

Scientific Miscellany

Evaporation of Coal—Cancer From Coal Tar—Lignite Fuel—Death by Electric Shock—A New Gas Mantle. Water Heated as it is Drawn—The Fly Again Swatted—A Celestial Electric Light—Spider Utility.

The escape of methane and other inflammable gas from coal after it has been mined has been one of the problems investigated by the United States bureau of mines. To explain the con- dition of the gas three theories have been suggested—(1) that the gas is held in a state of occlusion or more or less complete combination, (2) that it is mechanically imprisoned in the pores of the coal, and (3) that it is produced by a slow decomposition of the coal. The tests made seem to support both the second and third ex- planations, which may apply together. The amount of gas given off appeared—very curiously—to be the same in a vacuum as at ordinary pressure, but the quantity from different kinds of coal varied greatly. One coal, for in- stance, was still emitting gas at the end of two weeks, although it had been given off nearly twice its own volume. Another coal evolved less than a fifth of its own volume of gas in 9 weeks, and in 26 weeks more showed no further emission. The value of the coal is not materially affect- ed, the two volumes of gas lost in the first example reducing the coal's heat- ing value only a sixth of 1 per cent.

The belief that the tar and pitch from gas works is the cause of the spread of cancer among workmen has been recommended to the British par- liament. The home secretary stated that blast furnace pitch is less liable to give rise to cancer, and had been specifically exempted in home office regulations for patent fuel made with pitch. One view is that cancer results from anthracene, a gas-pitch constituent not found in furnace pitch.

After slacking by exposure, lignites from Texas, North Dakota and Cali- fornia have been made into briquettes without pitch or other binder. The briquetting cost, with a German apparatus, was \$1.35 to \$1.75 per ton and the heat value was increased 36 to 54 per cent.

From the studies of electric shock that have been made, Drs. Kride and Szanton conclude that death usually results either from contraction of the fibrils or muscular fibers of the heart, or from paralysis of the respiratory or- gans. While there is no known remedy for the derangement of the heart muscles, artificial respiration may sometimes overcome the respiratory paralysis. The effects of direct and alternating currents vary with the cur- rent strength, the time of contact, and the path through the body; and with alternating currents low frequency is usually more dangerous than high frequency. The lower animals are generally more susceptible to electric shock than man, dogs being often killed by a direct current of 70 volts. In the average man such a current of 100 volts is scarcely noticed, 200 to 400 volts suddenly stops respiration. The alternating current of low pressure of 100 volts affects the heart. At 600 volts and 5000 volts the effect is usually on the respiratory apparatus and respiration ceases; but at 2,000 to 3,000 volts the effect is usually on the respiration alone. American electrocution records show that a current of 2 to 3 amperes at 1,500 volts, 15 to 30 cycles per second, always stops the heart when continued 45 to 60 seconds though in a few seconds it may fail to kill.

An incandescent gas mantle of arti- ficial silk has been worked out in Ber- lin, and is expected to prove specially useful for street lighting and wherever high pressure gas is employed. Rame- mantles have proven much more effi- cient than the original cotton ones on account of the wider separation of the yarn, which gives a larger glowing sur- face. The experiments have shown that the artificial silk fibers remain even more distinctly apart, and it is claimed that the new mantles are much more supple, elastic and durable.

A new electric water heater consists of one or more porcelain tubes packed with carbon granules of uniform size. The cold water enters at one end of the tube, and as the current is turned on each granule becomes in- stantly very hot, so that hot water can be drawn in five seconds. One faucet may deliver either hot or cold water, while the water is effectively steriliz- ed.

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EXCUSE ME!

Drawn By M. MYER



PRESIDENT WILL EXPOUND MORAL QUESTIONS IN WEST

Beverly, Mass., Sept. 9.—President Taft hopes to appear before the country as a teacher and as an expounder of moral questions in his speaking tour through the West which starts next week. Although it is conceded that the president will talk politics when a good opportunity presents itself, it became known today that he will also discuss a great number of questions which he considers affecting the welfare of the people at large without regard to their political views.

The president plans in this connection to take the opportunity to express himself emphatically on the question of marriage and divorce. He has very strong convictions on the existing divorce situation in the United States and believes that there is imperative need for remedy in that direction. The president will urge the adoption of uniform laws regarding marriage and divorce by the separate states, so that it will be impossible for a man forbidden to marry in one state to avoid the decree by stepping across the border line into another state. The states should respect the decrees issued by the courts of any one state, in his opinion. The president believes this remedy can be effectually applied as the states have already succeeded in agreeing upon uniform laws affect- ing certain classes of business trans- actions.

Among other questions not within the purview of politics in the strictest sense of the word on which the president plans to address the country, are the conservation of the soil, the Mon- roe doctrine and relations with Central and South America, the Panama canal, and the rates to be established for ships using the canal, the fortification of the canal, economy in the govern- ment service and other topics of a sim- ilar nature.

BESIDE THE SEA.
By the blue sea I sit and dream!
The noon is high, the wind's asleep,
A Sabbath calm broods o'er the deep;
White ships, like lilies, lie at rest
Upon the water's quiet breast,
And mild the heavens that bend above
A canopy of tender love.
In reverence hushed all things doth seem,
So by the sea I sit and dream.

By the blue sea 's rest content!
The yesterdays with longing fraught,
All sorrows that the years have brought,
I give them to the ebbing tide
To scatter, scatter far and wide;
E'en memories that some time bless
Of service sweet, or happiness
Found in dim woods, by lake or stream
Seem drifting from me as I dream.

By the blue sea I live anew!
Unto my soul a glad new morn
Is silently but surely born;
For peace and tardy hope have come
Within my heart to make their home;
The larger life, with portals wide,
Comes toward me on the flowing tide,
And entering it, at one I seem
With God, as by the sea I dream.
—Lucia W. Eames, in the Transcript.

CHATHAM CONFEDERATE MUSEUM.

(Chatham Record.)
The museum of war relics recently started here by the Daughters of the Confederacy already has many very interesting souvenirs of the war. Among them is one presented by Willis G. Adcock, who was a member of Company E, 26th N. C. Regiment. It is a minie ball that passed through his left side at Gettysburg on the first day of July, 1863, entering his body between the fourth and fifth ribs and passing through the left lung.

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Littleton Female College
Fall Term will begin Sept. 20, 1911. For Catalogue address LITTLETON COLLEGE, Littleton, N. C. 25-20t.

Linville, North Carolina.
A delightful place for an autumnal vacation is Linville, which has become a favorite with residents of the Pied- mont country. Linville is especially attractive to men by reason of the Trout Fishing, and the excellent golf course. A number of interesting golf events are planned for the late season. Fishing in both lake and stream, is good in September, and does not close until the 20th of the month. The popular Esceola Inn is a lead- ing feature of Linville, and the fame of its hospitality and its cooks extends over many states. Esceola Inn will keep open doors until October 10th. Motor cars may reach Linville via Lenoir and Blowing Rock. R. R. tickets should be purchased to Edgemont. For further information, address, JAMES P. VINING, 16-30t Linville, N. C.

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