

two ends. These are intended to rest upon the ice, and to slip along as the skate moves forwards or backwards. They are connected by two other rods of light iron work, which do not rest upon the ice, and keep the running irons about 3½ feet apart. Rising from these same running rails is a light framework of wood or iron supporting a wooden handrail which forms the top of the machine, it is about the height of the back of a chair, and which is so arranged as to be about over the middle of the lower rail, and parallel to the cross wood below. The learner then holds on to the handrail, standing within the square formed by the four rods below; and as he moves forward, resting his weight upon the rail, the whole machine moves forward with him. The advantages which this arrangement possesses over a chair are immense, for it can neither trip and fall forward, nor can the skater pull it down after him as he falls backward, the long rails underneath prevent the possibility of its turning over either way. As the skater proceeds, he bears less heavily on the machine, until at last he can dispense with it altogether. In our next impression we will endeavour to give a sketch of one of these machines, which will at once explain its construction and use.

SCIENTIFIC.

A correspondent of the London (Eng.) *Photographic News* writes as follows:—Do any of my readers desire to be informed of a good remedy for sea sickness? If so, I can supply one which has been instrumental in saving myself, who am one of the worst of sailors, from much suffering during some half dozen sea voyages lately. Take a dose of hydrate of chloral, about twenty grains, dissolved in a wine glass of water, and this, provided the stomach is in good order, and the traveller repose quietly during the journey, will create so soothing an effect that at any rate for eight or ten hours afterwards he will be troubled with no sickness whatever. In one case, indeed, the effect was truly surprising, myself and companions, who had doctored ourselves, being almost the only passengers unafflicted by the malady.

A NEW GAS.—M. Rouille, of Paris, proposes a new method of gas-making, by which the article can be produced economically and with the simplest apparatus in houses, manufactories, etc. The inventor has given to this new illuminating agent the name of "gas autogene." It is formed of air and steam of essence of petroleum. The apparatus is described as not only very simple, but as occupying only a very small space. An apparatus for example for the supply of 1,000 burners does not require more than a square yard, and for a less number in proportion. The gas is said to give a much more brilliant light than ordinary gas and to be much cheaper—in fact, that half a cubic yard of "gas autogene" gives as much light as a cubic yard of ordinary gas, and that it costs only three cents per cubic yard.

HEARING IN LARGE CHURCHES.—This is now made as easy as in the smallest, by the success of an experiment lately put in successful practice in Trinity Church, New York. It consists of a paraboloidal reflector of sound, placed at the back of the pulpit, of which the speaker's mouth is the focus. A beam of sound about ten feet in diameter is thus thrown to the most remote point of the church, and by its flow fills the whole body of the building. The structure is quite ornamental, and in harmony with the general architecture of the whole building. All great public buildings, whether for singing or speaking, may have similar arrangements adapted for their use. A person standing at the farthest door in Trinity Church can carry on a conversation with one in the pulpit, in the lowest tones, even in a whisper.

DURABILITY OF DIFFERENT WOODS.—Experiments have lately been made by driving sticks, made of different woods, each 2 feet long and 1½ inch square, into the ground, only ½ inch projecting outward. It was found that in five years, all those made of oak, elm, ash, fir, soft mahogany, and nearly every variety of pine, were totally rotten. Larch, hard pine, and teak-wood were decayed on the outside only; while acacia, with the exception of being also slightly attacked on the exterior, was otherwise sound. Hard mahogany and Cedar of Lebanon were found in tolerably good condition. But only Virginia cedar was found as good as when put in the ground. This is of some importance to builders, showing what woods should be avoided, and what others used by preference in underground work.

