

HOUSE ILLUMINATION

Gas More Healthful Than Electricity, Says Prof. Vivian.

ALSO VERY CHEERFUL

With the Advent of Electric Light Great Stress Was Laid on the Hygienic Advantages of the Illuminant—That Resulted in the Manufacture of More Coal Gas

In all systems of illumination where flame is used to give the light itself or to heat to incandescence some auxiliary body, as a Welsbach mantle, the nature of the products of combustion is a very important matter. In the early days of the gas industry it threatened to wreck the future of gas for indoor illumination, as we are reminded by Vivian B. Lewis in a lecture delivered before the British Institution of Gas Engineers and abstracted in Technical Literature (New York, October). Mr. Lewis believes that gas as now made is more healthful than the electric light. He notes that the first crude gas in use was rich in sulfuretted hydrogen, and gave rise to such discomfort when consumed that ventilating burners of clumsy design had to be employed, while leaky fittings gave at all times an objectionable aroma. Says the lecturer:

"A very short period served to convince the gas manager that the purity of the gas was a matter of even greater importance to him than to the public, as the latter could escape the effects of the sulfured products of combustion by adopting other illuminants; while the gas managers' livelihood depended on keeping his customers. As a result, purification from sulfuretted hydrogen was adopted, and the use of coal gas increased with enormous rapidity.

"With the advent of the electric light as an illuminant, great stress was laid upon its enormous advantages from the hygienic point of view; and its supporters still make the claim that it must of necessity be far more healthful to use as an illuminant than coal gas. It has not unnaturally been assumed that, owing to incandescence electric lighting adding nothing to the impurities in the atmosphere, and—what is quite as important—withdrawing no oxygen from it, it must be the most hygienic form of illumination to employ; but in the years which have elapsed since electricity was pressed into the service of man for illuminating purposes, it has become perfectly clear that, though it is inactive as regards vitiation of the atmosphere, a gas-lighted room will nearly always be more pleasant and healthy to live in than one lighted by the newer form of illuminant."

In all processes of ventilation, the writer goes on to say, the great factors which enable us to change the atmosphere in our dwelling-rooms are the air currents set up by alterations in temperature and diffusion between volumes of air at different temperatures. It is this, he claims, which gives coal gas its great advantage as an illuminant over electric lighting. He says:

"Using an incandescent mantle on an atmospheric burner, about four cubic feet of gas per hour are consumed; and this gives two cubic feet of carbon dioxide, which would very soon suffice to raise the proportion of carbon dioxide above the sanitary limit of 6 parts in 10,000. But though everything has been done to render the room as air-tight as possible, it will be found that the proportion of carbon dioxide is enormously less than it should be by theory; this being due to the fact that alteration in temperature of the air of the room sets up currents and actions which tend to bring about a change of the atmosphere.

"Carbon dioxide is a gas considerably heavier than air; so much so, indeed, that it can be poured from one vessel to another almost like liquid. But, like all other gases, it is expanded by heat; and as the foul air coming from the lungs, and containing some five per cent of carbon dioxide, is at practically the temperature of the body—i.e., 98 degrees F.—it at once rises toward the ceiling, while the products of combustion from the gas burner, being at a still higher temperature, also rush up to this point so that the foul air is always to be found at the top of the room. One might think that the foul air when cooled down would descend into the room again. But here comes into play the process of diffusion.

An interesting series of experiments is described by the author, who believes that they show conclusively that the air of the lower portion of a room, if one or two people only are present, is as pure with respect to carbon dioxide as with electric lighting, while if a large number are present the advantages are even more pronounced. In fact, the air of a room with electric lighting becoming impure as to its danger

DEFECTS OF SHERMAN LAW.

Reason to Believe the Anti-Trust Stipulation Too Extreme.

