"THE MARINERS SLEEP BY THE SEA."

The mariners sleep by the sea.
The wild winds come up by the sea,
It wails round the tower, and it blows through the grasses,
It scatters the sand o'er the graves where it passes,
And the sound and the scent of the sea.

When at night there's a seething of surf,
The grandames look out o'er the surf,
They reckon their dead and their long years of sadness,
And they shake their lean fists at the sea and its madness,
And curse the white fangs of the surf.

But the mariners sleep by the sea,
They hear not the sound of the sea,
Nor the hum from the church where the psalm is uplifted,
Nor the crying of birds that above them are drifted,
The mariners sleep by the sea.

—Margaret L. Woods.

Capturing a Runaway Train

BY A. M. STRONG.

There have lately been turned out of the Southern Pacific railroad shops at one of the big terminals of that road on the Pacific Coast four of the largest consolidated pattern engines in use, designed especially for mountain work, whose plans and specifications were drawn by probably the only lady expert mechanical engineer in America, if not in the world. How she attained her present position is one of the railroad legends of the road for which she works, but I believe the story has never been in print.

A number of years ago, about fifteen I believe, some lucky prospectors "located" mining claims away up in the almost inaccessible fortressess of one of the mountain ranges of the West, and the phenomenal riches of the lead amply repaid the heavy expenses of the "mule train" that was used to "pack" the output of the railroad. Eventually the prosperity of the first proprietors brought other adventurous spirits to the lucky spot and later a rich syndicate brought out all the smaller claims on the ledge and established there the great mills and smelters of the Calumet Mining and Smelting company.

Then the Southern Pacific people awakened to the importance of the enterprise, and after a series of consultations with the syndicate, in the course of which a very handsome financial proposition was made by the miners, a branch road was surveyed up through the canons to the site of the now rapidly growing town. The difficulties were almost insurmountable, but at last the work was done and a very crooked and dangerous piece of track was the result. Its grades were precipitous in the extreme its curves sharp to the last degree, and its roadbed so narrow in some places that if a car became derailed it was either demolished against the rock wall on one side or went to the bottom of the gorge on the other, there to lie and rot and rust away. Once over the cliff the cost of raising an ore car would almost pay for a new one, and the company seldom made any effort to recover the wreckage.

One point on the short road had always been dreaded by the trainmen, and this was the sharp curve at the approach to what was called the second crossing. It had been a prolific source of wrecks and the rocks below the bridge were strewn with broken timbers and bent and twisted ironwork of dozens of ore cars that had plunged over the sheer sides of the deep gorge. This second crossing bridge was at the foot of the heaviest grade and from there the road wound through the beautiful Silver Creek valley to the "Junction," where it joined the main line of the Southern Pacific.

At the point where the level track commenced, hardly a stone's throw from the second crossing bridge, the company had built a short siding for the use of the giant consolidated engine that was used to push the long trains of ore cars up the mountain, and just across the main track from the siding stood the little cottage where John Clarke, the engineer, and his daughter, Jessie, lived.

Miss Jessie at that time was nearly sixteen, and for the last three years had been her father's housekeeper. All her life she had been intimately associated with railroad men, and for three years that her father had been running the big "pusher" she had no other companion than her little brother, several years her junior.

All her spare time she spent with father about the engine, and had made it an enthusiastic study until, at sixteen, she knew its mechanism about as thoroughly as did her grayhaired father; in fact, it was her boast that she could "run the consolidator as good as daddy."

A short time before the incident happened of which I am about to tell you, a tourist delayed by a wreck at the bridge had spent the day at Clarke's cottage. The little housekeeper had made the day very pleasant for him by piloting him about the valley, and on leaving he had given her a pair of powerful fieldglasses.

They were her dearest earthly possession, for with them she could see her father's engine as it swept down the mountain for nearly an hour before he would arrive at the siding.

