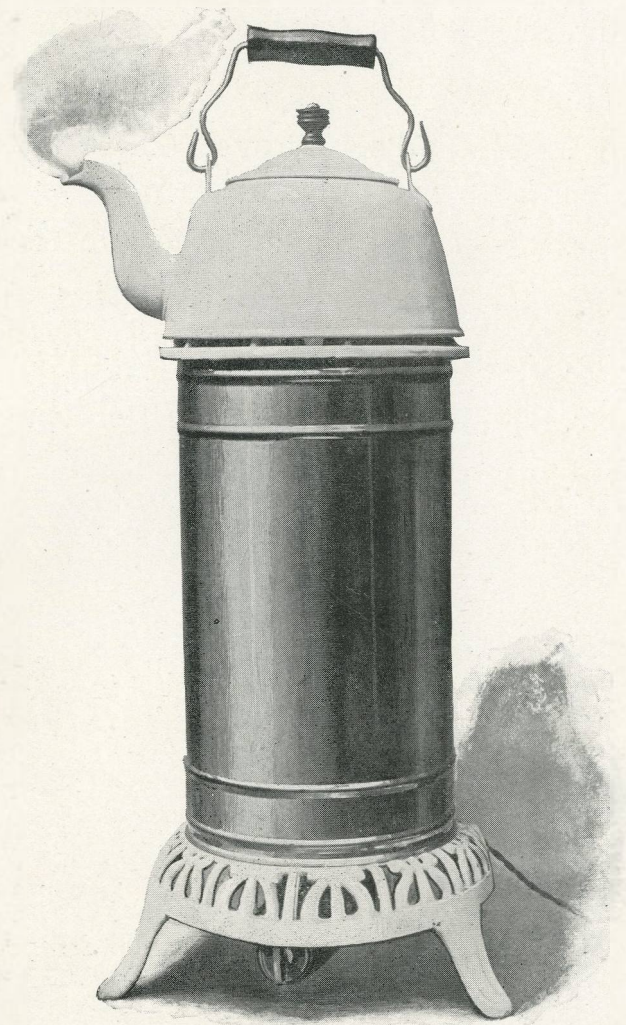


Fig. 92.



Fig. 93.

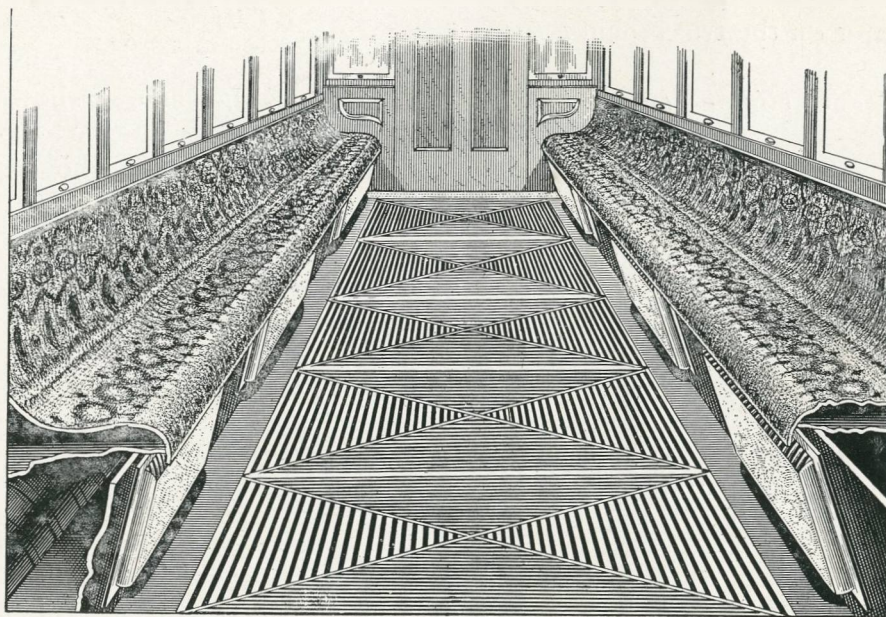


Fig. 94.