We all know how much feeling, and what just feeling, has been aroused in the United States by corporate mismanagement. It is difficult to speak in language too strong of usurpations of power and the larcenies of funds which have been committed by corporate officers. But let us not lose our heads. We are face to face with the economic conditions that are new, and with economic abuses that, though manifold, have grown up slowly and in the dark. There is ample power in our institutions, in our Constitution and our laws to check and to remedy them all. There is now reason to believe that the Sherman anti-trust law commits the nation to a policy which is too extreme, to a policy that, in putting an end to certain admitted evils, also puts an end to certain demonstrable benefits. Many of us believe that the act unduly exalts the principle of competition and falls to lay due emphasis upon the public benefits which may follow from properly regulated and supervised co-operation. The distinction between combinations which are reasonable and may well be permitted, and those which are unreasonable and must be



DR. NICHOLAS MURRAY BUTLER

all hazards be forbidden, is one which ought not to be surrendered or overlooked. It is a most important question, therefore, whether the time has not come when this act should be amended in order to relieve, not corporations, but the people, from limitations upon their business activity which this act imposes, although in reality they are not necessary in the public interest.—Dr. Butler in Leslie's.

A Reasonable Presumption.

"I was counsel for a railway company in the West," says a prominent New York lawyer, "in whose employ a section hand had been killed by an express train. His widow, of course, sued for damages. The principal witness swore positively that the locomotive whistle had not sounded until after the entire train had passed over his departed friend.

"You admit that the whistle blew?" I sternly demanded of the witness.

"Oh, yes, it blew."

"Now," I added impressively, "if that whistle had blown in time to give Morgan warning, that fact would be in favor of the company, wouldn't it?"

"I suppose so," said the witness.

"Very well. Now, for what earthly purpose would the engineer blow his whistle after the man had been struck?"

"I presume," replied the witness, with great deliberation, "that the whistle was for the next man on the track."—Harper's Weekly.

A Corrupt Judge.

The routine of the Criminal Court proceedings had been marked by only one unusual incident, and that was the affair with which a certain hard character was sentenced for sixty days to the workhouse.

"Judge," observed the District Attorney at the close of the weary session, "you seemed to relish the privilege of sending that man to the workhouse. Did his case impress you?"

"Now, look here," whispered the Judge, as he beckoned the attorney aside, "that man is a worthless fellow. Always drunk and never contributes a cent to the support of his wife, who is a most deserving woman. I feel sorry for her, and whenever he is in prison, she comes to my home and assists my wife in the kitchen.

"And," chuckled the Judge, as he tapped the attorney's shoulder cheerfully, "she does know how to bake apple pie."

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THE LAST SUN DANCE

Final Unrestricted One Which the Sioux Indians Were Allowed to Give.

BARBARITY OF IT

Flesh Cut from Women's Arms to Test Their Bravery—Men Fastened to Various Objects by Loops of Flesh and Compelled to Tear Themselves Away

Now and then the muffled rumble of the instruments was broken by a chant from the "musicians," that reminded one of Dante's description of his visit to the place of lost souls. In its way, the song was as devoid of music as the instruments which accompanied the singers. And yet, its weird rhythm comes back to me, says a writer in Army and Navy, from the distant past as a sort of doleful chant of mournful measure.

An unusual commotion and our attention was attracted to some squaws nearer us, who were attended by medicine men. They had bared their shapely round arms, and around them above the elbow, were laid pieces of muslin. The men worked with each woman in turn. From the upper arm were cut small chunks of flesh; while the women endured and watched the operation without flinching. The pieces were then placed in the muslin, tied up like little balls, preparatory to being buried. The women had displayed their bravery, and were assured that by the time the pieces had decayed in the ground the wounds in their arms would be healed.

The youths had been dancing as before to the sun since early morning, and about 2 o'clock in the afternoon they began to take their "medicine."

A number of medicine men had brought rods, to the ends of which were attached by a string some kind of fancy tackle resembling that used by an angler to lure his finny prey. The tackle was dangled before the dancers' eyes just out of their reach. Each young man endeavored to follow it continually with his eyes, and apparently tried to catch it. And so, with heads thrown back at a break-neck angle, they followed the medicine men around and around, as they carelessly dangle the tackle up and down. Thus they led the dancers about, now causing them to turn one way, now another, now to whirl to the rear so quickly as to almost cause them to fall to the ground.

The evident purpose was to make the dancers so dizzy as to fall from exhaustion; thus rendering them less sensitive to pain—surely a heroic anaesthetic if such it were. As they already had been dancing with several hours it was not long before the sunlight blinding their eyes for they succumbed to the "medicine." Soon as they dropped other doctors sprang upon them, and by different Swedish methods prepared each for his ordeal.

