CONDENSED MILK REPRESENTED AT THE FAIR.

The very handsome exhibit of the New York Condensed Milk Company, in Agricultural building, most appropriately bears, in prominent position on its four sides, representations of the distinguished inventor, Gail Borden, the exhibit being crowned by an eagle, the well known trade-mark of the company. The first patent for condensing milk was granted to Gail Borden in 1856, and in the same year were established the first works for carrying on the business. The demand for the product for the use of the soldiers during the war of the rebellion caused the rapid enlargement of the business at a very early day, but its great merit became then so fully recognized that the increase in demand has been continuous, as is evidenced by the extraordinary development of the great company now marketing these productions. The milk is condensed *in vacuo* and sterilized at several great establishments located in the best dairy districts of the country, as in Westchester, Putnam, Dutchess, Orange, Ulster, and Chenango Counties, New York State, and in the best dairy country around Chicago. The company has the most stringent rules governing the dairymen from whom it buys milk, its contracts with the farmers allowing the company to exercise such supervision over the production and care of the milk as to guarantee purity and evenness in quality, the utmost care and cleanliness being considered an absolute essential. In each of its plants the company makes its own boxes and cans in which the product is packed, so that the works in each case constitute extensive industrial establishments. In New York, Brooklyn, Jersey City, Newark, and Chicago, the fluid milk is also supplied by wagons making daily deliveries, the facilities of the company for obtaining the best dairy product, as required for condensing, having invited the organization of this branch of the business. The company's wagons are now delivering milk direct in this way daily to over 60,000 families. The growth of the business, great as it has been, has been due solely to the superior merit of the products.

THE WORLD'S COLUMBIAN EXPOSITION—EXHIBIT OF THE NEW YORK CONDENSED MILK COMPANY.

A Coal Dust Engine.

A novel motive power engine has been invented, based upon the fact that very finely divided carbon, floating in the air, readily explodes, and to adapt this to the generation of motive power the inventor proposes to grind coal to an impalpable powder, and, after introducing the dust floating in the air into the cylinder of an engine, explode it, the idea being to follow very much the same lines which are being so thoroughly developed in the use of gas in engine practice. The first difficulty which suggests itself is how the ash is to be got rid of, but experience in gunnery shows this may not be a serious obstacle.

EXHIBIT OF THE DIXON CRUCIBLE COMPANY AT THE FAIR.

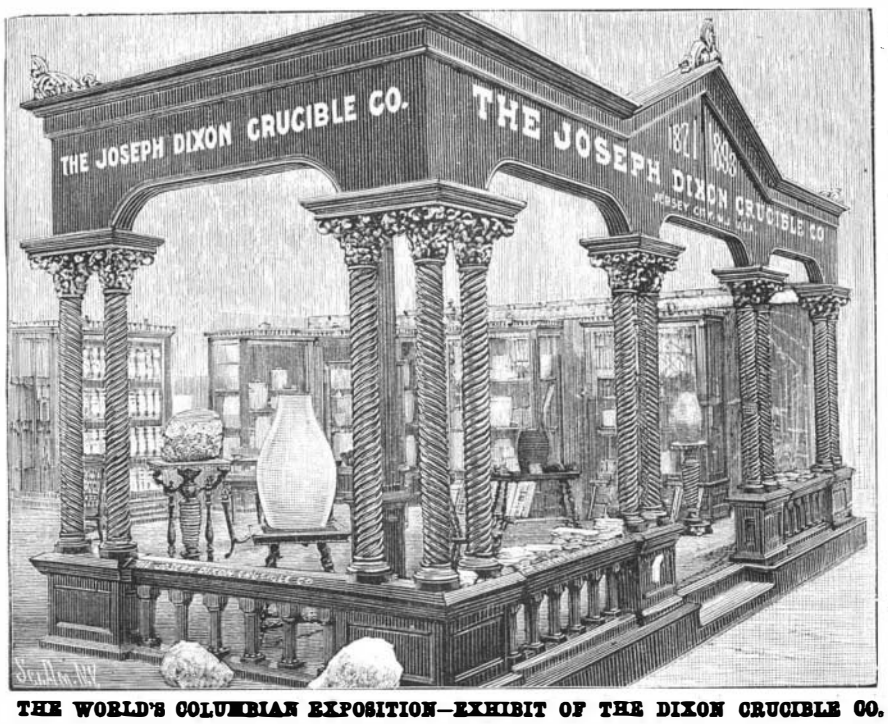
The Joseph Dixon Crucible Company is the only concern in the world which manufactures every article of which graphite is a component part. With the invention by Joseph Dixon in 1827 of the plumbago crucible, the crucible business was revolutionized. At that date began also the manufacture of Dixon's stove polish, foundry facings and the development of an industry now grown to enormous proportions and fittingly represented by the Joseph Dixon Crucible Company, of Jersey City, N. J.

