

THE ELEPHANT CALF AND ITS MOTHER.

We present herewith a portrait of the elephant calf, whose birth in Philadelphia was noticed a few weeks ago. The event, from its rarity, has naturally awakened considerable scientific interest. It has afforded for the examination of our naturalists a full term placenta, and has also furnished evidence confirming the reports of trustworthy observers touching the period of gestation in the elephant (about twenty and a half months), the mode of suckling by the calf, etc. Contrary to newspaper reports the breeding of elephants in captivity is no novelty in itself; though from the limited number of elephants known in this country until within a few years, and the unfavorable conditions under which these few have been kept, it is not at all surprising that this birth should be the first on record here.

Heretofore the elephant has been classed as belonging to the pachydermata, but Professor Henry C. Chapman, Professor of Physiology in Jefferson Medical College, in a paper on the placenta of the mother, Hebe, is disposed to contro-

his return with several assistants they found Hebe rolling the little one over and over on the ground, and yelling violently.

Fearing that, in her excitement, she might kill her young one, the men endeavored to take it from her, but at that she seized it with her trunk, and tossed it across the ring, where it fell under a heavy railing surrounding a large stove. In an instant she had followed it. Finding the railing in her way she struck it down and tore it into splinters.

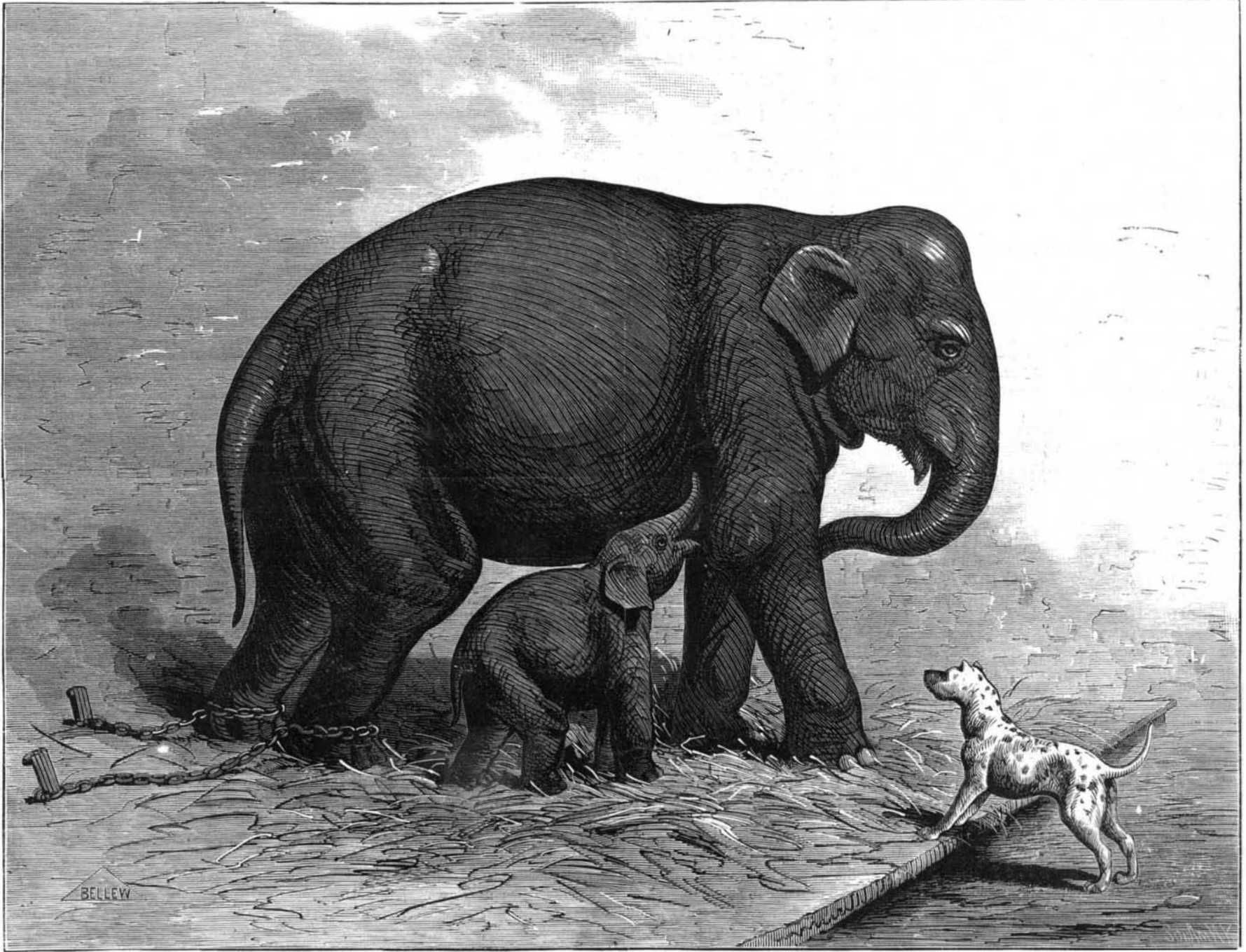
It is now believed that she had become alarmed by the roaring of the lions and tigers, and was trying to get it over to where the other elephants were chained and so secure their protection.

