

**THE HIPPOPOTAMUS IN THE CENTRAL PARK MENAGERIE, NEW YORK CITY.**

No more interesting animals are to be seen in the Central Park Menagerie than the hippopotamus. New York City has been peculiarly fortunate in her experience with the great river horse, having not only succeeded in maintaining some very fine specimens in good condition, but has also been favored by additions to the supply. Early in the morning of March 6, at about 3:30 A. M., a baby hippopotamus was born there rather unexpectedly, making its entrance into its amphibious world a pink-skinned baby of about thirty-five pounds weight. So far all concerned have progressed most favorably.

The mother, Fatima, was also born in the Central Park Menagerie, the event occurring six years ago. She now weighs about 4,500 pounds. Two years ago another hippopotamus was born there, but died after two days of existence.

The hippopotamus, etymologically speaking, is a "river horse," such being the translation of the Greek name by which it is designated. In Africa it is termed sea cow (seekoe) by the Boers, a name which is quite inaccurate and which involves the danger of con-

very apt to persist in remaining under water, especially when an impatient audience is awaiting their appearance.

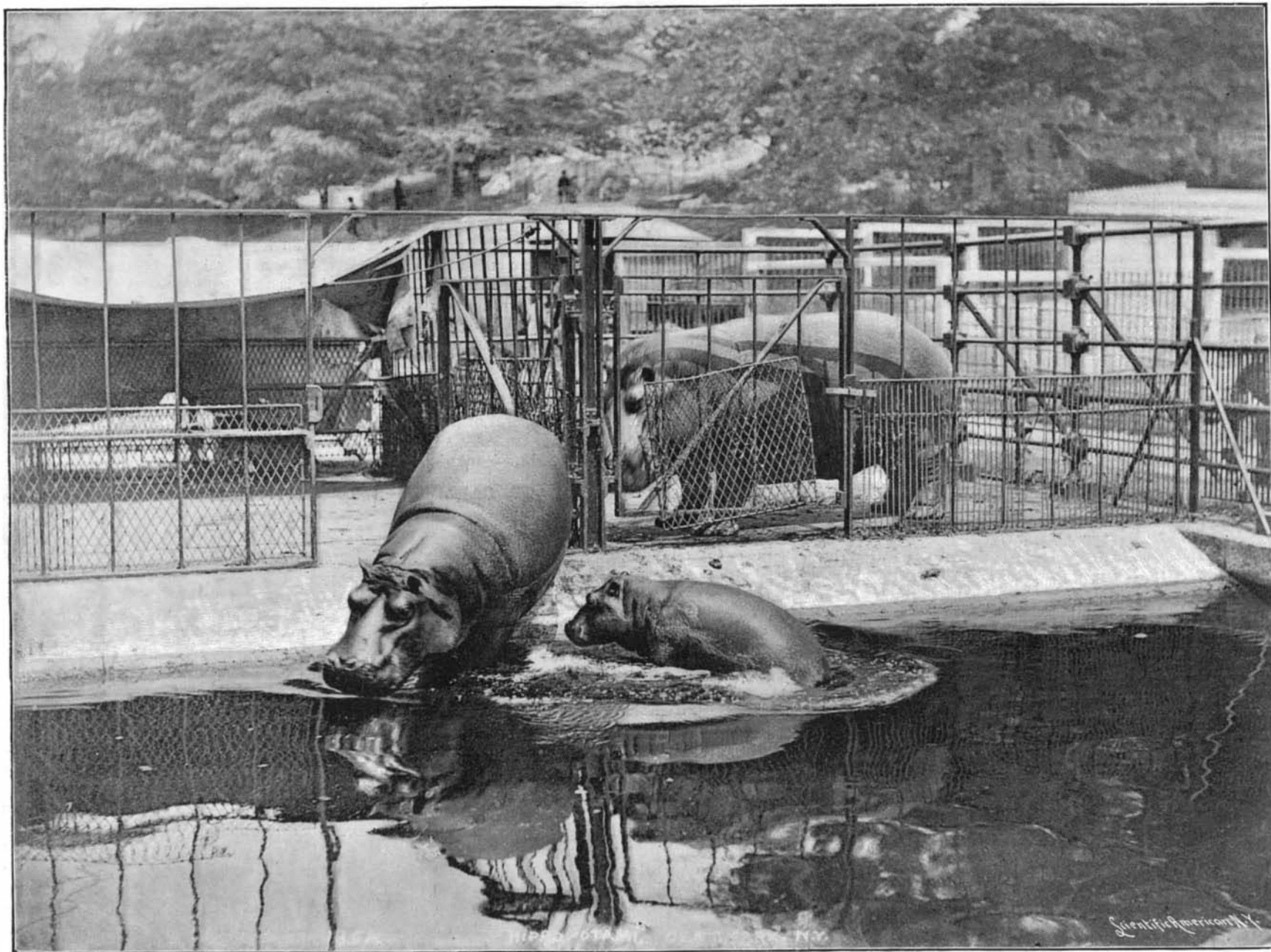
**Cranberry Culture.**

Early cranberry growers were beset by many difficulties and discouragements, says a writer in the Detroit Free Press. Few of them succeeded, simply for the reason that they had everything to learn, and this branch of agriculture demands exceptional knowledge and skill. However, about the time of the civil war some bogs produced enormous crops of berries, for which extraordinary prices were realized. Money was then plenty and speculation was rife. Large amounts of capital were invested in the new and promising enterprise. Most of the investors came to grief, their bogs proving total failures. In fact, from that time until now failure in cranberry culture has been the rule rather than the exception.

The culture of cranberries turns to profitable account otherwise worthless swamps. Partly overflowed areas are most suitable for the purpose, because the land must be periodically flooded with water in order to protect the vines from frosts and destructive insects.

crop. The berries are sometimes collected with a kind of rake specially constructed for the purpose, but the finest ones are picked by hand like strawberries. When picked in the sun they are placed in trays in the shade to cool. Before packing them for shipment they are run over a platform slightly inclined. The rotten and bruised fruit does not run off, but sticks to the platform and may be scraped off and thrown away. One big New Jersey company gathers its berries while green. They are then placed on the bare ground under an open shed, spread evenly, and are permitted to ripen for six or eight weeks. In this way they acquire a beautiful bright red color. The average life of a cranberry bog is about eighteen years.

