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Report on
THE CANADIAN TECHNICAL WOOD PRODUCTS MISSION
TO THE WESTERN UNITED STATES
October 3-15, 1965

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By The Department of Industry, Ottawa

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PART I

INTRODUCTION

The Department of Industry is charged with the responsibility of promoting the establishment, growth, efficiency, and improvement of manufacturing industries in Canada. It is also required to develop and carry out programs:-

- a) to assist the adaptation of manufacturing industries to changing conditions in domestic and export markets, and to changes in the techniques of production.
- b) to identify and assist those manufacturing industries that require special measures to develop an unrealized potential or to cope with exceptional problems of adjustment, and
- c) to promote the development and use of modern industrial technology in Canada and improve the effectiveness of the participation of the Government of Canada in industrial research. 1

1. Department of Industry Act.

The Department of Industry is most interested in encouraging the further manufacturing or processing of Canada's abundant supply of basic raw materials. The forests are one of our major sources of wealth and one of our most important renewable resources. By taking advantage of the opportunity to add to the manufacturing process of wood based products, we improve employment, foreign exchange earnings, the growth of secondary industry and our competitive position in world markets.

Consistent with the above objectives is the concept of manufacturing industrial wood components from primary wood resources. This specialization within the wood products industries has been significantly lacking to date. There have been many reasons for this, including such factors as a small market and a widely dispersed population which have tended to concentrate manufacturing in vertically integrated facilities producing the finished products from the raw material. Today, however, a growing market, greater concentration of population, technological change, specialized high cost machinery and increasing labour and distribution costs are changing this situation. In order to manufacture and market secondary wood products efficiently, specialized production operations are needed near the source of raw material, while plants located near or in the market area are required to assemble, finish and market these products.

Western Canada has one of the largest reserves of timber in the world and also many advanced primary manufacturing plants, but has not progressed in comparison with other areas of the world in the production of secondary wood products. Softwoods, the predominant species, are mainly used in their primary form for lumber and plywood, while hardwoods have been largely overlooked. The North American trend is towards the use of machined wood components by secondary wood-using industries - from house building to furniture manufacture. This is most prevalent in the Western United States where manufacturers use wood parts in great volume and in a highly sophisticated and specialized manner. In order to show this trend and promote a higher utilization of basic raw materials in Canada, the Department of Industry sponsored the Canadian Technical Wood Products Mission to the Western United States, October 3-15, 1965.

THE MISSION

A Department of Industry Technical Mission provides an opportunity for a group of Canadian businessmen to travel abroad for the purpose of acquiring knowledge and gaining first-hand experience. The members of the mission make personal contacts with industries outside Canada and exchange ideas and know-how on new products, manufacturing methods and trends in their industry. A mission also results in the preparation and distribution of a report so that the findings,

recommendations and conclusions of the mission members are available to the whole of the Canadian industry.

AIMS AND OBJECTIVES

The aim of the Canadian Technical Wood Products Mission to the Western United States was to encourage Canadian primary and secondary wood products manufacturers to produce industrial wood components. One of the objectives of the mission was to encourage the establishment of plants in Western Canada that would be capable of producing wood components for the domestic and export markets, thereby increasing the value and labour content of primary wood resources in the Western Provinces. A further objective was to encourage the utilization of a wider range of indigenous wood species in secondary manufacturing.

The mission members studied the use of wood parts by a wide range of industries including the furniture, kitchen cabinet, casket, wood turning and mobile home industries. They also assessed the suitability of Western Canadian species of lumber for the manufacture of these parts and drew conclusions regarding the feasibility of manufacturing them in Canada. The findings of the mission members are incorporated in this report. Export market opportunities are covered in Appendix II supplied by the Department of Trade and Commerce.

ITINERARY

Mission members assembled in Los Angeles on October 3 and studied the market in this area until October 13 and then travelled to Spokane, Washington where, on October 14, they visited plants manufacturing wood parts in order to obtain first-hand knowledge of the requirements and problems involved in establishing and operating wood component plants.

On October 15 the mission ended and its members returned to Canada.

For a detailed list of plant visits and contacts made see Appendix I.

MEMBERSHIP

Members of the mission were:-

INDUSTRY REPRESENTATIVES

Mr. J.W. Devlin, Sales Manager,	Swanson Lumber Co. Ltd., 606 Bentall Bldg., 10180 - 102nd St., Edmonton, Alberta.
Mr. S.G. Gardiner, President,	S.G. Gardiner Engineering Services Ltd., 395 West Broadway, Vancouver 10, B.C.
Mr. M.M. Globerman, Manager,	Globerman Bros. Ltd., 567 Henry Avenue, Winnipeg 2, Manitoba.
Mr. J.B. Hall, Vice-President,	Revelstoke Building Materials Limited, 508 - 24th Avenue S.W., Calgary, Alberta.

Mr. W.G. O'Brien, Jr., President,	Mohawk Handle Company Limited, P.O. Box 190, New Westminister, B.C.
Mr. D.E. Pearson President,	Orchardson & Company Ltd., 702 Beach Ave., Vancouver 1, B.C.
Mr. A. Segal, President,	Segal Furniture Ltd., 833 River Road, Richmond, B.C.
Mr. W.D. Shoemay, General Manager,	Vancouver Frame & Chair Ltd., 1290 Clark Drive, Vancouver 6, B.C.
Mr. H.W. Wittler, President,	Wittler Furniture Ltd., 660 Golspie St., Winnipeg, Manitoba.