After a little time the keepers managed to calm the mother, and she allowed herself to be led back and re-chained, but not for an instant would she permit the little one to go beyond the reach of her trunk. The calf was not at all injured by her rough usage.

all elephants do for the first three or four years of their lives. In its intercourse with human beings it is disposed to be friendly and inquisitive, poking its little trunk into the pockets and up the sleeves of those whom the mother allows to approach it. The mother is, however, extremely jealous of strangers, and will not allow some old comrades and pets in the shape of a pair of coach dogs to come too near. The other elephants in the menagerie, being of her own kind, she regards as reliable friends, and seems only flattered by the caresses they bestow upon her little one.

Hybrid Fish.

At the meeting of the American Fish Cultural Association in this city, March 30, Mr. R. B. Roosevelt read a paper on hybrids, in which he said that, since the creation of the fish hatchery commission several attempts have been made to cross varieties of fish, and with success in the following varieties: Salmon trout with white fish; salmon trout with brook trout; brook trout with fresh water herring, with California salmon,



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vert this theory and classify it with the rodents. He grotesquely characterizes it as a "great big mouse." What are his grounds for this new classification remains to be seen on the publication of his paper, of which we have as yet only a meager report in the Philadelphia Press. The heart of the elephant is well known to resemble that of the rodent, and the bones to correspond with those of the human being, which the elephant resembles in other particulars.

The calf, of which we give an engraving, is, as previously noted, the offspring of two Ceylon elephants said to have been imported by Barnum in 1865. Mandrie, the father, is 26 years old and weighs about 8,000 lb. Hebe, the mother, is 23 years old and weighs 7,020 lb. From the time of their landing in this country they have shown a special attachment for each other. The female is noted for her uniform docility and gentleness, and the father for his beauty of form.

Mandrie and all the other elephants belonging to the circus seemed fully aware of the condition of the mother for months before her delivery; and afterwards both calf and father seemed to recognize the relationship existing between them, manifesting the same by various unmistakable signs.

The birth of the calf was the occasion of much excitement among the other members of the herd, whose trumpeting disturbed the lions and tigers in the adjoining house, causing them to roar in chorus.

