THE GREAT SEA COW OF FLORIDA.

BY DANIEL C. BEARD.

Having heard that the New York Aquarium had made an interesting addition to its already large collection of curiosities, in the form of a huge submarine monster, the writer was induced to pay it a visit.

Entering the Aquarium and passing the many tanks, allowing their finny occupants to swim and flop unnoticed, he proceeded straight to the pit formerly occupied by the baby hippopotamus. As he stood looking into the water the floating reeds moved and disappeared mysteriously, indicating the presence of some creature beneath the surface feeding upon the floating vegetation.

Presently there was a ripple on the water, a great round cow-like nose appeared for a moment above the surface, and this was all that could be seen, until through the kindness of the keeper the water was drawn from the tank.

As the waters lowered an apparently shapeless mass, enveloped in a wrinkled, slate-colored skin, with white bristles scattered sparsely over it, was disclosed. When the tank was dry, and the writer could get a fair view of its occupant, he found it to be a large, uncouth animal, somewhat resembling a seal in shape, but the posterior limbs replaced by a broad, fleshy caudal fin, two flippers corresponding to anterior legs.

Bent down, with nose upon the bottom of the tank, was a rather small head, with an odd, wrinkled countenance. As the huge, unwieldy monster moved its body became corrugated with large wrinkles.

This is the manatee, or the great sea cow of Florida. The "finned mammalia" of M. Desmarest, the "woman fish" of the Spaniards, and cousin to the "little bearded man" of the Dutch.

It is entirely harmless and docile, readily tamed, for this one evidently knew its keeper and would move awkwardly around to greet him when he waded into the tank. The head is rounded, and on the muzzle are a number of bristles, each of which is said to connect with the brain by a nerve. The opening of the ears are very small and could not be detected from a position outside the tank. The eyes are so small that they were hidden by folds of skin. The hands of the manatee have five nails (see sketch in illustration); the structure of the bones allows the hand to turn in any direction at pleasure.

The tail is about one quarter of the length of the body, and in this specimen just the width at its broadest part, 3½ feet. The skin is remarkably thick and tough. It is used in the place of rawhide or leather in the manufacture of articles where great strength is required. The writer was shown a walking cane made from the skin of a manatee, killed at the head of navigation in the Magdalena River, by Mr. Soloman, of 1195 Broadway, while on one of his excursions after birds and insects in South America.

The oil from the fat is free from that rancid odor common to animal oils, and is held in high esteem. The flesh is edible, and pronounced by Humboldt and others sweet and palatable. When salted and sun dried it will keep for a year or more. By Catholics it is considered fish, and ate on fast days.

The true manatees, or lamantines, are confined to the Atlantic Ocean. The largest species (*M. latirostris*) is found in the United States upon the Florida coast; another inhabits the mouths of the rivers in South America.

The manatee is placed by Cuvier among the cetaceans, but Prof. Agassiz compares the skull of one with that of the mastodon and elephant, and in a discourse before the American Society for the Advancement of Science, in 1850, over a very perfect skeleton, he proved that Cuvier was wrong in many of his statements regarding the anatomy of the manatee, and ended by pronouncing it an embryonic type of the pachydermata or thick-skinned animals, such as the elephant, hippopotamus, etc.

The want of symmetry noticeable in all the cetacea is not found in the manatee. The bones of this animal are dense and heavy, while those of the whale are light and spongy. The unshapely rudimentary nasal bones of the cetaceans, and the opening on the top of the head, do not agree with the olfactory organs of the manatee, the bones of which, though small, are in their usual place. The nostrils, unlike those of the whale, are never used for blow holes, but, like those of the elephant, are placed at the end of the snout, while their mobility and general appearance would indicate a more refined sense of smell than that possessed by the cetaceans. On account of these and many other important differences they have lately been placed in a separate order called sirenoids, intermediate between the pachydermata and the cetacea. The sirenoids also include the dugongs and rytina. The latter, like the dodo, is now extinct. The last known specimen was killed in the year 1768, just twenty-seven years after they were discovered, on an island in Behring Straits, by some shipwrecked sailors.

