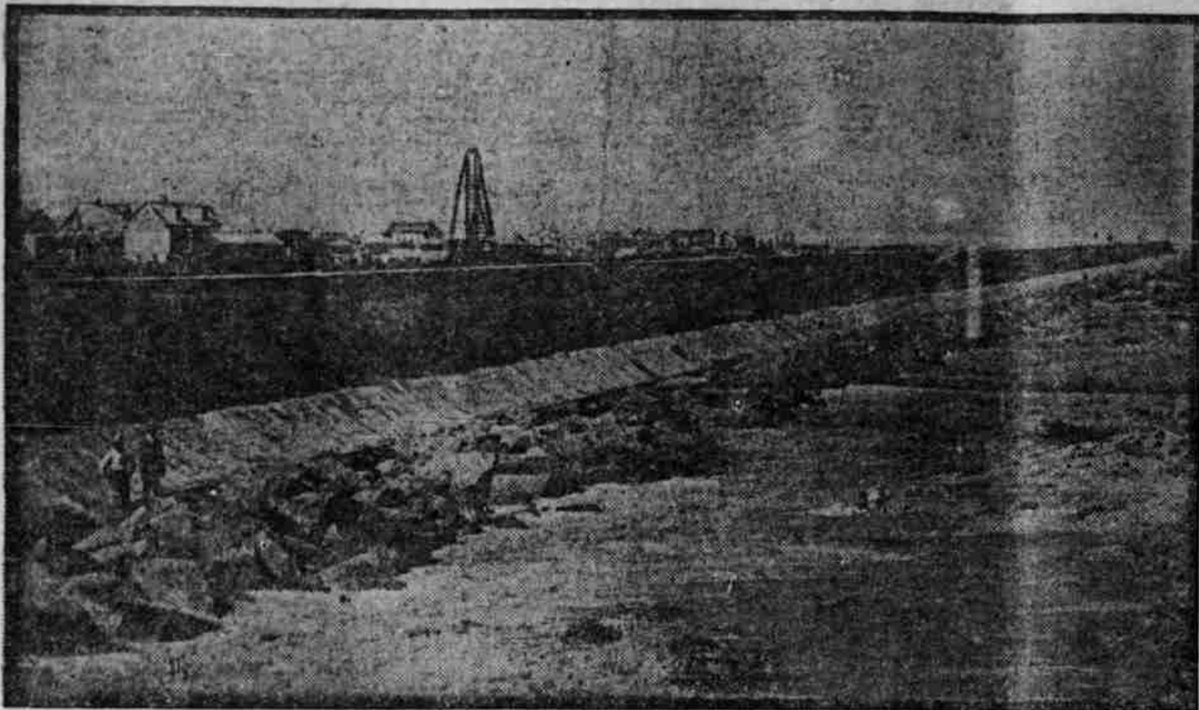
Galveston's Sea Wall Which Saved the City



The Galveston sea wall was completed recently at a cost of several million dollars to protect the city from a storm such as that which destroyed it in 1900. The wall is of concrete, several miles long and forty to one hundred feet high.

OCCUPYING the east end of an island some thirty miles long and from one to three miles wide, with its original ground surface less than five feet above the Gulf of Mexico, the City of Galveston is provided by nature with practically no protection against such furious storms as that which recently swept over the city or that which on the memorable day of Sept. 8, 1900, caused the death of more than 6,000 persons and destroyed property worth more than $17,000,000. That the latest great assault of angry waters did not cause the loss of a single life within the city was due to the promptness and energy with which the people of the stricken city in 1901 set to work to provide an effective barrier against another awful calamity.

The Galveston sea wall is one of the triumphs of re-enforced concrete construction. It extends along the city's water front 17,593 feet (three and one-third miles), and its top is seventeen feet above mean low water of the gulf, or 1.3 feet higher than the highest point reached by the flood that was driven over the city by the hurricane of Sept. 8, 1900. The wall proper is five feet thick at the top and sixteen feet thick at its base, the front being concave and the back vertical. It is built on a foundation of piles that are driven forty-three feet into the ground, the sea side of the foundation being faced with sheet piles twenty-four feet long, that provide a seamless surface against undermining waters. In front of the wall for twenty-seven feet seaward a massive bed of granite rip-rap three to seven feet thick provide a further protection to the foundation. The wall itself, calculated to resist by its weight alone the shock of waves and the hydrostatic pressure, is backed by sand, filling extending inland far enough to provide a walk thirteen feet wide next to the wall and a driveway thirty-eight feet wide. The surface of the driveway is on the new grade of the city, which is being extended across the island on a straight slope to a point eight feet above the waters of Galveston Bay, permanently raising the general level of streets and the first floors of buildings.

