

POWERFUL RAILROAD WRECKING CRANES.

The remarkable increase which has been made in recent years in the size of rolling stock for the equipment of American railroads has necessitated the construction of wrecking appliances on an equally extensive scale.

Wrecking cranes are now constructed ranging as high as over 50 tons capacity, but they can be manipulated so dextrously that even greater weights can be moved if desired. The 50-ton type is not intended to lift the complete locomotive which is now in use in passenger or freight service, for example, but can readily handle the engine when stripped of what might be called its movable parts. It is of such a capacity, however, that it can transfer a loaded freight car of the largest size as far as its arm will allow it to reach. The plan of construction of the 50-ton crane is quite similar to that of the smaller sizes, but upon the body of the platform car supporting it is mounted a steel bed weighing nearly 8 tons. Upon this casting the jib thrust travels on a roller path. To the outside of the crane are fastened the boxes for the shafts which operate the hoisting mechanism, as well as those for the shafts which vary the radius of the jib and slew the crane. The power is furnished by double engines, each having cylinders 9 inches in diameter by 12-inch stroke. The boiler is of the vertical type, being 50 inches in diameter and 9 feet in height. The crane can be operated either with or without the hook and block, and is provided with from 75 to 100 feet of wire rope, so that it can handle weights at this distance, although, when necessary, another line can be bent on in case the crane cannot be moved sufficiently near the weight to be handled. Additional stability is given the car by a system of telescopic outriggers, under which can be placed jacks supplied with the machine. This type of crane will lift 50 tons at a jib radius of 20 feet with the jib in position, while its weight in working order is about 77 tons.

Another type of crane which is favored for wrecking purposes is what is known as the double crane. As its name implies, it consists of two single cranes mounted on a platform car, each being operated independently of the other if desired. The average size of this type represents 40 tons total lifting capacity, but this can also be increased if desired. The double crane is especially available when it is desired to distribute lifting power to more than one portion of a weight. An interesting illustration of the work of this apparatus was recently given on the Pennsylvania Railroad near Pittsburg, where a passenger train was not only

derailed, but several cars and the engine thrown down an embankment into the river whose course lies parallel with the tracks. The locomotive went so far into the water that but a few inches of the cab were left exposed. The nearest wrecking crews were immediately summoned, and as the locomotive was not extensively damaged, it was decided to pull it out of the river if possible, and place it upon trucks to be hauled to the repair shop. A double crane was brought into service. One of the cranes was attached to the rear end of the locomotive by a hook connected with a

running gear illustrated, were once in common use throughout the United States.

The central car is one with which the public is generally acquainted. It is the standard high-speed city and suburban electric car of the day. Most residents of New York who have had occasion to go to New Jersey have had experience with the speed and easy-riding qualities of these North Jersey double-track cars. Large, comfortable, and roomy, they are apparently all that could be desired, and are now the latest thing in street railroading. They represent, very perfectly, the "Present."

The car on the right shows what we may expect in the immediate future. It is one of a large number in course of construction for the Aurora, Elgin, and Chicago line. A car of this type recently ran from Chicago to Aurora—a distance of 35 miles—in 34 minutes, or at a speed of nearly 62 miles an hour, including several slow-downs. The lower illustration represents the first shipment of ten of this type of cars, built by the John Stephenson Company. The floor frame is of steel, on which a body of wood is mounted. There are two compartments in each car, one of which is the smoker, and the other for the ordinary passenger service. Between them comes a toilet room. The ends are completely vestibuled, and arranged in a manner somewhat similar to those of steam coaches. For the interurban service the

third rail is used, but within the city limits, where they use the street railroad tracks, the cars are provided with the usual trolley pole at each end. Running, however, in pairs, they are all provided with end entrances. The cars without electrical attachments are used as trailers. These cars have been designed and built to maintain a speed of 70 miles per hour and upward.

The Delaware & Lackawanna Company has made preparations to establish a great electrical power house at its Hampton colliery in Keyster Valley. Power will be supplied to the sixteen collieries in that region. About a thousand mules and many drivers and other employees will be dispensed with. Instead of oil lamps, electric lights will be used. The Lackawanna has for some time been experimenting with electric drills and cutters in its Bellevue colliery, and has found them to work in an eminently satisfactory manner. It has an electrical breaker at the Auchincloss colliery, Nanticoke, which has given the utmost satisfaction, and it is only a matter of a short time before electric breakers will be established throughout the company's entire system.