The only account of the rytina is that furnished by Steller, one of the shipwrecked party. The dugong is found upon the eastern coast of Africa, and is rather common in the Indian Ocean. This is the animal known among the Dutch as the "little bearded man."

The fact that these sirenoids often swim with their heads and shoulders out of water, carrying their young in their arms, there can be little doubt has furnished foundation for the wild stories of old navigators of mermaids and tritons, such recitals as were treasured up by Maillet, Sachs, Valentyne, and others, who, as Cuvier said, "displayed more learning than judgment."

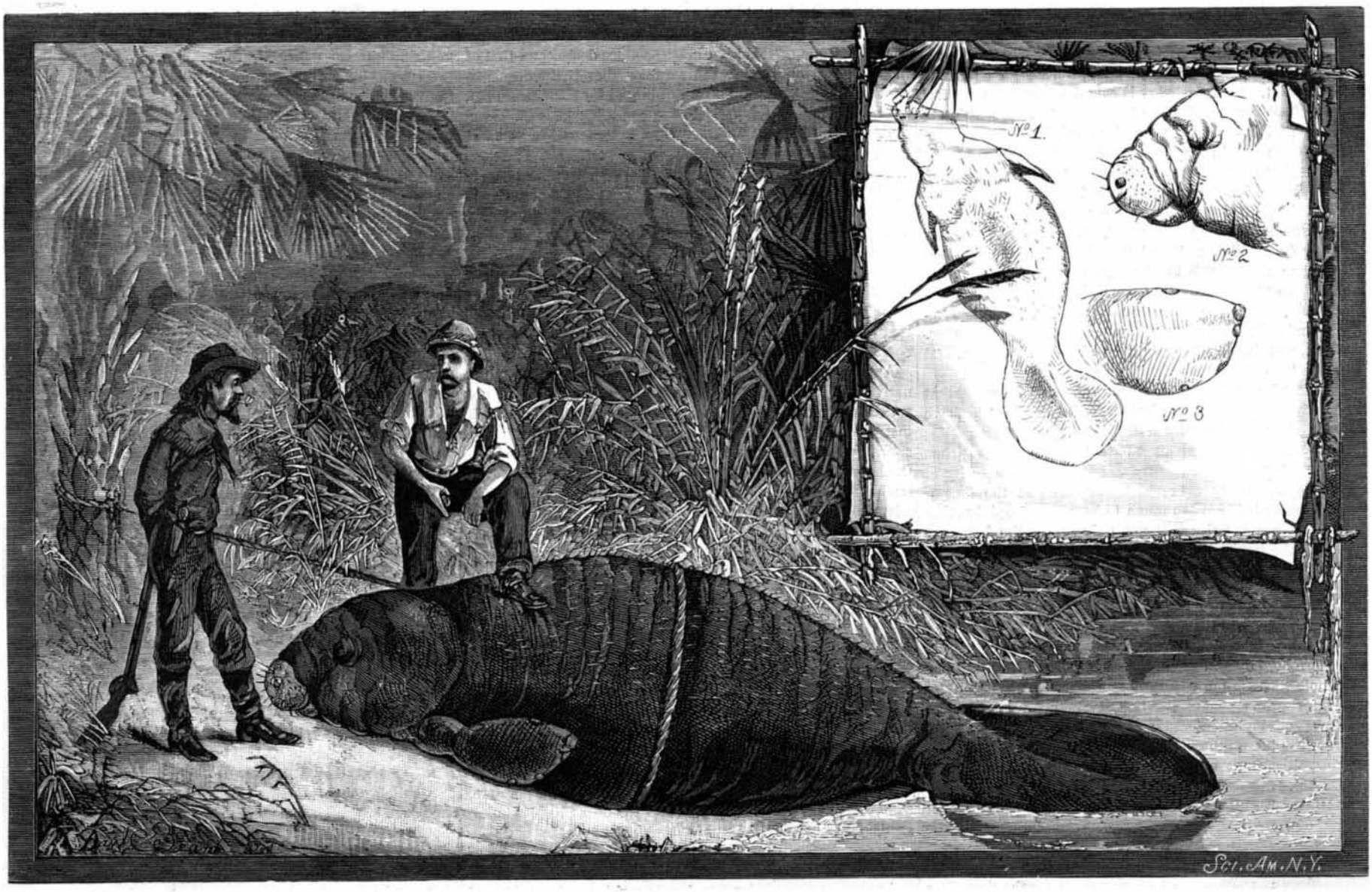
The specimen of the manatee at the Aquarium was captured in Florida. After chasing the animal up a small creek the hunters barricaded the mouth, and caught the creature in a strong rope net.

