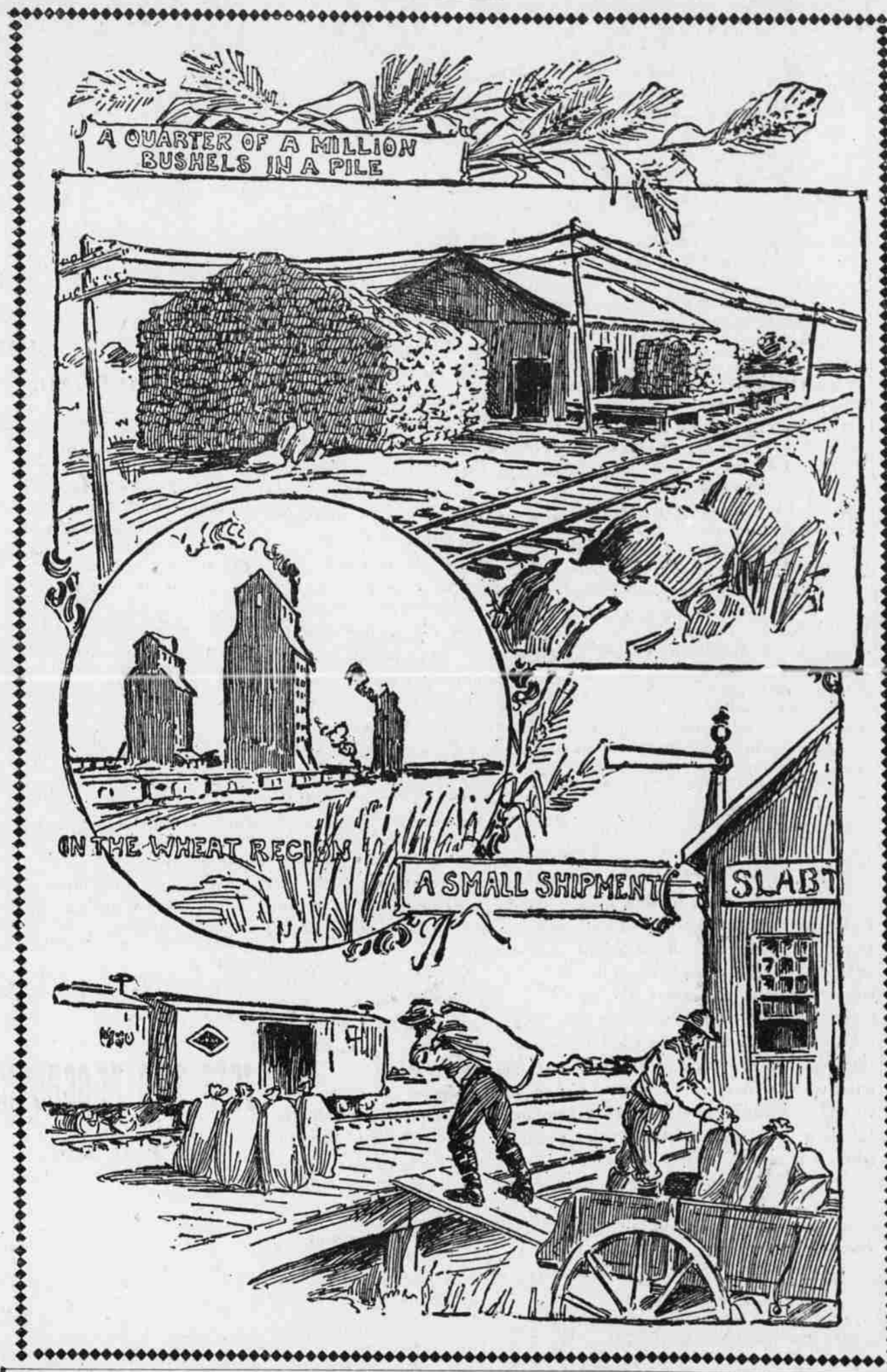


## SCENES IN THE WHEAT COUNTRY.



farmers are cultivating from 3,000 to 10,000 acres of wheat a year, where the various farm buildings are connected by telephone, where the ploughing is done by complicated machinery, where the farmer owns from two to ten threshing machines, from twenty to fifty reapers and hundreds of cattle and horses, the sale of a crop becomes a large business proposition.

