

B.C. 2 ✓ 1921

7a.



BRITISH COLUMBIA DEPARTMENT OF LANDS

FOREST SERVICE

HON. T. D. PATTULLO, Minister of Lands

**British Columbia Timber for
Prairie Farms**

GRANARIES

FARM BUILDINGS SERIES

BULLETIN No. 8



VICTORIA, B.C. :

Printed by **WILLIAM H. CULLIN**, Printer to the King's Most Excellent Majesty.
1921.

**PROVINCIAL LIBRARY
VICTORIA, B. C.**

BRITISH COLUMBIA

LUMBER, SHINGLES

and other products of

Douglas Fir

Western Larch

Mountain Western Pine

Western Red Cedar

Western Hemlock

Spruce

Western White Pine



British Columbia Timber for Prairie Farms.

GRANARIES.

CONTENTS.

| | PAGE. |
|---|-------|
| Introduction | 5 |
| Granaries | 7 |
| Types of Granaries | 8 |
| Portable Granary No. 1 | 11 |
| Permanent Granary No. 2 | 13 |
| Permanent Granary No. 3 | 17 |
| Wood as a Building Material | 22 |
| Woods to Use | 23 |
| British Columbia Forest Service Bulletins | 24 |
| Other Publications | 25 |

The
**LUMBERING INDUSTRY OF BRITISH
COLUMBIA.**

TO THE PRAIRIE FARMER.

In the forests of British Columbia there stands to-day more than half Canada's supply of commercial timber. Forest surveys made during recent years throughout the Province show 30,000,000 acres of timber ready for the market, and 45,000,000 acres of younger growth that will reach commercial size during the present century. The present merchantable stand is estimated at 400,000,000,000 feet board measure.

Taught by the experience of older countries, British Columbia has adopted a vigorous conservation policy and is carefully protecting her vast forest areas from fire and misuse.

The manufacture of lumber and other wood products is the most important industry of this forest Province. Each year 1,750,000,000 feet of timber is cut to supply the sawmills, pulp and paper mills, and other wood-using factories west of the Canadian Rockies. But the forests produce more wood each year than the mills can find markets for, and so much timber goes to waste. The most of the timber is public property; the prosperity of the Province depends very largely upon the lumbering industry; and it is therefore the duty of the Government to help secure the widest possible market for British Columbia lumber both in foreign countries and in Canada.

The main market for Western lumber to-day is in the Prairie Provinces of Canada. Each farm is, after all, a factory for agricultural produce and needs a well-built plant like any other factory. This means good buildings—a comfortable, convenient house, good barns, granaries, silos, fences, and shelter for machinery. The best material for this is wood. It is cheap, handy to use, warm, sanitary, and it lasts. British Columbia therefore desires to give the citizens of Alberta, Saskatchewan, and Manitoba full information concerning her forest products, asking them to bear in mind that these products are “grown and manufactured in Canada,” and that trade

between the Provinces of the Canadian West is the surest foundation for our common prosperity.

The Bulletins.

Valuable bulletins on farm buildings are now being issued by agricultural authorities all over Canada and the United States. The College of Agriculture of the University of Saskatchewan was engaged in this most useful work; the Government of British Columbia entered into a co-operative agreement with the University, and the series of farm bulletins listed on the last page of this booklet is the result. The agricultural information contained herein and the plans and bills of material were prepared under the immediate supervision of Mr. W. J. Rutherford, Dean of the College of Agriculture, and thus give up-to-date and authoritative views on the agricultural subjects dealt with. The information concerning lumber is supplied by the Forest Service of the Government of British Columbia.

In the building plans, five things are aimed at in particular:—

- (1.) **That they should be specially designed to meet Prairie conditions.**
- (2.) **That they should be simple and practical to meet the needs of the average farmer.**
- (3.) **That ordinary stock sizes of lumber should be used throughout in order to keep the cost low.**
- (4.) **That it should be easy for the farmer to make additions to the buildings whenever more accommodation should be needed.**
- (5.) **That the details of the plans should be readily alterable to suit individual needs.**

The plans printed in these bulletins show enough detail for them to be used as working plans. Any one wishing to obtain large-scale working plans can secure them at cost by writing to the **Chief Forester, Victoria, B.C.** A reference list of bulletins and of sources of agricultural information will be found on the last page.

Note.

While it is understood that the agricultural authorities in Alberta and Manitoba have already published pamphlets on farm buildings, and contemplate issuing others, it is believed that all Prairie farmers will be interested in the British Columbia bulletins, and editions for general distribution on the Prairies have accordingly been printed.

UNIVERSITY OF SASKATCHEWAN,
COLLEGE OF AGRICULTURE,

WALTER C. MURRAY, *President.*

W. J. RUTHERFORD, *Dean.*

GRANARIES FOR PRAIRIE FARMS.

BY A. R. GREIG, PROFESSOR OF AGRICULTURAL ENGINEERING, AND A. M. SHAW,
PROFESSOR OF ANIMAL HUSBANDRY.



GRANARIES will probably vary more in size, construction, and general appearance than any other one class of farm buildings. They range all the way from the temporary bin of several hundred bushels to the line elevator of 30,000 or 40,000. Between these two extremes there is a great variety of types to be found, because any structure which even temporarily is used for the storage of grain is commonly known as a granary.

Granaries are very necessary buildings; in fact, the permanent granary is one of the most-used buildings around the farmstead. Oats for the horses, meal for the cows, wheat for the fowls, all come from the granary. In the spring the empty bins are often used for the setting hens or perhaps for some early chicks during rainy weather. Smoked meats are often hung from the rafters, and in the passage-ways one can nearly always find monkey-wrenches, nails, cans of axle-grease, and the wagon-jack. The reader is not to infer that this is the proper use to make of a granary, but it simply illustrates a very common condition of affairs around that much used and abused building.

In the early days on the Prairies the homesteader in some instances provided for his grain simply by boarding up a bin 10 or 12 feet square and 7 or 8 feet high, using the earth for a floor and a covering of flax-straw for a roof. Abandoned shacks, vacant rooms in houses, empty barn lofts, box stalls in stables, and parts of various other buildings have all been requisitioned from time to time for the storage of grain. They all have been used as granaries and no doubt met the requirements at the time, but at best were only temporary makeshifts.

The carelessness that many Western farmers formerly exhibited toward storing their grain, and the great loss entailed through the use of unsuitable buildings as storehouses, led to the expression that "the large grain-farmer of Western Canada often wastes more grain in a single season than an Eastern farmer's entire crop." This statement is in a measure true. Too little attention has been paid to the construction of suitable granaries in the past; but as the country develops, a tendency on the part of the farmer to improve this condition is noted.

TYPES OF GRANARIES.