Several kinds of trials had been arranged, which were considered equally severe, and before the rites began each youth had been given his choice—a grim privilege.

Some were led to pens, two of which had been erected, at either side of the arena, opposite each other. They were formed by four strong posts about six feet high, firmly set in the ground at a quadrangle about four by six feet. In those quadrangles the unfortunate would-be braves were stood; and loops of the flesh on their backs and breast were fastened securely, by thongs to the four posts. There they had to stay until they succeeded, in tearing the thongs loose by frantic lunges of their writhing bodies. Their heroic efforts as they jerked forward and backward in the effort to break free, with the terrible laceration, made a horrible and sickening sight, yet there was worse to come.

Some of the men had to walk (almost stagger really) around the ring with great buffalo skulls attached by cords to the fesh of their backs. The weight of the skulls and their hitching and dragging along the ground had to tear the thongs loose from the flesh before the men could be relieved of their burdens and their endurance powers be adjudged thoroughly proved. Not for a moment were they allowed to rest, and their agony must have been dreadful.

I sank back in horror. At all the hideous sights and the flowing of blood I had become very faint. My husband saw it, and immediately applied the smelling salts he had brought for an emergency.

I was revived somewhat by the salts and again began to notice the sights about me.

The first thing I beheld was a figure hung twenty feet or more from the ground by the flesh of his back attached by a thong to the pole in the centre of the inclosure. The blood was steaming down his body and dripping to the ground. Several more men were being put up in the same way. They were left to hang until the flesh by which their weight was suspended ripped

NEW STAR CHANGES.

Oklahoma's, the New One, Will Go into the Fourth Row.

The new star added to the National Ensign as the result of the admittance into the Union of Oklahoma as a State, changed the entire make up of the starry portion of the American flag.

For the benefit of the patriotic citizens who have the new one before them, and have forgotten how the old one looked, or who never



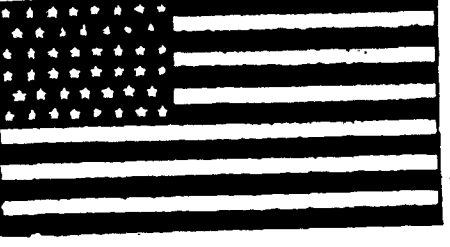
OLD FLAG

noticed particularly how the stars were arranged, it may be mentioned that the State emblems were set in six rows, the top row containing eight stars, the second row seven, and so on the eight star and seven star rows alternating.

In the new flag which contains forty-six stars, the State emblems are arranged differently. There are six rows of them as in the old flag, and the first, second and third rows contain the same number of stars, eight, seven and eight, respectively. Instead of the fourth and sixth rows containing seven stars, however, the flag is set with eight stars each.

Thus the new makeup is entirely different. Whereas in the old flag the star rows alternated with eight and seven stars, respectively, the new flag has its stars arranged in this manner:

- Top row—eight stars.
- Second row—seven.
- Third row—eight.
- Fourth row—eight.
- Fifth row—seven.
- Sixth row—eight.



NEW FLAG.

Many may be interested to learn that one of the biggest of these flag-making stations is located in the Brooklyn navy yard. It is presided over by Miss Mary Woods, whose official title is "quarter woman," and employs thirty-six makers. More than a thousand flags a month are turned out of this station.

All the flags carried on the Pacific were manufactured in the Brooklyn yard.

Although virtually every citizen in this country is familiar with the appearance of the national ensign, it is a pretty safe bet that not one out of a thousand could give off-hand the correct dimensions of the flag. In fact, it is doubtful if one out of a hundred could tell without looking at an American flag whether its thirteen stripes are divided seven red and six white, or seven white and six red.

According to federal regulations the national ensign is manufactured in these proportions:—The depth of the flag is always ten-ninths of its length, and the "union" (the blue background for the stars) is seven stripes deep and four-tenths of the length of the flag proper in length.

Of the stripes, there are seven red and six white. They are equal in width. In length, however, they vary, there being seven short stripes (those which meet the "union") and six long ones.

