

## Technical and Bibliographic Notes / Notes techniques et bibliographiques

The Institute has attempted to obtain the best original copy available for filming. Features of this copy which may be bibiiographically unique, which may alter any of the images in the reproduction, or which may significantly change the usual method of filming are checked below.

 $\left[ \right]$ 

L'institut a microfiimé le meilieur exemplaire qu'il iui a été possible de se procurer. Les détails de cet exemplaire qui sont peut-être uniques du point de vue bibliographique, qui peuvent modifier une image reproduite, ou qui peuvent exiger une modification dans la méthode normaie de fiimage sont indiqués ci-dessous.

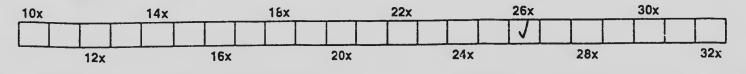
r

7	Coloured covers /		Coioured pages / Pages de couieur
	Couverture de couleur		Pages damaged / Pages endommagées
٦	Covers damaged /	<u> </u>	
	Couverture endommagée		Pages restored and/or iaminated / Pages restaurées et/ou peiliculées
	Covers restored and/or laminated /		
	Couverture restaurée et/ou pelliculée		Pages disculoured, stained or foxed / Pages décolorées, tachetées ou piquées
	Cover title missing / Le titre de couverture manque		Pages detached / Pages détachées
	Coloured maps / Cartes géographiques en couleur		
		$\square$	Showthrough / Transparence
7	Coloured ink (I.e. other than blue or black) /		
$\checkmark$	Encre de couleur (i.e. autre que bleue ou noire)		Quality of print varies / Qualité inégale de l'impression
7	Coloured plates and/or illustrations /		
	Planches et/ou illustrations en couleur		includes supplementary materiai / Comprend du matériei supplémentaire
-	Bound with other material /		
	Relié avec d'autres documents		Pages wholly or partially obscured by errata slips, tissues, etc., have been refilmed to ensure the best
_	Only edition available /		possible image / Les pages totalement ou
	Seule édition disponible		partiellement obscurcies par un feuillet d'errata, une peiure, etc., ont été filmées à nouveau de façon à
	Tight binding may cause shadows or distortion along		obtenir ia meilieure image possible.
	interior margin / La reliure serrée peut causer de		oblem la memetre mage presider
	l'ombre ou de la distorsion le long de la marge		Opposing pages with varying colouration or
	intérieure.		discolourations are filmed twice to ensure the best possible image / Les pages s'opposant ayant des
	Blank leaves added during restorations may appear		colorations variables ou des décolorations sont
	within the text. Whenever possible, these have been		filmées deux fois afin d'obtenir la meilleure image possible.
	omitted from filming / Il se peut que certaines pages blanches ajoutées lors d'une restauration		possible.
	apparaissent dans le texte, mais, lorsque cela était		
	possible, ces pages n'ont pas été filmées.		

This item is filmed at the reduction ratio checked below / Ce document est filmé au taux de réduction indiqué ci-dessous.

Additional comments /

Commentaires supplémentaires:



The copy filmed here has been reproduced thanks to the generosity of:

Bishop's University. Lennoxville

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are flimed beginning with the front cover and ending on the last page with a printed or illustrated impresaion, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol  $\longrightarrow$  (meaning "CON-TINUED"), or the symbol  $\nabla$  (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrems illustrate the method: L'exemplaire filmé fut reproduit grâce à la générosité de:

Bishop's University, Lennoxville

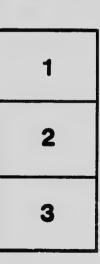
Les images suivantes ont été reproduites avec le pius grend soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant solt par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaître sur la dernière image de chaque microfiche, seion le cas: le symbole — signifie "A SUIVRE", le symbole V signifie "FIN".

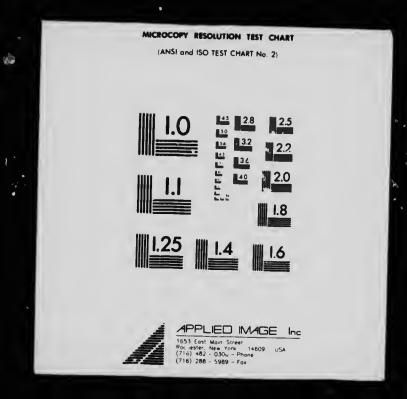
Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grend pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droita, et de haut en bas, en prenant le nombre d'Images nécessaire. Les diagremmes sulvants illustrent la méthode.





...

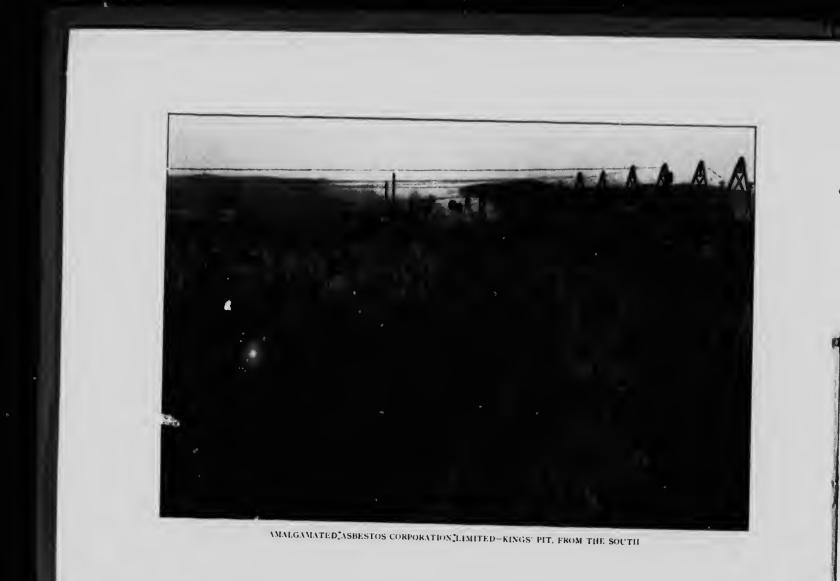
1	2	3
4	5	6





## Amalgamated Asbestos Corporation Limited





.....

