

PISA'S LEANING TOWER.

It Seems to Have Been Intentionally Built Out of Plumb.

That remarkable piece of architecture, the leaning tower of Pisa, has always been a subject for discussion and conjecture. Many architects have closely inspected its foundations, measured its columns and theorized as to its strange departure from the perpendicular. In 1773 Goethe explained it as intentionally so built for the purpose of attracting the spectator's attention from the ordinary straight shafts of which Pisa in the twelfth century is said to have had 10,000.

The baptistry of the cathedral in Pisa, built also in the thirteenth century, leans seventeen inches out of the perpendicular, and the plinth blocks of its foundations tilt down gradually and evenly for nine inches in the direction of this inclination. The Campanile of San Niccolo leans forward in the same way, as likewise do the facades of the Cathedral of Pisa. It is worthy of note, too, that they curve back toward the perpendicular.

In the leaning tower there is a deliberate effort above the third floor to return to the perpendicular. This is made by a delicate series of changes in the pitch of the columns on the lower side, evidence taken by some investigators as indication of an attempt to remedy an error made by the architects, the foundation according to one theory having subsided as the result of their inexperience with the peculiar soil of Pisa.

Careful measurements below the third floor show that the arches of the staircase were deliberately increased in height and that the downward dip was so arranged that the weight of the tower was thrown off the overhanging side, writes Mr. Isaac Bickerstaffe in the London Field. This would have been quite unnecessary if the architect had meant the tower to rise straight up from its foundations.

A Mistaken Scientist.

Sir George Biddell Airy, British astronomer royal, told the pioneers of the first Atlantic cable that it was a mathematical impossibility to submerge the cable to the necessary depth, and if it were possible no signals could travel through so great a distance. Sir George was also asked about the possibility of making Big Ben, the great clock in the tower above the houses of parliament, so trustworthy that it would not lose five seconds a day on the average. He replied that no clock exposed to the weather could run with so small an error. The late Lord Grimthorpe, however, said he would guarantee that degree of exactness, and by designing his gravity experiment he produced a

timepiece that is never five seconds out with the observatory at Greenwich, to which it signals its time each day, and on most days is dead true.

Carlyle's Interest in the House.

Carlyle's interest in domestic details, as shown by his letter about taking the house at Cheyne row, was always fairly well continued. He would on occasion find relief for one of his moods or take a pleasure in sweeping down with a broom and water the path and flagged yard of his "bedquilt of a garden." Nor did he disdain personal concern about the furniture. One of the most vivid little notes to his wife, preserved in the Carlyle collection at Chelsea, is the scrap of paper dated Dec. 24, 1839, in which he scribbled Christmas wishes to his wife and "the promise of a washstand" as his Christmas gift to her.

Being Awake.

Moral reform and improvement are the effort to throw off sleep. Why is it that men give so poor an account of their day if they have not been slumbering? If they had not been overcome with drowsiness they would have performed something. The millions are awake enough for physical labor, but only one in a million is awake enough for effective intellectual exertion, only one in a hundred million to a poetic or divine life. To be awake is to be alive. I have never yet met a man who was quite awake. How could I have looked him in the face?—Thoreau.

Mexico's Oldest Theater.

The oldest theater in Mexico, and indeed the oldest on this continent, is the Teatro Principal of the City of Mexico. There is nothing particularly distinctive about its architecture to testify as to its antiquity, however, for its two stories of repaired facade covered over with lurid posters corresponds in general style to the other playhouses of the city. Then, too, there is a certain animation about the crowds that pass in and out the entrance that is somewhat misleading to those on the outlook for the relics of the past.

Before Going Elsewhere.

"Good morning, Mr. Highprice!" greeted the friend, entering Mr. Highprice's furniture store. "I saw your ad. in the newspaper saying that you would be pleased to have your friends call in on you before going elsewhere to buy, so I thought I'd call."

"Very good!" returned the appreciative Mr. Highprice, rubbing his hands. "Now, what can I sell you?"

"Nothing. I told you I was going elsewhere."—Pearson's.

GERMAN BALLOON BURSTS

Airship Drops 900 Feet to Ground and Navy Officers Lose Lives.

Berlin.—Twenty-eight persons were killed near Johannisthal in the explosion and fall of Count Zeppelin's latest dirigible balloon, the L-II.

The 28 men represented the entire personnel of the admiralty board which was to conduct the final trial of the dirigible looking to its acceptance by the government as a new unit of the German aerial navy, the pilot and crew and invited guests. Every person that went aloft in the big airship is dead.

Twenty-seven of them were killed almost instantly by the explosion of the gas in the balloon or burned to death as the flaming wreck fell to the ground from a height of 900 feet.

Frederick the Great.

Frederick William I., father of Frederick the Great, was a most brutal old fellow, treating his son almost as badly as they treat the exiles in Siberia. Unable to endure such barbarity on the part of his father, Frederick resolved to run away and seek refuge at the court of his uncle, George II. of England. Ready to assist him in his attempt were his two young friends, Lieutenants Katte and Keith. By the imprudence of Katte the secret was found out, and Frederick was placed under arrest. Keith escaped, but Katte was tried by court martial, sentenced to death and executed. Frederick also was sentenced to death and would have been shot but for the earnest expostulations of the kings of Sweden and Poland.