This company has two exhibits at the World's Columbian Exposition. One is of Dixon's American graphite pencils, in the northeast gallery of the Manufactures building, and the other, covering all the other articles manufactured by them, in the northeast gallery of the Mines and Mining building. The pencil exhibit occupies a space 10×14 feet. In the center of this space stands a low mahogany table surmounted by a pyramid of velvet, which is covered with pencils arranged in graceful and beautiful designs by an artist employed specially for that purpose. Over this pyramid stands a rosewood and plate glass case. Two ornamental facades of turned and carved mahogany front the space, which is separated from neighboring spaces by means of Japanese bead curtains, suspended from carved grilles. The space is lighted at night by means of two gilt electroliers of six 16 candle power lights each.

The company's exhibit of general and special graphite products in the Mines and Mining building occupies a space 25×28 feet. A very handsome cherry facade fronts the space, while the sides are hung with tastefully arranged portieres. Crucibles, retorts, ladles, stopper heads and nozzles, graphite boxes, phosphorus chargers, resistance rods and devices, incandescent filament forms and other special goods made of graphite, are shown in upright cabinets. In another case is shown the development of an electrotype plate, in which process the use of graphite is an essential. In still another case are shown over fifty varieties of graphite, for as many different uses and under as many different names, such as graphite for lubricating, stove polish, foundry facing for green, dry or loam castings, core wash, ingot mould wash, shot and powder glazing, electrotypers', gilders' use, hatters' use, rubber packings, piano and organ actions, pot-leading yachts, for crucibles, lead pencils, paint pigment, lubricants, etc.

There are also shown samples of graphite from all the principal sources from which that article is obtained. One very fine sample from the island of Ceylon weighs nearly 300 pounds. There are comfortable chairs, with writing desk and stationery for the free use of those who may desire it.

The Dixon Company were the first to complete the installation of their exhibit at the Fair, and their promptness brought forth a highly commendatory letter from the chief of the department, F. J. V. Skiff.



THE WORLD'S COLUMBIAN EXPOSITION—EXHIBIT OF THE DIXON CRUCIBLE CO.

The Fastest Cruiser Afloat.

The new Japanese war ship Yoshino recently was subjected to steam trials. The mean of four runs on the measured mile gave her a speed of 23·031 knots per hour, or 26½ miles per hour, making her the fastest cruiser afloat. Her displacement is 4,000 tons, length 350 feet, 46½ feet beam, 15,000 H.P. Built by Armstrong, Mitchell & Co. Designed by Philip Watts.

The Tin Mines of Maliwun.

Mr. E. H. Parker, in the *China Review*, gives an interesting account of the tin mines and mining of the Maliwun Peninsula in the Mergui in the extreme south of Burma. Victoria Point, he says, is the southernmost extremity of the Indian Empire in this direction. The Pakchan River is for 50 miles or so the boundary between the British possessions and Siam. The population of the peninsular tract is entirely Siamese, Malay, and Chinese, and Burmese is as little spoken as Burmese faces are rarely seen.

