THE ROYAL PALM.

The royal palm is most appropriately named. It is royal in its characteristics, and in its entirety it has a royal aspect. We had enjoyed the glorious array of the tree in extended numbers in Havana. The palace of the Captain-General of Cuba is surrounded by magnificent examples in full growth. Their stately columnar trunks seem fitting accompaniments to the simple, yet dignified, architecture of the governor's dwelling. All palms are attractive, and many are surpassingly beautiful in their graceful foliage and architectural trunks. The cocoanut palm is, perhaps, one of the most beautiful, and it is one of the most familiar, as in our semi-tropical States it is a naturalized tree, if not, possibly, an indigenous one. That and the cabbage palm and a small fan palm are the principal forms which grow in our North American States.

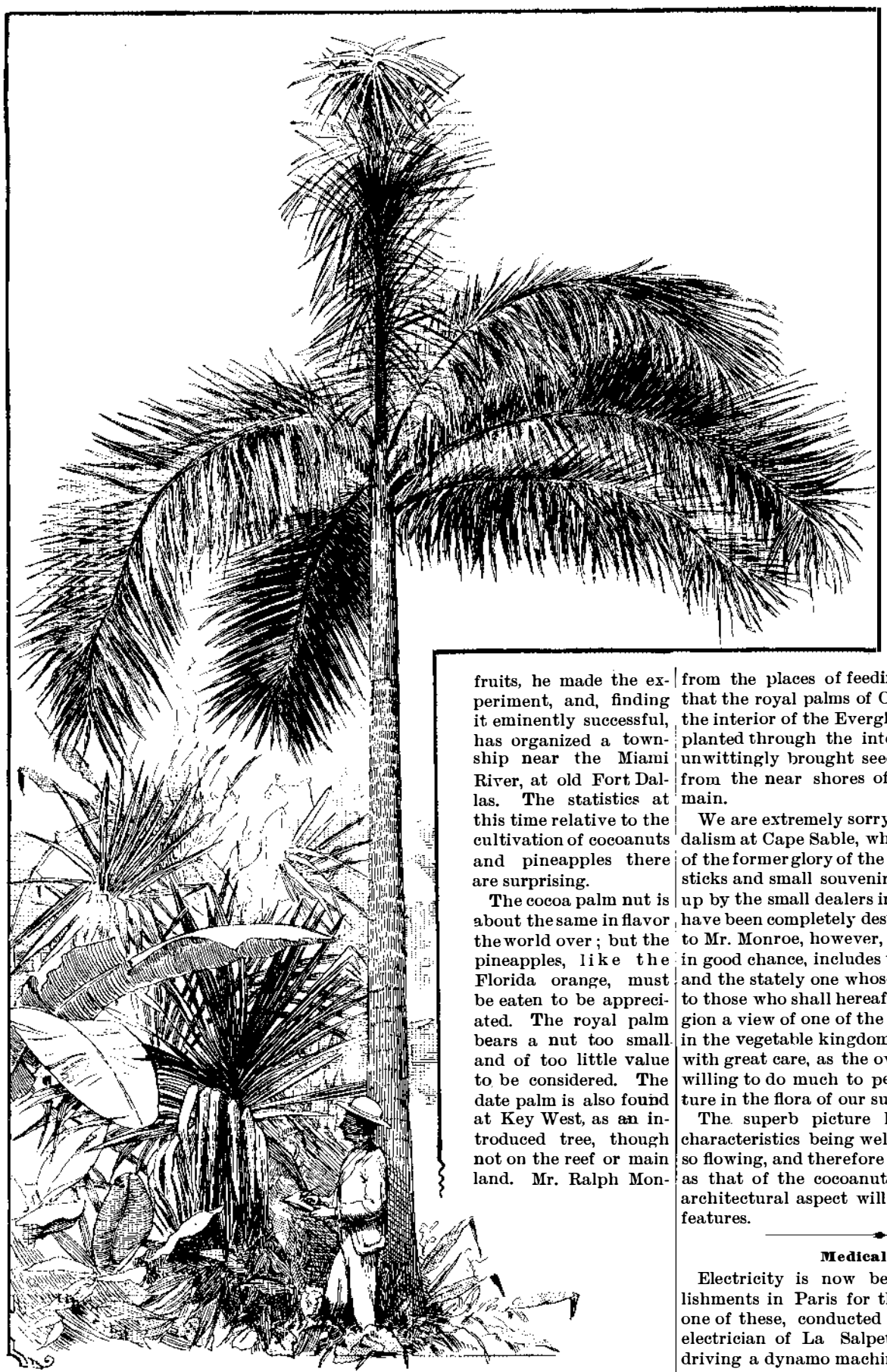
Palms, though found throughout the tropics, and a few even in the temperate regions of the world, are by no means generally present in the former. We may pass through great areas of forests and not meet one. They are, however, the most characteristic of tropical vegetation, and often abound in certain regions. On river banks they are especially conspicuous and abundant. They vary in height from a few feet to that of the most lofty trees. The latter are usually without stem or leaf, excepting upon the summit, where is a wide spreading crown of large pinnate leaves or fronds.