The long stretches of road as it wound around the crags up the canon, now for a mile in sight, then disappearing among the rocks, only to reappear still further up the mountain, were always an interesting study for the girl, and but for those fieldglasses, the yound lady's practical knowledge of railroading and her unparalleled nerve, the Southern Pacific would have had one wreck that would have cost many lives.

One August evening Miss Clarke was watching through the fieldglasses the effect of the sunlight on the brilliant quartz rock at the farthest point up the mountain, where the track could be seen from the valley and only a short distance from the big mills at the top of the hill. Her father and his fireman had gone to the junction for some supplies, and were to return on the "mail," now nearly due. Her little brother was "playing fireman," and with a big bunch of waist was rubbing up the bright work about the big engine. The twilight silence in the valley was only broken by the occasional hiss of escaping steam and the steady, monotonous "pound" of the airpump on the engine, which her father had forgotton to shut off before he left. She had just noticed it, and was about to go to the engine and shut off the steam, when, as she took one last look, she was almost paralyzed by the sight of a long train of ore creeping around the curve. Two or three of the laborers at the mines were still on them, but hand brakes would never stop that heavy train, and as it slowly gained in speed, she saw them leave the train. Then she thought of the little passenger train that would be there in a few minutes and in another moment she was climbing into the cab of the big engine and telling her little brother what to do.

"Open the switch, Johnnie, and when I get down on the main track shut it and run down the track and flag number one. Tell dad I'm up the hill to catch a runaway."

Johnnie did as he was told and the powerful engine rolled out of the siding, across the bridge and was soon tearing up the hill at full speed toward the now rapidly approaching train.

As she left the siding her one thought had been to save the passenger train from an awful collision, but as she crossed the bridge she thought of a little story her father had lately told of how he had once caught a runaway train with his engine and had stopped it before it could do any damage. She would try it now, despite the awful danger. If "Daddy" could do it, she could.

For nearly four miles up the hill the big engine fairly flew, then, as she reached a long straight track where the view was clear for nearly a mile, she shut off the steam and gradually the locomotive stopped.

Jessie looked up at the steam gauge. The pointer indicated only 100 pounds pressure. Keeping a close watch on the track ahead, the intrepid girl left the throttle and, opening the firebox door, replenished the fire. Just as the last scoopful of coal was thrown in and the door closed the runaway shot around the curve into view, and, starting the engine back, the girl watched closely for a chance to catch the now rapidly moving train.

Down the heavy grade went engine and cars, the distance between them rapidly growing shorter. On a little piece of straight track, a little over a mile from the dangerous bridge, Jessie decided to take the last desperate chance, and as the engine reached the desired point, only a few feet ahead of the flying ore cars, the girl gave the engine a light touch of the airbrake, and then, with mighty impact, the heavy train struck the engine, then the airbrake lever was sent to the "emergency notch," but so great was the speed of the train that even that did but little to slacken the speed, and that awful curve at the bridge was almost in sight.

Jessie almost lost her nerve as she thought of that deadly place. She knew the big engine would never round it at its present rate of speed.

Suddenly the escape valve of the engine opened with a mighty roar, telling her the powerful engine was straining and quivering under the pressure of nearly 200 pounds of steam, and then a favorite axiom of her father's came to her mind:

"If air won't hold 'em, give 'em steam."

One supreme effort of the strong young arms and the reverse lever of the black giant was thrown over, the sand pipes were opened, and with steady hand Jessie opened the throttle, throwing a mighty force against the heavy train.

Now the speed of train materially decreased, but the big locomotive rolled and rocked like a ship at sea as she safely rounded the dangerous curve and shot out on the high bridge, and then came another shock for the sorely tried girl, for standing in front of the cottage, almost hidden by a dense cloud of black smoke, stood the little passenger train with its load of unsuspecting travelers.

Here again the girl's knowledge of railroad craft came to her, and she knew that no power on earth could stop that heavy train in time to avert a collision, but she could signal to them. A brown hand reached for the whistle cord, and in a second more the deep valley was resounding to the hoarse roar of the duplex whistle giving three loud blasts—the railroaders' signal: "Back up."