There are two kinds of regular granaries—temporary and permanent. The first are usually rather small, may be either stationary or portable, and are used for the most part simply as bins for threshing into in the field, thus saving the necessity of hauling the grain during the busy time of threshing. They will vary in capacity from 600 to 1,500 or 2,000 bushels. Where large farming operations are carried on and threshing from the stook is practised, field bins or portable granaries are practically indispensable, but they should be used in conjunction with a permanent granary located in close proximity to the other farm buildings.

The permanent granaries are of larger size, ranging all the way from a couple of thousand bushels to the large elevators with a capacity of 30,000 or 40,000 bushels. These last are styled elevators, but are in reality simply granaries, where the grain is handled by means of a power elevator. Excessively large granaries are not practicable for ordinary farm use. The use to which they are to be put will determine their location. If they are intended simply for the storage of market-grain, they may be at some distance from the other buildings. If intended for holding feed and seed-grain, they should be placed near the farm buildings, so that a chopper can be installed and feed ground as required.

Many thousands of dollars are annually lost to the farmers of Western Canada through the presence of weeds in the grain. The presence of these weeds is not only a menace to the growing crops and tends to lower the yield, but causes it to receive a lower grade and a correspondingly low price. The farmer who ships dirty grain to market not only pays freight on a large quantity of weed-seeds, but receives a lower grade and dockage and loses a large quantity

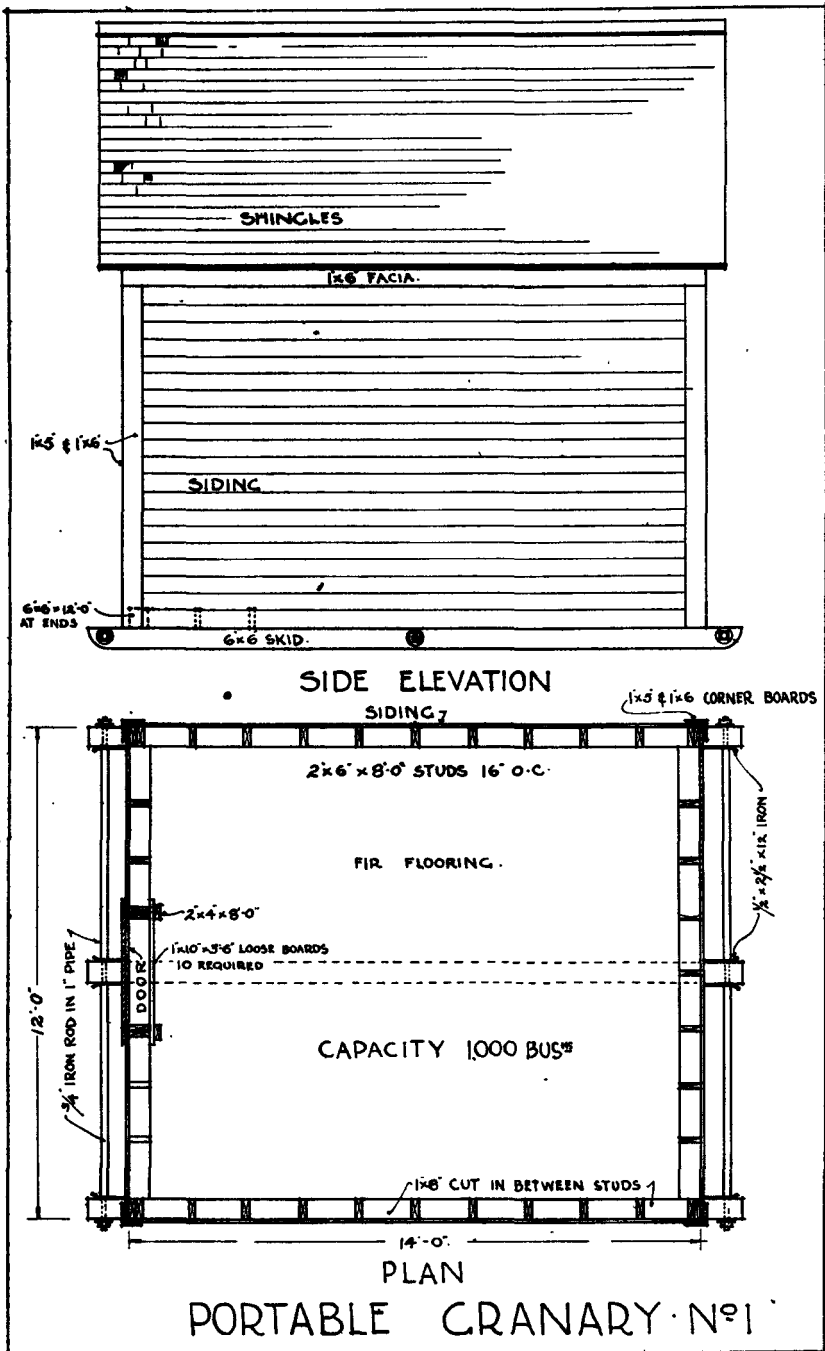


Fig. 1. Portable granaries make it unnecessary to haul grain during the busy time of threshing. This one has a capacity of 1,000 bushels, is strongly constructed, and should last a lifetime.