The biggest flag which is manufactured in any of the government flag making stations is thirty-six feet long and nineteen feet deep. This is also the biggest flag used aboard American battleships.

The smallest flag which is made in the government stations measures thirty by sixteen inches. It is used both in the army and navy.

Like Marrying a Title.

Old Auntie Mandy who did the washing was such a happy, brave old soul, that although she worked very hard, early and late and must often have been weary nothing could depress her. In everything that occurred she saw only "good luck."

"Yes, think, Mis' Arnold," she said, "Ise goin' ter git married!"

"I shall be very sorry to lose you, Mandy," said Mrs. Arnold, "but I'm glad if your life will be easier."

"Lose me!" gasped Mandy. "Lor! Mis' Arnold, I can't afford to let you lose me jes' now. Why, I'se goin' ter marry Br'er Johnson an' his five chillun. I'se got ter hustle now, fur sartin'."

"But I, fall to see where your good luck is coming in from such a marriage, Mandy."

"Why, chile, if I marry dat man an' his chillun he's promised me six mo' big washes his first wife done had! Dat's dar luck, Mis' Arnold, dar luck, 'sides habin' Je honor ob marryin' in Br'er Johnson's family!"—Philadelphia Ledger.

WALKING STICK FOR WOMEN.

Athletic Girl Has Gone in For Carrying a Cane.

There seems to be every likelihood of a revival of the charmingly dainty fashion of ladies carrying the elegant long canes which formed so conspicuous an item in the empire style of toilette.

At Trouville, Dieppe and Coburg this year some of the smartest women have been seen carrying the long walking cane adorned with ribbons, which at once calls to mind the exquisite pictures of such artists as Watteau and Fragonard.

Such noted beauties as Marie Leczińska, Mme. de Pompadour and the Duchesse de Chateauroux all patronized this charming fashion; and it was said in the time of Louis XV. that the ladies were obliged to use these dainty walking canes to keep their balance on the excessively high and tiny heels which were in vogue at the same period.

It was the French revolution that abolished for a time this dainty accessory to the toilette, which became, for the time being, the exclusive prerogative of the other sex.

Of recent years the athletic girl, who makes a point of imitating the masculine sex in every possible way, has also gone in for carrying a walking stick.

Tailored Gown for Afternoon.

Pale topaz panne velvet forms the skirt of this handsome toilette and the model is distinguished by a novel panel arrangement. Much of the fullness of the skirt is gained by the introduction of panels of very heavy brown silk net stitched with narrow bands of brown silk soutache and through the net, the pale tulle mounting of the skirt shows. Below the hips, the panels are bridged with straps of topaz velvet finished with soutache braid and ornamental buttons.



TAILORED GOWN.

The coat is a charming little affair fashioned upon modified Louis quize lines of brown brush cloth stitched with embroidered silk braid. The vest and tall collar are of the braid, bands of which also extend down the centre of the sleeves forming the cug also.

It is remarkable what a line is drawn between the morning costume and that to be worn in the afternoon. While the most elegant materials are employed for toilettes for both occasions, there is embodied in the afternoon models all the smartness and extravagance of evening modes, expressed in fabrics limited to street wear.

For women who make their calls afoot, the style of costume pictured here is ideal, and with a good set of furs leaves nothing to be desired for an ultra-elegant winter costume.

The hat is of stretched moire in golden brown trimmed with a bird of Paradise.

Table Candelabra.

One of the newest fads for the tables is candelabra made after a special design and generally as a special order. One of these seen in a home just off Fifth avenue, is a massive bit in its way and wonderfully beautiful. It was designed by the head of the house and has a silver pedestal base a foot square, on which is carved several designs reminiscent of famous historical events with which his family has been closely identified. There are eighteen silver branches bearing waxen tapers and there are several sets of shades in different colors. The piece is at least three feet tall, in silver, in a design of twisted vines, and bunches of grapes. The vines cluster about a great silver bowl high on the pedestal in the centre, and there are eighteen or twenty candle holders shedding light. The bowl is filled with fruit or flowers for great occasions, and the whole thing is a marvel of beauty. The table in this home, by the way, is the heaviest, deep red San Domingo mahogany; is square, three feet across and copied from one in the girlhood home of the fair owner, whose father designed for her the candelabra described above.

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