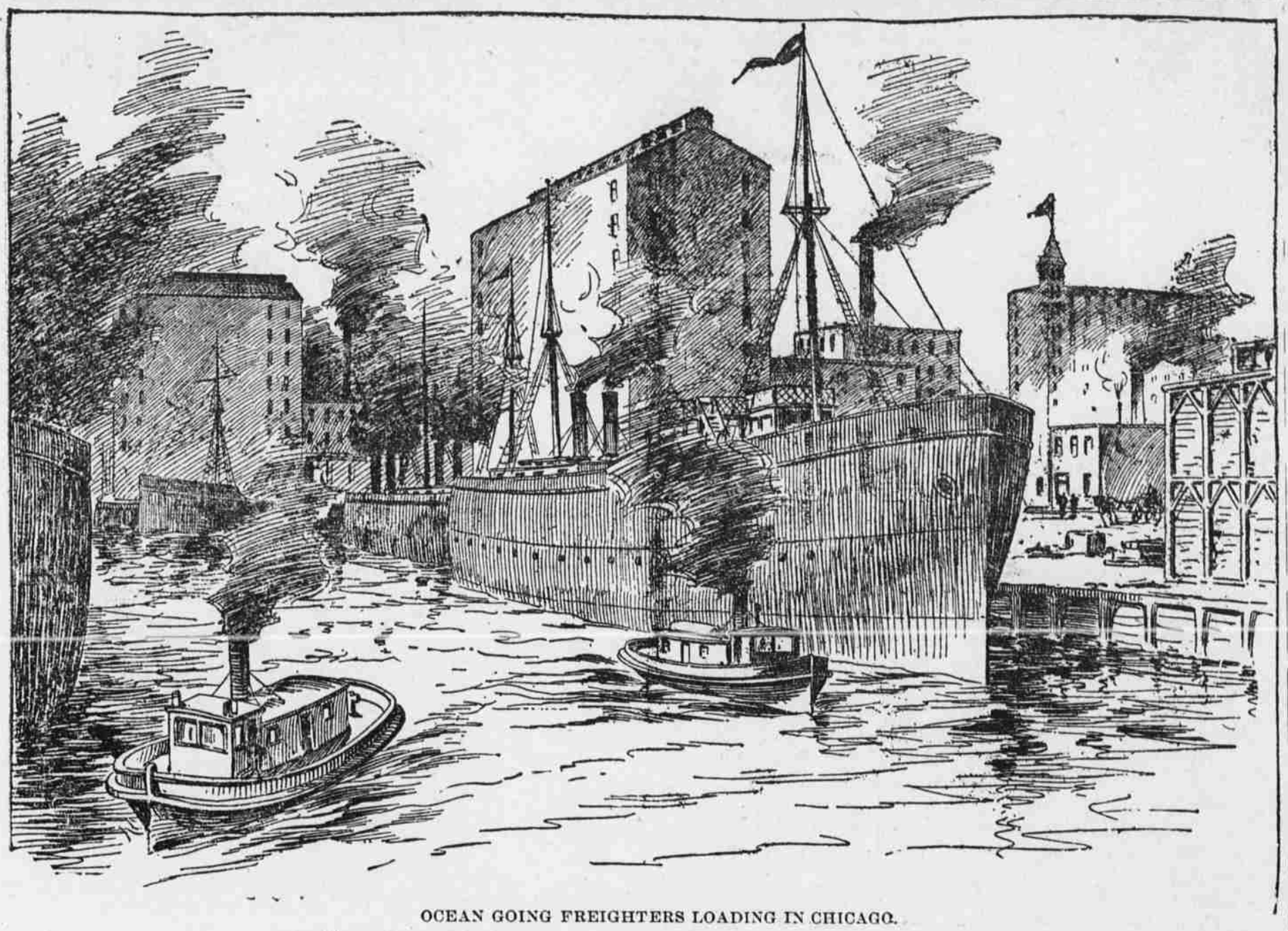
Deep Water from Lakes to Gulf



OCEAN GOING FREIGHTERS LOADING IN CHICAGO.