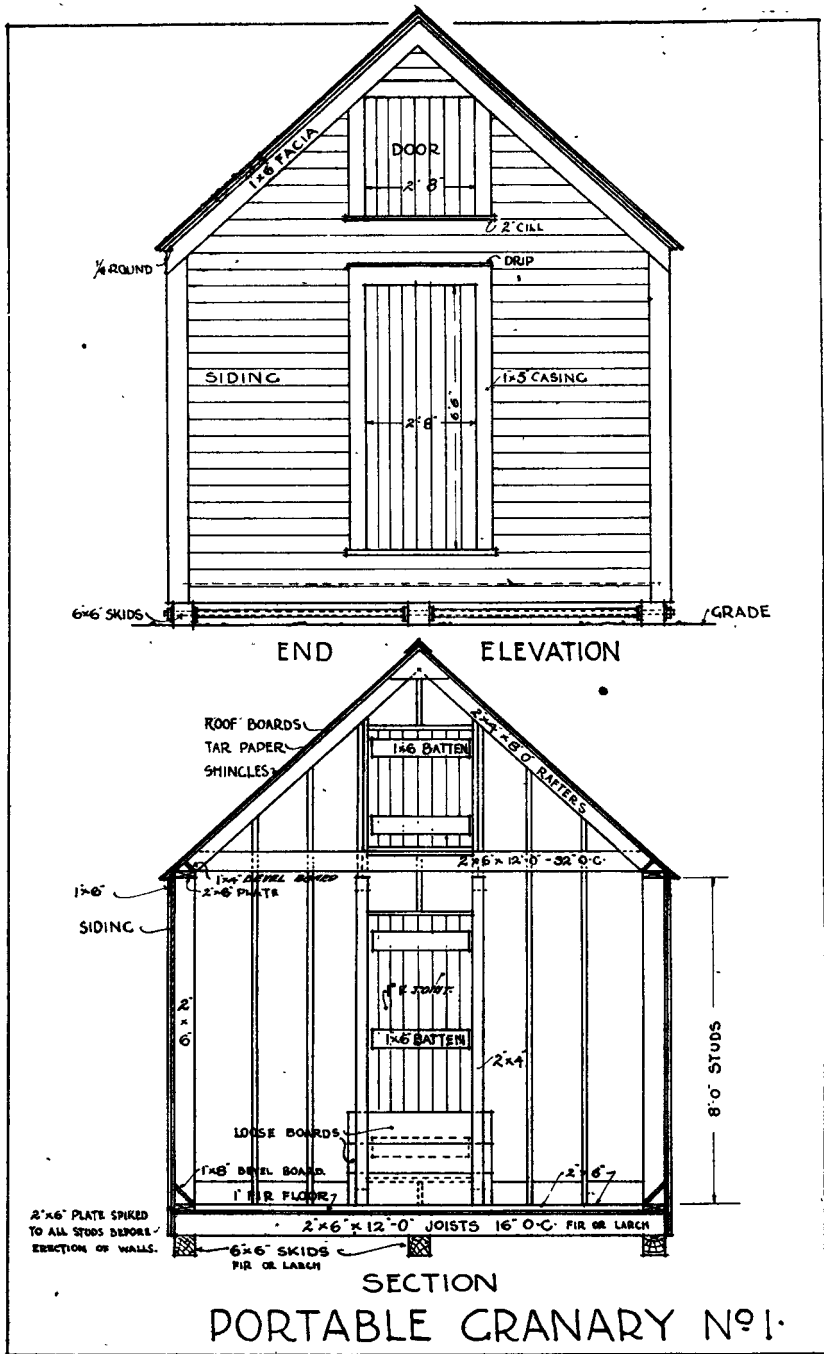


Fig. 2. The granary is filled and emptied through the end doors. Loose boards keep the pressure off the large door. The bevel boards prevent the grain from lodging between the studs and make it easy to clean the floor out.

of valuable stock-food in the form of screenings. Grain that is cleaned at home receives a higher grade on the market. There will be no dockage, and the screenings, which are composed not only of weed-seeds but contain large quantities of broken and shrunken grains, are available for feed. Sheep and hogs will make good gains on them, and when fed in conjunction with other foods, screenings will return a profit which compares favourably with that part of the crop marketed through the elevator. Clean seed-grain is even more important than market-grain, and all permanent granaries should be provided with sufficient floor-space for the operation of a fanning-mill for this purpose.

Portable Granary No. 1 (Figs. 1 and 2).

The portable granary shown in Fig. 1 is 12 by 14 feet with 8-foot walls, and has a capacity of about 1,000 bushels to the roof-plate level. It is provided with small doors in the gables for filling and a full-length door in one end for emptying. Loose boards set on edge and slipped into a groove in the door-jamb keep the grain from pressing on the door. They can easily be put into place as the granary is filled and taken out as it is emptied. Three 6 by 6 pieces of Douglas Fir or Western Larch are used as runners or skids, the middle one being necessary to prevent the centre of the floor from sagging when the bin is filled to capacity with wheat. The runners are kept from spreading by $\frac{3}{4}$ -inch iron rods running through them. The joists are laid crossways of the runners, spaced 16 inches apart from centre to centre, and must be securely spiked. A tight floor of inch stuff, either shiplap or regular flooring, preferably the latter, is placed directly on the joists. The studs are set on the sill, which in turn is spiked on top of the flooring. The rafters are spaced the same as the studs and carried on a plate. The 1 by 4 and 1 by 8 bevel boards set between the rafters and also between the studs prevent the grain from lodging between the latter and make it easier to clean the floor out. Cross-ties at every second rafter add greatly to the strength of the building. The drop-siding used on the outside of the studs must be securely nailed to withstand the lateral pressure of the grain; a few boards nailed across the studs inside will relieve some of this pressure. Extra strength can be secured, if desired, by stretching a piece of heavy wire across from side to side right through the building, and securely fastening it

to each wall; this ties the walls together, but does not interfere with storage.

Sometimes roof-hatches are used for filling, but as a general thing end doors are superior, as it is difficult to keep the roof-hatch from leaking. If desired, a spout can be built into one or both sides for emptying the top part of the grain.

BILL OF MATERIALS, PORTABLE GRANARY NO. I.

Framing Lumber.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet. Long. | Feet B.M. | Used for. |
|---------------------|---------------|--------------|-------------|-----------|-------------------------------------|
| 3 | 6 | 6 | 16 | 144 | Skids. |
| 2 | 6 | 6 | 12 | 72 | Sills. |
| 1 | 2 | 8 | 12 | 16 | Sills to doors, to cut 3 pieces 4'. |
| 1 | 2 | 6 | 18 | 18 | Door-trimming to cut 6 pieces 3'. |
| 2 | 2 | 6 | 14 | 28 | Sills under studs. |
| 2 | 2 | 6 | 14 | 28 | Plate. |
| 6 | 2 | 6 | 14 | 84 | Studs, end wall. |
| 1 | 2 | 6 | 14 | 14 | To cut short studs between doors. |
| 9 | 2 | 6 | 12 | 108 | Joists. |
| 2 | 2 | 6 | 12 | 24 | Sills, under studs. |
| 4 | 2 | 6 | 12 | 48 | Studs, end wall. |
| 5 | 2 | 6 | 12 | 60 | Collar-ties. |
| 4 | 2 | 6 | 10 | 40 | Studs, end wall. |
| 26 | 2 | 6 | 8 | 208 | Studs. |
| 11 | 2 | 4 | 16 | 117 | Rafters, to cut 22 pieces 8'. |
| 2 | 2 | 4 | 8 | 11 | Guides for loose boards at doorway. |
| Total ft. B.M. | | | | 1,020 | |

Finish Lumber.

| | | | | | |
|---|---|----|----|----|--|
| 2 | 1 | 10 | 14 | 23 | Loose boards at doorway, to cut 8 pieces 3' 6". |
| 1 | 1 | 10 | 8 | 7 | Loose boards at doorway, to cut 2 pieces 3' 6". |
| 2 | 1 | 8 | 16 | 21 | Bevel boards at junction of wall and lower plate. |
| 1 | 1 | 8 | 19 | 9 | Ridge-pole. |
| 2 | 1 | 8 | 12 | 16 | Bevel boards at junction of wall and lower plate. |
| 1 | 1 | 7 | 16 | 9 | Jambs, large door, to cut 2 uprights and one header. |
| 2 | 1 | 7 | 10 | 12 | Jambs, small doors, to cut 6 pieces 3'. |
| 2 | 1 | 6 | 16 | 16 | Fascia at eaves. |
| 4 | 1 | 6 | 10 | 20 | Fascia at gables. |
| 1 | 1 | 5 | 16 | 7 | Ridge-board. |

BILL OF MATERIALS, PORTABLE GRANARY NO. 1—Continued.