### **OFFICIALS:**

E. B. GREENSHIELDS, President.

HOWARD ELLERY MITCHELL, 2nd Vice President. HONORABLE ROBERT MACKAY, Vice-President. R. P. DOUCET, Secretary Treasurer. General Manager: R. H. MARTIN.

#### DIRECTORS:

HUGH A. ALLAN, Montreal, Director, Allan Line Steamship Company, and of the Merchants Itank of Canada,

HONORABLE JAMES M. BECK, New York, Trustee, Mutual Life Insurance Company of New York, and Director of the National Copper Bank of New York,

HARRY A. BERWIND, Philadelphia, Berwind-White Coal Mining Company,

GEORGE D. CRABBS, Cincinnali, Director, Carnegie Trust Company, and The Philip Carey Manufacturing Company of Cincinnati.

THEODORE W. CRAMP. Philadelphia, Banker.

- E. B. GREENSHIELDS, Monireal, President, Greenshields Ltd., Director of the Bank of Montreal, and of the Royal Trust Company.
- H. MALCOLM HUBBARD, London, Eng., Director, Mexico Transways Company, and of the Brazil Railway Company.

ROBERT T. HOPPER, Montreal, Formerly President of the Standard Asbestos Company, Limited.

HONORABLE ROBERT MACKAY, MORIFERI, Director, Canadian Pacific Railway Company, Bank of Montreal, Royal Trust Company, and Bell Telephone

Company of Canada. R. H. MARTIN, New York,

Formerly President of King's Asbestos Mines.

RICHARD V. MATT SON, M.D., Ambler, Pa., President of B Asbestos Mines, and the First National Bank of Ambl. r. Pennsylvania,

THOMAS MCDOUGALL, Quebec,

Director and Chairman of the Board of Directors of the Quebee Itank ; Director and Vice-President of the Shawinigan Water & Power Company,

#### WILLIAM MCMASTER, Montreal,

Director of the Dominion Iron & Steel Company, and The Canadian Bank of Commerce and Vice-President and Managing-Director of the Montreal Rolling Mills.

#### H. H. MELVILLE, Boston,

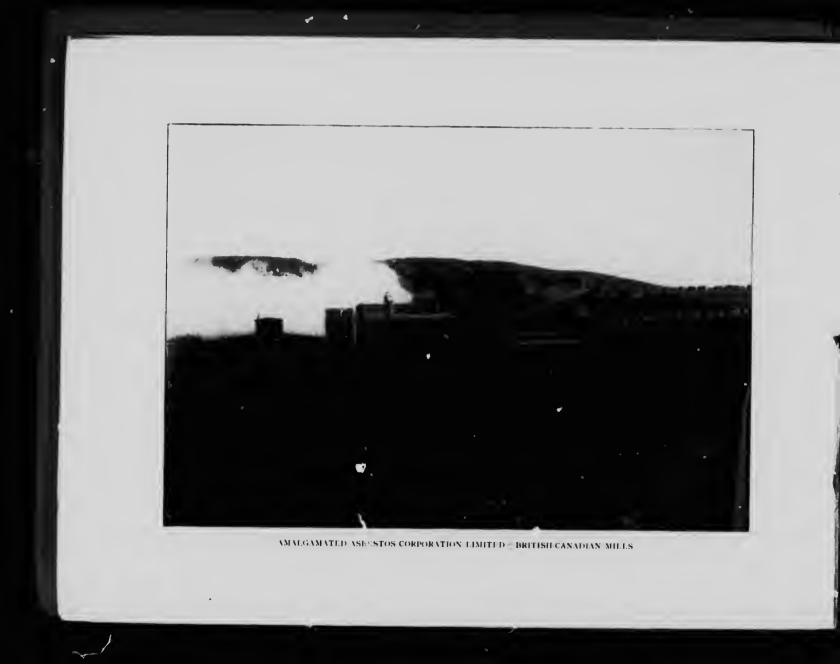
Director, Shawinigan Water & Pros. Com-117/4 Vice-President of the Canadian Northern Qui-Rv.

HOWARD ELLERY MITCHELL, Philadelphia, Itanker.

Head Office : 263 St. James Street, Montreal.

Telephone, Main 7018.

Cable Address (Registered) "AMASCO



# Amalgamated Asbestos Corporation Limited

IS INCORPORATED BY LETTERS PATENT, UNDER THE SEAL OF THE SECRETARY OF STATE OF THE DOMINION OF CANADA, DATED MARCH 5, 1909.

### CAPITALIZATION

### Bonds

1st Mortgage, 5%, 30-Year, Gold.

\$15,000,000

AUTHORIZED -

Issued - - -

- - - \$7,500,000

Reserved for future - - - - \$7,500,000

### Stock



#### BASIS OF THE ASBESTOS INDUSTRY.

"Asbestos is the chief minit. product of Quebec, and the deposits of this mineral in that Province are the most important in the world."

> R. W. BROCK Director of Geological Survey Department, OLLAWA

"Next to coal, asbestos is now one of the most important of non-metallic mineral products, and supplies a very large proportion of the world's demand."...

JOHN MCLEISH, B.A. Chief of the Division of Mineral Resources and Statistics, Ortawa.

"The asbestos mines in the Eastern Townships (of Quebec) constitute one of the most prosperous industries in the Dominion of Canada and they are of special interest to the mining and industrial world from the fact that in so far as known they practically represent the only deposits where the mineral of a quality adapted for spinning and for the finer purposes of manufacture can be mined with a profit."....

> FRITZ CIRKEL, M.E. Monograph on "Asbestos, its Occurrence, Exploitation and Uses Published by the Mines Branch, Department of the Interior, Orrawa.