A pathway has recently been made from Victoria Point up to Maliwun, which is the chief center of the tin producing industry, and this pathway also runs north of Maliwun to the highest point of sea-going steam navigation, but, with the exception of this path, the country is one dense mass of mangrove swamp and impenetrable jungle, the haunt of rhinoceroses, elephants, bisons, wild cattle, samburs, tapirs, tigers leopards, and other wild animals. On the opposite side of the river is Renong, a Siamese province under the rule of a Chinese rajah, whose intelligent government has changed the country from a mangrove swamp into a nutmeg garden and a tin manufacturing center.

The Pakchan River is very pretty, densely wooded hills in the distance on all sides form a very agreeable background to the tangled masses of virgin mangroves. The steamer enters a tributary called the Maliwun River to the left, but 17 miles from the mouth, and anchors a mile or two below Maliwun Creek, the haunt of alligators. Maliwun is a thriving village of perhaps 50 houses, mostly Chinese. There are two tin smelting houses, where during the smelting season seven hundredweight of tin can be smelted in a day by each furnace with four or five men. The total annual production of clean tin at present is about 50 tons a year.

The smelting apparatus is extremely simple, and is like that used by the miners of Perak. A mud furnace, just like a wine barrel, bound round and crossed with iron hoops, with a bellows consisting of a hollowed tree fitted with a piston, and connected with the furnace by a short bamboo tube let into a mud funnel, is all. The whole only costs about $25 when new. One man drags the piston and fro, but, as this is hard work, he has to be relieved every hour or two. Another man does the stoking, putting in the charcoal, tin, and slag for resmelting at the top. Out of a small hole in the bottom, on the side opposite the hole connected with the bellows, runs the tin, which is allowed to collect in a hole in the ground, and is then shoveled into two moulded holes in the sand, made by working a wooden mould, like a huge brick rounded on one side, into the sandy soil. Nothing could exceed the extreme simplicity and economy of the whole arrangements, and hitherto no foreign machinery has ever been able to cope with them for a moment in an economical sense. The chief smelter is a Malay-Burmese widow, who, after refusing several eligible suitors, including one or two Europeans, has at last bestowed her hand upon an industrious Chinese.

Farming for a Living.

Secretary Morton reminds the croakers that only about 3 per cent of all the merchants escape failure, whereas hardly 3 per cent of the farmers fail. The statistics really show that agriculture is safer than banking, manufacturing, or railroading, taking all things into account. There is no farmer of good sense and good health anywhere in the West, Mr. Morton declares, who cannot make a good living for himself and family, and that is as well as the majority of men are doing in any other pursuit. The man who owns a farm and sticks to it is certain to profit by it in the future. There is practically no more land to be added to the area of cultivation. The supply of agricultural products has reached its limit in the United States, and must now remain stationary, while the demand will go on increasing every year. This implies a gradual improvement in prices, and a steady appreciation of the value of farming lands.

TELEPHONEMETER is the new word naming an instrument to register the time of each conversation at the telephone from the time of ringing up the exchange to the ringing-off signal. Such a system would reduce rentals of telephones to a scale according to the service, instead of a fixed charge to a business firm or occasional user alike. The instrument has been constructed at the invitation of the German telephone department and is to control the duration of telephone conversations and to total the time.

Recent Novel Experiments with Dynamite upon the Ocean Bar at Brunswick, Georgia.

The bar known as St. Simon's bar, prior to 1882, had from earliest knowledge of it an available depth of between 16 and 17 feet at mean low tide, of between 23 and 24 feet at mean high tide. A wreck closed this channel. A new channel opened to the north of the old, of 14 feet at mean low tide, 20·8 at mean high tide. The latter channel was closed to commerce by a wreck in 1889. The best available outlet remaining over the ocean bar was, in 1890 and spring, 1891, 11·5 feet at mean low tide, of 18·3 feet at mean high tide.

The commerce of the port was threatened with disaster. The municipal authorities, unable to secure immediate government aid, determined to undertake some measure of at least temporary relief, and sought to procure a dredge, failing in which, C. P. Goodyear, a lawyer, suggested explosions of dynamite sunk upon bottom of bar.

The trial commenced July 8, 1891. August 22, 1891, the depth obtained in a new and straight channel was 13·3 feet at mean low tide, 20·1 feet at mean high tide.