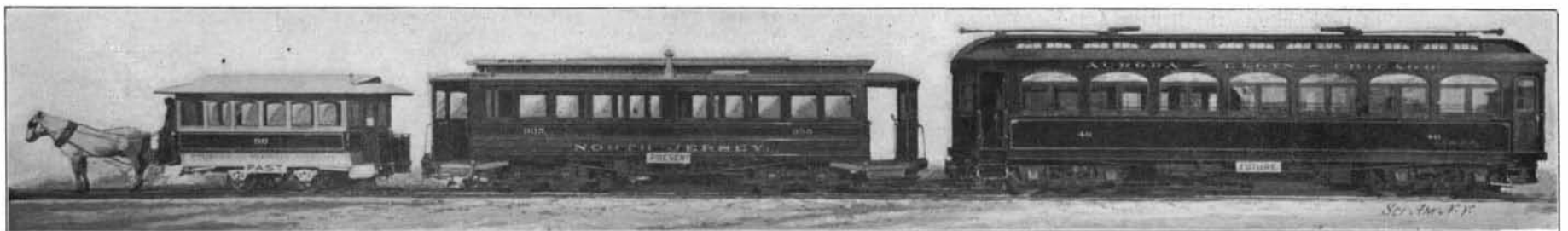
RAILROAD WRECK NEAR PITTSBURG. DOUBLE CRANE HAULING A 50-TON LOCOMOTIVE FROM THE RIVER.

block and tackle, which in turn was fastened to the crane by wire ropes. The other crane was connected by a single wire cable to the forward portion of the engine. Steam was turned into the cylinders, and the weight, which represented over 50 tons, was hoisted out of the river and up the bank without difficulty, the bank forming an incline which assisted in the movement. Although, as already stated, the cranes represented but 40 tons lifting capacity in all, they were so skillfully manipulated that the engine was righted and placed upon the trucks.

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PAST, PRESENT, AND FUTURE OF THE CHICAGO, AURORA, AND ELGIN RAILWAY.

In the upper illustration three styles of cars for street railroad service are represented. That on the left is the familiar horsecar of only a few years ago. The type is still built, and the car photographed is one of a lot recently shipped to the city of Merida, Mexico. The design is one which represents the latest achievement in horsecar practice, although for northern climates a raised roof would usually be added. Street cars of this general design, and mounted on the

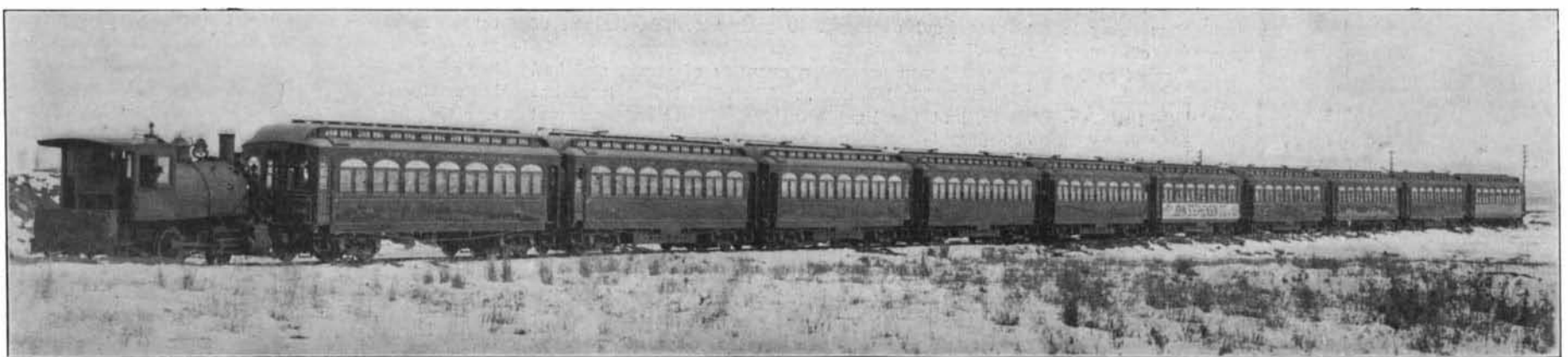


Past.

Present.

Future.

THE EVOLUTION OF THE CHICAGO, AURORA, AND ELGIN RAILWAY.



FIRST SHIPMENT OF HIGH-SPEED ELECTRIC RAILWAY CARS FOR THE AURORA, ELGIN AND CHICAGO RAILWAY.