Hebe became greatly alarmed, and, with a huge effort, parted both the great chains to which her hind feet were fastened to the stakes. The watchman fled for his life. On

For some time the mother continued so nervous and restless as to prevent the young one from suckling, in which dilemma the keeper hit on the device of constructing a kind of huge nursing bottle out of a yard of rubber tube and a funnel. One end of the tube was inserted into the mouth of the calf, while to the other end was attached the funnel, into which the mother was milked. The calf now suckles in the natural way, and not with the trunk as was supposed by Buffon and Aristotle. The udder, which is situated between the two fore legs, consists of two lobes with one teat each, like the breast of a woman. The teats project outwards, making them more accessible to the calf, which, as it sucks, presses the udder with its little trunk, while the mother slightly advances, and raises the leg on the side in use. Sometimes the mother will wind her trunk between the two fore legs towards her udder, either for the purpose of pressing it as women do with their breast, or in order to caress her calf. The little one suckles frequently, and seems to take great pleasure in walking under the mother's body, or in sprawling on its side among its parent's huge feet.

In appearance the calf is very like the mother, in shape, and color, and movement, but the eyes seem larger in proportion, and are rendered conspicuous by a line of pinkish hue round the lids. It has also a thin mat of black hair on the top of its head much resembling that on some human babies. It has, too, a decidedly infantile expression, remotely suggestive of a sucking pig.

When born it weighed 213½ lb. and stood 35 inches high. It has not been weighed recently, but is growing rapidly, as

and with the California mountain trout; shad with striped bass and with herring. Of these crosses there are the young, now in the hatching-house, of the salmon trout brook trout, brook trout California salmon, and brook trout California brook trout. It is observable of all hybrids that they are usually more shy and wild than either of their parents, and that in appearance they generally favor their larger parent. The cross between the brook trout and California salmon and the salmon trout and brook trout bid fair to be fine fish. Those now in the hatchery are eight inches long.

The cross of the shad and herring, though not made under the most favorable circumstances, has done well. The young have thriven, and have been caught in the rocky shallows of the Hudson. They probably are not migratory, and can be taken with rod and line. The cross between the shad and striped bass has not been heard from. As some of these were hatched in the autumn of 1876, and quite a large number in the succeeding year, it was hoped that some of them would have been taken, full grown, before this. The final outgrowth of this experiment is left entirely in the dark. There can be no doubt, however, of the cross being made.

It was hardly to be expected that so wonderful a discovery as the creation of a new species could be made without trouble, and we should rather be surprised at the success already achieved in hatching the young of the cross at all. The number of combinations possible is very large, and the pains and care expended in improving plants, vegetables, and land animals may yet succeed with fish.

The Eye Parasite—*Dracunculus loa*.

Doctor H. M. Bachelor, of the American Presbyterian Mission at Gaboon, on the West Coast of Africa, communicates to the *Medical Record* the following interesting account of the eye parasite known as *Dracunculus loa* and *Filaria loa*.

A native young man presented himself, complaining of a "sick eye." I examined the organ, says the doctor, and discovered a white worm coiled up. Its situation was on the iris, beneath the sclera; but it was not at all confined, being capable of moving about, and even obstructing vision when in front of the pupil. It was constantly in motion. The eye itself was bloodshot and inflamed, while the lachrymal discharge was profuse. I succeeded in extricating it in the following manner: Holding the eyelids firmly open, the point of the small blade of an eye knife was inserted between the sclera and iris, care being taken that one end of the worm was between the blade and sclera. The handle of the knife was then depressed so that the point would, in being carefully withdrawn, cause the end of the parasite to protrude through the opening in the sclera. This accomplished, it was easily seized and removed with a pair of ordinary dressing forceps.

The *Filaria loa* is, I think, quite rare, or at least is seldom taken out entire. If I am rightly informed, only one specimen has reached the United States; but the French are conversant with it. It generally selects the lower eyelid for its first appearance, though it is often found in the pinguis. If undisturbed it causes intense itching and stinging pain in the part occupied by it, which symptoms disappear in two or three days, caused, no doubt, by its death. It is not considered dangerous or even serious. The specimen sent to America by one of the missionaries here was not entire, having been torn in the operation of extraction. The one in my possession is, I think, complete.

