

The Essentials of Silo Construction

(Continued from Last Issue.)
By R. A. Ward.
Last week we discussed a few of the main points to be considered in building a silo and finished up with a table showing the size silo required for the various sized herds.

This week we will be more specific and mention certain points of construction which require special thought and attention.

FOUNDATION.—It is a pretty good rule to give the foundation of any building special consideration, and the same rule applies in building a silo, since a large part of the silage as well as the weight of the walls must be supported by the foundation. The foundation should have its base in firm soil and it should extend below the frost line. From 3 to 4 feet below the surface of the ground is advisable in the northwestern states. The dimensions of the foundation depend chiefly upon the character of the soil and the size of the silo. In loose soils the base of the foundation must be wider than in clay soils, so as to prevent the walls from cracking and getting out of shape. The width of the base varies from ten to 30 inches, depending upon the conditions mentioned.

FLOOR.—Under clay soil conditions, where the earth is exceptionally firm, no special floor is needed, where there is danger of seepage into the silo, a concrete floor should be put in. This should also be done of the soil is very gravelly or loose. A cement floor makes the silo easier to clean and will prevent rodents from burrowing beneath the foundation wall, thus gaining entrance to the silo. A tile drain in the center of the silo, that can be stopped with a wooden plug when the silo is filled and kept open when the silo is empty is advisable.

ROOF.—In traveling through a silo country one sees many silos without roofs. While a roof is not essential to the keeping of silage, there are several reasons why every silo should have one. A roof adds greatly to the appearance of a silo; it makes the removal of the silage more agreeable under adverse weather conditions, and it adds stability to the building. There should be a door in the roof large enough to admit the blower from the cutter.

DOORS.—In the past a large part of the weakness in silo construction has been due to the doors. Poorly

made doors have sometimes caused the silo to crack open and spread. It is therefore necessary to see that the structure is well reinforced near the doors. The doors should form a perfectly airtight joint with the frame and should be flush with the inner wall of the silo so that air pockets will not form as the silage settles. Doors should be large enough to permit the easy entrance of a man and should be near enough together so that the silage will not have to be lifted any considerable height to remove it. The usual size is about 20 inches wide and 30 inches high and the space between the doors is from 2 1/2 to 3 feet. The lowest of the doors should not be more than 5 feet above the bottom of the silo. Continuous doors are more convenient to the removal of silage.

CHUTE.—A chute should be built on all above ground silos as without it there is a great waste of silage. Silage would be scattered over considerable space by throwing it down from the top of a silo without a chute, especially during windy conditions. A ladder should be attached to the silo at one side of the doors or in the chute. Sometimes the reinforcing rods of the continuous door or the hoops may be used as a ladder.

Concrete and brick silos have the advantage over other types in permanency, stability and fire proof qualities. The principal objection to the concrete silo is its first cost. A well constructed concrete or brick silo will last many years, as there is no danger of its being blown down, rotting down, be burned or attacked with vermin. For the man who wants a silo to last for a number of years and who can get the material this kind of silo will give satisfaction because the expense of repairs is practically nothing and very little attention is required to keep it in good condition.

The wooden hoop silo requires somewhat less material than other types of wooden silos and is one of the best of wooden structure. The hoops are built up by several thicknesses of 1/2 by 4 inch boards nailed together. The staves are nailed to each hoop with two nails, thus forming a rigid construction. Flooring is used for staves and can be bought locally in saw mill towns. This is a cheap durable silo, with many good features.

Stave silos are popular because of the ease, cheapness and quickness with which they are constructed. Manufacturing concerns have made a specialty of stave silos and have pushed their sale. As a consequence such silos are more numerous in the United States today than other types. The life of stave silos means from eight to fifteen years, depending upon the kind and quality of lumber used, the care taken in their construction and the climate. They are usually regarded as more or less temporary structures.

The modified Wisconsin type, or the wooden hoop silo is a substantial structure that is not liable to blow down or to get out of repair by drying. In this type studding is set up and the sheeting is bent around on the inside. This causes the silo to have an unfinished appearance. It is difficult to build a modified Wisconsin silo less than 14 feet in diameter, on account of the bending of the sheeting.