But the great mass of smaller farmers, especially throughout the winter wheat districts, still sell in the old-fashioned way, to the local elevator man or buyer. They keep themselves so thoroughly informed, however, as to the reigning prices in the great marts and the probabilities as to rise or fall, that the commissions of the local dealer have been scaled to the lowest notch. Indeed, in this day of many railroads, if the small wheat grower is dissatisfied with local prices, he can combine with his neighbors—a not infrequent occurrence—and ship directly by carload lots to some city commission man, who is only too willing to buy his grain at the highest possible price.

**System of Elevators.**  
So fierce is the competition among the wheat buyers that at some centers, most notably Minneapolis, vast systems of elevators have sprung up, each controlled by a powerful central house at the terminal point. There are no fewer than thirty-six elevator companies in Minneapolis, controlling 1,862 country elevators with a combined capacity of nearly 50,000,000 bushels of wheat.

A single company controls 115 country elevators having a capacity of 4,750,000 bushels of wheat. And the head of this company is also the head of other companies there, having lines of elevators in Minnesota and the Dakotas with a combined storage capacity of nearly 10,000,000 bushels. He also has lines of elevators in Nebraska and Kansas.

Perhaps no one thing so simplifies and facilitates the movement of wheat as the present rigid system of inspection and grading. In former times a load of grain must needs be carefully examined by every prospective purchaser, were he miller or commission man; and if this buyer sold again, a second examination became necessary, with its attendant disagreement as to quality. The business of wheat buying, indeed, was full of time-consuming details, and in the end neither party to a trade was likely to be satisfied.

As a consequence, the State government, or, in some primary markets, the local chamber of commerce, stepped in, and assumed charge of the whole system of grading and inspection; and now no portion of the great wheat business moves with more ease and efficiency, a degree of care and accuracy simply amazing to the outsider being constantly maintained.

The method of grading the wheat is thus described by Mr. Baker, in McClure's:

"The deputy inspector and his men are out early in the morning. The cars from the wheat fields have been shunted to their special sidings in each of the yards. One man goes ahead, recording the numbers and initials of the cars, and examining the seals to see that no one has tampered with them. A second man breaks the seals and opens the doors, and then comes the deputy himself—the wheat expert. He is quick and keen, long schooled in observing the minute differences which mark the wheat from different parts of the country. I saw one grizzled old inspector who had become so expert that, according to humorous report, he could tell what county in the West a car of wheat came from merely by sniffing a pinch of the grain.

"The inspector looks sharply for

there, and then weigh it in a little brass kettle, to make sure that it comes strictly within the lawful specifications. He is an absolutely impartial judge. He records only the number and initials of the car. He never knows who is the shipper. I heard of one deputy who inspected his own brother's wheat for six months without knowing whose it was.

"The official inspector is accompanied by a number of active young men of the sampling bureau, which represents the great elevator and commission houses. They climb into the car, thrust a brass plunger deep into the wheat, bring up a sample here and there, fill a bag, label it with the number and initials of the car, and pass on with the inspector. It is swift work, of necessity, for the samples must be in at the opening of the Chamber of Commerce, where, set out in little tin pans, each bearing the grade tag of the State inspector, they form the basis of the day's trading."

At present the four great wheat elevator centers are Minneapolis, Duluth, Chicago and Buffalo. In the last-named city some of the elevators have a storage capacity of from 100,000 to 2,500,000 bushels, some of them built of steel, operated by electricity from Niagara Falls, protected from fire by pneumatic water systems, and having complete machinery for cleaning, drying and scouring the wheat, when that is necessary.

The elevators are provided with so-called "legs," long spouts, containing moving bucket-belts, which are lowered into the hold of a grain-laden vessel. Here the wheat is shoveled by grimy workmen, tolling in a cloud of dust, into the pathway of huge steam shovels, which, in turn, draw the yellow load—it looks from above like so much sand—to the ends of the "legs," where the buckets seize it and carry it upwards into the elevator, and distribute it among the various bins. A cargo of 180,000 bushels can thus be unloaded in a few hours, while legs on the other side of the elevator will reload it into cars, six at a time in five minutes, or in an hour fill a canal boat.

The cost of all these operations has been reduced to a ridiculously low figure—the entire work of unloading, storing and reloading rarely adding more than one cent to the price of a bushel of wheat.