The author of the idea, under an act of Congress authorizing him to continue upon the "no cure, no pay" plan, has pursued the same methods, increasing the size of charges from 15 pounds to 50, then to 100, then to 200 pounds, exploding thus far 60,000 pounds of dynamite, and now has a channel across entire bar, with shoalest depths of 22·3 feet at mean high tide, which he expects to further deepen to at least 16·3 feet at mean low tide or 23 feet at mean high tide during the month of August. No shoaling has occurred at any point since commencement of the work. The gain already effected of 4 feet is certainly remarkable, and is a boon to the commerce of Brunswick. Further progress of this work will be watched with interest, as it will determine whether the author of the idea has made a great discovery applicable to ocean bars at other ports. The total expenditure thus far upon this work is understood not to have exceeded $30,000.

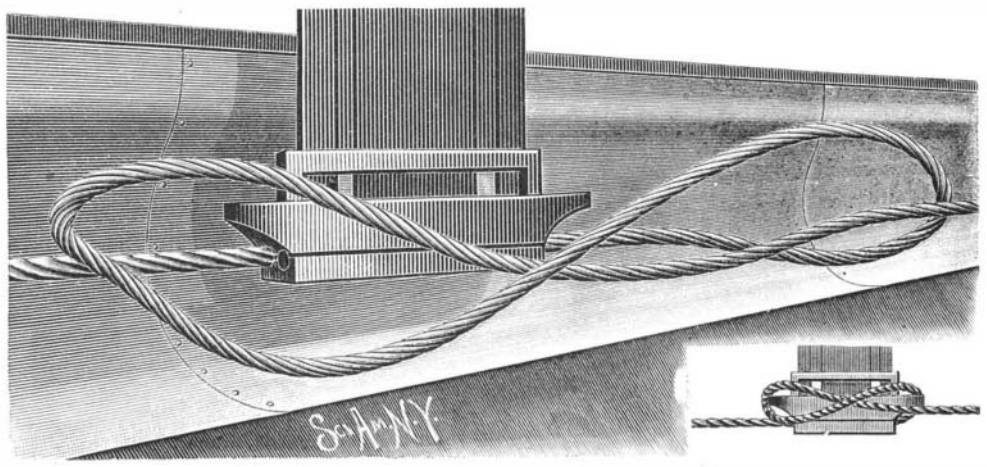
Bathing After Excessive Exercise.

The popular notion of the injurious effect of a cold bath taken by one who is overheated from exercise, must possess—as all such ideas have—some basis in experience; and yet it is falsified by the experiences of athletes from the days of the Greeks and Romans even until now, who find in this procedure a refreshing and stimulating tonic after the exertion they have recently undergone. And, physiologically speaking, a cold plunge or douche taken immediately after the physical effort, when the skin is acting freely and there is a sense of heat throughout the body, is as rational as in the experience of the athlete it is beneficial. It is paralleled by the tonic effect produced by the cold plunge when the skin is actively secreting after a Turkish bath, and finds its rationale doubtless in the stimulation of the nervous system, in the increase of internal circulation, and also in the renewal of activity to the cutaneous circulation after the momentary contraction of blood vessels due to the cold. The popular belief, doubtless, rests on the injurious effects which may be induced by the bath in one who does not resort to it immediately, but allows time for the effects of fatigue to show themselves on the muscles and nerves and for the surface of the body to get cool. Taken then the bath is more likely to depress than to stimulate, there is less power of reaction and greater liability to internal inflammations. At such a time a warm bath rather than a cold one is more suitable and more safe. It has been suggested, however, that the practice of indulging in a bath after violent exercise may initiate renal disease. Of this there is no evidence. The transitory albuminuria observed after prolonged cold baths may indicate the disturbance in the renal circulation which ensues upon them, but these cases are in a different category from those to which we are now alluding, nor are we aware of any facts to prove that even in them Bright's disease has been developed in consequence of the transient departure from the normal. Lastly, it must be remembered that those indulging in athletic exercises of all kinds are presumably sound in heart as well as limb, and that such persons may take with impunity, and, indeed, with benefit, measures which would be distinctly harmful to the weakly.—*Lancet.*

