

## Modern Progress In Bridge Building

"By its position New York is certain to become a city of many and mighty bridges," says a writer in *Ainslee's Magazine*. "The Brooklyn bridge has been one of the city's glories since its completion and has been reckoned one of the wonders of the world. But other bridges far surpassing it are now projected. The completion of a series of great bridges across the East, North and Harlem rivers will do more than provide a great convenience. They will give the city an appearance of slighthness and finish which will greatly heighten its impression of magnificence and power. As bridge architecture in its present form is distinctively an American product, it is worth while to consider at some length the character of these new structures and their probable effect upon the city.

"Bridge construction in New York will go on at a rapid rate for the next decade. To unite the two great cities which now constitute the greater city no less than four new bridges to span the East river

like that of the East river bridge, is in the hands of a commission. Contracts for a part of the work have been let, and the promoters of the project say that the bridge will be completed in seven years. It will cost \$25,000,000 and with the land approaches and the site for the terminal will involve the expenditure of fully \$60,000,000. But it will be the Colossus among bridges.

"The effect of all these bridges with their lofty steel columns and slender spans will be very graceful and pleasing, and they will do much to give the city a distinctive and attractive character. The usefulness of the Brooklyn bridge has been hampered and its appearance impaired by inadequate approaches. The new bridges will not suffer from this defect, for the approaches are to begin four or five blocks away, and by their artistic treatment the surrounding district will be greatly improved. . . .

### Brooklyn Bridge Outclassed.

"No better illustration of the rapidity with which the art of bridge construction

height of 335 feet, they will look light and fragile beside the solid stone of the older bridge. But steel plates and angles are as durable as masonry, much cheaper, more elastic and easier to erect. Of the Brooklyn bridge the towers weigh five times as much as all the rest of the structure together. Of the East river bridge they will weigh about the same as the main span. The substitution of steel for stone in bridge work is an American development. It has made American bridges the lightest and cheapest in the world.

### The Stiffening Truss.

"Next to the towers the most unique feature of the new bridge will be the great stiffening truss which will extend from pier to pier. In the past one difficulty with suspension bridges has been the swaying of the main span due to the force of the winds or the shocks incident to traffic. The truss will prevent this, will give stability to the structure and will relieve the strain which otherwise would come upon the towers and cables. It will be of steel, forty-five feet high, a great metal fence along each side of the bridge roadway.

"The work of building the East river bridge may be said to have begun in 1892, when the charter for it was granted. It was not until three years later, however, that the plans were completed and the legal difficulties cleared away. Then the cities of New York and Brooklyn, at that time two different municipalities, took up the matter and turned it over to a commission which has had it in charge since that time. In the spring of 1897 the work of actual construction was begun and has since gone steadily on. The construction of the bridge began, as one might naturally suppose, with the laying of the foundations. But these have been built, contrary to natural supposition, from the top downward. The task of carrying the foundations to bed rock, beneath the water and mud of the river, has been accomplished by means of caissons such as are now used in all underwater work of this nature.

"The tops of the four masonry piers of the completed bridge are to be twenty-three feet above high water. The towers will rise above them to the height of 335 feet, or six feet higher than those of the Brooklyn bridge. The object in having loftier towers is to give a sharper deflection to the cables carrying the bridge platform than there is in the older bridge.

"The main span of the bridge will be supported by four cables, each one eighteen inches in diameter. The strands of the cable are to be three-sixteenths of an inch in diameter, and 68,000 of them will be required to make one of the big supports. Each separate wire has a sustaining power of two and one-half tons, which makes the full cable strength equal to a strain of 170,000 tons.

"The cables will pass over the tops of the steel towers on great sliding saddles. Their weight and that which they will carry will be held in position by immense anchorages placed between 500 and 600 feet back of the bridge piers on each shore. These anchorages are of masonry, 100x150 feet, and together will weigh, when completed, 160,000 tons, or thirteen times as much as the main span of the bridge itself.

"The new bridge will be a mile and three-quarters in length, 135 feet above the water

in the center and 118 feet wide. It is intended to carry two elevated rail-road tracks, four surface car tracks, carriage ways, foot and bicycle paths. It is estimated that the cost of the bridge proper will be \$7,500,000, but with the expense of approaches the cost will more nearly reach \$12,000,000."