WHEN the first water of the great Chicago drainage canal topped over the big bear-trap dam at Lockport, to most residents of the vicinity it signalized the end of a titanic undertaking—the sanitary waterway had been completed, and there ended the job. When that water first plunged, hissing and writhing, down the valley of the Desplaies to its junction with the Illinois River on its way to the "Father of Waters," men who watched the work felt that a great lesson was ended.

An offertory of some $33,000,000 had been poured out by Chicago, ostensibly to purify the water supply, vitiated by a thousand sewer conduits. But the real service had not commenced, for the sanitary feature of the mighty canal was and is but a subsidiary element. The real object sought to be attained when the work was undertaken was and is the beginning of a ship canal to unite the chain of inland seas with the salt tide-water of the delta of the Mississippi River, some 1,200 miles away.

The opening of the mammoth channel, over 200 feet wide and deep enough in all its thirty miles to float the heaviest warship, was really the opening wedge of a project which has been dreamed of, legislated upon and striven after for half a century. It means that the expressed fears of Federal engineers, of communities dreading water contagion, of shippers anticipating a loss of commercial prestige, the depletion of our lakes, have all been set at rest. It means that the Hennepin canal idea—the father of the sanitary canal—is in a fair way of accomplishment, and by the use of a grand natural waterway the largest chain of fresh water on the globe unites with one of the largest rivers in the world, piercing a mighty nation down its middle.

Never since the first hasty $50,000 survey was made in the shallow Illinois has the general government been able to rid itself of the idea that the fruition of the plan would encompass the triumph of the grandest scheme of internal improvement ever undertaken in this land. The first great step to consummate all this is the proposed turning over of the Chicago River to the drainage canal trustees, to enlarge, to improve, to change, on the same principle that can make of the veriest creek in the land that would not float a skiff a channel wide enough and deep enough to float a warship of the first class with a draft of twenty-eight feet. Without a particle of improvement the Chicago River can to-day carry vessels which haul 100,000 bushels of grain—that means something more than 4,000 ton of cargo. Brief work in the line done on the canal and an ocean highway is opened up for Chicago and the West, in meats, in grain, in all those commodities that now go to Liverpool by other and more expensive routes—for water carriage is much cheaper than rail carriage, and farmers who grow grain in Kansas, Nebraska and Iowa are to-day in a measure at the mercy of the rail lines. Ocean rates from Galveston and New Orleans would enable them to beat the seacoast rates from New York by from 10 to 20 cents on a bushel.

It is said that nothing but money and the authority to go ahead is needed in the work south of Lockport. Half or $25,000,000 would make the lower channel adequate. There is a great deal of boring and dredging to do; docking, and the straightening out of crooked courses; but competent engineers have been looking over the field, and the plan is simple when understood.

The lower Mississippi problem is one of the worst to the canal project. Many millions of dollars have been dumped into that river by succeeding Congresses and engineering boards without substantial improvement. The river has depth sufficient for present commerce, and no decided effort has been made to deepen it at certain "crossings" where sand has piled up and the lightest vessels run danger of striking the bottom. Engineers of national reputation are a unit that the Government should begin the work of improvement, substituting docks of masonry for wooden wharfs.

The pace has been set by the drainage canal. It has been demonstrated to the world that ship highways can be constructed inland wide enough and deep enough to float any warship on the high seas. The West now offers the finished product of its efforts to that higher authority which alone can execute one of the grandest projects of internal improvement ever presented to a nation.

In this project every farmer in the West is vitally interested. The agriculturists of this section ship through Chicago nearly 40,000,000 bushels of grain a year. Upon this, should the transportation be made by the proposed route, the saving would be something enormous. Aside from the strict commercial interpretation, there is the problem of making the great lakes a useful body of water for defense. No outlet to the sea now exists, but Canada and Great Britain have an inlet which is controlled by them. The Mississippi project would be purely of the country and for the country, involving a new grand highway.