Finish Lumber—Continued.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet Long. | Feet B.M. | Used for. |
|--------------------|---------------|--------------|------------|-----------|--|
| 1 | 1 | 5 | 14 | 6 | Casing, large door, to cut 2 pieces 6' 6". |
| 4 | 1 | 5 | 10 | 17 | Corner-boards. |
| 2 | 1 | 5 | 10 | 8 | Casing, small doors, to cut 6 pieces 3'. |
| 1 | 1 | 5 | 4 | 2 | Casing, large door, to cut 1 piece 3' 6". |
| 1 | 1 | 4 | 16 | 5 | Ridge-board. |
| 2 | 1 | 4 | 14 | 9 | Bevel boards on roof-plate. |
| 4 | 1 | 4 | 10 | 13 | Corner-boards. |
| 3* | 1 | 2 | 16 | 8 | Water-table. |
| 1* | 1 | 2 | 6 | 1 | Water-table. |
| Total ft. B.M..... | | | | 209 | |

* Random lengths to make up the same total number of lineal feet will answer for these items.

- 600 feet, board measure, siding.
- 210 feet, board measure, 1" T. and G. flooring.
- 80 feet, board measure, 1" V-joint for doors.
- 310 feet, board measure, shiplap for roof-boarding.
- 2,500 British Columbia Red Cedar shingles (10 bundles).

Hardware.

- 15 lb. 4" common nails.
- 11 lb. 2½" common nails.
- 6 lb. 2½" flooring-nails.
- 12½ lb. 1¼" galvanized or zinc-clad shingle-nails.
- 8 forgings, ½" by 2½" by 12", for draw-bars on ends of skids.
- 4 bolts, ½" by 7½".
- 8 bolts, ½" by 7".
- 3 rods, ¾" by 12' 3", with nuts and washers on each end.
- 6 pieces pipe, 1" by 5' 2".
- 6 bolts, ⅝" by 12", for bolting 6" by 6" sills to 6" by 6" skids.
- 1 roll tar-paper.
- 3 pairs 8" T-hinges.
- 1 thumb-latch.
- 2 buttons.

Permanent Granary No. 2 (Figs. 3 and 4).

This is a fairly large granary with a bin capacity of about 6,000 bushels of wheat. It is 24 by 50 feet with 10-foot walls, and has a driveway 8 feet wide in the centre through which a team and wagon may be driven, and from which all of the ten bins are filled and emptied. After the bins are all full, one or both ends of the driveway can be boarded up and accommodation made for an additional 2,000 bushels. If feed-oats are stored in the driveway, enough would probably be fed out by the middle of winter to make room for the engine

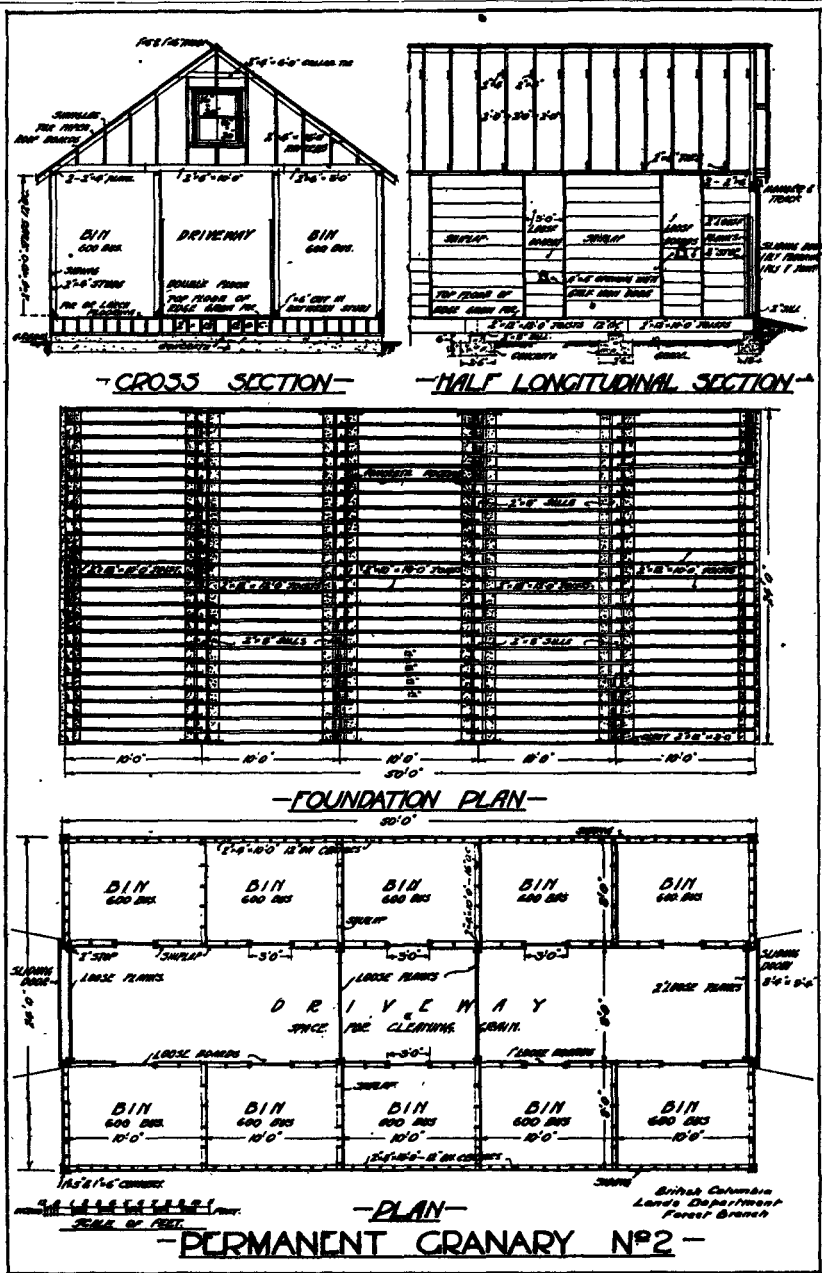


Fig. 4. Suitable for a large grain-farm. A total capacity, including the central driveway, of about 8,000 bushels. All the ten bins are filled and emptied from the driveway.

and fanning-mill. If a small elevator is used in connection with the fanning-mill, the grain from one bin can be run through the mill and elevated directly into the next. The driveway when not in use for storing grain can be utilized to advantage for housing a buggy, democrat wagon, or some of the smaller farm implements. The length may be lessened or extended as desired, but as a rule it would be better policy to erect two such granaries rather than one of twice the length shown. A granary of this kind enables a farmer to store his grain safely until he has time to haul it, to hold it all or a part of it for a rise in price, and also protects him from the considerable loss sometimes caused by the use of unsuitable buildings.

