



More detailed information on any product or service mentioned in this issue is available through the nearest Canadian Government Trade Representative, or by completing the Trade Inquiry Form on page 7 and mailing it to Canada Courier, Department of Industry, Trade and Commerce, Ottawa, Canada. Postal code: K1A 0H5.

UNITED STATES EDITION

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## Chemical producers move with the times



Canadian chemical companies continue to develop and improve products to meet growing world demands.

### AVC technology gets big lift

Operational trials over water have begun for Canada's Voyager Heavy Haul Air Cushion Vehicle at Toronto's Island Airport. The amphibious vehicle with its enormous payload capacity — 25 tons — is undergoing two months of tests at Toronto which will be followed by more testing on Lake Huron. The big vehicle has already passed one month of overland tests at the airport in Grand Bend, Ontario.

Voyageur is produced by the Grand Bend facility of Bell Aerospace Canada Division of Textron Canada Ltd. It is designed for a project per-ton-mile operating cost one-fourth that of heavy-lift helicopters and is built with prefabricated modules for easy deployment by road, rail or air. Voyageur has 50-mph (80kmph) top speed and is intended to meet a number of individual load and operational re-

quirements. It has basic flatbed design to which specialized superstructures and equipment can be added. The vehicle could be used as a cargo transporter, military lighter, mass transit ferry or even a coast-guard buoy tender. It should require minimal maintenance and crew training as it uses state-of-the-art components. For example, Voyageur's standard ST-6 Twin-Pac engines have seen five million hours' operation in various uses. Engine options are available.

Code 1-1



The first Bell Voyager ACV testing in Toronto Harbour. A second prototype of the Voyager will be delivered to the Canadian Department of Transport in May. It will be used in operational evaluation trials in the Arctic for one year.

Continuing efforts of industry and government have combined to help make Canada one of the world's largest producers of chemicals. Every facet of business, industry, medicine and the home is served by Canadian chemical producers.

Fertilizers and fertilizer materials, organic and inorganic chemicals, synthetic resins and rubber, pharmaceutical products, chemicals for the construction industry and many other products are all manufactured in Canada.

In some fields, Canada has become a preferred source — notably for potash and other fertilizers as well as synthetic rubber. There are many new developments in chemicals, notably in plastics, paints and finishes and construction. Every new construction project is a potential market for chemical specialties.

The Canadian plastics industry with all its facets — resin, machinery and equipment production — is growing at the rate of about 12 per cent a year. Canadian plastics provide a solid foundation for manufacture of imaginative products, not only in "end-use" items, but in production machinery and equipment.

Canadian paint manufacturers are meeting the challenge of innovations in their field. Major changes in 1972-73 are expected to be developments in powder coating systems for industrial applications. This involves refinements in new coating technology using electro-static principles and high-frequency radiation and is important in economic terms. These systems also appeal to those wishing to improve pollution controls.

Canada is a leading producer of chemical construction specialties; yearly sales amount to approximately \$250,000,000.

In all countries construction is on the rise. An increasing world population and increasing standards of living, greater demands for services, more money for travel and expansion of health and education services are all creating urgent need for all sorts of building.

Private business, governments and international organizations — the World Bank, the United Nations, the Organization for Economic Co-operation and Development, the International Finance Corporation and the Regional Development Banks — are encouraging or investing in many construction projects. Often, countries taking part in these programs are willing to waive import restrictions

on materials used in specific projects approved by their governments.

Virtually every new hotel, hospital, university, airport, power dam or refinery project needs construction chemical products. Canadian manufacturers are being encouraged to form diversified groups to offer construction chemical specialties and services to markets everywhere. This progressive industry is capable of offering services and technology to project planners as well as complete lines of chemical specialties developed by experienced researchers and produced under quality controlled conditions.

Besides supplying construction and maintenance materials, the industry is winning markets with such special products as textured coatings, exposed aggregate finishes, chemical seamless floorings and synthetic rubber roofing. Specialty coatings from Canada are decorative yet durable and flexible enough to give abrasion and weather resistance at an economical price. They are lightweight and tough, requiring minimum maintenance, applicable to most surfaces and adaptable to irregular surfaces and designs.

The Canadian construction chemicals industry produces high quality, fully researched materials that have been tested to meet requirements of many different types of projects throughout the world. Canadian producers will share their expertise and train personnel in new techniques to ensure best possible service.

In the area of industrial chemicals, important Canadian exports are synthetic rubber in many grades and sulphuric acid. For many nations, Canada is a preferred source of synthetic rubber because a reputation for high quality and service has been established. However the range of available industrial chemicals is wide.

For instance Canada is one of the largest exporters of pentaerythritol for alkyd resin use, vanillin for food flavouring and phosphorous for industry. Other big export items are such diverse products as radioactive and stable isotopes for science and medicine, industrial lignosulphonates and polybutanes for lubricants and caulking compounds. There are water purification and heating plant chemicals, industrial soaps and disinfectants, protective coatings and hundreds of other products.

Several large Canadian-owned companies are well established in the pharmaceuticals and fine chemicals industry. Fine chemical syn-

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**canada  
courier**

Richard Waugh, Managing Editor

Anna Armstrong, Editor

David Magee, Assistant Editor

Al Viscount, Designer

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detrimental effects on the environment, these new pesticides upset the growth pattern of the pest, thus killing it without harm to other life.

Canada supplies almost all types of fertilizers. In particular, it is an important source of potash and sulphur. The latter is a prime raw material in a number of fertilizers produced in Canada; some of which are: urea, ammonium sulphate, ammonium nitrate and various analyses of complete mixed fertilizers containing nitrogen, phosphorus and potash.

Agronomic research has established that, in most areas where there has been continuous use of nitrogen and phosphorus, potash has been depleted from the soil and its replacement is required in order to ensure healthy plants and improved crops.

Canadian potash has become widely recognized for its high quality and reliability of supply. Canada has the largest potash-producing capacity in the world and could supply 3,000,000 tons a year to Asian markets alone.

Canada has the ability to deliver its chemical products. There are large ports on east and west coasts with advanced facilities. Vancouver, British Columbia, is Canada's principal port for potash, sulphur and other fertilizer shipments. Big, efficient bulk-loading terminals there enable economical use of large vessels.

The St. Lawrence Seaway provides access to major industrial centers in Quebec and Ontario for all but the largest ocean-going ships. It is estimated the Seaway is open to 80 per cent of the world's salt-water fleet. In addition, many of Canada's airports are equipped to handle large cargo shipments.

