

ROUYN HAS THE TALLEST STACK ON THE CONTINENT

Chimney on Horne Smelter at Noranda is over 420 Feet in Height.

On more than one occasion The Advance has had reference to the big chimney stack at the Horne smelter at Noranda, Rouyn district, Quebec. This immense structure is of interest not only to the people of Rouyn but also to all in the North. It is the tallest re-inforced concrete chimney on the American continent and so has naturally attracted considerable attention. The stack was erected last year and E. H. McDermott, writing in the Engineering and Mining Journal gives a graphic description of

it. It is 422-feet, 6 inches high from the base to the top of the shaft, and 18 feet in diameter inside the lining at the top. This height exceeds by 13 feet 6 inches the previous record height of 409 feet, of two re-inforced chimneys built by the same designers and erected at Trail, British Columbia, in 1924 and 1925. The base of the chimney, 883 feet above sea level, is supported on a foundation of solid

brick. The chimney, which is a unit of the copper-smelting plant, produces draft for and carries off dust and gases from four roasting and two reverberatory furnaces and two converters. Before reaching the chimney the gases pass through a Cottrell dust collector. The stack is designed for a capacity of 550,000 cu. ft. of gas per minute at temperatures from 300° F. to 450° F. Outside temperature ranges from minus 40 to plus 90 degrees F. Draft at the base is from 1 1/4 to 1 1/2 in. water column. The shaft is designed to withstand the effects of acidic gases within and the combined loadings resulting from its own dead weight and a horizontal wind pressure of 25 pounds per square foot of projected area. Its base consists of a concrete ring 7 feet 6 inches deep, 35 feet outside diameter and 23 feet inside diameter, reinforced into the top and bottom with rings of 1 inch steel bars and with 3/4 inch bars arranged radially. The shaft is connected to the base by means of 206 one-inch dowels, which start with hooks securely fastened under the bottom steel of the base and project upward into the shell a sufficient distance to provide ample bonds between the dowels and the concrete. Half the bars project 4 feet and the other half 11 feet 6 inches. The shell is reinforced with vertical and horizontal steel; the former takes care of tension stresses resulting from the wind load and the vertical expansion from temperature changes. The total area of steel required at number of bars are selected to meet the necessary conditions and not to be spaced at too great a distance. To meet these conditions in this chimney, the number of bars varies from 206 1-inch rods at the base to 57 1/2-inch rods at the top. The horizontal steel withstands all circumferential tension arising from temperature variations in the chimney wall. It consists of electrically welded rectangular wire fabric, with rods spaced 3 inches vertically and 16 inches horizontally. To distribute the weight of the chimney properly the wall is made heavy at the bottom decreasing in thickness towards the top, thus placing the centre of gravity low in the structure and increasing the stability. The flue opening is 11 feet wide and 300 feet high and is located about 20 feet above ground level. Addi-

tional concrete and steel reinforcing various sections is computed and a side of the opening.

The chimney is lined for its entire height with 4-inch acid-resisting vitreous brick, laid in special acid-proof mortar and built in 45-foot sections from the concrete shell. An air space of about 2 inches is maintained between the lining and concrete shaft; and at the junction between the sections of lining, a lead flashing is installed to protect the joint. A lead coping covers the top of the lining, air space and shaft. As protection against gases, the top 100 feet of the outside and the entire inside of the concrete wall is covered with a specially prepared acid-resisting bitumastic paint.

The concrete mixture for the base of the chimney consisted of one part cement, two parts sand and four parts gravel. The mix for the remainder of the shaft consisted of one part cement, two parts sand and three parts gravel, and the consistency of the mix was carefully regulated to secure a uniform quality of concrete. An average slump of 6 inches was maintained. The coarse aggregate was high-quality washed and screened 1 1/4 inch. Fine aggregate consisted gravel, graded in size from 1/2 inch to of washed and screened sand ranging in size to particles passing a 4-mesh screen.