BILL OF MATERIALS, PERMANENT GRANARY NO. 2.

Framing Lumber.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet Long. | Feet B.M. | Used for. |
|--------------------|---------------|--------------|------------|-----------|---|
| 2 | 2 | 12 | 12 | 48 | Cleats at joints of outside joists, to cut 8 pieces 3'. |
| 125 | 2 | 12 | 10 | 2,500 | Joists. |
| 32 | 2 | 10 | 8 | 427 | Loose plank partitions. |
| 12 | 2 | 8 | 12 | 192 | Sills under joists. |
| 2 | 2 | 6 | 12 | 24 | Ridge-pole. |
| 3 | 2 | 6 | 10 | 30 | Ridge-pole. |
| 10 | 2 | 6 | 10 | 100 | Cross-ties. |
| 4 | 2 | 6 | 10 | 40 | Beams over doors. |
| 6 | 2 | 6 | 10 | 60 | Door-frames. |
| 20 | 2 | 6 | 8 | 160 | Cross-ties at roof-plate level. |
| 16 | 2 | 4 | 16 | 171 | Studs, end wall. |
| 56 | 2 | 4 | 16 | 597 | Rafters. |
| 25* | 2 | 4 | 16 | 267 | Plates for roof and on top of partitions. |
| 6 | 2 | 4 | 16 | 64 | Sills over joists. |
| 1 | 2 | 4 | 16 | 11 | Sills. |
| 12 | 2 | 4 | 14 | 112 | Studs, end walls. |
| 4 | 2 | 4 | 14 | 37 | Sills. |
| 8 | 2 | 4 | 12 | 64 | Studs, end walls. |
| 1 | 2 | 4 | 12 | 8 | Studs, end walls, to cut 2 pieces 6'. |
| 27 | 2 | 4 | 12 | 216 | Collar-ties, to cut 54 pieces 6'. |
| 4 | 2 | 4 | 12 | 32 | Rails and braces to sliding doors. |
| 8 | 2 | 4 | 10 | 53 | Rails and braces to sliding doors. |
| 10 | 2 | 4 | 10 | 66 | Sills. |
| 198 | 2 | 4 | 10 | 1,320 | Studs, side walls and partitions. |
| 4 | 2 | 4 | 10 | 27 | Sliding-door track fixing. |
| 6 | 2 | 4 | 8 | 32 | Studs, end walls. |
| 8 | 2 | 4 | 8 | 43 | Plates on top of cross-partitions. |
| Total ft. B.M..... | | | | 6,701 | |

* Random lengths to make the same number of lineal feet will answer for items marked thus.

BILL OF MATERIALS, PERMANENT GRANARY No. 2—Continued.

Finish Lumber.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet Long. | Feet B.M. | Used for. |
|---------------------|------------------|-----------------|---------------|--------------|---|
| 30 | 1 | 10 | 12 | 300 | Loose boards for doors to bins, to cut 120 pieces 3'. |
| 2 | 1 | 10 | 12 | 20 | Frieze. |
| 8 | 1 | 10 | 10 | 67 | Frieze. |
| 4 | 1 | 8 | 16 | 43 | Frieze. |
| 6 | 1 | 6 | 16 | 48 | Bevel boards cut in between studs to bins. |
| 5 | 1 | 6 | 14 | 35 | Bevel boards cut in between studs to bins. |
| 4 | 1 | 6 | 14 | 28 | Corner-boards. |
| 1 | 1 | 6 | 12 | 6 | Ridge-board. |
| 2 | 1 | 6 | 12 | 12 | Door-header. |
| 4 | 1 | 6 | 10 | 20 | Door-casing. |
| 4 | 1 | 6 | 10 | 20 | Ridge-boards. |
| 10 | 1 | 6 | 10 | 50 | Bevel boards cut in between studs to bins. |
| 4 | 1 | 6 | 10 | 20 | Cover-boards to sliding-door fixing. |
| 4 | 1 | 5 | 14 | 23 | Corner-boards. |
| 1 | 1 | 5 | 12 | 5 | Ridge-board. |
| 4 | 1 | 5 | 10 | 17 | Ridge-boards. |
| 6 | 1 | 5 | 10 | 25 | Door-frames. |
| 10 | 1 | 4 | 10 | 33 | Bevel boards cut in between studs to bins. |
| 40 | 1 | 2 | 10 | 67 | Stops to form guides for loose boards to bins. |
| Total ft. B.M. | | | | 839 | |

- 200 feet, board measure, 1" V-joint in 10-foot lengths for doors.
 1,500 feet, board measure, 1" T. and G. fir or larch flooring, second grade.
 500 feet, board measure, 1" T. and G. edge-grain fir or larch flooring for central driveway.
 3,900 feet, board measure, shiplap.
 2,300 feet, board measure, siding.
 16,500 British Columbia Red Cedar edge-grain shingles (66 bundles).
 2 sash, 4 lights, 16" by 20"; outside measurement 3' wide by 3' 9" high.
 2 sash-frames, sills and casing, for 5" wall.

Hardware.

- 135 lb. 4" common nails for framing.
 80 lb. 2½" common nails for shiplap.
 150 lb. 2¼" flooring-nails for flooring and siding.
 10 lb. 2¼" finishing-nails.
 80 lb. 1¼" shingle-nails, galvanized or zinc-clad.
 2 lengths single track, 18 feet each, for sliding doors.
 6 hangers for 2" doors.
 4 hooks and eyes for doors.
 36 anchor-bolts, 5/8" by 8", with nuts and double washers for foundation.
 10 pieces 6" by 10" galvanized-iron slides to small openings in bins for emptying grain.

- 5 rolls tar-paper.
- 15 yards gravel for foundation.
- 80 bags cement for foundation.

Permanent Granary No. 3 (Figs. 5 and 6).

In Figs. 5 and 6 a permanent granary suitable for a half-section farm is shown. It is 22 by 30 feet and will hold approximately 2,500 bushels in the eleven separate bins. The bins are filled from the outside through small doors near the top of the wall, and they all open into the central-floor space which is intended to be used for cleaning, weighing, and treating the grain. The large number of bins make it possible to keep the different kinds and varieties of seed-grain separate. At the front to the left of the door a space has been left for placing a small portable engine which can be used for running either a chopper or a fanning-mill. The flooring from the door-sill is sloped as far as the end of the first bin, with a grade of 1 foot in 8 feet. The unloading-platform in front of the doorway is about 2 feet 6 inches from the ground or nearly on a level with the bottom of a wagon-box. This is much more convenient than a low sill when seed-grain in bags has to be loaded into a wagon.