The sea wall is built of concrete consisting of one part of cement, three parts of sand and six parts of crushed granite. Every three and one-half feet there were placed in the wall re-enforced rods of corrugated steel, one and one-half inches square and ten feet long, a short distance back of the curved surface and extending diagonally in a straight line parallel to a tangent to about the middle point of the concaved front. Three engineers of national repute designed the wall—Brigadier General H. M. Robert, a retired army officer; Alfred Noble, of Chicago, and H. C. Ripley. The grade raising was carried on under the direction of Captain C. S. Riche, for several years United States army engineer in Chicago and for six years in charge of the government's office in Galveston.

That their city is now safe from any storms that may occur is the exultant cry of Galvestonians. It is true that the wind during the recent storm did not reach nearly so high a velocity as in the great storm of 1900, when the anemometer at the government station blew away after registering 100 miles an hour. In that unprecedented fury of the storm king it is estimated the wind reached a velocity of 130 miles an hour. Some observers consider it demonstrated, however, that Galveston is safe against any storm that is likely to visit it for many years, considering that such calamities as the 1900 hurricane come, like the earthquakes that devastate great cities, only once in centuries. Since it was settled, in 1847, Galveston has been visited by only six severe storms, and in none previous to that of 1900 was there a loss of more than three lives.

THE HAPPIEST HEART.

Who drives the horses of the sun
 Shall lord it but a day;
Better the lowly deed were done,
 And kept the humble way.

The rust will find the sword of fame,
 The dust will hide the crown;
Ay, none shall nail so high his name
 Time will not tear it down.

The happiest heart that ever beat
 Was in some quiet breast
That found the common daylight sweet,
 And left to heaven the rest.
—John Vance Cheney.

The Telegram

"Odd hand, my last," remarked one of the bridge-players.

He was a good-looking fair man, with an eyeglass, who was not too much absorbed in his game to find time to glance at the girl in white who sat on the sofa at right angles to the card table. She seemed to have a great deal to say to the man by her side. He looked like a sailor, a man with a keen, alert face, and far-seeing gray eyes. They talked in low tones out of deference to the players. The game went on.

"What a good game!" said one of the men, as they rose. He stifled a yawn, looking at the clock.

"Yes," replied the man with the eyeglass, absently. "Good game." He was looking towards the sofa.

Their hostess glanced suddenly at the clock. "My dear people," she exclaimed, "if any of us mean to hunt to-morrow, we ought to go to our little beds. I had no idea it was so late. George has probably gone to sleep in the smoking-room. Evie, are you bored to death watching us?"

The girl in white smiled demurely. "No, thanks, dear," she replied prettily. She did not look bored.

They moved into the hall where there was a keen but silent competition between the sailor and the man with the eyeglass to light and hand the candles. Both turned at the same moment to the girl in white.

"Naval or military?" whispered one of the bridge-players in his hostess' ear. She frowned at him as he handed her a candle.

"Don't let George sit up all night," she remarked, generally. "Come, Evie."

The soldier pressed the girl's hand with an earnest good-night. The sailor said nothing, but looked at her with those strangely far-seeing eyes of his.

"Good-night," she said softly and impartially to them both.

The two other men who had been playing bridge had gone down the corridor to the smoking-room and their host. A whistled chorus of "Of course I don't know, but I guess," came back softly to the two men left in the hall. The women's voices sounded faintly upstairs, with the soft rustle of their frocks. The sailor's eyes suddenly met those of the other man and he held out his hand.

"Good-night, old man," he said; "I'm

SHE HAD A GREAT DEAL TO SAY.

going to turn in." He went upstairs whistling.

In her own room the girl was reading a letter, a long letter, in a feminine hand. She read and re-read it, and then suddenly threw it into the fire. The flames curled round the sheet. Some words stood out very distinctly:

" * * * told me, and of course he knows. It's quite private, and not to be breathed a word about, yet. But he said it's almost certain that——" the flames burned out the name—"will get the money. And such a pile! He is to have a wire to-morrow. Be sure and not breathe a word." * * * The letter burned up quickly. A few gray ashes dropped into the grate. Outside an owl hooted mournfully. The girl shivered, looking nervously over her shoulder. Three words still stood out distinctly on the charred sheet: "Such a pile." * * * She sat staring into the fire.

