We have now found out pretty well all about our fire, and why it is the fire gives heat; why only some things will burn, and why air is necessary to make them burn. And we have got two tests by which to find out what elements they are which are burning, whether carbon or hydrogen, or both, by seeing what it is that is coming away from the burning substance ; whether carbonic acid, which will make our lime-water milky; or water, which will condense on a cold surface. Now, we want to apply these tests to yet another source of heat—another means of keeping ourselves warm more important than all the others we have spoken of.

Fires are very pleasant, but they are not really necessary to keep us warm. When we'go out on a cold winter's day, and walk about in the frosty air, we have no fire to warm us, and yet if we only move briskly enough, we soon get in a pleasant glow. When we get into bed at night, the sheets are very cold; yet we wake up in the morning, and how warm and comfortable they feel. There has been no fire to warm them; what then has made them hat? Our bodies are always much warmer than the air, except in the extremest heat of summer ; yet half the year we do not need fires at all : how is this? It is clear that there must be a source of heat within ourselves. We can keep ourselves warm, we can make other things warm, and all without fires ; there must be some sort of a fire in our own bodies, then, to enable us to do this. And so there is; a real fire in our bodies, as true a fire as that which is blazing in our grates, only not quite so hot.

Every one knows that we are constantly breathing in and out the air about us. We draw it down into our lungs, and then we press it out again ; and so we go on, all day and all night, from the mo-ment we were born to the moment when we die. And we know that without this constant breathing, we could not live ; if our mouth and nose were shut up, so as to prevent our getting air, we should be suffocated and die. Now the reason for this is, that the air we breathe out, the air after it has been in our lungs, is very different to the air we breathe in, and contains something that is poisonous, and which, if we do not get rid of it, will kill us. We spoke before of a poisonous gas or smoke, which came from our fires, and which we called carbonic acid. Let us see whether this poisonous thing

that comes into our breath be not, perhaps, the very same. Our test for carbonic acid, it will be remembered, was its effect upon lime-water, in making it milky, by turning the lime into car-bonate of lime, or chalk. Now put some of this lime-water into a tumbler, and take a bit of tobacco-pipe, or something of that sort, and breathe through that into the lime-water, so that the breath may bubble through it. Very soon you will find the lime-water gets quite milky. There is clearly, then, a great deal of carbonic acid in your breadth. Now this has not come from the sir itself. gets quite milky. There is clearly, then, a great deal of carbonic acid in your breadth. Now this has not come from the air itself; for, though that contains a little carbonic acid, there is not near so much in it as in your breadth. Take a couple of bottles of the same size, and fill one with your breadth, by breathing in it for two or three minutes; then put some lime-water into each, and shake them up, and you will find that though both are milky, the one you breathed into is by far the milkiest. This poisonous gas, then, which suffocates us if we are kept from breathing it out, is without doubt carbonic acid, and the very same that comes from our fires.

Now if we were to examine still more closely the air we breathe out, we should find that not only was there carbonic acid added, but there was also oxygen taken away; that is to say, part of the oxygen of the air, passing into our lungs, had united with some of the carbon of our bodies, and turned into carbonic acid. But this union of carbon and oxygen, we have seen, is the source of the heat in our fires, it is what constituted burning. Here, then, plainly, is one source, at all events, of the heat of our bodies. There is a constant burning of carbon going on in them, a fire that never dies out as long as we live, and which is helping to keep us warm, even when there is no fire outside that we can get near.

We shall have some more to say about this curious fire next time, when also we hope to bring to an end these little chats about "how we keep ourselves warm."—The Quiver.