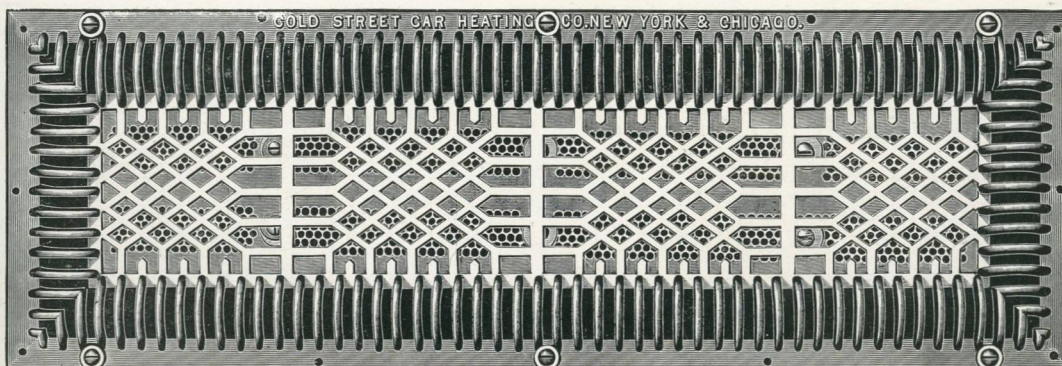


Fig. 95.

ULTIMATE  
VIRTUAL MUS



## Gold's Improved Riser Board Electric Heater.

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Fig. 93 shows one of our latest style Riser Board Electric Heaters.

We have designed this heater to fit on the outside of the riser board and occupy a very limited space. It is wired for two or three degrees of heat, as desired, and is especially adapted for use in cars where the heel board sets back some little distance from the end of the seat. It is also very well suited for use in cross-seat or parlor cars where it is desirable to screw the heater on the truss plank.

The resistance coil and support used in this heater is the same as shown in Fig. 81.

The case is thoroughly ventilated, is nicely ornamented, and the whole is put together in a very concise form.

As this heater is very narrow and of proportionally small length and width, it requires very little space for attachment.

We have made several different patterns of this new style riser board heater, some with closed fronts and others with the faces entirely of open work, so that we are now prepared to furnish this heater to satisfy any possible requirement.

Fig. 94 shows the interior of a car equipped with six of these Improved Riser Board Electric Heaters.

**Fig. 89—Gold's Portable Electric Heater (three degrees).**

**Fig. 90—Gold's Stationary Wall Electric Heater.**

**Fig. 91—Gold's Combination Electric Heater.** (View when used for heating apartment.)

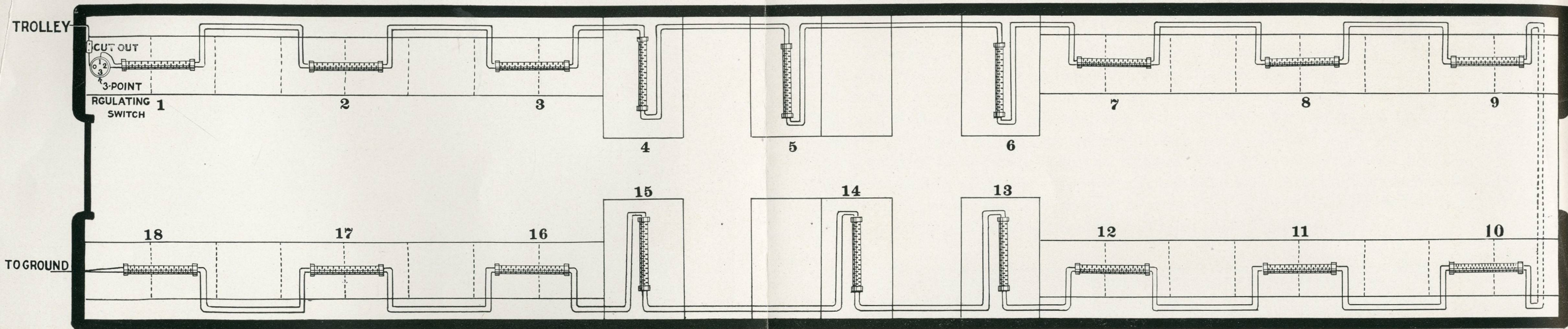
**Fig. 92—Gold's Combination Electric Heater.** (As it appears when boiling water.)

