A VENOMOUS CEYLON SERPENT (*Daboia Russellii*).

The accompanying photograph presents one of the most deadly of the Indian serpents.

It belongs to the genus *Daboia*, sub-order *Viperidæ*, and was named for its chief investigator, Dr. Russell, *Daboia Russelli*,* although it is also known by local synonyms as tic polonga, uloo-bora, jessur, and sea chunder.

Sir Joseph Fayrer, as well as Dr. Russell, places it next to the cobra de capello in lethal power, and it is certainly nearly as venomous as that more famous *Naja tripudians*.

The *Daboia* is a very beautiful snake. Its groundwork of color is light chocolate brown, and down the body length run three parallel successions of black diamonds, slightly elliptical, edged with white and retaining the brownish yellow groundwork in their centers. Upon the head, the snout is marked by two lateral converging yellow lines. The labial and rectal shields are yellow, with brown margin, and behind the eye a triangular brown, black-edged spot; ventral surface yellowish, or marbled with more or less numerous semicircular brown spots on the hinder margins of the ventral shields. For a part of the above description I have used Sir Joseph Fayrer's admirable article in the January *Eclectic* ("The Venomous Snakes of India," page 90).

VENOMOUS CEYLON SERPENT (DABOIA RUSSELLI.)

This deadly viper was killed in a hedge near my room on the north side of the American mission compound in the Tamil village of Batlicotta, Jaffna, Ceylon.

It struck furiously at the attacking long pole, and hissed and blew vigorously. A subsequent examination proved the *Daboia* about 35 inches in length, a female with young. The fangs were about ½ inch in length, white, recurved, movable, set in the maxillary bone, and tubular with involuted edges, and openings at the base and apex of the fangs, respectively triangular and circular, but very small.

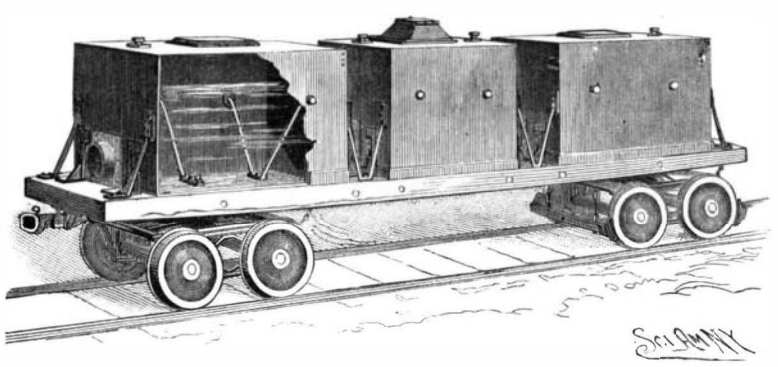
The poison is known as "venom globulin," of which it may contain 25 per cent. It is a fatal blood poison, producing complete fluidity, early paralysis, and intense respiration, which continues longer than in the case of an organism venomized by the cobra, however, whose lethal power is nervally terrible. *Daboia* venom causes convulsions, but does not select nerve centers immediately. Turkeys and hens have died in less than 60 seconds when bitten by this reptile, and men in less than an hour. The best antidotes are probably potassic permanganate, sodic hydroxide, ferric perchloride, and hydrofluoric acid. In India and Ceylon invariable caution is positively imperative at night in field or room. This can be easily appreciated when I state that in a period of fourteen months I have killed twenty-eight serpents.

W. D. MARSH.

Jaffna College, Ceylon.

AN IMPROVED PETROLEUM CAR.

The invention herewith illustrated is designed to provide a car with a series of connected metal tanks so braced that their walls will not bulge when heavily loaded, while the bulk of the weight is over the car trucks, and the tanks are capable of rigid attachment to either a flat or gondola car. The invention has been patented by Messrs. William H. Hill and Charles W. Bender. The tanks are ordinarily arranged in sets of three, the outer tanks being the largest, and, to prevent their sides from bulging outward, each tank has at each side two interior stay rods, secured to the sides and bottom of the tank. The ends of the tanks are also braced on their outer faces, the upper ends of the brace rods being bolted to re-enforcing plates as well as to the tank, while their lower ends have a horizontal section attached to a connecting plate, which connects the bottoms of the tanks and virtually forms a portion thereof. There are two sets of connecting plates secured to the car bed in any suitable way. The end tanks are connected to the intermediate tank at or near the bottom by horizontal tubes. On the top of each tank are one or more air vents, and each end tank has a large top opening, with tightly fitting cover, whereby all the tanks may be quickly filled or emptied when desired. The central tank also has a top opening with a hood-like hinged cover, there being in the bottom of the hood a tube to admit of the application of a pump to the central tank, whereby the liquid may be discharged from all the tanks, or through which the tanks may all be filled.



HILL & BENDER'S PETROLEUM CAR.

For further information relative to this invention address Mr. William H. Hill, No. 35 Taylor Avenue, Utica, N. Y.

THE *Journal de la Chambre de Commerce de Constantinople* says a company has been formed in Paris for working products derived from chestnuts, and chiefly the production of alcohol from chestnuts.

* In Tamil known as *muttledi purdion*, stamp snake or picture viper.

Our Census of Manufactures.

On the 2d day of June the work of collecting statistics of manufactures for the report of the eleventh census will be inaugurated throughout the entire country. The value of this report must depend wholly upon the accuracy and thoroughness with which manufacturers answer the questions propounded.

The personal interests of every manufacturer are involved in the character of the report on manufactures. It will be quoted for the next ten years as the official announcement of the *exact* industrial condition of the country, and will be the basis for any future legislation that may be enacted in regard to the wants of our people, whether engaged in agricultural or mechanical pursuits. Therefore it is of vital importance to each manufacturer that an accurate report shall be made.

