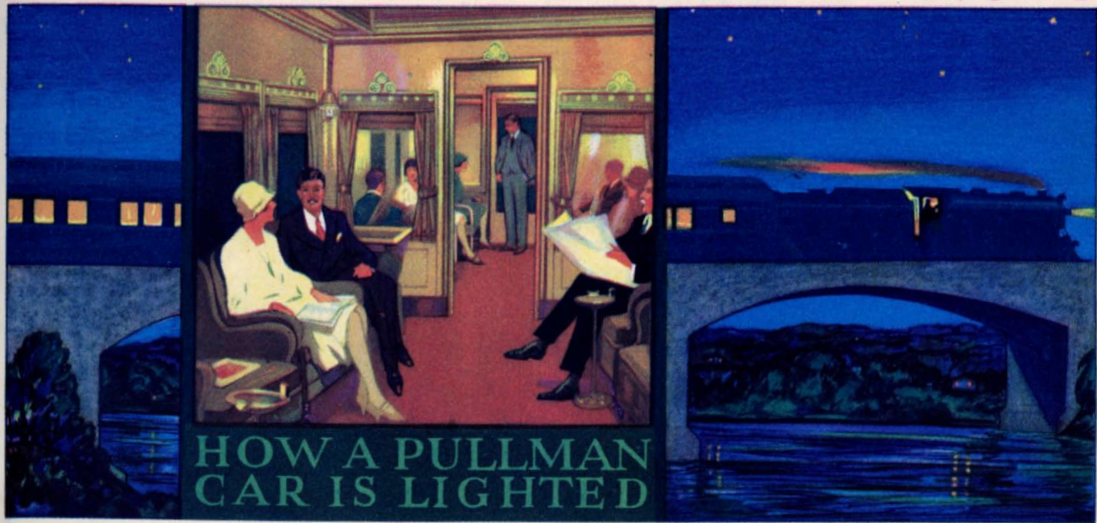


# PULLMAN FACTS No. 7



HOW A PULLMAN  
CAR IS LIGHTED



THE NIGHT WATCH—*Rembrandt*

## PULLMAN LIGHTING

### *FROM CANDLES TO INCANDESCENTS*

**I**N A specially constructed room in an Amsterdam gallery hangs Rembrandt's painting, "The Night Watch," often accounted the world's most valuable painting. A night scene in a medieval Dutch town, it represents the watch of gorgeously accoutered bravos making their rounds. The sole illumination

is, seemingly, from torches borne by the squad; so marvelously has the artist handled high lights and deep shadows that one is almost convinced the noble canvas originates and radiates its own light.

"The Night Watch" is an irresistible urge to contemplate the part which nocturnal illumination has



BRAVOS AND "LANTHORNS"

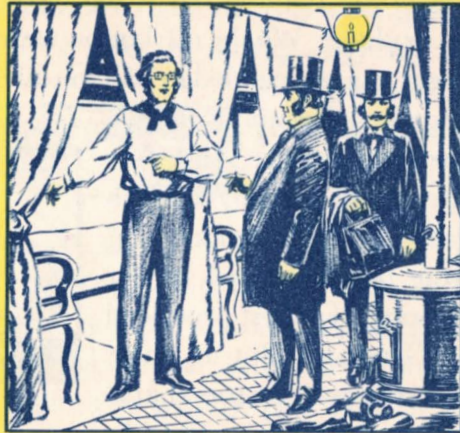
borne in the growth of civilization. Ancient and medieval cities were not lighted by night; whoever ventured abroad after dark needed a convoy of husky fighting men, broadsword and "lanthorn."

Then some genius got the simple but epochal idea of hanging the "lanthorns" on poles instead of on pedestrians, and the light of civilization shed its first rays from a street corner lamp post. Redemp-



tion of the cities had begun, but the rural highways still continued to make night journeying a reckless defiance of the fates.

The safety and comfort of modern travel owe hardly more to mechanical power than to improved lighting. Early railroad trains did not run at night; even after the headlight's invention, cars with smoking, smelly candles were shunned. The petroleum age brought kerosene,



A CANDLE-LIGHTED SLEEPER

but crude refining left it too liable to explode. Whale oil lamps were tried; gas was carried in balloon-like bags atop the cars; acetylene gas from storage tanks was tried; and in 1867 Pintsch gas, destined to be for a long time the last word in car lighting, was first produced in Germany. But all these were so unsatisfactory that so late as the Chicago World's

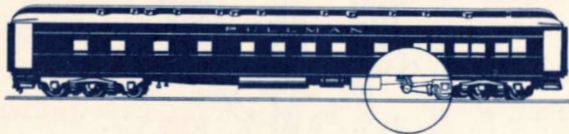


PRIMITIVE CAR'S  
LIGHTING "PLANT"

