"The proposed method of projecting water upon fires would greatly reduce the cost of that service as administered at present, and at the same time vastly add to the efficiency of the means of extinguishing by the application of water. First, it would enable a few men with a light hose-carriage to reach the point of fire much quicker than the present heavy engines to-day; and at the breaking-out of a fire a minute is sometimes worth a million dollars, and frequently a hundred thousand. Second, it would enable the firemen, by the use of permanent stand-pipes, to connect short lengths of hose, and apply the water in large streams and solid masses; whereas at present, even when two or three engines are forcing water through a single pipe, or tower, the stream is largely converted into spray before it reaches the fire, and is then converted into steam, and even into a gas that aids combustion rather than stops it."

The medical authorities and health-officers of this city have given this plan much careful consideration, and their conclusions are favorable to the project. Mr. James C. Bayles, president of the Board of Health, in a communication to Mr. Bartlett, gives his views as follows: —

"It is undoubtedly true that at the present time large portions of New York are very inadequately supplied with water. This department has constant and serious trouble in that branch of its work which deals with the plans of tenement-houses and other dwellings, owing to the fact that the available supply of water is in many cases so small as to forbid a proper cleansing of plumbing fixtures, if these are provided. There are large districts of the city where the pressure rarely carries the water above the first story; and in the case of tenement-houses, divided into many apartments, each apartment must be provided with one or more pumps, which, finding their supply from the three-fourths-inch tap at the street-main, are not always able to lift the water required for domestic use. A good water-supply, abundant in quantity and excellent in quality, is a condition precedent to the healthfulness of a community. This is especially true of a crowded community like New York. I am of the opinion that no one thing would do so much to facilitate and make effectual the work of this department as a great and immediate increase in the water-supply, under pressure sufficient to reach the upper stories.

"I am unable to favor, from a sanitary point of view, the measures which have been suggested, looking to a restriction of consumption in order to prevent the present admitted large waste. A liberal use of water accomplishes what can be attained in no other way, — the cleansing of pipes and sewers; and people who have access to all the water they desire and can use, are likely to be cleaner in their homes and persons than those who suffer restrictions in this most important item of daily consumption. I do not think the sanitary aspects of the question with which we are now confronted, growing out of an admitted scarcity of water in New York, can be exaggerated.

"An increased supply and better distribution of water in New York would undoubtedly tend to diminish the number of contagious and infectious diseases with which we now have to deal, and would produce a marked improvement in the public health. If it were not for its peculiar position as the gateway of this continent, to which more than eighty per cent of the inflowing travel and immigration tends, our death-rate would not be so large as it is. For example: if the deaths among immigrants who have never become a part of our population could be eliminated from our totals, we should last year have reduced the death-rate per thousand from twenty-four or twenty-five to twenty-two. If, further, we could avoid the overcrowding of Italian and other impoverished immigrants in our tenement-house districts, our death-rate would compare favorably with that of the most healthful city of the world.

"It will not do, however, to attach too much importance to these hopeful figures. They are liable at any time to be changed, and nothing will tend so quickly and effectually to change them as a failure in the water-supply of the city. Of the dangers to which this is subjected, I do not need to tell you.

"Answering your question with reference to the effect which an increased water-supply would have in diminishing the number of malignant diseases of a contagious or infectious type, I regret that I am unable to be specific. This, of course, is largely a matter of opinion, but it is an interesting fact that a very large proportion of the cases of contagious and infectious disease which come under the care of the Board of Health are taken from the upper floors of tenement-houses. Whether this is due to lack of water, which is greatest on the upper floors, or to impurities in the water which rise to about that level, I am unable to say. I believe, however, that a material increase of the city's water-supply would promptly and permanently reduce the public burdens entailed in the care of the city's sick.

"The cordial sympathy and co-operation of this department would be extended to any practicable scheme looking to a supply of water for New York from other sources than the Croton watershed. Our city is growing with great rapidity, especially in the 23d and 24th wards, north of the Harlem River. It is probable that the needs of this district will not be more than met by the increased supply to be obtained through the new aqueduct, when all the engineering work looking to the impounding of additional water is completed."

