

team engineering. In the modern ships, in addition to the great triple expansion main engines, with all their complicated parts, there are dynamos, blowers, steam steerers and enxiliary engines of all kinds and sizes, scattered in widely separated parts of the vessel, and with the small number of engineers carried, a large and intelligent force of machinists is a pressing necessity.

A significant fact in the history of inventions is that many of the most valuable devices now in use have been the work of mechanics. There is a growing tendency on the part of employers to encourse their workmen in this line. One nechanics of the Pennsylvania working on a device by which lines is coal will be fed to the fire-box of a locomotive in the same manner that a baseburner is fed. It is claimed that if the device is perfected it will greatly increase the heat in the fire-box, as no cold air will rush in, as in the case when the door to the fire-box is opened to throw in coal.

Professor William D. Marks, Supervising Engineer of the Edison Electric Light Company, of Philadelphia, an electrical expert, says he is willing to stake his reputation as an electrical engineer on his ability to construct an electric motor that could take a train of cars from Philadelphia to New York in thirtysix minutes. The Professor might have made it even thirty-five minutes, observes the New York World, but as he has placed his reputation at stake in the matter, he may wish to be entirely on the safe side. One hundred and fifty miles an hour is the speed Professor Marks's motor would have to make.

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Says the San Francisco Chronicle. Matches are a great modern convenience. but they bring many evils in their train. It is estimated that at least twenty per cent. of the fires in large cities may be traced to their use. A recent report of the Fire Marshal of Boston discusses the subject at great length and seriously recommends legislation to compel the adoption of safety matches which will only ignite under certain conditions. The losses entailed are great enough to be appalling, but very few persons, even when they are fully aware of the dangers of a cheap match, will take the trouble to insure themselves by buying the bettes but dearer article.

"I think I'll have to, Nathan," sh vere unobserved. said to her husband. "I feel lazy this spring; I suppose it is because the baby is cutting his teeth so hard, and breaks me of my rest so."

"There isn't a lazy bone in your body. With the family, the cow, the pigs, the hens and the baby to take care of, you ne quick !" As the boy disappeared, the men came out of the buttery. "Look here, girl! Where's the big too much to do. I only wish you

could have a good strong woman "O, nonsense! I only want a little lift cheese !! Sophy did not speak. The men began

now and then. I'm glad you didn't to frown. think it extravagant for me to take Sophy. "None o' that! You'll have to tell, She will do."

e know," said one. Mr. Salton was a farmer, but he did Little Sammy began to cry. not own a farm. He worked for a rich "Let th' young ones alone," said the other man. "It is in the house, of course. man named Arthurson, who owned a very superior farm, and kept a great deal Where does this door go to? Where

He had to work regularly every day under Mr. Arthurson's orders. At does that one go?" "The baby's there," said Sophy certain seasons of the year, however, he puickly. "He's asleep-don't disturb would be unemployed. He was subject to rheumatic fevers, which incurred ex-

Teve, anyway," said the other.

nuch does it weigh, anyway?" "The girl's a fool," said other.

mensily) not to move.

The men pushed their way into a shed-He had lost two children, and Sophy turned instantly, and he had other misfortunes which kept him poor. But just now he was struggling moon. pulled Sammy into the other, which was very hard to pay up the mortgage on his bare, shaded, and nimost empty. But there was the baby, asleep upon an old little home. He counted every cent with this object in view. He had been a lit- settee, and there, upon the floor, was the big cheese! There was little else. Mrs. Salton had been in the habit, during the tle surprised that Lizzy, who was one with him in all his plans, should wish to summer, of placing the child here, away take another mouth to feed. Still, he supposed his wife knew best. She knew from the light and flice for his afternoon she felt. If she needed the girl's nap. Catching up the baby, Sophy flung the

help she should have it, if they did not blanket and pillow on the cheese, and laying the little fellow down on them pay the mortgage for another year. Sophy came just at the right time.

of help.

she was a quiet, colorless girl of thirteen, again, placed Sammy upon one side and sat down on the other, hushing and talkdoing just as she was bid, and she ing to the child, who sat up on his strange seemed to have a knack with the baby, ouch and began crying vigorously. The so Mrs. Salton said she made'a good beaen, who had been swarching through ginning. the house, came back.