PROVINCIAL GOVERNMENT REPRESENTATIVES

Mr. W.G. Brese, Government of the Province of Alberta,	Department of Industry & Development, 550 South Grand Avenue, Los Angeles, California.
Mr. F.C. MacKay, Government of the Province of British Columbia,	Department of Industrial Development, Trade & Commerce, British Columbia House, 599 Market St., San Francisco, California.
Mr. H.B. Reid, Government of the Province of Saskatchewan,	Department of Industry & Commerce, Saskatchewan Power Building, Regina, Saskatchewan.

GOVERNMENT OF CANADA REPRESENTATIVES

Mr. J.R. Rooke Export Trade Advisor	Department of Trade & Commerce, Forest Products Division, Ottawa, Ontario.
Mr. A.D. (Ben) Monkhouse, Mission Secretary,	Department of Industry, Wood Products Branch, Ottawa, Ontario.

For the purpose of preparing this report, the following mission members provided information on specific industries:

- The Casket Industry - Mr. D.E. Pearson
- The Furniture Industry - Messrs S. Gardiner, M. Globerman,
S. Segal and W.D. Shoemay.
- The Industrial & Household Wood Products Industries - Messrs W.G. O'Brien Jr.,
D.E. Pearson.
- The Kitchen Cabinet Industry - Mr. A. Segal
- The Millwork Industry - Mr. J.B. Hall
- The Mobile Home Industry - Mr. J.W. Devlin
- The Wood Turning Industry - Messrs H.W. Wittler and
W.G. O'Brien

PART II

SUMMARY

The Canadian Technical Wood Products Mission to the Western United States found in Southern California a highly specialized and sophisticated secondary wood-using industry, of immense size, manufacturing a wide range of quality products at competitive prices using wood parts.

Mission members found that Canadian Western species of wood were known and acceptable. In many cases Canadian woods were not being used because the industry in California was not convinced of a continuing supply of these woods in large volume and was not able to buy parts made from them.

Representatives of the coffin and casket industry expressed concern over the diminishing supply and rising costs of the better grades of Redwood and would like Western Red Cedar as an alternative. They are interested in obtaining this wood in pre-cut form. The mission found the furniture trade interested in Western Alder, Birch, Maple, Poplar and Cedar for tops and gables, drawer fronts, backs and sides.

The upholstery industry is presently using hardwoods such as Birch, Western Maple, Ash, Alder and Gum and would therefore find Western hardwoods, including Poplar, highly acceptable. The Mission felt the Los Angeles upholstery industry could be persuaded to use softwood for non-stress members, as is the practice in Western Canada, if it could

be demonstrated that softwood is of comparable quality and strength and that continuing supplies would be available at competitive prices in K.D. dimension parts.

A large market exists in the Los Angeles area for squares by the local turning industry, as well as a market for turnings. At present, Western Alder, Soft Maple and Birch squares in random length are in demand. The Mission feels Western birch would be an ideal species for many of these turnings and could substitute for the glued-up Birch blanks or solid squares of Gum and Alder presently used for the larger turnings.

In Los Angeles delivery and quality were continually stressed as being of prime importance. Users in this area expressed concern over availability of lumber for wood parts. They placed continuity of supply and availability of a species of wood above its individual characteristics.

PART III

THE WESTERN UNITED STATES

The population in the West is increasing at twice the rate of the rest of the United States and this growth is expected to continue for some time. Add to this one of the highest standards of living and largest disposable incomes in the world and the result is a developing market of the first order. The centre for this growth area for all types of consumer goods, including furniture, furnishings, houses and household equipment, is the State of California.

The California market is isolated geographically by great distances from competitive sources of raw material and manufactured consumer goods. It is also an area where manufacturing cannot be easily and competitively carried on because of high labour rates, expensive land and costly waste disposal procedures necessary to reduce smog conditions. The solution to the manufacturing problems of this area have been found by bringing in from elsewhere, parts which have already been manufactured and assembling and finishing them locally.

A high degree of specialization and sophistication has been reached in buying and using components parts of all kinds. This method of overcoming high costs of transportation, land, labour and waste disposal in large metropolitan areas is well developed in California and is likely to assume increasing importance in other parts of the country.

It is important, however, for Canadian businessmen wishing to engage in the business of supplying parts to visit the area in person and sell their services personally. The Office of the Department of Trade and Commerce has extensive knowledge of local conditions and wide connections in the trade. The resident trade commissioner is always ready to assist Canadian businessmen to establish the contacts they need.

BURIAL CASKETS

Traditionally, Redwood has been the species most in demand by the casket trade but diminishing supplies of the higher grades and increasing prices are forcing the industry to consider using other species. The alternate wood most acceptable is Western Red Cedar and the trade would welcome an opportunity to buy industrial cut stock made from Western Red Cedar.

Metal and fibreglass caskets have already captured a large share of the market and it is important, if wood is to maintain or regain its place in this industry, for continuing supplies of Western Red Cedar to be available at competitive prices. It is also imperative that Western Red Cedar be offered as components.

The items required by this industry consist of:-

Sides 14" wide by 6' or 7' long

Bottoms 20" and 24" wide by 6' or 7' long

Mouldings 6' and 7' long

At present Redwood 1 x 10 - 6' glued up
panel fill is priced at

\$255 /M

1 x 4 and 2 x 4 -6' and 8' base mould at	\$265 /M
2 x 6 - 8' top mould at	\$275 /M
1 x 6 and 1 x 8 S4S sides and ends	\$250 /M

The stock used is all K.D. and clear.

