

W. W. H. asks: Is it strictly proper to speak of dew as falling? One party contends that dew never forms in the atmosphere and falls to the ground, but is only produced by the moist warm atmosphere coming in contact with the surface of cooler bodies...

E. J. asks: How can I detect lead in water by the use of hydrosulphuric acid? Answer: Reduce by boiling about 5 gallons of the suspected water to a gill or less, and pour into the concentrated liquid a strong clear solution of hydrosulphuric acid...

J. M. H. asks: 1. What keeps a hoop or wheel in an upright position while in motion? 2. Is space a created thing or a necessary nonentity? 3. At what temperature does water boil in a vacuum? 4. Is steam condensed at 210° or 211° Fahr. as effectually as when a lower temperature is used?

S. B. B.—All papers sent through the mails must be paid. Much obliged for the copy sent.

J. B. says, in reply to G., who asked how to get red ants out of sugar: Get some gum camphor in lumps and secure the separate lumps in small cotton sacks, and attach them to the top of the bins, very near the sugar.

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

G. W. K.—A kind of clay resembling fuller's earth. G. W. C.—The enclosed mineral strongly resembles antimony; and if found in sufficient quantity, is well worth a chemical analysis.

J. G. S.—Nos. 1, 2 and 3 are iron pyrites. No. 4 is zinc blende. No. 5 is iron ore. No. 6, is galena in calcite. No. 7 is rhomb spar (calcite).

W. A.—The stone sent is carbonate of lime. It seems hardly compact enough for lithographic stone.

B. D. J.—We tasted one bottle of the water sent, and detected iron, but could not perceive sulphur or sulphuretted hydrogen. It might be worth a chemical analysis.

G. W. B.—Nos. 1, 2 and 3 are claystones. No. 4 is conglomerate. The other is quartz geode.

COMMUNICATIONS RECEIVED.

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

On Jumping from Railway Trains. By A. F.

On Spontaneous Generation. By J. C. W. and by D. S. G.

On the Devil Fish. By C. R. B.

On the Last Railroad Horror. By A. T.

On a Canal through Syria. By T. L. F.

On the Locomotive. By W. T. H.

On the Patent Right Question. By C. S. and by J. E. S.

On Meteors. By G. C. T.

On Bisulphide Engines. By J. A. H. E.

On Car Ventilation. By E. M. G., Jr.

On Boiler Management. By A. M. E.

On Electricity. By O. H. T.

On the Great Telescope. By F. M. B.

On Flying Machines. By T. B.

On Steam Fire Engines. By J. A. W.

Also enquiries from the following:

W. M. B.—P. P.—S. H.—W. T.—C. H. J.—W. H. T.—W. A. M.—S. W. G.—M. M.—J. N. H.—N. T. P.

Correspondents who write to ask the address of certain manufacturers, or where specified articles are to be had, also those having goods for sale, or who want to find partners, should send with their communications an amount sufficient to cover the cost of publication under the head of "Business and Personal," which is specially devoted to such enquiries.

Two correspondents ask what barytes is worth, and who will buy it? Others wish to know where magnetic iron sand can be obtained? Who are makers of the New Jersey apple gatherer? Who makes heating apparatus using low pressure steam? Which is the best portable gas apparatus? Who makes electric clocks? Who make or deal in mechanical tools? How can we find out how to mix colors for pottery? Who makes hard rubber, silvered glass reflectors for lamps, and grain separators? What is used for "stuffing" calf skins? Where can a file-cutting machine be purchased? Makers of the above articles will probably promote their interests by advertising, in reply, in the SCIENTIFIC AMERICAN.

[OFFICIAL.]

Index of Inventions

FOR WHICH

Letters Patent of the United States

WERE GRANTED FOR THE WEEK ENDING

August 12, 1873,

AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

Table listing inventions and their patent numbers, including items like Air navigating apparatus, Auger, Axle box and sleeve, Bolt die, Carriage, and many others.

Table listing inventions and their patent numbers, including items like Letter box, Life preserving garment, Loom, Magnet, and many others.

TRADE MARKS REGISTERED.

Table listing registered trade marks and their owners, such as Paper Patterns, Medicine, Paints, etc.

SCHEDULE OF PATENT FEES:

Table detailing various patent fees, including application fees, extension fees, and design fees.

VALUE OF PATENTS, And How to Obtain Them.

Practical Hints to Inventors.

PROBABLY no investment of a small sum of money brings a greater return than the expense incurred in obtaining a patent even when the invention is but a small one.

More than FIFTY THOUSAND inventors have availed themselves of the services of MUNN & Co. during the TWENTY-SIX years they have acted as solicitors and Publishers of the SCIENTIFIC AMERICAN.

HOW TO OBTAIN Patents

This is the closing inquiry in nearly every letter, describing some invention which comes to this office. A positive answer can only be had by presenting a complete application for a patent to the Commissioner of Patents.

How Can I Best Secure My Invention?

This is an inquiry which one inventor naturally asks another, who has had some experience in obtaining patents. His answer generally is as follows, and correct:

Caveats.

Persons desiring to file a caveat can have the papers prepared in the shortest time, by sending a sketch and description of the invention. The Government fee for a caveat is \$10.

Reissues.

A reissue is granted to the original patentee, his heirs, or the assignees of the entire interest, when, by reason of an insufficient or defective specification, the original patent is invalid, provided the error has arisen from inadvertence, accident, or mistake, without any fraudulent or deceptive intention.

Copies of Patents.

Persons desiring any patent issued from 1836 to November 26, 1867, can be supplied with official copies at a reasonable cost, the price depending upon the extent of drawings and length of specification.

DESIGNS PATENTED.

Table listing patented designs and their owners, including Stamp Pad and Rack, Cake Holders, Clock Case, etc.