

A NEW LIGHT.

The English papers are largely discussing "a new light," which is new, however, only in the fact that it is an intensified gaslight. It is by some called "the albo-carbon light." This light consists in the use, as an auxiliary to common gas, of some properties of pure white carbon in the solid form of small cylinders; not much unlike in appearance to a stick of pure white candy.

The machinery required to adapt the feeder and enricher to an ordinary gas burner is extremely simple, and can easily be adjusted by any one skillful enough to fill and trim an ordinary table lamp. Albo-carbon thus stands in favorable contrast with the elaborate machinery at present required for the production of the electric light. While it economizes the consumption and improves the quality of the gas, it involves no change in mains, meters or piping, or the general apparatus of gas service. In the case of single lights, the apparatus consists of a metallic chamber of spheroidal form, fixed at a slight distance from the burner. In this vessel the albo-carbon is placed, and the substance, becoming liquefied by heat, gives off an inodorous vapor, which mingles with the gas made to pass through the vessel, and produces a combination of illuminating power vastly superior to that of common gas. The enriching material is a form of naphthaline, and is clean, portable, and inexpensive.

The proprietors of the patent claim that albo-carbon causes no obstruction and leaves no residuum; and that the vessels in which it is placed may be replenished without the slightest fear of accumulating deposits, so perfectly exhaustive is the evaporation of the substance under heat. At a recent exhibition of the light near London, a variety of interesting photometric tests were applied to the light, and its power was gauged and measured under a variety of aspects, one of the most pleasant of which is its hue, which, while intensely brilliant, is cheerful and sunny, while the shadows cast by objects illuminated by it are not of that dense darkness which contrasts so strongly with the moonlight brightness of the electric light. Gaslight, enriched by albo-carbon, is a warm, sustained, and steady light, not, however, calculated to fatigue the eye; but its value was made known most readily and most convincingly when the spectators passed from the brilliantly-lit eastern section to the main body of the building illuminated by common gas, under which it presented an appearance of well-nigh murky dimness.

THE STINGS FOR RHEUMATISM.—The *Peager Wachenblatt* contains the following in regard to the cure of rheumatism by the means of bee stings. The correspondent says that his wife having suffered so much as to be unable to enjoy any rest or sleep for the space of six months, the right arm being almost lame, preventing the sufferer from doing any household work, making her even unable to dress or undress herself, and having heard that a farmer, quite incapacitated by rheumatism, had been accidentally stung by bees, and thereby got entirely cured, he persuaded his wife to try this remedy, as the pain from the sting of the bees would not be greater than that already suffered. Three bees were therefore laid and pressed upon the right arm for a considerable time, in order that the poison bladder of the insects should entirely empty itself. The effect produced was astonishing, as the lady, even on the first night, was enabled to enjoy a long good sleep, the first time for at least six months, the pain being entirely gone. The arm was, of course, swollen greatly in consequence of the sting, but the swelling gradually disappeared upon the application of some cooling lotion. All pain was gone, the lame arm recovered its previous vigor, and not the least sign of rheumatism has since showed itself.

OLD AND NEW OBJECTS OF INVENTION.—The inventions of the last hundred years sometimes appear more grand and far reaching than any now being developed or demanded. But it must be remembered that the old inventors had a clear field. Everything was demanded and nothing was done. The steam engine, the cotton gin, the telegraph, smelting with pit coal, the hot blast, the rifled cannon, and all the other great inventions which have changed the whole aspect of life, were then unknown; and even the most imperfect development of them was more striking and revolutionary than the later and really more valuable refinements of the same inventions. And it does not follow that less useful work is wanted or likely to be done now. On the contrary, the improvements in steam power, for instance, likely to be developed during the next hundred years, will have a greater money value than all that has preceded—perfect as the steam engine is to-day. The old inventors were called upon to discover and open the doors of Nature's storehouse; the later inventors

are called upon to bring out and set in order her wonderful secrets.

PECULIAR BEHAVIOR OF CAST IRON.

A peculiar phenomenon has been repeatedly noticed with cast iron long submerged in the sea. A grey, spongy, light mass is formed, which in several cases, when brought to the surface, ignited spontaneously. Thus, for instance, cast-iron cannon raised after 50 years from a man-of-war sunk near Cariscrona, were reduced one-third to the mass described above. After being exposed to the air for about 15 minutes the cannon became so hot that they could not be touched, and the water with which they were moistened was converted into steam. During a naval battle between the French and the English in the year 1545, an English vessel was sunk off Portsmouth. Three hundred years afterward the bronze ordnance of the man-of-war were raised by divers. In one of them there was a cast iron-ball, which, as soon as it came into contact with the air, was heated almost to redness, and then fell to pieces, which weighed together only 19 pounds, while to judge from its diameter the ball must have weighed originally about 30 pounds. Modern chemical science would find it easy to trace the causes of this phenomenon, while a 100 years ago somewhat violent assumptions were deemed necessary to account for it. Thus a ship's physician has placed the following explanation on record: "It is probable that the cannon were sunk in the heat of battle, and therefore had not sufficient time to cool off." Thus the heat must have remained in suspense for a long time, which may account for its promptness in making itself manifest upon return to the outer world.

TO PREVENT EXPLOSION.

Mr. John Napier, of Edinburg, Scotland, proposes the following mechanical device for the prevention of boiler explosions: The device consists in the attachment to the boiler of a plate of copper or other metal of similar qualities and ductility, which plate is firmly secured between two perforated plates of iron or other metal, and is covered by them on its upper and lower sides, except at the places of perforation, these places corresponding to each other in the upper and lower plates. The perforations are greater or less in diameter, according to the size of the boiler. Direct communication is established between the apparatus and the interior of the boiler, and according as the thickness of the intermediate plate is varied with reference to the strength of the boiler, it resists a greater or less pressure. When this pressure is exceeded, the steam causes the intermediate plate to give way at one or more points between the corresponding perforations of the upper and under plates, and by the steam thus escaping from the boiler an explosion is prevented. The apparatus, which is intended to be accessory to the ordinary safety valve, may be either attached to the boiler or fitted to a tube or neck secured to the boiler. In order to give additional security, the apparatus may be fitted in two or more places on the boiler subjected to pressure. The plates are so attached to the boiler and to each other that the intermediate plate may be readily removed and replaced by a fresh one.

WIRE BELTS.—We made some allusion a week or two since to the manufacture of wire belts. We now find the following additional, and more in detail, in the *Iron Age*: "Machine straps of wire, as a substitute for leather, are being made by a German firm. The belts are made of the best crucible steel wire, in transverse network of one to ten wires, in any desirable length or width. The two ends of the strap are joined like the middle, so that there is no beginning and no ending, the belt forming an endless band. All the wires run parallel only across the width, in such a manner that one wire catches into the other like a spiral, a continuous, densely-woven chain being thus produced, the movability of which is so great as to enable it to go round the smallest pulley. The straps are also made with leather or elastic lining, or bordered with leather, elastic hemp, hair-tape, or any other material, also its interstices filled with gutta-percha, to supply elastic bands with cotton web, and to prevent their stretching. The tightening of the strap—a shortening of the chain—which is only necessary once, viz., when put on by means of a strap key, may be effected very easily and very quickly by taking out any desirable number of wires, and again joining the two ends in the same manner by twisting in the required number of wires."