AN EIGHT-MILE HOUSE MOVING.

In the spring of 1900 it became known that the Chicago, Milwaukee and St. Paul Railroad would build an extension of their road from Yankton, S. D., into Charles Mix County, and the announcement of this

produced no little consternation in the three busy little towns of Platte, Edgerton and Castalia, which were situated too far from the projected line to lay claim to all the prospective benefits suggested by that magic term "railroad connection." The railroad surveyors had located on the short branch line two towns which were christened respectively Geddes and Platte, the latter place being the terminus of the road. Immediately after they had been located and surveyed an auction of town lots was announced, to which the residents of the surrounding hamlets flocked. The bidding was keenly competitive, and the very day after the sale the inhabitants of the above-named Platte, Edgerton and Castalia made preparations to move their homes and business buildings bodily to the new town sites. Following closely upon this determination there was witnessed upon those Dakota plains such an exodus as surely the world had never seen before. Buildings of all shapes and sizes could be seen moving across the prairie, some in solitary state, and others in groups of three and four.

The longest journey undertaken by any one building was from the town of Castalia to the new

city of Platte, a distance of eight miles, the trip being complicated by the crossing of the Platte Creek and some rather rough intervening country.

The largest building to be moved was the Castalia House, a building forty feet long by 32 feet wide and 18 feet in height. To prepare it for its long journey it was stripped of furniture, the plaster was knocked from the walls, the doors

and windows taken out, and the house was trussed by means of planking, diagonally nailed on, and by iron tie-rods. The building was transported on four heavy trucks placed one beneath each corner, the wheels being 21/2 feet in diameter with a 2-foot face.

Each pair of trucks was coupled together by a 16-inch log which extended longitudinally beneath the sides of the building, and transversely across these logs were placed three 14 by 14 timbers, on which the house rested. The latter timbers extended on each side beyond the house, and a fourhorse team was attached at the ends of each timber, there being thus twelve horses on each side of the house. In addition to this, forty horses were hitched, in tandem, to the front end of the building, making thus sixty-four horses in all. At the first pull many of the chains and whiffletrees parted. Stronger whiffietrees were then cut out of stout fence posts, and heavier chains were used, with the result that at the next pull the house started on its journey.

The strange procession was accompanied by a wagon loaded with blocks, chains, jack screws, axle grease and barrels of water. Both the grease and the water were in frequent requisition, as the great friction frequently caused the bearing surfaces to smoke. The chief difficulty experienced in the moving was the crossing of a creek, to accomplish which it was necessary to build two temporary bridges of heavy logs and loose dirt. One of our illustrations shows these two bridges in place and the building descending the slope leading to the creek. Here we see two teams of twenty horses each at the front, with a dozen horses hitched on each side of the building. Owing to the soft nature of the ground difficulty was experienced on either side of the crossing; but as the horses by this time had been trained to pull

Scientific American.

steadily together, the house was finally taken across and ultimately drawn to the new town site. The last three miles were covered with the assistance of eight more horses, making a total of seventy-two head. For making the pull across the creek, it was necessary to



HOUSE HAULED EIGHT MILES BY A 64-HORSE TEAM.



THE START.



CROSSING THE CREEK.

rearrange the teams. The twelve horses on each side of the house were brought up to the front and across the creek, the chains being lengthened and attached to the first transverse log as shown in the third engraving. As soon as the new site was reached, the building

Shows Dynamo Supported in the Truck Frame, and the Flexible-Gear Drive from Axle of Car to Shaft of Armature.

TRAIN LIGHTING FROM THE CAR AYLE.

was jacked up, the trucks drawn out, and the structure allowed to settle down on its new foundations. Our correspondent, Cornelius van der Boom, informs us that the new home of this much-traveled house is a thriving little city, where nine months ago was a quiet farm, thirty miles from the nearest railroad.

---TRAIN LIGHTING FROM THE CAR AXLE.

Tradition has it that the earliest instance of an attempt at car lighting occurred in the year 1825 on the Stockton and Darlington Railway, England. The company boasted of a single coach, whose accommodation consisted of a row of seats along each side and a long table in the center. To one Thomas Dixon, the driver of the "Experiment," as the car was called, belongs the credit of being the pioneer in the important field of car lighting on the rail. On dark winter nights, out of pure goodness of heart, he would buy a penny candle, we are told, light it, and place it among the passengers on the rough board which answered for a table. It is a far cry from the sputtering candle on the "Experiment" to the brilliant illumination of a modern, first-class, vestibuled train; and the history of car lighting would form by no means the least interesting section of a history of the development of railroad transportation.

The candle, no doubt, soon gave way to the oil lamp, whose undisputed possession of the field

lasted so long that it is not by any means the oldest among us alone that can remember the extreme discomfort of the old oil lamp-nay, it is possible even today, upon certain roads that lead out of New York. to wander into cars which are still lighted with the archaic kerosene lamp. The oil lamp in due course gave way to gas, and this in its turn should, in the natural order of events, give place

to some form of electric lighting, the latter having certain manifest advantages in the way of efficiency, comfort, convenience, cleanliness and absence of risk, which are so self-evident as to need no reiteration just here.

> Efforts in the direction of electrical car lighting have been confined to two different systems, in one of which current is furnished by a dynamo with a steam drive, located in the baggage car, the other being of the combined dynamo and storage battery type, in which motive power is furnished directly from the axle of the car. The first type is subjected to the manifest disadvantage that the separate cars can be electrically lighted only when the train is coupled up, and in some of the installations made there has been the serious disadvantage of severe vibration due to the steam drive.

The method known as the Consolidated Axle Light system, which has long passed the experimental stage, both in Europe and in this country, is illustrated in the accompanying engravings, which represent the apparatus as applied by the Consolidated Railway Electric Lighting and Equipment Company to the overland trains on the Sante Fe route between Chicago and California. Under this system each car is provided with its own dynamo and storage battery. The dynamo is supported within the framing of the truck, by means of stout Ustraps, and it is so hung that the distance between the centers of the driving and driven pulleys respectively on the axle and on the armature of the dynamo can be adjusted. The dynamo is suitably encased in a cast-iron box, which protects it from the dust and fine gravel that are drawn along by the motion of the train. The drive consists of what is known as a flexible gear-a heavy elastic belt with V-