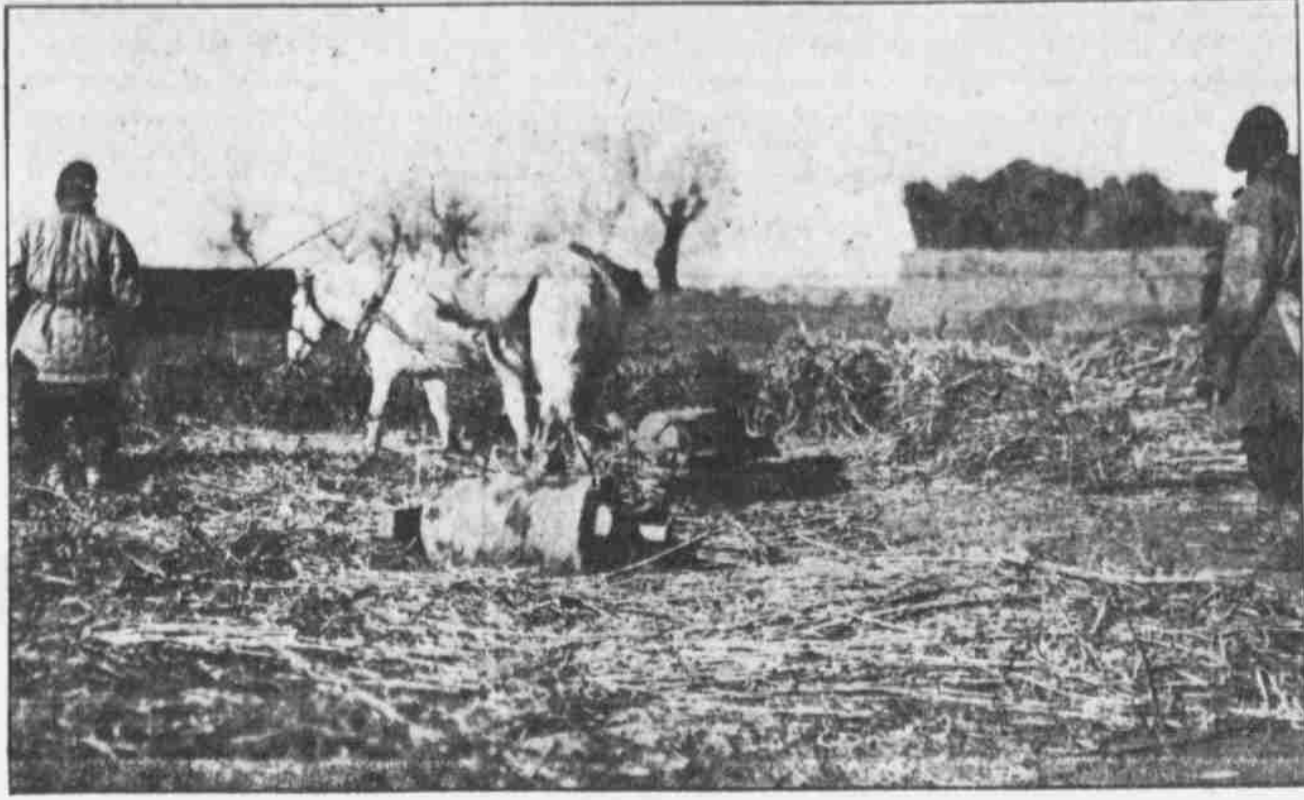


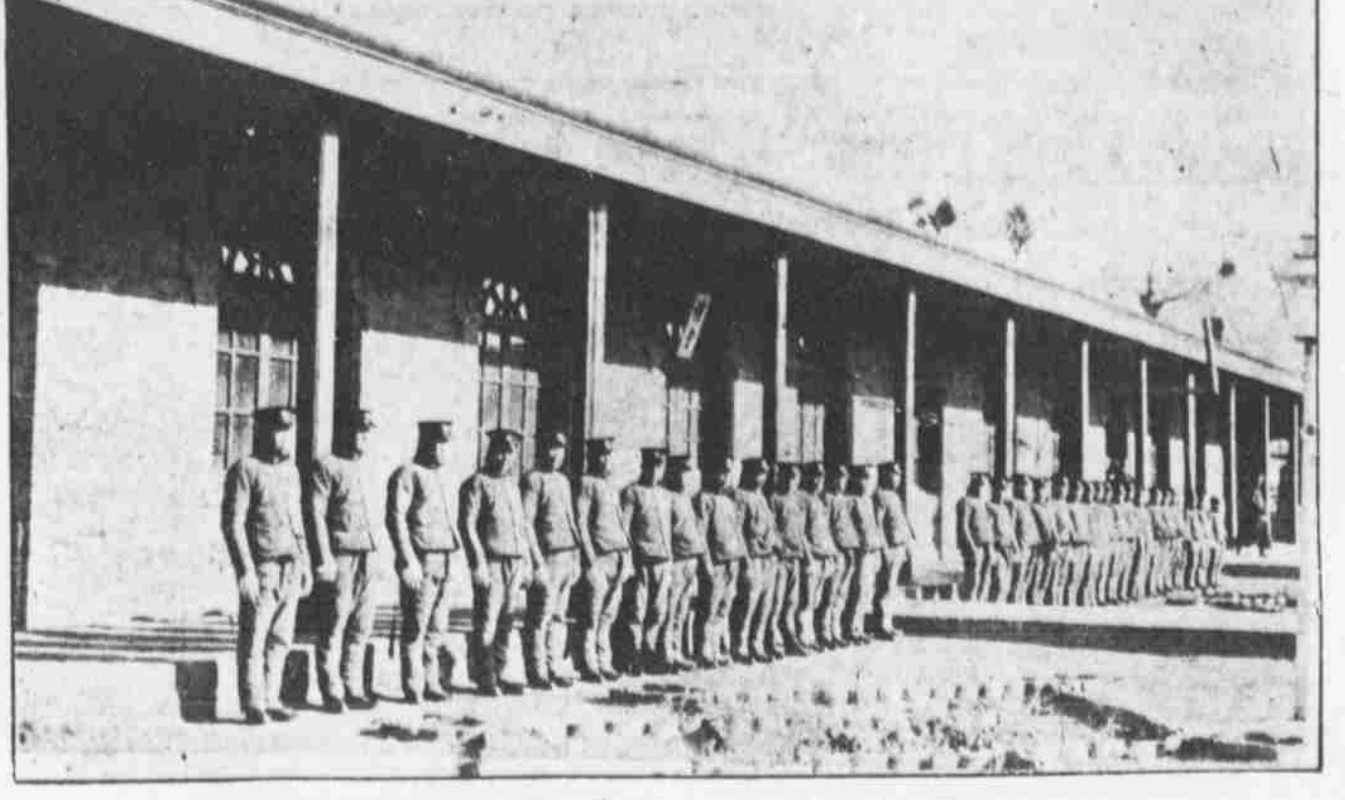
# Grain Fields of Manchuria to Be Tilled Under American Methods



THRESHING MILLET IN MANCHURIA.



DIRECTOR CHAN AND THE DRILL INSTRUCTOR AT THE AGRICULTURAL COLLEGE AT MUKDEN.



TARTAR STUDENTS AT MUKDEN AGRICULTURAL COLLEGE.

(Copyright, 1908, by Frank G. Carpenter.)  
MUKDEN, Manchuria, 1908.—(Special Correspondence of The Bee.)—Within two miles of this city, surrounded by lands as fertile as the Red River valley, and farming methods as old as those of the Sphs of Egypt, a modern agricultural academy has been started by the government officials of this back woods of China. They have appropriated \$150,000 a year for its support and have a live experimental farm of 300 acres connected with it.

This agricultural station was founded by Tang Shao Yi, the former governor of Mukden, who recently went to America to thank us for the return of the Boxer indemnity. I understand that a part of his mission was to look up educational talent for his agricultural academy, and that he will bring a dozen or so young Americans back with him. He has already induced two of our well known agricultural experts to come here. These are Mr. E. C. Parker and Mr. W. H. Tomhave, who have both been connected with the University of Minnesota. Both have performed good experimental farm work in the United States. Prof. Parker has written several books and has also done excellent work for the government at Washington.