Palms of one hundred feet in height and a trunk two feet in diameter are not uncommon in the great mauritia of the Amazon. Humboldt even mentions one which he measured in South America as 192 feet in height.

The leaves are immense also. One of the manicaria palm measured thirty feet in length and nearly five in width; in this species having the additional singularity of being entire, and not pinnate or broken up into fine leaflets, as in the cocoanut palm. Some of the pinnate leafed are larger than the latter; those of the Maximiliana and Raphia being more than fifty feet in length.

Perhaps the fan palms are as pleasing as any. They certainly contribute remarkably to the picturesqueness of tropical forests, as they are usually quite low, and therefore complete the picture, which is otherwise made up by taller trees.

It is nearly thirty years since we visited the then almost untraveled region of southwestern Florida at Cape Sable. We had heard of the great beauty of the wild groups of royal palms at this place, and certainly the voyage well repaid the visit. We have never been able to determine how these trees originate at this latitude; but the finding of others subsequently on the reef seems to add more light on the subject, and rather suggests a solution of it.



THE ROYAL PALM.

In 1864 our government ordered a survey of the Florida reef, for the purpose of aiding the telegraph and cable company of Cuba. As one of the party of United States army officers who were detailed for the purpose, we utilized the excellent opportunities for noting facts in natural history. Among other circumstances which constantly surprised us was the discovery of such large trees and extended forests—a state scarcely to be expected on the low sandy islets, which have been built up from the ocean depths by coral agency, and which furnish a soil of very limited extent. Trees and shrubs which evidently were of more tropical origin were occasionally met with; but during the entire survey, which extended from Key West to Cape Florida, on the southwestern extremity of the State of Florida, we did not meet with a royal palm. The cocoanut palm was abundant. Yet at that time no considerable attempt had been made to make the fruit a regular article of commerce. A few years after this a vigorous attempt was organized to introduce the cocoanut and pineapple as regular articles of commerce.

Mr. Lum, of Red Bank, N. J., informed us, several years since, that on reading some published notes of ours relative to the results of the survey of the Florida reef and its suitableness for cultivation of tropical fruits, he made the experiment, and, finding it eminently successful, has organized a township near the Miami River, at old Fort Dallas. The statistics at this time relative to the cultivation of cocoanuts and pineapples there are surprising.

The cocoa palm nut is about the same in flavor the world over; but the pineapples, like the Florida orange, must be eaten to be appreciated. The royal palm bears a nut too small and of too little value to be considered. The date palm is also found at Key West, as an introduced tree, though not on the reef or main land. Mr. Ralph Monroe, of Staten Island, has for several years been accustomed to spend his winters at Fort Dallas vicinity, and latterly has purchased a tract near there as a pleasure ground for his exclusive keeping. He is a man of taste and lover of the wild and picturesque. It is peculiarly fitting, therefore, and it is fortunate for the preservation of the desirable, that he should have discovered the royal palm in groups upon his new land—a most unexpected circumstance.