For further information on the Canadian chemical industry fill in the trade inquiry form on page 7, stating specific interests if possible. Code 2-1



Ocean-going vessels can reach the industrial heart of Canada on the St. Lawrence Seaway.

**Chemical producers**

*Continued from page 1*

thesis in Canada is not as highly developed as in some other countries, however, several firms produce highly competitive fine drug chemicals which have gained international acceptance. Furthermore, Canada is a world leader in production of vaccines for treating humans and animals. Polio vaccines, both Sabin and Salk, cholera vaccine, BCG, tetanus toxoid and rabies vaccine are some examples.

Canadian efficiency in meat packing has led to the development of a large by-product chemical extraction industry. High-quality insulin, heparin, ACTH and other hormones, ergot, allergenic products as well as animal feed supplements, fatty acids, bile acids such as choline, enzymes such as trypsin and chymotrypsin, are all products of the industry. Specialized poultry vaccines have also been developed by companies specializing in this field.

In a related area, two new pesticides developed in Canada have great ecological importance. Rather than poisoning the pest in conventional fashion, which often has



Many construction chemicals were used to build this staircase; chemical specialties are essential to the construction industry.

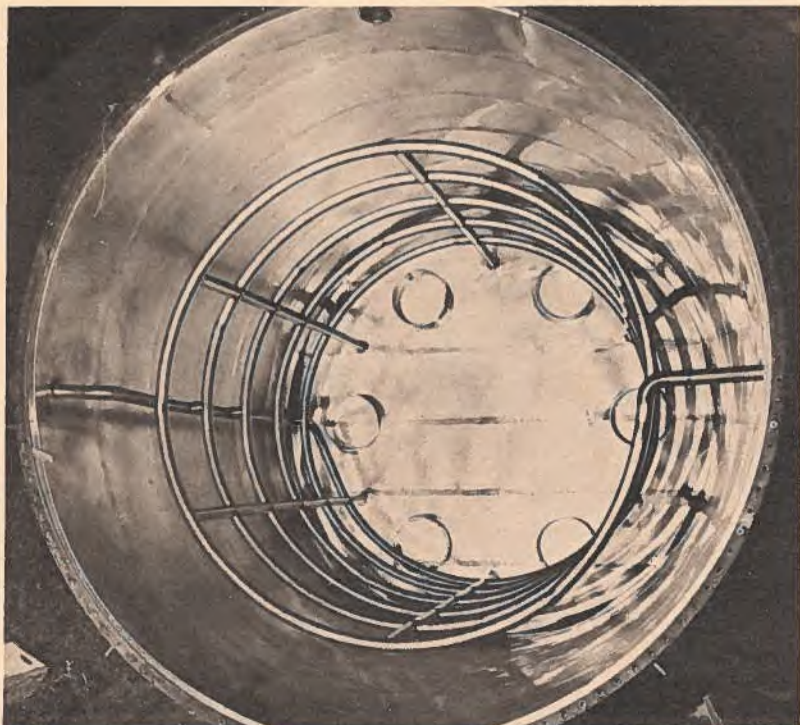
**Titanium reduces pulp mill costs**

There is a way to increase the life span of the heart of a pulp mill's bleach plant. Multifibre Process Limited, Montreal and Vancouver, has a new chlorine dioxide generator which offers four to five times the operating life of conventional equipment. Multifibre is producing what is believed to be the first palladium-stabilized, titanium-lined generator designed for regular pulp-mill service. The first 11-ton unit will be operating early this year at the Cariboo Pulp and Paper Company mill in Quesnel, B.C.

In the generator, Multifibre uses removable non-breakable tita-

nium diffusers which have porosity of 40 to 50 per cent. Mean pore size is 10 microns — much smaller than ceramic material normally used but with equivalent or better capacity and less pressure drop. Lining is designed to withstand normal vacuum pressures inside the generator. Cooling is by internal coil rather than more conventional external jacket.

Extensive tests show that there will be no problems with corrosion, provided rigid welding specifications are followed. Production costs are comparable to that of regular lead-lined equipment. Code 2-2



Multifibre's chlorine dioxide generator looks like huge deep frier.



This subway project could not succeed without construction chemical specialties.



The Canadian chemical industry has the up-to-date facilities needed to keep pace with world demand.

## Fine furniture; prompt delivery

Though only a decade old, Sebastian De Lorenzis Custom Furniture Limited of Galt, Ontario, is now a leading Canadian name in fine handcrafted furniture. All its five groups of traditional furniture are staff-designed; no plastics are used — only selected hardwoods.

De Lorenzis tables have five-ply tops, to eliminate "checking." A hand-glazed finishing method lends clarity, depth and lustre to both veneer and solids — as well as ensuring colour-free match. All lamp tables have matched veneer characteristics (in pairs).

To ensure that dealers receive goods in perfect condition, a quality-control department rigorously inspects every piece. Production control assures punctual delivery. Dealers' interests are kept firmly in mind when changes are contemplated.

Inspired by French Provincial, De Lorenzis' Riviera 700 group is made of solid cherry and veneer. Flexible 16-piece Florentine group — tops of Mozambique veneer, frames of solid Honduras mahogany — suits a room in either a large house or an intimate apart-

ment. Honduras mahogany, too, teams with pecan in Michelangelo 1500 group of coffee tables, drum tables and lamps.

Valencia 1300 group — made of pecan veneers and solid ash — brings Spanish style to either a modern or traditional setting. Raphael 1600 group adds the classic warmth of Renaissance design to a living room. Made of either solid cherry or solid walnut, plus veneer, the group comprises drum tables, coffee tables, lamp and curio cabinet.



Sebastian De Lorenzis' Valencia 1300 group.

Code 3-1

## Leader in dormitory furniture design

Muller & Stewart Limited, Toronto, was founded in 1967 and from its inception developed an extensive line of products ranging from laboratory furniture to the innovative "Image" system of lounge furniture — the latter receiving world-wide recognition. The company has specialized in furniture and furniture systems since it commenced operations.

Although Muller & Stewart products have been widely used as domestic furniture, many have originated as designs for educational institutions like Brock University, Trent University and Conestoga College in Canada. The company's activities have spread to the United States where contracts have been

obtained for the design of dormitory furniture at Tougaloo College, Mississippi; laboratory fittings and equipment, case work, built-in cupboards and desks at the Children's Health Center in Minneapolis and the design and installation of dormitory furniture for student residences at Duluth Campus of the University of Minnesota.