These young men are now on the ground. They arrived some months ago and since then have been traveling over Manchuria on horseback and in carts, studying the country and its agricultural possibilities. They have covered a large part of southern Manchuria and have gone through some of the sparsely settled northern portions, which they tell me promise to become one of the great bread baskets of Asia and possibly its meat basket as well. Indeed, this new agricultural movement is one of the most encouraging evidences of the awakening of Asia, and that it should be so far advanced in Manchuria, beyond the frontier of China, is remarkable. It is also to be noted that the movement has its origin in America, and that it is being backed with the American education of Chinese brains. His excellency Tang Shao Yi, who is the prime mover and head, is a graduate of Yale university, and M. T. Liang, who is the chief counselor of the viceroy, and also Tank Shao Yi's assistant, was educated

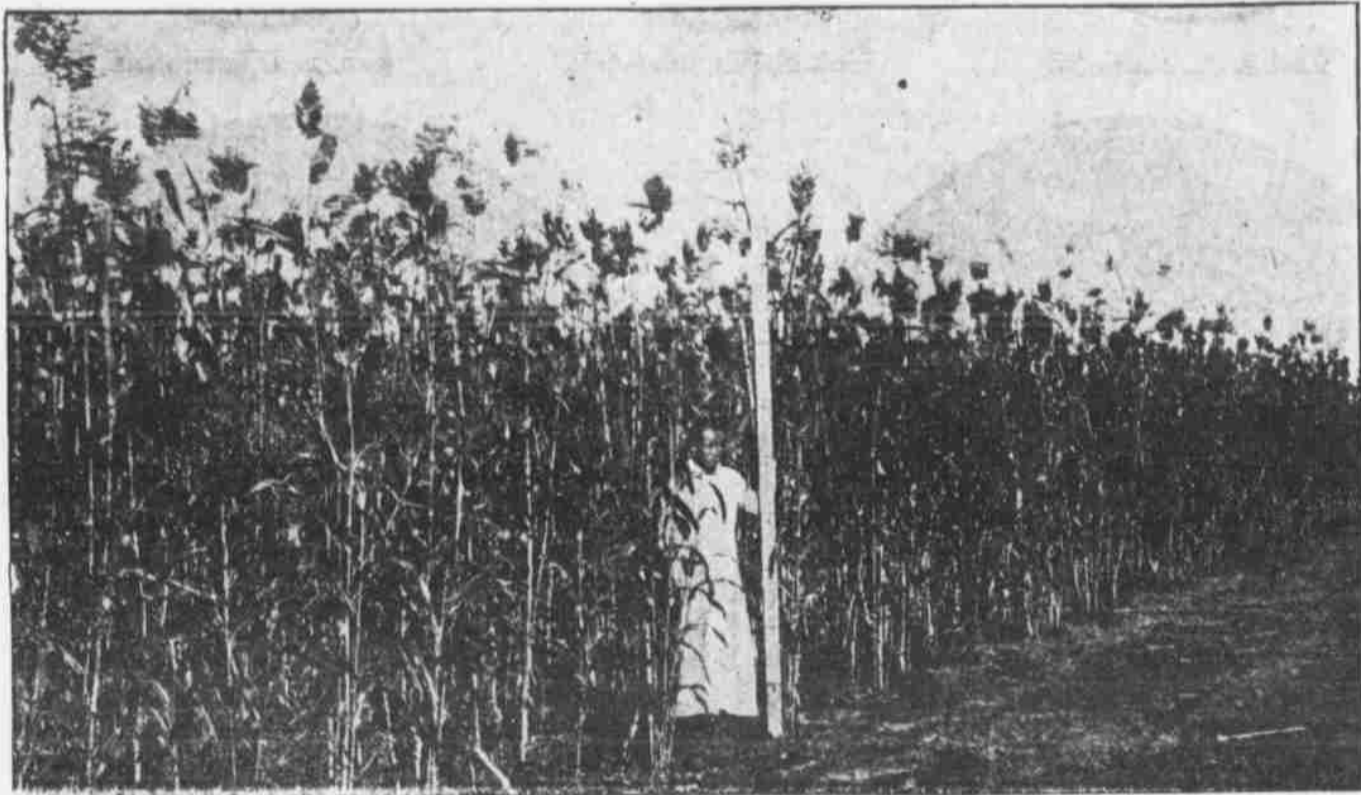
at the same school. The new agricultural academy has as its director Mr. C. S. Chan, a young Chinese graduate of the University of California, who speaks English as well as any reader of this newspaper, and the text books he uses are based upon the work of our agricultural department in Washington.

