

In all soldering processes, the following conditions must be observed:—The surfaces to be united must be entirely free from oxyd, bright, smooth and level. The contact of air must be excluded during the soldering, because it is apt to oxydize one or other of the surfaces, and thus to prevent the formation of an alloy at the points of union. This exclusion of air is effected in various ways. The locksmith encases in loam the objects of iron or brass that he wishes to subject to a soldering heat; the silversmith and brazier mix their respective solders with moistened borax powder; the copper-smith and tinman apply sal ammoniac, resin, or both, to the cleaned metallic surface, before using the soldering-iron to fuse them together with the tin alloy.

**Remarkable Phenomena on the Surface of the Sun.**

On the first of September last, at 11h. 18m. a.m., a distinguished astronomer, Mr. Carrington, had directed his telescope to the sun, and was engaged in observing his spots, when suddenly two intensely luminous bodies burst into view on its surface. They moved side by side through a space of about 35,000 miles, first increasing in brightness, then fading away; in five minutes they had vanished. They did not alter the shape of a group of large black spots which lay directly in their paths. Momentary as this remarkable phenomena was, it was fortunately witnessed and confirmed, as to one of the bright lights, by another observer, Mr Hodgson, at Highgate, who, by a happy co-incidence, had also his telescope directed to the great luminary at the same instant. It may be, therefore, that these two gentlemen have actually witnessed the process of feeding the sun, by the fall of meteoric matter. But however this may be, it is a remarkable circumstance that the observations at Kew show that on the very day, and at the very hour and minute of this unexpected and curious phenomenon, a moderate but marked magnetic disturbance took place; and a storm or great disturbance of the magnetic elements occurred four hours after midnight, extending to the southern hemisphere. Thus is exhibited a seeming connection between magnetic phenomena and certain actions taking place on the sun's disk—a connection which the observations of Schwabe, compared with the magnetic records of our colonial observatories, had already rendered nearly certain.—*British Association.*

**Value of Manufactured Earthy Minerals in the United Kingdom.**

Bricks, tiles, &c. ....	£2,911,980
Building and other stones .....	4,622,924
Superior kinds of clay, china stone.....	285,846
Sands .....	10,250
Coprolites .....	65,500
Rotten Stone.....	750
Ochre, Umber, &c. ....	5,450
Barytes ..	15,500
Gypsum .....	17,750
Fulser's Earth .....	13,500
Fluor Spar .....	4,625

Total value of the Earthy Minerals ..£7,954,075

A cubic yard of bricks is estimated to contain 384 bricks, and on the average about 373 bricks go to the ton.

**Value of Minerals in the United Kingdom.**

The total value of metals, metalliferous minerals and coal produced in 1853, was £31,266,932 stg. If to this immense sum the value of the manufactured earthy minerals be added, the total product of the mine will be represented by nearly £40,000,000 stg.

**TO INVENTORS AND PATENTEES IN CANADA.**

Inventors and Patentees are requested to transmit to the Secretary of the Board short descriptive accounts of their respective inventions, with illustrative wood cuts, for insertion in this Journal. It is essential that the description should be concise and exact. Attention is invited to the continually increasing value which a descriptive public record of all Canadian inventions can scarcely fail to secure: but it must also be borne in mind, that the Editor will exercise his judgment in curtailing descriptions, if too long or not strictly appropriate; and such notices only will be inserted as are likely to be of value to the public.

**TO CORRESPONDENTS.**

Correspondents sending communications for insertion are particularly requested to write on one side only of half sheets or slips of paper. All communications relating to Industry and Manufactures will receive careful attention and reply, and it is confidently hoped that this department will become one of the most valuable in the Journal.

**TO MANUFACTURERS & MECHANICS IN CANADA.**

Statistics, hints, facts, and even theories are respectfully solicited. Manufacturers and Mechanics can afford useful coöperation, by transmitting descriptive accounts of LOCAL INDUSTRY, and suggestions as to the introduction of new branches, or the improvement and extension of old, in the localities where they reside,

**TO PUBLISHERS AND AUTHORS.**

Short reviews and notices of books suitable to Mechanics' Institutes will always have a place in the Journal, and the attention of publishers and authors is called to the excellent advertising medium it presents for works suitable to Public Libraries. A copy of a work it is desired should be noticed can be sent to the Secretary of the Board.

**PATENTS OF INVENTIONS,**

As issued by the BUREAU OF AGRICULTURE AND STATISTICS, to 4th January, 1861.

His Excellency the Administrator of the Government has been pleased to grant Letters Patent of Invention for a period of FOURTEEN YEARS, from the dates thereof, to the following persons, viz:

David Buckler, of Garrafraxa, County of Wellington, School Teacher, for "A Chair or Lounge, termed the "Lazy Man's Friend."—(Dated 25th September, 1860.)

Fraucis Marshal Ackerman, of the Village of Morven, County Addington, Mechanic, for "An article termed the "Ackerman Washing Machine."—(Dated 12th October, 1860.)

Eugene Cooper, of the Township of Oneida, County Haldimand, Farmer, for "A Stumping Machine."—(Dated 22nd October, 1860.)

David Tees, of the City of Montreal, Undertaker, for an "Air-tight Coffin or Burial case, denominated by him "Tees's Air-tight Coffin or Burial Casket."—(Dated 25th October, 1860.)

David Klein, of the City of Quebec, Mechanic and Merchant for "A Floating Bridge."—(Dated 13th December, 1860.)