The mission feels this industry is on the threshold of a swing to Western Red Cedar and is holding back only because it is not sure of continuity of supply and because it is not presently able to buy the machined parts it needs in Western Red Cedar.

FURNITURE

The State of California is first in furniture sales, which amounted to \$267 million or 12% of the national total at wholesale prices in 1963. For the 13 western states total furniture sales were \$394 million or 18% of the national total. In 1962 the National Association of Furniture Manufacturers estimated that the dollar value of lumber, including rough, semi-finished and finished dimension; legs; carvings; mouldings; ornaments; frames; etc., used by western manufacturers of wood and upholstered furniture amounted to \$34 million. From 750 plants in 1947 the furniture industry has grown to over 1,000 plants, with the industry centered in Los Angeles and characterized by a large number of specialized plants.

The Los Angeles case goods industry utilizes a wide range of wood products, including hardwood and softwood plywood and particle board, as well as a wide range of hardwood and softwood species in turnings, dimension stock and components.

As the cost of select hardwoods increases, the Los Angeles case goods industry is becoming alert to the possibilities of using the secondary species of wood indigenous to Western Canada such as Western Alder, Birch, Maple, Aspen, Poplar, Hemlock, Spruce, Pine, Cypress or Yellow Cedar and Western Red Cedar.

The furniture industry in Southern California uses about 60 million f.b.m. of hardwood lumber a year, of which Alder represents one third and Birch about one-fifth. There is a further 45 million f.b.m. of softwood lumber consumed annually which goes mainly to upholstered furniture manufacturers. Many of the Los Angeles firms do mainly assembly work and purchase components from local parts manufacturers or import components from suppliers in other parts of the United States or Canada. Practically all of the firms which are manufacturing large quantities of furniture use dimension stock exclusively and very little lumber is sold direct to the large furniture manufacturers.

While the preference for Alder and Birch still exists, the mission noted a printed furniture line using Western Hemlock which was brought in in glued-up blanks S4S 3/4" x 12" x 16'. Interest was also expressed in the Los Angeles area for Western Red Cedar drawer sides. In all cases, regardless of species used, the wood was kiln dried.

Prices varied greatly but in general, solid pieces in Alder ran between \$280-\$300 per f.b.m. Los Angeles in U.S. funds, including duty and freight. Solid Birch pieces ran about \$25 per M f.b.m. above Alder. Edge-glued panels ranged from \$360-\$420 per M f.b.m. depending on size and grade, with birch again \$25 higher. Verticle grain edge-glued blanks of Hemlock for the unpainted case goods manufacturers were being sold at between \$250-\$280 per M. f.b.m. Generally speaking, the range of most popular sizes for glued-up stock runs from 15-66" with a small percent up to 82" long. Minimum orders are car load, but where it is possible to ship by truck, trailer loads would help to fill smaller orders. The demand for furniture components in the Los Angeles area continues to increase as furniture factories cut back their plant investment and lean more heavily on purchased parts.

In the Los Angeles area upholstered furniture firms generally range in size from small to medium, with few exceeding an annual sales volume of \$3,000,000, and nearly all firms are oriented to the California market. As in other parts of the U.S., short runs of a great variety of styles seem to be the rule.

Indications are that dimension parts for upholstered furniture frames can be sold in the Los Angeles area on a knocked down basis to firms that generate substantial volume with relatively few styles. The lumber required to make

suitable frames should be of a sound grade, preferably Birch or Western Maple, although Alder and Poplar would be acceptable. Hardwood component parts for a sofa run between \$7 - \$9 U.S. f.o.b. plant Los Angeles.

At present there is a belief in the upholstery trade in the Los Angeles area that hardwood is the only wood from which an upholstered frame can be made. In British Columbia softwood frames are used extensively for Non-Sag construction and are found to be of sufficient strength and quality compared to hardwood frames. It is the mission's opinion that the Los Angeles upholstery trade could be persuaded to use softwood non-stress members for frames if it could be demonstrated that they were of comparable quality and strength and that continuing supplies of softwood parts were available at competitive prices.

The furniture trade in Los Angeles receives a great deal of its cut stock, dimension parts and turnings, packaged or steel strap, bundled on pallets. Any supplier of wood parts to this industry would do well to try to ship palletized loads of parts for fork lift unloading and handling. Improved customer acceptance of these loads would result if they were polyethylene wrapped to prevent moisture pickup during transit.

INDUSTRIAL AND HOUSEHOLD WOOD PRODUCTS

NURSERY SUPPLIES - FLATS, STAKES AND TREE BOXES.

This is an important industry in the Los Angeles area and one which has traditionally used large quantities of

Redwood clears. Again, because of diminishing supplies and increasing prices for the better grades of Redwood, this market would be interested in obtaining supplies of Western Red Cedar on a continuing basis and preferably cut to size.

PALLETS

There is a thriving pallet industry in the Los Angeles area, which is one of the wood using growth industries. The industry, as elsewhere, is primarily a user of low grade stock. One of the plants visited was using White and Douglas Fir in economy grade, 2 x 4 and 1 x 6 S1S2E, and paying approximately \$35 per M for White Fir and \$40 for Douglas Fir f.o.b. plant. White and Douglas Fir are used because of availability and price and use is not confined to these species as others would be suitable. Some of this economy grade material is being brought into Los Angeles by boat from mills on the Northwestern U.S. coast.

Pre-cut pallets would be acceptable if they could be landed in Los Angeles cheaply enough as these would eliminate the waste which would be accumulated by cutting in the plant. Presently, quality returnable pallet cut stock is being sold at \$69 per M and expandable pallet cut stock at \$39. Also, because of the efforts in the U.S. to standardize pallets and introduce a pallet pool, the number of pallet part sizes could be kept to a minimum.