At a level 120 feet from the ground a steel platform was installed to extend around one-fourth the circumference of the shell. This is used as an observation platform, from which readings and samples of gases are taken through openings in the chimney. It is reached by way of a steel-guarded ladder that extends the entire height of the shaft above the top of the breeching. The top 50 feet of the ladder is coated with 1-16 inch of lead to protect it from acid fumes.

The contractor's special sectional all-steel forms were used in the construction of the concrete shell. The forms consist of internal and external segments, adjustable to any wall thickness or diameter. A scaffold is suspended from the outside of the forms for the use of workmen in making adjustments and finishing the concrete surface. A wooden scaffold was erected inside the chimney as work progressed; this supported a special "cat head," consisting of four crossed timber beams. From these the forms were suspended, and above them was arranged a derrick arm, from which the hoisting cables extended down the inside to the concrete loading platform and down the outside to the hoisting engine.

Lightning protection consisted of twelve points attached to the top of the shaft and grounded by means of two cables terminating in plates set in permanently moist earth. The top 50 feet of the system was coated with 1-16 inch lead. A large cast-iron door as the base provides access to the lower portion of the chimney.

The meeting, an optimistic report of Construction operations began in April, 1927 and were completed in 162 days. Noranda being located at about 49 degrees north latitude, it was necessary to schedule the work during the season when no extremely cold weather would be encountered. The programme worked out so well that the job was completed a few days before the first cold weather arrived.

The chimney was designed and erected by The Rust Engineering Company, of Pittsburgh, Pa., under the direction of Eric Plagwitz, manager of the chimney division.

OPTIMISTIC REPORTS IN REGARD TO THE HAYDEN.

According to references made to the meeting, an optimistic report of progress on the property of Hayden Gold Mines, Ltd., was given to the shareholders by President James S. Pierce at the annual meeting. Diamond drilling is now in progress and four holes have been completed to a depth of approximately 1,000 feet with encouraging results. It is now proposed to actively continue drilling of greater depths. It is announced that Percy E. Hopkins has been engaged to make a detailed survey during the latter part of May. The company's holdings consist of eight claims on the boundary line between Deloro and Ogden townships, and are under the management of Seymour Stephens. The officers and directors, as elected are: President, James S. Pierce, Buffalo; vice-president, Bert W. Lang, Mimico; secretary-treasurer, Willis Spaulding, Buffalo; directors, R. C. Berkinshaw, Joseph Montgomery, Bart Sproule, E. T. Phillips and M. M. Hasserot.

Recently I chanced to meet a friend in Portland and he greeted me with: "Hello, old Top! What's the news?" I answered, "There is nothing new under the sun." Ten minutes later I went into a show house and heard a Chinaman play the "Star-Spangled Banner" on a Scotch bagpipe. Then I realized that I had, unwittingly, lied to my friend.—Making Paper.

FIRST THIRTEEN MILES WOULD BE THE VERY WORST

Apparently, there are some people who disregard popular superstitions, and get away with it. Nearly everybody has some superstition or other, but those beliefs that regard thirteen as unlucky, Friday as an unfortunate day, and Friday the thirteenth as especially deplorable, have attained a considerable acceptance. Those who scorn such beliefs have support in such a paragraph as the following from the last issue of The Pas Herald, of The Pas, Manitoba:— "Thirteen Winnipeg business men left for The Pas on Friday, April 13th. They were all alive when they left here on the return journey and the best wishes of the citizens of The Pas went with them for a safe journey—but 13 in the party travelling on Friday the 13th."

HIGH-GRADE SAMPLES FROM RUN OF THE PRESS

Sudbury Star:—Home runs are again listed among the items for which the demand is greater than the supply.

North Bay Nugget:—The death of a prospector through the medium of an airplane crash reminds one that there are dangers on the trail of '28.

Perth Expositor:—When a man leaves his wife she hasn't lost half as much as she thinks she has.

Vancouver, B.C., Sun:—A fashion note tells us that the length of the skirt is to some extent left to the discretion of the wearer. So, this is discretion!

Mount Clemens (Mich.) Leader:—It isn't the fear of death that makes some people drive carefully; they just hate to get the new car scratched up.

Milwaukee Journal:—The ideal parking place has at last been found. During a storm a steamer dumped 21 automobiles upon the bottom of Lake Michigan.