Office of the Queen.

Many have asked the question: "Does the queen govern the colony?" We answer, No. The economy of the colony is directed by the workers. It seems that the only necessity of the queen is to supply the hive with eggs, and the colony is entirely dependent on the queen for this. Curiosity has prompted me to scrutinize this subject very closely, and I am free to confess that I have failed to discover that she performs any other office in the hive except the one mentioned. I never discovered that she possessed any care of her offspring; not even manifesting any parental care whatever for their welfare; in fact, the workers, as a general thing, supply her with honey and other food necessary to sustain her, and it is the food in a very great measure, both quality and quantity, that stimulates the queen to breeding rapidly; and this food, as given by the worker, greatly affects the production of the eggs, either to increase or diminish the quantity. I think she has the power of regulating the amount of eggs necessary for her safety of the colony; when honey is abundant she will lay profusely, evidently having the power of regulating or repressing the development of her eggs. She will diminish the number and almost cease laying, and when circumstances require she will at once engage in active labor, depositing either in worker or drone cells, as circumstances may require. The eggs in drone cells are deposited in the season when such are required—generally commencing from the 1st to 10th of April—but this depends greatly on the season. If the swarm be strong and honey plenty in the forest, she is actively engaged in laying both in worker and drone cells; she evidently understands her business—nothing done at random. A fertile queen is one that has paired with the drone or male bee, and is capable of laying eggs that will produce workers, drones, or queens. Barren bees are often found in the hives. A queen's fertility lasts from three to five years, and then the workers frequently destroy her, and rear another. They are sometimes superseded when from two to three years old.
—*A. F. Moon, in the Bee-Keepers' Magazine.*

A Large Bee Farm.

The *Canada Farmer* pronounces the bee farm of D. A. Jones, near Beeton, Ontario, the most extensive and successful in the country. It consists of four bee yards, each covering about an acre of ground carefully inclosed, and contains, besides the hives and summer store rooms, a house for wintering the bees. The hives used are oblong, pine-wood boxes, with a cubic capacity of 3,240 in., the inside measure being 15 by 18 by 12. Mr. Jones's four bee yards contain 250, 150, 150, and 70 of such hives respectively, and he reckons 30,000 bees a good swarm for one of them. At the end of July Mr. Jones had secured 50,000 pounds of honey from 620 stocks of bees. He expects a total yield for the year of 70,000 pounds of honey from his 19,000,000 little



THE GREAT SEA COW OF FLORIDA.—(*Manatus Latirostris.*)

workers, in which case he would net between $7,000 and $10,000 for the year's product, without taking into account the sale of swarms or of queen bees. This successful apiarist estimates the year's total outlay at $2,100, nearly half of which, however, is interest on capital which has grown up with the business.

The Devil's Plant.

Emerson's definition of a weed, as a plant whose uses had not been discovered, seems to be happily applicable to the *Abutilon avicennæ*, politely known as "velvet leaf," but called by Jersey farmers "devil's plant." Gray describes it as tall; leaves roundish heart-shaped, taper-pointed, and velvety; peduncles shorter than leaf-stalks; corolla yellow; pods 12 to 15, hairy, beaked; annual; abounds in waste places, escaped from gardens. Imperfectly naturalized from India.

This thrifty weed has become a perfect nuisance in New Jersey and Pennsylvania; possibly in other States. It appears to survive almost any amount of hardship and ill treatment, and is heartily hated by farmers and gardeners. Yet, if recent reports are true, this troublesome plant promises to become one of the great sources of national profit, owing to the superior fiber it has been found to contain. The discovery of this fiber, the Philadelphia *Record* tells us, was brought about by a French gentleman, M. Emile Le Franc, who has resided in America for about nine years. He is an authority on fibrous plants, and has written several reports on the subject for the National Agricultural Department. During the Centennial he came to reside in Philadelphia, and devoted some of his spare time to an examination of the fibrous plants of New Jersey.