Plenty of light and ventilation is necessary when grain is being cleaned. It is a dusty job and requires a certain amount of draught to enable the mill to do its best work. Provision has been made for this by placing a large window at either end of the building. Altogether this style of granary will prove to be a very convenient one in which to work, is economical to build, and meets all the requirements of a comparatively cheap and practical farm granary.

BILL OF MATERIALS, PERMANENT GRANARY NO. 3.

Framing Lumber.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet Long. | Feet B.M. | Used for. |
|-------------|---------------|--------------|------------|-----------|--|
| 1 | 4 | 4 | 12 | 16 | Supports under joists, platform, to cut 3 pieces 4'. |
| 1 | 4 | 4 | 10 | 13 | Posts to platform, to cut 3 pieces 3'. |
| 1 | 2 | 12 | 8 | 16 | Stringers to steps of platform, to cut 2 pieces 4'. |
| 2 | 2 | 12 | 8 | 32 | Joists for inclined floor, split diagonally. |
| 1 | 2 | 10 | 12 | 20 | Steps to platform, to cut 3 pieces 4'. |
| 5 | 2 | 8 | 16 | 106 | Sills under joists. |
| 5 | 2 | 8 | 14 | 93 | Sills under joists. |

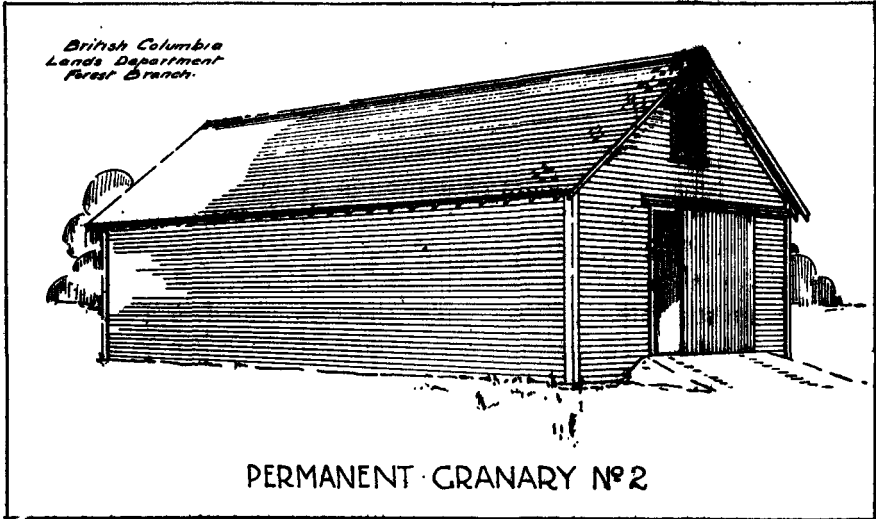


Fig. 3. Dirty grain causes a loss of millions of dollars annually to the farmers of Western Canada. In a permanent granary the grain can be cleaned at home.

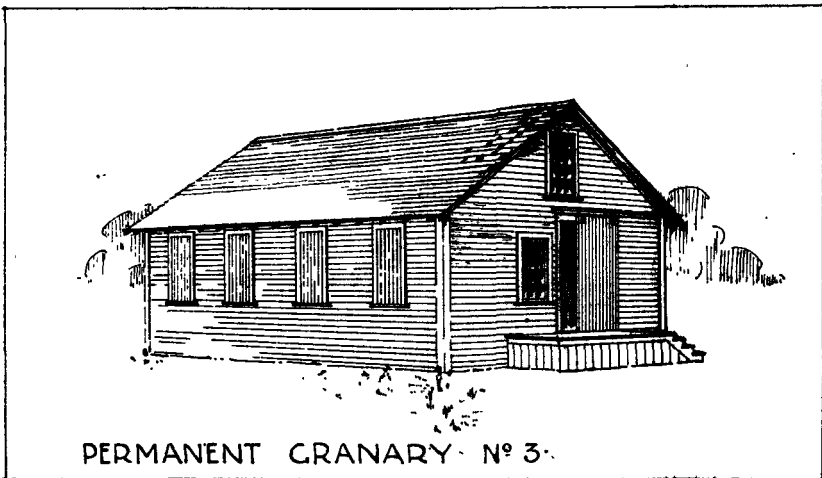


Fig. 5. It is 22 feet wide and 30 feet long, with a bin capacity of 1,500 bushels. The bins are filled from the outside. Suitable for a half-section farm.

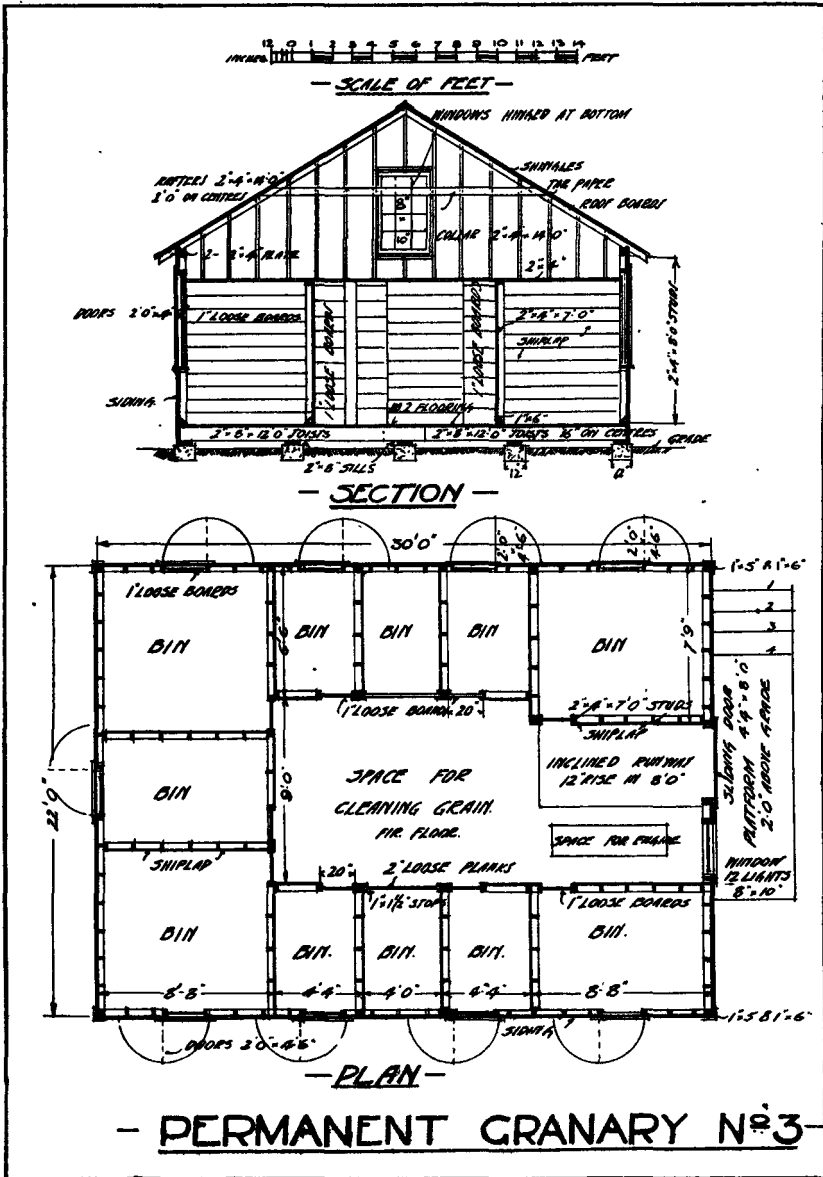


Fig. 6. All the eleven bins open to the central space as well as to the outside. The central space can also be used for storing grain.

