

The Bushel and the Cental.

In early times, when the requirements of mankind were fewer and simpler than now, commercial intercourse between nations was rare, and often limited by a mountain or a river. The exchange of commodities that took place among the members of one tribe was carried on with the simplest measures, and in accordance with custom. Commercial intercourse has broadened since then, but the instrumentalities of exchanges have not kept pace with its growth. The time is past when feudal pains tinkered with the weights and measures of a country as they pleased, but the complicated system of Troy weight, avoirdupois weight, dry measure, liquid measure, etc., which they concocted, is still with us.

The United States brought its measures and weights from England. In England an inch was determined by the dimension of three barley corns; a penny was to weigh 82 wheat corns plucked from the midst of the ear, 20 pennies was to make an ounce, 12 ounces one pound, 8 pounds a gallon of wine, 8 gallons of wine a London bushel, which was one-eighth of a quarter. However, the bushel measure was placed on a more secure foundation later, being made 2,218,192 cubic inches, which equals 1.0315 Winchester bushels, the unit of measurement in the United States. Besides this England has 800 or 400 other units of measure to facilitate commercial transactions.

The use of commerce is to transport commodities from parts of the earth where they are in abundance to parts where they are wanting. Whatever hinders this transportation or renders it detrimental to commerce, whether it is a mountain or a river, or a Sahara of weights and measures. How does the system now in use in England meet the requirements of modern commerce? A grain merchant in Liverpool had a cargo of wheat. Parts of it were bought by five different persons. The cargo had to be sold in five different bushels; in paying the duty these bushels had to be converted into imperial quarters; in calculating tonnage and other dues it was necessary to reduce all to tons.

No two countries have the same weights and measures, and the same name is often employed to designate different quantities. The United States lost many of the delectable features of the English measures, but adopted others equally good. While the currency is on the decimal system, which is acknowledged to be the best in operation, we have contentedly adhered to the antiquated scale of weights and measures with which trade has for so long been embarrassed. For the ordinary purposes of retail trade this is all right. We have no quarrel with the grocer. No one wants the "good old metrique system of France." The difficulties of establishing it would be almost insurmountable.

But to carry on such a business as grain dealing the bushel as a unit of measurement is inadequate to the requirements of commerce, international or interstate. An examination of the different weights of the bushel of grain in the United States shows a curious state of affairs. Throughout the states the weight of a bushel of wheat is fixed by law at 60 pounds, but the measured bushel actually weighs all the way from 40 to 60 and to 64 and 66 pounds. However, this measurement is comparatively and exceptionally uniform. There are 54 pounds to the bushel of rye in California and Louisiana, 56 pound in all other states except in South Carolina, where it weighs 60 pounds. There are only 28 pounds to the bushel of oats in Maryland, 36 in Washington. In South Carolina there are 60 pounds of barley to the bushel, in Georgia there are 47 pounds. This uniform diversity exists throughout the whole list.

This state of things might lead to some confusion. For instance, 1,000 bushels of rye

bought in Kansas (where it weighs 56 pounds to the bushels) and shipped to New Orleans would become 1,750 bushels there, where a contract for delivery would be settled for at the rate of 54 pounds to the bushel were it not for an agreement to the contrary. In the case of barley 1,000 bushels bought in Kansas at 48 pounds to the bushel would become 1,500 bushels in New Orleans. If 100,000 bushels of oats were shipped from Washington to Duluth, Minn., they become at their destination 112,500 bushels.

Of course, an agreement between shipper and buyer obviates some of the confusion, and as a general rule their weights fixed by law are declared to be intended only as standards of reference in the absence of any express agreement. But suppose a law should be passed which made unlawful this obtain of special contract? In 1871 the Maine legislature fixed the weight of a bushel of apples at 41 pounds and forbade agreement to the contrary under penalty of forfeiting 25 cents to each bushel. In Wisconsin a bushel of apples weighs 57 pounds.

An American asks for a fair field and no favors, but he does not find it here. I will mention two more examples of the beauties of our bushel measure. In Salem County, New Jersey, the weight of a bushel of corn was fixed at 55 pounds, in the rest of the state it weighed 56 pounds. There is a law in Indiana fixing the weight of a bushel of mineral coal at 70 pounds if mined in the state, at 80 pounds if mined outside and sold in the state.

Such a chaotic state of affairs is a hindrance to commerce. The time has come for the grain trade to abandon the bushel, for it has become a useless instrument in our transactions. Some may raise the objection that as the various weights and measures now existing are the natural growth of the necessities of traffic, and as they are founded on experience, they are likely to be better adapted to practical commercial purposes than any changes to systems founded on theory. While this may be true for the great part of commodities which are naturally bought and sold in other than decimal proportions, nevertheless it is time, and it has even become necessary, for the grain trade to make a change.

