

General Frederick D. Grant says that the Texans are naturally military and are soldierly by instinct, and he expresses much surprise that the State does not provide armories for the use of its militia. He says that with the exception of two or three organizations which are admitted by specious favor to unoccupied rooms in public buildings, the entire militia of the State are quartered at their own expense. He adds: "What might be accomplished by the State militia of Texas if the State Government should meet its burden of responsibility as fully as the Federal Government now proposes to meet its own, no man can estimate."

Many years ago the distinguished American engineer Charles Eliott proposed a system of reservoirs for storing the flood waters of the Mississippi and dispensing them when necessary for the benefit of the cultivated soil. When this remarkable scheme was first published the conditions were not as favorable to its execution as now, while the necessity for restraining swollen rivers and conserving the redundant rainfall in the central valleys was not so urgent as it has become with the marvellous growth of our population. Doubtless the expense of constructing dams and reservoirs along the principal rivers is a very discouraging feature of the project. But if the engineering difficulties can be so surmounted that the control and utilization of the flood waters can be assured, the cost of the work could not exceed the pecuniary losses sometimes sustained by flood and drought in a single year.

A search for lost treasure in Lake Huron has been organized. Moreover, a wrecking company, well informed as to the vessels that have gone down in the last fifty years, is preparing for a systematic search after the lost cargoes in the great lakes. In the last twenty years 1089 vessels have been wrecked on the great lakes, with cargoes valued at over \$7,000,000. A good part of this was perishable merchandise, but many of the cargoes were of a kind not to be injured by water. In 1902 just 166 vessels were damaged in storms on the lakes. Twelve of these vessels were a total loss, and the cargoes of most of those that went down were as valuable to-day as when the vessels were wrecked. Of the vessels wrecked in 1901, thirty-one carried iron ore, twenty-two grain, thirty gold, twenty-eight lumber, four stone and brick, and one copper ore. Of the wrecked vessels seventy-five went down in Lake Erie, twenty-seven in Lake Huron, sixty in Lake Michigan and thirty-five in Lake Superior. In other years there were more cargoes of copper lost and not so many cargoes of iron ore. In other years also there was a greater proportion of vessels lost in Lake Huron.

He stretched back in the easy chair with his feet on another chair, and from his half-open mouth came a prolonged muttering. He had eaten his biscuits and emptied his tea cup. It was the fall of this cup from the table to the floor that had aroused Hester and the young man. But it did not arouse the sleeper.

For a moment the two stared into the room, and then Hester drew back and motioned to the young man to close the door. He latched it softly and turned to Hester. There was a question in his glance.

"A friend of the family," said Hester stiffly.

"His face seems familiar," the young man remarked. "I'm sure I have seen him before."

"Very likely," said Hester drily. "Very likely. He has the reputation of being generous."

The young man looked at her queerly.

"If I remember right," he said, "his generosity had nothing to do with the circumstances I recall. I should like to have this impression cleared away if I am mistaken in the man."

Hester stared up. He certainly was very bold and very inquisitive.

"I can't see how it can concern you in the least," she said, "but the gentleman in the study is Mr. Barclay Hill, of whom we doubt you have heard."

He made a queer gurgling noise in his throat and suddenly turned and looked out of the window. Hester stared at him in some alarm.

"It is nothing," he quietly said, as he turned and caught her look. "I choked a little—that's all."

Hester did not remove her eyes from his flushed face. Her expression suddenly softened.

"Sit down," she said, "and I will bring you a glass of water."

"No, no, don't bother."

"Perhaps—perhaps you are hungry?"

"Not yet. I don't expect to be hungry before luncheon time."

Hester froze again at his impudence. Whereat he laughed until the tears came in his eyes.

"I beg your pardon," he stammered. "Whenever I choke that way I have to laugh." And he laughed again. Then he straightened up. "About this man Hill?" he said. "Is he so very much?"

She shuddered at his slang.

"Mr. Barclay Hill is the legal adviser of the great house of Barham & Goldie. He is one of the leading men in his profession, a gentleman of whom all men speak highly. We are proud to acknowledge that such a man is a friend of the family."

She said this with a withering emphasis that should have had its effect on the immodest person before her.

But he only laughed again.

"I wasn't much impressed by his looks," he said.

"He has a fine face," said Hester quickly. "A strong face, and a beautifully poised head."

"It struck me that the police slanted his head a little too sharply backward," said this incorrigible.

Hester frowned.

"We will drop the subject," she said. "Please don't," said the incorrigible. "I have never heard Barclay Hill discussed before. There is a delightful novelty about it that of course may not appeal to you. You know him so well?"

"He is an old friend," said Hester severely.

"He looks older than I supposed," persisted the incorrigible.

"I have no doubt that the business burdens he carries have done much to age him before his time," said Hester.

The incorrigible suddenly choked again, but this time he controlled the affliction better.

