RAILBREAKER FOR REMOVING OLD TRACKS.

BY GEORGE STARK.

The St. Louis Transportation Company is at present making extensive improvements in its roadbed, and among other things is converting the Broadway cable into an electric line. The old tracks are being torn up, and with a view to enabling the company to make use of wider and larger cars, the new tracks will be placed somewhat further apart than the old ones. In removing the old track, the company is making use of a device known as the "railbreaker." This massive, powerful machine is the invention of George W. Barumhoff, General Manager, and Otto Schmidt, Master Mechanic of the Traction Company, and it is decidedly interesting to watch the ease and rapidity with which the machine tears up the old rails and at the same time breaks them into suitable lengths for scrap.

The railbreaker consists of a platform carried on two trucks and is propelled by a 15 horse power electric motor. At the forward end of the platform is erected a pair of stout, upright timbers, each of which carries a sheave at its top. The lowerends of the uprights are shod with steel and extend down close to the top of the rail. A heavy chain is provided with massive grippers at its outer end, and is carried up over the sheave and leads down to a drum on the platform, which is driven through intermediary gearing by an electric motor. When the railbreaker is in operation, it is run to the end of the track until the steel-shod bases of the two uprights rest upon the track at the point at which the rails are to be broken. The grippers are then carried forward and clamped at the ends of the rails, and under the pull of the chains the rail is bent up and broken at the heels of the posts, as shown in the accompanying engraving. The machine is capable of breaking the heaviest make of girder rail to any length that may be desired. The old rail when broken up in short pieces is not only easier to handle, but will bring about a dollar per ton more for scrap than a rail in thirty-foot lengths. This machine in one working day is capable of tearing up several thousand feet of track with the corresponding economy of time and labor. Such is the strength of the machine, that the rail is torn bodily away from the ties and up through the paving blocks, no preliminary loosening of the surface being necessary. In the present case the iron is being broken into lengths of about five feet, and as it is broken it is left lying on the ground, to be gathered up by the laborers and taken to the scrap pile.

FRONT VIEW, SHOWING TWO LENGTHS OF RAIL PULLED LOOSE AND BROKEN.

The Exportation of American Street Cars.

Before the introduction of electricity upon street railways, American builders exported horse cars to every quarter of the earth. England, France, Italy, Australia, India, the Philippines, and New Zealand, as well as the east and west coasts of South America, used American street cars. Having been far ahead of the world in the introduction of electric street railways, America has largely supplied the electric roads of foreign countries with not only engines and electric machinery, but street cars as well. The J. G. Brill Company, of Philadelphia, during the year 1899 built and sent abroad about three hundred trolley cars, besides a large number of cars of a miscellaneous character. The destinations have been in a general way England, the Continent of Europe, Africa, South America, and Australia.

A considerable order for cars came from Monte Carlo. These were particularly interesting to an American on account of the narrowness of the body, which was little more than six feet inside, and the fact that though the cars were so small, they were divided into first and second class compartments. The first-class compartment had cross seats, with an aisle on one side of the center, the seats holding one and two persons respectively. The first-class compartment was very elegantly upholstered and finished, while the second-class passengers had to be content with the plainest woodwork and seats. A shipment was also made to Lyons, France, of cars quite similar in appearance.

A large number of double-decked cars of a peculiar type were sent to South Africa. They were distributed between Cape Town, Port Elizabeth, and Durban. Many of these cars had barely six feet head-room in the center. Several lots of double-deck cars of the same general type have been sent to France. In these the upper deck was even more restricted in head-room than those for South Africa. All of these cars were erected and finished complete. They were then taken apart and packed flat in boxes, like a pack of cards. In some cases the painting and varnishing were omitted, leaving the cars in what is technically known as "in the white;" that is, they have merely a priming coat to protect the woodwork from dampness. When shipped in this way, the glass and upholstery are omitted, and the sections can be stowed so compactly as to make the saving of perhaps 10 or 20 per cent in the bulk of the car. This system has the advantage of reducing the freight, and, in many cases, import duties as well.

