Business and Personal.

The Charge for Insertion under this head is One Dollar a Line. If the Notices exceed Four Lines, One Dollar and a Half per Line will be charged.

Answers to Correspondents.

SPECIAL NOTE.—This column is designed for the general interest and instruction of our readers, not for gratuitous replies to questions of a purely business or personal nature. We will publish such inquiries, however, when paid for as advertisements at 1 00 a line, under the head of "Business and Personal.

ALL reference to back numbers must be by volume and page.

T. N. L., of Va.—The mineral you send is ferruginous quartz—quartz containing iron.

BLACKING.—B. B. can find the information he seeks on page 170 of Vol. XXIV. of the SCIENTIFIC AMERICAN.

F. F. H., of N. Y., has omitted something in his letter, so that it is unintelligible.

S. L. A. M., of Ga.—We know of nothing that will remove the outer portion of the moss without destroying the texture of the rest.

CEMENT FOR CAST IRON.—Answer to query 6, February 17, 1872. If C. C. will take six parts of pulverized clay and one part of iron filings, make into a paste with boiling linseed oil, and apply hot, he will thus render his cracked vessels watertight.—J. J. M., of Pa.

CEMENT FOR CAST IRON.—C. C., query 6, February 17, can make this by mixing equal parts of salt and sifted ashes, and moistening them with water. Drive the cement into the crack with a mallet, and dry slowly over a fire.—M. L. B., of N. Y.

O. S., No. 14, February 24, 1872, will find a remedy for leaky roofs, whether of felt or other material, in the application of internal heat to the eaves, trough, and conductor, as may be seen upon my roof, No. 44 Whitesboro street, Utica, N. Y. Call and see how it works.—R. B. M.

W. E., of N. Y., is troubled with weak knees and exudation of the sinovial fluid, so that for their support he requires elastic bands.

L. P., of Mass., sends us a fragment of charred hair or wool, which has been used as steam packing, with the inquiry whether there is danger of fire from steam heating apparatus, in contact with combustibles. We reply that with high steam we think there is. With low steam we think there is not, unless substances liable to spontaneous combustion are laid against the pipes or heating racks.

L. H. P., of Chicago.—We do not think the accident of fire, occurring under circumstances as you describe them, was caused by the steam pipes. Our opinions upon this subject generally have already been fully expressed in recent issues, and we do not wish to reopen the discussion at present.

CEMENT FOR CAST IRON.—In answer to query 6, February 17, take one part fire clay and one part iron filings, mixed to the right consistency with muriatic acid diluted with a little water. The longer it stands before being used the better.—M. H. E., of N. J.

ENGINE POWER FOR CIRCULAR SAWS.—To NEMO, query 16, January 20: A ten horse engine driving a circular saw, cutting with the grain of the wood, will be equal to a fifteen horse engine cutting against the grain. If he will try it, the result will both satisfy and surprise him.—E. B. T., of Va.

CEMENT FOR CAST IRON.—To C. C., query 6, February 17. If the crack be in the bottom of the pot, drill a hole at each extreme end of the crack, to stop further cracking, plug rivet the holes with copper, and, with fine iron filings saturated with urine, calk the crack. I have tried this method on oil pots on board whale ships, with success.—C. F of Mass.

SAND IN DRIVE WELL.—In answer to query 24, February 17, let W. L. take a three quarter inch pipe and run it down inside his pipe to the sand; put on a force pump, and force water down. The sand will come out at the top of his pipe. Pump till the water is clear.—L. C. M., of Mass.

BORING CONICAL CYLINDER.—On page 122, of Vol. XXVI., No. 8, February 17, I. F. W. asks how he can bore out a cylinder forty inches long and twelve inches in diameter, diminishing one eighth of an inch in that length, with a boring bar ten feet long. If he will throw his bar three sixteenths of an inch out of center next to the face plate, he can accomplish what he desires, provided his boring bar has a feed screw on it, and he bores from the small end of the cylinder.—G. C.

G. D. B., of Pa., says: Enclosed you will find a specimen of something which I dipped out of a creek. It comes out in considerable quantities, and covers the whole bottom of the creek for fifteen or twenty rods from the place where it first shows, which is under a mill dam. A man that worked in the mill over twenty years ago says they used to get it on their clothes, and it could not be washed out. We have lately put in steam, and it gets into the boiler and bothers us some. Would you please tell me what it is?—G. D. B.—Answer: It is hydrous oxide of iron mixed with earthy matter. Is used somewhat for polishing purposes.

TEMPERING SPRINGS.—Judging from the character of answers to queries in your columns, as to the best method of tempering springs, and from other observations, I conclude that a great many mechanics think it necessary to repeat the process of drawing two or three times in order to get just the right temper. This is an erroneous idea. Once drawing to the proper color, after hardening in water, is sufficient, and any repetition is a waste of time and fuel; as, if the degree of heat applied does not exceed that required to obtain the right color in the first instance, the temper of the spring will remain the same after any number of subsequent heatings.—G. L. B., of Me.