The writer adds that he has the specimen in a fifteen per cent solution of alcohol, and will be glad to forward it for examination to any oculist who is sufficiently interested to study it thoroughly.

The Ajax.

The turret ship Ajax was successfully launched from Pembroke Dockyard in March last, in the presence of a vast number of spectators. She was commenced four years ago, and is one of the heaviest war ships in the world, carrying four 38-ton guns in her turrets, and two 6-inch guns on her superstructure decks. The total weight of the armor plates, including the armor to the turrets and thick protective deck plating, is about 2,418 tons. The armor plates in the turrets are 16 inches thick in wake of ports, and 14 inches elsewhere. This armor will be compound steel-faced armor, which has recently been found by experimental tests, by being fired at to possess a very much more effectual resistance to shot and shell than the armor plates which have been used up to the present time. The Ajax will also have an armor shield, composed of armor plates 12 inches thick, situated in the chart house or conning tower, which is built in an elevated position at the fore end of the citadel, in a line with the bridge, communicating between fore and aft superstructure decks. This shield is to afford protection to the captain of the ship, who will conduct the whole working of the ship from this look-out, by means of telegraphs and voice tubes. He will also be able to steer the ship himself, by means of steam, although the steam-steering engine itself is right away aft, below the armor deck. He will also give his commands to the captains of the turrets, and fire the guns by electric wires. In fact, nothing will be done in any part of the ship, when in action, except under the direct command of the captain in this tower. The Ajax was designed by the Council of Construction at the Admiralty.

Prison Labor.

About a year ago the New York State Assembly called upon the Superintendent of the State Prisons, Mr. Louis D. Pilsbury, to examine and report upon the contract system of prison labor. Mr. Pilsbury's report is in the main favorable to the system, his experience and study leading to the following conclusions, namely, that every prisoner who is able to do so should be required to labor, and that this labor, for moral as well as for economic reasons, should be productive; all systems of non-productive labor, merely for punishment, having been abandoned by civilized governments, because it is degrading and mischievous in its effects upon prisoners and unjust to the State. Such labor lies at the foundation of every successful system of reformation. Society has a right to demand it as a partial restitution for the depredations of criminals, and for the cost of their arrest, trial, and maintenance in prison.

That no system of prison labor which human ingenuity has yet been able to devise is free from objections; but that, so long as the people of this State demand that the prisons shall be self-sustaining, the present contract system is, in Mr. Pilsbury's opinion, to be preferred, because—

1. It produces the best financial results.
2. It does not interfere with outside mechanical industries any more than any other system of productive labor that has yet been devised.
3. It gives to the prisoners some knowledge of a handicraft and enforces habits of industry, without which they are almost sure to return to a criminal career, and with which they are enabled to, and in many instances do, lead honest and useful lives upon their discharge.
4. It is not injurious to health, as is shown by the small

number of hospital patients in our State prisons, and by mortality lists that compare favorably with those of communities in general outside of the prisons. Our convicts generally leave prison in better mental and physical health than when received.

The cost of maintaining the prisons of this State for the last fiscal year was \$20,374.15; in 1876 the cost was \$605,040.53. It is not claimed that these results are due entirely to the contract system; but under any other system they would have been impossible. The charge that contract convict labor materially interferes with free labor has not been proved. Compared with the total productions of the country the products of the prisons are insignificant.

There are 23,524 convicts in all the prisons of the United States employed at productive skilled labor, who compete, according to the census of 1870, with 666,625 workmen (less than four per cent) employed at the same industries in the same States, and with 269,240 workmen (less than two per cent in the whole United States engaged in the same industries as are carried on at the prisons. The percentage would be still less if the increase in the number of mechanics and laborers since 1870 were known.

The complaint that prison labor contractors injure other manufacturers and laborers by underselling the market, Mr. Pilsbury thinks unfounded in fact. And the impression that the contract system interferes with the discipline of the prisons is also pronounced erroneous.

Some Facts about New Zealand.