**On the Way to the Farm.**  
It was through the kindness of M. T. Liang, whom I had previously met at the viceroy's yamen, that Director Chan called upon me at my inn and arranged for me to visit the farm and school. Messrs. Parker and Tomhave went with us, and it was in two old Russian droschki which were stranded here by the war that we galloped through the wide streets of Mukden and out into the country. On our way we passed much farm produce coming into the city. There were great loads of sorghum seed hauled in Chinese carts by rough Manchurian ponies and carts piled high with bags of soy beans. Now and then we passed a grain shop where millet and sorghum seed were set out for sale in round baskets like the size of a hog's head, and again went by men and animals bringing bean stalks and sorghum cane into the city for fuel. As we did so Prof. Parker remarked:

"That is one of the curses of Manchurian farming. These people skin the land of its natural fertilizers. Every corn-stalk, every bean vine and every weed is saved for fuel. Even the stubble of the sorghum is pulled up by the roots by the poor people, who are allowed to go over the fields after the crop is harvested. They pull every stalk leaving Mother Earth naked and the land as bare as your head. This has been done from generation to generation, and notwithstanding all this the soil is still rich."

### Among the Farms.

We drove about a mile from the hotel before we reached the city wall. This is thirty feet high. It has a great gate on the side of the town near which the farm lies. We wound our way out through this, and then went perhaps two miles further, passing many new tiled houses, until we reached the mud wall which incloses the suburbs. We were soon in the country and in the midst of such farming as is so common in central Manchuria. The fields



SORGHUM GROWS TWICE A MAN'S HEIGHT.

have no fences, and their boundaries are marked only by stones. The roads which cut their way right through the farms look more like ditches than roads, and turn this way and that across country. Now our droschki was tilted at an angle of forty-five degrees, and now we bounced high as we went over the drains crossing the roadway. We frequently passed between great ditches, and I was told that the farmers dug them to keep the traffic out of the fields and destroying their crops. I asked where were the houses and barns, and was pointed to a farm village which stood on a little hill off by itself. The Manchus do not live on their farms. They herd together in villages of mud houses, and go out to the fields. There are no barns, in our sense of the word; and neither hay nor straw stacks. About some of the settlements one sees ricks of sorghum cane

and piles of bean stalks. Such stuff is often corded up on the roofs and sometimes against the walls. This stuff is not intended for food. It is the wood and coal of the farmer. All the heating of the home is done by the kang, a sort of a ledge two feet high, which fills one part of a room, and which has a series of flues beneath it. These flues are heated by the kitchen fire. A little bundle of straw or corn stalks will send the flames running through the flues and make the brick ledge quite hot. It is upon this ledge that the farmer's family sit during the day-time, and there, sprawled out, side by side, they sleep at night. The houses are almost all small, but many have outbuildings which are used for the donkeys and ponies.

Among the villages, rising high over the houses, are many ragged trees filled with great bunches of what I at first thought were crows' nests. Every tree we saw was full of such nests; and I asked Director Chan as to the birds which made them. He replied: "Those are not nests; they are bunches of mistletoe, an air plant which grows all over Manchuria. You will find thousands of such bunches in every part of the country. They are very destructive, and are even worse for the trees than are the orchids of tropical climes. Indeed, they are the orchids of Manchuria." "Coming closer I had a chance to examine these trees. The mistletoe bunches are scattered all over them, and their yellow and red berries may be seen shining out of the green. No rosy-cheeked American belle would dare to wander about Manchuria, she would be under the mistletoe half the time, and her lips would surely wear out. At another place we stopped at a grain

stack to watch the farmers thrash out the sorghum seed. They took the canes from the stack and cut off the heads and laid them on a thrashing floor. A stone roller, hauled by a mule, was then driven round and round over the seeds until they were crushed off the stalks. The refuse was then winnowed in the wind and the stalks were piled up for fuel. Before the seed is ready for food it must be again ground to get off the hulls. Sorghum grain is the staple diet of the Manchu. It is the rice, wheat, corn and meat of the people. The grain grows everywhere, and that on stalks twice as high as a man. Indian corn grows equally well.