MAN KILLED THOUGHT TO HAVE BROTHER IN TIMMINS

The Sudbury Star last week says: "Caught between the skip used for hauling ore and the timbers of the shaft, Antti Hautane, 20 year old miner, was instantly killed at 3.30 o'clock on Monday morning in the Froot shaft of the International Nickel Co. about the 2,000 foot level. Hautane received severe injuries about the head and thorax. An inquest will be held this afternoon. Hautane had only worked at the Froot mine for about a month. He previously worked in the lead mine at Galetta. The body was removed to Jackson's Undertaking Parlours. It is understood that brother is living in Timmins."



It's marvellous how a little paint can transform a home—

Happiness and good cheer inevitably follow the proper use of paint. The new B-H book "Color Harmony in the Home" opens the way to more beautiful homes for all. It's so easy to use, too, for there is a B-H finish to protect and beautify every conceivable type of surface.



Our new booklet on Color Harmony contains many suggestions for beautifying the home. Secure a copy from your dealer or write direct to the company at Montreal.

BRANDRAM-HENDERSON LIMITED

B-H English PAINT

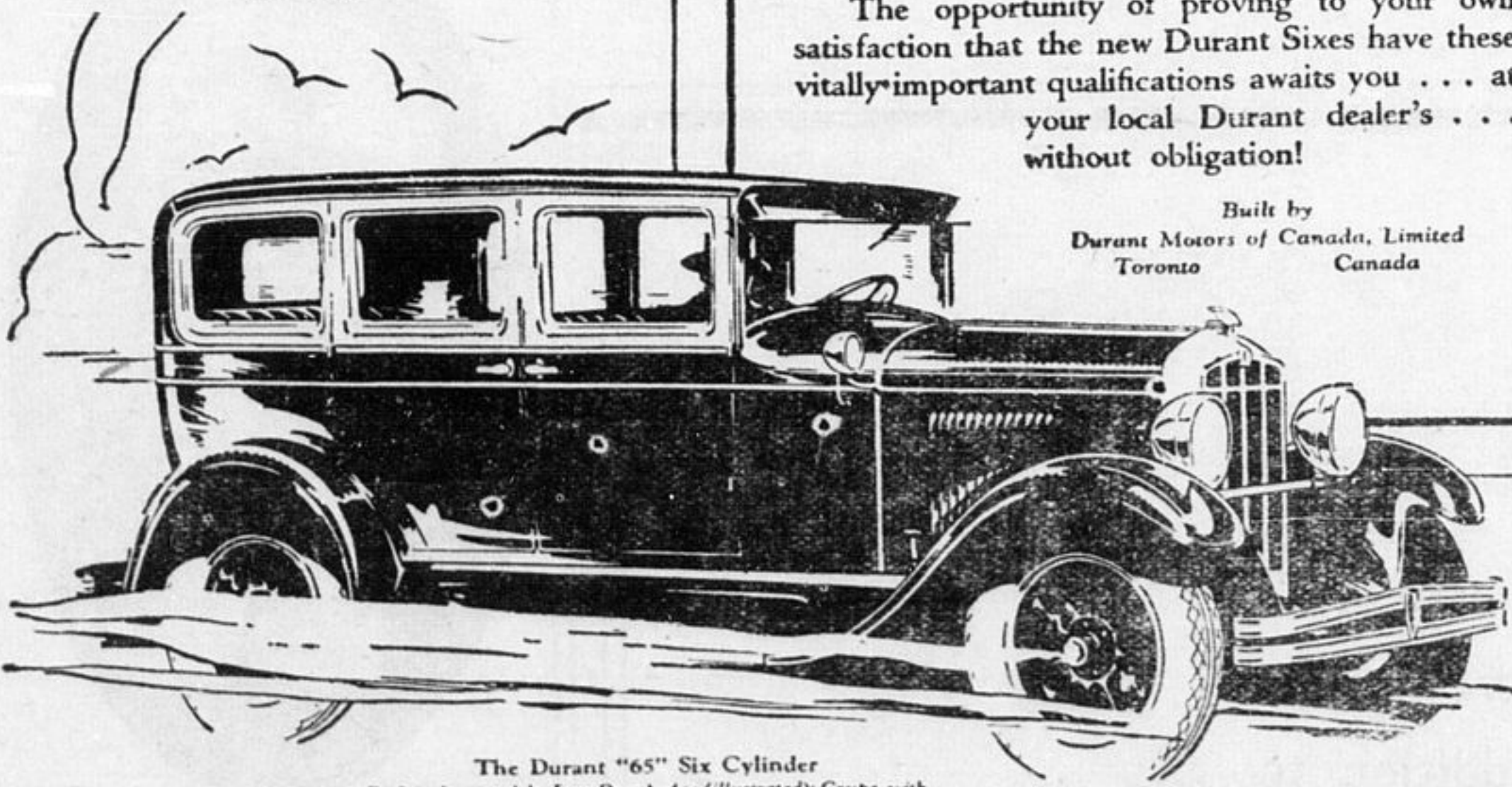
Guaranteed to contain Brandram's Genuine B.B. White Lead and Pure White Zinc, combined in the ideal proportions of 70 to 30, forming the strongest covering pigment known to science.