Encouragement for the cranberry abroad is afforded by recalling the early struggles of American apple growers for a market in England, where now enormous quantities of apples from the United States are sold. Great Britain places no tariff on our food products, but her people are slow to learn to eat anything new. The cranberries hitherto exported to Europe have been consumed over there by Americans, just as many foreign products are brought hither and consumed by



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fusion, as the manatee is often termed the sea cow. It is classed as a pachyderm, and is thought not to be a ruminant, so in that sense it is not entitled to the appellation of cow. Its dental development hardly seems to correspond to its vegetable food; yet it has a multiple stomach, like the ruminantia, with a capacity for five or six bushels of vegetation, its large intestine being eight inches in diameter.

The male has been known to reach a length of 17 feet, but 14 feet is a fair average dimension, the females being much smaller. The height of the male is 5 to 6 feet. The great mouth, armed with tusks sometimes over a foot long, opens to a width of 2 feet. The ears, eyes, and nostrils are situated on one plane, so that the six protuberances may be kept above water while the rest of the body and head is below. They are getting rare in their native country.

The rapidity of their growth is rather remarkable. One very young specimen was captured in Africa, on the bank of the Nile, in 1849, and was brought successfully to London. When about ten months old it had attained a length of 7 feet, with a girth of 6½ feet. Clumsy as they seem, it is said that they can move with remarkable rapidity on land.

Our illustration shows three specimens in Central Park, taken at an unusually favorable moment, as it is not easy to obtain so good a view. The animals are

The bog is first stripped of vegetation by cutting away the upper layer of turf and removing it. On the surface a coating of sand three inches to one foot in depth is placed, in which the plants are rooted. Then by convenient dams the surface is made ready for flooding at the required time. Farmers say that the roots of the plants strike down through the sand and into the soil, getting their nourishment from the latter. This is probably a mistake, the scientific opinion being that the cranberries grow wholly in the sand, getting such nutrition as they need from the water. Over 100,000 acres of Northern swamps are devoted to cranberry culture. On Cape Cod this is a great industry, and so profitable that it has very much improved the condition of the region.

Unlike other agricultural products, cranberry vines growing on suitable soil require no manure and no tilling to keep them in good condition. When once established, a plantation will last for many years, yielding regular annual returns. However, a large expenditure of labor and money is necessary to start the business. From six to nine years must elapse before a new bog will begin to bear a paying crop. Frosts, droughts and occasional fires threaten the grower, not to mention grasshoppers, katydids and various other insects which devour the plants.

The month of October is the time for gathering the

Italians, French and Russians, without becoming known to our own people.