Fair of 1893 photographs of European royalty's trains showed some of them lighted by candles! Edison's in-

candescent inspired experimentation everywhere with electric train lighting. The combination of a cumbrous and temperamental storage battery invented by a Frenchman, with the Edison lamp, in American-built Pullmans, on an English railway, re-

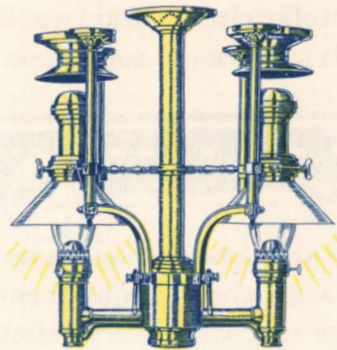
sulted in the first operation of an electric lighted train, in 1881. Experience proving storage batteries too heavy and unreliable for long runs of the American railways, a generating plant in the baggage car was tried, a small stationary engine drawing steam from the locomotive and operating a dynamo from which the



THE AXLE GENERATOR ARRANGEMENT

train was lighted. This was varied in some cases by placing a lighting tender in the train; a car carrying boiler, engine, dynamo, complete electrical equipment. Neither of these being very reliable as sources of current, a combination fixture was used on Pullmans, with which Pintsch gas could be turned on if electricity failed.

The Pullman company spent years and fortunes in this experimentation stage, even installing a division at its car building plant to perfect the storage battery or some other device. Out of all these efforts was at length developed the present system, in which a dynamo under the car floor is

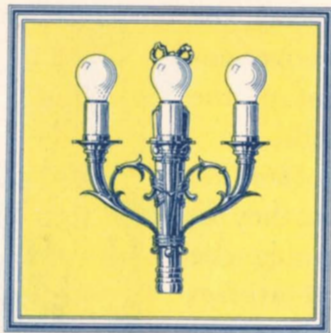


OIL LAMP IN USE  
BETWEEN 1873 AND 1890

belting to a pulley on one of the axles. The current thus generated charges a storage battery from which the car is lighted, whether it is moving or not. Thus every car has its own complete electrical installation; but the plants on all cars in a train are connected by the electrical train line as insurance



against a particular car's installation being disabled. It sounds simple enough, but to bring electric car lighting to its present perfection was one of the most complex, difficult and expensive achievements of electrical art. When it had at last succeeded, the *Railroad Gazette* thus gave credit to George M. Pullman:



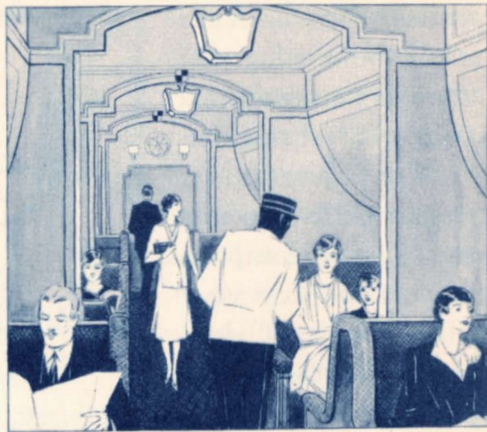
MODERN PULLMAN CAR  
LIGHTING FIXTURE

Without his inspired initiative and vast resources for practical and costly experiments, it is fair to believe that electricity would not have been successfully utilized for many years.

When it is considered that only a few years before Pullman began building cars, one American railroad had advertised, as a very special attraction, that its cars were lighted (a

candle at each end of the car), the foregoing will not seem an over-enthusiastic acknowledgment of the progress that has been made.

. Electric train lights are not only the best, but are absolutely safe; they involve no fire hazard. Nothing else could give so much general satisfaction. In the standard Pullman over 100 lights are distributed in aisles, halls, washrooms and berths; every nook and cranny can be thoroughly



THE SATISFACTIONS OF GOOD LIGHTING

lighted, yet the passenger in his berth can have darkness. Electrical by-products include buffet apparatus, clothes pressing, annunciators, fans. Its electrical apparatus accounts for more conveniences and satisfactions to the traveler than any other phase of the car's equipment; while as insurance against fire it has contributed much



to building up the legend among travelers that a Pullman ticket is the best of insurance policies.

Mr. Pullman's candle-lighted first sleeper of 1859 was accounted the best illuminated car to its time. All through the 70 years since then, Pullman enterprise has constantly led the unending progression toward better things.

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## TURNING UP THE PULLMAN'S LIGHTS

Two tallow candles constituted the lighting equipment of the first lighted railroad car.

1859—The first Pullman had three candles.

1885—Pullman standard equipment called for twenty-four kerosene burners.

1898—Fifty-three open-flame Pintsch gas burners were used in each car.

1908—Incandescent mantles on Pintsch lights brought a great improvement.

1915—The Pullman, with Tungsten electric lights, rides into the Electric Age.

1930—The standard Pullman with gas-filled electric bulbs in new, attractive fixtures, is the latest step toward lighting perfection.