HOW A PLANT FEEDS.

Van Helmont's Interesting Experiment Showing How a Tree Grows.

It is more than 2,000 years since philosophers began to speculate about the food of plants and what we may term their "digestive" processes, but it is only during the latter half of this century that really clear and definite notions concerning the food supplies of the vegetable world have been generally accepted by scientific men. As far as is known, says a writer in Knowledge, the first botanical experiment ever performed was conducted by Van Helmont. He placed in a pot 200 pounds of dried earth, and in it he planted a willow branch which weighed five pounds. He kept the whole covered up and daily watered the earth with rain water. After five years' growth the willow was taken up and again weighed, and was found to have gained 164 pounds. The earth in the pot dried and weighed, and had lost only two ounces.

Knowlege was not yet sufficiently advanced to enable Van Helmont to interpret these striking results correctly, and he came to the erroneous conclusion that the increased weight of the plant was due to the water which had been supplied to the roots. He therefore looked upon this experiment as supporting the theory which he had advanced, viz., that plants required no food but water. Stephen Hales advanced the subject a great step by indicating that much of the increase in weight of plants was derived from carbon dioxide in the air.

Vegetable cells contain a liquid known as "cell sap," which is water holding in solution various materials which have been taken up from without by the roots and leaves. These materials are thus brought in contact with the protoplasm, which causes them to undergo changes in composition which prepare them to be added to the substance of the plant. Thus it is in the protoplasm of the living cells of the plant that those "digestive" processes are carried on which Aristotle believed to occur in the soil. We see, then, that the living cells are microscopic laboratories in which the digestion of the food of the plant is carried on.

When Crowds Are Useful.

Quite a brisk business exists in the crowd line, said a well-dressed man to the writer, and I make a fairly good living by supplying them. All sorts of people find a crowd useful at times. For instance, a young man who is about to make his debut as a lecturer or musician can, by coming to me, make sure of having not only a—numerically speaking—respectable, but highly appreciative, audience. Again, a big crowd outside the pit and gallery doors of a theater creates in the minds of passers-by the idea that the piece must be worth seeing to attract so many patient waiters. A few shopkeepers, too, have found out that half a dozen well-dressed people, gazing intently into a shop window, leads others to do the same thing, and constitutes a far better "draw" than anything put in the window itself. I have even supplied spectators for a wedding, in a case where the bridegroom was a wealthy parvenu who had a great desire for popularity. An artist once hired from me about a dozen well-attired people to stand in front of his picture at an exhibition, the consequence being that his painting attracted considerable attention. Where do I get the people? Oh, there is no difficulty about that. Some of them are sandwich men in the daytime, and work for me at night; others work for me in the day, and appear on the stage as "supers" in the evening. I pay them so much per hour, and find the clothes. I have a most elaborate stock of garments, and can turn out quite an aristocratic looking crowd.

More Ornamental than Useful.

Dorothy—Papa, we girls have a new name for those men who call on us, but never take us out anywhere.

Papa—What is it, daughter?

"We call them 'fireside companions.'"—Life.

Newfoundland Codfish.

The annual export of codfish from Newfoundland is about 1,350,000 hundredweight.

Unfortunately a willing person is nearly always a stupid person.

CHINESE THE MOST WIDELY SPOKEN LANGUAGE.

CHINESE	INDIAN	AFRICAN	ENGLISH	RUSSIAN	GERMAN	FRENCH	SPANISH	JAPANESE	ITALIAN
302 Million.	286 Million.	210 Million.	116 Million.	85 Million.	80 Million.	52 Mill'n.	44 Mill'n.	40 Million.	34 Million.

