

of their tribe, so, according to Indian law, he was also a Munsee. Later on he played the part of the swollen frog, and by passing for a Munsee at Government headquarters, helped the Chippawas to secure some land claimed by the Munsees.
Elgin Co., Ont. LOUISA T. KING.

Another Cement Water Tank.

Editor "The Farmer's Advocate":
I noticed in your issue of February 15th an inquiry for an elevated cement water tank, with questions regarding a tank of that kind. I built a square tank two years ago last fall, with good results. It was built at one end of the barn, with three side walls, 7 feet high, and a pier in the center for a support to the floor, one side wall being left out to let the heat out from the stable, to keep the pipes from freezing under the tank. The foundation walls were built of cement from the bottom of the trench, with 44 square feet of face bearing concrete mixed 1 to 10; for this part walls are one foot thick. Then we put a concrete floor on top of these walls, one foot thick, mixing the concrete 1 to 6, with iron bars and lots of No. 9 wire to help in supporting it. This floor projected eight inches out over the foundation walls on the three sides, making the floor 8½ feet square. This was left for about four or five days to harden enough to put the side walls on for the tank.

The concrete was mixed 1 to 6 for the walls, the same as for the floor. We started the walls 9 inches thick at the bottom, and tapered them to five inches at the top. The walls were enforced every foot with four strands of No. 9 wire, twisted together. I also put two heavy pieces of iron across the top each way to support the tank which is 7 feet square and 8 feet high, and holds about 2,450 gallons, or 12½ tons of water.

The tank is very large, but to meet my needs I required a large tank. In the winter I fill it with a power mill pumping from a spring, but in the summer this spring goes dry, and I turn the rain water into it from the barn. This meets all requirements for summer use, as I have a good spring on the farm.

The cement cost \$21.50, and I paid \$2.08 for a man to plaster; the rest of the work we did ourselves. I did not keep account of the time we worked, or I could give the cost of labor. I only plastered it on the inside. We mixed the plaster 1 to 2, but that was not strong enough for a tank of this size, and the water soaked through, so I gave it an extra cement wash on the inside, which has helped it some. The plaster, to make the best job, should be mixed one to one. We mixed the concrete quite sloppy for the walls and floor.

As to the strength of the tank, I think this winter has been a tester, the thermometer registering from 25 to 30 degrees below zero. This low temperature formed about a foot of ice around the inside of the tank, yet, so far, the tank appears sound. I built a square tank because I had the lumber to do it, and wanted to put it up myself, to insure plenty of time for the cement to set.

I would, however, advise building with silo rings. Build the foundation walls the required height, then put the floor on them, and let that portion harden before completing the tank. Would also advise building the tank at some distance from the barn, so that a box stove can be placed under it, with pipes through the stove and into the water-tank, to prevent freezing in zero weather, and also to take the chill off the water for the cows. Haven't roofed the tank yet, but intend doing so.

A 3½-inch pipe is placed in the side of the tank, with a valve which I made myself, and from this a big threshing tank can be filled in 65 seconds. If any of your readers have a better arrangement, I would like to hear from them.

Huron Co., Ont. E. A. WESTLAKE.

A Pumping Problem.

Editor "The Farmer's Advocate":
The pumping problem presented by J. H. B. in "The Farmer's Advocate" of February 22nd (page 352) is one of frequent occurrence in connection with the installation of gasoline engines.

We might say that our regular practice is to place a pump jack in the room with the engine, run a wooden jerk-rod from jack to well, then a bell-crank transmits the horizontal motion of the jerk-rod to the vertical pump piston. The jerk-rod is usually hung on posts 20 feet apart, and from 8 to 10 feet high, but where an overhead rod would be in the way, we use a gas pipe placed in a tile or box under ground. The pump cylinder is placed in the well, as a rule close to the water, so that there may be no necessity of priming the pump.
CONNOR MACHINE CO., LTD.

Alfalfa Compared with Red Clover and Meadow Hay.