If more need be said upon the subject from a sanitary standpoint, it is furnished by the following preambles and resolutions adopted by the Medical Society of the State of New York at a meeting held Sept. 24, 1888: —

"*Whereas* the present scarcity of water in this city is causing great inconvenience as well as serious apprehension for sanitary and other reasons; and

"*Whereas* the new aqueduct will not materially increase the present supply from the Croton watershed until after the storage-reservoirs are completed, six or more years from now; and

"*Whereas* the upper portion of the city, with its rapidly growing population, will soon require all the water that can be procured from that source; and

"*Whereas* the present insufficient supply of water is a constant menace to the health and safety of the city, inviting scarlet-fever, diphtheria, cholera, and other malignant diseases, as well as disastrous conflagrations: therefore be it

"*Resolved* that this society has listened to the explanation of the plans proposed by John R. Bartlett, Esq., for furnishing the city of New York with an additional supply of pure water, from a source independent of the Croton watershed, and that it approves the same, and urgently recommends it to the attention of the city authorities having such matters in charge."

PRUNES IN FRANCE.

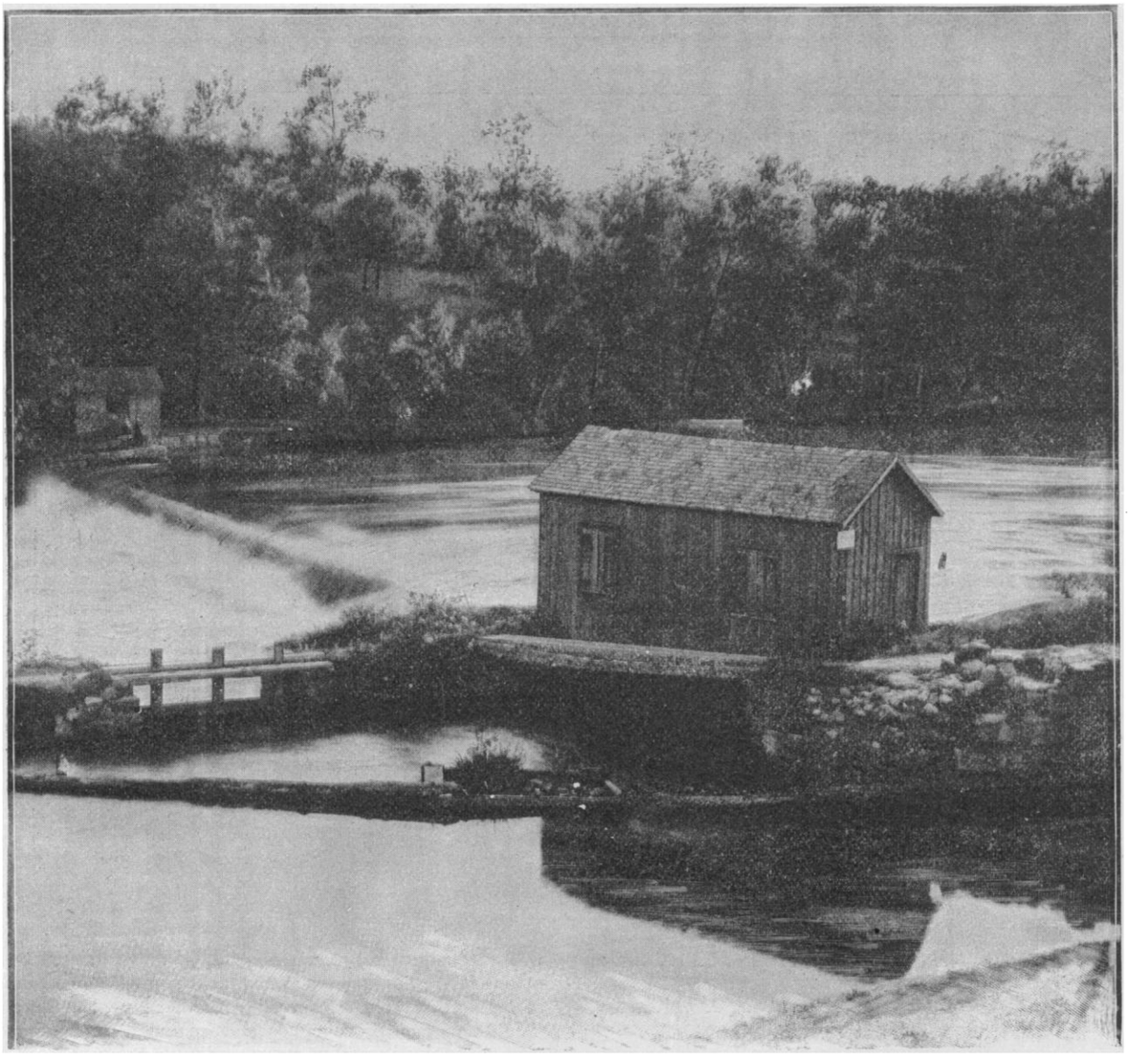
THE introduction of prunes into France is attributed to the Crusaders, says our consul at Bordeaux; and, if tradition is exact, this valuable fruit was first cultivated in the south-west of France by the inmates of a convent near Clairac. In travelling from Avignon to Fumel, through the valley of the Lot, fertile plains are seen covered with plum-trees, which furnish the famous *prunes d'Ente* and *Robe-Sergent*, these being exported to the remotest corner of the commercial world. The plum-tree does not confine itself to this particular district of France, but it is profitably cultivated in the valley of the Loire, the departments of the Garonne, Dordogne, Tarn, and Aveyron. The well-known brand called Tours' prunes comes from the orchards of the Loire. Lorraine produces a variety called Quetsche, one of the best for ordinary preserves.