The *Abutilon avicennæ* attracted his attention, and a little investigation brought him to the conclusion that the plant possessed no inconsiderable value. He commenced operating by a secret process of his own invention, and found that the bark around the straight stem contained a valuable fiber. With a little more labor this fiber was brought to the condition required by manufacturers, and several, to whom it was shown, pronounced it equal to the jute imported by them from India. M. Le Franc also found that the short fibers could be made into a new tissue which can be employed in the manufacture of a new fabric.

This important discovery was not to be allowed to slumber. M. Le Franc reported it to the New Jersey Bureau of Statistics of Labor and Industries, and also determined to go into the manufacture of jute and the raising of the "devil's plant." The Bureau gave its co-operation, and issued, under its seal, an offer from M. Le Franc to pay eight dollars per ton for straight jute stalks, not less than 3 or 4 feet in height, delivered in Camden. The circular also advised farmers to go into the cultivation of the plant, and gave important information relative to the sewing of seed, methods of planting, and other particulars. This circular was the first information which the Jersey agriculturists received of the prize which was contained in their former enemy.

The cultivation of the "devil's plant" is to be generally followed in different parts of New Jersey. As the plant is also to be found in Pennsylvania, it is anticipated that Pennsylvania farmers may find it to their profit to devote some attention to it. The discovery is calculated to have an important effect upon the trade of the country. Its ultimate result will undoubtedly be to render the United States independent of the world for a commodity which is now costing our manufacturers fully $10,000,000 annually. The total importations of hemp, flax, ramie, and jute into this country are valued at over $30,000,000 a year. The jute alone represents one-third of this amount. The supply comes exclusively from India, and the latter's trade in it has increased to such an extent that it has become the leading staple of Bengal. In this country jute is used for numberless purposes, among them for rope and carpet backs. It is also frequently mixed with linen in the manufacture of clothes. England, and in fact the whole of Europe, are dependent upon the Indian plantations for their supply.

The New Jersey Bureau is authority for the statement that "extensive jute rope manufactures of Philadelphia have offered to buy any quantity at the highest jute market price; that the long fiber is equivalent to that of the Calcutta prime jute, and that the manufacturers admit the superiority of the American variety over the imported." In the face of this testimony it is not too much to hazard the opinion that ere many years America will not only supply the home demand for the staple, but will also be able to inaugurate an export trade. At least so think those connected with the enterprise.

Porpoises and their Attending Gulls.

As we neared shore (Azores) a large shoal of porpoises was seen close by, going at great speed in full chase after fish, the whole shoal skipping together, four or five feet out of water for several successive bounds in hot pursuit. The shoal was closely attended by a flock of gulls, which follow in order to pick up the fish which are bitten or wounded by the porpoises, but which the porpoises have no time to stop to pick up.

In the Arafura Sea I have seen frigate birds hanging over a shoal of porpoises with the same object, and in just the same manner in the tropics terns and noddies follow the shoals of large predatory fish (Caranx) to pick up the crumbs.

The demeanor of a shoal of porpoises on the feed is a very different thing from their lazy rolling motion which one more commonly sees.—*Moseley.*

ARROW POISONS.

The rude knowledge of toxicology possessed by certain savage tribes has enabled them to compound various deadly poisons which have defied every attempt at analysis upon the part of chemists, for so cleverly have the various ingredients been combined that the most delicate quantitative analysis has failed to reveal the character either of the curare or woorari of South America, the carroval, or the more deadly Upas poison.

Curare, which comes to us as a resinous substance of a dark color, is contained in gourds or rude earthenware pots, and is full of impurities of various kinds, but chiefly of a vegetable character, and it is necessary to subject it to careful treatment with acidulated water to obtain the substance in anything like a pure condition. Prof. Jobert, of Paris, when at Caldera, Brazil, succeeded in bribing an Indian of the Tecuna tribe to disclose the secret of its preparation. He found it to be made of *urari uva*, a climbing plant of the order described by Weddell as the *Strychnos castelnæ; Eko*, or *Pain du maharao* (*Cocculus toxiferens*); *Taja, Eoné* (*Didelphys cancrivora*), and three of the *piperaceæ* of the genus *Arnante*, and a plant called *Tan magere*, or toucan's tongue. The powdered outer bark of the two former are ground together, and the leafy twigs of the taja are boiled together, and the other ingredients added. The product is a dark, muddy substance, which is curare.

