

MOVING OUR GOLDEN HARVEST

It is estimated that the wheat crop of the United States for the present year will be almost 500,000,000 bushels. It is estimated that 300,000,000 bushels of this crop will be demanded by Europe and Asia to supply the loss caused by crop shortages on those continents. One New York bank shipped west over a million dollars the other day to be used in moving wheat, and similar shipments will probably occur from day to day throughout the season.

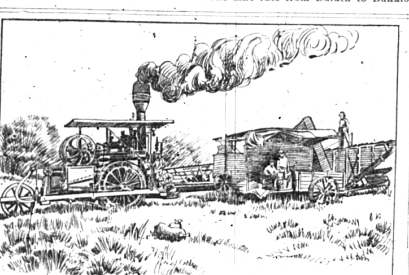
It is a generally accepted fact that a good wheat crop and good times go together, but few persons even of the most directly affected understand just how it is that the two facts are related or what an enormous power for good is in the great flow of yellow grain that is sweeping outward over the country. A few figures will tell the story more eloquently than any words.

An ordinary freight car will hold 1,000 bushels of wheat. It will require 500,000 cars to move the present crop; enough to reach New York almost to San Francisco. A fleet of 1,500 ordinary grain carrying vessels will be barely enough to transport to Europe the part of the crop that will be exported. If the Erie canal gets only its usual share of the grain carrying business, it will be required to handle 1,000,000,000 bushels of wheat, enough to make a tow half as long as the canal itself.

If we put the figures in the form of dollar cents, the array will be more striking. Half a billion bushels of wheat at six cents per bushel—the average price that the farmer is receiving—means \$300,000,000. Three hundred millions to be expended in lifting mortgages, paying labor, buying food and clothing and agricultural implements is itself a powerful spur to prosperity. But this is not all. To

the cars from the various branch lines are hauled off as soon as loaded to one of the great transfer stations, of which Kansas City and Duluth are perhaps the largest. There it is turned over to the big trunk lines or lake vessels for the next stage of the journey. The extraordinary demand for wheat in the eastern markets has led to an unusual state of affairs. The Kansas City and other western shipping points during the past few weeks. The grain has been required for shipment as fast as it came in, so that it has not been allowed to lie in the elevators at all. It has been found, however, that the easiest way to transfer it is to run it through the elevators. Accordingly the cars from local points are run on one side of the elevator, and cars from Duluth the boats for the east on the other. One leg of the telescopic chute with its endless belt of cups is laid down on the receiving side, and the grain is hoisted up to the lofty roof of the elevator, and rushes down on the opposite side without pausing a moment. In the transfer, the elevator has thus been able still to collect their toll of one-half cent per bushel for transferring the grain.

There are two great wheat routes from the west to the Atlantic seaboard. One is a water route via the great lakes and the Erie canal, and the other is a land route via the great grain carrying ties. The former is the cheaper and the latter is the more expeditious, and the competition between the two prevents the price of transportation from rising to an exorbitant height. The larger part of the grain moving to New York is carried by New York City travels by a combination water and land route, in big steel freight boats down the lakes to Buffalo, and thence by the Erie canal. The lake route from Duluth to Buffalo



BIGGEST REAPER AND THRESHER IN THE WORLD.

convey the grain from the fields to the Atlantic seaboard costs about twenty cents per bushel. On the portion of the crop which must be hauled half across the continent this will mean tens of millions of dollars for the railroads and elevators, lake vessels and canal boats, for the commission agents and the laborer. Europe must pay for all she takes, and that means \$150,000,000 or more coming to the Atlantic to pay for American wheat. At present to carry the transportation to weariness length, it will suffice merely to refer to the share of the golden harvest which will be reaped by the miller, the manufacturer of machinery and others more or less affected.

This rich bounty, so great and so widespread, is not won without a vast expenditure of human effort. The way in which this flood of yellow grain is moved, controlled and directed is highly interesting as an object lesson in modern industrial development. It is interesting, too, to note that the present crop is the largest of recent years the facilities for handling it are also the most perfect. This year, 1917, has seen the largest harvesting machine, the biggest grain carrying boat and the most gigantic elevator ever built.

On In Redlands, Cal. they have been cutting grain this season with a harvester that is truly a mammoth of its kind. It has a cutting bar over fifty feet in width, cuts the grain, thrashes it, ties it up in sacks and turns out hundreds of these sacks per hour. In going a mile this machine reaps nearly ten acres, and does more work than our granddads, with his crude scythe and flail, could in a whole season.

This is the starting point of the wheat on its journey marketward. The grain cars are gathered up in wagons and driven off to the nearest railway station, where they are dumped into grain cars or small storage warehouses. A grain car is an ordinary box car fitted with an inside partition and an extra door of planking that can be let down, making the car perfectly tight.

LATE NEW INVENTIONS.

To assist men in training their muscles a new invention had a flexible hand to be drawn tight across the muscle after it had been cured the hand being held in place by loops at each end which go over the ears.

The stopping of runaway horses is made easier by means of a new bridle which has pads to fit over the nostrils to shut off the animal's wind when the reins are tugged, the pads lying loose when the reins are slack.

For use in time of war a new explosive has been developed, longitudinal grooves on its inner surface insure its bursting lengthwise after firing, thus scattering the shot instead of right angles with the direction of the shell.

Ocean-going ships can be easily cleaned on the bottom by a new machine, which is run by power from the ship and has a shaft set in a socket to hold it and fitted with a series of

BASIL'S FIRST WIFE.

(By Anna Shields.)

HEN Basil wrote to me from Virginia that he was married, and asked if he might bring his wife to my house. I was in my infancy, or if he had better provide for me, I would do for her, I answered at once:

"Come here and try it. If you are happy, stay if not, it is all right enough to seek a new home after testing the old one."