For the purpose of comparing alfalfa with other grass and clover crops, the Connecticut Experiment Station selected an acre of this crop on a farm near their station, and carried on extensive experimental work with the crop. The acre selected produced 4.8 tons of hay in one year, the first cutting yielding more than the two later cuttings together.

The following statement compares the amount and character of feed, and also the quantities of nitrogen, phosphoric acid and potash in this crop of alfalfa, with the average amounts in three tons of mixed meadow hay or three tons of red clover—yields which would be considered large for the summer of 1911. The figures represent pounds per acre.

	Alfalfa.	3 tons Meadow Hay.	3 tons Red Clover.
Ash	692	318	570
Protein	1,320	474	906
Fibre	2,276	1,668	1,446
Nitrogen-free Ex't.	3,133	2,568	2,076
Fat	167	132	102
Nitrogen	217	80	133
Phosphoric Acid	52	19	28
Potash	164	97	145

Alfalfa yielded considerably more of every feed ingredient (400 more pounds of protein) than a good clover crop, and vastly more than meadow hay.

Another experiment in connection with alfalfa, and one which should be considered in comparing crops, was one to determine the effect the crop had on the soil, as compared with the effect of a crop of potatoes.

Four samples of soil were drawn in different places on the acre, and the same number from an acre strip adjoining which had received the same tillage and treatment as that given the alfalfa acre until 1910, when, in place of seeding to alfalfa, it was cultivated and in 1911 planted to potatoes, with commercial fertilizer. The percentages of moisture and nitrogen in the two soils on November 5th, after abundant fall rains were:

	Under alfalfa.	Under potatoes.
Moisture in 6 inches surface soil.....	20.49	18.06
Moisture in next 6 inches of soil.....	18.72	15.94
Nitrogen in surface soil	0.251	0.251
Nitrogen in subsoil	0.125	0.088

As a means of holding soil moisture, it would seem, from this, that alfalfa had a considerable advantage over a cultivated and fertilized crop like potatoes. It also has an advantage in the nitrogen content of the soil.

Other interesting data obtained by E. H. Jenkins, the compiler of the foregoing figures, was that the crop is reasonably hardy, and, as a soiling crop, is valuable to take the place of "summer pasture," which cannot always be relied upon, and, by the use of caps, it can be harvested for hay with fair success, even in bad weather. It was also found that, on land which had received a fair dressing of manure, an additional light top-dressing in the spring did not increase the yield.

Round Cement Water Tanks.

I built a cement water tank in 1910, and have used it to hold our water supply for the house and about fifty head of stock ever since.

My tank was built of sloppy cement, one to six. We used silo rings, and built it eight feet across and seven and a half feet high. It holds 2,300 gallons.

The wall and bottom are six inches thick. It is plastered on the inside, and I have a flat board roof on it.

The water is pumped into it by a windmill. The tank is built on the ground, which is higher than the water trough, and will empty itself into this trough, which is managed by a float.

Last winter it was banked about two feet around the bottom with clay, and there was only a little ice around the inside about half way down.

This winter I have it banked about five feet with clay, and there is quite a bit of ice frozen to the sides, although I don't think it will hurt the tank any, as the ice can always be broken with a small stick.

This tank has given first-class satisfaction. If it stands this weather, which has been from one to thirty below zero for the past month, I think it should last a lifetime.

I might mention that No. 9 wire was used every six inches in the wall, and the cost of this tank was \$30.
S. J. MILLER.

Waterloo Co., Ont.

Wild Farmers I Have Known.

Editor "The Farmer's Advocate":

The auld wumman says tae me the ither day, "Sandy," says she, "why dae ye no' write a book? Ye're auld enuch the noo, surely, tae hae had quite a bit o' experience, an' it might be daein' the comin' generation some guid tae ken aboot the way ye hae made sic a great success o' yer business, an' sae muckle money, an' a' that." The auld girl likes tae gie me a dig noo an' again, ye, see, aboot spendin' mair o' my time wi' ma books an' papers than she thinks is guid for ma health. Hooever, I says tae her, "Weel, maybe I will write a book. I dinna ken what Dr. Osler wad say tae ma beginnin' ma life-work after I'm sixty, but may happen he'll put me doon for the exception that proves the rule. What wad ye be thinkin' wad be a guid title for the book? Na doot that comes first, like a text before the sermon."