Physiology has profited by the peculiar properties of some of these substances, and to the use of woorari some of the most valuable experimental results are due. For instance, when a very small quantity of this substance (less than a grain) is injected beneath the skin of a living animal there follows an utter abolition of motor power, the motor nerves being paralyzed, while sensibility is preserved. Respiration is stopped, so that no evidence of breathing is to be perceived; but the heart still beats, and if the dose be not too large, and artificial respiration be kept up, the animal will probably recover. The state is one of trance, consciousness probably being retained, while all the motor organs of expression are powerless and inactive. Strange to say, the poison has no effect if taken into the stomach.

Its physiological effects have suggested its use in medicine, and quite recently it has been employed in several convulsive and spasmodic diseases. Epilepsy, tetanus or lockjaw, and even hydrophobia have been cured, but great care should be taken in its administration.

The best plan is to make a solution in water acidulated with hydrochloric acid, and this, when mixed with glycerine and thrown beneath the skin daily, or several times a week, sometimes effects a cure.

It is occasionally possible to procure curare from the poisoned javelins which are brought here by travelers, but this is not often. A lance of this description is from 6 to 8 feet long, and is made of some strong, tough wood, and in a fissure at one end a sharp spike, made of a thorn or very hard species of black wood, is bound by grass ends. The spike is usually incrusted with a deposit of curare, about the sixteenth of an inch thick, and covered by a cap of reed, which prevents any danger of accident. A wound ever so slight from a weapon of this kind must produce death, and that of the most horrible kind, when we remember that consciousness and sensation are in no way blunted for some time, and the individual must appreciate the condition he is in.

The *Upas* poison is obtained from a tree growing in the East, known botanically as the *Antiaris toxicaria*. The expressed resinous substance possessing the poisonous properties is an oily, greenish fluid, and a very minute quantity is sufficient to produce instant death by paralysis of the heart. The poetical and entirely fanciful idea that the individual who ventures into the valleys in which these trees grow, or sits beneath the trees themselves, is certain to lose his life in the attempt, is in every sense erroneous, and these stories must be accepted only as "travelers' tales." It is probable that the only risk run by the individual is that which is incurred in subjecting himself to any malarial influence.

Among various savage tribes, notably the Australian natives who inhabit the lower Murray District, who are called *Narringeris*, the custom of killing their enemies with instruments known as *nielgerii*, is much in vogue. The specific poison is derived from the decomposing fluids of the human body, and the corpses of the dead are kept unburied for some time, until the process of decomposition has advanced to the proper point. From our knowledge of the accidents which follow dissecting wounds it would appear as if death by a wound of this kind would be exceptional, but such is reported not to be the case, and a scratch by the *nielgerii*, which is first dipped into the foul fluids of the body, is said to be rapidly fatal.

Some Facts about Cotton.

After noting the reasons for estimating the growing cotton crop at 5,000,000 bales or over, the President of the Mississippi Valley Cotton Planters' Association spoke as follows, at the late meeting of the association in Vicksburg, Miss.:

A crop of 5,000,000 bales, averaging three acres to produce a bale, would give us 15,000,000 acres, at $8 per acre, $120,000,000. One mule or horse to 25 acres, 800,000 mules, at $90, $72,000,000. Implements, harness, etc., and machinery, $50,000,000. Showing a permanent investment of $242,000,000.

Averaging three bales per hand would require 1,666,666 laborers, to feed and clothe which for a year with their dependents would average $50 each, $82,666,667. To feed team at $40 per mule, 800,000 mules, $32,000,000. Cost of bagging and ties at $1.40 per bale, $7,000,000. Cost of marketing crop at 1¼ cents per pound would give $25,000,000. Working capital, $146,777,777. Average price expected for present crop, 11 cents per pound, for 2,000,000,000 pounds, $220,000,000.

Recapitulation: Now we have—permanent investment of planters, $242,000,000; working capital, $145,777,777. Total capital invested exclusively in cotton cultivation, this estimate being made for the share system and not wages, $388,777,777.