LADDERS

The ladder market in Los Angeles is similar to that in Western Canada with Douglas Fir or Western Hemlock K.D. ladder stock being used. The only exception is in rungs which are made of Hickory.

Supplying rails on a component part basis ready for assembly appears to be an opportunity for Canadian manufacturers and should be investigated further. The sizes would be 2" x 3", 1" x 3" and 1" x 4".

HOUSEHOLD WOODENWARE AND TOYS

Wooden bowls made in Canada were on sale in the larger department stores along with wooden bowls, spoons, forks, spice racks, and meat boards from Japan.

No Canadian-made wooden toys were in evidence although a wide range of wooden toys from Denmark, England, France, West Germany and Sweden, were in the Los Angeles stores.

KITCHEN CABINETS

There are over 750 cabinet manufacturers in the greater Los Angeles area but only five or six of these are large enough to consider purchasing component parts. It is an industry which has a very high potential, however, and the larger factories purchase most of their material requirements in the form of cut-to-size stock and machined components. The most common components consist of drawer sides, cabinet doors, cut-to-size structural softwood members, laminated counter tops and edge-glued clear shelving.

In general, the cabinets being manufactured in the Los Angeles area for the housing market were not of the quality usually found in Canada. Price was more important than species, which presently consisted of Sugar Pine for drawer sides and door cores and Pine for shelving.

Drawer sides were:-

7/16 x 3 3/4 x 20".....	\$ 8.98 /C
7/16 x 5 3/4 x 20".....	\$13.36 /C
7/16 x 9 1/2 x 20".....	\$24.35 /C

Because of the growth potential in this industry, it could provide an interesting outlet for Canadian Alder, Poplar and softwood components.

An interesting observation is that in the Canadian market alone, if 75 sq. feet of kitchen cabinets go into each new house and if 150,000 new houses are built in a year, the market for kitchen cabinet doors in Canada would be 75 x 150,000, or over 11 million square feet.

MILLWORK

The Los Angeles area obtains its residential millwork, such as windows and door jambs, casing and mouldings of various sizes, from Northern California, Oregon and Washington in Pine at competitive prices. The manufacturers produce clear finger-jointed and edge-glued millwork from a No. 3 Shop Pine and are able to deliver it into the Los Angeles area by trailer, thus giving fast service as well as high quality at competitive prices.

A highly specialized market, which does not represent a large volume, exists in the Los Angeles area for picture frame mouldings. The main criterion for this market is quality and accuracy, but price must be competitive. All species are acceptable but packaging is an important factor and shipment can be by either rail or truck.

MOBILE HOMES

The mobile home industry in Southern California is a growth industry. In the first eight months of 1965, 10,742 mobile homes were produced in addition to 11,855 holiday trailers. Manufacturer prices range from an economy model, 10' x 15' at \$2,900, to a two-unit assembly, 20' x 50', three bedroom, one and a half bathroom at \$5,900.

One of the plants visited by the mission is presently buying 8/4 x 4" x 6" kiln dried Hemlock, White Fir and Pine in Construction and Better grades S4S for rafters, studding and plates. They also buy 4/4 D and Better for cupboard framing and Western Red Cedar 1/2" x 2" for cores in cupboard doors which are faced and backed with hardboard. Truck load quantities of the 8/4 stock were being purchased at \$78 delivered and \$138 for the 4/4 D and Better.

Other wood items purchased were mouldings in 2" base, 1/2" core and a 1/4" x 1" moulding strip for covering joints on prefinished interior plywood sheathing. This moulding is bought prefinished.

Freight rates from Canada are a limiting factor for sales of lumber to this area at current market prices, but the industry is adapted to the use of components and represents a great potential.

WOOD SQUARES AND TURNINGS

The popularity of Colonial or Early American furniture, in Southern California as elsewhere, has created a demand for turnings of all kinds. The high degree of specialization and large number of furniture assembly operations in the Los Angeles area mean a mass market for turnings. These are imported in large quantities, but a substantial wood turning industry has also grown up locally. This local industry is often able to command a higher price for its product because it can give quick, regular and assured delivery, where the imported turnings may be subject to many delays.

The Los Angeles wood turning industry is well equipped and is a very large consumer of squares. The industry is using mainly random length squares in Alder, Soft Maple and Birch. Manufacturers do not stock any finished turnings and this, combined with long production runs, enables them to be competitive with imported turnings.

Some Canadian turnings in Colonial design and of Yellow Birch are entering the Los Angeles market and are well accepted. They are preferred where Colonial Style furniture is made completely of Birch.

The market should be further explored as there are good opportunities to sell squares of Canadian West Coast Birch, Maple, Alder and Yellow Cedar. Some of the heavier turnings presently made from Gum or Tupelo could be made from Poplar, Alder and Western Birch.

The Los Angeles area presents a market for Colonial and other turnings of intricate design and high quality. Sales should be made through a broker in order to obtain the volume necessary to ship minimum quantities.