"If I am not greatly mistaken," he said, "you would have me regard him

not hurry about whatever sinister plans they had for the Nugent household. In less than half an hour the woman, with a smiling face and apparent deliberation, had cooked a fine breakfast for the Apaches, who sat never uttering so much as a grunt and all the time watching her every movement.

When the meal was over and the Indians had been given a quantity of tobacco Mrs. Nugent asked them if they would help her in moving provisions into the store at the front of the house. There was a sort of cold storage cellar at the back of the house. It was built of adobe bricks, with a heavy wood door, having big hinges and a hasp for a padlock on the outside. It was without windows and the walls were three feet thick. It was a storage place for the merchandise sold in the little Nugent store. Bustling about the house with a forced energy, but not a moment forgetting the two great, half-naked savages who stood in her doorway were there for a settled purpose, she carried numerous hams and pails of lard from the storehouse, as if the greatest expedition were necessary. Then, suddenly calling the Apaches to the storehouse, she praised their strong arms and backs and asked if they would not carry a barrel of lard out of the adobe cellar to the store.

The savages were caught off their guard, and bending low, they began to slowly raise the heavy barrel. At that moment Mrs. Nugent snatched hold of the heavy wood door, and in a flash she drew it shut, put the hasp in place and fastened the padlock outside. Then, while all manner of Indian oaths reached her ears, she brought out the two family Winchester rifles and stood guard over the storehouse. She dispatched her boy with all possible speed on the bare back of a broncho to the Alling ranch, seven miles away, for help from the townpunchers. Rifle in hand, she walked about the exterior of the storehouse, watching for the first evidence of the imprisoned Apaches attempting to dig out through the adobe walls.

Several times she fired her rifle in order to let the men know there was some one about with firearms. Two hours later several cowboys came to the Nugent house, the Indians were easily taken and were sent back to their reservation, where they have since been in prison. The Indians were not in the Apache Kid band, but years ago they were the murderers of whites, and are intractable savages. Not the least doubt remains that they meant to kill Mrs. Nugent and her children and rob the store of its money.

CUBA'S LAST BUCCANEERS.

As late as the year 1825 the waters adjacent to Porto Rico were infested by a bloodthirsty band of pirates, led by a Spaniard named Confresnas. It was the proud boast of the buccaneer chief that he neither gave nor asked quarter. In March of the year mentioned Captain John Drake Sloat, who twenty-one years later raised the American flag over California, was placed in command of the sloop-of-war Grampus, with orders to proceed to the West Indies and wipe the pirates off the ocean. The Grampus cruised for some weeks without catching sight of any pirate vessel. One morning, while the sloop was lying at anchor in the harbor of San Juan, a man who had swum ashore from a merchant vessel captured by Confresnas, reported that the pirate brig was anchored in the Boca de Inferno (Mouth of Hell), an obscure harbor, some miles from the coast, waiting to attack a heavily laden schooner which was to sail from San Juan that very day.

Confresnas knew the Grampus well, so to make sure of his prey, Captain Sloat placed a heavily armed crew and tannor loaded with grape on board

SCIENCE & MECHANICS

One of the best established laws of physics is that compression heats and expansion cools. The first effect of compressing air is to raise the temperature, and if at a single operation the pressure be raised to ninety or one hundred pounds the temperature may reach 500 or 600 degrees Fahrenheit. Under these circumstances oil does not always work well as a lubricant, at least in the main cylinder. Soap suds is very much better. Several methods have been devised for introducing this material. These vary in merit, of course, but there is no doubt about the superiority of the material itself to oil.

Thirteen hundred stone sledge hammers have been taken out of tunnels used by prehistoric men in the iron mine at Leslie, Mo. They are made of black hematite and have no other finish than a groove about the middle of each, showing where formerly they were bound by wythes to wooden handles. Greenstone and Jasper used by the aborigines for war axes were not hard enough to chip away the hematite and expose the pockets of red oxide of iron which the savage used as a paint. The form of some of these hammers shows that they were fitted with two handles so that the operator could hold one in each hand.

The latest method of hardening the face of armor-plate is by heating the face with electrical currents by means of large carbon anodes instead of applying the heat in a furnace. It has been found that during the electrical treatment a portion of the carbon of the anodes enters into the composition of the steel, producing great hardness of that metal. The depth to which the hardening proceeds is regulated by the length of time during which the treatment is applied. It is claimed to be superior to the Harvey system or that of Krupp. By the latter process plates require fifteen to twenty days' treatment. With the electrical method the desired result is accomplished in five hours.