The signal was just in time; as the passenger train backed out of the way the big consolidator and its string of ore cars rolled heavily by, the train now under control, but still moving with sufficient force to have done considerable damage.

As the train passed the siding, Clarke and his fireman climbed on the cars and soon stopped them; and as Jessie jumped to the ground she almost alighted on a tall gray mustached old gentleman. He was Charles Archer, vice-president and general manager of the Southern Pacific, and a man who never failed to reconize and reward merit; and it was at his hands Miss Clarke received the education that fitted her for the position she now occupies and who placed the lady's name on the "merit roll" of the Southern Pacific railroad at a salary of $1500 per year, work or play, as long as she lives.

The Sleep of Plants.

Like animals all plants require intervals of repose, during which the vital functions are slowed down, and the organic structures undergo repair. Some plants repose during the rainy season, others during periods of drought, but while some plants sleep during the cold or the comparatively cold season of the year, others again take their rest when the average temperature is high. It occurred to a Norwegian observer to investigate the sleep of plants, more particularly with the object of shortening the period of repose, and this he claims to have attained by subjecting the bulbs or buds to the action of cloroform vapor. He asserts, indeed, that plants thus treated subsequently develop more rapidly than those whose repose has not been intensified by the narcotic action of this drug, and the observation is not without considerable interest.

If his observations are trustworthy, it follows that sleep in plants is not strictly comparable to that of animal life, for we do not suppose that the period allotted to sleep by animals could advantageously be shortened by the administration of an anæsthetic. Sleep, on the other hand, is a relative rather than an absolute condition. Its value as a restorative depends in a very marked degree on its intensity, and certain individuals derive more benefit and recuperate their jaded energies more effectually in five or six hours than others do after twice as long. This recuperative energy is asserted to be an indication of a high standard of vitality, and common observation certainly lends color to the view that diminished recuperative power is indicative of physiological deterioration.—London Medical Press.

PEARLS OF THOUGHT.

A difference of tastes in jokes is a great strain on the affections.—George Eliot.

Life is a train of moods like a string of beads, and as we pass through them they prove to be many-colored lenses which paint the world their own hue and each shows only what lies in its focus.—Emerson.

Religion cannot pass away. Be not disturbed by infidelity. Religion cannot pass away. The burning of a little straw may hide the stars, but the stars are there and will reappear.—Thomas Carlyle.

I do not believe the common man's work is the hardest. The hero has the hero's aspiration that lifts him to his labor. All great duties are easier than the little ones, though they cost far more blood and agony.—Phillips Brooks.

The Bible is a book full of light and wisdom. It will make you wise to eternal life, and furnish you with directions and principles to guide and order your life safely and prudently. There is no book like the Bible for excellent learning, wisdom and use. Sir Matthew Hale.

If we care to live and walk in the Spirit, if we care to be receptive of heavenly forces and to taste the sweetness of the true, the beautiful and the good, we must make inward room for the best things; we must exercise ourselves to familiarity with the higher subjects.—C. G. Ames.

One very useful precept for students is, never to remain long in puzzling out any difficulty; but lay the book and the subject aside, and return to it some hours after, or next day; after having turned their attention to something else. Sometimes a person will weary his mind for several hours in some effort (which might have been spared) to make out some difficulty, and, next day, when he returns to the subject, will find it quite easy.—Whately.

The great problem is, after all, how shall one grow in sympathy and tenderness and generosity and consideration? How shall he feed on high thoughts and noble aims? How shall he be swift to discern and avail himself of those opportunities for usefulness to others which are the best channels of his own growth? How shall he hold clear and close relation with the divine energy? "Be one of the conquerors!" said Balzac. "The universe belongs to him who wills and loves and prays; but he must will, he must love, he must pray!" In a word, he must possess wisdom, force and faith!—Lillian Whiting.