Director Chan tells me that the boys are greatly interested in their work. They enter the college for five years, having a preparatory course of two years, after which comes a three-year course in the academy proper. They are not charged for tuition or board, and the matter of entrance is largely by the favor of the officials. Their education is patterned after the short course schools of America, with the idea that the institution will soon be advanced to the grade of a first-class agricultural college, in which instruction will be given by American professors.

### Manchuria's New Farm School.

Passing onward through scenes like these, we at last reached the school. It consists of a number of one-story brick buildings surrounding a large court, in which is a beautiful garden. The buildings are devoted to the class rooms, laboratories and dormitories of the students. They are well built, and indeed would be quite respectable in any of the better class agricultural schools of America. There are rooms for bacteriological work and plant breeding; and the lecture halls are equipped with maps and diagrams such as are used in the United States. At present one-half of the instructors are Chinese, some of whom have been educated in America, the other half Japanese, the latter having been chosen through the pressure exerted by the Japanese consul at Mukden.

### Mukden Experimental Farm.

Leaving the school, we took a stroll over the farm. This comprises about 300 acres of as good soil as any in southern Ohio. It has upon it mulberry plantations to raise leaves for the silk worms of a department to be started next year. The trees are growing well, and as wild silk is already produced in southern Manchuria, Director Chan thinks that an industry furnishing good silk may be founded. In another part of the farm I was shown orchards of native fruit trees, together with several hundreds of apples, pears, peaches and other trees from the United States. There were walnuts from California and grape vines from a nursery on Long Island sound. All seemed to thrive.

The farm is experimenting on wheat, tobacco and cotton, as well as on other vegetables and grains. It is raising sugar beets which are 18 per cent sugar. This is 2 or 4 per cent more than Germany's crop, and it is thought that the Manchurian market may be eventually be supplied by the home grown material. The difficulty is that the people prefer a cane sugar, and that unrefined.

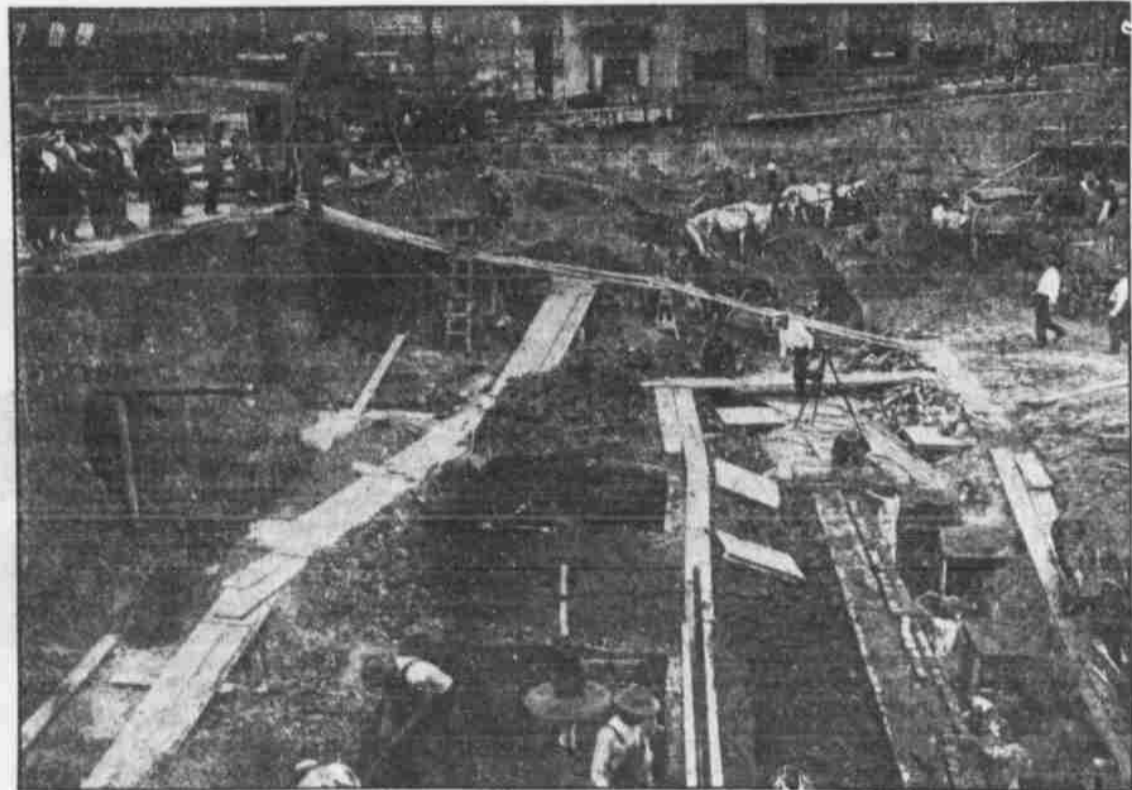
### Stock Breeding.