It was thought, especially after our party had traversed the reef from end to end, that, save the small group at Cape Sable, the royal palm was not to be found north of Cuba.

Mr. Monroe was in the habit of taking with him into the forests of his new purchase a camera, with the necessary fixings. He came on one occasion, while pushing his way through the tangled underbrush beneath towering timber, where it is doubtful if any other white man ever had trod, natural habitat for the puma and tramping ground for the Seminole, upon a scene which both surprised and delighted him—a group of royal palms. What a gratification to the owner of this picturesque forest! and what a fortunate thing for Flora and her disciples, and for the lover of the picturesque! for Mr. Monroe will keep these trees as near as possible from all harm, and perpetuate their glories.

One extremely shapely one he has photographed, which is herewith presented. To do this he, with assistance, cut his way through a tangled forest by the use of the Cuban machette, and to get a good view it was necessary to cut a considerable swath distant for proper focus. Although the soil and climate along this latitude are well suited to such forms of vegetable life, yet it would seem probable that the royal palm, like many other trees and shrubs, has been through accidental circumstances planted there. It is well known that birds are a very common agent for such results.

Mr. Wallace, the eminent English naturalist, told us, in his late lecture in New York, how true it is that birds convey seeds in the mud or sticky earth which chances to remain on their feet, and eventually are conveyed hundreds of miles into the interior of newly visited lands. There are on the Florida reef many shrubs, as well as trees, both deciduous and others, which have evidently originated in like manner.

Birds also swallow fruits, the seeds of which are deposited, in the form of excrement, on lands far away from the places of feeding. It is probable, therefore, that the royal palms of Cape Sable, as well as those in the interior of the Everglade region, near Miami, were planted through the intervention of birds, who have unwittingly brought seeds from the Cuban forests or from the near shores of Yucatan and the Spanish main.

We are extremely sorry to record the results of a vandalism at Cape Sable, which leaves not one tree to tell of the former glory of the place. Such a call for walking sticks and small souvenirs from Florida has been kept up by the small dealers in north Florida, that the trees have been completely destroyed and removed. Thanks to Mr. Monroe, however, his purchase of a tract which, in good chance, includes the little group of royal palms and the stately one whose picture we here offer, secures to those who shall hereafter visit this now growing region a view of one of the most charming sights offered in the vegetable kingdom. These trees will be guarded with great care, as the owner is a man of taste, and is willing to do much to perpetuate such a pleasing feature in the flora of our sub-tropical country.

The superb picture leaves little to describe, its characteristics being well known. The foliage is not so flowing, and therefore not so graceful, in one sense, as that of the cocoanut palm, but its stateliness and architectural aspect will appeal to one as charming features.

Medical Electricity.

Electricity is now being employed at two establishments in Paris for the treatment of disease. In one of these, conducted by Dr. Vigoureux (the head electrician of La Salpetriere), there is a gas engine driving a dynamo machine, the current from which is led to a number of small electromotors. These are used to work electrostatic induction machines, which are of English make, and the electricity generated is applied to the patients sitting in insulated chairs. The advantage of induction machines over the old fashioned frictional machines is that they can work at a moment's notice, and in all states of the weather. A similar installation is in use at La Salpetriere.

122 Years Old.

Amy Avant, a colored woman on the plantation of Major James Reaves, in Marion County, S.C., died a few days ago, of measles, at the advanced age of 122 years. She was remarkably well preserved, and retained all her faculties up to the time of her fatal illness, previous to which she claimed that she had never taken a dose of medicine. During the last cotton picking season, she took her place regularly in the cotton fields and always performed a good day's work. Her age is well attested by family records.

Many Items of Interest.