The prune-tree thrives best in clayey, calcareous soil, and does not exact for its roots a loam of profound depth. Land adapted to the culture of the vine is also partial to this tree. In many localities these two valuable products are cultivated together, as the broad leaf of the vine is especially useful in protecting the roots of the tree from the intense heat of summer. When the prune is ripe, it is covered with a sort of glaucous powder called "flower," which greatly adds to its value as a table-fruit. The fruit is usually gathered after the heat of the day has dissipated the humidity of the night, and, when possible, straw is spread beneath the trees to prevent the fruit coming in contact with the earth. Only such fruit as readily falls when the tree is slightly shaken is gathered. As soon as harvested, the fruit is taken to a building, where it remains for a few days to complete maturity.

Prunes are subjected to not less than three, and frequently to four, distinct cookings before being pronounced ready for market.

The first two preliminary cookings have for their object the evaporation of water contained in the fruit, and preparation for the final cooking, which dries the fruit and imparts a certain brilliancy much sought after by buyers. In several districts of France, most primitive means are practised in curing the fruit for market. In Provence freshly gathered fruit is plunged into pots of boiling water, where it remains until the water again arrives at boiling-point. It is then removed from the boilers, placed in baskets, and gently shaken until cool, when it is placed on long trays and exposed to the heat of the sun to complete desiccation. At Digne the prunes are not gathered until completely matured. Women peel the fruit and cumbersome, and very primitive in their construction, only consisting of a frame to which is fastened a wicker-like bottom fashioned from rushes or willow twigs. They hold from twelve to eighteen pounds of green fruit, representing about four to six pounds of prunes. Care is taken, in preparing the oven for the first cooking, that the degrees of heat shall not exceed 50° C.; and in the second, 70°.