As a result of this experience, Muller & Stewart Limited has designed a number of student bedroom-study component systems adaptable to a wide variety of student housing situations. Indeed versatility, ease of installation and a wide range of colour combinations characterize all its products from

knock-down desk systems to storage walls.

Typical Muller & Stewart style is an award-winning plywood chair which takes full advantage of moulded plywood's potential. A recent project now in production is a concrete base "street furniture" system for Brock University. This unique modular system is composed of seating elements, small tables, planter and display cases of adjustable heights.

In 1970 a new company, Ambient Limited, was specifically created to market Muller & Stewart products. Feasibility of sales outlets in Britain is being considered.



Muller & Stewart's recently developed "street furniture" system.

Code 3-2

## Montel makes librarians smile



Typical efficient and attractive Montel library system.

In one of its brochures, Montel Inc., Montreal, points out that improper layout of a library can destroy the efficiency of even the best staff. Montel produces a complete range of library equipment and accessories in addition to its T-Vista, Closavista, Ancravista and Mezzanine Library systems. Montel also makes the Mobila compact shelving system which eliminates aisles between bookshelves and thus practically doubles storage capacity of any space.

Montel has been involved in more than 5,000 library layout projects. The company not only

makes the hardware; it shows its clients how best to use its products. Montel library systems are in use across Canada and in other countries. The National Library in Ottawa, Canada, uses Montel's Ancravista steel bookcases; the Imperial Tobacco library in Montreal and the Scientific Complex in Quebec City have Mobila systems, while the library at Pavillon Lalemant, College Jean de Brebeuf and La Place de la Justice in Montreal took advantage of the Montel Mezzanine which doubles useful shelving space in high-ceilinged libraries.

Code 3-3



Smartly-styled swivel chair — exclusive Hystron design featuring body-sculptured contours, semi-attached buttoned backs and reversible seat cushions — from Ideal Upholstering Co. Ltd. of Montreal. Code 3-4

## B.C. firm innovates in marine engineering

In 1971 the British Columbia Ferry M.V. "Island Princess" went into a North Vancouver drydock to be cut up. The ferry had been serving North Vancouver Island since 1958 and although she was being cut up, she was not to be scrapped. Instead, she was to be re-built, or perhaps more accurately, she was to be re-incarnated.

Using a technique developed by Case Existological Laboratories Ltd. of Victoria, B.C., the Burrard-Yarrows Group cut the single-hulled ferry into four sections and added a 70-ton superstructure, plus a new midship section. The result was a startling change in the appearance of the "Island Princess." She was now a twin-hull catamaran 55.5 feet (16.9m) longer and 22.5 feet (6.84m) wider than her original configuration.

Case president, John N. Case, calls the technique "catamarizing." The assignment was to increase carrying capacity of the "Island Princess" plus provide unrestricted roll-on/roll-off loading facilities. It was found lengthening alone could not increase capacity because of stability, trim and structural complications; so the men at Case worked out the catamaran scheme. Capacity was more than doubled at less than half the cost of building a new vessel with no loss of performance.

There may be other catamarizing applications. Mr. Case suggests tugs and barges could be re-built as could outdated vessels intended for use as containerships. More effective oceanographic ships might be created by catamarizing single-hulled vessels.

Case provided other services. The company's library contains computer programs for ship hydrostatic and stability calculations in intact and damaged condition as well as programs to deal with masses of data provided by spectrophotometry and vibration analysis equipment. Case uses spectrophotometry to establish wear rates of engine components by analyzing amounts of metal in lubricating oils. Early warning of machinery failure is provided through use of precision sound and vibration level measuring equipment.

The "Island Princess" catamarizing was not the company's first project for the British Columbia government ferry service. Case naval architects and marine engineers have been responsible for other rebuildings as well as a number of new designs. Code 4-1

## Huge new barge moves newsprint



MacMillan-Bloedel's mammoth new newsprint barge, *Rothesay Carrier*, nears end of maiden voyage from west coast to east coast of Canada — via Panama Canal.

A unique technique for moving newsprint, devised by MacMillan Bloedel Limited of Vancouver, British Columbia, is being extended to serve newsprint customers in the eastern U.S.A. A huge ocean-going barge has been built by Yarrow's, Limited of Victoria, British Columbia's capital, and Burrard Dry Dock Company Limited, Vancouver.

Designed by naval architect Robert Allan to meet Lloyd's highest standards, it was tug-towed via Panama Canal to Saint John, New Brunswick, bearing a cargo — as it now does on regular runs down the U.S. east coast. Three similar barges were already carrying newsprint from MacMillan Bloedel's British Columbia mills to the California market.

Loading and unloading are done by lift-truck through four cargo doors. Inside deckhouse walls are

lined with wood sparring and entire deck covered with blacktop. The roof is insulated to prevent paper-damaging condensation and extractor fans are fitted into specially designed ventilator tops.

Economical advantages include: less product damage than when ship-borne; meeting delivery schedule better than by rail; simplified materials handling between newsprint production machine and customers. Also, barge's large capacity means that, while loading newsprint at mill, it serves a warehouse role; this eases mill inventory problems.

Covered barge is 363 feet (110.6m) long, 82 feet (25m) wide, with 7,200-ton newsprint capacity. The fifth of these newsprint barges is under construction at Allied Shipbuilders Limited, North Vancouver. Code 4-2



New catamaran hull design developed by Case Existological Laboratories more than doubled this ferry's capacity when she was re-built.

# canadian furniture design



furniture  
canada



Design can be the start of something great — and it is — in Canadian furniture. Design isn't only the pleasing look of a setting — it's much more. Things like the proper materials and workmanship to carry out the concept and ensure durability, comfort and functional appeal. See the designing ways of Canadian SHAPES FOR SPACE at the Southern Furniture Show, Hickory and High Point, April 21 to 28.