**Fig. 93—Gold's Improved Riser Board Electric Heater.**

**Fig. 94—Interior view of car equipped with six of Gold's Improved Riser Board Electric Heaters.**

**Fig. 95—Gold's Panel Electric Heater.**

# Gold's Improved Electric Heater Equipment for Elevated Railway Cars.



PLAN OF CAR USING  
Eighteen Gold Standard Electric Heaters.

THREE GRADUATIONS OF HEAT.

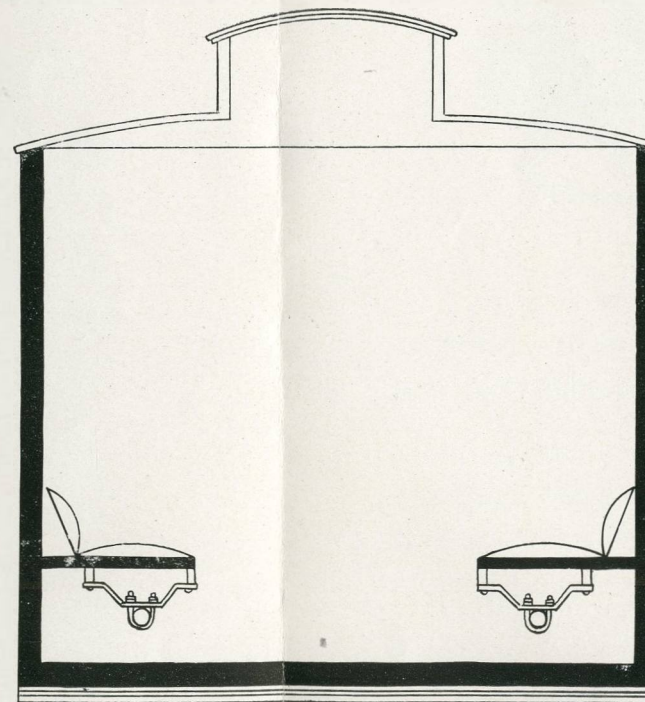


DIAGRAM 11.

When the Regulating Switch is turned to point No. 1 the current passes through one-third of every heater in the car.

When the Regulating Switch is turned to point No. 2 the current passes through two-thirds of every heater in the car.

When the Regulating Switch is turned to point No. 3 the current passes through all the resistance of every heater in the car.



# Gold's Improved Electric Heater Equipment for Cross Seat Cars.

(USING FOURTEEN GOLD STANDARD ELECTRIC HEATERS, WHICH SUPPLY THREE EVEN GRADUATIONS OF HEAT.)