After each cooking, which occupies about six hours, the fruit is removed from the oven and exposed to the air. When the prunes are cold, they are carefully turned by women specially charged with this duty. They avoid disturbing the fruit while it is warm, as the



THE ROCKAWAY RIVER AT THE BOONTON FALLS, SHOWING INTAKE OF THE MORRIS CANAL (ELEVATION ABOVE TIDE-WATER ABOUT 560 FEET).

with their nails to avoid injury to the soft pulp. The fruit is strung upon small twigs, and in such fashion as not to touch. These sticks of prunes are stuck into straw frames, which are suspended in the sun until the prunes easily detach themselves from the stick. The pit is then removed, the fruit placed upon trays exposed to the sun, and, when thoroughly desiccated, packed for market. In the departments of Indre-et-Loire and Lot-et-Garonne, immense ovens, specially constructed for prune-cooking, are used.

Most prunes are subjected to a preliminary washing to free them from dust or sand. After washing, the fruit is exposed to the sun or air on beds of straw, or on the trays on which it is cooked, to rid it of all humidity. When dry, it is spread in a single layer on the tray, and at once submitted to the oven. The trays used are made during the winter months by peasants. They are clumsy

touch renders it glutinous and prevents the fruit from congealing. The third cooking is performed at a temperature of 80° to 90°, and occasionally at 100°. After the third cooking, the prunes are sorted, and such as are found imperfectly cooked are again submitted to the oven. The degree of perfection in cooking is obtained when the fruit presents a dark purple color, solid and brilliant surface, malleable and elastic to the touch, and when the kernel is well done and intact in the shell. When these conditions are not obtained, the kernel ferments, and alters the entire prune, which very soon becomes mouldy and worthless.

Prunes are divided into nine categories, and are classified as follows: No. 1 represents 90 to 92 to the pound; No. 2, 80 to 82; No. 3, 70 to 72; No. 4, 60 to 62; No. 5, 55 to 56; No. 6, 44 to 45; No. 7, 40 to 41; No. 8, 34 to 35; and No. 9, 30 to 31. When ready

for exportation, the fruit is pressed flat between two cylinders covered with India-rubber, and then packed into cases by a special machine, called a "packer." Many dealers still perform this operation in the primitive manner of foot-pressure. Bordeaux is the principal centre of their industry, which is yearly increasing.

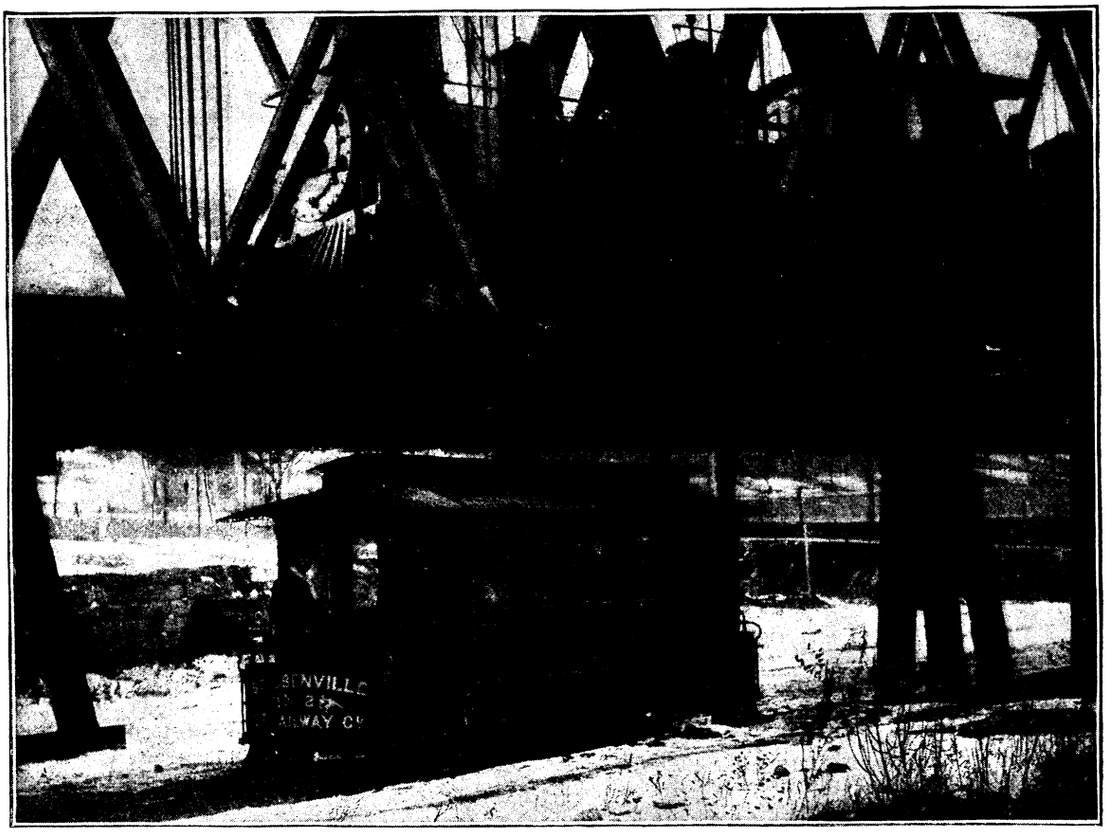
Besides the large amount of prunes exported to European countries by rail, there are, says Consul Roosevelt, about one hundred vessels annually leaving the port of Bordeaux loaded with this produce. In the beginning of the prune-industry, many devices were employed for their proper conservation. The first ovens were very primitive, and the work of preparing the fruit for market laborious. At present there are many different kinds of ovens in use, possessing more or less distinct features, but almost the same in general principles. The most generally used are the Bournel and the Marletean ovens. The only ovens in use are of French manufacture.