## Canada at the SOUTHERN FURNITURE MARKET

### Hickory

HICKORY FURNITURE MART  
P.O. Box 1669  
Highway 64, 70, 321  
Hickory, North Carolina 28601

A-P Furniture Industries Inc.  
c/o Louis Stoll  
7101 Park Avenue  
Montreal, Quebec, Canada

Avanti Furniture Mfg. Ltd.  
6340 Cole de Liesse Road  
St. Laurent, Quebec, Canada

Du Barry Furniture Limited  
52 Noble Street  
Toronto 3, Ontario, Canada

Elite Interiors Limited  
9755 Meilleur Street  
Montreal 357, Quebec, Canada

Geoform Designs Inc.  
45 Port Royal West  
Montreal 357, Quebec, Canada

Gore Lamp and Shade Co. Ltd.  
280 Sauve Street West  
Montreal 357, Quebec, Canada

Henri Vallières Inc.  
P.O. Box 1150  
Nicolet, Quebec, Canada

Inter-Continental-Design Ltd.  
45 Midwest Road  
Scarborough, Ontario, Canada

Jaymar Furniture Company Limited  
4214 Mentana Street  
Montreal 176, Quebec, Canada

Luby Products Ltd.  
36 Millford Avenue  
Toronto 385, Ontario, Canada

Nadeau & Nadeau Ltée  
St-Francois de Madawaska  
New Brunswick, Canada

Ro-El Furniture Mfg. Co.  
855 Labelle Boulevard  
Chomedey, Quebec, Canada

Sebastian de Lorenzis  
Custom Furniture Limited  
P.O. Box 783, 505 Hespeler Highway  
Galt, Ontario, Canada

South Shore Industries Ltd.  
Ste-Croix  
Co. Lotbinière, Quebec, Canada

Taylor Evans Limited  
300 Sauve Street West  
Montreal 357, Quebec, Canada

Victoriaville Furniture Limited  
37 Dubord Street  
Victoriaville, Quebec, Canada

Weller Antiques Ltd.  
R.R. 1  
Agincourt, Ontario, Canada

### High Point

CANADIAN PLAZA BUILDING  
158 South Main Street  
High Point, North Carolina 27260

The Gibbard Furniture Shops Limited  
Napawee, Ontario, Canada

R. Huber & Co. (Canada) Ltd.  
30 St. Regis Crescent  
Downsview, Ontario, Canada

Innovative Metal Inc.  
3210 Lenworth Drive  
Mississauga, Ontario, Canada

Inter-Continental-Design Ltd.  
45 Midwest Road  
Scarborough, Ontario, Canada

Kaufman Furniture  
High Street  
Collingwood, Ontario, Canada

Rosedale Furniture of Fenelon Ltd.  
P.O. Box 192  
Fenelon Falls, Ontario, Canada

Sklar Furniture Limited  
617 Victoria Street East  
Whitby, Ontario, Canada

Department of Industry, Trade and Commerce, Ottawa, Canada  
Ministère de l'Industrie et du Commerce, Ottawa, Canada

## Canadian ships for U.S., Britain, France, Greece

Long on experience and expertise but short in delivery time, Canadian shipyards are filling export orders totalling \$227,000,000. Assured early delivery was a salient factor in obtaining these orders.

Davie Shipbuilding Limited of Lauzon, Quebec, is building three 80,000-dwt tankers — twice as large as the biggest vessels ever produced in a Canadian shipyard — for the N.J. Vardinoyannis group of companies in Piraeus. This contract is for \$53,000,000. Saint John Shipbuilding & Dry Dock Co. Ltd. of Saint John, New Brunswick, is constructing three 30,000-dwt petroleum-product carriers for Esso Tankers Inc. of New York. The price is more than \$30,000,000.

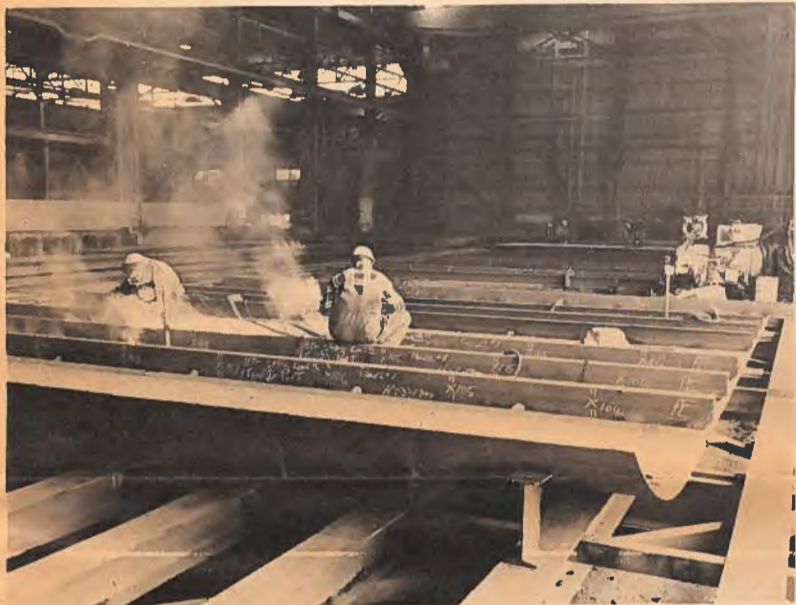
Port Weller Dry Docks Limited of St. Catharines, Ontario, is working on two 19,000-dwt roll-on, roll-off combination newsprint, automobile and general-cargo carriers for Burnett Steamship Co. Ltd. of Newcastle-upon-Tyne. It's a \$25,000,000 deal.

Largest order of all — worth

\$100,000,000 — is being filled by Marine Industries Limited of Sorel, Quebec, which is building 10 15,600-dwt multi-purpose containerships within the next four years for two large French international shipping firms. They are Compagnie Maritime des Chargeurs Réunis and la Société Navale Chargeurs Delmas-Vieljeux. This one is the largest commercial shipbuilding order in Canadian history.

In addition to these orders from other countries, another Canadian Company has an order for a \$20,000,000 drilling rig — which can also be supplied competitively abroad. It's the third rig to be built by Halifax Shipyards Division of Hawker-Siddeley Canada Limited for Southwestern Commonwealth Drilling Co. Ltd. of Calgary, Alberta.

On the West Coast, Allied Shipbuilders of North Vancouver is to build five offshore supply vessels for export to North Sea service. New to Canadian yards, each of this type of vessel is worth more than \$2,000,000. Code 5-1



Welders in Port Weller Dry Docks' fabrication shop prepare a bottom-shell longitudinal unit for one of the general-cargo carriers it's building for Britain. Unit sits on portable fabrication skid, which can be pulled along tracks and out of the shop when ready. Code 5-3

### Slicklicker devours oil

"Preferential wetting" — which relies on the axiom "Oil attracts oil and rejects water" — is the basis of R. B. H. Cybernetics Ltd.'s Slicklicker process for dealing effectively with oil spills and other oil contaminants. The Victoria, British Columbia, company also produces a "family" of packaged allied equipment.