The most important point in cooking cranberries is to use only porcelain or enameled utensils.

The crop for 1894 was the biggest ever gathered in the United States—over 1,000,000 bushels—and the principal growers contributed by agreement 3 per cent of their product to pay the expenses of introducing cranberries into England. A gentleman of Trenton, N. J., was sent across the water for the purpose. On reaching Liverpool he found in that city only one dealer in cranberries, a small girl in the market, who said she never ate her wares herself "because they tasted like medicine." She only sold them to a few Americans.

**STEEL-COATED BULLETS.**—Steel-coated rifle bullets for the new magazine guns cause very little pain, says Dr. Delorme, surgeon-in-chief of the French army. During the riots at Fourmies one man was wounded so badly as to be paralyzed, but did not suspect that he had been shot until he saw blood stains on his clothing; one, shot through the leg, only felt a slight shiver; another, shot through the arm, felt his elbow twitch and closed his fist mechanically. At short range, 100 to 150 yards, the bullets are apt to explode and to do serious mischief.

### Points for Bicycle Riders.

Subjoined are some excellent directions for bicycle riders, compiled by the Evening Post, to whom we are indebted.

In the average bicycle there are about 140 steel balls. These are generally distributed as follows: Front wheel, 16; back wheel, 18; crank shaft, 28; pedals, 20 each; front steering head, 40. These are of different sizes, those used in the front wheel generally being one-sixteenth of an inch larger than those in the back; the balls in the pedals are about one-eighth of an inch in diameter. With such a number of points at which there may be friction, it will readily be seen that even the smallest imperfection would have a very material effect upon the running qualities of the wheel. For this reason more care is taken in their manufacture than in that of any other part of the wheel. The perfect bicycle ball must be absolutely exact as to gage. It must be highly polished and it must be so hard that even an emery wheel will have little effect upon it. The other parts of the bearings are also very important, but perfection in them is not so difficult to secure as in the balls. The ball cups on nearly if not quite all machines are forced into their places in the wheel, pedal, or bracket by hydraulic pressure and are practically as solid as if they were brazed or welded to the part in which they fit. The cones which press the balls into their places in the cups are removable, and in case of any imperfections can be easily and cheaply replaced. Perfect bearings should be the last things to wear out in a wheel, and years of use should only be evidenced by a bright streak in the ball races, showing where the balls had run. While all wheels are now fitted with what are claimed to be "dust-proof" bearings, such a thing has yet to be devised, and therefore most of the bearings need frequent cleaning. It is not necessary, however, to take apart the bearings in order to clean them; benzine poured into the oil holes does the work as well as if each individual part had been wiped with a clean rag. To clean the bearings in the bracket the best way is to remove the saddle-post and pour the benzine into the tubing, which will generally be found to have a small hole in the bottom which admits the benzine to the bracket. This should be continued until the benzine runs out perfectly clear, indicating that all the dirt has been removed. The bearings, especially those on the back wheel, should not be adjusted too tightly, but should be loose enough to allow very little side motion.

There is nothing so important in the "tool rack" of the bicyclist as the lubricant, and it should be carefully chosen. If too thick, it will gum and cause unnecessary friction; if too thin, it will not perform its duty. When oil is introduced into the bearings of any piece of machinery it forms minute globules and acts as rollers or balls, separating the axle or other point of contact from the collar surrounding it and within which it revolves. In the absence of these little crystals of oil the axle and the inside of the hub grind on each other and trouble ensues. The steel balls which are used in the bearings of a bicycle of course tend to minimize this friction, and were it possible to make absolutely dustproof bearings, there would be use for very little oil, applied at long intervals of time. But every little particle of dust increases the friction and retards the rolling of the balls, tending to make them slide instead of rolling. The best oil is composed principally of sperm and kerosene oils, generally two parts of sperm to one of kerosene, boiled together. The sperm oil, while in itself a good lubricant when first applied, is too thick. The kerosene which is used to thin the sperm oil also cuts out the dirt or other foreign substance and aids in keeping the bearings clean. A few drops of oil applied at the proper time and in the proper place are much better than a whole canful of oil, and the best results are obtained from a small quantity dropped into the bearings every time the wheel is taken out. There are some lubricants manufactured which are claimed to be equally efficient in cleaning the bicycle, lubricating the bearings and also the chain, but as a general thing the oil which is best for use in the bearings is an absolute failure when applied to the chain. For the chain a lubricant is necessary which will form a coating over the links, preventing them from grinding on the sprocket wheel, causing that clicking, biting noise so familiar to the novice who has not yet learned to take the proper care of his mount. The most approved article for this use is composed of lampblack, kerosene, and beeswax. These ingredients when compounded in proper proportion form a mixture that when applied to the chain does not collect dust to any great extent, is lasting, and makes the chain run smoothly over the sprocket. In the absence of other chain lubricant, common brown soap forms an excellent temporary substitute. After spreading the lubricant along the links the chain should be wiped off; enough of the lubricant will adhere to answer all purposes.