The Mukden authorities are attempting the breeding of fine stock. They have several Ayrshire and Shorthorn cows and bulls and are crossing them with the native cattle. They will try to breed better horses and to improve the native hog.

Mr. Parker tells me that the chief cattle in this part of the world now come from Mongolia. The natives use the wild prairie sandy uplands as grazing grounds for their herds.

(Continued on Page Three.)

# Up-to-Date Building Methods Make Busy Scene on New Theater Site



MASONS ON THE NORTH WALL OF THE NEW BRANDEIS THEATER.



EXCAVATING FOR FOUNDATION PIERS FOR NEW BRANDEIS THEATER.

**T**HAT Omaha may have a new theater for the first production of the "Merry Widow" in this city on Monday, December 27, 300 men, employed in two shifts of eleven hours each, are working night and day in the hole at the corner of Seventeenth and Douglas streets under the supervision of F. W. Burnham, superintendent for Thompson & Starrett, contractors with offices in New York and Chicago.

Since last Thursday when the night force was permanently installed not an hour has been lost on the work, and until the theater proper is ready for occupancy in December the contractors will continue to rush the job, permitting not a single hour to be wasted.

To insure good men for the work the firm is paying from 20 to 30 cents an hour for common labor, and is giving men with teams \$2.50 per day. For a while, at the beginning of the work, the contractors had a hard time getting hands, but within the last two weeks they have secured as many as they can use. With the completion of the basement and foundation work the present force will probably be increased.

For this Brandeis theater building 275 carloads of brick will be required. In the walls up to the first story alone, 1,500,000 brick will be used. Two hundred thousand cubic feet of re-enforced concrete will be placed in the structure. It will take forty carloads of steel for the frame work and other parts of the building. The cement placed in the building will amount to 125 carloads, or over 25,000 barrels. In the basement and other parts there will be 16 columns or piers.

At night, for lighting every nook of the structure, twenty solar electric arc lights will be distributed over the entire place. One man gives his time to keeping these lights in order and removing them to various places as the work demands. At night the same number of teams, twenty, as are used in the day will be kept busy hauling lumber, brick, steel and other material needed in putting up the best theater building west of Chicago.

With such a large force of men working in this small space the law of accidents would probably call for one or more deaths before the building is finished. A writer in Chicago, in fact, has figured it out for every story of a skyscraper one life is taken as toll. In all cities where great steel girders are placed in the structures and where considerable machinery is employed in the work no contractor starts out with a job without expecting to lose some of his workmen by accidents before the work is finished.

for he has had only one death on his work since he has been in the business, and he spoke to the young fellow in the following language:

"Hang around here if you want to, but yours will probably be the only death if you do. We don't have any accidents on this job worth mentioning, and I'll bet you to 1 that there is not a life lost here. We take special precaution to prevent accidents, and you can count all that we do have on the fingers of one hand. In making the foundations we shore up the dirt walls; that is, we put up strong braces of planks and pillars to keep the dirt from falling in on the men. If we didn't shore we might have one or two deaths before we got through with the foundation work."

"No, sir, young fellow; there are going to be no serious doings around this job. So far, in over a month's work, we have had but one accident, and that was not a serious one. A negro accidentally struck one of his fellow workmen in the leg with a pick and forced him to quit the job for a few days. That, though, is the only accident so far."

For the foundation of this new theater building it was necessary to go but twenty-six feet below the level of the street. Nearly every man who has watched the work of excavation has declared the foundation was not being laid deep enough for an eight-story building. Superintendent Burnham says such talk is foolish and declares the foundation to be deep enough to hold up a thirty-story skyscraper. "We put this foundation down but twenty-six feet," explained Mr. Burnham, "because the ground here in Omaha is solid and gives a firm base for a building. The Brandeis store building was allowed to go down sixty feet below the street level, but that was done in order to give the store a large basement. In this building we have just gone down far enough to get below the basement, which, in this case, is not to be nearly so deep as in the first structure."