But Basil never gave me more pain. His parents died and left him, a baby, inheriting a large fortune to my care. His mother was my twin sister, and I was a childless widow when she died, so I will be readily understood that I love the boy a true mother's love. We live at Stony Hill, a country place, to me a spot abounding in Nature's beauties. In spite of his harsh name, Basil was not a rough fellow. He had only two miles from a town, and he was not a bad fellow, but a good one. He was twenty-two, had studied a profession, though he had not had time to enter into an amateur fashion that promised no great results, was gentlemanly and a thorough sportsman. But I had hoped he would marry one of the ladies I knew, some one, perhaps, who had been full of praise for his wife. Her letter had already said that she was feeling better, but she would not leave her mother with kisses and caresses so violently that he would whimper, as if he were in pain.

I did not care that the girl was poor, Basil was rich, and would have, in addition to his father's fortune, all I had in the world. I was not a rich woman, but I had married for beauty only. Not one word could I find in most careful perusal, in praise of the bride's intelligence, accomplishments, or worth. Her beauty was the theme of her husband's praise.

When I saw her I scarcely wondered that the face of Basil's wife had excited such enthusiasm. They came down to June, at early morning, and drove from the station to the house, where, just after sunrise, I went out upon the porch to meet them.

She came dressed in the latest fashion, bedecked with jewels utterly out of place upon a traveler, as were her eye silk dress and feather-trimmed hat.

But the face under the hat! How can I describe it! A perfect oval, with cheeks as bright as roses, but with a crimson tinge to the lips, and her eyes, large, brilliant eyes, were yet soft and velvety, and the black hair, which she wore in a ringlet, was so changed in those glorious eyes, the sensitive mouth, child-like pleasure

ON THE ATLANTIC.

in 1895 when the project of deepening to \$900,000 to the improvement of the canal was before the voters of New York the traffic association put up with the project, and a half cent per bushel in order to show the uselessness of the "state ditch," as it is irreverently called. In that year the canal carried only 4,000,000 bushels, while the railroads transported 72,000,000 bushels to New York. The canal men hope that with the improvement now being made on their highway and the possibility of bringing grain all the way down the lakes in steel canal boats they may regain some of their former prestige.

At the seaboard the grain is weighed, inspected and graded, and takes its final transfer to the ocean vessels. In New York harbor this transfer does not take place directly, but is made by means of barges. The grain is put into the barges, which are placed between the leaves and fastened on the right side, to be released by a pedal under the foot.

Hammers are to be made with handles formed of a single piece of wire bent double, with the loop for the handle, the two ends of the wire being twisted around to enter the outside of the hammer head after it is applied on to prevent it from coming loose.

Funnels which will prevent the overflow of liquid and cans while being filled have a valve in the bottom of the spout to be closed by a cork float which is attached to a rod extending below the funnel. The float will rise with the liquid to shut the valve.

In a new shoe fastener a series of metal strips are fastened together to form a heel, the strips at the end of the shoe upper and draw the edges together, the top holes being replaced by



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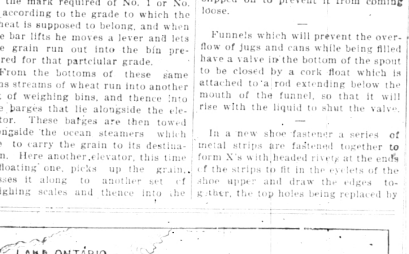
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THE STORY OF SWAIM.

THE CASE OF A FAMILY OF GREAT WARRIORS.

The Name Has Been Represented in Every War in the United States. His Coat of Arms in 1884 Caused a Big Scandal in the Army.

AVID G. SWAIM, U. S. A., retired, Judge Advocate General, died at Washington the other day of Bright's disease.

Gen. Swaim was 63 years old. His family was a fighting one, and was represented in the active operations of every war in which the United States has been engaged. This is especially true of the war of 1812 in the person of Commodore Lawrence. The dead general's father was the father of Joshua T. Giddens, a member of P. Chase and other political leaders of his day, and was one of the few who organized the free soil party in Ohio. It was a descendant of his name, General Swaim was born. He was given a good academic education in his native Ohio, and studied law, and was admitted to the bar in 1859. He took an active part in the republican side in the campaign of 1860, and in 1861 he entered the army as a first lieutenant of the Sixty-fifth Ohio volunteers. This was Sherman's brigade. Soon after taking the field he was made adjutant of his regiment. He was later acting adjutant general of the brigade of which his regiment was a part in the Army of the Cumberland. This was afterward the Army of the Cumberland, and was commanded successively by Buell, Rosecrans and Thomas. General Swaim participated in the battles and campaigns of these armies. He was wounded at Shiloh, fought bravely at Perryville and Chickamauga, where he was injured so that his horse was killed, and was again hurt at Missionary Ridge. After Shiloh he was rewarded with a promotion to captain, and was later made assistant adjutant general of volunteers. After the battle of Stone River he was assigned to the staff of the general of the Army of the Cumberland. He served all through the war, and when he was mustered out in 1865 it was as a major and brevet colonel of volunteers. In February, 1867, General Swaim was commissioned in the regular Army of the United States. He was assigned to the headquarters of the fourth district, with headquarters at Vicksburg. In that capacity he was engaged in the reconstruction of the South. He was later made a captain major and Judge Advocate in the Army, and was assigned to the headquarters of the Missouri. This post

That I hate him! Oh—I love him! I love him, and he is ashamed of me! Swaim was grieved as a child when Basil wrote to me from Virginia that he was married, and asked if he might bring his wife to my house. I was in my infancy, or if he had better provide for me, I would do for her, I answered at once:

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