## Told Out of Court

In a sketch of the career of Lord Morris, a representative of the "Tribes of Galway" and a member of the Irish bench for thirty-three years, a London paper relates a number of stories illustrating his wit and wisdom. Lord Morris never lost the mellifluous brogue which distinguishes West of Ireland folk. This characteristic provides the groundwork for at least two stories told of him. On one occasion the noble lord, twice an occupant of the Irish bench, was present at a wedding in company with Judge Keogh. Morris was lamenting that he had forgotten to throw an old shoe after the bride and bridegroom, when Keogh remarked: "Throw your brogue after them; it will do just as well." At another time Lord Morris was sitting at the Four Courts as lord chief justice of Ireland, when a young barrister from the north arose nervously to make his first motion. The judge had declared that no one listening to himself would ever take him for anything but an Irishman, which was perfectly correct. But Galway could not understand Antrim. The lord chief justice leaned over the bench to ask the associate where the barrister hailed from. "County Antrim," was the response. Then asked his lordship of the official: "Did ye ever come across such a frightful accid in the course of yer toife?"

When Lord Morris first went to the Connaught circuit, where he had practiced before his elevation to the bench at the early age of 39, he gave many specimens of his native wit. At one assize town the judge arrived late, and the grand jury, after being sworn in, sent down a true bill in a very simple case, intended to fill up the spare time of the court for the "heel" of the evening. It was a case of the abduction of a small farmer's daughter by a shopkeeper, who could not arrange the matter of dowry to the satisfaction of his sweetheart's relations. The accused had met the maid near his shop, and had kept her, half-resisting, half-consenting, on his premises in company with an elderly female relative. The offense was, therefore, only of a technical character. Mr. Charlie O'Malley made a wonderful speech for the prisoner, in the course of which he told the frieze-coated jurors that they were the most intelligent, high-minded and naturally gifted men he had ever addressed. Mr. Justice Morris, when the proper time came, said to the jury: "You have seen by friend's, Mr. O'Malley, amusing performance. Dismiss it from your minds, and don't go home to your honest wives with peacocks' feathers in your hats to proclaim the distinction he piles upon you. I am compelled to direct you to find a verdict of guilty in this case, but you will easily see that I think it is a trifling thing, which I regard as quite unfit to occupy my time. It is more valuable than yours. At least, it is much better paid for. Find, therefore, the prisoner guilty of abduction, which rests, mind ye,

on four points—the father was not averse, the mother was not opposed, the girl was willing and the boy was conveyant." After the verdict the judge sentenced the prisoner to remain in the dock till the rising of the court. Then, turning to the sheriff, he said: "Let's go." Before the "boy" was clear of the dock the judge's head appeared again. Marry the girl at once," he said, "and God bless you both."

One day it fell to the lot of Lord Morris to hear a case at Coleraine, in which damages were claimed from a veterinary surgeon for having poisoned a valuable horse. The issue depended upon whether a certain number of grains of a particular drug could be safely administered to the animal. A dispensary doctor proved that he had often given eight grains to a man, from which it was to be inferred that twelve for a horse was not excessive. "Never mind yer eight grains, docther," said the judge. "We all know that some poisons are cumulative in effect, and ye may go to the edge of ruin with impunity. But tell me this: The twelve grains—wouldn't they kill the devil himself if he swallowed them?" The doctor was annoyed and pompously replied: "I don't know, my lord, I never had him for a patient." From the bench came the answer: "Ah! no, docther, ye never had, more's the pity. The old boy's still alive." These, of course, are stories of the early days of a brilliant career, in which politics it one time played a considerable part. In later years Lord Morris has always followed with keen concern the fortunes of his country, and he is credited with sundry caustic observations concerning home rule. An "ident separatist" once observed to him that in his opinion Mr. Gladstone was a heaven-born genius. "Then," said Lord Morris, "may it be a long time before heaven is again in an interesting condition."

"You understand, of course," pursued the lawyer, "what is meant by a 'preponderance of evidence?'"

"Yes, sir," replied the man whom he was examining with reference to his qualifications as a juror.

"Let me have your idea of it, if you please."

"I understand it, I tell you."

"Well, what is it?"

"Why, anybody can understand that."

"Still, I would like to have your definition of it."

"I know what it is, all right. When I tell you I know what a thing is I know it. That's all there is about that."

"Well, what was the question I asked you?"

