

Notes & Queries

HINTS TO CORRESPONDENTS.

No attention will be paid to communications unless accompanied with the full name and address of the writer.

Names and addresses of correspondents will not be given to inquirers.

We renew our request that correspondents, in referring to former answers or articles, will be kind enough to name the date of the paper and the page, or the number of the question.

Correspondents whose inquiries do not appear after a reasonable time should repeat them. If not then published, they may conclude that, for good reasons, the Editor declines them.

Persons desiring special information which is purely of a personal character, and not of general interest, should remit from \$1 to \$5, according to the subject, as we cannot be expected to spend time and labor to obtain such information without remuneration.

Any numbers of the SCIENTIFIC AMERICAN SUPPLEMENT referred to in these columns may be had at this office. Price 10 cents each.

Correspondents sending samples of minerals, etc., for examination, should be careful to distinctly mark or label their specimens so as to avoid error in their identification.

(1) Curious writes: In my house, into which I have recently moved, one of the rooms appears to be highly charged with electricity. The room is the back parlor, on the west side of the house, situated over the kitchen, which is on a level with the ground. Upon touching the gas fixtures, the heater, or any piece of metal in the room, a spark is produced and a stinging sensation is experienced by the person who touches. These effects seem to be more powerful with me than with any other member of my family. If I walk across the room and back to the fireplace heater, and attempt to touch any part of the heater with a poker or my finger, a spark about half an inch long, accompanied by a loud snap, is the result. Nothing of this kind is noticeable in other rooms in the house. There are no water pipes or other connections with the ground, excepting gas pipes, in this room. Can you explain the mystery (as it is to me), and say what effect, if any, the peculiar condition of the room would have upon persons who occupy it frequently? A. This phenomenon is common in houses heated by furnace; all of the conditions necessary to the generation of frictional electricity are present, and the friction of the feet on the carpet, and even of the clothing, one garment upon the other, generates electricity, while the body, being fairly insulated by the shoes and dry carpet, acts as a Leyden jar.

(2) G. L. G. says: Can you tell me of any gum or article of any kind that can be applied in a liquid form to fill the openings of wire cloth, so as to make a partially transparent sheet which will stand the weather? My idea is to obtain a substitute for glass in hotbed sash. A. Possibly gelatine may answer, in following proportions: Water, 50 ounces; gelatine, 3 ounces; dichromate of potash, 2 ounces. The latter renders the gelatine insoluble when exposed to light.

(3) J. M. L. writes: 1. I have a pump in a well 1,000 feet deep, and the tubing we pump through is 3 inches inside diameter. My neighbor has a similar well, just the same in every particular as mine. I use a 1 1/2 inch pump and my neighbor uses a 2 1/2 inch pump. I claim to only raise a 1 1/2 inch column of water and my neighbor claims that I raise a 3 inch column. My pump will run at 40 pounds steam and his will stop at 40 pounds. I claim to raise a 1 1/2 inch column and that he raises a 2 1/2 inch column, and that the size of the tubing has nothing to do with the labor of the pump—that all depends on the size of the pump. A. You are right as to size of columns; in other words, you have a column 1 1/2 inches and your neighbor one of 2 1/2 inches and 1,000 feet high. The weight of these two columns are as 176 to 491. 2. What is the weight of a column of water 1 1/2 inches by 1,000 feet? Also the weight of a 2 1/2 inch column by 1,000 feet? A. 1 1/2 inches diameter, 767 pounds; 2 1/2 inches diameter, 2,127 pounds.

(4) J. B. G. asks what fire bricks are made of, and how long it takes to burn them. A. Fire bricks are made of a kind of clay that has but very little iron, hence its light color. The clay is burned in a potter's kiln, then ground into fine sand by passing it through a grinding mill or rollers. It is then mixed with just enough fresh clay to make the bricks mould easily, when it is moulded and dried upon a warm floor of tile, under which there is a flue from a furnace; then piled in a potter's kiln and brought to a white heat, occupying from a week to ten days. The clay and ground backed clay make the best brick, and they do not shrink in baking. There are several grades of fire brick. The poorer kinds are sun dried and burned in the same way as red brick.

(5) J. writes: Will you please inform me, through the columns of your paper, in regard to the power that it is possible to transmit through an 8 inch belt from the engine, there being a 30 inch pulley as a driver, the pulley making 156 revolutions per minute? Please give me as near as you can. A. 1 1/2 horse power easily; or say 15 horse power with tight belt and favorable conditions.

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

S. P. C.—The specimen is not a mineral, but a rock; probably a porphyritic variety of no value.—J. P.—Sample No. 1 is a sandstone, and No. 2 is a conglomerate. If patentable when made into bricks is a question which can only be answered by examining the Patent Office records.—C. W. S.—The specimen is slate, and is of no value.—D.—Quartz, coated with a malachite.

COMMUNICATIONS RECEIVED.

On "That Snake Trap." By J. T. H. On Flying. By J. S.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

Letters Patent of the United States were Granted in the Week Ending

February 27, 1883,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A printed copy of the specification and drawing of any patent in the annexed list, also of any patent issued since 1836, will be furnished from this office for 25 cents. In ordering please state the number and date of the patent desired and remit to Munn & Co., 261 Broadway, corner of Warren Street, New York city. We also furnish copies of patents granted prior to 1866; but at increased cost, as the specifications, not being printed, must be copied by hand.

Table listing inventions such as Air compressor, Alarm, Amalgamator, Bag frame catch, etc., with corresponding patent numbers.

Table listing inventions such as Cotton press, Coupling, Crane and derrick, Crane, derrick, traveling, etc., with corresponding patent numbers.

Table listing inventions such as Lamp, electric arc, Lantern, magic, C. Fontayne, Lathe, L. A. Randall, Lathe, J. Birkenhead, etc., with corresponding patent numbers.