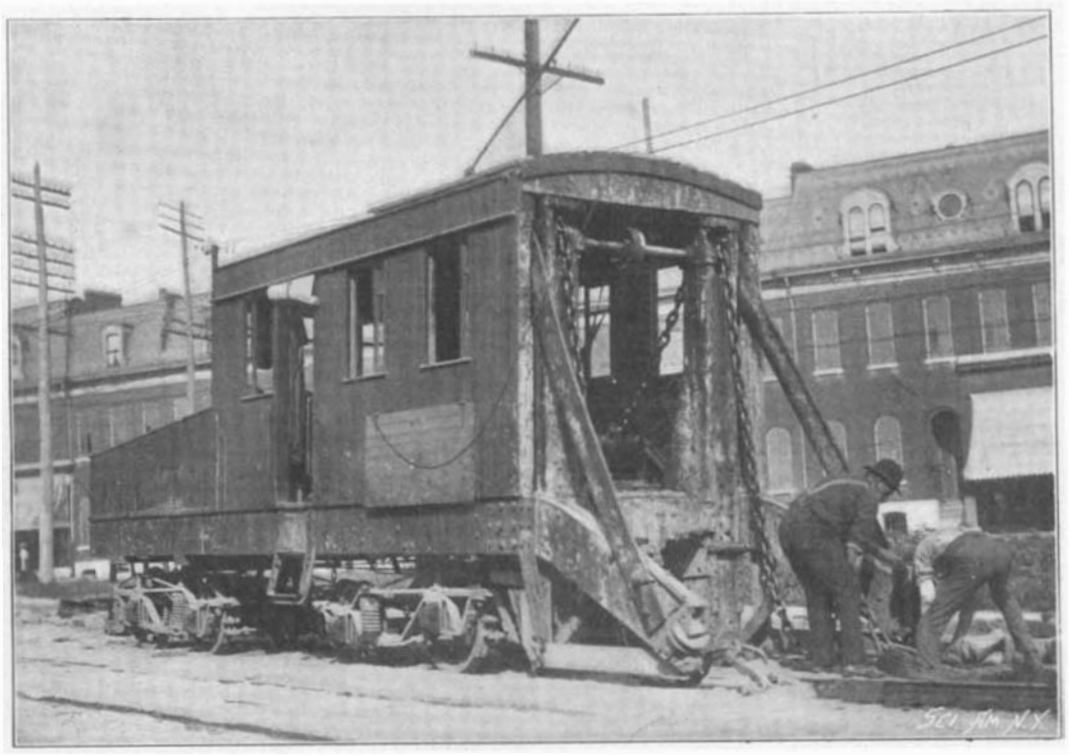
Cars sent to South America have been not only old-fashioned horse cars, but electric cars for a great variety of services. There has also been an outfit of meat cars and meat boxes, intended to handle the meat between the abattoirs and cold storage ships, as well as from the abattoirs to the city markets in Buenos Ayres. Another shipment of a number of cars was particularly interesting by reason of the fact that they were intended to transform the sleeping cars of the horse railroad into steam sleepers. The old line, some 100 miles in length, was operated by horses, and horse sleeping cars had been used for many years. These cars were taken from their wheels and mounted as a central section in the new car.

Central America and Mexico require a constant supply of cars of every variety. Some palace cars for narrow-gage steam roads, steam day coaches, freight cars, plantation cars, plantation electric locomotives, trolley cars of standard American types, and numerous special cars for street and steam railway work have been sent there. A few of these cars have been shipped entire, but the greater portion of them, after being completely erected in this country, are taken down and shipped in sections. Where the car is completely finished, men are often sent out to put them together upon their arrival. The cars sent to the city of Mexico, as well as those sent to South Africa, were erected by men who were sent from Philadelphia. The cars which are shipped "in the white," however, do not require special workmen to put them together, as there is no danger of injuring the sections during the work of erection.

Several peculiar types of cars are used in England. The favorite type is the ordinary double-deck car with the stairway at both ends. Large numbers of these have gone to the principal English towns. Municipal regulations both in England and on the Continent modify American designs most unfavorably, resulting in cars which are decidedly slow in operation. Glasgow has been experimenting with an American car which is carried on double trucks and which has a central entrance. Most of these have had one end devoted to smokers and open and the other end closed, as in American practice. The French car is usually a double-decker, often carried on a pair of Eureka maximum traction trucks. They have stairways at both ends and unusually long platforms.

One of the largest items of export has been that of trucks for electric cars. The Brills sent something like 2,000 of these abroad during the year 1899. In a single week orders were placed with these manufacturers for 1,700 trucks; one of these for 700 trucks is said to be the largest ever received in this country from abroad. The trucks are of three general types, the ordinary four-wheeled known as the No. 21 E, the maximum traction and a new form of equalized swing beam truck known by the firm designation as the No. 27. All these trucks have solid frames which may be either steel castings or solid forgings

The newly established car works at Preston, England, have not so far attempted to manufacture trucks, but are importing those of the Brill Company. Up to the present time the English and Continental railways have been content to use small cars mounted on four-wheel trucks, but there seems to be a marked change in their attitude, and recently a considerable number of double trucks have been ordered.



THE RAILBREAKER—ADJUSTING THE GRIPPERS TO THE RAIL.

Office Building Mail Service.

The large amount of mail matter which arrives at the New York Post Office every day addressed to the tall business blocks in Broadway and Park Row has caused the creation of what the postmen call "sky-scraper" mail routes, says The New York Tribune. They are considered quite a "cinch" for the winter, and the men who have been assigned to them are congratulating themselves that their work will be indoors. As many as three carriers have been assigned to some of the larger buildings, where the population is greater than that of many small towns and the mail matter received much greater in proportion. The Empire Building, American Tract Society Building, Park Row Building and Equitable Building have at least 3,000 occupants each, and have forces of mail carriers large enough for towns of that size. The daily population of the Equitable Building is 3,100, and three carriers work eight hours a day to handle the mail, which averages about eighteen thousand pieces a day. Every forty-five minutes mail wagons run over from the Post Office and carry back with them 75 pounds of outgoing mail. Many people who do not have regular offices in the building have their mail sent in care of friends, and this adds considerably to the quantity. The Park Row Building, with six floors given over to city departments, has an equally large mail. The Empire Building averages thirty-five thousand pieces a day, and there are several other buildings which receive almost as much.

The plan of making these big buildings separate delivery routes has given much satisfaction, and will be continued by the postal authorities.