VALUE OF COLD STORAGE.

A VISIT TO THE FROZEN WAREHOUSES IS INTERESTING.

The Walls Are of Extraordinary Thickness—By Means of Piped Chemicals the Temperature Is Kept Below Zero—Eatables Kept for Years.

The almost perfect system to which cold storage has been brought in this city and its suburbs is known only in a general way to the average citizen. It will doubtlessly cause surprise to persons who are not familiar with the facts to learn that a quail they eat for breakfast has been dead in some cases for one or two years, and that quail and other game birds, fish and meat are frequently frozen for a year or more and then sold in as good a condition as they were the day they were put into the great ice-house.

The business has grown to such dimensions that it is estimated roughly that market men, shippers and others interested in the trade have $15,000,000 invested in the business, exclusive of the cost of the buildings. Large structures, usually located adjacent to the markets or the railroad depots, are in demand for cold storage warehouses, and there are several on upper West street, more near Washington market, others located near the Fulton market and under the arches of the Brooklyn bridge, that seem particularly well adapted for the purpose. Except in the case of fruit and such vegetables as are destroyed by freezing, it is said to be seldom that provisions are sold to the consumer upon arrival in this city. Prices, of course, have much to do with the sales, and when there is an overstock of chickens, eggs, beef, fish, meat or similar commodity, it is packed away in a cold storage warehouse, where it is held until prices justify a sale.

As regards game, it was only last winter that emissaries of the state game warden came to this city to find out why certain restaurants were selling venison, pheasants, quail and every other sort of game out of season. The deputy game wardens had quail for breakfast in September, when the law said that they should not be killed until December; venison for dinner, when deer can only be hunted in January, and woodcock and snipe. Then they made a list of the restaurants where the game had been obtained and arrested the proprietors. The proprietors gave the names of the men from whom they had bought the game, and these were found to have obtained it from the warehousemen. It was learned that some of the game had been killed more than a year before during the regular season. There were expressions of consciousness and wonderment on the faces of the game wardens when they departed for home. In their reports they said the law had not been violated.

"We certainly have developed the business," said one of the warehousemen, "to a point that is unequalled in any other part of the world. Europe has nothing like the cold warehouse system of this city. Even royal personages have to take their vegetables, meat, fruit and game in season. Here we do not. The cold warehouse system has been growing so slowly and yet surely in this city that it would be considered a hardship by citizens if they had to do without it. We have developed a pampered taste that requires fruit at Christmas, commodities that in the 'good old times' we could get only when nature provided them, at times, months after the time they are grown or killed. Rich men want trout at all seasons of the year, when it is known that they can only be obtained in the spring. Young chickens cannot be obtained except at their weight in gold during the winter, if they are grown during the cold months and killed just before being used. By means of the cold storage system they cost little more on New Year's day than they do in May. Spring lamb, that was obtainable formerly only in May and June, is carefully packed away in the spring and sold the succeeding winter and weeks before the earliest spring lamb of the following spring is born. Beef and mutton are not kept nearly so long—no need to do so.

"Bluefish can be obtained only at certain seasons, yet they are on sale all the time. The same is true regarding bass, mackerel and other fish. Oysters and clams are also kept for months at a time and frequently from one season to another."

A visit to one of these warehouses is interesting. The walls are of extraordinary thickness, sheathed with wood and filled with huge ice-boxes. In some of the more modern warehouses the same chemicals used to make artificial ice are circulated through the rooms by means of pipes, which keep the temperature several degrees below zero. The fish, meat or game to be preserved is packed in the ice-boxes, which have double walls, and the ice is packed around them. With the atmosphere around them below zero, the articles to be preserved are kept at a temperature that would make an Arctic explorer shiver until they are wanted, when they are taken out and sold, sometimes in a few days, and as often in a few months. The refrigerator cars have helped to develop the cold storage business.