SOUNDS FROM THE AURORA.—It has long been an article of popular belief that the aurora is a roarer; that is, that it produces a sound more or less distinct. Scientific men, however, have generally been inclined to regard this auroral noise as a mere illusion. Loomis, in his excellent "Meteorology," says: "There is no satisfactory evidence that the aurora ever emits any audible sound. The sounds which have been ascribed to the aurora must have been due to other causes, such as the motion of the wind, or the cracking of snow and ice in consequence of their low temperature." But in a paper read at a recent meeting of the Academy of Science, of Paris, M. Becquerel expressed the opinion that the aurora really does make a noise, and in support of this view quoted the observations of Paul Rollier, aeronaut, who started from Paris in December last, and descended, 14 hours after, in Norway, on Mount Ide, at an elevation of 4,000 feet; "I saw through a thin fog the moving of the brilliant rays of an aurora borealis, spreading all around its strange light. Soon after an incomprehensible and loud roaring was heard, which, when it ceased completely, was followed by a strong smell of sulphur, almost suffocating."

SCIENCE PERFECTING SWIMMING.—Frederick Barnett, of Paris, has invented and patented a very novel yet simple apparatus for swimmers. The invention consists in supplying to man by art the apparatus which has been given to the frog by Nature. For the hands he has a large membranous fin which is held to its place by loops passing over the fingers and a strap around the wrist. The surface presented to the water by these fins is so large as to add greatly to the effectiveness of the strokes, but not so large as to exhaust the muscular power. Their effect is to very much reduce the effort required to swim without them. But the greatest ingenuity is displayed in the form and fitness of the fins for the legs, which are attached to the ankles, and are so formed that they act upon the water, both in the movement of bringing the legs together and throwing them back. They act so finely in treading water, as swimmers call it, that one can really walk, if not on the water, at least in it. The difference between swimming with

this apparatus and without it, is very much like the difference between rowing a boat with a handle and the blade of an oar. The old swimmer has no trouble in using the fins at first trial, and is surprised to find with what strength he can swim without exhaustion. He easily swims twice as fast with the apparatus as without it, and he can sustain himself for hours upon the water, or swim miles with it.

VARIETIES.

A computation of the number of old clothes sent to each male sufferer by forest fires in Michigan, gives him about two hundred pairs of old pants and one hundred pairs of old boots.

A little girl having noticed that after her mother's toilet there was invariably a sprinkling of powder on the carpet, observed on seeing the snow the other morning, "See, mamma! the angels have been using the *poudre de riz*."

A California editor, in speaking of a notorious ruffian in that State, who is supposed to have committed more murders than any other man on the Pacific Coast, says: "He has a wonderful talent for bereaving any family he does not happen to like."

A suicidal Iowan called on the druggist for arsenic, went home, and was soon in the agonies of dissolution before the family. Conceive his disappointment when the apothecary dropped in and told him that the deadly poison was chalk. His wife was the maddest of the two, and now she talks of prosecuting the apothecary for malpractice.

The following singular epitaph appears in the cemetery at Malaga:

Here lies Jean Perrez, who was a
Good father, good son and good husband.
Do not confound him with his younger brother,
Bearing the same name, who is a felon
in the galleys at Ceuta.

A new reading of Macbeth's direction to his servant,
"Put out the light, and then—
Put out the light."

comes from California. The last three words are considered a typographical error. Macbeth naturally wishes to be alone. Shakespeare therefore must have meant to make him say,

"Put out the light,
And then—put!"

A curious coincidence occurred in connection with the Prince's state. A rough old Norfolk farmer, in conversation, utterly repudiated the possibility of a fatal termination to the fever. "Die!" he exclaimed in his broad East-Anglian dialect. "Die! Not he. He'll wake up one of these days, and ask for a quart o' ale!" The Prince's revival on Wednesday, and the beverage he asked for, certainly did to some extent fulfil the prophecy.

The following advertisement appears in one of the journals:—"A young man of good family, born in one of the most fertile of our colonies, but who, however, by reverse of fortune is compelled to give pianoforte lessons, desires to marry a young person, aged from 35 to 40 years, possessing about 100,000 francs. The young man has no fortune beyond his physiognomy, which he guarantees to be most handsome. He offers to send his most recent *carte de visite* in proof; he is a most splendid artist. Address," &c.

