At a recent meeting of the Society of Arts, Mr. A. H. Cowles, of Cleveland, O., read a paper on the production of aluminum and its alloys, in which he claimed that pure aluminum can be produced by a new process at a cost of about forty cents per pound. The metal is reduced from its oxide, corundum, by the agency of carbon and heat, the latter being furnished by the electric arc between two immense carbons, which are connected with a powerful dynamo. Other metals, such as calcium, magnesium, potassium, sodium, and silicon, can be produced in the same way.

Instead of the usual small, high-speed engines, electric light companies are coming to use large, low-speed engines, on account of the greater economy of the latter. The economy is still further increased by employing compound condensing engines, where an abundant supply of water can be had.

A correspondent of the Boston Journal of Commerce describes a method of lighting the gas of a shop by electricity derived from the friction of a belt. A wire runs from the belt around the room, passing near each gas-jet, and being suitably insulated. Two metal hooks fixed in wooden handles and connected by a flexible wire are provided, and when light is wanted, it is only necessary to hang one of the hooks on the wire conductor and hold the other near the burner, when a spark will ignite the jet.

The British experiments to test the relative merits of oil, gas, and electricity for lighthouse illumination, have resulted in demonstrating the superiority of electricity over all other lights, even, as has been generally doubted, in dense fogs.

In England, a pulley sixty-three feet in diameter and weighing eighty-three tons has just been made. It has grooves for thirty-two ropes, which together will transmit 1,280 horse-power.

The Tidewater Oil Company people have secured the right of way for an oil-pipe from the wells in Pennsylvania, through New Jersey to Constable Hook, adjoining the great Standard Works. The distance is a trifle over three hundred miles. The pipes, six inches in diameter, are to be laid three feet below the surface. Through the State of Pennsylvania four large pumps are stationed to force the oil. The capacity of the pipes is 10,000 barrels daily. The cost of laying will be about $6,000 per mile. About one mile can be laid a day. One hundred and seventy miles of pipe is already laid in Pennsylvania. The work of laying the pipes in New Jersey will be begun in May. The cost of this enterprise will be $2,000,000.—American Engineer.

The city of Buffalo has, within its limits and in its immediate vicinity, 436 miles of railroad track, and this will shortly be increased to 612 miles, making unquestionably the largest railroad yard in the world.

It is reported that Prof. Dubois estimates the maximum temperature of the air in which a man can breathe for any length of time to be 122°, and this can be endured only when the air is very dry. It may be interesting to know that during some of the boiler tests at the Institute last term, the temperature rose to 125° in parts of the boiler-room, where some of the observers were obliged to stay all day.

Experiments have recently been tried using electricity to furnish the headlight of a locomotive. The light was so brilliant and dazzling that the engineer was unable to see surrounding objects, and it had to be abandoned. The expense was also an important item. Some railroad-men are advocating the abolition of all locomotive headlights, claiming that they are a source of danger, preventing the engineer from distinguishing the pale signal-lights.

PHYSICAL “TIPS.”

Specific heat—Hot as Hades.
The Dyne—Unit of digestion.
Resistance to pressure—Warding off a caress.
The alcoholic barometer—One used to determine a wet night.—Lampoon.