

ing it. Acetylene is a gaseous compound of 24 parts by weight of carbon and two parts of hydrogen, and is evolved from calcium carbide, by the application of water thereto.

Calcium carbide is made by fusing lime and carbon (coke) at a very high temperature in an electric furnace. When this carbide is brought in contact with water, acetylene gas is immediately evolved. The gas being generated and collected in a suitable apparatus, and being passed to the proper burners, forms the most brilliant illuminant yet discovered. The light is without the glare of the arc lamp, the reddish glow of the electric incandescent lamp, the ghastly green of the Auer or Welsbach mantle, the flickering flame of the ordinary gas burner or the offensive odor of the oil lamp.

The pure white light of an acetylene flame so nearly resembles sunlight that all shades of color are accurately distinguished by its rays.

Acetylene possesses hygienic advantages not found in other methods of illumination. An acetylene flame gives off about as much heat as an ordinary incandescent lamp of equal candle power, so that it has no effect on the temperature of a room.

Combustion is complete, a very important point, as there is no escape of unconsumed gas. Acetylene burns down close to the burner, leaving no blue zone as in ordinary gas. The atmosphere is not vitiated by carbon dioxide, which is given off in large quantities by the ordinary gas flame. It burns with a clear, white steady flame, without smoke or odor, but if the gas is allowed to escape from the burner unconsumed, it gives off a strong odor which would cause it to be immediately detected. Acetylene is

not poisonous, hence, there is no danger from asphyxiation if the light should be blown out. House plants cannot be kept in a room where ordinary illuminating gas is used, while acetylene is in no way injurious to them.

An acetylene burner, consuming one cubic foot of gas per hour, gives a light of 50 candle power, or fifteen times as much as by an ordinary gas burner, consuming the same amount of gas. While acetylene possesses this advantage in power, its diffusive properties are twice as great, making the ratio 30 to 1 instead of 15 to one.

Speaking of the different styles of machines constructed by this company, we are informed. —

Our Sun lighting machine is constructed on the sprinkling system, and is undoubtedly the best in its class. By this process the water is sprayed on the carbide in sufficient quantity to supply gas for the burners in use. This machine is in every way automatic; it dries, cools, condenses and purifies the gas, thus delivering it to the burners pure, dry and cool. The residue left after the carbide is consumed can be removed as easily as the ashes from a stove and just as dry. The hundreds of these machines now in use bear testimony to their successful and satisfactory operation.

There are those, however, who prefer a system of generating acetylene wherein the carbide is deposited in a body of water sufficient to entirely decompose it. For this system we manufacture our Beacon acetylene machine. In this machine quantities of carbide, varying in amount according to the size of machine, are automatically deposited in a large body of water in the generating chamber. The gas passing thence to the

gasometer, which is of sufficient capacity to contain the gas evolved from the quantity of carbide deposited at one time. This machine is decidedly the simplest and best made on this principle, and has advantages for certain purposes over any other system.

One of the largest fields for acetylene is for cooking purposes, provided the plant may be used in combination with the lighting apparatus. The Duplex machine is intended for supplying both light and heat from one and the same machine. This machine gives identically the same light as this company's other machines, and without any complications whatever or other machinery, supplies a heat two and a half times greater than that of ordinary gas. The company make Duplex machines in both Sun and Beacon styles. They manufacture a line of gas stoves and ranges for use with this machine.

The company carry in stock a full line of acetylene burners of various makes, and themselves manufacture several styles. They also make acetylene gas meters.

CANADIAN IRON MAKING.

The Montreal Star of August 4th, reviewing the conditions of the iron market and the progress of the industry in Canada, says:—

A panic ruled in the pig iron market at Glasgow yesterday, and iron was thrown over to catch any profit. The bears joined in the selling, and on the day Scotch iron lost 3s. 6½d., Cleveland iron, 5s. 1½d., and hematite 3s. 7d. per ton, for cash. Since the top was touched at 25s. 7d., Scotch iron declined 9s. per ton; Cleveland, 12s. 4½d., and hematite, 8s. 10½d. per ton for cash.

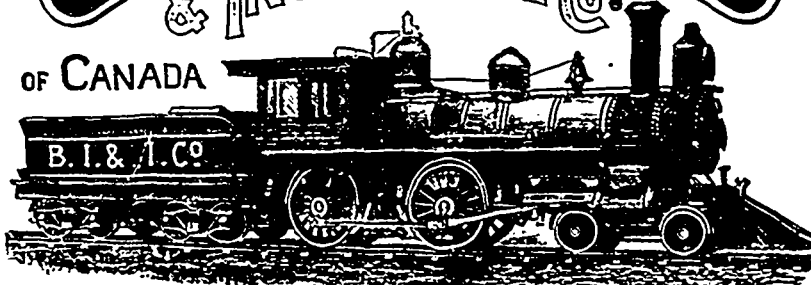
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