

WOOD POWDER.

Dynamite, so long used as an explosive in the engineer corps of the Belgian army, has lately, on account of the numerous difficulties attending its use, been replaced by wood powder, made at Canbille, near Peer, in the Province of Limburg.

The powder is simply sawdust, treated with a mixture of nitric and sulphuric acids, and afterward formed under powerful pressure into cylindrical or prismatic cartridges. These cartridges are prepared for commercial use by covering them with paraffined paper, which protects them from moisture.

The instantaneous production of the gases arising from the primer and the explosive, and the simultaneous action of these gases in every direction cause the air in contact with the face surface of the cartridge to act to some extent as a light tamping, and the power of the explosion is directed to the other face.

In comparative experiments made upon a rail with wood powder and dynamite—with cellulose, it was ascertained that for equal weights charges of the first substance were at least as powerful in those of the second, and that the results were more constant, more regular.

In the experiments for rupturing double-T beams, the maximum effects were produced when the cartridges were placed in the angles upon one face of the beam.

Below are the results of the different experiments in the rupture of double-T beams of wrought iron, with equal weights of wood powder, of dynamite with cellulose, of gun cotton, and of paleine of 40 per cent.:

Nature of Explosives.	Price per cwt.	Yards Complete Rupture.	Yards Sufficient Rupture.	Insufficient Rupture.
Wood powder.....	3.50	10	8	2
Dynamite, with cellulose.....	4.50	8	4	1
Gun cotton.....	5.00	4	1	1
Paleine.....	6.25	3	2	1

*One wholly failed to explode.

But it is especially with reference to transportation with an army that wood powder possesses remarkable advantages. It is well known what precautions are essential in order to protect dynamite cartridges in pack trains from projectiles which might strike them and cause explosion. With cartridges of wood powder this danger need not be feared, since when they are placed against iron plates, and struck by bullets fired a distance of fifty metres, they do not explode.—*Quarterly Journal.*

THE AVERAGE LIFE OF BUILDINGS.

"How long does it take for a city to rebuild itself?" said the building inspector. "Well, that depends upon the progressiveness of the city. I should say about seventy-five years. That is the average life of a building nowadays. There are very few houses in this city that were standing seventy-five years ago. The old houses on north Capitol street, built by George Washington, are older than that, and there are other old buildings in the city. The Capitol is an old building, but I am speaking of private houses. The buildings erected by the Government, under careful supervision and at a great expense, of course, are more durable structures than those erected for private residences. The building which is being erected by Mr. Abell on F street will cost more per foot, I suppose, than most Government buildings. No, it may not be a good investment, but it is not being put up as an investment, it is a monument. The new State, War and Navy Department building is, however, just as well built as that. That building will be standing a thousand years hence. It may, of course, need some repairs before that time, and roof, of course, may have to be rebuilt. No material or work is allowed to go into these buildings unless it is up to the standard. The army engineers who have charge are very strict. Of course a private individual would not put up such a building. It would not pay. Yes, good brick ought to be as durable as stone. It depends a great deal upon the manner in which the bricks are laid. Good mortar becomes harder with age. When dry bricks are laid during the warm months

the brick will absorb all the strength of the mortar. Brick laid at such a time ought to be wet. A wall erected in April or May or October and November of sufficient thickness, ought to last for two or three centuries."—*Washington Star.*

THE LATE H. B. RATHBUN.

The *Bellefonte Intelligencer* of June 1st says:—The sad tidings of the death of Mr. H. B. Rathbun, of Deseronto, reached Bellefonte this morning. Mr. Rathbun has been in ill health for some time past. Last winter he went to California for the benefit of his health. From California he took a tour through the Southern States and returned home but a short time ago. He found rest this morning about 4 o'clock. The deceased was born at Auburn, N. Y., and was 74 years of age. He came to Canada in 1854 and located at what was then called Mill Point, but is now known as Deseronto. At the time of his arrival the place had but one house. He began lumbering operations and from modest beginnings gradually extended his business until the name of Rathbun became a symbol of solidity and integrity throughout the Dominion and the adjacent states of the neighboring Republic. Through his thrift and enterprise Deseronto has developed from what it was when he found it to a thriving village of upwards of 3,000 persons. The operations of the Rathbun company have become so extended that to day they have branches in Nanawec, Picton, Belleville, Gananoque, Toronto, Oswego, Albany, New York, Liverpool and Glasgow. All these agencies are supplied from the mammoth works at Deseronto, which are the backbone of the place. Besides these large lumbering operations there has been equipped a small fleet of bay steamers, a railway into the back country, a shipyard, a large flouring mill, and numerous minor undertakings, all the outgrowth of his early enterprise and the energy and ability of his son E. W. Rathbun. Some twenty years ago the deceased retired from active business pursuits and surrendered the management of his vast business interests to his four sons, the eldest of whom is Mr. E. W. Rathbun. The result has proven that the son is worthy of his sire.

