

## Correspondence.

## Remedy for Ivy Poisoning.

To the Editor of the Scientific American:

I see that you are having a conference meeting over ivy poisoning; and therefore add my experience:

For many years I suffered terribly from this cause, but remembering that all poisons are acids, and that alkalis neutralize acids, I bathed the poisoned member in a strong lye made from wood ashes and obtained instant relief. Subsequently I found that the dry ashes alone, rubbed over the poisoned member, were equally effective. Since this discovery, I have had no further trouble, and having tried this simple remedy repeatedly on myself and on many others, with like good results, I am now thoroughly convinced that wood ashes will in every case prove a sure and sovereign specific for all cases of ivy poison.

W. W. DUFFIELD.

In Camp on Cumberland River,  
near Pineville, Ky., February 26, 1888.

## Storage Batteries for Social Illumination.

To the Editor of the Scientific American:

In your issue of February 18, under the head of "Fashionable Electric Lights," you state that the first time storage batteries have been used in America for furnishing temporary light for social occasions was at the residence of Mr. Ogden Mills, in New York City. I beg to correct this. On the occasion of the ball given by Mr. Robert Garrett, the then president of the Baltimore and Ohio Railroad, at his mansion in this city, one year ago, I superintended the illuminating of his conservatory with a number of incandescent lamps, ranging from two to six candle power. Some of these lamps were in the several fountains, others in the rockeries, and a number in the shrubbery, the general effect being very beautiful, and they were much admired by people from all parts of the country. Again, on the occasion of a noted dinner given by the same gentleman to a large number of the great railroad kings of this country (which occasion was the beginning of the negotiations for the much talked of "B. & O. deal"), I put the same number of lamps again in his conservatory, with the same fine results. Storage batteries were used exclusively on both of these occasions, and on several others I have used the storage battery with great success. On the first occasion mentioned, the batteries were connected at 8:30 P. M., and ran continuously until 5 A. M. Thus you will see that the New York parties were not the first to use storage batteries for social occasions; also that our lights were burned two and a half hours longer than those used at Mr. Mills'.

WM. S. PACA.

Baltimore, February 23, 1888.

## How Natural Gas is Burned.

To the Editor of the Scientific American:

Natural gas is the fuel used in our town. Several places are heated by burning the gas in the cellar and conducting the heat and products of combustion into the rooms to be heated, without any special ventilation. Some have pipes as small as 2 inches, running horizontally out through a window, with no other draught, which is not much better. Atfield says that "more than 4 parts of CO<sub>2</sub> to 10,000 gives to confined air depressing effects, and 4 or 5 per cent rendering the atmosphere poisonous when taken into the lungs." Those who have been using the gas in this way for months say that they notice no ill effects. Is it advisable or healthy to do so?

Second. By turning on a full or large volume of gas a peculiar sickening odor is noticed in the room, which I believe to be acetylene, or partially burnt gas, caused by an insufficient supply of air in the mixer to insure complete combustion when a large volume is turned on. Am I correct, and what effect does it have on the system?

I have not noticed anything bearing on this subject in connection with the use of natural gas as fuel, or how to use it properly. The gas company here requires that every stove be provided with a close damper in the pipe.

A full understanding of this matter will no doubt be appreciated by many of your readers.

A. L. B.  
Sharon, Pa.

[On general principles the practice you allude to of allowing the products of combustion from fuel gas to escape into the room should be condemned. Adequate ventilation and smoke pipes should be certainly provided. At the same time, it must be remembered that the effects of an excess of carbonic acid in the air of rooms have hitherto been studied principally with reference to apartments overcrowded with human beings. In these cases, the carbonic acid gas is accompanied by other injurious compounds, such as the organic exhalations of the lungs. In such instances the depressing effects of the air are largely attributable to the last named substances. But when analyzed, it is always the carbonic acid gas that is determined, so that in many cases it is not the wrong doer, it is the