"I have been on jobs in several cities in the United States and I know what depth is needed for a substantial building. In Omaha it is not necessary to go deeper than twenty-five feet for a firm foundation. This one we have in the theater would hold thirty stories or more."

"In New Orleans there is a soft clay, and it is necessary to go down many feet and then to drive plumb down about sixty feet more to get a firm bottom. In Cincinnati there is gravel in the earth, and you can stop anywhere in the work. For a foundation in Chicago a depth between thirty-five and 115 feet is needed."

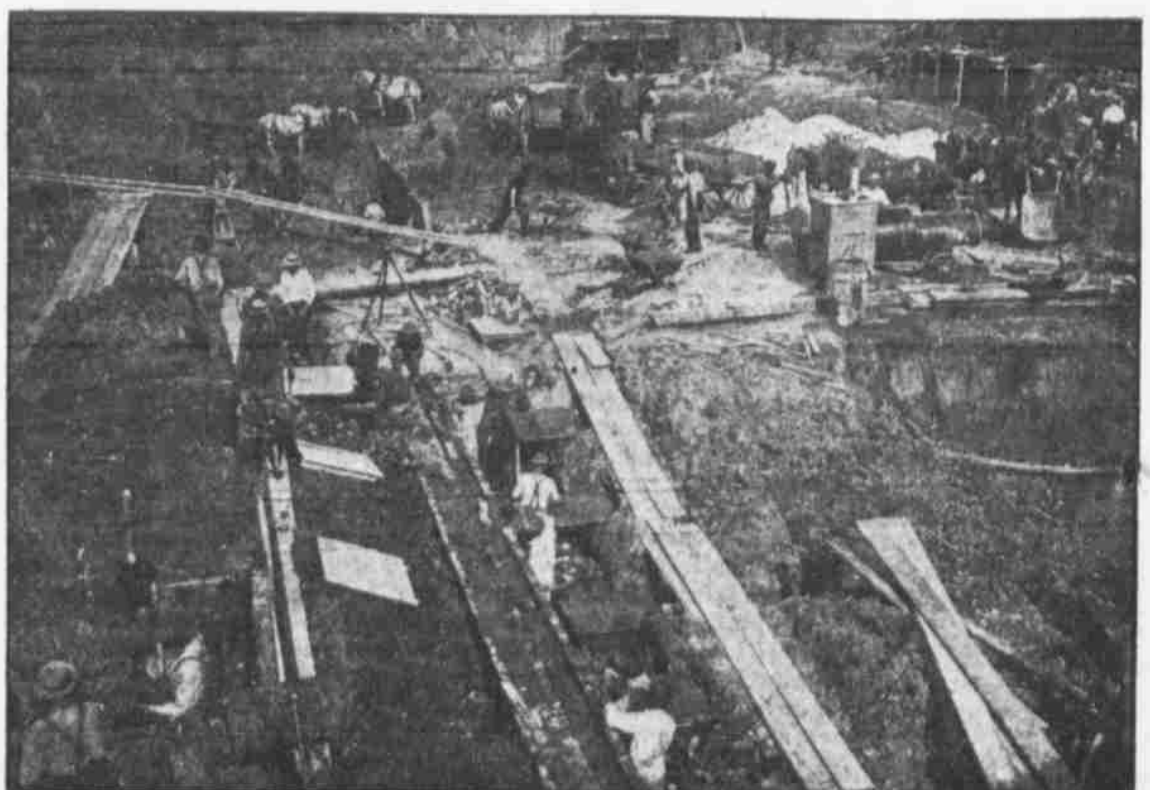
The actual work of getting ready for laying the foundation for the theater building was begun July 1, and by August 21 the building will be as high as the first story. This does not mean that the floor of the basement will be laid, but all the foundation work will be done and the walls of brick will stand completed up to the beginning of the first story.

After that time Philip E. Ward, the fore-

(Continued on Page Three.)



CONCRETE MIXER AT WORK ON NEW BRANDEIS THEATER.



MIXING MORTAR AND LAYING BRICK ON WEST WALL OF NEW BRANDEIS THEATER.