Other types of above ground silos are the Guiler and the hollow tile. The construction of the Guiler is similar to the modified Wisconsin, the main difference being that the inner lining of wood in the Wisconsin is replaced in the Guiler by a coating of lath and cement plaster. The hollow tile silo is constructed of tile blocks, re-enforced with steel. It is apparently a durable and substantial structure, and the air space provides some protection against freezing. However it has only been in use a few years and it is difficult to tell how it will compare with other types. The cost in the past has been almost prohibitive to all but the well to do or wealthy farmers.

TUMALO BOY IS TAKEN TO SALEM

Fourteen-Year-Old Basil Bailey Returned to Oregon State Training School.

(From Tuesday's Daily.)
His parole revoked by Juvenile Court Judge W. D. Barnes, 14-year old Basil Bailey of Tumalo, left yesterday for Salem in the custody of an officer from the State Training school for boys. Tom Collier, also of Tumalo, who with young Bailey had confessed to robbing the general store at Tumalo, was paroled by J. M. Griffin, deputy sheriff in that section.

The Bailey boy had previously been an inmate of the training school but had been sent back to his home under promise of good behavior.

FORMER BEND MAN CALLED BY DEATH

M. Niswonger, Early Powell Butte Postmaster, Passes at Home in The Dalles—Funeral Tomorrow.

(From Monday's Daily.)
C. P. Niswonger of this city was called to The Dalles Saturday night by news of the death of his father, M. Niswonger, formerly of Bend, who has been ill for several months past. Mr. Niswonger was born in Ohio 76 years ago, but had lived in the northwest for years, leaving his home in Michigan to reside in Dixie, Washington, in 1902. In 1904 he moved to Oregon, and was postmaster and proprietor of the Powell Butte stage station for several years. After selling out, he moved to Bend, and resided here until a year ago, when he left to make his home in The Dalles. Four years ago Mr. and Mrs. Niswonger celebrated their golden wedding.

Surviving him are his wife and a daughter and three sons, Mrs. Nettie Lampa of The Dalles, Elmer N. Niswonger of The Dalles, Dan N. Niswonger of Walla Walla, Washington, and C. P. Niswonger of this city. Funeral services will be held tomorrow morning from the Crandell undertaking parlors in the Wasco county seat.

REVENUE EXPERTS COMING TOMORROW

John M. Booth, Deputy Collector, and E. C. Ensminger, Inspector, to Be in Bend Four Days.

(From Tuesday's Daily.)
In a letter received this morning from John M. Booth, deputy collector of internal revenue, Mr. Booth states that he will arrive in Bend tomorrow morning, accompanied by E. C. Ensminger, internal revenue inspector. From April 2 to 5, inclusive, they will make their headquarters at the court house for the purpose of assisting corporations and individuals in making out income tax returns and giving such information as may be desired pertaining to income and special taxes.

Something to sell? Advertise in The Bulletin's classified columns.

WAR TROPHY TRAIN TO REACH BEND EARLY SUNDAY, APRIL 6

PORTLAND, March 31.—The Northwest war trophy train, carrying 228 trophies of European battlefields during the world war, will arrive in Bend at 6:50 o'clock Sunday morning, April 6, and will remain until one hour before noon, giving ample time for every one in Bend and the surrounding country to view the exhibit.

Other towns in Central Oregon at which the special will stop on the same day are scheduled as follows: Redmond, arrive 11:50 a. m., leave 12:10 p. m.; Culver, arrive 1:10 p. m., leave 1:20 p. m.; Metolius, arrive 1:35 p. m., leave 1:45 p. m.; Madras, arrive 2 p. m., leave 2:30 p. m.

Wherever the U. S. trophy exhibits have been shown tremendous interest has been aroused. The train is accompanied by Robert E. Smith, executive manager of the Victory-Liberty loan. Throughout the entire state trip, the train will be in charge of J. F. Daly, chairman,

and J. D. Whipp, train auditor. It is accompanied by Bert E. Haney, U. S. district attorney; Walter H. Evans, Judge J. P. Kavanaugh, O. W. Taylor, Arthur C. Spencer and Frank Irvine on the first stage of its itinerary.