BILL OF MATERIALS, PERMANENT GRANARY NO. 3—Continued.

Framing Lumber—Continued.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet Long. | Feet B.M. | Used for. |
|---------------------|------------------|-----------------|---------------|--------------|--|
| 48 | 2 | 8 | 12 | 768 | Joists. |
| 4 | 2 | 8 | 12 | 64 | Joists to platform. |
| 1 | 2 | 8 | 8 | 11 | Joists to platform, to cut 2 pieces 4'. |
| 2 | 2 | 6 | 16 | 32 | Ridge-pole. |
| 1 | 2 | 6 | 12 | 12 | Whaling strip on wall under 4" by 4" sup- ports. |
| 12* | 2 | 4 | 16 | 128 | Sill on floor. |
| 8 | 2 | 4 | 16 | 85 | Studs, end wall and trimming openings. |
| 8 | 2 | 4 | 16 | 85 | Plates on walls. |
| 7* | 2 | 4 | 16 | 75 | Plates on partitions. |
| 36 | 2 | 4 | 14 | 336 | Rafters. |
| 34 | 2 | 4 | 14 | 317 | Collar-ties. |
| 8 | 2 | 4 | 14 | 75 | Studs, end wall and trimming openings. |
| 1* | 2 | 4 | 14 | 9 | Sill on floor. |
| 2* | 2 | 4 | 12 | 16 | Sill on floor. |
| 8 | 2 | 4 | 12 | 64 | Studs, end wall and trimming openings. |
| 1 | 2 | 4 | 12 | 8 | Studs, end wall and trimming opening, to cut 2 pieces 6'. |
| 1* | 2 | 4 | 12 | 8 | Plates, partitions. |
| 1 | 2 | 4 | 10 | 7 | Sliding-door track fixings. |
| 8 | 2 | 4 | 10 | 53 | Studs, end wall and trimming openings. |
| 58 | 2 | 4 | 8 | 309 | Studs, side walls. |
| 77 | 2 | 4 | 8 | 411 | Studs, partitions. |
| 22 | 1 | 2 | 14 | 51 | Stops for loose board doors, to cut 44 pieces 7'. |
| 12 | 1 | 2 | 12 | 24 | Stops for loose board doors, to cut 36 pieces 4'. |
| Total ft. B.M. | | | | 3,244 | |

Finish Lumber.

| | | | | | |
|-----|---|----|----|-----|--|
| 2 | 2 | 6 | 12 | 24 | Door-sills, to cut 8 pieces 3'. |
| 1 | 2 | 6 | 8 | 8 | Door-sills, to cut 1 piece 5', 1 piece 3'. |
| 4 | 1 | 10 | 16 | 53. | Frieze: |
| 4 | 1 | 8 | 14 | 37 | Frieze at gables. |
| 3 | 1 | 6 | 16 | 24 | Door-frame, each to cut 2 jambs 4' 6", 3 headers 2' 2". |
| 2 | 1 | 6 | 16 | 16 | Ridge-boards. |
| 10* | 1 | 6 | 16 | 80 | Bevel strips between studs in bins. |
| 1* | 1 | 6 | 14 | 7 | Bevel strips between studs in bins. |
| 4 | 1 | 6 | 14 | 28 | Door-jambs, to cut 12 pieces 4' 6". |
| 3* | 1 | 6 | 12 | 18 | Bevel strips between studs in bins. |
| 1 | 1 | 6 | 10 | 5 | Cover-board to sliding-door track. |
| 4 | 1 | 6 | 10 | 20 | Corner-boards. |
| 2 | 1 | 6 | 8 | 8 | Jambs, large door. |

BILL OF MATERIALS, PERMANENT GRANARY NO. 3—Continued.

Finish Lumber—Continued.

| No. of Pcs. | Inches Thick. | Inches Wide. | Feet Long. | Feet B.M. | Used for. |
|--------------------|---------------|--------------|------------|-----------|--|
| 1 | 1 | 6 | 6 | 3 | Header, large door, to cut 4' 6". |
| 2 | 1 | 5 | 16 | 13 | Ridge-boards. |
| 9 | 1 | 5 | 12 | 45 | Door-casing, each to cut 2 sides 4' 6" and 1 top 3'. |
| 4 | 1 | 5 | 10 | 17 | Corner-boards. |
| 2 | 1 | 5 | 8 | 7 | Side casing, large door. |
| 1 | 1 | 5 | 6 | 3 | Top casing, large door to cut 5' 2". |
| 4 | 1 | 4 | 16 | 21 | Battens, small doors. |
| Total ft. B.M..... | | | | 437 | |

* Random lengths to make the same number of lineal feet will answer for items marked thus.

- 2,100 feet, board measure, shiplap.
- 1,400 feet, board measure, siding.
- 900 feet, board measure, 1" flooring, fir or larch.
- 150 feet, board measure, V-joint in 14' and 10' lengths.
- 9,000 British Columbia Red Cedar shingles (36 bundles).
- 3 sash, 12 lights, 8" by 10"; outside size 2' 4½" wide by 3' 10" high.
- 3 sash-frames, sills and casing for 5" wall.

Hardware.

- 65 lb. 4" common nails for framing.
- 65 2½" common nails for shiplap.
- 70 lb. 2¼" flooring-nails for flooring and siding.
- 8 lb. 2" finishing-nails.
- 45 lb. galvanized, zinc-clad, or zinc shingle-nails.
- 1 single-door track, 10' long.
- 2 hangers and bolts for 2" door.
- 9 pairs 6" strap-hinges for bin doors.
- 18 door-buttons for bin doors.
- 10 hooks and eyes, 4".
- 2 pairs 5" strap-hinges for windows.
- 3 rolls tar-paper for roof.
- 6 yards gravel for foundation.
- 33 bags cement for foundation.

BRITISH COLUMBIA DEPARTMENT OF LANDS.

FOREST SERVICE.

HON. T. D. PATTULLO, Minister of Lands.

Wood as a Building Material.

Wood is supreme for **all-round usefulness**.

It is the **cheapest** building material obtainable.

It is also the **lightest**.

It is the **strongest**, weight for weight.