Mr. G. W. Griffin, U. S. Consul to New Zealand, reports a notable increase in the manufacturing interests of the colony, and a growing trade with this country. He thinks the furniture made in New Zealand the most beautiful he has ever seen. It is made of the mottled kauri wood, and is artistically designed. New Zealand produces the finest wood in the world, and manufactures some of it. The chief imports from this country are hardware, edge tools, and agricultural implements; tobacco, canned fruits, and wooden ware, including wagons and carriages. The inhabitants have a partiality for American watches, but do not take to American whisky. The only article sent from New Zealand to this country is kauri gum, which is largely used in the manufacture of varnish. One firm, which ships direct to the United States, sends four or five times a year cargoes worth \$100,000 each. The gum is very transparent; one can see through a block of it a foot in thickness. It has the appearance of amber, and is found about the roots of the kauri trees. The natives make very artistic figures of their gods with this gum, carving heads and busts of it larger than life.

Is there a Central Sun?

It is singular, remarks Mr. R. A. Proctor in the *Newcastle Weekly Chronicle*, how strongly some errors retain their hold on men's minds. When Mädler announced his belief that Alcyone, the chief star of the Pleiades, is the central star of the universe, men's minds were attracted by the thought that the stellar system, like the solar system, revolves around a center. Yet astronomers knew perfectly well that the evidence on which Mädler based his theory was exceedingly feeble. Sir John Herschel also pointed out how unlikely it is that the center of the Milky Way, if such a center there really is, can lie so far away from the mean plane of the Milky Way as the Pleiades. I have shown since that the only piece of positive evidence advanced by Mädler, the drift of the stars of the constellation Taurus in one direction, is in reality no evidence at all, for the simple reason that a similar drift can be recognized in other regions of the stellar heavens. I believe that no astronomer of repute would now venture to maintain the theory that Alcyone is the central sun of the stellar system, while scarce any (if any) would maintain that there probably is a central sun at all. Yet I find that not only is the belief still widely spread among the general public that Alcyone is the central sun, but that this theory excites far more interest than most of the real discoveries, interesting though they are, which have been made during the last half century. When I reached Indianapolis I found myself called on to decide, not whether the theory is true or not, but whether it is due to Bessel or Mädler. My statement that the origin of the theory was scarcely worth considering, since the theory itself was long since exploded, was received in solemn silence, as if my words were scarcely credited. And when I had endeavored, and I think succeeded, in showing good reasons for rejecting the theory, I could still feel that most of my audience would a good deal rather have seen the theory established than overthrown. Such is the dominion which error sometimes achieves over men's minds.

The Great Southern Comet.

A private letter from Mr. Gill, H. M. Astronomer at the Cape, furnishes some particulars of his observations of the great comet up to the evening of February 9. Table Mountain interfering at first with the view from the Royal Observatory, Mr. Gill proceeded to Seapoint, on the west side of the mountain, where, from the garden of Mr. H. Solomon, in which Sir Thomas Maclear observed Donati's comet in 1858, he sketched the position of the tail among the stars on several evenings before the nucleus had withdrawn sufficiently from the sun's place to be visible. The nucleus was first seen on February 8, and then only for a few minutes through cloud; Mr. Gill thought it might have been visible the preceding evening, but haze near the sea horizon render-

ed it very difficult to say where the tail ended. He describes it as "a very poor affair, a faint nebulous thing not at all worthy of so fine a tail." Attempts were made to fix its position at the Royal Observatory on February 9, but only a glimpse with an opera-glass through cloud was obtained. The nucleus was "a little N. and E. of Theta Sculptoris;" in a tracing accompanying the letter in question, however, the nucleus is shown a little south and east of the star, and midway between two stars, which from Gould's "Uranometria Argentina," appear to be Lacaille 6 and 34, so that the place referred to the epoch of the "Uranometria," 1875.0 would be in about right ascension 2° 20' with 37° 50' south declination, which is far from the position given by the elements telegraphed from Rio de Janeiro (to which reference was made last week) whether the heliocentric motion be assumed direct or retrograde; probably the orbit has been vitiated in transmission. On February 6 the tail appears to have been traceable nearly to Canopus.—*Nature*.