### Carriage to Seaboard.

The transportation of wheat from the West to the seaboard is a business of almost inconceivable magnitude. It means millions of dollars a year to railroad and ship owners, and during the rush season of the late fall, so great is the demand for transportation that shippers find difficulty in obtaining enough cars and vessels.

Most of the wheat of the Northwest now goes by way of the lakes, through the Sault Ste. Marie canal, to Buffalo, where it is shipped by rail or canal to New York, Boston, Baltimore and Philadelphia.

Few appreciate the magnitude of the lake shipping interests, which have been developed to a considerable extent by the transportation of wheat. Duluth-Superior is the second port in the United States in point of tonnage, being exceeded only by New York. The Sault Ste. Marie Canal passes two and a half times as much tonnage in eight months as the Suez Canal passes in a full year. Lake shipping furnishes, moreover, the cheapest transportation in the world, the rate being approximately three-quarters of a mill per ton per mile.

Some of the greater lake vessels carry enormous cargoes—up to 250,000 bushels of wheat in a single load. Without comparisons, it is difficult to form any conception of the immensity of a cargo of this size. In Duluth, 700 bushels are estimated as a carload. At that rate, a cargo of 252,000 bushels, which has actually been transported from Duluth to Buffalo, would fill 360 cars, or nine trains of forty cars each. At fifteen bushels to the acre, this cargo would represent the yield of 16,800 acres of land. In many localities a farm of 160 acres is looked upon as a large one. It would take 165 such farms to raise enough wheat to furnish this one cargo.

Until recently New York had the lion's share of the wheat export business; but latterly Boston, Baltimore, Philadelphia, New Orleans, Galveston and Montreal have been large exporters. For the fiscal year 1899 New York took only 28.8 per cent, while New Orleans and Galveston had 16.9 per cent, each, Boston 12, Baltimore 9.4, and Philadelphia 6 per cent, the remainder being scattered between Montreal, Portland, Norfolk and Newport News.

To quote again from Mr. Baker, the average yield of wheat per acre is gradually creeping up. In 1890 it was only 11.1 bushels to the acre; in 1895 it was 13.7 bushels; while in 1898 it had reached 15.3 bushels. By the use of machinery, combined with cheaper rates of transportation for supplies, the farmer can produce a larger yield more cheaply than ever before, so that, although the farm prices for wheat do not average higher from year to year, the farmer's profits are larger.

### Flax Industry.

New Zealand's flax industry has revived and flourished exceedingly, owing to the war in the Philippines having shortened the output of Manila fiber.

## MOVING THE WHEAT CROP.

A Gigantic Industry Employing Millions of Capital and Countless Hands.

At the present time the quantity of wheat which is sent abroad from the United States and Canada annually is about 250,000,000. Yet this, large as it is, will certainly be more than doubled within the next ten years.

Sir William Crookes, the distinguished president of the British Association for the Advancement of Science, writing recently of the proportion between wheat production and wheat consumption, ventured to name the year 1931 as a date when the world's bread-eaters would cry for more wheat than the world's farmers could produce. This may be an overestimate, yet the statistics from which such prophecies are drawn show how very closely the consumer trends upon the heels of the producer, and how imperative is the necessity of distributing the crop—grown perhaps half a world away from the centers of consumption—as soon as it is shaken from the threshers in a million fields, in order that every white man shall have his loaf, and have it before his last supply has run out.

Great Britain eats her entire wheat crop in about thirteen weeks, and then she must be supplied immediately with the products of America or Central Russia or India, or else she must suffer. If the United Kingdom be completely blockaded, say by the ships of allied Europe, her population would probably be totally extinguished by starvation within three months. The like is true of every country in western Europe, although in some of them actual starvation could be much longer averted.

Generally speaking, the vast tides of wheat sent to the east and north—from the emigrant farmers on the edge of civilization to the cities of the old countries; from the American continent, Chili, and Argentine to Europe. There are lesser tides to the west and south, as from California to China, from Russia and India to England, from the United States to Brazil

A few years may make a great many changes in these tides. The rice-eating Chinaman has tasted the food of the white man and he finds it good. He could consume the present world's crop and still go hungry. Siberia, opened by the Russian railroad, may yet be one of the greatest wheat-producing countries. Australia has been farmed only around its fringes.