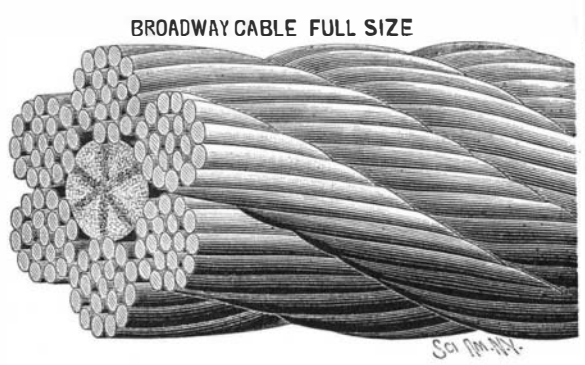
CABLE RAILWAY ACCIDENTS.

People who are habitual riders on electric and cable cars have a feeling of exemption from shocks and undue speed while riding on the cable cars that is not experienced while riding on the trolley cars, but the cable car system has shown itself capable of accidental derangements which are quite as able to work harm as anything that may happen to the electric car system.

Not long since one of the cable cars in lower Broadway, after a brief stop of the cable, started, and when an attempt was made by the gripman to stop the car, it was found impossible to release the grip, and the car moved down Broadway toward Bowling Green, clearing everything before it, having a propelling force behind of not far from 1,200 horse power, with no immediate prospect of being stopped. As the cable railway has no telegraph, the telephone was brought into use, and in due course of time communication was had with the engineer at the power house, and the cable was stopped. On examination of the grip it was found that a certain amount of slack in front of the car allowed of the formation of a loop, which,



A LOOP CATCHES THE CABLE GRIP.



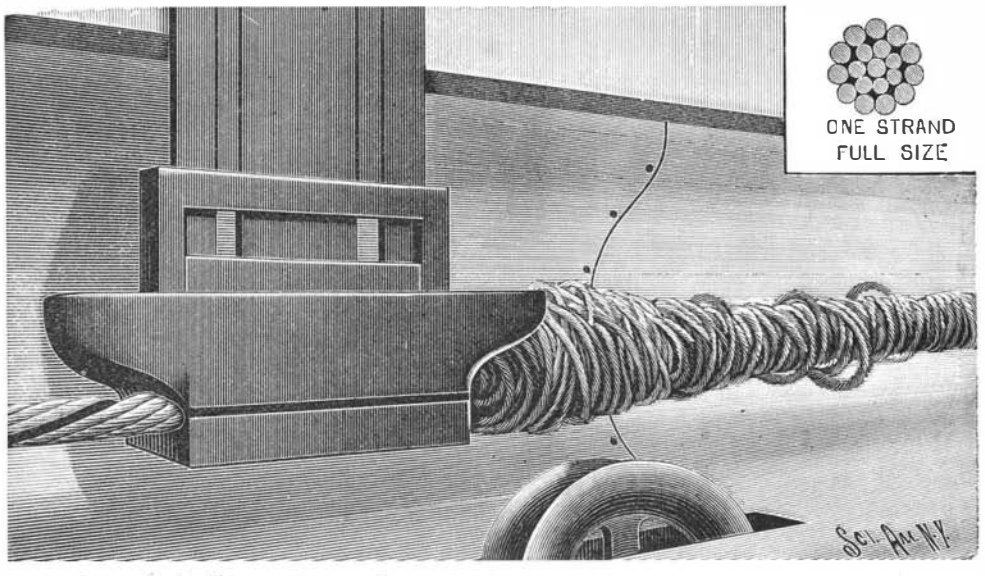
singularly enough, took the form of a hitch around the projecting horns of the grip, as shown in Fig. 1. The only way to release the grip from the cable in this case was to break the grip and remove it from the cable conduit, the car being towed back to the car house by coupling it with another car.

