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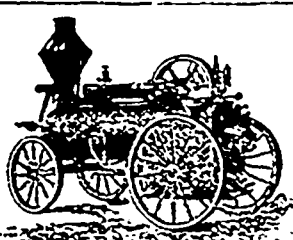
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Chemical Laboratory, Dalhousie College, Halifax, N. S., July 31st, 1891.

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 Analyses. The samples were found to consist of Fresh, Wholesome Material, properly proportioned. 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.)

Having gone over the accidents likely to occur to persons going into or out of the mine, we will now consider the dangers to which persons are exposed when working in mines, and which, for our purpose, may be generally classed under six heads, namely: (1) Falls of roof and coal; (2) mine waggons; (3) explosions of firedamp; (4) miscellaneous causes; (5) explosions of coal dust; (6) drowning.

A list of fatal accidents which have occurred in the bituminous coal mines of Pennsylvania, and which was compiled from the reports of the inspector of mines for the years 1884 to 1889 inclusive, is here given to assist in forming a correct idea regarding their number and causes.

	No.	Per cent.
Falls of roof and coal.....	340	64.2
Mine waggons	74	14.1
Firedamp explosions.....	51	9.7
Miscellaneous causes.....	46	8.7
Dust explosions.....	17	3.2
Total.....	528	99.9

If we only take the accidents that happened in districts in which firedamp is generated, and also leave out the number killed at the Kettle Creek explosion, which was attributed to coal dust, the list will appear as follows:

	No.	Per cent.
Falls of roof and coal.....	227	61.68
Mine waggons.....	56	15.22
Firedamp explosions.....	51	13.84
Miscellaneous causes.....	34	9.24
Total.....	368	99.98

FIRE-DAMP EXPLOSIONS.

We will consider first the explosions of firedamp in mines, because this form of accident is particularly dreaded on account of its fatal character. The cause of firedamp explosions, or explosions of any kind, should receive greater attention and consideration than any other, for the reason that, no matter how intelligent, careful or circumspect a man or number of men may be who work in a mine generating explosive gases in sufficient quantities during working hours in working places, roads and airways to be ignitable, they are always likely to be the victims of some foolish or overt act that will cost them their lives; and as the strength of the weakest link in a chain measures the strength of the whole chain, so their safety is measured by the probable misconduct of some ignorant, vicious or semi-idiotic person who cannot realize the awful consequences of his misbehavior.

To avoid such disaster, (1) ample means of ventilation should be furnished, preferably in the form of a fan, which should be placed at a safe and convenient point; (2) the work should be laid off in separate ventilation districts, and each district should have a separate current of air and a separate return therefrom to bottom of upcast, said return to be maintained solely for that purpose, and only to be travelled in by mine officials for inspection purposes; the objects attainable by this method of ventilation are to increase the total volume of air circulating in mine, to insure purity of air current (as far as practicable) on its entrance to each particular district, and to limit the extent of an explosion, should one occur afterward; (3) the overhead or air bridges should be constructed in the natural strata of the material is suitable for this work; if too expensive to construct in this way, they should be made of iron in segments of a known or calculated strength so as to resist being collapsed or blown out in case of an explosion; (4) no crosscuts should be made in main heading pillars or boundary pillars of a ventilation district, except where necessary for hauling purposes; the headings should be aired as they advance from crossheading to crossheading, or from flat to flat, by means of incombustible brattices put up for that purpose. This precaution would greatly reduce the number of stoppings to be maintained airtight, or to be blown out in case of an explosion, and would thus greatly facilitate a rescue. By a judicious use of this brattice in cross or flat headings the number of stoppings in them would be reduced one-half or more, at little or no extra cost where pillars are large and yardage is paid for crosscuts.

Next, the service of one or more fire bosses should be secured, who should have a good practical knowledge of mine gasses, especially of firedamp, and know their composition and specific gravities in order to be able to know where, under ordinary circumstances, to look for them, and to form a good idea of the amount of air required to dilute any explosive gasses that might be encountered in the daily examination; he should be acquainted with the method of ventilation used in the mine and the direction of and distance travelled by any explosive gasses that might be generated in his examination district or in the mine. He should be a total abstainer from all intoxicating drink, should not be short-sighted or color-blind, and should be cool and courageous under all circumstances connected with his duties.

(To be continued)

Thousands of bottles of Puttner's Emulsion are annually sold in the Maritime Provinces, where it is best known. None but an article of sterling worth could stand this test.

DRAUG

All comm should be ad Editor, W. J

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