Amount received for total crop, $220,000,000, which is divided equally between the planters and laborers. Planters therefore receive $110,000,000—from which deduct feed for team, $32,000,000; half cost bagging and ties, $3,500,000; half marketing crop as chargeable to planter, $12,500,000; 20 per cent in loss and decreased value stock, $14,400,000; 20 per cent in loss and decreased implements and machinery, $10,000,000—total $72,400,000. Repairing fences, houses, etc., at 10 per cent on permanent investment, $12,000,000. Taxes on permanent investment, 3 per cent, $7,260,000. Deduct these amounts from planters' share of crop, $110,000,000, which shows planters' profit on total investment for cotton alone is about 4¼ per cent, provided we get 11 cents for cotton, make 5,000,000 bales, and the laborer pays his accounts in full. Laborers' share of crop, $110,000,000; amount chargeable for food and clothes, $82,666,667; showing a profit for the laborer of $27,333,333.

It will thus be observed that the laborer receives $27,000,000 on investment on nothing but his muscle, while the planter receives $18,000,000 on an investment of $388,000,000 and his services.

Now we will omit the details of the number of slices that are plucked by the wayside, and suppose our crop has reached the factory, simply saying that about $25,000,000 more has been added thereby to the price to be paid by the manufacturer since it landed at the seaport from the planter. Our 5,000,000 bales now begin to loom up and assume some importance, for they run 12,500,000 spindles, which require nearly $1,000,000,000 in buildings, machinery, and working capital, and employ nearly 800,000 operatives and employes. The manufactured goods are sent to every part of the known world, creating a trade reciprocal business that can hardly be estimated, but without doing which, as can easily be seen, it will reach into the billions.

You can form no estimate of the number of banks, insurance companies, and trades of all sorts that are sustained in all the ramifications of this immense traffic, to say nothing of the fact that it serves to establish the equilibrium of the world's exchange and gives to the United States the balance of trade. Now, from the time the cotton leaves the planter every interest that touches or handles it has an organization for the sake of harmonious action and to protect itself; the transportation companies, the buyers and sellers, the compress men, insurance companies, bankers, shipping interests, and manufacturers and others too numerous to mention. And at last the foundation of all this mighty fabric of trade and commerce has awakened to the vital necessity of organizing our class for self-protection, and not only for self-protection, for all that is necessary in this respect is to show the world that we know our rights, and knowing dare maintain them, but also for the purpose of hereafter bringing more intelligence and interchange of thought to bear in the management of our business generally, in order that we may keep at home the millions we expend annually to feed and clothe our laborers, buy agricultural implements, teams and feed for teams, by diversifying our crops and encouraging manufactories.

To say nothing of the increased wealth and prosperity otherwise, if the cotton we raise was manufactured in the South it would save to the planter nearly $50,000,000 annually in transportation.

The manager of the Mississippi Mills, which uses 4,000 bales cotton, 350,000 pounds wool, and $800,000 capital, writes us that there is a difference of 15 to 20 per cent in favor of manufacturing cotton here over New England, and I judge there would be double this difference over Old England; and further, that while strikes and reductions of wages have occurred frequently of late years in New England, 600 operatives of the Mississippi Mills, all of whom, with the exception of three, are Mississippians, are contented and no reduction. Mill property is free from taxes ten years.

Mr. Richardson says it is the best paying property he has. Of course it can only be a question of time when the South will manufacture nearly if not all the cotton it raises. Circumstances may delay it, and we may not live to see it, but it will come.

The Oleander.

This beautiful plant, when under proper culture, is truly a gem among flowers. This is a good time for making cuttings of it. The best way to root them is in a bottle of rain water set in the window. The cuttings should be no deeper in the water than half way up to the second joint, and when the rootlets get to be half an inch long, carefully pot in rich, sandy loam. After the plant blooms, cut back to within a foot or fifteen inches of the ground, when three branches will come out; let them grow until it again blossoms, after which cut them all back about six inches from the main stalk, and every time it blooms repeat cutting back, and in a few years a very beautiful plant will be the result; in fact with proper care, it will grow more beautiful with age.