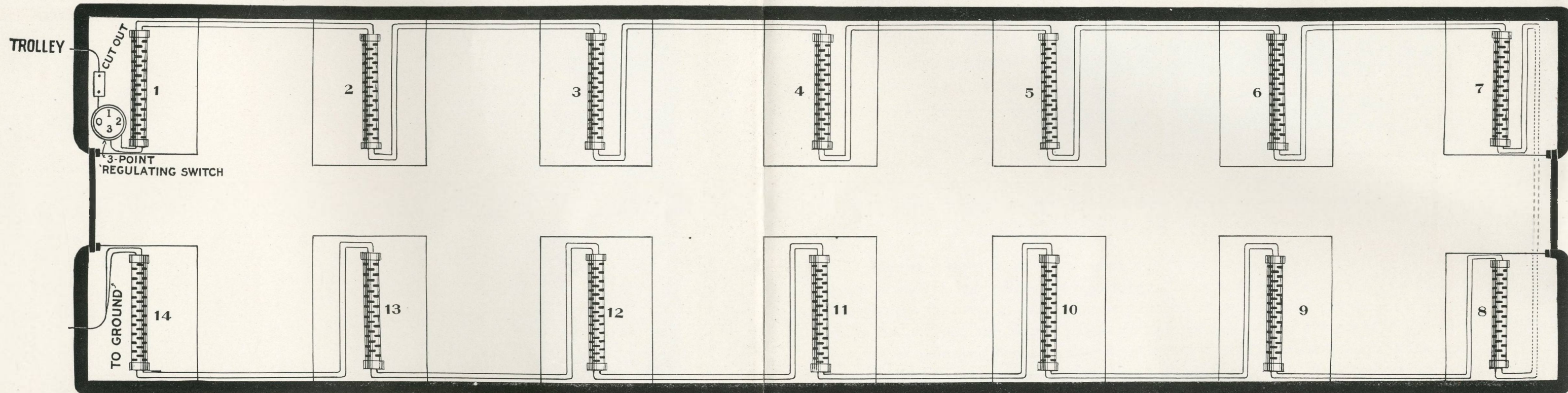


DIAGRAM 10.

When the Regulating Switch is turned to point No. 1 the current passes through one-third of every heater in the car.

When the Regulating Switch is turned to point No. 2 the current passes through two-thirds of every heater in the car.

When the Regulating Switch is turned to point No. 3 the current passes through all the resistance of every heater in the car.

# Gold's Improved Electric Heater Equipment.

(USING SIX OF OUR LATEST THREE-DEGREE PANEL ELECTRIC HEATERS.)

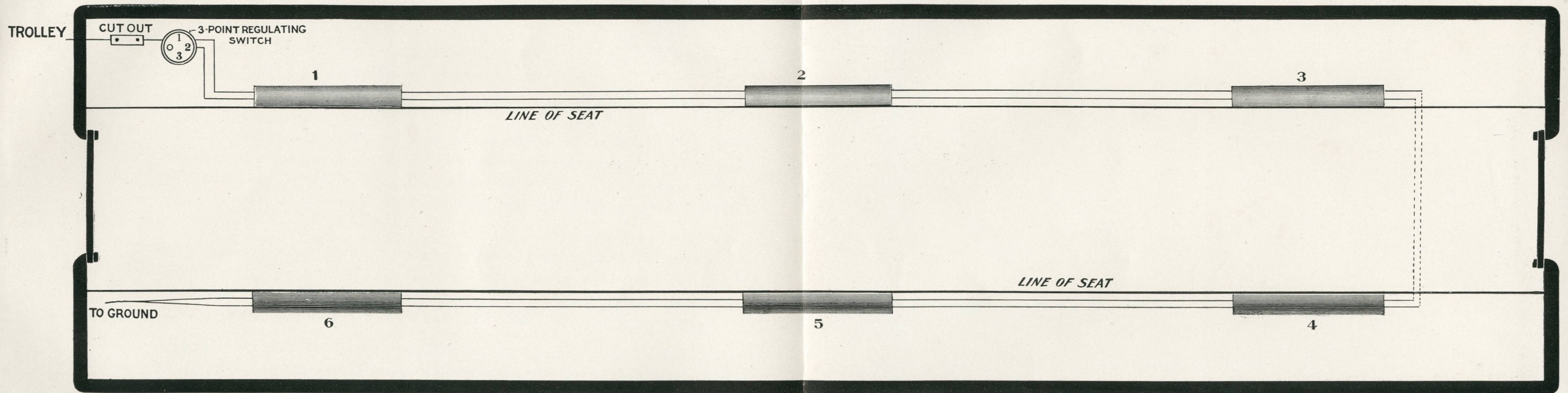


DIAGRAM 9.

When the Regulating Switch is turned to point No. 1 the current passes through one-third of every heater in the car.  
 When the Regulating Switch is turned to point No. 2 the current passes through two-thirds of every heater in the car.  
 When the Regulating Switch is turned to point No. 3 the current passes through all the resistance of every heater in the car.