The Columbus, Ga., *Enquirer-Sun* utters sound sense in the following, which is as pertinent to some of our Western States as to Alabama: "According to the reports which are daily sent out over the country, nearly every town in Alabama either has a boom or is about to get one. They are good things, properly managed, but nothing could be more disastrous than a too sudden advance in real estate prices. It is bound to bring reaction. The boom only too easily becomes a boomerang. There is only one safe course, and that is to first get your boom and then hold on to it. If it is inflated too much it will get away, and everything that has depended on it will drop."

A substance resembling ivory of creamy whiteness and great hardness is made from good potatoes washed in diluted sulphuric acid, then boiled in the same solution until they become solid and dense. They are then washed free from the acid and slowly dried. This ivory can be dyed and turned and made useful in many ways.

Charles Brush built some time ago a powerful dynamo for use in Cowles, Ala., for disengaging aluminum from clay so economically as to make the metal an article of commerce. A contemporary says this dynamo weighs 22,000 pounds, requires 500 horse power for its operation, and has an armature of 47 inches diameter, in the making of which 6,250 pounds of copper wire were used.

Man's insignificance is thus defined by the Boston *Journal of Commerce:* Somehow, when a man's mind becomes really engaged—say like that of Baron Humboldt—and he is able to place in focus more and more of the cosmos of which he forms a part, the things he at the outset of his life regards as the largest get smaller and smaller, till at last that first immense and overwhelmingly important thing, himself, becomes so insignificant that it is only through a process of mental microscopy he can discern his little float swim or wiggle across the field of view. How big is a man anyway? Well, he is smaller than an elephant, and an elephant is smaller than a mountain, and a mountain is smaller than the world, and the world is a mustard seed compared with the sun, and the sun itself is a mere mote in the dust cloud of spheres that stretches out through the universe beyond the reach of thought.

The individual or firm who attempts to do everything seldom succeeds in doing anything well. Life is not long enough to exhaust even one branch of science, art, or industry. When one needs anything out of his line of business, it is far better to make the purchase of an experienced and trustworthy neighbor than to undertake to learn another branch of business, with all its cost of experience. The concern which undertakes to make all the money, to get along without making any purchases of others, and to monopolize all the avenues for profit, generally gets left in the race for wealth.

They seem to have builders of the Budensiek order in London as well as in New York. The *Building News* said the other day that the true cause of much of the present stagnation of business is caused by the appalling amount of bad building done of late years. Cheap and nasty architecture ruins the national health, and if the next conference of architects would but devote a little attention to the rotten leasehold system, they would be doing a great public good.

L'Industrie Moderne gives Mr. Ladewig's process of manufacturing from asbestos fiber a pulp and a paper that resist the action of fire and water, that absorb no moisture, and the former of which (the pulp) may be used as a stuffing and for the joints of engines. The process of manufacture consists in mixing about twenty-five per cent of asbestos fiber with about from twenty-five to thirty-five per cent of powdered sulphate of alumina. This mixture is moistened with an aqueous solution of chloride of zinc. The mixture is washed with water and then treated with a solution composed of one part of resin soap and eight or ten parts of water mixed with an equal bulk of sulphate of alumina, which should be as pure as possible. The mixture thus obtained should have a slightly pulpy consistency. Finally, there is added to it thirty-five per cent of powdered asbestos and five to eight per cent of white barytes. This pulp is treated with water in an ordinary paper machine and worked just like paper pulp. In order to manufacture from it a solid cardboard, proof against fire and water, and capable of serving as a roofing material for light structures, sheets of common cardboard, tarred or otherwise prepared, are covered with the pulp. The application is made in a paper machine, the pulp being allowed to flow over the cardboard.