PART IV

CRITICAL FACTORS CONCERNING THE MANUFACTURE OF WOOD PARTS

Members of the Canadian Technical Wood Products Mission wish to emphasize the following areas in the manufacture of wood parts which they feel are of particular importance:

1. Production

a) Kilns

Most industrial wood components are machined and shipped within 6 - 8% moisture content, while other products may be between 10 - 12%. This 1 or 2% moisture content variation requires very exact kiln schedules and is one of the most critical factors in production. Improper drying methods, or any greater variation, is likely to produce checking, opening of joints, warping and cupping which will render the product useless.

b) Grain

The grain of the wood becomes a very important factor in machining wood parts because variations can cause raising during finishing. Also some parts are stress members, for example chair legs, and the slope and angle of the grain bears on the strength of the piece.

c) Colour

Colour plays an extremely vital role in parts used as show wood and colour matching must be exact. For example, the red heart of birch must be separated from the white sap wood and minor streaks should be used for products where such colour differences are acceptable.

2. Product Control

a) Specifications

The cut stock or industrial wood component industry is characterised by an extremely close manufacturer - end user relationship. Unlike the production of lumber or other standard wood products, the manufacturer of wood parts is producing a part to a customer's specification. The specifications will vary both from customer to customer and from job to job. Specifications are usually in a written or blueprint form but it is important to know exactly what the customer wants and what he expects to get. It is imperative that the customer's specifications be followed to the most minute detail and that the pricing of the product be calculated on the basis of these specifications. These close manufacturer-end user relations are not to be interpreted as suggesting direct selling. The services of a reputable broker can do much to ensure good customer relations and they also provide the volume of business needed to operate a plant efficiently.

b) Tolerances

The tolerances required in the manufacture of wood parts are something to which lumber manufacturers are not usually accustomed. In lumber manufacture

variances of 1/16 to 1/2" are not unusual, whereas for wood parts such variances would be unacceptable. While most tolerances vary from job to job and will be part of the specifications, they may vary as little as 1/1000th of an inch and often longitudinal length is one of the most critical factors. Measurement by eye, rule, or "go or no go" gauges are inadequate and micrometers become the standard measuring tool. It is also critical to reach a moisture content within 1 or 2% and to maintain this both during and after manufacture.

c) Quality Control

Special procedures for quality control are necessary in every industrial wood component plant. Wood components are high value products and, if they do not meet the quality specified, must be destroyed as useless. This represents a very serious financial loss, even if the number of rejects is small. The only way to control this loss is to institute quality control programs whereby the products are tested under a systematic sampling method on the production line.

d) Grades and Standards

On a few of the more common and simple wood parts, grades and standards have become established through

general usage. An example of this would be draw sides, squares for turnings and glued-up lumber panels.

3. Packaging and Transportation

a) Packaging

Because industrial wood components are far more prone to damage than primary wood products, they must be properly and adequately protected during transit. Generally, palletized loads are preferred rather than bundles, and these loads are often covered with cardboard cartons or polyfilm. Smaller finished and semi-finished products are put in containers before being fastened to pallets, while pre-assembled components often require special package engineering in order to cope with the weight to volume ratio.

b) Transportation

Wood components are often shipped in closed vans in order to maintain humidity and temperature conditions during transit. Truck transport is also often preferred over rail because smaller quantities can be moved faster and without a second handling. It is possible that industrial wood components would provide suitable back-haul loads to the many trucks hauling fresh fruit and vegetables and other perishable items.

c) Insurance

Industrial wood components represent high value products and should be adequately covered by insurance, not only during transit but also while in storage.

4. The Trade

a) Production Contracts

One of the safest ways of selling industrial wood components is through a production contract which is standard procedure for many large and financially sound user companies. In some cases these contracts are placed with brokers who, in turn, will place them with a manufacturer.

b) Shipment

The necessity for delivering wood parts on the dates specified cannot be too strongly emphasized. The end user is conducting an assembly line operation and he schedules his orders for parts accordingly. If the parts are not there on time, the assembly line closes down and production ceases. The most important aspect of cut stock production is working to a schedule and delivering the parts when they are required.

c) Culls

To the end user, culls or rejects are generally a dead loss and are charged against the producer. In some cases culls will be returned to the manufacturer

if he will pay all handling and freight costs but usually they have to be destroyed.

d) Brokers

There are two main functions which brokers perform in the industrial wood components industry. Firstly, they form the basic link in communication between the producer and the end user. Secondly, they are responsible for quality and for financing. There are other extremely important roles a broker plays. For example, he is able to pool orders for a producer and thus provide economies in production and shipment. Frequently he is able to get enough orders for a carload of a number of items and then distribute them upon their arrival. Brokers often maintain warehouses and will stock certain standard items such as drawer sides or squares for turnings. Last, but by no means least, a broker is the manufacturer's salesman on the spot and can keep the close working relations necessary for satisfactory operations in this industry.

PART V

CONCLUSION

After studying the Los Angeles market and the widespread and specialized use of wood parts of all kinds in this area, the members of the Canadian Technical Wood Products Mission are convinced that it is not only feasible, but also desirable to have established in Western Canada plants capable of manufacturing some of these parts.

The mission found that Western Canadian species of both hardwood and softwood lumber were acceptable in this market and were being used to make wood parts. Some species such as Western Alder, Birch and Maple are highly desirable, well known and already in demand. Other species, whose particular characteristics are known and appreciated, are not being used because they have not, up to now, been available on a continuing basis. This situation particularly applies to Western Red Cedar and Yellow Cedar.

Other species in plentiful supply in Western Canada, such as Western White Spruce, and Western Hemlock, were being used for a variety of purposes. These uses could be readily increased and enlarged if these woods were offered cut up and manufactured into parts.

Delivery and quality are two of the most important criteria of the Los Angeles area and any potential supplier must pay particular attention to both.