"The Canadian asbestos is the chief factor in the control of the asbestos industry of the United States and in a marked degree of the world. The development of the industry is coeval with that of the Canadian mines."....

> J. S. DILLER of the Geological Survey, Department of the Interior, WASHINGTON,

"I consider the properties at Black Lake and Thetford, embraced in the proposed Amalgamated Corporation, practically inexhaustible in their yield of Asbestos, and fully as much so, if you will permit me to use the comparison, as any coal mine in Pennsylvania is of coal."....

> Report by EARLE C. BACON Consulting Engineer, on the areas included in the AMALGAMALED ASID STON CORPORATION.

"The great quarries of the King, Bell, Johnson and Beaver at Thetford, and of the British Canadiau, show conclusively that with depth no marked change in the quality of richness of the asbestos chutes takes place."

> FRITZ CIRKEL, M.E. Canadian Mining Institute. "The Depths of Asbestos Deposits."

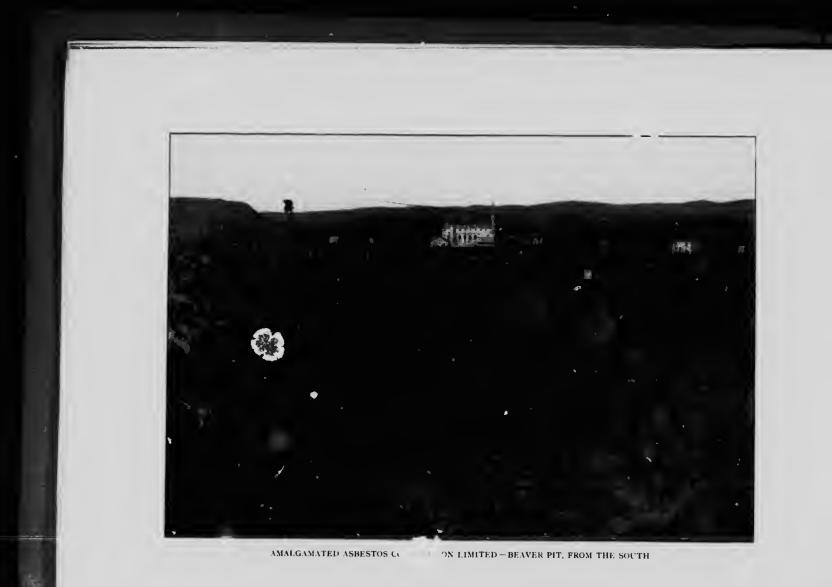
- 7

### **Production.**

The greater part of the world's supply of highest grade asbestos comes from the districts of Black Lake and Thetford, in the Province of Quebec, and the Amalgamated Asbestos Corporation controls over 80 per cent. of the output of these districts.

YEAR.	CANADA.	UNITED STATES.	RUSSIA.	SOUTH AFRICA.	CYPRUS.
1902	29,000 tons	912 tons	4,507 tons	41 tons	
1903	31,000 ''	805 **	5,624 **	276 ''	
1904	35,000 **	1,343 ''	7,502 ''	· · · · · · · · · · · · · · · · · · ·	
1905	48,000 ''	2,820	7,266 "	373 '' 454 ''	
1906	55,000 **	1,538 **	9,201 **	473 ''	19 tons
1907	60,000 **	592 **	9,500	548 ''	89 1
1908	68,000 **	849 ''	10,000 **	1,605 "	





### Destination.

During the Canadian fiscal year ended March 31, 1909, the distribution of the Quebec Asbestos output, "Supplying as it does the greater part of the world's demand," as Statistician McLeish puts it, was as follows :

COUNTRIES.	Tons.	VALUE.	COUNTRIES.	Tons.	VALUE.
Great Britain Belgium Germany Japan	5,347 3,372 225 97	\$237,152 86,871 8,195 3,177	United States France Italy	46, <b>8</b> 46 2,332 814	\$1.322,890 50,612 21,678

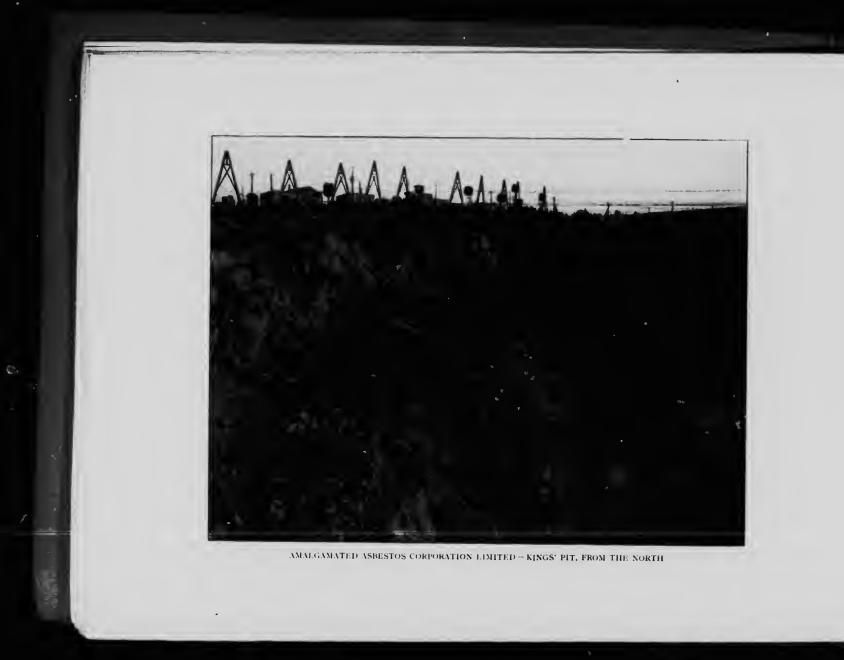
In the main this representation is correct ; yet it is misleading—inevitably so, because most of the asbestos consigned to Germany is 1e-exported from New York.