The late Mr. Schuster, the City Missionary, had a staunch supporter in the deceased, who recognized the good work that was being done, and encouraged it with his ample means. A family of four sons and three daughters survive him.

FORESTS AND FIRES.

In the Quebec Provincial Legislature on May 31st, Mr. Poupore moved for all correspondence respecting the enforcement of Vic. 46, respecting the sale and management of timber on public lands. Mr. Poupore stated that a large quantity of pine and other valuable timber was annually destroyed by people recklessly setting fire to it all seasons of the year. He trusted that the government would enforce the act and inaugurate a system to protect our forest reserves. He suggested to the Commissioner of Crown Lands that the limit holders should be charged a certain fee to aid a fund to establish a force of men to protect the forests from reckless people. He expressed the opinion of the lumbermen of the province to pay this fee. He did not wish to be considered as opposed to colonization, but his object was to protect the timber from reckless squatters, as distinguished from bona fide settlers. The squatters went on the ground in lumber regions, started taverns, and to clear a few acres in the spring they set fire to the timber and burned a million dollars' worth of valuable property. He hoped the Government would amend the law to prevent this state of things. The timber trade was one of the most important sources of revenue to the province and as a practical lumberman he would wish to see the law enforced.

Hon. Mr. Lynch said he had no objection to bringing down the correspondence if Mr. Poupore would also ask for the orders in council respecting the enforcement of this law. He felt the great importance of doing everything possible to protect the timber reserves of the province. It was a question on which the future prosperity of our province depended, and its importance could not be over-estimated. The province of

Quebec has been especially blessed by nature with a wealth of soil, of timber and of minerals, all of which are capable of vast development. It is the desire of the Government to in every way promote immigration and colonization in suitable districts, but they did not ask a man to settle in a district which did not offer every advantage to himself and children. He was greatly pleased with the remark made by the Lieutenant-Governor on Arbor day when his Honor said that they should place the settlers on the land which offered the fullest advantage to them and preserve the forest limits, so they might be found more valuable and more useful a hundred years from to-day. He could look back with pleasure to the fact that this law which divided the lands into lands for settlement and forest reserves had been placed on the statute book by him. He regretted that his invitation to the lumbermen of the province to assist him in carrying out his law had met with a poor response. He was, however, prepared to go so far as to make the lumbermen contribute to the protection of the forests assessing a fee on them.

After similar remarks from Dr. Duhamel the motion, as amended by Hon. Mr. Lynch, was agreed to.

A UNITED STATES VIEW.

The *Bay City Lumberman's Gazette* says: William Little, of Montreal, advocates the increase of the export duty on logs from Canada to \$4 per thousand feet, \$2 to counterbalance the United States duty on lumber and \$2 more for national protection. He says, in order to foster Canadian manufactures, it would be best to have a rate of export duty almost prohibitory, but he would not propose that. Michigan mill men who are arranging to import logs from the Dominion ought to feel grateful to Mr. Little for not advocating a prohibitory rate and proposing only a mere pittance of \$1. With that rate of export tax the Canadians would keep their logs at home by a large majority. If the Canadians want the timber more than they want American money, and the development of their country, they should follow Mr. Little's advice. The money which being invested in timber limits in Canada would have been put into Southern timber lands and saw mills in the south, the duty on lumber imported into the United States would be retained, and Canada would be left to the slow growth of the past. If her forests in their primitive condition are of such great value in themselves and she desires to retain them intact, she can do so by imposing such an export duty on logs as Mr. Little recommends. With any greater rate of duty than is now imposed Canadian logs will not be brought to Michigan for sawing nor will Canadian lumber be in much demand, while southern pine lands are obtainable at \$1.25 to \$2.50 per acre. Southern pine is calculated to take the place of Canadian lumber in the American market and all that is needed to enable it to do so is the greater development of the industry and an improvement in railroad enterprise in the south.

