

**THE NEW ROUEN BRIDGE.**

The great progress made in recent years in the manufacture of steel has permitted of employing this metal in work that was formerly done exclusively in iron. Although steel is harder than iron, it is also more brittle and less malleable. At present, it is possible to manufacture steel which presents the same advantages as iron, with a much greater strength. Under such circumstances, and with some boldness, it became possible to attempt the use of this metal in bridge building. This has just been done at Rouen, where the first bridge constructed of steel was opened to traffic on the 23d of June.

As shown in our engraving, the new bridge consists of three arches and a straight span on the left bank. The arches are unequal, on account of the necessities of navigation, and are respectively, starting from the right bank, of 40, 48.8, and 54.6 meters span. The entire width between railings is 20 meters. The steel arches are wind braced with iron. The railings are of cast iron. The bridge rests upon masonry piers built through the intermedium of compressed air, except the land abutment of the left shore, which is built upon piles. The whole rests upon a bed of

theria which require a more energetic local treatment than the one just described. In fact, we think that an early clearing out of the bowels with calomel—sometimes in massive doses—followed up after a short interval by the administration of lime water and the use of a suitable tonic and roborant regimen, constitutes a method which comes the nearest to being of universal applicability of any one with which we are familiar; and we think that the use of the lime water is of more consequence than any other part of the treatment, except it be the preliminary purgation.—*Med. and Surg. Reporter.*

**Influence of Forests on Climatic Conditions.**

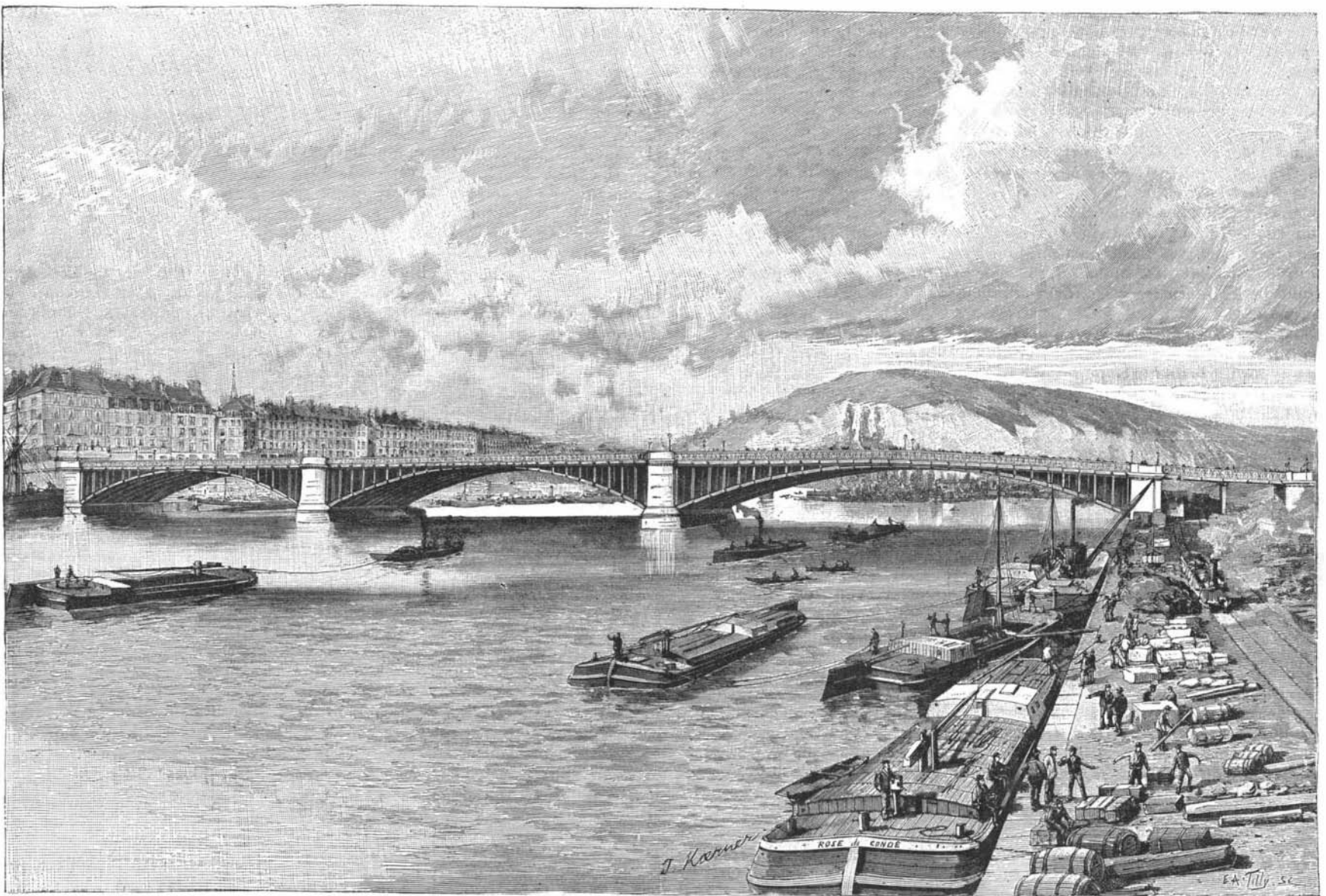
Although scientists are not in perfect accord as to the influence that forests exert upon climatic conditions, nevertheless there is sufficient agreement among them for us to know that they do exert powerful and beneficent influences in many directions. The forest acts like a great sieve, and retains the fine particles of the soil, which the influence of the air and sun, the frost and rain, and the action of the numberless roots have decomposed. In all forest countries the changes of temperature are not so severely felt as in a treeless

has been removed, although they previously swarmed therein.