We also give a view taken from a photo of the Asheville, N.C., Electric Railway.

Asheville is a flourishing mountain town, noted throughout this country as a health-resort; and it is characteristic of such a town and its enterprise that it now has an electric railway, first-class in all particulars, which gives the people perfect and comfortable means of transit to the depots and hotels, and replaces the old springless hacks and primitive omnibuses.

The picture shown is from a photo taken shortly after the opening of the road, and represents three of the Sprague electric cars turning a corner into the main street of Asheville, N.C.; and it is an interesting feature to notice that it is difficult to discern the overhead system at all, on account of the smallness of the wires.

Besides an equipment of passenger street-cars, this electric railway also possesses several freight-cars, also operated by electric motors of the Sprague type; and, as this road connects the depot of the North Carolina Railroad with the city of Asheville, these freight-cars have proved a convenience and a source of income.



ELECTRIC RAILWAY AT STEUBENVILLE, O., CAR PASSING UNDER RAILROAD-BRIDGE.

SOME NEW ELECTRIC RAILWAYS.

THE accompanying engraving is from a photograph representing one of the Sprague electric cars in operation at Steubenville, O., passing under a railroad-bridge on the route of the road. The picture gives a very good idea of the wide range of movement of the trolley-arm, which can reach from 12 to 14 feet above the car, to less than 1 foot, when the location of overhead wire demands such a wide change. The kind of trolley-pole used upon this road is light and unobtrusive, consisting of a light, hollow iron rod carried on top of the car, and supported from the car by a stout steel spring, which allows it to move in every direction necessary.

The equipment of this road includes the regular Sprague system of overhead wiring, with main and working conductor running parallel, connected at intervals of every 100 to 200 feet. The road has been a success from the start, and has been visited by many street-railway managers from Ohio, Indiana, Kentucky, and western Pennsylvania.

THE SUBMARINE BOAT "GYMNOTE."

WE have already given some details of the "Gymnote;" but the following, taken from *Industries*, gives some additional information as to her construction. After the first trials of the "Gymnote," it was found that various details required modification, but on the whole the trials were satisfactory; and, now that the improvements which the first trials indicated to be necessary have been made, the French Government have accepted the "Gymnote" as the standard type of submarine vessel for offensive purposes. The hull is spindle-shaped, 6 feet in diameter by 56 feet long, provided with horizontal and vertical rudders, and with a cylindrical conning-tower of somewhat novel design. The conning-tower consists of a fixed tube, within which slides a second tube, carrying at its upper end a mirror inclined at an angle of forty-five de-