

THE ROMANCE OF MODERN SCIENCE.

The old alchemists wasted their lives in the pursuit of two unattainable objects—the philosopher's stone and the elixir of life; the former to turn all metals into gold, and the latter to bestow perpetual youth. It is now known that the turning of all metals into gold would have greatly diminished, instead of adding to the wealth of mankind; for if gold were made so abundant, it would no longer answer the purpose of money, and for use in the arts it is less valuable than iron. It may be that men will sometime be brought to the belief that fading youth would be no blessing, but with our light, it would be received as the greatest boon which it is possible to imagine.

Modern science does not expend its efforts in the pursuit of these chimeras; but while it is familiar with marvels of which the ancient alchemists could form no conception, its own future is not wholly unadorned with the dreams of romance. Had some superior intelligence appeared to one of the long-bearded old Arabs, among his retorts and crucibles, and prophesied the achievements which the human race were destined to make within a few hundred years, how utterly incredible would have been the prophecy!

Looking down the future he would have said, "It shall be ascertained that Arabia, the Red Sea, and all the countries that you ever heard of are not at rest, but are constantly rushing away towards the east more swiftly than the flight of an arrow from a bow. The distance from us to the sun is such that a horse, running 20 miles an hour, without rest day or night, would require more than 500 years to make the journey, and yet this distance shall be measured with a rod and line. Though this fiery orb is as large as 1,400,000 globes the size of this earth, man shall measure its mighty span. He shall weigh its vast mass with a balance, and the sum of its tuns shall be told. Hidden from the eyes of all who have ever lived, deep sunk in the depths of space, he shall behold countless myriads of other suns, and shall approximately compute the inconceivable distances which separate them from us. Swarming in the dust beneath our feet, in the air we breathe, in the interior of our own bodies, in every stagnant pool, he shall discover multitudes of living beings, of strange and curious structure, whose numbers cast those of the visible inhabitants of the earth into insignificance. He shall put iron into a condition in which it shall become as incorruptible as gold, and thus shall your long sought philosopher's stone be discovered. The impalpable vapor which rises from water he shall harness to his chariot wheels; he shall make it dig his mines, grind his corn, saw his wood, weave his clothes, and drive his ponderous iron ships over the stormy sea to great continents now undiscovered. At his easy command, the rock shall leap from its firm bed and rush headlong through the air. He shall lay his hand upon the solid mountains and they shall yawn open to his passage; he shall be borne through them in ease and comfort with a velocity unattainable by the fleetest steed. The sunbeam shall become his most faithful limner, and the thunderbolt of heaven the obedient servant of his will; in silence it shall glide swiftly forth, bearing his messages of business, of pleasure, or of caprice, to the uttermost parts of the earth in the twinkling of an eye."

The modern student of science, to whom these incredible marvels are accomplished and familiar facts, seems less hopeful of the continued triumphs of human intelligence than were the ancient alchemists; but there are some ardent imaginations that love to sweep forward and revel in dreams of the future power of our race; though the wildest flights of the most fertile fancy are tame when compared with the accomplished achievements of the past. These minds conceive that man's power of transporting his body from one place to another has by no means reached its ultimate limit; that he will not only move more swiftly over the earth, but that he will sail through the air and sweep under the sea. In their view, as the coal fields fail, man will bore through the solid crust of the earth and warm great cities with its internal fires. The appliances of industry will continue to be multiplied till all are able to command leisure, and thus to secure mental cultivation. With the removal of ignorance and the temptations of poverty, degradation, vice and crime shall cease, and oppression and war shall be brought to an end; and in-

telligence, comfort, prosperity, virtue, peace and happiness shall be the common inheritance of all. Higher still! As the decay of old age is caused by the gradual accumulation of solid deposits in the system, and as there are known solvents of these deposits, some of the boldest imaginations behold the future filled with the brightest of all hopes—the promise of perpetual youth.

WATER GAS FACTS.

TO THE PUBLIC.—In maintaining a controversy concerning the merits of Sanders' "Water Gas," we have been controlled by commercial and economical considerations, rather than by a desire to propound scientific theories, or to debate conflicting claims of patents. We believe that we possess a process, the general adoption of which would improve the quality of the illuminating gas in common use, while reducing its cost to consumers.

We have always invited critical inspection of the practical operation of the "Water Gas," and have made repeated demonstrations of each and every stage of the process of manufacture. A disappointed reporter to the SCIENTIFIC AMERICAN, however, who had aroused the suspicions of our company and of the employes at the Girard House, supplied that journal with a long statement of matters and things he neither saw nor heard, together with his conclusions from such premises. Facts being stronger than words, however abusive the latter may be, we submit the following statement of a single day's operations of the present week at the Girard House, as a sufficient refutation of Mr. Seely's slippery narrative and false conclusion.

GIRARD HOUSE, PHILADELPHIA, }
November 12, 1860.

TO HENRY C. CAREY, Esq., President of the Keystone Gas Company.

SIR:—As requested by you, I respectfully submit a statement of the consumption of materials and the results thereof of twelve hours' regular running of the gas machinery at this establishment.

Yesterday, November 11th, we began our daily manufacture of "water gas," by Sanders' process, at 12½ o'clock P.M., our station meter registering an aggregate of previous manufacture of 610,700 cubic feet; our charge was exhausted at 12½ o'clock A.M., this date, the meter registering 621,900 cubic feet—thus showing our production of gas within that time to have been 11,200 cubic feet; the average manufacture having been 933 feet per hour.

