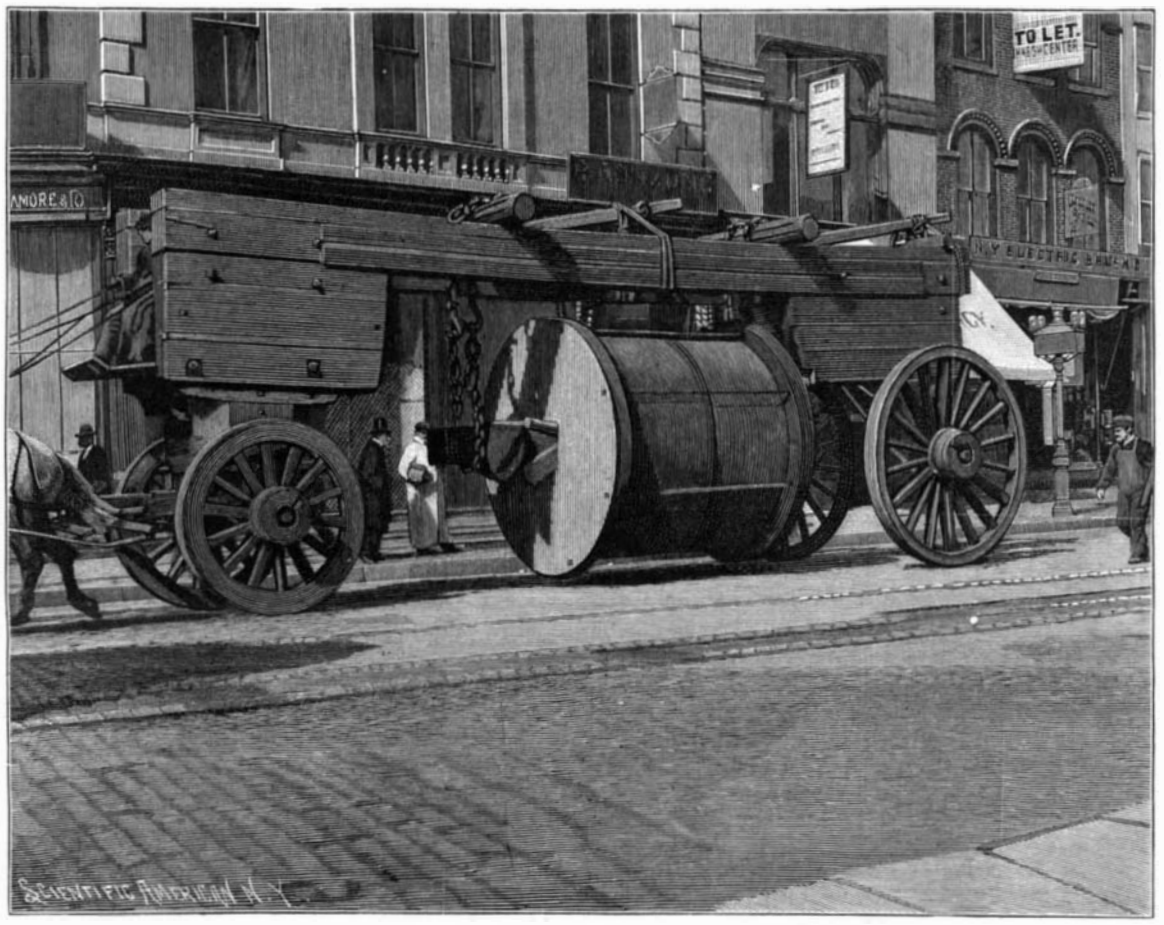
THE TRANSPORTATION OF LARGE CABLES.

The cable system of propelling cars has found favor in New York City, and the Third Avenue, the Broadway, the Columbus Avenue and the Harlem cable railways are in operation and the Lexington Avenue railway will soon be ready. The cables come to the power house either entire or in sections in big spools weighing from 40 to 50 tons. The spools are transported by means of gigantic trucks, drawn by long strings of horses; in some cases twenty horses are attached to the truck. We give illustrations, one of which is a near view of truck and cable spool; the other engraving shows the procession of horses employed in drawing the truck. Our engravings were prepared from photographs kindly supplied to us by Mr. A. Montant, of this city, who is a skilled amateur photographer.

When the spools have reached the power house, they are hung on trunnions and the cable is then run into the slotted tube that extends through the street. This is usually done by means of a platform car weighted with iron as heretofore illustrated in the SCIENTIFIC AMERICAN.

The cables on the Broadway road are one and one-half inches in diameter. They have a manila center. Around this and pressed closely into it are six strands each made of nineteen steel wires. After the cable has been threaded into the slotted tube, or conduit, and spliced, it is treated with wood tar and this coating is renewed from time to time. The cable is lubricated with linseed oil to render it easy to slide through the grips and around the curves. A cable for the Broadway road costs about $15,000 and wears very unevenly. The life of a cable varies greatly, but in general it is from 65,000 to 90,000 miles. On the Brooklyn Bridge a cable has lasted for 1,140 days, which is far above the average, which is 500 days.