OUR TIMBER SUPPLY.

Hon. Mr. Carling's scheme to establish experimental stations this summer will not come into operation prematurely. Among the things which it proposes to deal with in forestry, and while the usefulness of experiments in that direction are primarily intended to benefit the prairie Provinces of the Dominion, they must before many years have passed be acted upon in the older sections of the country. It is true we have an abundance of timber just now; but the foreign demand is increasing and the value of our forest possessions are rapidly being exchanged. They must before long become of enormous value. A glance over the geography of the world shows that but one other country possesses so large an area of forests as Canada, and that country is Russia. At the present rate of consumption the United States, with 16,000 saw mills, has but twenty-seven years' supply, outside of private possessions, and the trade now springing up with that country is but the beginning of what must become a very great branch of our foreign commerce in a few more years. The planting of hardwood trees on land

not otherwise very useful cannot be begun to soon. France since 1848 has converted nine millions of her waste acres into forest, and the wisdom of that course is now abundantly demonstrated. Each acre, which before being planted with trees produced about \$175 annually, is now valued at over \$600. The people of Canada, when they have looked into this matter, will see the propriety of taking any proper steps which have for object the development of forestry. There's millions in it.—*London Free Press.*

SERIOUS BUSH FIRES.

The *Nipissing Times*, published at North Bay, says:—The bush fire which was referred to when going to press last week, originated about a half a mile above the village. A north-west wind was blowing at the time, which caused the fire to make rapid headway towards the village. The hose, not being of sufficient length, was useless. A large number of the villagers and men from the O. P. R. shops, hastened with pails and axes to stop the progress of the flames, which would in a short time have got beyond their control. Water was conveyed to the spot by locomotives. After two hours hard labor the progress of the fire was checked.

The *Renfrew Mercury* says:—After the long continued dry weather, bush fires in many parts of the country became alarmingly dangerous last week. At North Bay the village bell was kept ringing continually on account of the fires in the vicinity. At Renfrew, a fire spread from Mr. J. Murphy's farm at the Pinnacle, through Mr. E. Mayhew's limits, which were entirely devastated of a fine growth of young pine, and the fences burned down, and then on to Mr. Ward's property, where it also destroyed a considerable portion of fencing and menaced the barn. A number of friends from the village went out to assist in fighting back the flames and succeeded. Many of them were laid up next day—Sunday. Mr. Murphy's bush was also destroyed. The fire through Mr. Mayhew's property caused a great commotion among a lot of partridges. On Saturday morning the Wilberforce side of Eganville had a narrow escape from destruction also. A slight change in the wind fortunately averted the disaster. Boys had carelessly started a fire.

About two weeks ago says the *Eganville Enterprise*, set out fires in the vicinity of Pogue Lake, says a man just down from the woods, and the high winds which prevailed since that time have carried the fire down to Brennan's creek, a distance of over ten miles, the breadth of the burnt district being over three miles. Mohr's limit suffered greatly, the fire totally destroying it. McLachlin Bros.' limit caught in several places, burning all the provisions the men had for the drive. On Saturday during the high wind the barns and outbuildings on the farm of Mr. Stephen Ryan, Reeve of South Algoma, took fire from the bush and were totally destroyed. A number of settlers in South Algoma and Hagarty have had their fences and crops burnt. On Saturday evening they had a good shower of rain, and only for this a good deal more damage would have been done. The Polish settlers were removing their furniture and effects from their houses and burying them, but the timely rain saved their buildings.

A Russian Pole was arrested at the instance of McLachlin Bros and brought before Justice Kinders and O'Grady, charged with setting fires to their limits, and was by them committed to goal for thirty days.

BEATTY'S wharf, house and dock and the Parry Sound Lumber Company's storehouse, at Parry Sound, containing a quantity of flour, oats, etc., were destroyed by fire on May 29th. A strong wind placed the lumber yards of the Parry Sound company in jeopardy, but strenuous exertions on the part of the employees saved the property. Loss covered by the insurance.

W. O. RANSOM, deputy commissioner of railroads in Michigan, estimates that there will be 390 miles of new road constructed in that state this year.