It is the **easiest** to work; **any one** can use it.

A wooden building is by far the **simplest** to **erect**.

Wood is **attractive in appearance** and has **great variety and beauty** for interior finish.

Unlike metal and masonry, wood is almost a **non-conductor of heat and cold**.

A building with wooden walls and a wooden shingle roof is **warm** in winter and **cool** in summer and **dry** all the time.

Wood is therefore particularly **suitable for houses and barns**.

Wood is very **durable** in all kinds of building work **above ground**.

It will give **generations of service**, especially if well painted where exposed to the weather.

For use in **contact** with the **soil**, as mud-sills or fence-posts, a preservative should be applied or a specially resistant wood such as Western Red Cedar should be used.

Woods to Use.

Grown in British Columbia--Manufactured in British Columbia.

Woods differ in their qualities of strength, hardness, and durability. Certain kinds are particularly suited for certain uses. It is important to use the right wood in the right place.

(1.) **General Building Work.**—Douglas Fir, Western Larch, Western Hemlock, Mountain Western Pine, Mountain and Coast Spruce, Western White Pine.

(2.) **Framing and Dimension Timber, Posts, Beams, Rafters, Studs, Sills, Plates, Joists.**—Light construction: Same as No. 1. Heavy construction: Douglas Fir, Western Larch, Western Hemlock.

(3.) **Rough Lumber or Sheathing not exposed to Weather (Inside Work or covered by Siding or Lath and Plaster).**—Any British Columbia wood.

(4.) **Rough Outside Sheathing exposed to Weather (Outbuildings, etc.).**—Douglas Fir, Western Larch, Mountain Western Pine, Western Red Cedar, Coast and Mountain Spruce, Western White Pine.

(5.) **Siding.**—Western Red Cedar, Douglas Fir, Mountain Western Pine, Mountain and Coast Spruce.

(6.) **Roofing.**—Western Red Cedar edge-grain shingles, with galvanized, zinc-clad, zinc, or copper nails.

(7.) **Flooring, Stair Stepping, Sidewalks.**—Douglas Fir, Western Larch, Western Hemlock. Use edge-grain stock for hardest wear.

(8.) **Interior Finish, Panelling, Trim.**—Douglas Fir, solid or veneer (a beautiful grain, superior to most hardwoods), Western Larch, Western Hemlock, Western Red Cedar, Mountain Western Pine, Western White Pine.

(9.) **Doors, Window-sash.**—Douglas Fir, Western Red Cedar, Western Larch, Mountain Western Pine, Western White Pine.

(10.) **Fence-pickets.**—Douglas Fir, Western Larch, Western Red Cedar, Mountain Western Pine.

-
- (11.) **Piling, Cribbing.**—Douglas Fir, Western Larch.
- (12.) **Silos, Tanks.**—Douglas Fir, Western Larch, Western Red Cedar.
- (13.) **Ground-sills, Skids, Fence-posts, Poles, Conduits, Drains, and wherever Wood is in Contact with the Ground.**—Western Red Cedar or creosoted wood. Use Douglas Fir or Western Larch where strength and hardness are essential.
- (14.) **Furniture, Tables, Settees, etc.**—Douglas Fir, Mountain Western Pine, Coast or Mountain Spruce, Western White Pine, Western Red Cedar.

NOTE.—Western Hemlock is superior in every way to Eastern Hemlock—an entirely different tree—and should not be confused with it.

In ordering lumber, it is well to remember that short lengths (i.e., under 10 ft.) cost less than long, and where they will answer the purpose it pays to specify them. For example, it is cheaper to buy 6- and 8-foot lengths than to cut them out of 12- and 16-foot lengths.

BRITISH COLUMBIA FOREST SERVICE BULLETINS.

Farm Buildings Series.

1. Combination or General Purpose Barns for Prairie Farms.
 2. Dairy Barns, Milk and Ice Houses for Prairie Farms.
 3. Beef Cattle Barns for Prairie Farms.
 4. Horse Barns for Prairie Farms.
 5. Sheep Barns for Prairie Farms.
 6. Piggeries and Smoke Houses for Prairie Farms.
 7. Poultry Houses for Prairie Farms:
 8. Granaries for Prairie Farms.
 - 8A. Implement Sheds.
 9. Silos and Root Cellars for Prairie Farms.
 10. Farm Houses for Prairie Farms.
- These bulletins are obtainable free on application to the Lumber Commissioner, Victoria, B.C.
-

OTHER PUBLICATIONS.

Many publications and much useful information on farming and related subjects can be obtained on request from the various Government Public Service organizations of Canada, listed below.

(1.) Alberta:

Department of Agriculture, Edmonton.
University of Alberta, Edmonton.
Agricultural Schools at Olds, Vermilion, and Lethbridge.
Dominion Experimental Stations at Lethbridge, Lacombe, and Fort Vermilion.

(2.) British Columbia:

Department of Agriculture, Victoria, B.C.
Dominion Experimental Farm, Agassiz, and Experimental Stations at Sidney, Salmon Arm, Summerland, and Invermere.

(3.) Dominion:

Department of Agriculture, Ottawa, Ont.
Dominion Forestry Branch, Ottawa, Ont.

(4.) Manitoba:

Department of Agriculture, Winnipeg.
Manitoba Agricultural College, Winnipeg.
Dominion Experimental Farm, Brandon, and Experimental Station at Morden.

(5.) Saskatchewan:

Department of Agriculture, Regina.
University of Saskatchewan, Saskatoon.
Dominion Experimental Farm, Indian Head; Forestry Station, Indian Head; and Experimental Stations at Scott and Ros-thern.

BRITISH COLUMBIA

HAS

Half Canada's Supply

OF

STANDING TIMBER

卐 卐

OVER FOUR HUNDRED MILLS
manufacturing Fifteen Hundred
Million Feet a Year into

Dimension Material, Boards, Shingles, Siding, Interior Finish,
Flooring, Ceiling, Sash and Doors, Lath, Boxes,
Cooperage, Wooden Pipes, Tanks and Silos,
Pulp and Paper, Bridge Timbers, Mine
Props, Elevator Cribbing, Tele-
phone Poles, Piling, Railway
Ties, Fence Posts, Pickets,
Paving Blocks,
Furniture,
and numerous other products.

B.C. LUMBER

FOR THE

PRAIRIE FARM

QUANTITY

The Province contains half the supply of standing timber of Canada.

QUALITY

The forests of British Columbia grow the best timber it is possible to obtain.

USEFULNESS

The timber trees of British Columbia supply the

MOST USEFUL OF ALL WOODS

particularly for building work, because of their lightness, strength, and ease of working.

British Columbia Timber is "made in Canada"

The lumber industry engaged in its manufacture is one of the best markets for the products of the farms of Western Canada. It is sound sentiment and sound business for Canadian farmers to buy

B.C. LUMBER