

not, why? And how much difference will there be at 12 o'clock noon? A. We should infer yours to be a horizontal sun dial, and will give correct time only in latitude for which it was made, save when sun in meridian; because the gnomon or style by which the shadow is cast must be placed parallel with the polar axis of the earth, and the base upon which the shadow is cast parallel with the horizon, both of which cannot be done when a change of latitude is made. If the style of your dial is set truly in the meridian of your place, and depressed to correspond with your latitude, it will give you 6 o'clock A.M. and 6 o'clock P.M., also the exact sun or true time, at noon.

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

W. N. W.—Galena—lead sulphide, a rich lead ore. It probably carries a little silver—worth assaying.

COMMUNICATIONS RECEIVED.

- On the Motion of the planets. By A. K.
On a New Theory of Planetary Movement. By J. H. S.
On Declination of the Magnetic Needle. By J. L. R.
No Current in Magnets. By W. B. F., M.D.
On Protecting Oil Tanks from Lightning. By W.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH

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

August 17, 1880.

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 1866, will be furnished from this office for one dollar. In ordering please state the number and date of the patent desired and remit to Munn & Co., 37 Park Row, 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 various inventions such as 'Advertising, automatic device for', 'Air brake for railway trains', 'Axe cutting device', etc., with corresponding page numbers.

Table listing various inventions such as 'Gas, apparatus for the purification of coal', 'Steam indicator', 'Steam boiler attachment', etc., with corresponding page numbers.

DESIGNS.

Table listing designs such as 'Carpet, D. McNair', 'Carpet, T. J. Stearns', 'Coffin plate, W. M. Smith', etc., with corresponding page numbers.

TRADE MARKS.

Table listing trade marks such as 'Blacking, harness, T. C. Pritz', 'Brushes such as have brushing surfaces of bristles', etc., with corresponding page numbers.

English Patents Issued to Americans.

From August 13th to August 17, 1880, inclusive.

Table listing English patents issued to Americans such as 'Axe box, S. A. Bemis, Springfield, Mo.', 'Biscuit, app. for spreading jam upon, U. S. Ovens, Buffalo, N. Y.', etc.

Advertisements.

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THE ORIGIN OF FALLING MOTION.—By Charles Morris. An interesting study of the form of energy which creates motion. Its origin in the moving bodies themselves as real motion, existing previously in some other form and converted as needed into the form of mass motion. The various modifications of active energy which exist as constituent forces of all matter. Electrical, magnetic, chemical, cohesive, and temperate energies; their specialized and generalized forms. Heat force. Gravitational energy. Transformation of heat motion in falling bodies. Loss of mass motion followed by increase of temperature. Interesting deductions made from applying the ideas herein given to the motion of planetary bodies. Gravity is not a creator of motion, but its influence only directive. Contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 240. Price 10 cents. To be had at this office and from all newsdealers.

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FLEUSS' DIVING APPARATUS.—BY B. W. Richardson. An interesting lecture delivered before the Society of Arts, in which is reviewed the history of diving, and the attempts that have been made by men of science to live under water; with a description of Fleuss' new diving dress, which enables the wearer to can do steam and gas fitting and plumbing, are judicious and economical in the use of fuel, and who can erect, operate, and maintain in running order and repair, with the greatest attainable economy, any steam machinery or steam boilers that are used. Applications received now.

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NAVIGATION OF THE AIR.—BY FRED. W. Breary, Hon. Sec. to the Aeronautical Society of Great Britain. A review of what has thus far been accomplished toward a solution of the problem of aerial locomotion; the errors of former experiments pointed out; and the present and future aspect of the question considered. The direction in which future experiments should be made in order that success may be attained. Contained in SCIENTIFIC AMERICAN SUPPLEMENT, No. 241. Price 10 cents. To be had at this office and from all newsdealers.

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