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They all came in from hunting the next evening, tired and pleased with their day. There was the usual search on the hall-table for telegrams, or second-post letters. The man with the eyeglass took up an orange envelope. He looked his tall, straight best in pink, mud-splashed as he was. He read the telegram and an eager light came into his eyes. He gathered up his letters, with one quick glance at the girl, and went upstairs.

"Come along, Evie, let's go and change," said her hostess. She linked her arm in the girl's, and they walked together to the foot of the wide staircase. But she suddenly remembered a message to be given, and turned back into the hall again. Only the sailor was there as she passed through. He was gazing at the staircase which the girl was ascending. At the top she paused, stooped and picked up something. It looked like an envelope. She passed on to her room quickly. The sailor's straight brows were knit together. He sat on in the hall, staring into the fire, until the girl came down again. She held a pile of letters in her hand and was going to the post box. Something surely fluttered from her fingers as she passed him. He stooped and picked up an orange envelope. A name stood out legibly.

"You dropped this?" he said, interrogatively. She started, coloring violently.

"I? Oh, no." He looked at her for one puzzled moment, and her eyes fell before his. She looked very young and pretty. The sailor laid the telegram on the mantelpiece, behind the loud-ticking clock. Then he took the girl's hand. . . . "But I am so very sorry," she was saying, regretfully, a few moments later. The soldier with the eyeglass was coming downstairs spick-and-span, and well brushed. The sailor left the hall.

They drank their healths that evening at dinner, and everyone said how pleased they were. The sailor, too though his congratulations were brief. After dinner there was another announcement to make. The man with the eyeglass spoke.

They chaffed him, and called him the richest commoner in England, and said what a thing it was to have an unknown uncle who made fortunes and then died conveniently in the bush. And when the sailor's eyes next met those of the girl, there was an odd look of contemptuous pity in them. But Evie's hostess was saying to herself what a mercy it was the girl had chosen the right man—before she knew. . . . "She always liked him best, I suppose," she remarked to her husband the next day, as she waved her hand to the departing brougham. Evie had taken her soldier to be introduced to her family. "I always thought it was the other, George."

George nodded, being a silent man. Behind them, in the hall, the sailor was putting a piece of paper, lying unnoticed behind the clock, into the fire. It looked like a telegram.

"TEACHER'S CLO'ES."

Little People Knew What They Liked Best in School.

A teacher whose little pupils are for the most part immigrants asked them not long ago to each think a moment, and be ready to tell what thing in school they liked best. The first hand raised was Annetta's, and her answer came, at the nod of permission, with explosive enthusiasm. It was:

"Teacher's clo'es!"

Being, as it were, already accustomed to the unexpected in dealing with her flock, teacher accepted this reply as quite in the natural order of things, and proceeded to turn it to account. She was glad, she said, that Annetta liked her clothes, because she really took a good deal of pains to have them nice. They were, she pointed out, always very simple; but she tried to choose pretty colors, and above all things, to keep them neat. Nobody could help sometimes tearing holes or getting spots; but everybody should clean the spots and darn the holes as soon as possible. Indeed, a lady, or a ladylike little girl, would feel very uncomfortable if she had to stay untidy more than a little while. She added:

"See, I keep this little work-bag in my desk, and I will always lend it to any one who wants to mend her dress in recess. Perhaps I might even sometimes see a place that you could mend, but hadn't noticed; would you like me to tell you if I do? I am sure if there was anything wrong with my clothes that I could put right, I should wish to be told."

The lure of the dainty work-bag and the artful suggestion of reciprocity worked admirably toward an increase of tidiness for some days. Then came a visit from a group of distinguished educators. More chalk was needed in the course of a blackboard exercise, and teacher reached up for it to a high shelf. As she turned, several hands shot up, but she ignored them to finish the task in hand. Presently she raised her arm high in using the pointer. More hands waved excitedly. A moment later she did so again. Annetta could endure no more.

"Scusi, teacher," she cried, "but your waist buttons will be all bust off if I don't tell you! First it was one bust off, and then it was two bust off, and then it was one more bust off, and the last one that busted went down the register!"

It was a very flushed teacher, in a becoming if semi-detached blouse, who explained to three twinkling educators some additional points in her methods upon which she had not expected to dwell.—Youth's Companion.

Not Used to It.

The new teacher was beginning the arithmetic lesson, says the London News.

"Now, boys, listen to me. Suppose John has five oranges and James gave him eleven more. Then if John handed seven to George, how many would he have left?"

Dead silence and great perplexity fell upon the class.