The members of the Canadian Technical Wood Products Mission are in agreement that opportunity exists for manufacturing wood parts in Western Canada of indigenous species. They also agree that the establishment of a wood parts industry would not only find a market for its products in Southern California but would have a Canadian market as well. A Western wood parts industry would increase the value of lumber and plywood leaving Canada, would utilize species now being little used, and would, through greater efficiency and larger volume, enable a more competitive secondary wood products industry to exist in the Western Provinces.

It is obvious to the mission members that the trend is toward still greater refinement and specialization in the U.S. market. In order to supply this market, Canadian producers will have to follow this trend and be prepared to sell the type of products in demand.

PART VI

RECOMMENDATIONS

Members of the Canadian Technical Wood Products Mission to the Western United States wish to make the following recommendations:

1. That lumber producers in Western Canada study the feasibility of manufacturing industrial wood components as a means of obtaining greater returns from their raw materials. They should regard the manufacture of wood parts as a way to upgrade their lower quality lumber.
2. That existing lumber associations, particularly those in the softwood industry, investigate the findings of this report and relate the market opportunities to the species and producing areas of their members.
3. That, since many Western species are in sufficient supply for specialized uses, a development and promotional program by the industry seems to be warranted.
4. That there is a need for a Western Dimension Stock Producers Association where producers interested in, or already producing, industrial components can exchange ideas and discuss common problems.
5. That, to be successful, an industrial wood component plant should be up to date and process sufficient volume to be competitive. It should be separate from a sawmill and divorced as much as possible from the thinking and practices of lumber production.

ACKNOWLEDGEMENTS

The members of the Canadian Technical Wood Products Mission to the Western United States wish to express their gratitude to the Minister of Industry for sponsoring the mission. They also wish to acknowledge the help given by the Department of Trade and Commerce through the Consulate General in Los Angeles and to the Forest Products Division in Ottawa for allowing Mr. J.R. Rooke to accompany the mission as Export Advisor.

The mission wishes to thank the members and staff of the Canadian Consulate in Los Angeles and in particular, Mr. F.B. Clark, Consul and Trade Commissioner, Mr. L.J. Taylor, Consul and Assistant Trade Commissioner, and Mr. J.H. Suggitt, Vice-Consul and Assistant Trade Commissioner, who worked so hard to arrange an interesting program for the mission.

The members of the mission wish to acknowledge the assistance given to them by Mr. W.G. Brese, of the Alberta Department of Industry and Development in Los Angeles and Mr. F.C. MacKay, of British Columbia House, San Francisco, who so generously provided transportation and gave so much of their time to help the mission.

The members of the Canadian Technical Wood Products Mission to the Western United States wish to extend special thanks to those local businessmen who so kindly conducted members of the mission through their plants and so helpfully answered their many questions.

PART VII

APPENDIX I

COMPANIES VISITED

Aaron Bros. Co. of California,
960 N. La Brea,
Los Angeles 38, California.
Picture Frames

Albert Furniture Manu-
facturing Corp.,
4019 Medford St.,
Los Angeles 63, California
Furniture

Angelus Hardwood & Plywood,
6700 S. Alameda St.,
Los Angeles, California.
Distributors

Artwood Industries,
343 Vineland Ave.,
City of Industry, California.
Wood Components

Artwood Industries,
401 So. Raymond Ave.,
Alhambra, California.
Wood Components

Baby Line Furniture Corp.,
6235 S. St. Andrews Place,
Los Angeles 47, California.
Infant & Juvenile Furniture

Boise Cascade Corporation,
Western Pine Division,
E315 Jackson,
Spokane, Washington.

California Furniture Shops,
6241 Telegraph Rd.,
Los Angeles, California
Case Goods

Cal-Wood Manufacturing Company
Inc.,
1541 W. 132nd St.,
Gardena, California. Case Goods

De Marco Cabinets Manufacturing
Co.,
157th & Main St.,
Gardena, California.
Kitchen Cabinets

Divco-Wayne Mobile Homes,
13538 Excelsior Drive,
Santa Fe Springs,
California. Mobile Homes

Goldenberg Bros.,
824 E. 29th St.,
Los Angeles 11, California.
Distributors

Harbor Pallet Co.,
1329 West 14th Street,
Long Beach 13, California.

L.M. Hoffman Cabinets Inc.,
20701 Plummer,
Chatsworth, California.

H.W. Hull & Sons Inc.,
1919 West Gage St.,
Los Angeles 47, California
Wood Turnings

Larson Ladder Co.,
312 S. Alameda St.,
Los Angeles 13, California.
Ladders

Lion Box & Pallet Company,
8423 Alameda St.,
Los Angeles 1, California.
Pallets

Mode Furniture Manufacturing
Inc.,
1020 59th St. E.,
Los Angeles 1, California.
Upholstered Furniture

Ted H. Oliver & Sons,
1226 West 196th St.,
Torrence, California.
Nursery flats, stakes &
tree boxes.

Revere Furniture Mfg. Inc.,
1000 W. 147th St.,
Los Angeles, California.
Upholstered Furniture

Riggs Sales Co.,
1231 W. 132nd St.,
Gardena, California.
Importers

San Fernando Casket Co.,
3352 La Cienega Place,
Los Angeles, California.
Caskets

Sawyer Cabinets Inc.,
12744 San Fernando Rd.,
Sylmar, California.
Kitchen Cabinets

Sherman Bertram Inc.,
5401 E. Slauson Blvd.,
Los Angeles, California.
Upholstered Furniture

E.J. Stanton & Sons Inc.,
4770 District Blvd.,
Los Angeles, California.
Distributor
Dimension Stock

Taylor Millwork & Stair Co.,
Inc.,
1305 W. 132nd St.,
Gardena, California.
Millwork

West Coast Casket Company,
1526 E. Washington Blvd.,
Los Angeles 21, California.
Caskets

Woodlands Furniture Manu-
facturing Inc.,
23215 Early Ave.,
Torrance, California.
Unpainted Furniture

APPENDIX II

REPORT ON THE

CANADIAN TECHNICAL WOOD PRODUCTS MISSION
TO THE WESTERN UNITED STATES

OCTOBER 3 TO 15, 1965.