### The Prices Obtained.

Notwithstanding the 134 per cent. increase in the tonnage produced in the years 1902-09 by all the Asbestos Quarries, rapidly accumulating uses for the materials of all grades, and the expanding markets, together with the range of prices throughout those years, are concrete acknowledgments of the superiority of the Canadian product :

	Cr	UDE.	FIBRE.		
YEAR.	No. 1,	No. 2.	No. 1.	No. 2.	No. 3.
1902	\$150.00	\$ 90.00	\$55.00	\$35.00	\$18.00
1903	175.00	100,00	60.00	37.50	20.00
1904	225.00	110.00	75.00	40.00	22.50
1905	225.00	125.00	85.00	45.00	25.00
1906	250,00	1,50,00	85.00	50.00	27.50
1907	275.00	157.00	82.00	55.00	30.00
1908	300.00	165.00	110,00	55.00	30.00
1909	300.00	175.00			v





#### The Growing Demand.

According to the Dominion Statistician, 90,426 tons of Asbestos and Asbestic, worth \$2,505,042, were produced in 1907, and 90,773 tons, worth \$2,573,335, in 1908. Presumably the 1909 output was about the same as it was the year previous and prices have averaged about the same, although the tendency is toward higher quotations for the finer qualities. It is in the diversity of the demand, however, that the 1909 development is most significant as evidencing the broadening position. To meet this and to effect internal operating economies while perfecting classifications and meeting and making greater markets the Amalgamated Asbestos Corporation was created. Standardization became a prerequisite. Instead of desultory conditions, haphazard methods, lack of combination for the mutual benefit of producer and consumer, the Amalgamated Asbestos Corporation seeks to provide a certain, continuous and equitable source of supply for the industries identified with the Asbestos era.

#### Preparing for Expansion.

Upon the anthority of Consulting Engineer, Mr. Earle C. Bacon, in the first place, and the demonstration incident to the initial half year of the Corporation, it is confidently assumed that the properties of the Amalgamated Asbestos Corporation are capable of surpassing their estimated capacity of 80 per cent. of the asbestos produced by the Quebec districts and 70 per cent. of the world's contribution. During 1910, given the opportunity contained in the anticipated industrial expansion, the properties of the Amalgamated Corporation should produce 75 per cent. of what tonnage was accounted for by all of the quarries in 1908. Special grades characteristic of individual quarries already are heavily contracted for. Orders npon the books of the Corporation at the 30th November, 1909, total \$3,366,888.76. Earnings are ample to cover all fixed charges and with the extensions to plants completed or in hand the intention is not alone to maintain the supremacy of the Amalgamation, but to provide surplus stocks in variety to meet requirements. Heretofore co-operation as between comments and producers was somewhat minimized, now the zim is to safeguard

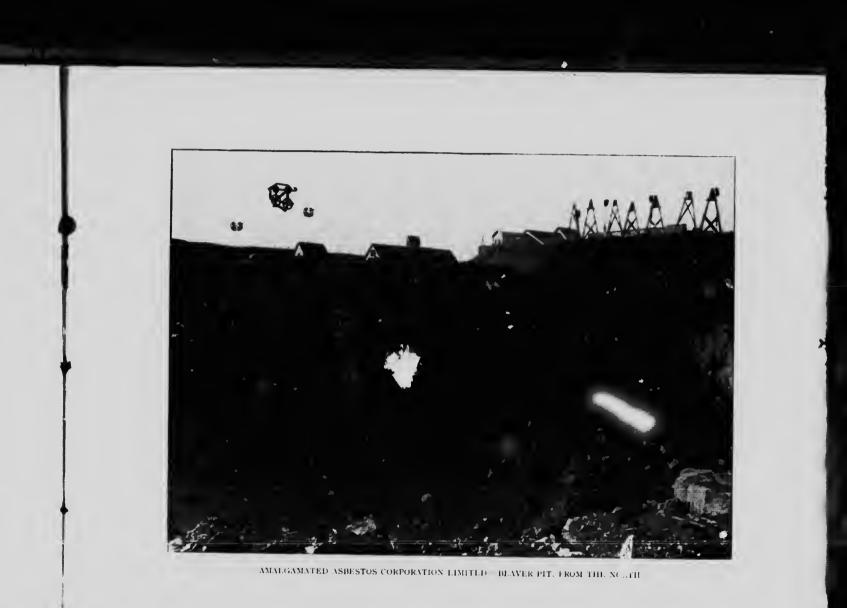
economies, to perfect classifications, to cultivate markets and to encourage Mechanical and Electrical Engineers and the Structural Trades in the use of Asbestos. With the Amalgamated Asbestos Corporation it is not a matter of providing sufficient for current demand. The diversity of demand rather dictates the provisions now being made for a greatly increased output, which can be accomplished for less than was possible under former conditions. Whether in the fire-proof textile trades, the building trades or throughout the range of modern mechanics, Asbestos as produced by the Amalgamated Corporation has precedence in point of quality. Of the quantity available Professor John A. Dresser, of McGill University, some time ago contributed a paper to Economic Geology, published under the auspices of the Canadian Geological Survey, in which he said :