The consumption of rosin was 497 lbs., equal to 44 4-10ths lbs. per thousand feet of gas. The charcoal consumed was three bushels. The fuel used was nine bushels of coke. The cost of purification did not exceed one cent per thousand feet. At no time was rosin supplied to any retort, except in conjunction with the vapor of water as required by Sanders' patented specifications.

The foregoing comprises all of the materials used, excepting cost of steam, which is inappreciable, being taken from the boilers of the hotel, but which may be calculated to not exceed 1c. per thousand.

Yours, respectfully,

JAMES E. PLACE, C. E.

HENRY C. CAREY, Esq.,

DEAR SIR:—The quality of the gas made and used in the Girard House, during the hours covered by Mr. Place's statement, was fully equal to any previously furnished to us from our private works, and superior in brilliancy to the gas supplied by the city.

Very respectfully, yours,

PRESBURY, SYKES & Co.

Girard House, Philadelphia, Nov. 12, 1860.

The prices of the above materials vary in some degree in different sections of the Union. At those at which they can be here supplied, viz.:—Rosin, \$1 75 per barrel; coke, 5 cents per bushel; charcoal, 11 cents per bushel. The cost of the "water gas," as above made, would be 40 cents per thousand cubic feet, exclusive of labor, which may be estimated from 10 cents down to 3 cents per thousand, decreasing with the increase of quantity manufactured.

We have repeatedly offered to supply the City Works with gas at seventy-five cents per thousand feet, and under arrangements that would give to the City Treasury perfect security against loss, and to consumers an absolute certainty of being supplied with a light far more brilliant than that they now obtain. Why have the Gas Trustees refused to accept the offer?

HENRY C. CAREY,

MARMADUKE MOORE,

A. HART,

Committee of the Keystone Gas Co.

Philadelphia, November 13, 1860.

The above card we find in the advertising columns of most of the Philadelphia daily papers.

The Keystone Company will no doubt be surprised to find their advertisement transferred to these columns without charge, reflecting as it does upon the integrity of the gentleman who was sent to Philadelphia to investigate the merits of the Sanders' water gas. The result of his investigation was published two weeks ago, and notwithstanding the assertions of Mr. Place,

engineer of the works, as to the wonderful results he obtained in twelve hours' operation, we still think the conclusions to which our reporter arrived are quite as likely to be correct as the statements of Mr. Place. It must be remembered that Mr. Place is in the employ of the company to whom he makes his report; that his statement is not accompanied by any affidavit that such a result was obtained, nor is it supported by the evidence of any one not pecuniarily interested in the success of the enterprise. The public have learned to make some allowance for the assertions made in newspaper advertisements, emanating even from the most respectable firms, and, while we are not advised whether there is any water gas stock in the Philadelphia market, the thought suggested itself on reading the above card that possibly the present stockholders had got alarmed at the proposal of having their works put to a practical test by disinterested, capable experts, and before the public demanded it in too strong terms to be resisted, they would try to sell their stock. Before such an examination, they would see what virtue—à la Bonner—there might be in advertising their wares. This was no doubt a wise conclusion, one that would suggest itself to any body of equally shrewd business men; but it is not for us to discuss the motive which dictated the above card; it is simply facts we want and which the public demanded. When these can be so easily obtained, by the company simply permitting a disinterested, competent person to make a few of the most simple tests at their works, which can be done in two hours' time, so as not to incommode their regular operations, we must think that their advertisement above does not detail all the facts.

We close by again reminding the Keystone Gas Company that the public will not be satisfied with the simple assertion of any one of their employes until supported by that simple test we have pointed out, made by some disinterested expert, in the presence of one or more disinterested, respectable gentlemen. We shall be more happy to chronicle the successful result after such a test than to be obliged to confirm the suspicion of the public as to the practicability of the Sanders' water gas.

DEATH OF LORD DUNDONALD.

By recent news from Europe we learn that this nobleman died in London on the 30th ult., at the advanced age of 85 years. He was a very extraordinary man; his numerous daring exploits as a naval commander, and his many inventions in the useful arts won for him a distinguished reputation for heroic courage, skill and inventive genius. His father—Archibald Cochrane, ninth Earl of Dundonald—was a good chemist, and quite an inventor in his day. His name appears on the roll of the early patentees, who succeeded in obtaining burning fluids from the products of coal tar. But he was a far better spender than a maker of money, for he actually wasted a large fortune in scientific pursuits, and his son, the lately deceased earl, declared that "of our once extensive ancestral domain in Scotland, I never inherited a single foot." His father's genius, however, he doubtless did inherit; so that after having chosen the navy as a profession, he soon became the most renowned officer in the British service. Being promoted to the command of a small war sloop of 158 tons, named the *Speedy*, he contrived to carry terror along the whole coast of France, as a most daring and crafty cruiser. With this craft and only 50 men, he attacked a Spanish frigate of 32 guns, and captured her in one hour and a half. He was afterwards promoted to the command of a frigate, with which he was engaged in several actions of the most desperate character, and always with success. In 1807, he became a Member of the British Parliament, and was a bitter opponent of the corrupt tory administration of that day, and for this Lords Castlereagh and Liverpool revenged themselves, in 1814, by a cabal that deprived him of his command in the navy, his seat in Parliament, and doomed him for one year to a prison. After this, he left England, became commander of the Chilean fleet when fighting for independence, in 1817, and subsequently (in 1827) he became Admiral of the Greek fleet, then fighting for liberty against the Turks. Byron immortalized him in his "Don Juan," and his fame resounded throughout the world for deeds of successful and unflinching courage. In 1830, he was rein-