In the propagation of fish it is not enough to place the fry in the water, they must be provided with food, and the best means to do this is to preserve the border trees, and insure a steady supply of water and food by preserving the forests whence the supply of food is derived. If new forests are cultivated on the barren ranges, many a stream now nearly empty during the dry seasons will be refilled with fish and food for the many. We are rejoiced to see that of late the subject of the conservation and cultivation of forests is beginning to receive even a modicum of the attention it deserves. We write in the interest of an industry drawing its revenues from the forests, and we do not wish to look forward to a time when such revenues shall cease from lack of material to work upon.—*The Timberman.*

**Economy as it is Understood at Panama.**

A correspondent of the *Montreal Gazette* writes as follows: "I have referred to the shameful way in which valuable plant is used. Now, to cite a fact, to point a moral and adorn an 'o'er true tale.' Quite recently a

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marly clay, the surface of which is 14 meters below the lowest tides.

The construction of the bridge necessitated the use of 690,000 kilogrammes of steel and 585,000 of iron. The entire cost was 2,900,000 francs, not including 50,000 francs paid for the erection of a temporary foot bridge and the demolition of the old suspension bridge operated by a company which had the right to collect a toll of one centime from each person, and which was bought off for 1,120,000 francs.

The new bridge certainly does the greatest honor to the engineers who planned it—Messrs. Lavoigne and Juncker. The construction was undertaken by the Fives-Lille Society. The work was done under the superintendence of Mr. Porcher, acting under the direction of government engineers Mengin and Cadart.—*L'Illustration.*

**Lime Water in Diphtheria.**

Lime water is an admirable remedy in cases of diphtheria. Its local effect is most useful in cleansing and purifying the fauces, and its mode of application is the easiest imaginable. It requires no spray apparatus, no douching, and no effort at gargling. It is sufficient to have the patient slowly swallow a teaspoonful or more every hour, in order to get good results from its use. This fact is of the greatest importance in treating children, who are too often cruelly tortured in the attempt to make local applications to the throat. Lime water can be given easily, and is taken readily by children; and there are, we believe, few cases of diph-

country or on the open plains, and it is a popular saying that the forest streams are cool in summer and warm in winter. The forests not only regulate the flow of water, but they purify it. Where the water of a stream has been polluted, as by sheep washing, for instance, after having passed for a few miles through a shady and dense forest, the water appears as clear as it was previously.

Again, it is thoroughly well established that the presence of large tracts of timber has a well defined influence upon the rainfall of the districts in which they are situated. Certain portions of France which have been denuded of their forests are subjected to disastrous floods and overflows, which occur almost annually and cause great destruction and distress, although such visitations were entirely unknown in the previous century while the forests were as yet intact. In our own country as well the same effects have been observed, and the destruction of forests has proceeded so rapidly in Prussia of late years that the government has passed a law protecting timber. It was found that the climate in many districts was changing, and rivers and lakes were becoming shallow in consequence of the wholesale cutting away of wood.

This feature of sylvan influence has been frequently adverted to in our columns, but there is another manner in which the presence of trees exerts an influence that is not so generally known. Close observers have ascertained that rivers running through treeless tracts of country are nearly, if not quite, destitute of fish, and that fish will desert a stream from which the timber

new 4,000 kilo. *grue*, or movable crane, went off the line near the Culebra cut. They cost \$2,500 each. Down the slight embankment it went. The intelligent foreman of that section, instead of making any effort to recover it, simply buried it by ordering in a train of dumping cars. The crane was buried and remains buried. Its burial simplified the whole matter. It was not his, and the company had dozens idle. Words fail to convey any idea of how machinery has been used there. An engineer told me that three-fourths of the \$30,000,000 worth of machinery on the Isthmus is rusting and much of it is useless, valueless even as old metal, owing to its location. The canal company takes credit for \$30,000,000 worth of machinery on the Isthmus."

**The Bendego Meteorite.**

This famous mass of iron was landed in Rio de Janeiro June 15, and is now in the national museum of that city. The transportation over 115 kilometers of mountainous country to the nearest railroad station was directed by Chevalier Jose Carlos de Carvalho in the name of the *Sociedade de Geographia de Rio de Janeiro*, the necessary funds, amounting to about \$10,000, being generously furnished by Baron Guahy. The weight verified on the scales of the Bahia R.R. is 5,361 kilogrammes. The comparative thickness of the crust of oxide formed since the first attempt to remove it in 1785, and that found in the original resting place, afford a basis for a rough guess at its age, which may safely be put down as over six centuries.—*Amer. Jour.*