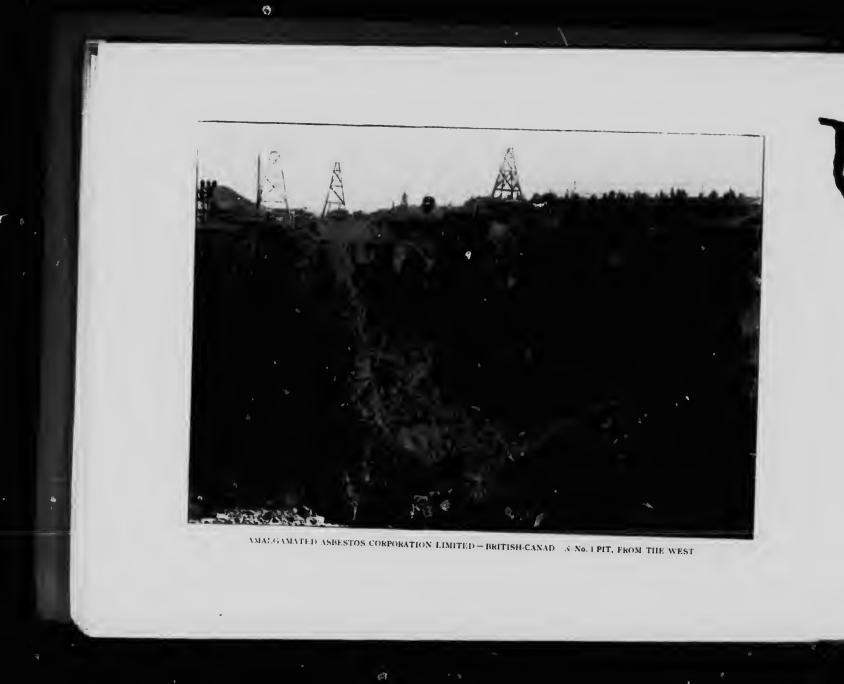
"The total production of Asbestos in Quebec now amounts to more than 400,000 tons, having an aggregate value of \$17,000,000. These mines, which have been for some time the principal source of the world's supply, in many cases have reserves in sight that are practically inexhaustible."

From the beginning to date the production of asbestos and asbestic in Quebec totals 700,000 tons, worth \$23,000,000.

### Amalgamated Asbestos Corporation Limited.

The Amalgamated Asbestos Corporation Limited, was organized for the purpose of acquiring, operating and developing asbestos properties and the amalgamation of the most successful companies—the Kings' Asbestos Miues, the Beaver Asbestos Company, the British-Canadian Asbestos Company Limited, the Dominion Asbestos Company, the Standard Asbestos Company Limited, and the R. T. Hopper property. The Bell Asbestos Mines is also included in the amalgamation by a contract for the entire production of that property over and above the manufacturing requirements of the Keasby & Mattison Company, and the affiliated companies controlled by Dr. R. V. Mattison.





## Geographic and Economic Advantages.

All of these properties are located at Thetford Mines and Black Lake, on the line of the Quebec Central Railway, about seventy-five miles south of the City of Quebec, and about 167 miles from the City of Montreal. Railway facilities and proximity to the seaboard afford advantages to these quarries not enjoyed by any other asbestos producing fields, even though those other fields had the quantity and qualities characteristic of the Quebec Serpentines. New York is 475 miles and Boston 318 miles distant; so that there is immediate access seaward and inland to the largest markets for the materials. The Amalgamated properties include a total area of 8,091 acres in the producing section. Of the 18 or 20 square miles of serpentine

As in the Thetford and Black Lake districts—the rocks containing the abestos fibres— $12\frac{1}{2}$  are owned and c<sup>1</sup> rolled by the Asbestos Corporation. Whereas some of these square miles are not fiberized, the prosported portions of the Amalgamated areas are of great economic value, constituting as they do in the main, proven sections where original owners had established their merits.

## Relative Predominance of Amalgamated Areas.

It is easy, therefore, to comprehend the relative importance of the Amalgamated Corporation with its predominance as to acreage, its proved sections and its increasing volume of shipments. The site of the town of Black Lake, where the British-Canadian workings are located, is almost completely surrounded by Amalgamated Asbestos premises, the dwellings of the townspeople being erected thereon. Thetford is one of the most prosperous communities in the Province of Quebec, a substantial railway depot and business blocks, including the Amalgamated Corporation's Department Store, attesting the permanency of the improvements. A population of approximately 12,000 urban and rural, is almost wholly dependent upon the Asbestos industry. The Amalgamated Asbestos Corporation aloue has an annual spending power in wages, supplies and electrical power, of about \$1,000,000. An average of 1.500 persons is employed at the Quarries and Mills. With a view to obtaining and retaining efficient labor, married employees are encouraged

to erect dwellings on the Amalgamated properties. Creature comforts for unmarried employees have been provided by the erection of modern and large boarding-houses. A nominal ground rental is charged for ground rentals and the result of the consideration shown is that there are about 700 dwellings on the various properties. The only reservation in the leases or permits given to employees is that in the event of the ground being required for quarrying purposes the payment for improvements shall not exceed \$800. Industrially and socially the Amalgamated Asbestos Corporation was progressively planned. Centralized administration, organization at distributing centres, exact greater quarrying efficiency and tonnages. The Asbestos industry is being co-ordinated.

### Electric Power at Uniform Rate.

One of the first fruits of this was a contract entered into with the Continental Heat and Light Company, a subsidiary of the Shawinigan Water and Power Company, for the supplying of power to all the plants at a uniform rate, not only giving the Amalgamated Asbestos Corporation sufficient power for all the mills operated at the various properties, but enabling it to install a complete electric lighting system at the Thetford Quarries, permitting of night operations. In this connection it has been shown that night labor gives excellent results, and that it is feasible in this way to increase the output.

## Provisions for Large Outputs.

The Amalgamated Asbestos Corporation owns six mills situated on five properties — the Kings, Beaver, British-Canadian, Standard and Dominion. The Beaver has just been remodelled and hereafter rock entering the mill and in process of treatment will be disposed of mechanically and more economically. When the properties were taken over all the mills had a daily capacity of about 4,500 tons of mill rock. The Dominion Mill, with a capacity of 600 tons when completed, will be an added factor. Moreover new installations at the Kings, the Beaver and the Standard will materially increase the capacity of those mills.

