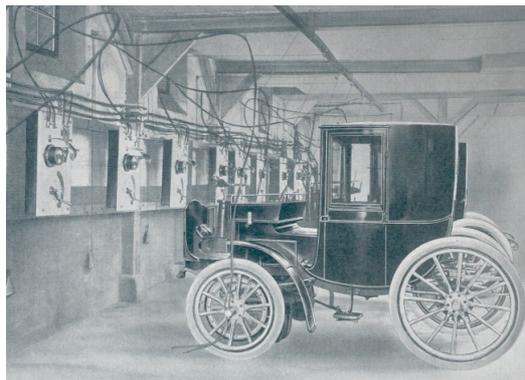


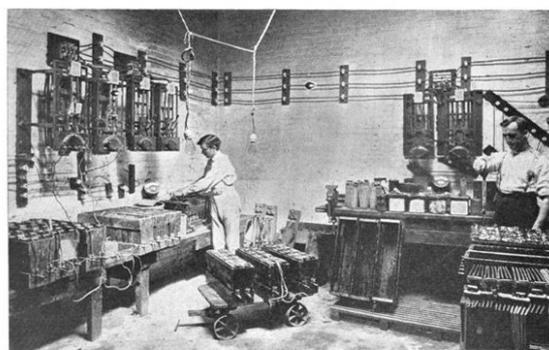
History of EV charging technology

Since the first appearance of electric vehicles (EV) in mid-19th century, there has been a need for EV charging technology. The first EVs had disposable batteries and technology for „charging“ was replacing „dead“ batteries. Invention of rechargeable batteries meant that new models of EVs had the possibility to use the same batteries without replacement. All this early models of EVs were not mass made, thus, there was no need for commercial charging stations. Also, main problem was that until early 20th century, many homes were without electricity, and that meant that it was impossible to charge the vehicle in homes. Electrification of homes meant that EVs would be more accessible to public. This would mean that more and more people would buy and use EVs. At the beginning of 20th century, 38% of automobiles in USA were powered by electricity. These cars would charge either with batteries in the vehicle, or battery was removed from the vehicle, charged at another place, and then mounted back on vehicle.



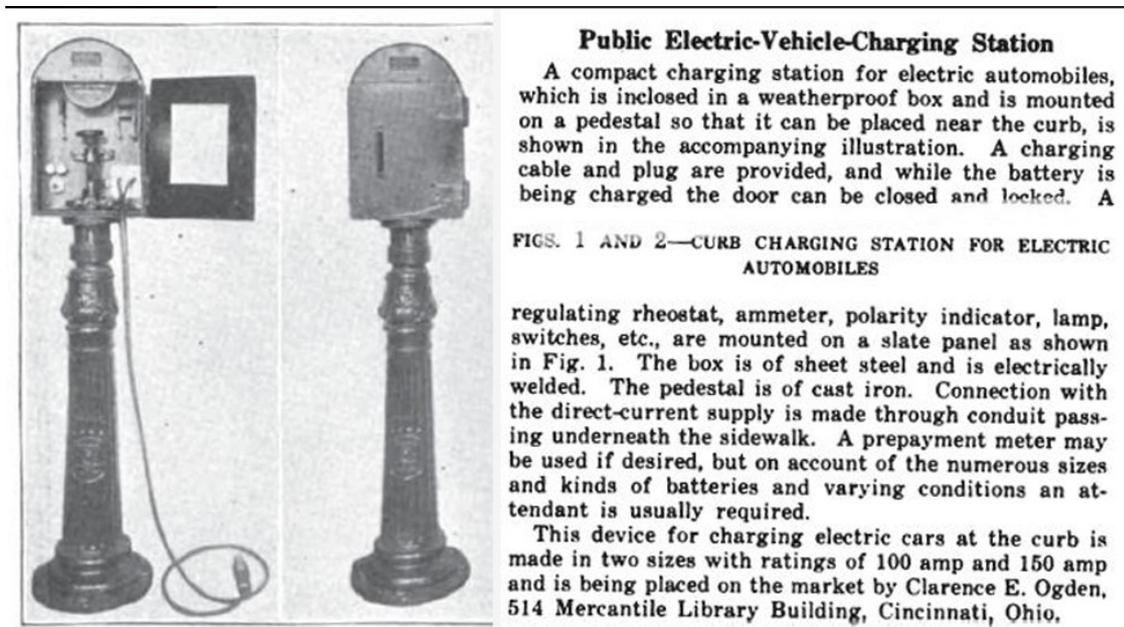
Picture 1 - Recharging center (<http://www.ruralroads.org/en/electricity.shtml>)

Features of an Electric Stable



Picture 2 - Battery room (<http://www.theatlantic.com/technology/archive/2011/03/batteries-arent-the-key-to-cleaner-transportation/72534/>)

During these early EV days, a company called General Electric introduced first charging stations called „Electrant“. They were like phone boxes set up around major US cities, and EV users could use them to recharge the vehicle.



Picture 1 - "Electrant" (<http://jalopnik.com/what-old-automotive-technology-is-new-again-531105802>)

Due to evolution of automotive industry in 1920's, improved road quality and quantity, EVs with their limited range were not more suitable for journeys, and this meant that their purpose was limited. Cheaper gasoline price during this period surely had even more influence on usage of internal combustion engine vehicles. This meant that until late 20th century, EVs were merely a quirk in automotive industry.

In late 20th century, public became more and more aware of air pollution, and idea of producing EVs started to rise again. Automotive companies started to make models of EVs, and question of charging infrastructure followed. First models of these EVs were able to be charged at home, using a normal socket. At first, hybrid cars were considered as some kind of compromise between ICE vehicles and EV, and home charging was enough to recharge them. As soon as companies started to make plug in EVs, need for a proper public charging infrastructure grew.

This brings us to 21th century and evolution of EVs and charging technology.