organic exhalations that do the harm, and the carbonic acid gas is merely the indicator of their presence, and bears the blame of their transgressions. It is hard to believe that four or five per cent of pure carbonic acid gas would greatly injure air, except where it indicated the disappearance of and replaced its own volume of oxygen. Then the air would doubtless be rather dilute and weak. The other feature of natural gas burning is a distinctly bad one. The odor you describe is the one said to be acetylene, and which is familiar to all chemists. It indicates, whether acetylene or not, an imperfect combustion and probable production of carbon monoxide gas. The latter is a specific poison, and has a very depressing effect upon the system. It is the toxic agent in "charcoal" suicides, at one time so fashionable in Paris, if we may believe the novelists. If the consumers of natural gas can become accustomed to this odor, they have attained a development never reached by most chemists in their laboratory experiences with Bunsen burners. A close damper in a stove pipe is considered bad practice, and should not be tolerated, as the products of combustion should have free exit.—ED.]

## Crow Roosts and Crow Roosting.

E. M. HASBROUCK.

Within the past few years much has been written concerning the common crow (*Corvus americanus*) as regards its relation to man; but until recently little or nothing has appeared pertaining to the roosting places of one of our most common birds. It is not generally known, even among those who consider themselves somewhat acquainted with the species, that during the winter they congregate in vast numbers at some chosen spot, scattering during the daytime in quest of food, but returning at night to seek rest and protection in each other's company.

It has been my good fortune to visit two such rookeries, and to observe closely the birds composing it, both at the roost and at a distance, so that a fair idea has been obtained of the place under nearly all circumstances.

The first of these two that I have mentioned is situated about two miles east of Syracuse, N. Y., in a woods known as "Tamarack Swamp," and lying between the Central and West Shore tracks. This swamp, once extensive, has been cut down to a narrow strip not exceeding four hundred yards in width by one and a half miles long; hemmed in on the north and south sides by hills, and drained by two constantly flowing streams, it has become what is known as a dry swamp, composed of maples, pines, birches, elms, beeches, tamaracks, and oaks. Midway in this strip is a stretch of young pines averaging twelve feet in height, and this spot, in preference to the more densely wooded portion, has been chosen as the winter home by the crows. The second (for I wish to draw a comparison between the two before proceeding further) is situated in Arlington Cemetery, at Washington, D. C. Here the ground is entirely different. Not only are the trees of a greater height and of a different variety, but the place itself is located on a hillside fully a hundred and fifty feet above the water and facing the Potomac river, from which it is distant scarcely an eighth of a mile. The only points of resemblance between the two are that it is on a low elevation in a slight ravine which, being drained by two small streams caused by the elevation, is also perfectly dry. Both rookeries are nearly equal in size, the one at Syracuse covering about fifteen acres, and that at Arlington from ten to twelve.

A visit to these roosts in the daytime is interesting in the extreme, while another paid at dusk when the birds are coming in is even more so.

For convenience in description I shall start with the birds at early morn, following them throughout their wanderings until their return at night. Shortly after daybreak the vast throng of black bestirs itself; first a loud clamor betokens that the birds are awake, then with a shake or two they launch forth in quest of the morning's breakfast.

Leaving singly, in pairs, by dozens, and in flocks of hundreds, each group wings its way to where the previous day's meals were secured, or starts in search of new feeding grounds. After they are gone the roost is a sight indeed. On every hand the trees and ground beneath are literally covered with the excreta of the birds, having much the appearance of having been plentifully bespattered with whitewash. The air is foul with the odor mingled with that of the putrefying bodies of the dead ones that here and there dot the snow, while among the branches as well as on the ground are numbers of individuals too weak, emaciated, or otherwise disabled to participate in the daily flight. These are readily approached, and are often to be caught in the hands.

Nowhere outside of a rookery can a fair idea be obtained of the gregarious nature of the crow, for here on every hand is abundant evidence of this trait. Not only does the roost surround us, but the departure of the birds in flocks and the finding of them together subsequently in the day is of itself enough to establish this fact.