Two days after she arrived, Mr. Arthurson came riding down to the little house on horseback. A terrible thing had happened-a dog, supposed to be mad, had bitten his dairyman's wife; the husband had gone off in great haste to get a fa-

mous doctor, and might not be back for two days. Mr. Arthurson's cows have apron been just driven up for milking, and there was no one to milk them. Would cheese's edge. Salton and his wife, who understood the

business also, come and milk them? They might have most of the milk, in payment, until the dairyman came back, and other arrangements could be made.

For three nights, Mr. and Mrs. Salton went to the villa, and milked Mr. Arthurson's numerous cows; and then they had a barrel of milk.

"What had we better do with it, Lizzy?" asked Nathan Salton.

"I used to have good luck making cheese when I was a girl at home," said Mrs. Salton, "I would like to make a that choese?"

This was finally decided upon. But they had no press; so Nathan contrived beramy began to whimper. one with part of a hogshead, with heavy rocks for pressure. It took a good deal of time and trouble, but the ones, an' I'll tell you a better job, Jim. cheese seemed to be a success. It That are baby-seel worked very nice, and was immensely The men exchanged glances, Soph)

looked up at them. large. "It will bring a good price if I have "Poh! Salton's poor!" said out-

Massachusetts leads them all in the im portance of the traffic and quality of the "Go out th' side door-still now," utput. The workers in these rubber whispered Sophy to Hiram. "Creep goods are a well-paid lot of people, through the bushes up to Mr. Arthurson's Rubber is bought in bulk, in chunks and -don't let 'em see you-an' bring some barrels from Para, Brazil. Chicago spends every year fully \$1,000,000 for

its rubber goods .- Chicago Post.

Cost of Running European Steamers. Reliable data concerning the cost of running the fast European steamers have hitherto been difficult to obtain. Some statistics of the voyage of the Normannia, the magnificent addition to the Hamberg-American line, have been collected, and as the figures apply practically to a run of the City of Paris from New York to Liverpool, they are interesting. When the Normannia starts on an eastward voyage she carries nearly 3000 tons of coal in her bunkers, and it costs about \$5.50 a ton. The stokers daily shovel into her furnaces between 250 and 300 The expenditure for coal approxitons. mates \$1000 a day, or \$8000 for the voyage, All expenses included, it may be said that one trip of the Normannia costs its owners not less than \$25,000. The receipts from all classes of passengers on a good midsummer trip are over Usually the Normannia carries \$50,000. 800 tons of freight, which, at the transportation rate of about \$10 a ton, amounts to \$8000,-New York Commercial Advertiser.

Diamonds to Be Found in America.

Major Powell, of the Geological Survey, says that diamond fields ure likely to be developed in the United States. He says that diamonds of fine water have "Say, now," said one, "that choese is already been found near Atlanta, Ga., and in Russell County, Ky. He believes either in the house or bars. Where is that systematic investigation would lead to valuable discoveries of precious stones. "It's too heavy for th' old wagon, Garnets, some of them worth \$70 and \$80 each, have been shipped East to the Sophy got up, and taking off the long mount of hundred of pounds by the which she was enveloped Navajo Indians, and some exceptionally pread it over the baby's lap so that it

fine specimens have been found in Virgered a spot where she could see the Opals of great value have been ginia. found in Oregon. Turquois mining is

"Can't you speak, you girl? How rapidly developing in Colorado. It has eeu pursued with more or less succes in New Mexico for some time. The Sophy sat closer on the edge of the ig cheese and speechlessly daugled a Virginian garnets are said to be superior in juster to the fin-t products of Ceylon. pool on a string for the baby, warning - Chicago Inter-Ocean. fammy (who in his fear sat somewhat

Mirrors of Wood.