The relative proportion of persons speaking the chief languages of the world is represented by this series of national types. The total population of the world is 1,452,000,000. The languages not represented in the above illustrations include Javanese, Turkish, Brazilian, etc.—all with less than 35,000,000.

SHE GOT HER BOTTLE OF INK.

But the Parcel Was Big Enough to Contain a Safe.

One woman who lives in Pine avenue went shopping. This happened last Monday. She left her home with purple plumes in her bonnet, and she lost not one of them in her trip downtown.

She had read an advertisement in a Sunday newspaper. It told her that she could buy a bottle of ink for 1 cent. The woman bought the ink for a penny and asked that it be delivered to her home. The clerk said nothing. Neither did the man in the parcel-room. He worked by himself. Delivering a penny purchase was ripe walnuts to the man.

Next day a wagon with a silk hatted man on the driver's seat and a freckle-faced boy as a tiger on the rear step rolled up in front of the house in Pine avenue.

The freckle-faced lad ran up the steps and crushed the electric button with a thumb which he had used but a few moments before in "shooting craps." This game, by the way, is one of chance. He held in his arms a box of goodly size. The woman of the house opened the door.

"Mrs. So and So?" asked the boy with the freckles.

"Yes," was the woman's reply.

"Kindly receipt this slip."

"Why, I have nothing coming in such bulk," the woman said.

"But you are So and So?" the freckled boy inquired.

"Yes," declared the woman, "but there must be a mistake."

However, the box was taken to the kitchen and opened with sledge and hammer. Excelsior was strewn upon the floor in the woman's wild endeavor to solve the secret of the inclosure. It clung in yellow strands about the pipes of the sink, puffed its way into the door leading to the wild roses in the back yard and clogged the passage to the dining-room.

Then the woman in Pine avenue found her 1-cent bottle of ink. It was in the center of this great wad of shavings.

The man in the parcel-room was one of jest and merriment. He rolled nonsense into a joke and enjoys the fun, even if it did cost a penny or two more to the firm.—Chicago Chronicle.

DICK'S GOOD TIME.

A Very Human Boy Enjoying His Well-Earned Reward.

A portly gentleman sat on the porch and smiled, while a small boy, also smiling, painted the front fence.

"Look at that boy," the portly man remarked to a visitor; "he thinks he is having a good time. A small boy is surely the drollest creature on earth. When I was a youngster I remember that there were certain kinds of work I considered play, and one of them was painting. I was always crazy to paint. Many times I have taken a bucket of muddy water and an old paint brush, and have spent a whole half day putting a thick coat on the side of my father's barn.

"So with my boy, Dick, the little chap painting the fence; he has always been crazy to paint. He is enjoying himself now—you can see he is; and he will paint that whole fence, too, just as well as he knows how. I don't care if it is a trifle smeared; he's getting joy, solid joy, thicker than the paint on his hands and clothes.

"There's a mean side to it, too; he wanted to paint the fence and I wanted the weeds pulled out of the yard. So, like an underhanded rascal, I bargained with him; I told him that if he would pull all the weeds out I would let him paint the fence. He went through the other job like a soldier—he hates to pull weeds—all boys do—and now he thinks he is getting his reward. It is a downright shame to fool him that way—don't you think so?"

The portly gentleman chuckled again, and the small boy, wild with joy, went on plastering paint on the fence.—Detroit Free Press.

Money Used in Mafeking.

Colonel Baden-Powell and his band of soldiers, who withstood the repeated and unsuccessful attacks of from 4,000 to 6,000 Boers on Mafeking, showed his resourcefulness when he created the

currency notes for circulation in the besieged city. The one-pound note, which is reproduced here, is attractive in design and general appearance.

Capacity of Labor-Saving Machines.

It is estimated that the productive capacity of the labor-saving machinery in the United States is now equal to a hard-working population of 400,000,000.

Work and don't worry if you would be happy. Worry and don't work if you would be otherwise.