

## MISCELLANEA

The coal product of Nova Scotia for 1874 was as follows:—Cumberland county, 49,599 tons; Pictou county, 357,920 tons; Cape Breton county 337,020 tons; other counties, 4588 tons; total, 749,127 tons. The destination of the coal was as follows:—Nova Scotia, 214,965 tons; Quebec, 162,269 tons; New Brunswick, 78,841 tons; Newfoundland, 55,696 tons; Prince Edward Island, 41,948 tons; United States, 138,335 tons; West Indies, 47,844 tons; South America, 5077 tons, and to Europe, 4152 tons.

Is the patient really dead or not? is at times a very anxious question. A medical practitioner of Cremona proposes a simple method by which the question may be answered with certainty. It is to inject a drop of ammonia beneath the skin, when if death be present, no effect or next to none, is produced, but if there be life, then a red spot appears at the place of the injection. A test so easily applied as this should remove all apprehensions of being buried alive.

SLATE FOR ENGRAVERS.—As a matter of interest to wood-engravers, the discovery is worth noting that plates of polished slate may be used as substitutes for box-wood engraving. It is stated that such engraved plates will furnish 100,000 impressions without loss of detail, and are not affected by oil or water. One drawback which they possess, is that they are readily scratched, an objection from which wood is almost free.

MARKING TOOLS.—Much trouble can often be saved by marking tools with their owners' names, which can easily be done in the following manner: Coat over the tools with a thin layer of wax or hard tallow, by first warming the steel and rubbing on the wax warm until it flows, and let it cool. When hard, mark the name through the wax with a graver, and apply nitric acid; after a few moments wash off the acid, and wipe it with a soft rag, when the letters will be etched into the steel.

TALC has been recommended by M. Vigier and Aragon for the prevention of incrustation in boilers. It is used on the Paris and Lyons Railway, and it is stated that the quantity of talc introduced into the boiler is about one-tenth of the weight of deposit accumulated between two consecutive blow-offs. It is stated not only to prevent but to loosen and remove old incrustation.

STRENGTH OF GLUED JOINTS.—The absolute strength of a well glued joint is given as follows:—

	Pounds per square inch. Across the grain, end to end.	With the grain.
Beech .....	2133	1695
Elm .....	1436	1124
Oak .....	1735	568
White wood .....	1493	341
Maple .....	1422	896

It is customary to take from one-sixth to one-tenth of the above values, to calculate the resistance which surfaces joined with glue can permanently sustain with safety.

SOME interesting particulars were given in the course of the Schiller inquiry of the life in the Bishop Lighthouse, which is, in the winter months, cut off from communication with the world for long periods of time. The sea dashes sand right to the top, though it is 110 ft. above high-water mark, and the ordinary way of embarking and disembarking from a boat is to make fast the boat by a grapnel and then let a man down by a rope, or hoist him up in a similar way to the door of the house. In a storm the tower trembles so much that plates and cups fall from the shelves and the glasses of the light break. According to *The Navy*, this part of the evidence was given in court, but not from the witness-box, and it does not all appear in the notes.

THE BEST TIME TO CUT TIMBER.—Dr. Hartig, who has made numerous experiments to determine the point, states that March and April are the best months in which to cut timber for building purposes, as it then contains its lowest per cent. of moisture, which he states to be forty-seven per cent. During the three previous months it has fifty-one per cent., and the three following ones forty-eight. He further states that properly-seasoned timber should not contain more than from

twenty to twenty-five per cent. of moisture, and never less than ten per cent. If the moisture is removed to a still greater extent the wood loses strength and becomes brittle. Another authority states that if trees are felled as soon as they are in full leaf, and allowed to remain undisturbed until the leaves dry up and fall off, the timber will be found well seasoned, the leaves having exhausted all the moisture.

PAPER BUCKETS.—The real possibility and advantage of the varied and extending uses of paper pulp are illustrated in the manufacture of such articles as water-pails, which are now made in large numbers of this material, as well as of wooden staves. In the old way of making pails, the separate parts or staves are cut, one at a time, from a log of wood, and in making them, all the chips and smaller pieces are wasted, so far as the real object of manufacture is concerned. In making a paper pail, however, the fibrous material is wholly utilized, and if the original stock is wood, as in part it may be, then that which would be wasted in chips and in fag ends is entirely saved. Those who make paper tell us that thus far they have barely entered on some of their new lines of product.

AN ARITHMETICAL CURIOSITY.—The *Athenæum* contains the following curious arrangement of figures:

16	3	2	13
5	10	11	8
9	6	7	12
4	15	14	1

It will be seen that the sum of each line, each column, and each diagonal is 34. The four corner figures, 34. The corner figures of any square of four figures (of which there are four in the larger square)—34. The four figures of the central square 34. The four figures of each corner of the whole square, 34. Making altogether twenty different ways in which 34 may be reckoned. The other sums of 34 may be obtained by taking the figures which stand next to the corner figure, going round from left to right, thus, 3, 8, 14, 9—34. Then take the figures which stand to the left of the corner figures, going the other way round, 2, 5, 15, 12—34.

WHILE Dr Priestly was a minister at Leeds, Mass, a poor woman who labored under the delusion that she was possessed by a devil, applied to him to take away the evil spirit which tormented her. The doctor attentively listened to her statement and endeavored to convince her that she was mistaken. All his efforts proving unavailing, he desired her to call the next day, and in the meantime he would consider her case. On the morrow the unhappy woman was punctual in her attendance. His electrical apparatus being in readiness, with great gravity he desired the woman to stand upon a stool with glass legs, at the same time putting into her hand a brass chain connected with the conductor, and having charged her plentifully with electricity he told her very seriously to take particular notice of what he did. He took up a discharger and applied it to her arm, when the escape of the electricity gave her a pretty strong shock. "There," she said, "the devil's gone, I saw him go off in that blue flame, and he gave me such a jerk as he went off I have at last got rid of him, and I am now quite comfortable."

It has been ascertained that the American wild rice makes first-rate paper—white, tough, and flexible, and it is estimated that 100,000 tons of this material can be obtained from the Canadian lakes alone each year.

Mr. Gerald C. Brown, of Perth, has leased 1,500 acres of phosphate lands in the township of Buckingham, county of Ottawa, Quebec, and intends developing them at once. The lease extends over a period of 50 years.

Fourteen thousand four hundred tons of coal were shipped at Pictou in one week. The carrying of coal from Pictou is now almost exclusively done by steamers, very few large sailing vessels having taken cargoes this summer.