

(76) A. W. L. says, in reply to W. S., who asks how to kill or drive off fleas and sand flies: Let him procure crude petroleum, just as it comes out of the wells, and apply it to those parts of the body which are exposed to the attacks; and he will not be much troubled by them, if he is even so much as molested. On Lake Superior, mosquitoes and sand flies (the latter so diminutive that they are scarcely visible) will not bite us when we have black oil, as it is termed, on our hands and faces; and it is a never failing remedy for the extermination (after one or two applications) of bugs from household furniture. Of course when used on the person the odor is not very pleasant; but in furniture it is not noticed after a few days have passed.

(77) D. R. K. says: H. S. C. asks how much fuel is required to melt 1 tun of iron. You answer: "Probably 2 or 2½ times the iron." We have an ordinary cupola, and we can melt 2 tuns of iron with 800 lbs. Lehigh coal.

(78) M. W. M. says, in reply to H. B., who asks: Does the hair grow after death? Steel's "Physiology" says that the hair is said to grow after death. This is due to the fact that, by the shrinking of the skin, the part below the surface is caused to project, which is especially noticeable in the beard.

**MINERALS, ETC.**—Specimens have been received from the following correspondents, and examined, with the results stated:

C. D. H.—It is an impure quartz sand.—L. J. S.—It is similar in composition and properties to fuller's earth. Your clay was probably not of the same character as ordinary clay, which is a hydrated silica of alumina containing some oxide of iron. Other substances were most likely present. Lime could be mixed with clay so as to be impervious. But the hydraulic lime will only be of good quality when the lime and clay are mixed in proper proportions and calcined at a proper temperature. The wet soil you mention became pulverized owing to the loss of water on drying, which is taken up again on wetting, the cohesion of the substance being at the same time destroyed.—G. D. M.—It is partly decomposed muscovite, a variety of mica.—F. McC.—As to your specimen of cheese and the poisoning resulting therefrom, similar cases have been brought to our notice where persons have become sick after eating cheese, and pieces of cheese in character similar to that forwarded have been examined without yielding traces of ordinary poisonous bodies. It would facilitate an explanation of the unwholesome character of such cheeses if it were known whether the milk was of proper kind, or whether there was anything unusual in the process of cheese making. In some cases persons have been poisoned by drinking milk from a cow which had eaten plants capable of yielding poisonous principles, the animal itself being unaffected.—W. J. L.—No. 1 contained oxide of iron, alumina, and silica, with a small amount of carbonate of lime. Also lime, potash, and soda salts. The solubility of these salts imparts a saline taste to the powder. No. 2 differs from No. 1 in the absence of lime and alumina, and contains a trace of oxide of iron. It has a considerable amount of soda and potash salts, and also baryta. They exist partly in combination with sulphuric acid, as sulphates.

J. E. M. asks: What do cake bakers put in their icing to make it hold the shape?—J. S. B. asks: Is there a good recipe for the cure of cholera?—J. A. Jr. asks: How do the English prepare and finish bone, producing a beautifully smooth surface?—J. R. S. asks: Can blindness in a horse, caused by having blind teeth, be cured?—H. E. W. asks: Is lime a year old as good for tanning as that made three months ago?—S. D. P. Jr. says: I have a new carriage from which mud has taken off the varnish in places. Can I restore the work to its original appearance without rubbing down and revarnishing?

#### COMMUNICATIONS RECEIVED.

The Editor of the SCIENTIFIC AMERICAN acknowledges, with much pleasure, the receipt of original papers and contributions upon the following subjects:

On the Earth and the Moon. By M. D. H.  
On Botanical Classification. By J. W.  
On Kaolin in America. By F. L. J.  
On Frozen Water Pipes. By H. S. C. & Co., and by T. G. B.  
On the Age of the World. By D. C. T.  
On the Sun's Orbit and Rate of Motion. By J. H. G.  
On the Flight of Birds. By R. O. D., and by F. G. F.  
On a Sunset in Florida. By T. A.

Also enquiries and answers from the following.

F. A. L. Jr.—J. N. Q.—O. A. F.—S. T. W.—F. C.—G. A. B.—N. D.—S. P. W.—L. V. R.—E. C. T.—J. H.—C. W.—E. A. M.—G. W. M.—H. F. J.—P. S.—A. V.—R. S. R.—C. S. P.—E. P. L.—M. B.—S. A. H.—C. F. H.

#### HINTS TO CORRESPONDENTS.

Correspondents whose inquiries fail to appear should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them. The addressee of the writer should always be given.

Enquiries relating to patents, or to the patentability of inventions, assignments, etc., will not be published here. All such questions, when initials only are given, are thrown into the waste basket, as it would fill half of our paper to print them all; but we generally take pleasure in answering briefly by mail, if the writer's address is given.

Hundreds of enquiries analogous to the following are sent: "Whose feed water heater is the best? Who makes transparent rubber, for toy balloons, etc.? Who sells talking machines? Whose is the best method of shorthand writing? Who makes

the best hydraulic elevators? Who makes reliable rain gauge? Who makes an effective calorific engine? Who sells milk-condensing apparatus?" All such personal inquiries are printed, as will be observed, in the column of "Business and Personal," which is specially set apart for that purpose, subject to the charge mentioned at the head of that column. Almost any desired information can in this way be expeditiously obtained.

#### [OFFICIAL.]

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