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We make a speciality of everything needed in GOLD and COAL MINING, and RAILWAY CONSTRUCTION. As we always keep a large Stock on hand, we can guarantee prompt delivery of any orders entrusted to us. Enquiries by mail always receive our prompt and careful attention.

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General Hardware Merchants,
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WILL WELCOME ALL VISITORS, BOTH AT THEIR

Booth in the Main Building at the EXHIBITION, and
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DIRECTLY OPPOSITE WESTERN UNION TELEGRAPH OFFICE.

They will at this Season display a BEAUTIFUL VARIETY OF

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And will give Special Terms and Prices to all buyers during the week.

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AND

GENERAL HARDWARE.

At Lowest Wholesale Prices.

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MARKET SQUARE, - HALIFAX.

THE DOMINION PAINT CO.

Are prepared to Supply the Trade with

MARINE PAINTS

AS BELOW

ATLANTIC ANTI-FOULING COMPOSITION
for Iron Ships.

MOSELEY'S COPPER PAINT, for Wooden
Ships.

LIQUID MARINE BLACK PAINT,
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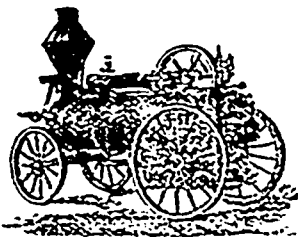
SEAM PAINT, a Perfect Substitute for Rosin.
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Tar, &c. Quality guaranteed equal to anything
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Style, in Country as well as City, at Lowest possible
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BEFORE BUYING

ENGINES, BOILERS,

ROTARY SAW MILLS

OR WOOD WORKING MACHINERY,

Write **GEO. H. EVANS,**

62 WATER STREET, ST. JOHN, N. B.

For Catalogue C and prices.

Chemical Laboratory, Dalhousie College,
Halifax, N. S., July 31st. 1891.

Within the last few months I have purchased
promiscuously, at RETAIL GROCERY STORES in this City, packages of

WOODILL'S GERMAN BAKING POWDER,

and have subjected same to Chemical Analysis. The samples were found to consist of
Fresh, Whole-some Materials, properly pro-
portioned. This Baking Powder is well
suited for family use, and has been employed,
when required, in my own house for many
years.

GEORGE LAWSON, Ph. D., L. L. D.
Fellow of the Institute of Chemistry of
Great Britain and Ireland.

MINING.

SAFETY IN COAL MINING.
From the *Engineering and Mining Journal*.
(Continued.)

SAFETY LAMPS.

The fire boss should be provided with a type of safety lamp that combines sensitiveness in testing with the quality of resisting the passage of flame through the gauze in currents of high velocities. It should also be provided with a shut-off to aid in extinguishing the flame should a large body of gas be suddenly encountered. There should also be a small key fixed to side of safety lamp, near the top, to unlock a registering device fixed to roof of working places. This device, which could be fastened to a wooden plug driven into a small hole in the roof, would consist of an ordinary clock face, say 4 in. in diameter, with an outer circle marked with numbers from 1 to 31 inclusive for indicating days of the month. This would enable the workman when entering his room or heading to see that the fire boss had been there (the cover of the register being open) from the position of the pointers on the dial. The dial should always be placed in the highest point practicable in the working place, giving the miner absolute proof that the fire boss' safety lamp had been in such a position that if any gas were near the roof he could not help seeing it. This device could be moved forward as the work advanced, according as the coal seam inclined or the condition of the roof suggested. The fire boss could, under ordinary circumstances, make the examination and fix figures of dial in 30 seconds. He should not be required to travel between the places to be examined faster than two miles per hour. After an examination of the working places and also of those not worked in for the time being that are in any way contiguous to them or are ventilated by any air current that may afterward pass in any place that may be worked or travelled in by workmen in the mine, and all has been found safe, the fire boss should remain at the "station," and should see that no lamp passed him that did not satisfy him as to its safety.

No men should be hired to work in a mine generating explosive gases who do not possess some practical knowledge of the use of the safety lamp. If necessary to employ men without this practical knowledge, pains should be taken to explain to them the reason why the light is so guarded, and to impress on their minds the great danger of tampering in any way with the lamp, and the awful things that might happen to themselves and fellow-workmen if the lamp were handled or damaged in such a way as to make the passage of the flame through the gauze possible, and also to show them how to shield their lamp in air travelling at a high velocity. The lamps should be examined and tested before being given out to the workmen to enter the mine, and should be able to withstand safely a strong current of air and at the same time give a light equal to the Clanny. No common Davy, Clanny or Stephenson (Geordie) lamp or lamps of like character should be allowed to be taken into the mine, because they have been proved again and again to be unsafe and unreliable. Blasting should also be prohibited in any portion of the mine where firedamp exists or is likely to be liberated by the blast, or in the vicinity of gobs and falls not easily accessible to examination for the detection of gas, or where coal dust is deposited in any material quantity on the floor and sides, as the flame of the shot might be propagated by it into inaccessible portions of the mine. Tamping shots with coal should also be prohibited for the same reason. The laws forbidding the taking of matches, fuse, tobacco pipes or any combustible material into mines where safety lamps are used; the propping open of or doing damage to any door, regulator or overcast used to direct the air currents in the mine; tampering in any way with any safety lamp; removing danger signals, etc., should be fearlessly and rigidly enforced.

ACCIDENTS BY FALLS OF ROOF.

The best preventives of accidents of this class are to (1) employ special or selected men known for the care exercised by them in their daily work to work, or timber places where the roof is "full" of slips, seams or cracks; (2) to provide ample and suitable timber, proper caps and collars, to be delivered on short notice to the place where required; (3) to compel workmen by rigid enforcement of rules to set their timber properly, and keep it propped sufficiently close to the face of working place to secure safety under all ordinary circumstances, and to withdraw the workmen from the place if it shows signs of any approaching cave-in; (4) where drawing props is a necessity, either for economical reasons or to avoid squeezes or creeps, the work should be performed by one thoroughly acquainted with its character and the nature of the roof. He should be provided with a "timber bar" and chain to draw posts in very dangerous positions.

ACCIDENTS BY FALLS OF COAL.

The accidents under this head may be prevented very materially (1) by increased vigilance on the part of the miner in looking for smooths, slips and crevices in the coal. Where undercutting is required (2) coal-cutting machinery should be put in to perform that work. If this could be done in all coal seams the accidents under this head would be reduced fully 8 per cent. Where machinery cannot with profit be so used, miners should be compelled to set sprags to coal face at a distance not exceeding 7 ft apart, whether apparently necessary or not, and the mine boss or mine inspector, if able to prove negligence in this respect (or in properly posting and securing the working places) should make complaint at once to the nearest justice of the peace, who should be given jurisdiction in such cases, with power to fine in the sum of \$5 to \$25; the fines so paid to be turned over to the miners' hospital fund of the district in which the misdemeanor was committed. Observation shows that about 50 per cent. of the accidents from falls are owing to carelessness or indifference on the part of the persons injured.

(To be continued.)

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