In Germany wood with a mirror polish is coming into use for ornamental purhere," he added, shaking her, "you poses in place of metal. The wood is know enough! Where did Salton put first submitted to a bath of caustic alkali poses in place of metal. The wood is for two or three days at a temperature of about 175 degrees Fahrenheit, then dipped in hydrosulphate of calcium for twenty-lour or thirty-nine hours, after which a concentrated solution of sulphur is added. After another dip in an acotate of lead solution at about 100 degrees, a shining metallic surface is given by polishing when dry with lead, tin or nino .-- New York Telegram.

tion of the sea bed upon which it has ocen proposed to construct a bridge across the straits.

Compressed air, instead of steam, will probably be used in our cities to operate machinery. The pipes for its transmis-tion will be laid three feet below the surface; the air, besides giving power, will rentilate workshop. Engineers who anve examined it say it will be a great approvement over steam power.

How They Catch Herring.

All the herring taken by Newhaven (Scotland) fishermen are sold for fresh consumption in Edinburgh and its suburbs, the greater portion hawked as "Caller (fresh) herring !" by the Newhayea fishwives themselves. Quest for these delicious fish is made in over-varying portions of the Forth from opposit Newhaven itself to the open sea beyond the famous Bass Rock, the "season" continuing from July 18 to the 7th of September. If the boats are going a lo distance, they depart at daybreak; if but fifty or sixty miles they leave at noon. In either case they make a beautiful picture against the dark emerald background of the bold Fifeshire hills to the north Each boat carries a "fleet" of from fifty to sixty nets, each net about sixty yards long and eighteen yards in width, and the crew of each boat as it passes out to sea are engaged in "fishing down, which means stowing away the nets in the hold ready for paying out on arrival at the fishing grounds. Here they drift with the tide until the instant the "sun tak's th' hill," that is, the moment it be gins to disappear behind the horizon. The joined nets, which are provided with buoys every forty yards, are then "shot" in a half hour's time; white lights are hoisted that the little cruft which continues to drift with the tide, may not be run down by passing channel steamers; supper is had; and all, save one lookout, turn in to their bunks for sleep until 2 s'clock in the morning .- Commercial Advertiser.

Extraordinary Japanese Weaving.

An extraordinary piece of Japanese weaving is now at the exhibition in Tokio. It is known as isugure ori, or pierced weaving. It is one of great size, and the design is equestrian archery, an old-world accomplishment in Japan, and one which is frequently used for pur poses of illustration and design by Japanese artists. The price asked for it was \$10,000. The distinctive feature of this kind of weaving is that the whole margin of the design is perforated like the joining of postage stamps, so that when the whole piece is held up to the light the design of the artist seems to be suspended in the body of the stuff. In Japan this kind of weaving has been re-garded as a tour do force of the artist, and it is believed that the piece is the largest and finest ever produced. - Commercial Advertiser.

mortality is great; the infants die like flics, and chose who survive are only the strongest and the fittest. This rural and urban working population is ignorant, though not unintelligent. The 'peones" can rarely read or write, but they have a natural talent for imitation, and when once they have been shown how to do a thing they will go on doing it; thus they learn in a few lessons to manage agricultural machinery, and when they have once learned they do not forget. As for morality, it is to be teared that they have but little. They are not afraid of death themselves, and have not much respect for the life of

others, and both men and women alike appear to have inherited a fair dose of superstition and many queer beliefs from their Indian ancestors, together with a number of silly remedies. The women when they have a headache, paste rounds of paper on their temples, or the pip of a watermelon. If they feel anything the matter with their eyes they will plaster

their cheeks over with buyes. Indeed. you rurely see a woman who has not something struck on her face. All these defects, all these superstitions, and all this neglect of the laws of hygiene President Balmaceda hopes to cradicate by education, and therefore, we see, not without surprise, in rustic townships like Traiguen, fine school-houses being built, at a cost of \$90,000, before there is yet a single brick house within the district. This policy of building schools and promoting education is being actively carried on throughout Chili. Wherever you go you seen fine school being built, and at no great distance from it an equally fine

new prison, and the chances are that the cells of the latter will be filled sooner than the classrooms of the former, However, the education of the masses has been one of the great cards of ern republicanism in Europe and in the United States, and it is therefore not astonishing to find imitative Chili following in the wake, perhaps a little histily and a little blindly .- Harper's Magazine.