When Slicklicker's pickup belt has been oil-treated, it becomes oleophilic and hydrophobic; clean separation of oil from water results. A continuously moving oil-soaked belt then passes through squeeze rollers that express most of the oil from the belt but leave enough in so the "preferential wetting" phenomenon still remains built-in as belt returns to oil/water mix.

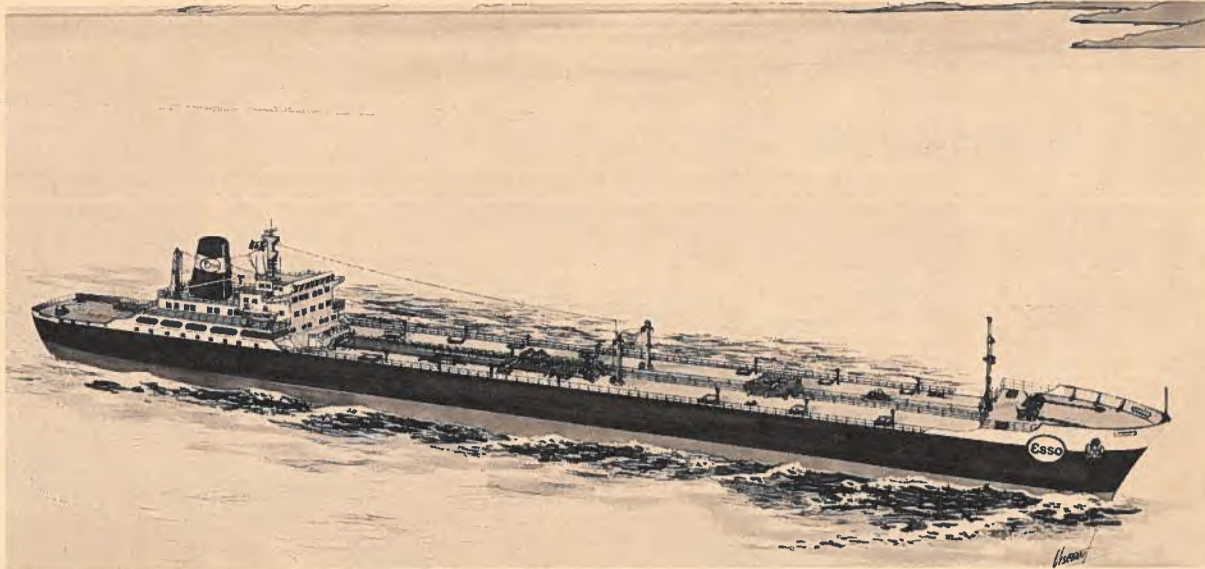
Each fibre of the belt picks up oil — both on surface and within its pores. Without its patented

construction, expressing that much oil through squeeze rollers would destroy the belt, but continuous loading does not build up such pressures. Slicklicker can separate and "eat" up to five Imperial gallons (204.5 litres) of oil per minute from water interfaces. On order, the company can even supply machines capable of picking up 90 or 135 Imperial gallons per minute.

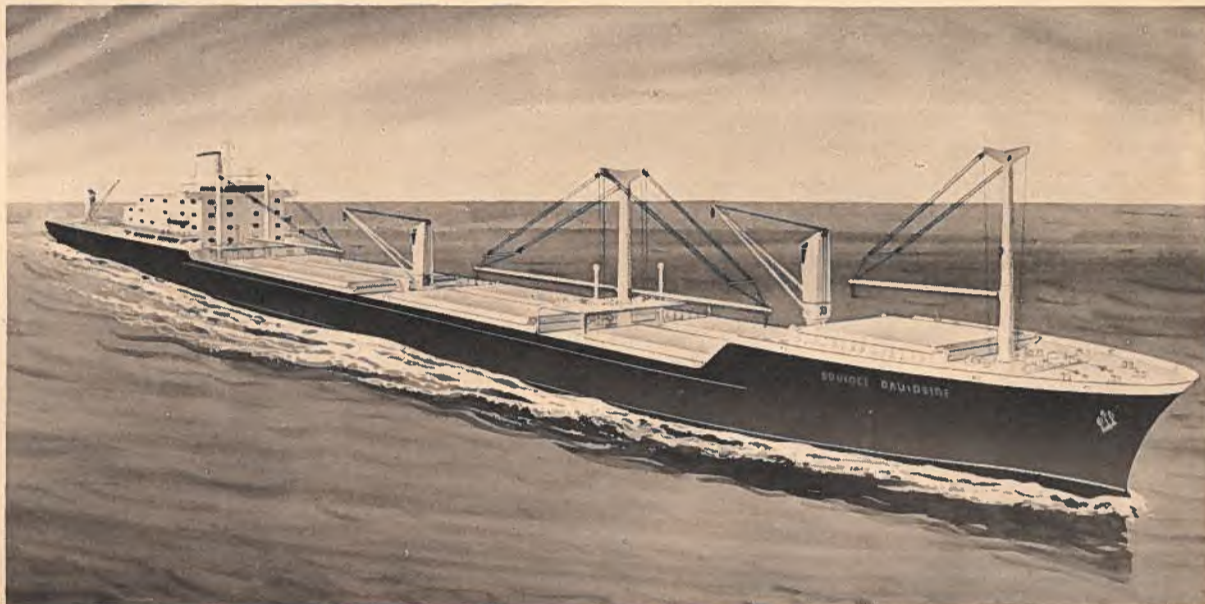
Slicklicker worked so effectively at cleaning up 3,800,000 gallons (17,275,000 litres) of oil spilled by the tanker "Arrow" on Canada's east coast in February, 1970, that the task-force chief urged the Government to place an active Slicklicker, plus two standbys, in every Canadian harbour, against future spills. Federal Ministry of Transport wrote R.B.H. Cybernetics: "... Slicklicker ... is regarded as one of the prime tools ... to combat oil spills." Code 5-5



Slicklicker picks up spilled diesel fuel off Seattle, Washington.



