Business and Personal.

The charge for Insertion under this head is One Dollar a line for each insertion; about eight words to a line. Advertisements must be received at publication office as early as Thursday morning to appear in the following week's issue

Notes & Queries

HINTS TO CORRESPONDENTS.

Names and Address must accompany all letters, or no attention will be paid thereto. This is for our information and not for publication.

References to former articles or answers should give date of paper and page or number of question.

Inquiries not answered in reasonable time should be repeated; correspondents will bear in mind that some answers require not a little research, and, though we endeavor to reply to all either by letter or in this department, each must take his turn.

Special Written Information on matters of personal rather than general interest cannot be expected without remuneration.

Scientific American Supplements referred to may be had at the office. Price 10 cents each.

Books referred to promptly supplied on receipt of price.

Minerals sent for examination should be distinctly marked or labeled.

(4639) N. M. C. asks: Which of two bricks of equal dimensions and weight will require the greater force to move them—the one to be placed on its side, the other on edge, say for instance, the bricks are 4 inches wide by 8 inches long by 2¼ inches thick? A. Friction is independent of the extent of surface in contact, when the pressure remains the same, but is proportional to the pressure. There is no difference in the frictional force to move the bricks, whether they lie flat or edgewise.

(4640) B. A. H. asks: Is there anything that can be used on soft coal that will prevent clogging with soot the stove, pipe, etc., and will aid in the combustion? A. There is nothing but perfect combustion that will burn the smoke and prevent soot in the pipe. Any oxidizing chemical will cost too much. There are stoves in the soft coal districts with under feed that burn the smoke, which is the cheapest and best way to prevent soot in the pipe.

(4641) J. M., writing from Merida, Yucatan, says: From the coast to this city so many crabs have lately been brought that they have been sold very cheap and have been eaten by almost every one. At the same time many persons have fallen sick and several died with symptoms very like those of cholera, causing great consternation. Death has been produced in a few hours, and patients have felt terrible pains and become very cold and blackish (cyanotic, physicians call) and with copious dejections, very bloody. The selling of crabs and fish has been forbidden. The flesh of crabs and patients' dejections have been found, under the microscope, to be full of living organisms (bacteria) that no one has classed yet, and which may be the source of the trouble. Some people believe the crabs were cooked in copper boilers. Others think the crabs were poisoned by eating poisoned fish or poisoned fruit at the shore. Others say the crabs probably were decayed before sale, and remained unsold on account of abundance, total decomposition having been checked by daily heating. How do you explain the matter? Did you ever hear of such a case? A. Sometimes shell fish cause cholerine and rash even when fresh. Merida is 20 miles from sea coast and about 60 miles from the principal seaport by rail. Dead crabs, or crabs dying on the way, would decompose, and while boiling would kill the bacteria, it would not destroy actual poisonous agents, the ptomaines, which are produced by the action of bacteria on animal tissue. Even crabs boiled two or three days before reaching Merida, and then reboiled before eating, might become reinfected in the interval, and in both cases the ptomaines might produce fatal symptoms resembling cholera. A notedcase is one occurring in England, in 1887, when at a wedding breakfast a ham pie was served. Every one who ate of the pie was poisoned, and nearly all died, including the bride and groom. Examination showed that the ham was decomposed before boiling, but the resistent ptomaines were found in the boiled ham in sufficient quantities to cause fatal poisoning. Boiling in copper vessels would not cause such Poisoning. As to bacterial examination of the dejecta, bacteria of all kinds are normally found, and the only bacterium known that would be of any aid to the cause of the outbreak would be the "comma bacillus" of cholera.

(4642) R. L. B. writes: 1. I have an electro-magnetic machine that has lost its electric force. Can the magnet be recharged? A. The magnet can be recharged by the usual methods, but it probably will not retain its charge longer than it did in the first instance. 2. What causes it to lose its electric power? A. The steel of which the magnet is composed may be too soft, or possibly the magnet has been subjected to jarring or concussion. 3. Where can I send it to have it recharged? A. Any one having a good sized electro-magnet can recharge your magnet by applying it to the poles of the dynamo.

(4643) H. M. W., Dakota, asks: Is hard coal in use upon any railroad for steaming locomotives drawing full sized trains? A. Anthracite or hard coal is now and has been used for many years on most of the railways in the Eastern States.

(4644) E. M. K.—The eyeglasses are cemented together with Canada balsam. As it requires some practice to do it neatly, better send it to an optician.

INDEX OF INVENTIONS

For which Letters Patent of the United States were Granted

January 10, 1893,

AND EACH BEARING THAT DATE.

[See note at end of list about copies of these patents.]