In an interesting article on cream, its value and use, Professor Arnold, of Cornell University, says: The superiority of cream over butter or any other solid fat consists, first, in its being not exactly in a liquid form, but in a condition allowing of great mobility between its particles, permitting the gastric juice to mix with it in the most perfect manner, and with whatever else the stomach contains, thereby aiding digestion. Its behavior is quite different in this respect from that of butter and other pure fats. As soon as they become melted they grease over the other contents of the stomach, obstructing, in a measure, the contact of gastric juice, and hindering, rather than hastening, the progress of their digestion.

The New York Electrical Society are to make a grand display at the American Institute exhibition next autumn. The exhibition will include all that is newest, and a special and interesting feature will be the storage of electricity and its application to the transmission of power. This promises to be the best electrical exhibition ever held in this country.

The most successful individuals and firms are those which have developed a promising specialty, leaving collateral matters to the attention of their neighbors in trade and industry. The possibilites of any one branch of manufacture grow upon investigation, and develop rapidly under fostering care. The man who gathers all the profits that are in one branch of legitimate industry can well afford to give his brother in trade a chance as well.

The Natural History Museum had a spring opening, which took place about the middle of May. The most noted among the new exhibits, and which created considerable attention on the opening day, was a collection of birds, consisting of eighteen groups, each representing a pair of birds—with their nests and the eggs or young—of the different varieties found within fifty miles of New York. It is the first collection of its kind in this country, and has been prepared by the munificence of Mrs. Mary Stuart, whose husband, the late Robert L. Stuart, was one of the founders, and for a number of years president, of the museum association.

A temperature of 570 degrees will produce a dark blue color on polished steel, and 590 degrees a pale blue. Oil or grease of any kind will answer for drawing the temper of cutlery. The temper for lancets is obtained at 430 degrees Fahrenheit, axes at 500 degrees, swords and watch springs at 530 degrees, small saws at 570 degrees, and large saws at 590 degrees. Copper colored spots are not produced by tempering; but they may be obtained on the polished surface of steel by immersing the article in a solution of sulphate of copper.

The Farmer's (Irish) *Gazette* gives the following different ways of treating balky horses, which are recommended for trial:

First, pat the horse on the neck, examine him carefully, first one side, then the other; if you can get him a handful of grass, give it to him, and speak encouragingly to him. Then jump into the wagon, and give the word go, and he will generally obey. Second, taking the horse out of the shafts, and turning him around in a circle until he is giddy, will generally start him. Third, another way to cure a balky horse is, place your hand over his nose and shut off his wind until he wants to go. Fourth, then, again, take a couple of turns of stout twine around the fore legs, just below the knee, tight enough for the horse to feel it; tie in a bow knot. At the first click he will probably go dancing off. After going a short distance you can get out and remove the string, to prevent injury to the tendons. Fifth, again, you can try the following: Take the tail of the horse between the hind legs, and tie it by a cord to the saddle girth. Sixth, the last remedy I know, is as follows: Tie a string around the horse's ear, close to head. This will divert his attention, and start him.

The genius that can spin a cotton or a woolen cop on a bare spindle that will weave from the inside, that is, similar to what is used on a carpet loom and on the Lyall loom, according to *Wade's Fibre and Fabric*, will earn a fortune. This has not been accomplished on fine yarn with a loom running at a high rate of speed. We believe a cop can be wound by hand that will weave in this way. It requires a rapid vibration while winding on to prevent the yarn from sloughing off in a tangled mass when weaving. With this fact before us, it would seem that some genius ought to be able to produce the motions that will produce the cop wanted.

A new process of annealing wire consists in coiling the wire upon a hollow metallic core or drum, embedding the wire and core in sand or its equivalent, surrounding a central open space, subjecting the whole to heat with the wire thus embedded, and then allowing the whole to cool before removing the wire from the embedding material. While cooling, the vessel is dipped intermittently into cooling liquid.

According to the *English Mechanic*, a very good way to anneal a small piece of tool steel is to heat it up in a forge as slowly as possible, and then take two fireboards and lay the hot steel between them and screw them up in a vise. As the steel is hot, it sinks into the pieces of wood, and is firmly embedded in an almost air-tight charcoal bed, and, when taken out cold, will be found to be nice and soft. To repeat this will make it as soft as could be wished.

