

A NINE HUNDRED DOLLAR BICYCLE BRIDGE.

Wherever you find a body of wheelmen, there you may count upon united support for road reform. Pioneer work is always difficult and expensive, and calls for a good deal of persistence to insure recognition. The bicycle craze has now penetrated every part of the country. The army of riders has invaded the South,

**A BICYCLE BRIDGE AT TACOMA, WASHINGTON.**

East and West, carrying the desire for better roads into every rural hamlet, so that it really seems as though the future of good roads was assured. It is very satisfactory to note that the good roads movement is not confined to the East, but is very largely in evidence in the far West.

We present an engraving of a cycle bridge at Tacoma, Washington. We are indebted for the photograph as well as the following particulars to Mr. E. Irving Halstead, secretary-treasurer of the Washington division of the L. A. W.

Many people from the East visit Tacoma every summer. A good proportion of them are wheelmen, and they were surprised to learn in the early part of 1896 that the Wheelmen's Association had decided upon the bridging of the gulch in the southern part of the city which leads to the good roads beyond. The nature of the riding district makes the bridging of the gulch of more importance than the casual visitor may imagine. The opening of the elevated cycle path, which had been built the preceding year, was the means of lengthening the cycle path, so that the riders have now four miles of excellent cycle path from the bridge direct to prairie roads. Since the completion of the bridge, which is the largest cycle bridge in the world, the wheelmen cannot understand how they managed to get to the prairie roads by the inconvenient old route. Many of the citizens were opposed to the building of a cycle path. There was an argument as to how the bicycle license money should be expended, and it was finally decided to construct the bridge. Some few hundreds of the wheelmen objected to the license being enforced; but they soon saw the benefits derived from the levy, and to-day there is not one of the 2,500 wheelmen who objects to the payment of the \$1 per annum license.

The length of the bridge at the roadway is 330 feet, the height 110 feet, the width at the top 12 feet, the width at the bottom 50 feet. The trestle is built of 8 x 8 timbers thoroughly braced, the bents being 20 inches apart. The total cost of the bridge and approach was \$984.50.

The management of the local road improvements at Tacoma is admirably divided between the Wheelmen's Association and the L. A. W. The former attend to all the improvements within the city limits and the L. A. W. officials take care of the outside work. The road committee is now at work with new propositions for the convenience and accommodation of the riders, and, as a result of their labors, there will be several small bridges built in Tacoma. Those constructed under the supervision of the L. A. W. will bear neatly painted signs. The wheelmen of the district desire to demonstrate their banding together for concerted action. The bridge is a fine example of what good results a little money judiciously expended could produce. It should be an incentive to those interested in good roads to prosecute the work.

The Paris Fire Brigade authorities are said to be quietly carrying out some trials with a hose van propelled by means of a petroleum motor,

The Phonograph in Court.

A case recently came up in a New York court where an owner, suing for damages from a railroad company for injury done his property by the noise of passing trains, sought to introduce the phonograph, and thus give to the court direct and practical evidence of the sound vibrations caused by the locomotives and cars,

as they were propagated in the apartments of the plaintiff. The court did not finally rule upon the admissibility or non-admissibility of such evidence, holding the point open for further consideration as the case progressed.

GOOD WORK IN CHIMNEY MOVING.

The accompanying illustration is made from a photograph which represents the recent successful moving of a large chimney owned by the Manhasset Improvement Company, at Manhasset, Shelter Island, Suffolk County, N. Y. The chimney is 85 feet high and 7 feet square at base, with outer and inner walls 8 inches thick; it weighs nearly 100 tons. It was moved about 950 feet over very rough ground and quite a grade, both up and down. The picture shows clearly the construction of the cradle trusses, etc. The cradle rested on two skids greased on the under side and sliding on greased blocks. The purchase used was a chain capstan, and one horse at 180 fold, and the time occupied in loading and moving was only nine days, with the labor of only four men besides the contractors, W. H. & C. P. Topping, of Bridgehampton, N. Y. The chimney was placed on its new foundation without a particle of harm. This is the second chimney of the above description moved by the same contractors. The first one was 52 feet high, at Bridgehampton, and in both cases the work was completed without accident.

Two New York Elephants.

Among some animals recently received at the Central Park, New York, was a big elephant named Jewel. As the elephant was being taken through the streets to the Park, accompanied by a crowd of people at a respectful distance, and with her legs so chained that she could take only short steps, she stopped and attempted to turn back, dragging her keeper a little distance, until he stopped her retreat by tying her to an electric light pole. Thus leaving her in charge of an attendant, the keeper hastened