J.R. Rooke,
Forest Products Division,
Department of Trade and Commerce.

Export Opportunity
Report on the
Canadian Technical Wood Products Mission
To The Western United States
October 3 to 15, 1965.

J.R. Rooke

Introduction:

The purpose of this Department of Industry Mission was to make known the desirability and feasibility of manufacturing more wood components in Canada from Canadian wood species with a view to stimulating Western Canadian primary and secondary wood products manufacturers into the production of industrial wood components.

The mission visited Los Angeles, California and Spokane, Washington where meetings were held with leading manufacturers, distributors and users of industrial wood components. The Trade Commissioner Service of the Canadian Consulate in Los Angeles arranged all visits in that metropolitan area and provided excellent liaison for the mission with local manufacturers. Mission members assembled in Los Angeles on Sunday, October 3 and investigated this market area until Wednesday, October 13 when they travelled by air to Spokane to visit two plants. The mission then disbanded and returned to Canada October 15.

Market Information:

The Los Angeles market is the centre of the furniture industry in the West. It is also an important user of lumber and wood components for industrial products, mobile homes, kitchen cabinets, and caskets etc.

The size of the Los Angeles market is difficult to appreciate without a brief look at a few facts:

(1) Los Angeles is the second most populous metropolitan area in the United States with over seven million inhabitants.

(2) In 1964 it was the leading metropolitan area in terms of value of building permits issued and in the number of new dwelling units.

(3) It is the second largest metropolitan area in terms of retail trade.

(4) It is the third largest metropolitan area in terms of wholesale trade and the third largest industrial area in terms of value added by manufacture.

Organization of the Wood Using Industry:

Los Angeles has more than one thousand furniture manufacturing establishments characterized by a large number of small, highly-specialized plants. Some firms are specialized by the type of furniture manufactured; others on a basis of the manufacturing processes. Many of the wood manufacturing concerns in the Los Angeles area resemble assembly plants and

are not like the conventional factory in Canada. This assembly type of manufacture leads to fragmentation in the wood-using industries and results in complex organizations of specialized plants. On the other hand there are establishments where all stages of manufacturing are carried out in one plant owned by one firm. There is, therefore, no specific pattern of manufacturing as such and, as a consequence, no set way of doing business in the Los Angeles area.

There appears to be, however, four types of firm supplying the final manufacturer with materials:

- (1) Lumber dealers or agents and cut stock suppliers; these are firms that supply rough lumber or that cut lumber plywood or particleboard into rough-sized pieces for further working.
- (2) Parts manufacturers: these firms make parts ready for assembly such as casket sides or glued stock or plywood cut-to-size and shaped for table tops, turned legs or rungs, or machined parts.
- (3) Sub-assemblers: these firms take two or more parts and assemble them for installation, such firms may laminate plastic to glued-up stock, plywood, or particleboard for table tops, make upholstered furniture frames, exposed wood parts for upholstered pieces or casegoods or the tops for caskets.

(4) Intermediate processors: these are firms that perform all three of the above functions or any combinations of them.

Mission Activities

During the study of the Los Angeles area the mission visited plants selected by the Trade Commissioner's Office as representative of particular aspects of wood products manufacturing. The arrangements made by the Trade Commissioners were greatly appreciated by all mission members who felt that a good cross section, both by product and size, of the Los Angeles market was contacted. A detailed list of all the plants visited is included in Appendix I of the report compiled by the mission secretary.

During plant visits, first-hand information was gained of what the manufacturer made, how the product was manufactured, the various species of wood being used and how the end product was sold.

Mission members had a chance to mingle socially with delegates at the California Furniture Manufacturers Association Material and Supply Show on October 5 when they attended that group's annual luncheon and later toured the exhibit area.

The mission had the opportunity at a later date of discussing American customs duties with three representatives of the United States' Treasury Department Customs Service at

a luncheon in the Los Angeles Home Furnishings Mart, October 11. This session was very useful for it helped to clarify various points used to assess different rates of duties.

A reception was held later in the day by the mission. This proved most useful for a good number of firms interested in doing business in Canada attended and the mission members were able to talk to these people informally and make arrangements to transact business.

General Impressions

Furniture

(a) Upholstered Goods: The upholstered furniture firms visited were oriented to the California market and short runs of a great variety of styles seemed to be the rule. One firm made 22 styles while another had over 300. Some of the firms with a substantial volume indicated interest in buying dimension parts for frames on a knock-down basis; others, who had their own machining facilities were not interested in parts but expressed a desire to buy lumber directly from mills.

(b) Case Goods: The case goods industry in Los Angeles utilizes a wide range of wood products--both hardwoods and softwoods, turnings, dimension stock and components, plywood and particle-board. The firms visited generally appear quite ready to buy components from reliable dimension firms so that they themselves can take on volume contracts from the United States Government and other large buyers. One firm visited, however, using seven

carloads per month of 4/4 birch, buys only rough lumber and manufactures components for its own assembly department.