Artist's conception: one of three petroleum-product carriers which Saint John Shipbuilding is building for Esso Tankers Inc. Code 5-2



Seen in an artist's impression is one of 10 multi-purpose vessels being built by Marine Industries for two French shipping lines. Code 5-4

## Gravel, rock, heat, cold, don't faze these snowmobiles

People scoffed at the project as "impossible!" — but three men successfully completed it, driving Coleman-Skiroule snowmobiles exported by The Canadian Coleman Company, Ltd. of Toronto. They covered the 3,807 miles (6,129km) from Willow River, Minnesota, to Anchorage, Alaska, in 14 days. Two days' travel was across snowless gravel and rock; they were exposed to temperatures ranging from 35 below to 60 degrees above zero (F).

Those machines were Coleman "R" — one of four series the company is currently exporting. All five "R" models — each 42 inches (1m) high — have Skiroule 19-inch (498-mm), hard-rubber,

nylon-reinforced track, with steel embedded in every tread to give more bite in snow and permit navigating the deepest drifts. Twin-cylinder engines are 28 and 35hp; two models have tandem bogies, the others bar-suspension systems. "S" — also 42 inches (1m) high — has, like all Coleman-Skiroules, a low centre of gravity, which allows positive turns with better control and balance.

Still closer to the ground — only 36 inches (.91m) — are "RTX" and "RT". RTX has "super-slide-bar" suspension; two RT models have that; two others, tandem bogies. Both have front and rear shock absorbers, adjust-

able at any time; heavy-duty disc brakes; automatic chain tension tightener; aluminum engine clutch. Each tread contains a fibreglass bar that can absorb a 45-degree bend and snap back into shape.

Accessories include Coleman-Skiroule "swing-away tilt-top" trailer, which eliminates lifting, strain and unhitching; "Cariol" sled for towing family, friends, camping equipment, food and drink, firewood or hay for livestock; heavy-duty canvas snowmobile covers; specially blended oil; machine and engine parts; a full line of clothing, with five styles for men, women and children — suits, windbreakers, sweaters, helmets, mittens and boots. Code 5-6



Garbed in Coleman-Skiroule winter apparel, this outdoor girl helms one of seven models in the company's snowmobile series "S".

## Aid to explorers and pollution fighters

Barringer Research Limited of Toronto, a research and development company in geophysics and earth sciences, recently formed an Airborne Operations Division. Since the company has long conducted specialized experimental surveys, the new division's nucleus comes from existing groups within it, to provide a total airborne geophysical and geochemical capability. This includes equipment, system design, installation, survey contracting, data compilation and interpretation.

At the height of the 1970 season, Airborne Operations had a fixed-wing crew in Fiji, a helicopter crew in Britain and one in Canada. Special installations were completed in France, South Africa, the U.S.A. and Canada. Experimental surveys in the latter two and Australia were conducted and new compilation processes for VLF data inaugurated. AIR-TRACE the sensitive Barringer Airborne Mercury Spectrometer, was flown in Canada, the U.S.A. and Australia and an operational crew proved that this sensitive electro-optical instrument could be integrated with other systems and successfully used in field operations. The same crew later made the first experimental surveys with

radiophase and E phase, together with Gamma-ray spectrometer and proton magnetometer, for pleistocene gravel and permafrost mapping. In Britain, a Barringer helicopter crew flew several thousand line miles of radiophase, magnetometer and helicopter EM in incredibly bad weather.

Current plans include operations not only in the British Isles and North America but also in South America, the Middle East, Australia and the South Pacific. All these involve a large number of geophysical sensors and complex recording gear. With highly skilled field and support personnel, these operations will yield unique geophysical data, enabling the airborne operations division to offer unparalleled service.

Barringer also produces remote sensing Correlation Spectrometer, which won the 1970 IR-100 Award, a U.S. presentation for significant new technical products. It detects both the amount of pollutants in the air and the rate at which they are moving in air stream. Light enough to be mounted in a small van or aircraft, the instrument is now being sold in the U.S.A. and Japan.

Code 6-1

## Time-saving moisture tester



Moisture Master was developed by CAE Aircraft Ltd. of Winnipeg, Manitoba, for on-the-farm use. It saves time and extra trips to the elevator by assessing grain's moisture content in 30 to 90 seconds. Fully transistorized; it operates from an ordinary 9½-volt battery; ambient temperature conditions are of no concern because the instrument is provided with temperature compensation. Half-pint samples are weighed electronically, ensuring correct volume by weight. The MM101A weighs less than five pounds (227kg), is ruggedly built and remarkably stable. CAE Aircraft also produces GTP-103, a precision-made electronic instrument that swiftly checks for granary "hot spots," preventing spoilage. It measures grain temperatures from 30 to 130 degrees F., is battery-operated, portable and simple to use.

Code 6-2

## Floor and truck-mounted cranes

A versatile range of portable floor cranes and gantries has been developed by Motivation Industrial Equipment Ltd. of Hamilton, Ontario, in capacities from 1,000 to 10,000 pounds (454 to 4,540kg). MIE also makes portable floor cranes with swivel masts in 1,000- to 4,000-pound (454- to 1,816kg) capacities. The adjustable gantries — easily knocked down and assembled — are available with trolley and hoist for considerable further economy.

A new MIE product is a truck-

mounted crane, currently made in one- and two-ton capacities, with maximum 90-inch (2,236-mm) boom length extending in four positions from 58 inches (1,473 mm). It comes with either powered or hand hydraulic lift; both have 360-degree swivel. Powered model is operated from truck battery.

Another, Industrial Bulk Container, is designed to carry material of high density and weight with drop-bottom facility, positive locking device and two clamp-down loading doors.

Code 6-4



Barringer multi-sensor exploration helicopter, with radiophase; E-phase; air trace (mercury); Gamma-ray spectrometer; electromagnetometer; magnetometer.

## Multi-level control-sensing selector

Newest in the successful Telemat series of peripheral equipment for computer-pollled communication systems — produced by Kameco Electronics Ltd. of Montreal — is Series II selector, which provides control-sensing and switching facilities for all commonly used transmission levels.

Universal-type design concept allows user to complete final programming without wiring changes. Four operating speeds are available; most programming can be completed by U-link insertion on a program matrix board. Modular design offers flexibility and simplifies sparing, while systems can be factory-programmed to customer requirements.

The Telemat series also includes code translators; time-and-date and format generators; automatic diallers; integrated data terminals. The latter puts the user's card punch on-line with his communication network — preparing and transmitting information to full speed capability of punch, without rekeying or converting to other types of transmission.

Code translators are self-contained, modularly constructed, easily installed and maintained. Translation between any two codes is possible at any two speeds; memory unit is available for message storing and speed changing.