A lady in a town not a thousand miles away from New York, was considerably annoyed by hens who pecked the loose plastering from the wall. So, one morning, while washing dishes, she thought she heard her fowls pecking as usual, and, dish-cloth in hand, she hastened to open the door, and giving her rag a warlike flourish, she uttered a tremendous "Shoo-o-o!" Imagine her dismay at beholding, not the hens, but a stranger, who, after wiping from his face the drops of dishwater with which he had been sprinkled, said, in a perfectly calm voice: "Well, mum, if you've got any more spare rags, I should like to sell you some tinware for 'em." If that isn't meeting misfortune with a smile, then we don't know anything of the beauties of patience under affliction.

THE NEW SMUGGLING DODGE.—The Ogdensburg *Journal* says:—"Henry Hooker, deputy collector at Morristown, in this district, seized on Friday two boxes of turkeys, entered at his office, coming from Canada. Each turkey had thrust up into its body a bottle of brandy, and the office nearly closed so as to hide the same, and then frozen up. The turkeys thus loaded weighed so much as to attract the attention of the officer, who caused an investigation and detected the fraud. The entry of the brandy, though successfully made into the turkeys, prevented the latter from making safe passage through the custom house. The plunder was sold at auction at the custom house, in this city, Saturday.

Two frisky students of the Troy Polytechnic Institute, while playfully tossing about their room a clean shirt, just returned from the laundry, and belonging, as they supposed, to an absent chum, succeeded, after some considerable skirmishing, in tearing the garment to tatters. This unfortunate termination of their sport somewhat cooled their festiveness; and on holding a council of war, they concluded to tear off the name from the ruined unmentionable, as a cover to the mischief they had done. Proceeding to carry out this resolution, one of the precious pair uttered an exclamation of surprise as he began the work: "Why, I'll be hanged if it ain't my shirt!"

The following is the first composition of a five-year old girl, who is destined to make her mark in the world of letters:

A goat is stronger than a pig. He looks at you, and so does the doctor, but a goat has four legs. A boy without a father is an orphan, and if he ain't got a mother he is two orphans. The goat does not give as much milk as a cow, but more than an ox. I saw an ox to the fair one day, with a card tied on his left ear, and we all went in on the family ticket. Mother picks geese in the summer. A goat eats grass, and jumps on a box. Some folks don't like goats, but as for me, give me a mule, with a paint-brush tail. The goat is a useful animal, and smells as sweet as bar's oil for the hair. If I had too much hair I would wear a wig, as old captain Peters does. I will sell my goat for three dollars and go to the circus to see the elephant which is bigger than five goats. Father is coming home, and the baby has got the croup.

DEFINITION OF A NEW WORD.—One of the last words introduced prominently to the public is "adumbrating." It is defined to mean the "individualism of preliminary and precipitous prognostication, as eliminated in the irrefragability of never-flinching and never-to-yield-an-inch discommodation of spontaneous combustion, whether or not, and evincing antediluvian indivisibilities, contemporaneously elucidated by unregenerating consanguinity when sycoelephantical and scintillating approximately to scientific elaboration."

The famous story of the "stuffed captain" in the Prussian army has at length received a satisfactory explanation by the official press. In all Prussian budgets there figures a captain of the 1st regiment of Foot Guards for whose pay the estimates are charged with 1,300 thalers, though the officer's name is not to be found in the army list. The mystery has given rise to many humorous but none the less violent attacks from the progressists, who scented in the item one of the numerous false pretences by which Government was supposed to obtain funds. The "stuffed captain," who was again made the subject of a fierce attack in the latest fight over the budget, turns out to be no other than his Majesty himself, by his Imperial dignity Captain of his own 1st Foot Guards. He does not, however, pocket the 1,300 thalers for his own use, but pays them regularly towards the support of the tallest men in that company of giants, for which, like Frederick the Great, he has a constitutional tenderness.