Mobile Homes

This Southern California industry has developed to the point where the industry association maintains that one in every five one-family housing starts in California is a mobile home. In the first seven months of 1965, 90,390 mobile homes were produced in addition to 55,380 travel trailers.* The population increase in Southern California ensures a good future for this business and because standardization is being introduced, a good potential market exists for cut-up stock.

Industrial Products

Pallet manufacturing is big business in Los Angeles. One manufacturer visited has a standing order with Californian and Oregon mills to take all the "economy" grade that develops. All pallet firms are searching for sources of "cheap" raw material and consider \$30-\$35 per M. F.O.B. dock a good price. Employees are on piece work averaging from \$26-\$30 per day. One firm visited consumed 60M ft. per shift.

Casket Manufacturing

Casket makers generally buy shell components and assemble and finish the completed casket; however, as in other types of wood-using industries some manufacturers carry out all aspects of manufacture from the raw materials

* These figures are for all of the United States and not just California.

to the finished products. There are variations to this type of operation, for another manufacturer buys all his lumber in the rough but has it processed by outside jobbers and then delivered to the plant for further processing. As mentioned previously there is no set way of doing business in Los Angeles.

Comments

The Canadian manufacturer of wood components, either Western or Eastern, can export into the Western United States provided he gives service, quality and competitive pricing. Emphasis during all discussions was always placed on service and this is understandable since physical space is a considerable cost factor in Los Angeles. Warehousing of either the raw materials or finished product is not generally undertaken. One good sized furniture manufacturer unloaded components at his receiving door and loaded trucks with finished furniture at his shipping door. He didn't even pack his furniture in cartons, but merely blanket wrapped for shipment direct to the retailer. To operate a business on such a basis requires suppliers who can manufacture to rigid specifications on a continuing basis. One case goods manufacturer who has standardized his designs, and uses Hemlock, Ash and Walnut, consumes a carload of Mahogany drawer sides every 60 days. In comparison to others he tries to carry a six-month inventory of this item for insurance against irregular deliveries. This is a well-run

establishment interested in developing contact with a good reliable supplier of drawer backs and sides in Western Red Cedar.

In the turning field Japanese imports in plain design and low price, up to 10" lengths, are being received in volume (8" turnings, centre hole drilled for lamps cost 16¢ each), however, deliveries are irregular and orders have to be placed well in advance. Dealings with Asiatic suppliers are carried out under the added difficulty of strange languages and different currency so that some manufacturers are quite prepared to pay a higher price if they can be assured of steady delivery.

Hardwood components for upholstered furniture such as sofas are presently being made from Birch, Western Maple and Alder Gum and Ash; however, Poplar could be used, and kiln-dried stock-machined and dowelled for assembly should find a good potential market, presently 50 to 60 carloads per year could go into the Los Angeles market. (Now paying \$7 to \$9 per frame).

The favoured species in the casket business is redwood, however, with the prospect of diminishing quantities of this species, there is a good possibility of a change to Western Red Cedar and this could present an excellent opportunity for Canadian suppliers. The volume is indefinite but the two firms could consume at least 70 carloads per year.

The so called "mobile home industry" holds an important position as a developing market for Canadian wood component and cut-up stock. The manufacturers of these homes are looking for continuing sources of inexpensive 8/4 hemlock, fir and pine in grades of Const. and Btr. S4S for rafters studding and plates. They use 4/4 red cedar for door cores. Interior sheathing is prefinished plywood from Asia (printed luan).

Conclusions

Firms interested in selling to this market area would do well to consider working through wholesale yards, mill representatives, or brokers. The general feeling among Los Angeles manufacturers seemed to be that when they had a problem or wanted some particular item, they wanted service right away or delivery within a day or two and the only way they could get such service was through a phone call to a local yard or brokerage.

According to information contained in a report on the Los Angeles furniture industry carried out by the Pacific Southwest Forest and Range Experiment Station of the United States Forest Service, these middlemen are responsible for moving from eighty to ninety per cent of lumber and plywood from the source to the manufacturer. Some of these middlemen specialize in storage, buying large quantities for their customers and delivering in small or daily lots as desired. Some provide

additional service for their customers such as rough cutting, sorting and gluing-up stock or providing long-term credit.

Canadian manufacturers who do not require the services of these middlemen to contact their customers can probably reduce the delivered price to the Los Angeles manufacturer, but to do this successfully requires a complete working knowledge of the Los Angeles wood components market organization and this is not obtainable without actually having worked in the area.

It is true, of course, that some Los Angeles manufacturers have gone to great lengths to prepare exacting specifications complete with metal templates, or to have prepared detailed parts hand books; however, even these firms buy from a relatively few sources with which they have established relations.

A close working knowledge of a market and sources of supply is essential for the carrying on of business and the larger more successful Californian middlemen are quite willing to extend their regular buying trips or to make special trips to investigate new sources of supplies or to develop the use of alternative species of wood when shortages of preferred materials develop.

The wood components market for the mobile homes industry should be investigated in further depth. The information gained by the mission indicated a developing and rapidly expanding market in this field.

The market possibilities for Poplar also appear quite good and this, too, warrants further investigation. The use of this species for upholstery frames and for painted case goods etc. is gaining greater acceptance so that an enormous market potential is ready for development, not only in California but also in the whole American market.

Wood is still the basic material for furniture in California in high-quality home furnishings where it retains the number one position in the prestige field. Because of this the trend to more wood in middle and low-end furniture which copies the fine-quality lines will continue. A good market for wood components will therefore continue to exist in this area and is open to all suppliers capable of providing accurately made parts on a steady and continuing basis.

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