Common use for years in the Pacific coast states has demonstrated that the cental (100 pounds avoirdupois) is the most convenient unit at present known for carrying on the grain business. As the business is carried on at present the farmer is offered a price per bushels for his grain. The buyer receives it in pounds and reduces it to bushels; the freight is paid in pounds; it is received in the central market and reduced to bushels—just about paralleling the experience of the Liverpool grain man's shipment. The adoption of the cental or decimal system would do away with all this. It is the simplest and easiest system, and would be the one most readily adopted by foreign countries. Prices could be easily adjusted to this standard, existing tabulations would be simplified, and it would tend toward the establishment of uniform practice throughout the world.—F. R. Progress in American Elevator and Grain Trade.

The Agriculture of Canada.

The wealth of every country is a product to which all classes contribute, or should contribute. If, however, we trace it back to its source, we shall find that four streams contribute to the volume, namely, the product of the farm, the forest, the fisheries, and the mine. The variations in our national wealth and the general condition of our national wealth are controlled largely by these four sources. In Canada, these four great industries give employment to a very large portion of our population. In 1891, out

of 1,659,855 workers in all classes, 790,210 were engaged in agriculture, fishing, mining and lumbering. The relation of the various classes of workers may be stated briefly, thus: Of the total persons having occupations, 47.6 were engaged in agriculture, mining, fishing, and lumbering, 19.8 per cent. were engaged in manufacturing and mechanical pursuits, 14.9 per cent. in domestic and personal services, 11.2 per cent. in trade and transportation; 8.8 per cent. in professional avocations; and 8.2 per cent. were in the non-productive class. The 790,210, forming nearly one-half of the total workers, were divided into the following classes. Agriculture 735,297; fishing 27,079; mining 15,168; lumbering 12,756. The annual agricultural productions of Canada amount to about \$500,000,000 in value, the forest products \$80,000,000, the mineral products \$20,000,000, the fisheries products \$20,000,000. It will thus be seen that the four streams or fountain sources of wealth aggregate \$620,000,000 a year, and that four-fifths of the total volume comes from the farm. No wonder, then, that when agriculture prospers our whole country prospers, and that Thanksgiving Day is postponed until the year's harvests have been gathered and the farmer has balanced his ledger.

The times have been hard, unusually hard, and have weighed excessively upon the farmers of Canada; and yet they have not lost heart. The farmers of Canada came from hardy stock,—the best of the yeomanry of England, Scotland, Ireland and Germany, in addition to the thrifty French-Canadians, who may be considered almost as being native to the soil. When these rationalities shall have coalesced, the product will be a rural people unexcelled, if not unequalled.

Another cause of hope in Canada's future lies in the fact of her variety of resources. We have coal in abundance in our Maritime Provinces, east and west; iron in every province except the prairie sections; gold in Nova Scotia, Quebec, Ontario, and British Columbia; copper and nickel to supply the world; salt, petroleum and natural gases. We have cod fisheries on the Atlantic coast, salmon on the Pacific, and our inland lakes and rivers also contribute large quantities of varied kinds. The timber limits of the older provinces still contribute the larger portion of the legislative revenues, while the enormous forests of British Columbia and Labrador have been only partially explored, and the agriculture of Canada is even more varied. Prince Edward Island, long noted for its sheep and its horses, is making a special effort for recognition as a dairy province; Nova Scotia grows some of the finest fruit in the world, in the rich and beautiful Annapolis Valley; New Brunswick has as yet developed no specialty, but is making a general advance in methods; Quebec, with abundant hay and rich grasses, holds her high record for Eastern Townships butter; Manitoba grows the best wheat in America; the Northwest Territories are building up a series of magnificent stock ranches in some sections, and in others general farming is developing well; British Columbia will soon have a surplus of fine fruit; as for Ontario, the central province, her cheese, her apples and peaches, her barley and peas and oats, her cattle and sheep and horses, all take rank unsurpassed in the world's markets. While we have a variety of resources and a variety of industries, we can also claim a wonderful variety of agricultural products, and in this there is reason for concluding that the continued prosperity of this country is assured.—C. C. James, Deputy Minister of Agriculture for Ontario, in Industrial Canada.

Cream of tartar has been advanced 10 per lb. by manufacturers, owing to the scarcity of the raw material from which cream of tartar of made.