A drive through the surrounding country will now

give a glimpse of their daily life during winter. Anywhere and everywhere they may be seen, each in search of that which alone will sustain life, but with the usual frozen condition of the ground this as a rule is difficult to obtain. Along the rivers and streams they may be seen walking on the ice in search of a possible dead fish or a stray mussel; breaking through the ice where not too thick, in order to get at the unfrozen mud beneath, and in many places the surface for a considerable area resembles the land more than the ice, from the quantities of this material thrown out. Here they of course secure considerable vegetable matter, mingled with an occasional shell fish, but the supply is poor at the best, for presently they take wing and fly to a barren field, where for a brief period they turn over the frozen lumps of earth or endeavor to dig into the icy ground itself. At this season of the year there is scarcely a spot unvisited by them, and the distance traveled in going to and from their feeding grounds is surprising. I have seen them at a distance of some twenty miles, high in the air, winging their way in the direction of the roost, and have no idea how far they may have come before observed. Up to about three o'clock the birds are busy feeding, and the average person would hardly believe that within an hour or even less these same birds will be miles away, and in company with tens of thousands of the same species. At this time an inclination to move is manifested by a few who fly away just over the tree tops calling loudly, as if to induce the rest who still tarry to follow. These, too, soon depart, and by four o'clock or half past, the sky is filled with the host *en route* for the rendezvous. An idea can best be gained now of the countless numbers that nightly resort to this place, for although it is impossible to attain anything like accuracy as to the numbers, we know that at this one place hundreds (and often thousands) pass over our heads, until it seems as if every crow in the country was being observed, but a station in an exactly opposite direction the next day will reveal a like number, and another the next day the same, until every point of the compass necessary has been covered, and as they return every night in the same direction, it is of course evident that the same flocks are not observed twice.

Having now traced them through their daily wanderings, it is in order to visit the roost again at nightfall and watch them come in. To secure the best results it is advisable to be there by four thirty at the farthest, and to take a stand in the center of the place close beside some tree, in order to be the less easily observed. At the hour above mentioned they begin to arrive either singly or in flocks, tarrying at times at some near at hand feeding grounds, but soon seeking the vicinity of the roost. Strangely enough, instead of repairing at once to their night's resting place, they gather in immense multitudes on the surrounding hills; coming as they do from all quarters of the country, the numbers increase until the fields, the trees, and the fences are covered with them. Long after the sun has set they continue to arrive. The noise is deafening, and when at times they rise and circle about in the air, it seems as if the heavens themselves were about to fall. As darkness begins to settle, first a few of the bolder ones enter the roost. These are followed by small bunches of fifty or so, and these in turn by other companies interspersed with stragglers. Suddenly, with a noise as of a hurricane, a vast host arises and makes a dive for the roost. These are closely followed by another, and another, and still another, until finally the numbers on the hill sides begin to show some signs of thinning out. As the darkness deepens, they come in any way; down they come pell-mell, brushing past the face, almost flying against one, alighting on the first branch they strike against (for they are now almost unable to see, and it is amusing to see hundreds flopping about waiting for luck to throw a branch in their way), often within arm's reach. Every tree and branch seems packed with them, and still they continue to pour down, finding a roosting place somewhere and adding clamor to the deafening babel already existing. Finally all appear to have arrived, and are busy settling themselves for the night. Utter now but so much as a syllable, and the entire army with renewed cries, and in the direst confusion, takes wing and seeks another part of the woods, only to renew the performance should the operation be repeated. I have never as yet remained in a roost long enough to ascertain whether or not the birds became absolutely quiet. I have remained until quite late, and on coming away could hear them for some distance, and doubt exceedingly if there is an hour throughout the night when there is not more or less noise and confusion existing. It might be well to add that these roosts are occupied each succeeding winter, the birds beginning to congregate with the approach of cold weather, and remaining until the milder approaches of spring.

"WHAT did you do for milk?" asked a lady, referring to the recent snow blockade. "Why, we took hot water, and looked at it from a scientific point of view," was the reply. "It is 87 per cent milk, you know; that is to say, milk is 87 per cent water, which is about the same thing."