"You ought to know what that was. If you've forgot your own questions don't try to get me to remember them for you."

"I don't want to hear any more of that kind of talk," interposed the court. "Answer the questions addressed to you by the counsel."

"Judge, I did. He asked me if I knew what it was, and I said I did."

"Are you sure you understand what is meant by the term 'preponderance of evidence?'"

"Of course I am, judge."

"Well, let us hear your idea of it."

"It's evidence that has been previously pondered."

## When You Visit

Washington Post: If a pleasure is proposed, accept it. You are expected to be entertained.

The host's chair and the host's desk are not to be invaded.

Keep your own room neat. Disorder is most trying to the maid, who will complain of it.

And be agreeable to all guests, whether you like them or not.

Always ask your hostess what her plans are for the day and abide by them.

All visitors should recollect that their evenings belong to the host and hostess and they are expected to add to their enjoyment.

Absent yourself some hours in the morning, so that the mistress of the house will have a chance to settle her affairs. This sort of consideration is appreciated.

Be stone blind, deaf and dumb to all family matters of an unpleasant nature in a household. Be punctual at meals. To be late is a disrespect to your hostess—bad form for yourself.

## His Own Medicine

Philadelphia Press: "Yes," said the faith curist, who had taken the stand in his own defense, "we cure by the laying on of hands."

"Well," thundered the coroner, forgetting his official dignity for the moment, "if I were a relative of the deceased you'd be cured in the same way and the hands would be laid on pretty violently, too."



Clara Gray. El Schicketzanz.  
COUNCIL BLUFFS ANGLERS—A "FINE" CATCH.

are planned or actually in process of construction. On the western side of the city the greatest bridge of the world is projected to cross the Hudson and contracts for its erection have been let. Add to these the existing Brooklyn bridge and the half dozen great spans that now cross the Harlem, and New York seems to be in a fair way soon to realize its destiny in this particular direction.

"Of these various enterprises the one furthest afoot at present is the new East river bridge. It is to connect Brooklyn and Manhattan at a point about a mile above the present bridge. Its piers are now above the water and, as those familiar with bridge building are aware, this means that in point of time it is more than half completed. According to the plans of the construction, it is to be ready for use by the end of the year 1901.

"The East river bridge is the model of the other three bridges which will be built about the city. One of these is to cross the river midway between the two bridges mentioned, a second is to be located about a mile above the East river bridge and the third is to connect Manhattan with Long Island City. This will not be a suspension bridge, but a cantilever, with one pier resting on the lower end of Blackwell's island.

### A Wonderful Bridge.

"Although the new East river bridge is to surpass the Brooklyn bridge as an engineering marvel, it is not likely to hold first place for long. It will be eclipsed almost as soon as it is finished by a great railway bridge across the Hudson between New York and New Jersey. It is promised that this will be the most wonderful span of its kind in the world; it will be nearly twice as large as any suspension bridge now in existence. Its steel towers will rise to the height of 587 feet above high water more than 250 feet above the Statue of Liberty and half again as high as the tallest skyscraper in the city.

"Its main span will stretch 3,254 feet between piers, twice as far as those of the Brooklyn and East river bridges. The bridge complete will be more than two miles long.

"The purpose of the New York and New Jersey bridge is to afford entrance to the city for the various railroads now having their terminus on the Jersey shore. When fully completed it will include an immense union terminal station in the vicinity of Seventh avenue and Fifty-first street, in New York. The construction of this bridge,

has been advancing in this country could be obtained than will be presented by these two bridges of almost equal dimensions, standing only a mile apart. The Brooklyn bridge is, comparatively speaking, a new structure. It was opened for traffic in 1884. Nevertheless, the new span, while built on the same principle, will be very different in general appearance.

"The contrast that will appeal most strikingly to the eye in a comparison of the two structures will be in the appearance of the great towers carrying the cables on which the bridges rest. In the Brooklyn bridge these towers are of solid masonry for their full height, and their dimensions bring home to every beholder an idea of solidity and strength. Firm as the eternal hills whence we came, they seem to say. In the new bridge the masonry piers will extend only a short distance above the water. The towers will be of skeleton steel construction. Slender and open, springing away to the



MR. AND MRS. CHARLES F. WELLER, FAMILY AND GUESTS PICNICKING AT PRIESTS LAKE.