 $20^{\circ}$ 





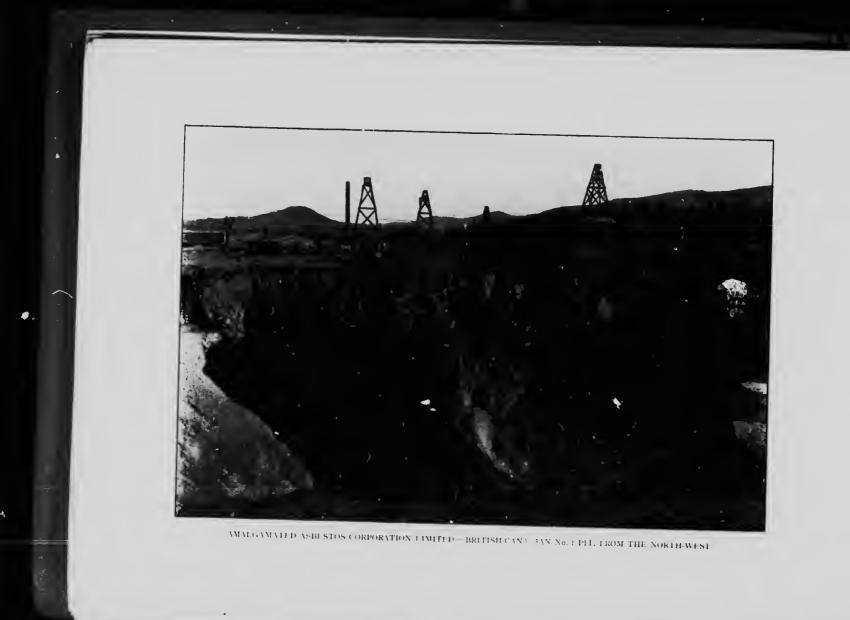
Combined, the Kings' Mills are the largest at the Asbestos Fields. At the Kings' Pit a modern electric pumping system has been introduced. There also, and at the British-Canadian workings, tunnels have been driven whereby workmen will be enabled to better obtain access and egress to and from the Quarries, and central deliveries facilitated, hoisting charges now being one of the heavy items in the cost sheet. Since the amalgamation a compressor plant at the Black Lake properties has been advanced. A gravity incline railway being constructed from the Dominion and Standard mills to the Quebec Central Railway. So that, when activities are at the maximum in the coming spring, the capacity of the Corporation should be all the more impressive.

In addition to the mills, the Amalgamated properties are now being fully equipped with auxiliary quarrying and hoisting facility. There are two central electric power stations and electricity is availed of throughout.

There are four machine shops, nine store houses for asbestos, six cobbing buildings, four electric lighting plants, three office buildings two compressor plants, fifty engine houses, ten miles of railway, locomotives, several hundred freight  $c \to s$ , fifty derricks and cableways in operation. Altogether quarrying is proceeding in twelve pits. Hereafter the Standard mill and pit, the Dominion mill and pit, and the Beaver mill and pit will enter more largely into the tonnage of the Amalgamated Corporation. New crushers and other mechanism will double the Standard output. While electricity is utilized, most of the properties have emergency steam plants. At the moment, the daily requirements of the Amalgamated Asbestos Corporation is 3,250 H.-P.

### Administration and Management.

The Amalgamated Asbestos Corporation directorate includes representative financiers and technical chiefs familiar with the markets for and manufacturers of asbestos materials. Priority is given to whatever will bring the producer and consumer into accord.



A.





## How Asbestos Rock is Quarried.

As distinct from asbestos occurrences at other fields, those of the Amalgamated Corporation are noted Character of for their superiority, variety and magnitude. Scientists, entirely disassociated from the Asbestos industry, recognize in them a practically inexhaustible supply of inorganic matter, without which the high pressure epoch demanding something that will withstand such heat as would destroy any organic material would be at a disadvantage, without which fire proofing would be an expensive precaution and less of an economy. In color, susceptibility to weaving and purity, the Quebec chrysotile has never beeu surpassed. Primarily the importance of the mineral was scarcely appreciated and what quarrying was done had what is known as "Crude "-the longer fibre in fissure veins-as its objective. The veins or net works of cracks vary in width from mere lines to occasionally three inches, and as "Crude" is eagerly sought for its longer fibre and spinning qualities, it was not supposed by the pioneers of the Asbestos industry that the more extensive areas of fiberized rock was a more potential feature. Hope and profits ebbed and flowed according to the quantity of "Crude" recovered in the primitively equipped quarries. Not until within a few years was the real destiny of the asbestos quarries discernible. "Crude" is now in the nature of an extra. Of the total tonnage of asbestos produced the proportion of "Crude" to the whole is about four per ceut., perhaps a trifle less.

## Methods of Quarrying and Milling.

Quarrying is simple, although regard for the economies is a prerequisite where the percentage of fibre in the tonnage milled is from five to eight per cent. In the Kings' Pit there is "Crude" and uniformity of fiberization. After blasting, the broken material is then hand sorted. Where no "Crude " has to be handcobbed-that is the veins are knocked off with a hammer-all the rock not actually waste is hoisted together with the fines and conveyed by gravity tramways to the respective mills, the Amalgamated Corporation having its own railway system. The "Crule" and pieces of rock clinging to long fibre are sent to the cobbing sheds to be dressed and classified. Rock containing the shorter fibre, known as milling material,

he Deposits.

