

portion of the steam is passed over undecomposed.

**White's process for the manufacture of 1000 ft. of water gas.**

Coke in the furnace ..... 112 lbs.  
Charcoal in retort (equal to 15 lbs. carbon) 18  
Lime for purifying ..... 37

**Gillard's water gas (carbon).**

Coke in the furnace ..... 118 lbs.  
Charcoal in the retort ..... 18  
Lime for purifying ..... 67

The amount of fuel expended is not very considerable, but the lime required for the abstraction of the carbonic acid is immense. When coal gas contains 5 per cent. of sulphuretted hydrogen and carbonic acid, it requires only 15 lbs. of lime to purify 1000 feet. But by the foregoing table, White requires 37 lbs., and Gillard 67 lbs. of this material to abstract the carbonic acid from the same quantity of the water gas.

The advantages possessed by petroleum gas as a cheap illuminator, have already been sufficiently established; but its claim to public patronage does not rest on this fact alone. It is a most economical and valuable source of heat. Coal-gas stoves have long been in limited use, but they have not met with general favor, because they do not supply a sufficient amount of heat, and they are besides too costly when the coal gas is maintained at \$2 50 per thousand feet. Petroleum gas is admirably adapted as a source of heat. It contains a much larger proportion of carburetted hydrogen generates more heat during combustion than either the same measure of hydrogen or carbonic oxide, as the following table, reduced from Dulong's experiments, proves:—One cubic foot of carburetted hydrogen, during its combustions, causes a rise of temperature from 60° to 80° in a room 2,500 cubic feet of air; whereas a cubic foot carbonic oxide elevates the temperature of a room of 2,500 cubic feet from 60° to 66.6°, and one cubic foot of hydrogen raises the temperature of a room of the same cubical capacity as before stated, from 60° to 66.4°. Or in other words: a cubic foot of carburetted hydrogen is capable of heating 5 lbs. 14 oz. water from 32° to 212°, a cubic foot of carbonic oxide 1 lb. 14 oz. through the same degrees of temperature, and a cubic foot of hydrogen 1 lb. 13 oz of water from 32° to 212°. With a burner and apparatus of peculiar construction, and consuming six feet per hour, a petroleum gas flame from eighteen inches to two feet in length can be produced under the same pressure as used for lightening purposes. The flame is almost destitute of illuminating qualities, but the heat it emits is intense. It can be used for heating private dwellings, for cooking, and other domestic purposes. The cost of this gas fuel is, at the rate of one stove burning for 30 days, 10 hours a day, \$1 30, when petroleum is 6c. a gallon; when it is 10c. the cost per month is \$2. For two dollars a month the house of a poor man may be supplied with light and fuel during ten hours of the day. With a burner of less dimensions—say three feet per hour—a cooking stove, and a one-foot burner, supplying abundance of warmth and light for one room during each day, may be fed at a

cost of \$2 a month. This, of course, is the price of the raw material alone. It is some consolation to reflect, that at a period when the price of fuel is rapidly rising in the United States and Canada, a means for affording the poor man cheap light and warmth has been developed by the discoveries of the rich stores of petroleum on the American continent.

After a perusal of this article, every candid reader will acknowledge that gas from petroleum, manufactured by the process described, is not only the most economical and agreeable mode of illumination which has yet been brought before the public, but as a cheap source of heat it may present its claim to the patronage and encouragement of the public, with the best prospects of general adoption.

**ENGLISH CROPS.**

THE London Daily News says that owing to the large increase in the yield, the harvest is estimated to be worth £20,000,000 to £30,000,000 more than that of last year, and there will consequently be no necessity for the importation of large supplies of breadstuffs from abroad.

**NEW YORK CATTLE MARKET.**

THE telegraph reports another overstocked market of Beef Cattle this week, and a very decided decline in prices. The greater proportion offering were poor and sold for 6 to 8c., while some inferior sold as low as 4 to 5c., the lowest rate for some months. First quality held up to 10 to 11c. The number in market was 6,581. Sheep ranged, for extra \$5 to \$5.50 per head, prime \$4 to \$5, common \$3.50 to \$4. Hogs, corn fed, \$4.50 to \$5.37, still fed \$4.87 to \$5.12.

**MONTREAL MARKETS.**

Since the receipt of last accounts, there has been a more brisk demand for flour and grain of all descriptions, and sales to some extent have been made. The following are the latest quotations:—

Potash, per cwt., .....	\$6.10 to 6.15
Pearlash, " .....	6.85 to 6.90
Flour, Fine, per 196 lbs.....	4.00 to 4.10
No. 2 Superfine, .....	4.20 to 4.25
No. 1 " .....	4.30 to 4.40
Fancy " .....	4.50 to 4.70
Extra " .....	5.20 to 5.30
S. Extra Superfine ... ..	0.00 to 0.00
Wheat, U.C. White, per 60 lbs., ..	\$0.90 to 1.02
" U.C. Red, " .. ..	0.90 to 0.91
Peas, per 66 lbs., .....	0.70 to 0.71
Indian Corn, per 56 lbs., .....	0.55 to 0.56
Barley, per 50 lbs., .....	0.80 to 0.85
Oats, per 40 lbs., .....	0.47 to 0.50
Butter, per lb., .....	0.15 to 0.16
Cheese, per lb., .....	0.08 to 0.08½