



give a receipt for painting plaster casts, so as to render them impervious to the action of the weather? A. They are warmed and saturated with melted stearine or paraffine wax. The former is preferable. Soluble glass is also used.

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

F. W. D., Jr.—No. 1. Bornite—composed of sulphur 25, copper 63, and iron 12 per cent. No. 2. Epidote—silica 37, aluminum 23, iron oxide 14, magnesia 23, and water 3 per cent.—M. T. F.—It is not tin ore. The quartz contains augite and epidote.—S. H. M.—The ore contains a large amount of manganese oxide. Its value can only be ascertained by assay. It is worth assaying.—J. K. M.—No. 1. Marcasite—iron 46, sulphur 54 per cent. Not an iron ore. No. 2. A ferruginous clay slate of little value. No. 3. An impure steatite or soapstone. No. 4. This ocher, if properly ground and calcined, may have some market value. No. 5. An impure limonite iron ore.—F. and M.—It contains gold, of the variety known in works on mineralogy as "fool's gold" or iron pyrites—composed of iron and sulphur. E. B. S.—It is not sulphur as suggested, but iron sulphate, arising from the decomposition of pyrites. It is soluble in water, from which it crystallizes upon evaporating the solution slowly. It is used extensively in the arts.—J. C. U.—The crystals are quartz; when small and perfect they are sometimes employed as cheap imitation diamonds.—J. A. W.—It is zinc blende, of good quality, containing small amounts of cadmium.—Z. Y. X.—The small button consists chiefly of metallic iron.—W. J. B.—It is quartz.—L. H.—The quartz contains a notable amount of silver, copper, and traces of gold. An assay would be requisite to determine the precise value of the ore.—Poughkeepsie—No. 1. Gray limestone. No. 2. An impure pipe clay—suitable for drain pipes, cheap pottery, tiles, etc.—J. B.—It consists chiefly of iron sesquioxide, organic matters and clay, of little value.—J. B.—It contains no silver. The crystals are iron sulphide-pyrites.

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COMMUNICATIONS RECEIVED.

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

- On Watch Making. By D. B. F.
On the Work of Rats. By H. J. M.
Manufacture of Watches. By D. B. R.
Aerial Navigation. By C. M.
On the Captive Balloon. By A. C. M.
On Writing Mediums. By M. L. B.

[OFFICIAL.]

INDEX OF INVENTIONS

FOR WHICH Letters Patent of the United States were Granted in the Week Ending January 21, 1879, AND EACH BEARING THAT DATE.

[Those marked (r) are reissued patents.]

A complete copy of any patent in the annexed list, including both the specifications and drawings, 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.

Table listing various inventions such as Air compressor, Amalgamator, Anchor, Axle box lid, etc., with corresponding page numbers.

Table listing various inventions such as Faucets, Feed water heater, Fence, etc., with corresponding page numbers.

TRADE MARKS.

Table listing trade marks such as Boots and shoes, Cigars, Guano, Leaf tobacco, etc., with corresponding page numbers.

DESIGNS.

Table listing designs such as Carpets, Stoves, Pencil cases, etc., with corresponding page numbers.

English Patents Issued to Americans. From January 24 to January 28, inclusive. Axle box bearings.—J. R. Baker, Jersey City, N. J. Baths.—W. Wasson et al., Carson City, Nevada.

Table listing various inventions such as Electric light, Gas lighting apparatus, Knitting machines, etc., with corresponding page numbers.

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Table listing various mechanical and engineering inventions such as Engine of the Torpedo Vessel Destroyer, Telegraph Messages Through Metallic Tubes, etc., with corresponding page numbers.

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