While Abdul Hamid was still upon the throne of Turkey, the president of the American Missionary college at Tarsus sent to New York for a large consignment of textbooks. In due time all except the chemistries came safely. At first the president could not find out what was the matter, but finally the commissioner of the port sent for him.

"Christian," he said sternly, "it is not for you to complain. It is for you to give thanks to Allah that you did not follow your diabolical books into the flames. Here is one copy that we saved for a witness. Not all of its deadly ciphers could we read, but this is plain even to the eye of a babe." Pointing to the symbol H₂O, he read with triumphant air and voice, "Hamid Second is Nothing!"

"What is the editor of the health department raving about?"

"A rich woman writes that she gives private moving picture shows in her home, and she wants to know if they will injure her people's eyes."—Elmwood, in Age-Herald.

CEMENT AND CONCRETE.

Preparation and Properties of the Two Different Products.

To many persons the "cement" and the "concrete" that nowadays enter so largely into building construction are synonymous terms. They are by no means the same thing.

In the first place, Portland cement is a manufactured product obtained from lime rock and clay or similar aluminous raw materials. Its preparation involves drying, burning and grinding in order that, when finished, it shall be in the form of a light gray powder or flour. This powder is of such exceeding fineness that the grains thereof may be made to pass through a sieve containing 40,000 holes to the square inch of surface.

Modeled into any desirable form, cement shows a high crushing resistance, together with a high tensile strength. It will sustain almost any load without injury to itself, showing no cracks or other elements of decay that attack other materials.

"Concrete" implies the use of cement in conjunction with sand and crushed rock and in such proportions as will develop the highest value of the cement for practical purposes, at the same time bringing it within the range of buyers who do not wish to employ Portland cement.

"Re-enforced concrete" means the use of concrete in conjunction with steel so placed as to contribute the tensile value of the steel to the total mass. Columns thus constructed will sustain almost any concentrated burden and are being extensively used in engineering.—Technical World.

Jove-like Daniel Webster.

One of the most impressive among my early recollections is that of having gazed upon the living and Jove-like presence of Daniel Webster. I can see him now as he looked that day in Portsmouth more than three-score and ten years ago—his massive frame and magnificent head surmounted by a broad brimmed "stovepipe" hat—his dark, deep set, cavernous eyes smoldering beneath their overhanging brows, which reminded me of the coping of a cathedral—his firm set lips and determined chin.

He wore a high black stock and collar, a blue coat with brass buttons, a buff waistcoat and loosely hanging trousers. A veritable king among men was our eloquent expounder of the constitution.—Henry Clay Barnabee in National Magazine.

Hues of the Butterfly.

It is perhaps not generally known that butterflies close their wings like a book, and the underside of the hinder pair is often colored so as to match the surroundings, but they are not quite so large as the fore wings and therefore do not cover these up completely. The uncovered portion of the under side of the fore wings repeats in a great number of instances the pattern and coloring of the under surface of the hind wing and thus carries out to perfection the concealment, while the remainder of the under surface of the fore wing, covered when at rest by the hind wing, has often quite different coloring and is in many cases of most brilliant and conspicuous hues.

How to Acquire Riches.

In "Maximilian, the Dreamer" is this anecdote: A certain beggar once stopped the emperor on his way and appealed to him for help on the ground that "all men were brothers." Maximilian smiled and gave him a penny, with the remark: "Well, my friend, go and ask all your other brothers for the like sum and you will be richer than your emperor." The emperor himself was ever in debt and had constant recourse to the banker Fugger (with whom he pledged the crown jewels) for loans.

Some Meteors.

One of the earliest known meteors fell in 204 B. C. in Phrygia, where for a long time it was worshipped. It was carried to Rome and was supposed to be a messenger from the gods. Livy describes a shower of meteoric stones. The people were greatly alarmed, and the senators were demoralized and declared a nine days' festival to propitiate the gods. There is at Mecca a meteorite which fell in 600 A. D. and is still worshipped by the faithful.

Pockethandkerchief.

Pockethandkerchief is the queerest word in the language. At first it was kerchief (couvre chef), a covering for the head; then it became handkerchief, a covering for the head carried in the hand, and at last pockethandkerchief, a covering for the head held in the hand and kept in the pocket.

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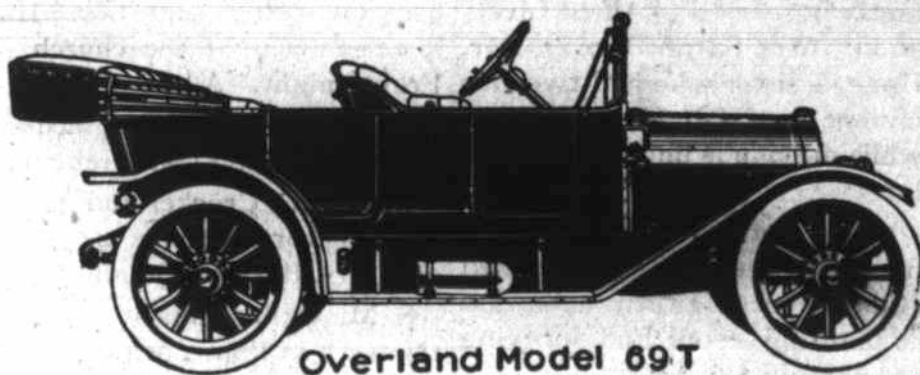
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