F. C. S., of R. I.—Sulphur, like other remedies, should only be used as the choice of a lesser evil over a greater one. As an application for dandruff, which is the result of a diseased state of the skin, we have no doubt of its occasional efficacy. Like other remedies, it sometimes effects a cure, and when used in the proper manner, no injurious effects upon the hair need be feared. When sulphur is combined with metals, as lead for instance (with which it is often used as a hair restorer) the metal may by absorption produce ill effects upon the general health.

COMPOUND GEARS FOR SCREW CUTTING.—Permit me to say a few words in defence of the rule given by C. F., of N. J. I have made made my mind thoroughly familiar with its use, having composed indexes for different lathes, some of them containing over one hundred common and useful threads; and therefore I feel that on this subject I can speak with authority. This rule supplies a want long felt in machine shops, a rule which would at once and to a certainty tell whether a lathe would cut a certain thread. Let any one thoroughly master that rule, and he will be convinced of its merits. J. P. M. C., in condemning it, showed that he neither understood it nor gave it a practical trial. His objection of its taking so much time to work by is not a good one. I want only from one to three minutes, according to the fraction of thread. Now a word about the rule, which I have used for years, and which is the common rule all over the country, but which, though it is good so far as it goes, is often of no value whatever in the cutting of fractional threads, owing to the number of threads which can be cut by its use being extremely limited; while by the rule of C. F. there is almost no end to the number. Let J. P. M. C. work a few years in shops where jobbing of all kinds is done, where fractional threads are a common thing, and my word for it, he will find, as I have done, that the rule he gives is as far behind the requirements of the age, as the engine lathe of to-day is in advance of the hand tool of our fathers. He will then, instead of assuming superiority, indulge a humble and contrite spirit, and with others send thanks to C. F. and the SCIENTIFIC AMERICAN.—C. D., of Conn.

J. G., of N. J.—The nascent state of hydrogen or other gas is the state (by some thought an allotropic state) which the gas has at the moment of its liberation, either by electrolysis or ordinary chemical action, in which state gases act much more powerfully in combining than when once liberated and isolated. You will see therefore that this state exists in hydrogen at the moment of its liberation from combination, and that no particular process can be given for its production. A convenient way to illustrate the increased power of hydrogen at the instant of its liberation is to allow the gas, as produced from the decomposition of water by electrolysis, to pass into platinum sponge. The sponge absorbs it, and when placed in sulphate of silver, precipitates metallic silver, which ordinary free hydrogen will not do.

FRICTION GEAR FOR SCREW CUTTING.—To E. C. J., query 2, February, 1872. You cannot cut screws by friction gear, with sufficient accuracy for any purpose, except wooden screws. These should be finished with the first cut.—J. E. G., of Mo.

POUNDING OF PISTON.—I have noticed in "Notes and Queries" considerable discussion of the piston pounding question, and various theories have been advanced I have often removed the trouble by setting up the springs in my piston packing, thereby preventing the shaking back and forth at every change of the direction of motion.—E. L., of N. Y.

Declined.

Communications upon the following subjects have been received and examined by the Editor, but their publication is respectfully declined:

ADVERTISING.—L. K. F.
BOON TO THE TRAVELLING PUBLIC.—H.
BUILDERS' HARDWARE.—A. T. S.
CLAPBOARDING.—E. S. W.
MODELS AT THE PATENT OFFICE.—A.
NATIONAL DEBT.—J. R. F.
ORIGIN OF DISEASE.—A. B.
PATENT SYSTEM.—A. S. L.
ROTARY ENGINE.—G. R. W.
SUN SPOTS.—J. B.
WEATHERBOARDING.—J. L. G.
WILD TEA.—G. Z.
ANSWERS.—S. T.—O. A. B.—H. J. C.—D. H. N.—M. M.—W. E.—J. K. B.—D. O. T.
NOTES AND QUERIES.—G. A.—F. H. F.—F. H. A.—E. F. G.—J. M.—C. M.—G. W. M.—A. K.—R. M.—L. D. M.—D. B. H.

Inventions Patented in England by Americans.

From January 31 to February 7, 1872, inclusive.
[Compiled from the Commissioners of Patents' Journal.]

SEWING MACHINE.—Howe Machine Company, Bridgeport, Conn.
SHUTTLE MECHANISM.—E. P. Terrell, D. B. Allen, J. Enoch, West Liberty, O.
SMELTING FURNACE.—S. W. Harris, Hudson, N. Y.
WEIGHING MACHINE.—A. H. Emery, New York city.