The superintendent of the census has taken every possible precaution in the preliminary work to make this census complete and satisfactory, and the earnest co-operation of those engaged in productive industry is all that is now necessary to secure valuable results.

Every manufacturer should bear in mind that his answers to the questions relating to his business are held strictly confidential, are not disclosed to any competitor or to other persons, and are not used by the government as predicate for the purposes of taxation or license, or in any way to adversely affect his individual business. This assurance is printed on each schedule over the signature of the superintendent of census.

The expert special agent in charge of this branch of census work, Mr. Frank R. Williams, has personally visited the principal manufacturing centers and consulted representative manufacturers, the publishers of trade journals, and practical business men generally, for the purpose of ascertaining the proper scope of the inquiry for each branch of manufacture. The questions contained in the census schedules are those suggested by the manufacturers and other persons most interested in the progress of the country, and cover ground absolutely essential to the proper presentation of its industral conditions and resources.

The Mechanic Honored.

The following epigrammatic paragraphs are selected from the *Iron Industrial Gazette:* Let mechanics cease to bewail the obscurity of the mechanic. To-day, even in Europe, let the question be asked: "Who are the most remarkable men in the United States?" and the answer will be, not the statesmen, not the millionaires, the two classes generally most envied because the least understood, but the "mechanics," the Edisons, the Roeblings, the Westons, the Westinghouses, and others who have made the name "American mechanic" so great a title of honor, so pronounced a synonym for progress, power, enterprise, and utility that, when the American mechanic goes to Europe, he goes as the guest of rulers, as the lion of society, as the hero of the learned.

Any mechanic who feels like despairing because the world has not gone well with him should try, first of all, to figure out to what extent the world is to blame for his failure, and to what extent he himself is to blame. If he has not fitted himself for success, it is his own fault that success has not come to him.

The mechanic who is looking for outside things to lift him to success is looking for the improbable and the impossible. It is inside things that count in the problem of a worker's life, thought, careful planning, intelligence, and knowledge. These things are at the command of all. The workers who refuse to use the weapons cannot expect to win the spurs.

Generally, the more a mechanic works his chin, the less he works his hands. The more he knows about the best way to manage the universe, the less he knows about his lathe, his drill, or his planer. The more perfectly he could run the government, and the more money he could save the country, if he had charge of the whole business, the less likely he is to be a good workman. The more he prates about the terrible dishonesty of the public servants, the more incapable will he be of understanding that it is dishonest in him to rob his employer by wasting in idleness the time which he is paid to spend in labor, or by wantonly wasting stock, or needlessly injuring a valuable machine by careless handling. If I had the hiring of a million workers, I would try to find out which of them were agitators, orators, socialists, anarchists, and talkative cranks in general, and I would pay them a salary to remain away from my shops rather than have them around talking my plant, my other employes, and my business to death. Some inventor ought to bring out a patented talk squelcher. There would be millions in it.

John T. Wood.

Mr. John T. Wood, the explorer of Ephesus, died recently in London at the age of seventy. Mr. Wood was trained as an architect, and had won a considerable reputation, when he was engaged as architect to the Smyrna & Aidan Railway, and, in that capacity, took up his residence in Asia Minor. Here he became interested in the antiquities of the country, and, after a year's service with the railway company, resigned his position to devote himself to antiquarian research. His most noted work was the excavation of the Temple of Diana at Ephesus, one of the most splendid and famous structures of antiquity, and, although the incendiary Herostratus and the pillagers who succeeded him had done their work effectually, he found remains enough to determine the arrangement of the building and to restore much of its detail. The manner in which this investigation was carried out gained Mr. Wood a high place among archæologists, and for many years he has been, perhaps, the principal authority on the architectural work of the Asiatic Greeks.—*Amer. Architect.*

Use of Flax Straw.

The Standard Fiber Ware Company was organized at Mankato, Minn., late in 1885, with a capital of $50,000, for the manufacture of flax fiber into pails, wash basins, and like articles; a plant was built, and goods began to be turned out the following year. It required some two years of experimenting to reach satisfactory results, but these were finally attained, and the goods are now said to be very satisfactory. They are light, strong, handsome, and cleanly. The wash basins do not rust out or slip from the fingers and break. The water pails, in the language of those who use them, are the "only pails fit to hold drinking water." The dairy pail will not taint milk, get sour, or need scouring. The slop jars never lose their paint or decorations like tin, or break like crockery. The spittoons are serviceable and easy to clean. The inside finish is paint (without white lead) or Japan finish, according to the use it is to be put to. The outside finish is such as to suit all tastes, in colors and decorations. All paints, japans, copals, and decorations are baked on to stay. The process of manufacture starts with raw tow from the Dakota prairies, passes through the beaters, bleach tubs, pail machine, presses, calenders, trimmer, corrugator, bottomer, hooper, the intensely hot water-proofing bath, the bakings and rebakings, of water-proofing, paints, japans, decorations, and copals; all of which unite to make ware with a body and a finish that is practically perfect; in the words of an enthusiastic salesman, "the ware of the future."—*Paper World.*

THE Weisswasser paper and cellulose manufacturers have just introduced into the market, under the names of uni-colored and two-colored water-tight cellulose papers, a cellulose material that can be applied to the most varied purposes. The cellulose paper can be used for book backs, table cloths, and as a temporary covering for roofs, as well as for packing goods. It can be laid on damp walls and as a coating for maps, in short, its applicability is extraordinarily manifold. This cellulose paper is far cheaper than parchment. It does not become sticky through heat, nor does it crack from the cold, as is the case with oil cloth. The disagreeable asphalt odor is not perceptible.