The heavy artillery pieces included in the exhibit and the ordnance and paraphernalia of war included in the small exhibit will be explained to visitors by soldiers who gained their knowledge on the battlefields of France. The French mosquito tank included in the exhibit is shown by C. Clarence Likens, a Portland man who served with the "Tom Cats" on this type of war machine. In his own experience, the tank in which he and his "Buddie" were serving became mired in a shell hole in the thick of the fray. The two soldiers removed the machine gun to a vantage nearby, from which they used it effectively in cleaning "snipers' nests," and his mate was killed at that point.

SCHOOL BONDS CARRY EASILY

VOTE OF 69 TO 7 CAST AT KENWOOD ELECTION—CONSTRUCTION WORK ON NEW BUILDING WILL START SOON.

(From Monday's Daily.)
By a vote of 69 to 7 the election for the floating of \$28,000 school district bonds carried easily Saturday evening at the Kenwood school. Practically all the voters were from the Kenwood side of the river, and a number desired to vote in favor of the bonds, but were not allowed to do so when it was found they were not taxpayers.

Every effort will now be made by the school board to start construction work on the new Kenwood school which the bonds were voted to finance with the least possible delay. The old building is still to be removed, and as soon as plans and specifications for the new school are turned over to the board by Architect Lee A. Thomas, a call for bids will be made.

WOULD HASTEN RECLAMATION

WIRE IS SENT TO DIRECTOR OF SERVICE TO ASCERTAIN WHEN EXPERT WILL ARRIVE TO MAKE BENHAM FALLS SURVEY

(From Thursday's Daily.)
To ascertain when a representative of the U. S. reclamation service may be expected to arrive in Bend to start a geological survey of the Benham Falls reservoir site, T. H. Foley, president of the Bend Commercial club wired today to Director Davis of the reclamation service in Washington, D. C.

In earlier communications it has been intimated that an expert from Washington would come to this district about the first of the present month but later it was learned through the delegate sent to the national capital that the age of the expert selected made it impossible for him to start work during bad weather. Secretary Lane requested that a younger man be picked for the job in order to hasten the preliminary work for the development of the Deschutes irrigation project, but the fact that no U. S. Geological survey man has appeared here indicates that this advice has been disregarded.

PYTHIANS PLANNING HUGE INITIATION

Grand Officers to Attend in Prineville, When Central Oregon Lodges Will Present Candidates.

(From Thursday's Daily.)
Pythian lodges of Central Oregon will combine on May 7 to initiate one of the biggest classes ever admitted into the first rank of the order, the ceremonies to be held in Prineville, it was announced here today following the departure of Fred J. Johnson, grand chancellor, and Walter Gleason, grand keeper of records and seals. The two grand officers of the Knights of Pythias will be in charge of the initiation.

Mr. Johnson and Mr. Gleason were honored guests last night at the meeting of the Bend Pythian lodge, and gave interesting addresses on different phases of fraternalism exemplified in their order. Other speeches were given by local members, and toward the latter part of the evening light refreshments were served.

The two grand officers will visit the Madras lodge tonight.

DURHAM SIRE TO BE SENT TO LAKE

(From Thursday's Daily.)
Just as soon as conditions on the high desert are favorable, a bunch of 18 Durham bulls purchased by the Central Oregon bank for the stockmen of Lake county will be driven to Silver Lake, E. P. Mahaffey of the bank stated this morning. Lake county bulls, it is expected, will be brought back to add to the herds in this section.

RID HER OF ALL HER PAIN.
Mrs. L. Wavue, 2726 3rd St., Ocean Park, Calif., writes: "I am thankful to say Foley Kidney Pills rid me of all my pain. I advise anyone to try them after the good they did me." Backache, sore muscles, stiff or swollen joints, rheumatic pains are indications of kidney trouble. Foley Kidney Pills are safe, reliable. Sold everywhere.—Adv.