A Pleasant Surprise.

"L. T. Edleblute, of Cincinnati, upon returning from Leadville, has found a bonanza awaiting him in the shape of an offer of \$50,000 for the right to manufacture his patent metal vehicle hub. The hub is so constructed that the butts of the spokes rest on rubber, giving a large degree of elasticity, and at the same time preventing all rattling, rumbling, and tremblings. It can be readily taken apart for repairs." In sending the above clipping from the Cincinnati *Commercial Advertiser* of March 14, Mr. Edleblute adds: "The above patent was secured through your agency, and thanks to your skillful management, for the claims are unusually strong. The final papers will issue inside of three weeks. I believe that my hub will surely prove quite a financial success. I am now entertaining an offer from a Pittsburg house that will exceed above amount. By your excellent services in my behalf you brought to me the exceedingly large offer, for had not my case been well conducted I would, no doubt, have had to wait some time for a customer."

The Artificial Diamond Process.

The announcement that Mr. Hannay's paper on the artificial formation of the diamond was to be read at the Royal Society, February 26, brought together a large number of Fellows and their friends. After the meeting a scrap of paper with the following lines penciled on it was picked up not far from where the treasurer of the Royal Society had been sitting:

"The crystallized carbon, as diamond known,
Manufactured can be, Mr. Hannay has shown.
From some hydrocarbon set hydrogen free
Near a nitrogen compound, that stable must be,
In the presence of metal—magnesium or sodium—
And the brilliant result is the jewelers' odium."

The Best Vehicle.

An anecdote is told of a physician who was called to a foreign family to prescribe for a case of incipient consumption. He gave them a prescription for pills, and wrote the direction: "One pill to be taken three times a day, in any convenient vehicle." The family looked in the dictionary to get at the meaning of the prescription. They got on well until they got to the word vehicle. They found "cart, wagon, carriage, buggy, wheelbarrow." After grave consideration they came to the conclusion that the doctor meant the patient should ride out, and while in the vehicle he should take the pill. He followed the advice to the letter, and in a few weeks the fresh air and exercise secured the advantage which otherwise might not have come.

Remedy for Hydrophobia.

M. Torres Coicedo, Minister from Salvador, has just made a gift, says *La Nature*, to the Zoological Garden of the Bois de Bologne, of two curious plants—the "guaco" and the "cedron"—which for a long time have been extolled in America as antidotes to snake bites and hydrophobia. The discovery of these plants was quite singular. Some Indians had observed that a bird of prey, which captures and feeds on snakes, sought out the vine of the guaco, ate its leaves, and plastered them over its plumage. They were thereupon led to utilize the therapeutic virtues of the plant, and by its use effected marvelous cures in cases of hydrophobia, snake bites, and marsh fevers. The discovery of the properties of both the guaco and cedron, however, had already been made by Dr. Saffray in a voyage made by him through New Granada in 1869.

An English manufacturer traveling in America for the purpose of inspecting various industrial establishments has recently written as follows: "I spent some hours yesterday at the Cleveland rolling mills. They have a wire mill attached for drawing nothing but Bessemer steel wire, of which they turn out 75 tons per day, and have one room with 1,000 small blocks, each man tending 32 blocks, whereas in England we consider a man that runs 8 blocks of steel is a wonder. So much for your country. I saw it with my own eyes, and was never more astonished."

Eighty Miles an Hour.

The *National Car Builder* says that a locomotive on the Pennsylvania railroad made the fastest run on record a few evenings ago. It was ordered from the round-house to the scene of an accident, and ran 60 miles in 45 minutes and 8 seconds. This is at the rate of a trifle under 80 miles an hour, and is a very remarkable performance.