"Come, come; that's easy enough. Well, my lad, what is it?"

"Please, sir," said one of the boys, "we always does our sums in happles."

Makes a Living as Pawning Agent.

A woman who appeared in a London police court the other day was described as a "pawning agent." She makes her living by pawning things for her neighbors, who pay her a commission because they believe she can secure larger loans than they could.

Home Thoughts.

A street piano grinding out "Home, Sweet Home," is apt to make a commercial man on a trip lonely until he remembers that his wife wrote she was in the midst of housecleaning.—Syracuse Post Standard.

Teacher—What are heavenly bodies? Jimmie—Good dead people.

"Did his widow succeed in breaking his will?" "Yes; long before he died."—Kansas City Journal.

The Teacher—Now, Johnny, you may tell me how the earth is divided. The Pupil—By earthquakes!

Ethel—Jack simply raved over my figure and my complexion. Maud—And is he still in the asylum?

West End—Do you believe in the principle that money talks? Murrayhill—Well, it says good-bye to me frequently.—Town Topics.

Miss Wabash — How delightfully your sister plays? Miss Waldo—Why, my dear, that's the man in the back parlor turning the piano.—Life.

"What is a chauffeur, Hans?" "A chauffeur is a man who is smart enough to run an auto, but too smart to own one!"—Kansas City Journal.

Johnny—They're making shingles out o' cement now'days. Dickey—I don't mind that so much, but if maw ever gets a pair o' cement slippers I'm goin' to run away!

"What period have you selected for this historical novel?" asked the publisher. "I shall not use periods," answered the author; "nothing but exclamation points."

"How did you contrive to cultivate such a beautiful black eye?" asked Brown? "Oh!" replied Fogg, who had been practicing upon roller skates, "I raised it from a slip."

"How do you recognize an infant industry?" "Like most infants," answered Senator Sorghum, "it is recognized by the amount of noise it makes when it wants to be noticed."

"Your son closed his college career in a blaze of glory." "I should say he did. The week before commencement day he made a three-base hit with the bases full."—Detroit Free Press.

Friend—I understand, Mrs. Stern, that your daughter has married since we last met. Miss Stern—Yes, and been divorced. Friend—Ah! And who is the happy man?—Boston Transcript.

"Now, Tommy," said the teacher, "you may give me an example of a coincidence." "Why er—why—me fadder and me mudder was both married on de same day."—Harper's Weekly.

"What, Heinrich! drinking again? I thought you intended to quit." "Ach! dot is so, yea. But in der vords of der saying, 'Der ghost vas villing, but der meat vas feeble.'"—Boston Transcript.

Gus—What did you think of our amateur theatricals, Miss Mamie? Rather a rare entertainment, was it not? Miss Mamie—Well—er—yes; it wasn't very well done, to be sure.—Harper's Bazar.

"You want a speedy car, of course?" "You bet." "How about a hill climber?" "Oh, I don't keer to go after pedestrians to that extent. Just gimme a machine that will get 'em on the flat."—Pittsburg Post.

"We don't have dinner in the middle of the day at our boarding-house any more." "You have lunch, I suppose?" "No, luncheon." "Well, that's the same thing." "Oh, no, it isn't! Lunch is a light dinner, and luncheon a light lunch."—Puck.

"You can't make a man a gentleman by calling him one," said the moralizer. "True," rejoined the thoughtful thinker, "but nine times out of a possible ten you can please him and thereby carry your point, and that is more to the purpose."

Bridget—Sure, now, yez don't maneter say yer livin' in a family phere there aint no cat. Who kin ye blame things on? Ann — The childer'. Bridget—Oh, it's foolin' ye are! Ann —They aren't her own childer'; they're the master's.—New York Weekly.

"Did you hear about the red, white and blue wedding this morning?" "No —what about it?" "The bride was in red, the bridegroom thought he had left the ring at home and turned white, and the bride's father, who had all the bills to pay, looked exceedingly blue."

Stranger—Zum Donnerwetter, now you have cut my chin a second time! If you can't shave better than that you will lose all your customers pretty quick. Barber's Apprentice—Not at all! I am not allowed to shave the regular customers yet, I only shave strangers!—London Tit-Bits.

Street Car Driver—Me and that off horse has been working for the company for twelve years now. Passenger—That so? The company must think a great deal of you both. Street Car Driver—Wall, I dunno; last week the two of us was taken sick, and they got a doctor for the horse and docked me. Gid-up there now, Betsy!—New York Tribune.