Schumacher Hardware and Feed Co. Ltd.

"Establishing A New Standard in Automobiles!"

THE DURANT 65

Passenger Cars
Four and Sixes
from \$725 to \$2195
f.o.b. Leaside, Ont
Taxes Extra



The Durant "65" Six Cylinder
Built in four models, Four Door Sedan (illustrated), Coupe, with Humpback Seat, Four Door Street Sedan, Cabriolet, with Humpback Seat.

Stability and Power Augmented by Beauty

AFTER a ride in the Durant "65" . . . after a thorough demonstration on a straight-away run, on a curving, steep hill, in traffic . . . or under any road conditions you may choose . . . only then can you honestly express an opinion regarding this well built automobile.

Stability . . . to stand the strain of everyday motoring with ease. . . Power . . . to meet every reasonable demand with certainty. . .

And in addition the beauty that is so characteristic of Durant built Hayes-Hunt bodies. . .

The opportunity of proving to your own satisfaction that the new Durant Sixes have these vitally important qualifications awaits you . . . at your local Durant dealer's . . . without obligation!

Built by
Durant Motors of Canada, Limited
Toronto Canada

DURANT

Rugby Trucks, Four and Six Cylinders; Capacity 1 ton and 1 1/4 tons C828

Timmins Garage Co. Limited
Timmins, Ont.



Steele, Briggs' Seed have been proved. For fifty-five years they have been sown year after year by growers whose whole success depends on the seeds they sow. And now to our great organization we have added the facilities of the Canadian business of the D. M. Ferry Seed Company by absorbing the latter. "Canada's Greatest Seed House" now offers you better service than ever.

Sold everywhere in Canada. Send for new illustrated Catalogue

STEELE, BRIGGS SEED CO. LIMITED
"CANADA'S GREATEST SEED HOUSE"
TORONTO - HAMILTON - REGINA - WINNIPEG

The Candle of Life is Burning

Hour by hour the flame burns the candle shorter until, suddenly—a gust of wind—a flicker—and the flame expires.

So with your life. You do not know when the gust may come that will extinguish the flame of your life, but you know that it will come. Perhaps soon.

Familiarity with this fact often breeds indifference that results in suffering and privation to a family that might easily be prevented.

Confederation Life Policies are designed to prevent this. Do you really know the extent to which you and yours can be relieved of all chance of such misfortune?

Are you familiar with the liberal provisions of the Confederation Life Association's

**TOTAL DISABILITY BENEFIT ?
DOUBLE INDEMNITY ACCIDENT BENEFIT ?**

OR
LIFE INSURANCE WITHOUT MEDICAL EXAMINATION ?

If you will write we will send you some information about life insurance that will interest you.

CONFEDERATION LIFE ASSOCIATION

HEAD OFFICE - TORONTO

E. C. WARD
District Manager — Cochrane
A. W. PICKERING
General Agent — Timmins