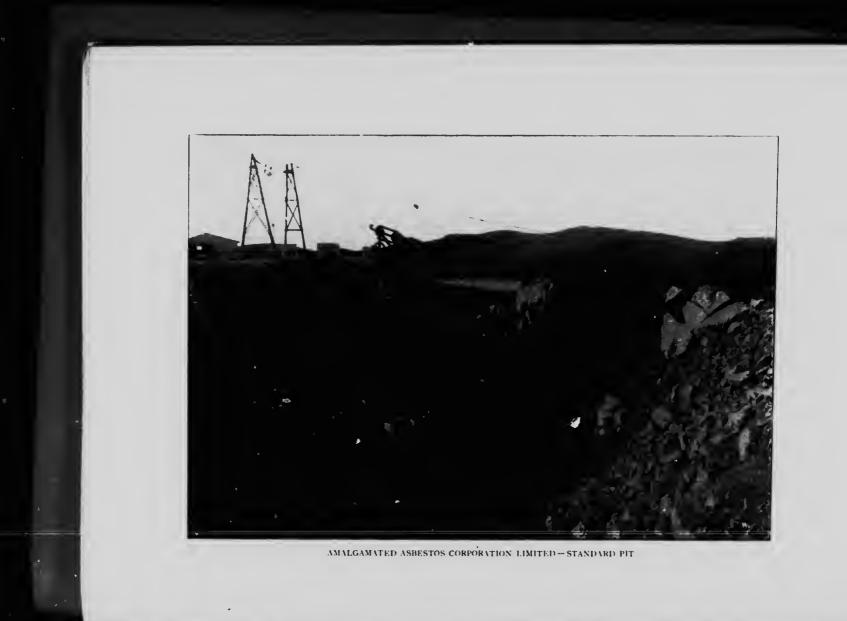
and the fines resulting from blastings and the shifting of rock, go to the mills. There the process is automatic. It took years of experimentation to bring that about so as to obviate the more expensive rehandling. Only in the manipulation of what is described as No. 1 and No. 2 "Crude"—so-called because it is shipped in that form—is manual labor employed. Manufacturers of asbestos specialties prefer the output of specific quarries. Some quarries, as Mr. Cirkel pointed out in his Monograph, make only No. 1 "Crude" that brings the highest prices. No. 2 "Crude" consists of a second quality, measuring from  $\frac{1}{16}$  to  $\frac{3}{4}$  of an inch. In order to get rid of all foreign substances in the cobbing process, No. 1 fibre is screened in a sieve with  $\frac{1}{16}$  inch holes. The No. 2 fibre sieve has  $\frac{3}{8}$  inch holes. All refuse from the cobbing tables and sheds is sent to the mills. The "Crude" is ready for market.

Mill rock makes large profits on its turnover. On entering the mills it is crushed in jaw breakers and conveyed to rotary dryers consisting of cylinders made of strong boiler plate, resting and turning on its ends in friction rollers. In order to allow the shell to expand and at the same time to prevent it from sliding, these friction rollers are flat at the upper end and grooved at the lower end of the cylinder. The length of the shell is from thirty to forty feet, the diameter from two and a half to four feet, and its inclination seven degrees. The drying is assisted by longitudinal blades, which lift the material and allow the same to fall through the current of hot air which circulates through the cylinder. The fibre is either placed directly under the shell or in an extra brick case at the side, on the lower end of the cylinder, allowing the heated air to play around the shell and escape through a chimney placed at the other end of the dryer. The capacity of the rotary ranges from 50 to 75 tons per shift, according to size and the moisture contained in the material. From the dryer a bucket elevator takes the material to be recrushed, screened and pulverized and fiberized in cyclone mills. From thence it is discharged on to shaking screens, the "Cotton" being taken up from these by suction fans and blown into collectors or settling chambers. All collectors and settling chambers usually are located in the upper portions of the mills. So strictly are the economies observed that the dust from the collectors, which contains very fine fibre, is conserved and sold to those who can use it in the manufacture of finishing plaster.

2S



AMALGAMATED ASBESTOS CORPORATION LIMITED – DOMINION MILLS

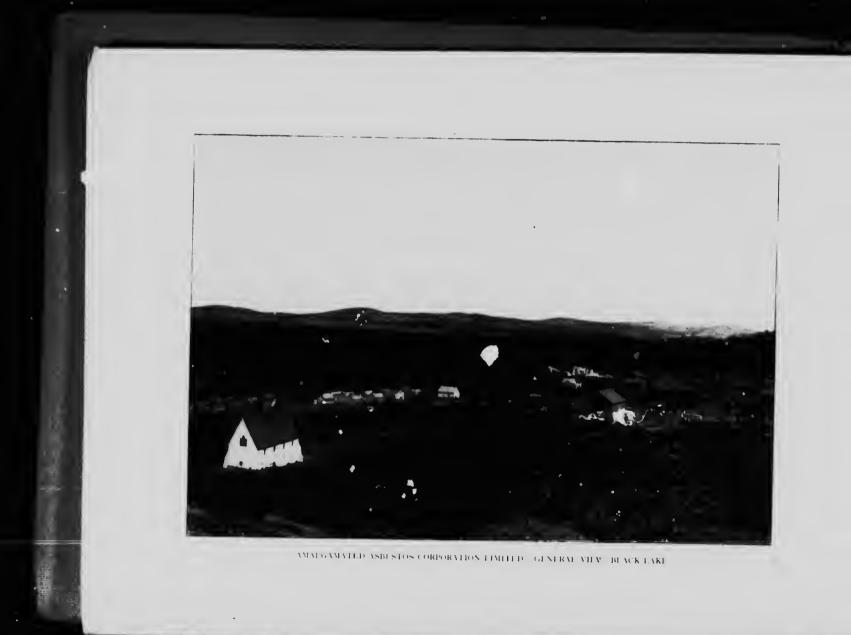


The different grades of fibre are made by a final process. As intimated, some mills make certain grades, one, two or six as the case may be. The grading is done in sizing machines or revolving screens with arms swinging in opposite directions.

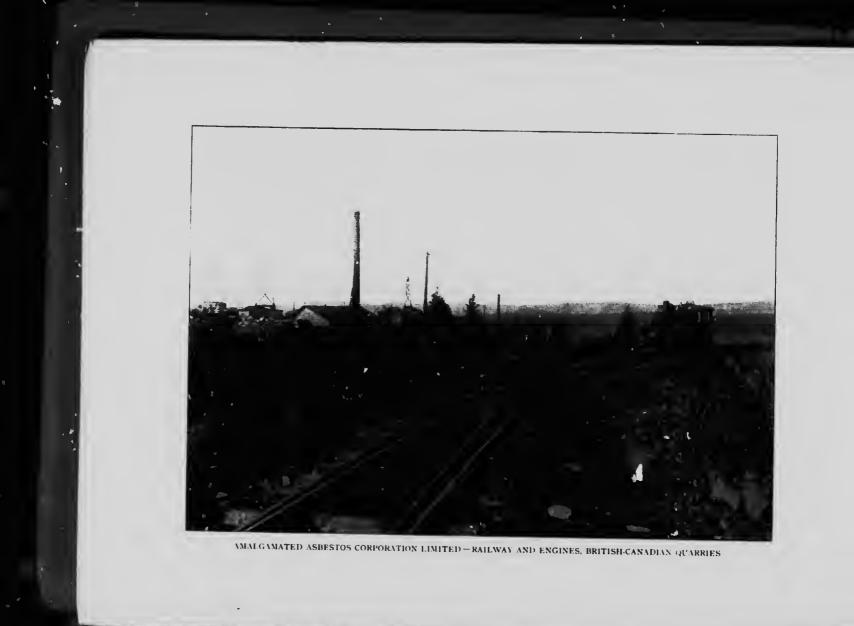
#### Uses of Asbestos.