Although the cable is sufficiently flexible to permit of passing around the huge drums at the power station and over the guiding sheaves in the street, it was far too rigid to permit of releasing the grip by any manipulation of the cable itself. By viewing Fig. 2, which represents the cable full size, it will be seen that it is no easy matter to bend such an aggregation of steel wires, even though the cable has a flexible center of hemp. The cable is formed of six strands, the exterior layer of each strand consisting of eleven wires, Nos. 9 and 11 alternating, the inner layer being formed of seven No. 9 wires, while the center wire of the strand is also No. 9, making nineteen rigid steel wires in each strand.

This accident was mainly due to an unnecessary amount of slack in the cable—something which will be guarded against in the future, so that an accident of this character is not likely to happen again.

In Fig. 3 is illustrated an accident of a different character. In this accident the car behaved as in the other case, that is to say, it was carried along the track irresistibly and the gripman was unable to release the grip so as to stop the car. After the power house had been signaled and the engine stopped, an examination of the cable in the conduit showed that one of the strands of the cable had been broken, and the cable, in sliding through the grip, pushed back the strand until 1,500 feet of it had been piled up upon the cable, the strand thus shoved back upon the cable occupying a space of 200 feet behind the grip. This accident caused a delay of several hours. There was no remedy for the delay, as the spare cable had not been laid in the conduit. Traffic had to be suspended until the cable could be put in running condition, which was done by removing the loosened strand.

Although the cable is constantly and carefully inspected in its passage through the power house, it is obviously impossible to guard against an accident of this kind. The only safeguard lies in careful cable construction and in extreme care in making splices. It would also seem that the Cable Railway Company should provide some means of communication between all parts of the road and the power house, by means of which, in cases of accidents like these, the engineer may be notified and the engine instantly stopped. It is remarkable that neither of these accidents resulted in any serious casualties.



A BROKEN STRAND PREVENTS THE WORKING OF THE GRIP.

Congress of Anthropology.

Anything undertaken by men like Dr. D. G. Brinton and Prof. F. W. Putnam is reasonably sure of success. Hence much is anticipated from the series of meetings in the interest of anthropology to be held from August 28 to September 1 inclusive, in the Art Palace at the World's Fair in Chicago. The plan is to hold daily meetings at a convenient hour, after which the audience will adjourn to inspect whatever portion of the exhibit may best illustrate the papers just discussed. Monday will be devoted to considering anthropological laboratories; Tuesday to folk-lore; Wednesday to the Government building exhibit; Thursday to archæology; Friday to ethnology, and Saturday to foreign exhibits, especially as bearing on European archæology.

The general list of papers includes such topics as: The Anthropology of American School Children, by Dr. G. W. West; Aboriginal American Mechanics, by Otis T. Mason; Critical Study of Flaked Stone Implements, by W. H. Holmes; The Present Status of our Knowledge of American Languages, by Dr. D. G. Brinton; Orientation, by A. L. Lewis; The Ethnology of the Face, by S. H. Thompson; The Folk-lore of Precious Stones, by G. F. King; Folk-lore of the Ojibwas, by Dr. Robert Bell; Omaha Love Songs, by Miss Alice C. Fletcher; Zuni Ceremonials, by P. H. Cushing. Religious rites among the Jews, Egyptians, Hindoos, Indians, and other nations and tribes, will be treated by Dr. Cyrus Adler, Dr. J. G. Bey, Prof. M. Bloomfield, Dr. Franz Boaz, and others qualified to handle such subjects. Prof. M. Jastrow will discuss the historical study of religions as a feature of the college curriculum. Numerous other topics are announced, and the Congress of Anthropology promises to be an assembly of unusual interest and one that should attract public attention.

Corn Bread no go in Germany.

Notwithstanding the recent culinary efforts of a patriotic American to educate the German up to an appreciation of the savory and nutritious properties of Indian meal, Dr. Eugene Sell, of the Imperial Health Department, has reported to the Prussian government that this substance is not a wholesome article of diet, and is unsuited for general consumption. The *Medical Record* thinks if Dr. Sell could but examine some of our stalwart mountaineers in West Virginia and Kentucky, and see how they thrive on hog and hominy, he might be led to distrust the accuracy of his laboratory experiments.