It has often been said that scarcely a discovery can be made, or an event recorded, for which some passage may not be quoted pat to the purpose, from Shakespeare. A correspondent finds in the "Tempest" the following account of the loss of the "Megæra":—

I' the dead of darkness,
The ministers . . . hurried thence
Me, and thy crying self . . . where they prepared
A rotten carcass of a boat; . . . the very rats
Instinctively had quit it: there they hoist us,
To cry to the sea, that roard to us; to sigh
To the wind, whose pity sighing back again
Did up but loving wrong.
Miranda: How came we ashore?
Prospero: By Providence divine.

A remarkable historical ceremony was performed at the Emperor of Germany's recent battues at Goehde. Ever since the elevation of that place to a royal hunting seat, it has been the custom to conclude the banquet in the palace by an "after chase," which the Hohenzollerns appear unwilling to discontinue as its present masters. After the removal of the plates and dishes some plain deal tables are brought into the banqueting-hall with tin spoons of various sizes apportioned to the members of the company according to their respective dignity. Around these tables the company take their seats. The chief amusement of the sport consists in beating and rubbing the spoons on the table so as to produce all varieties of noises imaginable by the contact of wood and tin, the human voice being allowed a proper share in the performance. To add to the uproar, the hunting band play on their French horns, to the accompaniment of loud cracking of whips by servants retained for the purpose. The latter two noises lend the performance a sportsmanlike character. The august personages assembled this autumn at Goehde are said to have proved themselves great proficient in the use of their spoons; and if the entertainment was not as melodious as one of Wagner's operas, Prussian papers inform us that, under the guidance of his Majesty, it was at all events exceedingly mirthful.

One of the very best things we ever heard comes to us from Philadelphia. In that good old Quaker village there resides a doctor so lean and attenuated that the soubriquet of "Old Bones" is far from being a misnomer. This doctor has a student, and that student is trying his level best to be a doctor. He attends to the office while the boss attends to the outside victims. Among the other fixtures of the office is a wired skeleton, so hung and adjusted that it will walk out of the cupboard where it is kept; and by manipulating it rightily, it can be made to go through several grotesque antics. One day while this student sat poring over some medical work the street door opened, and a youthful peddler with a basket of knickknacks presented himself. When told that nothing in his line was wanted the little rascal began to "talk back" in a most impudent manner, and was finally ordered to leave the office. This he refused to do, and thinking to scare him, the student pulled a string and open flew the door where the skeleton was hidden, and that emblem of death sprang out at the boy, who, frightened half out of his wits, dropped his basket and scampered out of the office as though the Old Boy was after him. Taking up a position on the opposite side of the street, he waited further events. Just then the doctor, "Old Bones," came from his study, and learning the cause of the uproar, he went to the door and motioned the boy to come and get his wares.

"No, you don't, I know you, if you have got your clothes on."

A grocer in Elmira was invited to contribute something to a donation party which was to be given to the minister of the church of which he was a member, so he bought a plated dinner castor for two dollars. It had the price marked on it upon a tag, and it occurred to him that he might make the gift more impressive by inserting the figure one before the two, so as to induce the belief that he had expended twelve dollars. He made the alteration, and sent the castor. The next day around came the minister to the store with the present in his hand. He said he thought he could hardly afford to use such expensive jewellery as that in his house, and if it made no difference to the giver, he believed he would take twelve dollars' worth of groceries instead, and the grocer came gracefully down to precisely that amount. It was hard for that dealer in sugar and coffee, but no more so than for the people who got up the surprise party in Easton. They arranged for a little entertainment of that kind at the house of the minister, and carried with them an unlimited quantity of provisions, expecting to have a fine supper. But the minister's wife supposed the affair to be a sort of donation visit, and very coolly deposited the good things in the pantry. The party waited until 3 a.m. for supper to be ready, but no signs of preparation being visible, they went home hungry, and using language that was unbecoming if not profane. When the next surprise party comes off, the thing is to be explained beforehand. The surprise was too much upon one side in this last one.