When a European thinks of food he thinks in terms of wheat. He is the greatest of bread-eaters. Yet in the best of years Europe never produces enough, even including the crops from the vast fields of Russia, to supply her own needs. She is therefore absolutely dependent on the United States, Canada, India, Australia and Argentine.

### Progressive Wheat Growers.

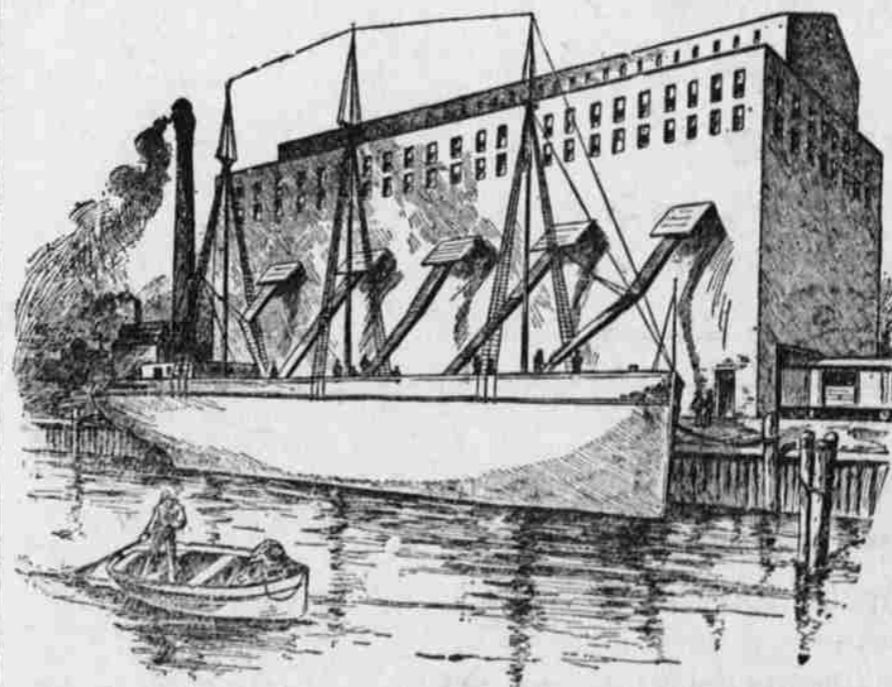
The American and Canadian farmer, and particularly the Northwestern wheat farmer, who ploughs and reaps and threshes by machinery without so much as touching his product with his hands, is becoming pre-eminently a man of business. The Governments have supplied colleges for educating him, and they send him regular bulletins containing the results of long-continued experiments conducted by the Department of Agriculture. He is a wide reader, sometimes a thinker, and always a politician. Every morning during the days of harvest he receives the reports of the Board of Trade or the Chamber of Commerce where his wheat is likely to be sold. He has also on his desk daily prices and a general advisory letter from his commission men.

The primary movement of wheat is the natural flow to the local flour mill, where it is ground to feed the farmer's family, and toward the granary, where it is stored up for seed. The proportion of wheat thus actually retained

and consumed in the country where it is grown is very large.

When the farmer has amply provided for himself, he begins to think of selling his surplus—which in 1898, for the United States and Canada, amounted to the enormous total of 450,000,000 bushels. Of this, something less than half is consumed in the cities of the United States and Canada, and something more than half is exported to foreign countries, either as wheat or as flour.

The wheat crop of the average year is, therefore, divided into three more or less equal parts, the first being consumed by the farmer and his immediate neighbors of the smaller towns and villages, the second going to supply the



LAKE VESSELS LOADING AT A CHICAGO ELEVATOR.

concentrated masses of population in the great cities, and the third being exported as wheat or flour to feed the foreigner.

Mr. Ray Stannard Baker, in an article on the Movement of Wheat, in McClure's Magazine, tells of the manner in which the wheat crop is disposed of by the wheat farmer.

There are three general methods by which this is done. In the prolific Northwest, where large numbers of

threshers' dust, oats, cockle; and he examines the kernels keenly to see if they are shrunken or burnt; and then he smells for smut. He even plunges a hollow brass tube into the heap to make sure that some cunning shipper has not put in a layer or 'plug' of poorer grade wheat at the bottom of the car. Usually he is able to decide on the grade of a carload almost as soon as he sees the wheat; but sometimes he is compelled to take out a pinch here and