Geo. E. Doering, Ph.D., informs one of our medical journals that an alcoholic solution of oil of wintergreen rubbed on the marble slab of a soda fountain will keep the flies away and not prove disagreeable to customers. It is well known that all essential oils are poisonous to insects.

To make a good black varnish for ironwork, take 8 pounds of asphaltum and fuse it in an iron kettle, then add 2 gallons of boiled linseed oil, 1 pound of litharge, ½ pound of sulphate of zinc (add these slowly or it will fume over), and boil them for about three hours. Then add 1½ pounds of dark gum amber and boil for two hours longer, or until the mass will become quite thick when cool. After this it should be thinned with turpentine to the proper consistency.

Ozone.

Ozone, according to the recent careful observations of Dr. Olszewski, boils at a temperature of —106° C. This curious substance—the nature of which was so long a mystery, and about which so many conflicting hypotheses have been devised—is now becoming well known to us. For the sake of those of our readers who have not been able to follow the details of recent research, we may in a few words summarize the present state of our knowledge. Ozone is a denser form of oxygen. Its specific gravity is 24, that of common oxygen being 16, and that of hydrogen 1. It is highly probable that its molecules contain three similar oxygen atoms. In the concentrated state it is a powerful irritant poison, and it is very unstable, decomposing with explosion and with evolution of heat, and exerting a most powerful action on oxidizable materials. For some time past it has been known that it liquefies under the influence of combined cold and pressure. The liquid is indigo blue, and its vapor in a tolerably concentrated state has a color which can only be compared to that of an Italian sky. Olszewski has now succeeded in liquefying it at the ordinary atmospheric pressure by exposing it to the intense cold of boiling oxygen (—181° C.). When cautiously heated the liquid began to evaporate, and when heated to —106° C. it entered into active ebullition. It is a very dangerous substance to work with.—*Lancet.*

Blundering in the Naval Bureau.

No little dismay has been occasioned in the Naval Ordnance Bureau by a mishap which, apparently trivial in itself, is fraught with grave consequences. A great injury is said to have been done to one of the largest pieces of ordnance yet attempted at the Washington ordnance factory, by the breaking of a portion of the huge bar which carries the tool used to finish the bore of the gun. The accident is said to be of a serious nature, and the present prospect seems to be that the piece is injured beyond repair. A deep score is said to have been cut in the interior surface of the powder chamber. In any case, the accident bids fair to be an expensive one. This is the more to be regretted as it is said to have been a thing which could have been foreseen and guarded against if the delicate and valuable manipulations called for in this class of work had been confided to the care of competent supervision, as would be the case in a private establishment where such important interests were at stake. And this adds renewed force to the criticism which has already appeared in these columns of the system which places young men unskilled in any of the mechanical arts, untrained in shop service, and ignorant of even rudimentary metallurgy, in positions of high trust and responsibility in a factory of ordnance of the grade which the Government aspires to set up at Washington. In all this it must be borne in mind that no reflection is expressed or intended upon the officers under the Bureau of Ordnance when operating in their proper spheres and carrying on the legitimate duties of their profession. The country is too much indebted to the fighting branch of the navy to render effective any criticism of their ability in any and all positions for which they are fitted by their education and training; but it is unreasonable to expect full and unbroken success in the career of any man, be he officer or otherwise, who aspires to be "Jack-at-all-trades." Without long and persistent training in mechanical pursuits, any success which may attend the sudden investment of a naval officer with the superintendency of a great gun shop, such as the one at the capital, will be due more to "good hit than any good wit."—*Army and Navy Journal.*

ON Decoration day, the Manhattan Elevated Railway, New York, carried 571,412 passengers, or 14,000 more than ever before in one day, and the receipts were $28,570. The average daily passengers for the three months ending March 31 were nearly 430,000, including Sundays.