2. PROMOTE RURAL REFINEMENTS.

Our people have yet to learn what value there is to a family in a well-kept flower garden. Does it not supply to children their most beautiful memories; A child who has nothing but a dirty house and neglected ground to recollect as connected with his early home, lacks an important impulse to a well-ordered life. Beauty in morals can hardly be expected from deformity in condition. And not only to childhood do flowers minister happy influences, but also to the labors and fatigues of manhood and old age. Is not the farmer who returns from the labors of the field to repose in a well-kept house, in the midst of green lawns and beautiful flowers, a happier and better man for their presence? Does not old age find them an added element of its repose? It were useless to ask, "What good comes of flowers? Can we eat, drink, or wear them? How can I calculated to impart pleasure, and to increase a man's capacity for

spare the time to cultivate them, when the necessaries of life demand so much of my attention ?" Just as if ministering to our love of the beautiful is less of a necessity than eating, drinking or wearing. Virtue and happiness depend as much upon neatness, order, and beauty, as animal life upon eating, drinking, and sleeping. This our people will feel before they will rise in the scale of civilization. No class is so unpardonable in neglecting to beautify their homes as the farmers, who live where the means of doing it may be had with so little care and cost.

There is a sad defect in our rural architecture. We do not speak of cost ; we lay out enough upon our buildings ; but not in a way to ensure the greatest comfort and convenience. Even in those parts of our country where the people still live in log houses, there is all the difference imaginable between a well-constructed, wellkept, and pleasantly situated house of this kind, and one that is otherwise. A refined family will show their refinement in such a house as much as in a palace; and the vulgar will make their vulgarity equally conspicuous. It is not costliness which is demanded in our rural architecture, but taste and refinement. And these may appear in putting logs together into a cabin, and in the air of neatness with which they are surrounded, as much as in a place on Fifth Avenue or Walnut street. - Chronicle.

3. CONVENIENT FACTS TO KNOW.

Windows may be kept free from ice by painting the glass with

alcohol with a brush or sponge. Odors from boiling ham, cabbage, &c., may be prevented by throwing red pepperpods or a few pieces of charcoal into the pot.

Pigeons are hatched in 18 days ; chickens, 21 ; turkeys, 26 ; ducks and geese, 30.

A cement which is a good protection against weather, water, and fire to a certain extent, is made by mixing a gallon of water with two gallons of brine, in two and a half pounds of brown sugar and three pounds of common salt. Put it on with a brush like paint.

Common cut-nails or screws, are easily driven into hard wood, if rubbed with a little soap either hard or soft.

Never condemn your neighbour unheard; there are always two ways of telling a story.

To avoid family quarrels, let the quarrelsome person have it all to himself ; reply never a word.

To remove iron stains, the iron is first dissolved by a solution of oxalic acid in water. The oxalate of iron thus produced, which, unlike iron rust, is soluble, is readily removed by washing or soaking. Ink spots (tannogallate of iron) upon the printed leaves of books, are removed in the same way, but the lamp-black of the printer's ink is not at all affected. If fresh, such spots may be

wholly effaced; if old and dry, a very little remain. To get rid of bed-bugs, wash the bed-stead with salt and water, filling the cracks where they frequent with salt, and you may look in vain for them. Salt seems inimical to bed-bugs, and they will not trail through it. It is preferable to all "outments," and the buyer requires no certificate as to it genuineness.—Ex. Paper.

4. ADULT EDUCATION AND MECHANICS' INSTITUTE CLASSES

The head master of King Edward's School, Birmingham, having been requested to distribute the prizes to a number of successful candidates, at a recent school examination, observing that there were some fifty or more copies of Smiles' "Self-Help" among the prizes, cautioned his young audience against being misled, by the stirring contents of that book, into supposing that any individual among them, who might be gifted with energy and ability, could therefore have the opportunity of becoming a Watt or a Stephenson. He bade them rather receive and remember this truth, that any working man who learned to do his daily laborious task from the highest motives of duty and responsibility, was filling his situation and discharging the purpose of his life as honorably and usefully as though he had attained the eminence of either of those great

The idea, though not expressed in so many words, is nevertheless prevalent now-a-days, that a labourer has only to obtain an education to make him either a genius or a gentleman. We do not say that all who possess a laudable desire for knowledge entertain this idea, but we do say that it prevails to too great an extent. The object we aim at in quoting the remarks of the Head Master, is to impress upon the minds of our youth the desirability of acquiring, or of seeking to acquire, knowledge for its own sake, for its own