It is not necessary now to clean the pedal bearings or to oil them more than twice a year. In the pedal, dustproof bearings, so called, have reached a high

degree of perfection, and the dustiest or muddiest road may be ridden on a wheel equipped with high grade pedals without fear of dirt grinding into and injuring the cones and ball cups. A poorly constructed or imperfectly designed pedal can, however, cause as much trouble as any other part of the wheel. The burrs on the end of the pedal axle may become loose or worn, tighten up by the revolution of the cranks, and thus throw off the foot of the rider at every revolution, or they may become loose and allow the top of the pedal to strike the crank hanger as it comes around; in fact, there are a thousand and one little troubles for which the pedal may be responsible. Crank hangers have also been a source of trouble, the almost universal use of the cotter pin by which the crank is keyed to the shaft being chiefly at fault. It is a very hard matter to key on these cranks in such a manner as to prevent them from working loose on the axle and causing a squeaking or grinding. Many wheels now have devices which do away with the cotter pin. Toe clips, while ridiculed by a great many riders, are very useful at times, both in ascending and descending steep hills. With their aid a rider is able to apply nearly a fourth more power, either pushing ahead or back-pedaling. They may be attached to either rubber or "rat-trap" pedals, and can be used or not at the option of the rider.

A poorly adjusted saddle may cause an injury that will last a lifetime. The front of the seat should be lower than the back, but not so low as to cause the rider to slip forward or to cause the greater part of his weight to rest on the handle bars. Women in particular should be careful in this respect, and instructors cannot impress too strongly the importance of a proper adjustment of the saddle. Many riders prefer the saddle placed well forward over the pedals, while others ride with their seats behind the upright post, which fits into the frame. However, it is conceded by experts that the proper method is to put the rider as nearly over the pedals as possible. Many saddles are now made with a very broad, flat back and a very narrow front, and some well-known makers have discarded the nose entirely, leaving the saddle simply a broad, flat seat. Some newly invented contrivances are arranged so that the saddle responds to every movement of the body and limbs. The general utility of these is to be tested as yet.

Riders, dealers, and manufacturers are almost unanimously in favor of a strong, rigid seat, as hard as asphalt, with only enough spring to take up the vibration of a wheel upon a level surface, the rider taking care to lift himself over a rough piece of road by rising in his pedals, thus making it as easy as possible both for himself and for his mount.

There are few parts of a wheel which need more attention than the tire; a mishap there frequently means a walk home or the taking of passage on a railroad train where one is handy; punctures and "blow-outs" are of more frequent occurrence than a leaking valve or tire. There seems to be a difference of opinion upon the proper inflation of a tire, some claiming that on a hard, level road the tire should be as tight as possible, while on choppy macadam highway it should be slightly moderated, but not so much so as to make it liable to be cut into by the pressure of the rims upon it; while others believe in having it fully inflated at all times. An inflated tire should never be exposed for any length of time when not in use to the rays of the sun on a hot day, nor should it be left standing in a warm room during cold weather.

There is a great deal to be said on both sides of the brake question. Most expert riders disdain the use of the brake as being unnecessary and tending to promote carelessness, besides wearing out tires. From their point of view they are correct. A man who is able to dismount from his wheel going at a high rate of speed, on either side of the machine, or back of it, who is able to back pedal, or brake with the toe of his foot on the front wheel, and never loses his head under any circumstances, needs no brake. He can take care of himself and of the pedestrians. A rider who is not able to do all this should by all means have a brake. If the ordinance relating to speed were strictly enforced brakes would be superfluous, but it is almost an impossibility to hold wheelmen down to eight or ten miles an hour. The wheel of to-day runs so easily that the rider does not realize how fast he is spinning along.

The most effective brakes now in use are foot brakes, placed on the front fork. They weigh little and will stop a wheel in a very short distance. No one but an expert wheelman should attempt to ride through the crowded streets of New York, and he should have every faculty on the alert, always looking for the unforeseen to happen—for truck drivers, coachmen, and pedestrians to do exactly the opposite to what he would naturally expect of them. All women's wheels should be equipped with effective brakes, and riders should be taught the use of the brake before attempting to ride outside of the walls of the academy.