TRUCK FOR CARRYING A CABLE SPOOL.

Fast Railway Speed.

According to the Railroad Gazette, the time made April 21 last, by the newspaper train from Camden, N. J., to Atlantic City, 58·3 miles, was 45¾ minutes, being an average rate of 76·46 miles per hour.

The train consisted of one combined passenger and baggage car, No. 5,116, and locomotive No. 1,658. It left Camden at 5:35¾ A. M. and arrived at Atlantic City at 6:21½ A. M.; running time 45¾ minutes. From Liberty Park to Absecon, 49·8 miles, the running time was 37½ minutes and average speed 79·7 miles an hour; from Berlin to Absecon, 35·6 miles, running time 25¾ minutes, average speed 82·9 miles an hour; from Winslow Junction to Absecon, 24·9 miles, running time 16 minutes, average speed 83 miles an hour. The fastest mile was made in 41 seconds, equivalent to a speed of 87·8 miles per hour. This was near Absecon, on a grade falling 10 feet per mile, following a short stretch of level track.

The engine is of the American type, 4 driving wheels coupled, 78 inches in diameter. The cylinders are 19 inches by 24 inches, and the weight of the engine in working order is 122,600 pounds, with about 87,000 pounds on drivers. It burns bituminous coal and the boiler carries a steam pressure of 175 pounds per square inch. The size of the grate is 33·25 square feet and the heating surface is 1,583 square feet.

American Art Products in Germany.

Commercial Agent Louis Stern writes from Bamberg to the State Department as follows: "It is well known that, on the occasion of the Columbian World's Fair, a number of specimen productions of American art and skill in fashioning the precious metals on exhibition there were purchased at the instance of the Industrial Art Museum, of Berlin. This collection, consisting of forty-seven ornamental art pieces and decorative table vessels produced for the most part by the establishments of Tiffany & Company, the Whiting Manufacturing Company, and the Gorham Manufacturing Company, is now being publicly exhibited in those German industrial cities which represent the same branch of industry. In this connection, therefore, it will undoubtedly prove a source of great satisfaction to the business and other circles interested in the United States to learn that these American works of art are meeting with most cordial encomiums on the part of German expert judges. At the present time, the collection mentioned is on exhibition at the Royal Drawing Academy of the city of Hanau, one of the leading places representative of the German gold and silver ware industry. The local papers devote long articles to praising the small exhibit, calling particular attention to the fact that these American products are not only effective by reason of the charm of novelty, but that they also afford instructive study as regards form and technical development.

"I close this short report with the translation of the critical judgment rendered by a German expert in the branch of industry in question, recently published in the Hanauer Zeitung. He writes:

"On the whole, from a technical standpoint, one must concede the solidity, dexterity, and neatness of execution displayed by these pieces. The principles of art followed by the Americans, as demonstrated by this collection, are difficult to properly characterize. Numberless suggestions, furnished by European art forms, Oriental influence, naturalism, practical American sense of fitness, and a little American primitiveness, also, are combined in the most remarkable manner. The great art traditions which guide European schools of art and elevate their standards of taste are obviously lacking with the Americans; but on the other hand, these traditions do not, as with us occasionally, act as an immovable interference; the American artists manipulate art forms in an entirely free and unhindered manner. The further circumstance that, in the large establishments of American firms, artisans from all the countries of Europe and Asia are employed, each giving the impress of his own particular schooling to the work of art produced, must also be taken into consideration. The natural result is that American productions show something of the peculiar, the novel, and the surprising.

"Many of the effects attained are bizarre, it is true, but then there is much that is original, of inventive ingenuity, and worthy of study. It is our opinion that, without any doubt, many fruitful suggestions can be gained from these works, especially as regards technical execution. The novel technical process consisting in the galvanic coating of pottery and glass vessels should be adopted with advantage by our branch of this industry. The effort to increase the color effect of silverware by employing stone decorations, enameling, etching, and vari-colored gilding is likewise worthy of general imitation.

"The great republic across the sea has added to its progressiveness in all other respects an advance in the dexterous manipulation of the precious metals which should not be undervalued by us in Germany."

HORSES DRAWING THE CABLE SPOOL.

Prune Rust.

The prune and other drupaceous fruits are frequently seriously injured by Puccinia pruni. It is most destructive to the prune in California, but also occurs on the peach, plum, cherry, nectarine, apricot, and almond. Mr. Newton B. Pierce finds that this disease can be held in check by spraying with ammoniacal carbonate of copper, or modified eau celeste; as the fungus is endophytic, treatment must be preventive. The fact is to be noted that the dry summers of California allow the spray to remain on the foliage until the fall rains.—Jour. Mycology.

THE celebrated Villino Ludovisi, in Rome, has been leased for the new American School of Architecture and Archæology.