Kameco's family of time-and-date and format generators includes one controlled by a digital clock, and an automatic dialler for use where certain telephones, telex or TW numbers are frequently called. It dials up to six



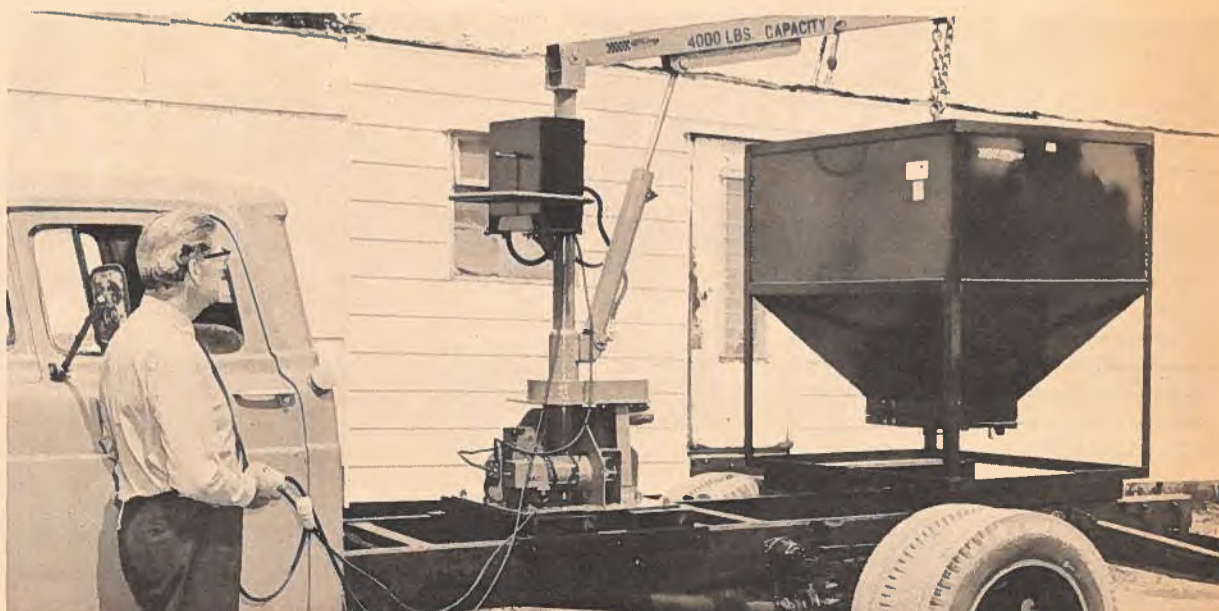
Operator at control console of Kameco is Series II selector.

11-digit numbers, initiated either by push-button pad or relay contact closure. All six can be dialed simultaneously or in sequence; unit employs the latest TTL integrated circuit logic for maximum reliability.

T.A.R. supervisory system re-

ports, continuously, 20-alarm status points from 50 remote stations. It's a vital part of Kameco's automatic monitoring and remote-control system, providing for continuous supervision of alarm or status indicator points at remote sites.

Code 6-3



Industrial Bulk Container by Motivation Industrial Equipment.

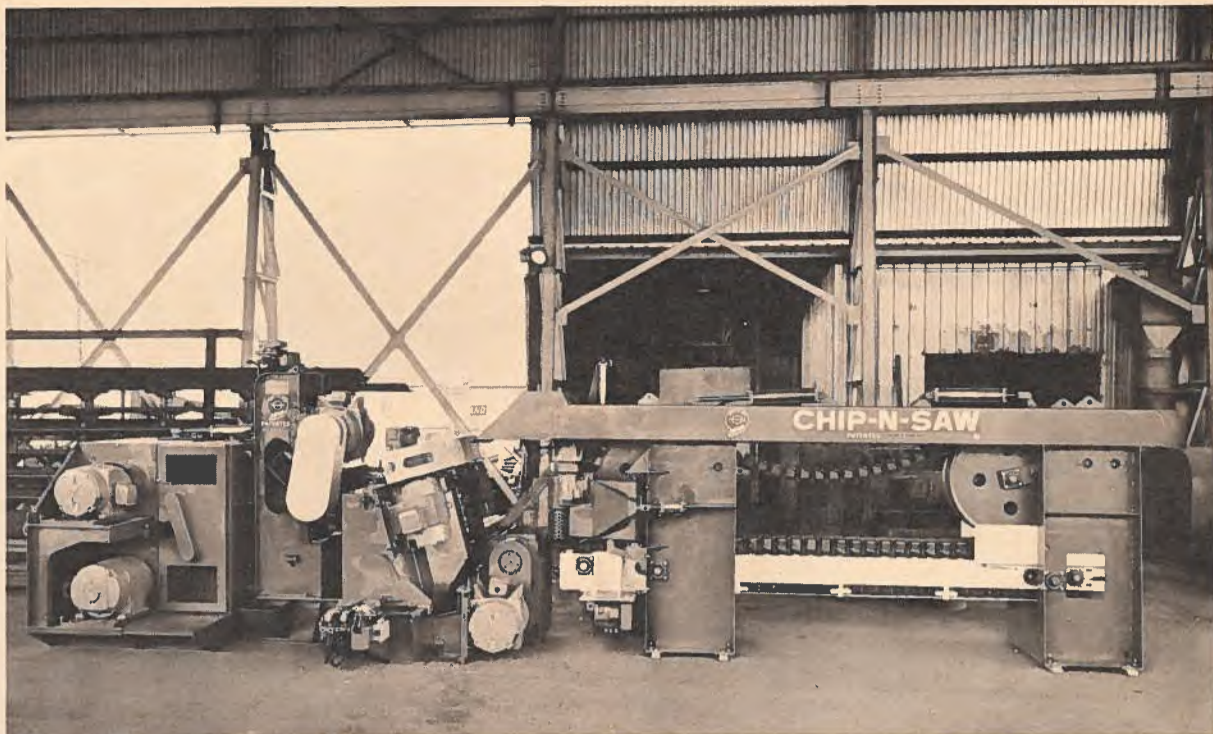
## Logs to lumber and chips - - - in one pass

Economical conversion of small logs is a problem in most major timber producing countries, where conventional sawmilling and chipping techniques have not proved ideal for the task. Chip-N-Saw, designed and manufactured by Canadian Car (Pacific) Division of Hawker Siddeley Canada Ltd., Vancouver, converts logs to sawn lumber and chips in one pass — leading to high production, high recovery and big savings in wood that would otherwise be lost as sawdust. No other method of log conversion yields as much productivity per man hour, with as big a saving in lumber recovery, chip recovery and labour. Depending on log size, production averages 61 per cent accurately dimensional lumber, 33 per cent pulp chips and a mere six per cent sawdust.