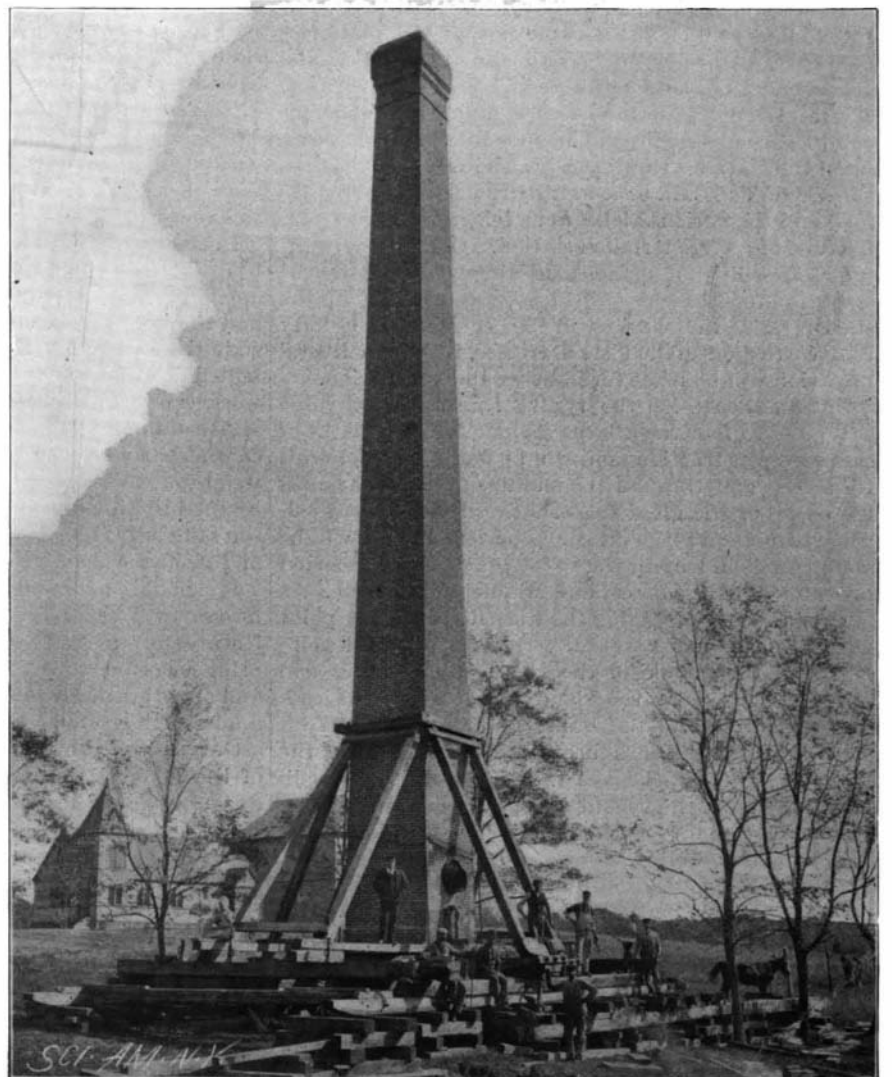
to and obtained from Superintendent Smith, of the Park menagerie, the services of the big elephant Duchess, who was led to the place where Jewel was fastened. The two elephants trumpeted as they came in sight of each other, and then became friendly, Jewel consenting, in a few minutes, to accompany Duchess to the menagerie, where the elephants were both led without further trouble. The tractability of Duchess has heretofore been of service on many occasions, where her great strength has been found advantageous in moving many articles. It was only a few days ago that she was brought out to move a heavy truck that had become stalled by the wheels sinking in a bad place in the road, a matter which presented no difficulty when Duchess, led by her keeper, placed her great head against the rear of the truck.

Utilization of Burned Out Electric Lamps.

It has, so far, says Industries and Iron, London, proved a fruitless task to attempt the renewal of burnt out incandescent electric lamps. Yet there appears to be some economic fallacy involved in the destruction of what is, except in one small, if important, particular, a perfect piece of apparatus. It is stated that an American firm have now succeeded in making a commercial success of a process for renewing burnt out lamps, which renders possible the use of the old bulbs at a very slight expense. By the new method the collar or base end of the lamp is not disturbed, the old filament being removed, and the new one placed through a small hole in the lamp bulb made by removing the tip. The small hole is subsequently closed exactly in the same manner as in the case of the new lamp, leaving nothing to indicate in the finished repaired lamp that it had ever been opened. It is stated that some 400,000 lamps have been repaired by this method, the filament being inserted through the small hole referred to by a skillful twist of the hand, and secured in position by a special carbon paste. The black deposit on the inside of the bulb is removed by fitting the lamp to a holder, and revolving it in a gas furnace; while, immediately following this operation, a small glass tube is fused to the opening made in the bulb, through which the lamp is exhausted. When this has been done, and the last trace of air and gas absorbed, a blowpipe flame is directed upon the throat of the tube, which is melted into a point exactly in every respect a counterpart of the original lamp.

The Evolution of the American Locomotive.

Attention is called to the fact that a very important series of papers on "The Evolution of the American Locomotive," by Mr. Herbert T. Walker, is now completed in the SCIENTIFIC AMERICAN SUPPLEMENT, the numbers being 1112, 1113, 1114. The excellence and historical accuracy of the drawings render the series of unique interest.

**MOVING A CHIMNEY AT MANHASSET N. Y.**