Important irrigation reclamation projects, under consideration by the Hydrographic Bureau, contemplate the erection of a number of storage reservoirs, necessitating the building of numerous dams. Some of these it is proposed to build entirely of steel, the most novel feature of which will be hardened steel inclined columns and arch ribs. It is estimated that a reliable storage reservoir, good for the next fifty or one hundred years, could be built on this plan for "about one-half the expense required for a masonry dam." For high dams the advantages of steel construction are just as great as for low ones, and the problem of building such structures is no more difficult than the erection of a modern steel skeleton office building. It is also asserted that in case of a break in such a steel dam, through carelessness, neglect or incendiarism, the balance of the structure would not be jeopardized, as would be the case with masonry construction. The age limit of a steel dam, it is argued, is such that it will extend far beyond the time when "the development of this country makes new structures, improved with respect to location and capacity, either desirable or unavoidable."

The normal human eye can read letters seven-twentieths of an inch high at a distance of twenty feet. Inability to do this shows defective sight, which should be corrected with glasses.

There is a wonderful essay by Robert Louis Stevenson, called "The Lantern Bearer," which explains this charm of adventure more skillfully than any other piece of writing that we know. The charm exists in all of us. In some it is strong enough to cause the actual trip to the polar regions, there to face the freezing, and the desperate fall to death. In others it is only strong enough to give enormous sale to such a book as Nansen's "Farthest North." The man who seeks adventure is still a hero, and the rest of us love him for the dangers he has passed.—Collier's Weekly.

HIS TEETH KILLED CATAMOUNT.

If Anson Sereoff, of Torrey Creek Canyon, Wyo., is to be believed he was lately the hero of a yarn which even a man like Selous cannot discount. He was prospecting and ran across a den of a mountain lion. He went in to see if there were any whelps, and while in the cave the mother lion returned and attacked him from behind. The catamount miscalculated its first leap and overhot the mark, allowing Sereoff to turn about and face it. Then came a most thrilling encounter. Sereoff managed to get hold of the lion's jaw so that it could not bite, and with his other hand he so twisted the fore feet of his adversary that it could not use its claws on him. The two fell to the ground, and in the process of rolling over and over Sereoff managed to get his body between the lion's hind legs so that they could not do much damage. Then he began to tear the animal's throat with his teeth, and finally reached the jugular vein. In the end he killed it, escaping with nothing worse than a few painful scratches. The skin measured eight feet from tip to tip.

NARROW ESCAPE.

A small company of Alaskan gold-seekers were walking across one of the great ice fields in that winter bound country when one of them noticed a difference in the color of the ice a few yards before them. Almost as he spoke, however, the treacherous coating of thin ice across a jagged crevasse gave way, and with an awful cry the two foremost men went down with the crumbling, glittering surface. A third man would have followed, but his gun lodged crosswise in the crevice and saved him. The other two had sunk out of sight, only their voices guiding their rescuers. Blankets were torn into strips and all the available rope used as well to reach the unfortunate prisoners, to whom hatchets also had to be lowered to hack their way out, so tightly had they been jammed in between the ice bowlders by their fall of fifty feet or more. When they reached the surface again they were in a fainting condition, and it was many days before they recovered from the effects of the time spent in that icy tomb.

A LEANDER IN MISSOURI.

J. A. Sourd, aged eighty-nine years, swam the flooded Platte River, half a mile wide, in order to get from his temporary home in the country east of that stream to St. Joseph, Mo., where his wife of six weeks has been visiting, and from whom he was cut off by the flood.

His feat was witnessed by some families along the river bank, who cheered him lustily.

The river was a raging torrent where he breasted it, but it was the narrowest point across for many miles. Mr. Sourd was completely exhausted when he reached the other side, but was none the worse for his plucky deed.

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Only about two per cent. of the radiant energy that comes to us from the sun is capable of affecting the human eye.

"Oh, I can see," said Jack, "my face aches and my shoe-string's broken. I'm a man with the largest head. Why is a school yard larger at recess than during school hours? Because has more feet in it."

THE FOX PUZZLE.

There is another fox and two ducks here. Find them.

THE DANCING PEA.

This is a remarkably simple but always surprising and effective trick.

THE WHOLE TRICK CONSISTS IN STICKING A LONG THIN NEEDLE INTO THE PEA. THIS FORCES IT ALWAYS TO RETURN TO ITS PLACE.

A piece of thin wire can be used instead of the needle, which, in order to remain invisible, should not be bright and shining. Care must be taken that the needle or wire is fastened well into the pea, so that it will not drop into the performer's mouth.—New York World.

EFFECT OF WIND ON WATER.

Lake Erie affords a good opportunity for studying the effects of the wind on an enclosed body of water. Its trough, fifty miles in extent, lies about in the direction of the west to south-west winds that prevail there, and a great blow from that quarter sends the body of water eastward, so that a line of eight feet or more takes place at Buffalo in the course of a few hours. When the force of the gale has passed the water swings back.

A COSTLY ARGUMENT.

A ten-on argument often ends in a \$10 quarrel.—Chicago News.

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