Chip-N-Saw, being a one-pass machine operated by one man, has, in many areas, led to savings that have made the difference between sawmilling operators losing money and making a handsome profit.

The prime object of log conversion is to obtain the maximum amount of lumber and the minimum amount of chips from any given log. One of the most attractive features of the Chip-N-Saw is that by its very design it takes a minimum skim of material from all four sides of the log as the very first step in processing, leaving the maximum opportunity for recovering the greatest number of pieces across the diameter of the log. Chip-N-Saw doesn't have to depend on an operator setting a linebar on a band resaw to achieve this recovery.

The chips produced are universally acceptable. Knife configuration of the chipping heads not only produces a uniform high quality pulp chip, superior to the type of chips normally produced with rotary cut chipping heads, but also requires approximately 10 to 15 per cent less power than rotary cut chipping — a saving of around 20 to 25 per cent over conventional disc chippers. Code 7-1



Canadian Car (Pacific) Division of Hawker Siddeley Canada, offering the forest products industry a unique sawmilling machine and backing a good product with good service, has found markets in many countries.

## Hayes has muscle

Hayes Trucks Ltd. of Vancouver, British Columbia, is celebrating its 50th anniversary this year. Since 1922 the company has grown to become Canada's largest custom builder of heavy-duty trucks, exporting to Southeast Asia, the U.S.A. and many other areas of the world.

Hayes Trucks is located in a province where logging is one of the biggest industries. It was only natural that the first Hayes trucks were designed specifically for hauling timber. These days, Hayes trucks are capable of handling enormous loads — a single HDX tractor has been used to haul five trailer-loads of logs — 50,000 board feet weighing 230 tons.

That's about the same weight as a 747 jumbo jet.

Hayes trucks are doing more than off-highway hauling. The Conventional Cab Clipper 200 and the newest design, the Cab-Over-Engine Clipper 100, are being used in a variety of heavy-duty highway roles in Canada. The Clipper 100 is especially versatile because it's available in sleeper or non-sleeper configuration.

Hayes HD units are used to haul oil well casing, drill pipe and other petroleum equipment to off-highway sites. In the United States, one company uses Hayes WHD tractor units which pull three bottom-dumping trailers, each loaded with 70 tons of phosphate

ore, down a private, 16-mile (25.6-km) highway. Hayes trucks find uses in many regions as ore trucks, construction units, low-bed tractors, oil trucks and cement mixer units.

However, Hayes officials say the logging industry is still their main concern. Their logging trucks dominate the West Coast industry. They have continually grown in size and capacity and now loads of 250,000 pounds (113,500kg) are not uncommon. In northern British Columbia, one logging operation uses Hayes HDX units 20 hours a day, seven days a week for five and a half months of the year. Each unit carries two 100-ton bundles of logs over a 34-mile (54.4km) private road. It is believed that every Hayes HDX unit ever built is still on the job. Code 7-2



A familiar sight in forests around the world is the Hayes HDX 100 Series off-highway logging truck pictured at work in British Columbia.

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# Travel 'n Fashion



Alberta. In the words of the popular song — "The weather's good there in the fall." The province offers a 400-mile "wilderness highway" that invites the venturesome to a sometimes rough and rugged, high and wild trip through the foothills of the Canadian Rockies where autumn colours blaze. In fact, all of Alberta's fine highways lead to some of the most beautiful views in the world. There is no "best way" to see Alberta at any time of year. The province is so varied, the attractions so different (even an authentic Japanese tea garden in Lethbridge), that every visitor should take some time to choose a route and plan a vacation to suit their taste.

Code 8-1



So . . . it is still spring. But buyers and vacationers look ahead, and on this page we focus on fall and winter travel and fashion. In this case the camera has zoomed in to the glorious Province of Alberta, but there are nine other provinces and four territories in Canada, each area offering its own distinctive attractions. Many vacationers prefer to avoid the hustle and bustle of summer travel and to proceed in more leisurely fashion through the often startling beauty of the Canadian fall. As for winter sports — Canada has so much to offer.

Tourists can travel in fashion, too, in quality clothes designed for comfort as well as distinctive style. Canadian manufacturers offer U.S. buyers prompt delivery and competitive prices as well as the import prestige which has customer appeal.

Look to Canada for travel 'n fashion.



This 100-per-cent-wool duffle coat is beautifully hand-embroidered with authentic Eskimo designs. Coats like this design are available in men's or women's sizes with choice of lynx, wolf or red fox trim and snowproof zippers. These and other products are marketed by La Fédération des Cooperatives de Nouveau-Québec, which is an agency owned by the Eskimos and Indians of Arctic Quebec. The Fédération has 10 member co-operatives selling, not only elegant and attractive fashions, but graphics, stationery items, novelties and world-famous Eskimo sculpture.

Code 8-4

This is a real winter winner. Aljac Sportswear uses a new type of leather called nude aniline with a synthetic racoon lapel and collar and pile lining to make a coat that keeps a man warm in the wildest weather. It's knee-length, single-breasted and features slashed flap pockets and umbrella yoke front and back.

Code 8-5

The westernmost of Canada's Prairie Provinces, Alberta is a land of startling changes of scenery. In one day the traveller can cross endless stretches of rippling wheatfields, be awed by the desolate beauty of rocky badlands and then find himself surrounded by cool mountain landscape. Pictured is a section of Waterton Lakes National Park which covers more than 200 square miles and adjoins Montana's Glacier National Park. The real lure of Waterton is the natural beauty but there are tennis courts, an excellent golf course, a huge swimming pool, playgrounds and other entertainment. Motor launch tours of the Waterton Lakes chain provide an especially relaxing way for the jaded traveller to take in the inspiring scenery and revitalizing mountain air.

Code 8-6



Here's a man's knee-length coat that manages high style without being faddish, and traditional good taste without being stodgy. Produced by Aljac Sportswear Limited of Montreal, it has double-breasted styling with bellows flap patch pockets and fancy stitching. The coat is belted, with tunnel loops and the shoulder and back have an umbrella yoke. The back panel is pleated. A good buy for three-season wear

Code 8-3

