

Steam Hammers, Improved Hydraulic Jacks, and Tube Expanders. R. Dudgeon, 24 Columbia St., New York.

Barrel, Keg, Hogshead, Stave Mach'y. See adv., p. 269.

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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 the 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) J. M. K. writes: Would you kindly inform me the process used in taking the yellow color out of raw paraffine so as to make it white and almost transparent? A. Different solvents are used.

(2) C. E. W. writes: In this part many farmers are making underground (tile) ditches. Some of these men place smaller tile at the outlet than at the head or throughout the length of the ditch.

(3) J. De W. C. writes: In my business it is sometimes necessary to ascertain the number of gallons in square tanks or cisterns, and in circular.

(4) D. M. R. writes: If I take nickel plated articles from an electro-nickel bath and place them in an electro-silver bath and silver plate them, is there any amalgamation between the two metals?

(5) N. W. H.—A copying ink that may be used without press or water, and will yield one or two fair, neat copies, is made by mixing 3 parts ink black writing ink and one part of glycerine.

(6) A. F. R. writes: Please inform me where the best gas engine is made. I want 30 horse power or thereabouts. And can you say if sulphur gas (natural gas) will drive such an engine?

(7) A. C. P. asks: 1. How thick should the carbon pencil be made in the simple electric light described in SUPPLEMENT, No. 162? A. 1/8 to 1/4 inch in diameter.

(8) W. W. T. writes: I am building a wind mill 10 ft. diameter; please give me the angle with the plane of motion that the sails should set.

(9) H. M. asks: How can I create a vacuum in a hollow ball six inches in diameter, without the aid of an air pump? A. The best vacuum you can possibly get without a pump of some kind may be obtained by placing a small quantity of water in the ball and heat the ball and steam the air out.

(10) H. S. M. writes: 1. On the hub of a wagon wheel is a fly and on the felloe is a bee; which of the two rides the farther, the wagon being driven straight ahead for a period of 15 minutes?

(11) W. & W. ask: Can you inform us if glass sewer pipe has been manufactured anywhere in the United States? If yes, at what place, and has it proved a success? A. We do not know that glass sewer pipe has been used.

(12) D. R. C. asks: Is there any difference between an injector and an inspirator for steam boilers? If so, what is the difference? A. Inspirator is only a special name. They are both injectors.

(13) A. M. H. writes: I have a practical treatise on heat by Thomas Box, and on pages 130 and 131, the statement is made that a cast iron flue dissipates 335 times as much heat as a sheet iron one under the same conditions.

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

G. D. C.—No. 1 is common mica in felspar. No. 2 is a black micaceous schist containing garnets; the red spots being the garnets.—H. S.—Specimen No. 1 is a black slaty serpentine. No. 2 is quartz with calcite (limestone), and No. 3 is a quartz.—J. L. T.—The mineral is pyrite (iron sulphide) of no value.

INDEX OF INVENTIONS For which Letters Patent of the United States were Granted October 16, 1883. AND EACH BEARING THAT DATE.

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

Table listing inventions with names and dates: Accordion, L. Bernhardt. 286,679. Agricultural boiler, F. Funk. 286,805. Air compressor, hydraulic, H. Webster. 286,751.

Table listing inventions with names and dates: Baling press, W. H. Reynolds. 286,846. Bandage, suspensory, C. F. Ware. 286,657. Barber's chair, A. N. Hornung. 286,611.

Table listing inventions with names and dates: Extension table, C. N. Karstens. 286,827. Eyeglass, Wells & Preux. 286,833. Faucet and barrel bung, E. T. Murphy. 286,954.