The Destroying Sand Wave.

Born of the wind and the sea, on the sandy beaches of Capes Hatteras and Hentopen is a curious natural phene non. A mammoth wave of sand, that towers aloft like a sea wave, even curling over in places like a huge breaker, is rolling inland irresistably, and lacking only the element of speed in its career to carry such terror to the hearts of the inhabitants as is inspired by sea waves that follow an earthquake, for the destructiveness of the sand wave is limited only by its scope. Though similar in origin, substance and motive power, there is yet so much difference between the two waves in form, extent and speed of travel, and in the actual destruction of property, that each is a study in itself. Especially noticeable is the difference in the devastation wrought, for while one laying waster a forest of small value. the other is burying inexorably a hundred lowly homes .- Seribser.

Billy-"So you have returned from your bridal tour. What did you see on your trip that pleased you most?" John-"My wife."-Toronto Empire. Although she's fast, and smokes all day,

Men look on her with proutemotion; Admired by all she makes her way-The steamer called "the Queen of Ocean."

When a man is caught he owns up and says the woman did it. When a woman is caught sho swears it is not so, and cries to corroborate her onth .- National Weekly

"What are your potatoes, Mr. Scales?" "Thirty-five cents a peck." "T only thirty at Mr. Bushel's." "They are don't you buy some therei" "He hasn't any."-New York Sun,

"Left your purse at home, ch! Well, I can't lend you ten dollars, but I can put you in the way of getting it at once. Here's a nickel. Take a car home and get your purse."-Chatter.

Simmons-"That is a rather neculiarstone you are wearing, Timmons. Must be something rare, is it not?" Tunmins -"Very rare stone, indeed, my boy. That is an 1890 peach stone."-Indianapolis Journal.

Stage Manager-"Mr. Heavy, you will take the part of, Alonzo." Mr. Heavy-"I have never seen this play. Do you think I can please the audience in that Stage Manager .-- "Immensely. part P You die in the first act."-New York Weekly.

"What a queer name you have, Miss Booglespeegle!" he said, after he had nsked her once or twice to pronounce it for him. "Well," she responded, with just the sweetest smile, "you know what you can do with that name, Mr. Smith." - Washington Star.

"How human that instrument is!" remarked Gale at the amateur musicale "Do you notice how it throbs and sighs? Its strains"---"You're right; it don;" assented Jack Pott, as he watched a muscular young woman pound the keys out of shape. "It's a wonder to me it doesn't burst a blood-vessel!"-Dey Goods Chronicle.

Old Lady (at Tampa Eay) -- "My daughters want to go saillag. Can you swimt" Yacht Skipper-"'No mum." Old Ludy-++ My goodness ! What could you do if anything should happen !" Yacht Skipper-"Please, mum, when the man wot does the sailin' can't swim. he's mighty keerful not to let anything happen."-Good News.

A dog was barking at the moon when a sage impaired why he uid so, adding that he could not possibly affect the great luminary one way or the other, and thus it seemed a useless waste of energy, "Oh, it isn't that it makes any difference with the moon," replied the canine; "but I want the other dogs in this neighborhood to know that I am not dead." Moral-We never know that some men have been buried until we miss their bluster. - Detrust Free Press.

"I'm bound to have it-I tell you!" exclaimed the more determined of the men, taking her by the arm. "Look Sophy trembled, but did not stir, and "Hold on," said the more pacific rascal. "Don't raise a row with the young