There are about twenty-five large cold storage warehouses in this city and a greater number of small ones. In all they employ nearly a thousand men.—New York Commercial Advertiser.

The Freezing Process.

In mining for gold in Siberia the ground is kept clear of snow, so as to permit the cold to penetrate as deeply as possible, after which the surface is thawed by fires until a shallow layer of earth can be removed. The freezing is then allowed to proceed, and the thawing operations repeated, and this is continued as long as the cold weather lasts, says a writer in the Engineering Magazine. In this way through the long Siberian winters open excavations are made to the gold bearing rocks, the depths obtained being from twenty-five to seventy-five feet, according to the duration of the cold season.

Artificial cold for purposes of excavation was first used by Poetsch in 1883; by his well known process of cold brine through a series of buried pipes the most difficult quicksand may be made hard enough to be excavated like rock. In the article under consideration are given general illustrations and details of the apparatus used in sinking the shafts at the Courrieres mines, together with formulas enabling the safe thickness of frozen wall to be computed for round or square shafts of any given dimensions.

Among the important applications of the freezing process are noted the sinking of the shafts for the cylinders of the hydraulic elevator for the canal lift at Les Fontinettes, and the construction of a tunnel at Stockholm. The latter work was executed entirely by the introduction of cold air into the working chamber at the head of the tunnel, the cold preventing infiltration of water until the beton lining was built, and the work of excavating and mining being carried on at temperatures ranging between zero and 25 degrees Fahrenheit.

Left on a Desert Island.

Wise scientists went forth from San Fransisco on March 3, on the schooner Wahlberg, to gather specimens of sea life. They were college professors, ichthyologists and men like that.

They put into San Diego on July 27, with five tons of deep-sea treasures and four marooned miserables whom they rescued from the desert island of Natividad—four wild, wretched creatures who passed eight horrible months on the island.

The four men are Sergeant Sanford and Private Connors of Company H, First infantry, of San Diego barracks; Jack Dampier, and William Andrews, who were rescued when on the verge of death on Natividad Island. Sanford and Connors had been on a three months' furlough and went down the coast with Dampier and Andrews and others on a guano-poaching expedition in the junk Hongkong.

That was over eight months ago. At Cedros Island the rest of the crew took the Hongkong and left the four men on Natividad Island, with quite a lot of water and provisions and promising to return for them after their cruise to Turtle bay.

There was no fresh water on the island and no rain fell. They measured the supply drops, watching day and night for a sail. They had abandoned hope when the Wahlberg appeared. And indeed they must have died had not the scientific party rescued them.—New York World.

The Sewing Machine.

How many women who, day after day, keep up the rocking motion of the sewing machine treadle ever stop to think what this invention means, not only to them, but to the whole world? And do they know that 90 per cent. of all the machines made in the world are the product of this great country of ours?

Sewing machines have revolutionized many branches of business; especially is this the case in all kinds of leather work, from the heaviest harness to the lightest gloves.

A really first-class machine ready for market costs about $20. From this figure the price drops to about $14, with possibly $12, for the most inferior grades of what are considered tolerable machines. Hundreds of thousands of persons make their entire living by means of the sewing machine, and probably millions are gainers by its use. During a period of over 30 years the value of the exports of sewing machines was something like $70,000,000. In 1896 they were considerably over $3,000,000. Three hundred and fifty thousand pairs of shoes were sewed by machinery prior to 1877, and this product has multiplied almost past belief since that date.—New York Ledger.

An Eagle's Curiosity.

M. Cabalzar, a French aeronaut, reports that he met with a strange adventure in a recent ascent from Annecy, in Savoy. Feeling that the balloon was being pulled violently, he looked out, and was amazed to see a gigantic eagle climbing with extended wings down the ropes toward the car. Here it remained, staring fixedly at M. Cabalzar, till the balloon neared the ground, an hour afterwards, when it was frightened away by the shouts of a crowd of peasants.—Detroit Free Press.