The indestructibility and incombustibility of asbestos are its self contained virtues. It is a constantly Asbestos and increasing article of economic importance in the arts and trades, and it ranks as one of the essentials. Essential. Moreover, its incombustible nature and slow conduction of heat renders it a complete protection from fire. To the ancients fire-proof qualities were no secret. By the modern scientist it is recognized as a nonconductor of heat and electricity, as well as being practically insoluble in acids. It is one of the indispensibles. The best grades are suitable for textiles and Mr. J. S. Dillar, of the United States Geological Survey, asserts in a report that "thread can now be spin so fine that it will run about 32,000 feet to the pound." In the electrical arts asbestos is widely used as a basis of insulation which must withstand high temperatures; it also is availed of as a fibrons binder for many insulating compositions. It is unaffected chemically by many of the active chemical agents likely to attack most insulations; it is generally applied for boiler and pipe coverings to prevent heat radiation, and its efficiency is greatly increased by developing the cellular structure of the covering. A mass of asbestos fiberized and then compressed is highly porous, Mr. Diller says, but it is rendered not only waterproof, but an especially effective insulator, under conditions of varying moisture, by being saturated with certain varieties of asphalt, for example. As a non-conductor of heat it is used not only in the preparation of fireproof safes and vanits, but also for cold-storage and cooling structures, and theatre curtains. Houses made from asbestos materials or coated with asbestos throughout are not only warmer in winter, but cool in summer.

advatrial







#### Some of the Varied Uses.

It is hardly necessary to enumerate the varied markets for asbestos. Let these suffice :

For roofs or side walls, made of asbestos fibre and cemeut. They are absolutely fireproof and States or indestructible. Hundreds of millions of Asbestos Roofing Slates have been made, and it is in that direction that the Amalgamated Asbestos Corporation lool:s for a largely increased outlet for clean short fibre.

For lining floors and walls, fireproofing, to deaden souud, and to prevent drafts. These cover a wide Felta. field. Fibre felts are composed of pure asbestos fibre, and are used for insulating the heat radiating surfaces of automobiles, particularly the steam-driven motor cars, while the generality of felts are employed for warping around small pipes, the insulation of electric service wires, the manufacture of sad iron holders, etc.

Composed of asbestos fibre of the finest quality and is woven in cloths of varying construction, Cloth, weights and thickness, which, in turn, is made into safety drop curtains, wall linings or coverings wherever fire regulations exact them. Asbestos cloth coated with rubber is used for the manufacture of gaskets, sheet packing, etc., its utilization being greatly stimulated by the highest steam pressures which the use of steel boilers enables the manufacture or steamship owner to carry.

Packings.

Mattresses.

Millboards.

Plaster.

Papers.

More especially for high pressure plants and warships of the navies of the world,

Wherever fire-retarding materials are needed, Asbestos Paper is damp-proof as well as fireproof.

Recently there has been a large demand for the better class of Fibre woven into a band of proper Brake Linings. width to suit various sized brakes. Strengthened with wire the bands are practically indestructible.

Are employed to a great extent in the protection of electric short circuiting of trolley or electric cars, Asbestos Wood for fireproofing and for general protective purposes.

For the protection of locomotives from loss from heat and for the conservation of energy.

For oven doors in stoves and ranges, and as flat packings in the joints of steam pipes.

Made from the refuse technically described as Asbestic. When mixed with caustic lime it makes or excellent fireproof wall plaster for either inside or outside work. Its sound deadening qualitie are very marked.

#### Consists of sheet steel, coated with asphaltum and firmly embedded in this is a layer of pure Protected Metal. long fibre Asbestos felt. Commonly used in Fire Departments and manufactured with a wire cloth, being fireproof and Rope. waterproof. For filling between decks and around magazines and all places subject to fire, and used on all Cement. the ships of the navies of the world, and also as fireproof linings for safes. For floorings, impervious to heat and water, and their elasticity is as high as wood. Tiles. Composed of hydraulic lime, sand and asbestos. One side of a nine-inch partition was submitted for Fireproof one hour to a temperature of 2,050 deg. Fahrenheit : it was in no way affected, and the temperature on the Bricks. other side of the partition never reached sufficient heat to ignite a match held against it. Asbestos Filters are in general use. They resist the action of acids and alkalies and can easily be Filters. cleaned by hot water, steam, or by fire. Insurance Companies directed that all wire used in the Rapid Transit Tunnel at New York, be Insulation for Electric Wires. covered with asbestos. Owing to their fireproof and wearing qualities, and their recognized superiority under the circum-Conveyor Belts. stances to rubber, leather, or canvas, Asbesto- Conveyor Belts are used where hot clinker and other substances have to be mechanically disposed of. The durability of these asbestos belts also commends them in all cases where crushed rock, copper or other orcs have to be handled in bulk.

AMALGAMATED ASBESTOS CORPORATION LIMITED

In General.

The experience of the past year and the varied domand for all the grades, taken with the contracts entered into and extending over several years, indicate the versatility of the materials. Asbestos is a natural necessity. Rapidly it is becoming a universal utility.