LOCAL NEWS ITEMS

(From Thursday's Daily.)
H. K. Brooks is in Portland today on a short business visit. An addition to the H. K. Brooks house is being built. Mr. and Mrs. C. S. Hudson left last night for Portland to spend the week end.

George Sedgewick and Max Cunningham of Redmond were visitors in Bend this afternoon. City School Superintendent S. W. Moore has moved from the Caldwell house to Newport avenue.

Mr. and Mrs. Jesse Day are receiving congratulations over the arrival of a seven-pound baby boy at their home in this city.

Thomas W. Triplett left last night for Springfield, Oregon, where he was called by the serious illness of his brother, Carlisle.

J. B. Miner took the train last night for Portland. He will remain in the Willamette valley for several days to handle a number of farm land deals.

(From Friday's Daily.)

Mr. and Mrs. H. M. Horton left last night for Portland.

Ole Simonson of Brothers is transacting business in the city today.

J. V. Taylor came in from Ceneleay this morning.

J. H. Napier and James McCarthy came in last night from Lakeview. Eph Miller and C. J. Taylor of Paisley are spending the day in Bend.

Mrs. M. E. Houghton, state manager of the Fraternal Brotherhood, is in Bend today on one of her regular visits to the local organization.

Ash Houston, formerly employed by The Shevlin-Hixon Company, and crack infielder on the ball team representing the mill, returned to Bend today from Mare Island, where he has been stationed with the marines.

August Krug, brother of Reobert H. Krug, who was burned to death at his home near Sisters a few days ago, arrived in Bend this morning on business connected with the estate.

The Pioneer Garage reports the following sales of automobiles. To A. J. Moore, new model 90 Willys-Overland; to Frank A. Livingstone of The Shevlin-Hixon Company, a Willys-Overland country club roadster model.

Dr. and Mrs. R. W. Hendershott will leave tomorrow night on a three months' trip east. Mrs. Hendershott will stop at Kansas City to visit relatives, while Dr. Hendershott will make Chicago, New York and the Mayo Institute, where he intends to do some graduate work.

(From Saturday's Daily.)

R. S. Hamilton left last night for Portland on legal business.

Dr. and Mrs. J. G. Turner, of this city, are the parents of a baby boy, born this afternoon.

The infant daughter of Mr. and Mrs. Kenneth Minor died last night after an illness of several weeks. Miss Luellie Snyder has left for Corvallis to attend the Oregon Agricultural college during the spring term.

Dr. C. A. Fowler arrived in Bend last night from Portland, and will open an office in the O'Kane building in the near future.

F. L. Young, of Paisley, and J. H. Napier, of Lakeview, have arrived in Bend, and will open an office in the near future under the firm name of Napier & Young.

Announcements were received here today by friends of the marriage of Ellsworth Young and Mrs. Cora Alice Jones, formerly of this city, in Los Angeles. They will make their home in California. Miss Padden, a member of the musical comedy company which will appear at the Liberty theater next week, is a niece of Mrs. F. M. Gasbar, of this city, and will visit at the Gasbar home during her stay here. Miss Padden was formerly with the Baker Stock Company, of Portland.

Sale of reserved seats for the Athletic club home talent play, "What Happened to Jones," will be at the club until Wednesday of next week, and on Wednesday, Thursday and Friday at the Horton Drug company store.

(From Monday's Daily.)

The infant son of Dr. and Mrs. Turner died yesterday afternoon.

Mrs. Harry Gant came home from Portland Sunday morning.

W. C. Birdsall left Saturday night for Portland to join his wife and son.

R. S. Hamilton has returned to Bend from a business trip to Portland.

H. C. O'Neil leaves tonight for Salem where he is interested in real estate.

Fred N. Wallace is in Bend on business today from his home at Tumalo.

J. K. Irby, state agent for the Velle motor products was at the Pioneer garage Saturday making arrangements for the local agency. He left for his home at Kent, Oregon Saturday night.

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