In wheeling, as in horseback riding, driving, etc., there is a correct and an incorrect position, often the result, to a greater or less extent, of the position of the handle bars. One of the first principles is balance.

Once acquired, the rider is master of the wheel, and grace and carriage then become a question of patience and practice. An awkward carriage or position is evidently the rule with the majority of wheelmen. A prevalent idea is that the nearer the position assumed resembles that of the racing cyclist, the nearer perfect it becomes. This assumption is decidedly wrong. The two positions, that of the racing man and that of the road or pleasure rider, are not related, and should not be confused. The racing man in the correct position of a road rider could not obtain anywhere near the speed necessary to win a race, while the road or pleasure rider only adds more weight and fatigue to himself by riding after the style of a racing cyclist. The position for good road riding is with the body straight, with a slight bend from the waist and not from the back, with the shoulders thrown back and the head up. The racing position is just the opposite. According to the opinions of numerous wheelmen, an easy riding carriage cannot be obtained by having the handle bars on almost a level with the upper brace or top tube. The handle grips should be so elevated as to be parallel with the seat, and the seat so adjusted as to permit the heel of the shoe worn by the rider to rest lightly upon the pedal when the leg is fully extended. In the correct position the cyclist should at any moment be able to take his hands off the handle grips and not alter his position in the slightest. It gives him perfect mastery over his wheel in case of danger. In the racing style there is hardly a muscle, above the waist, that is not thrown out of its proper place. The shoulders are forced back until they almost meet, while the neck and lungs are misplaced, thus preventing proper breathing and action. It also slowly but surely works a physical deformity in the carriage of the rider when off a wheel. It is a mistaken idea that the tighter one grips the handle bars of the bicycle the better one can ride. The balancing is not done by the hands, after once knowing how to ride, but by the feet upon the pedals and the legs against the frame. The handle bars are only necessary for the purpose of steering, mounting, dismounting, and for leverage. In the correct position the arms of the rider can be perfectly straight, with the elbows set if desired, or slightly bent at the elbow, so that in going over rough roads he is able to prevent much of the jolting that naturally occurs.

### Helium.

In 1868, when the spectroscope was first directed upon a solar eclipse, the famous D-3 line, the bright yellow line near the D lines of sodium, was first seen in the prominences. It has no corresponding dark line in the ordinary solar spectrum. Frankland gave to the unknown substance to which this line was ascribed the name of helium, as if it were indigenous, so to speak, to the sun. After this, D-3 was detected in the stellar spectra, but it was not found in any part of the earth, which was strange, and could not be accounted for, if indeed the earth is a child of the sun, and not an aggregation of independent materials. If the nebular hypothesis is true, the earth should show its kinship to the sun by distinct marks of inheritance, and among others helium, unless, indeed, all the helium that ever was in the earth became free, and its molecules, having a velocity of more than seven miles a second, had left the earth to seek some body of greater gravitating power. And thus the inquiry rested until Lord Rayleigh and Prof. Ramsay announced the discovery of a new substance in our atmosphere. They had noticed that the density of nitrogen taken from the air differs about one half per cent from the density of nitrogen obtained in any other way. This element that so strangely affected atmospheric nitrogen and gave it a distinctive character, they separated by the action of magnesium, and a new gas was evolved whose density was fifty per cent greater than nitrogen. This they called argon, because "it did no work," although, indeed, that negative character could not have been attached to these indefatigable chemists. Last March, Prof. Ramsay, seeking to ascertain if this youngest born of scientific discovery could combine with anything else, was examining the rare earth found in Norway known as cleveite. When treated with weak sulphuric acid it gave off argon, associated with something else, which he described as "a gas which has not yet been separated." It was submitted to Prof. Crookes, and it was proved to be helium imprisoned in the cleveite, and thus helium is now a misnomer, and the earth bears another possession from her great sun mother, although it is of such a light and frivolous character that if released from its rocky prison it will fly upward and seek once again to nestle in the bosom of that fiery power that gave it birth.—Transactions of the Astronomical and Physical Society, Toronto.

THIRTY-EIGHT centenarians were recorded in Great Britain last year, fifteen men and twenty-three women. The oldest was Mrs. Henry, of Gortree, who died at 112. In the last ten years the St. James's Gazette has kept track of 378 centenarians, of whom 143 were men and 235 women.