"Weel," says she, "I was lookin' at some books the ither day over at Mrs. McKenzie's, an' ane o' them was called 'Wild Animals I Have Known'; sae, noo that ye've brought up the question, why can't ye tak' that an' 'it it tae suit yer subject, since ye're a' the time writin' aboot farmin'?"

"A' richt," says I, "I'll mak' it 'Wild Farmers I Hae Kenned,' and let it go at that. An' nobody can say I'm no' familiar wi' what I'm writin' aboot."

"An' what," says ma wife, "wull ye be takin' tae head the first chapter?"

"Weel," I said, "There's auld Jimmy Mc-Sweyn. It's time he was held up tae the world as an object-lesson on the awfu' result o' bein' on too good terms wi' the kitchen stove. Ye ken he'll sit wi' his feet on the damper an' spit intae the fire by the oor, an' naething disturbs him, not even the wolf barkin' at the door. He makes the wee laddie attend tae the coos an' sic like chores, an' by the looks o' the brutes when I came past the ither day, they're on short rations, I'm thinkin'. He lets them oot tae drink at the creek when the day is fine, but gin it's stormy, it's local option for the coos. The winter's manure is at the stable door, an' as the laddie canna' throw it very far, it has got tae be a regular toboggan slide for the bossies ilka time they gang intae the stable. It's no sma' job cleanin' oot his stable, a' the same, this cauld weather, for he has to use an axe maistly. The ither mornin' ane o' the coos couldna' get up, an' Jimmy, thinkin' she was weak-like, as it was comin' on toward spring, an' the straw was na' very guid, sent over for me tae come an' help him lift her up. But before I got there he sent the boy tae meet me an' tell me it was a' richt. The coo had juist been held doon by her tail, which was frozen tae the floor.

"Last simmer he sent tae the cheese factory, an' the man wha maks up the books tell me that Jimmy's coos averaged a wee bit over nine hundred pounds apiece for the season. An' I ca' that pretty generous o' them, too, when you consider hoo much they had to mak' it wi'."

"It's gaein' doon hill wi' Jimmy, I'm feart, an' his wife is gettin' mair discouraged-lookin' ilka day. She was makin' a wee bit butter the ither day, when I was in, tae tak' tae the store tae get the bairns some shoes an' things, an' I'm thinkin' they'll be eatin' their bread dry for a while in consequence.

"She says tae me, 'My, Sandy, but the wee weans is awfu' fond o' bread,' and I says tae myself, 'na wonder, for they never get mair o' it than is guid for them.' Jimmy bought a couple o' young pigs last spring, intendin' tae hae a barrel o' pork tae winter on, but he did na' hae them lang till they seemed tae stap growin', a' except the hair. He used tae feed them what they he'd get back frae the cheese-factory, an' after a while they got too discouraged to squeal for anything else.

"I passed Jimmy's place one day last spring when he was pittin' in his crop. The field was unco' wet, but it was gettin' late, an' Jimmy was in a hurry for once. The horses were nigh up tae their knees in mud, an' a guid part o' his aits wad be put doon so deep that it wad na' come up till the day o' judgment; but, as Jimmy said, 'Gin ye dinna' sow, ye canna' reap.' He was gaein' tae put the seed in the ground and trust in the Lord tae gie him a harvest. But the Lord must hae overlooked him in some way, an' this year he's thinkin' o' makin' a ditch to carry off a wee bit o' the water. An' tae even think o' sic a thing is quite a bit o' exercise for Jimmy. Hooever, it's unco' easy tae talk, but when a mon is doon, it's gaein' tae tak' muckle mair o' a struggle tae get up than it does tae stay up ance ye're on yer feet. When a mon's land has got full o' weeds, when his fences are a' oot o' repair, when his barns hae taken a lean wi' the prevallin' winds, and, worst o' a', when he has got intae the habit o' mind that has made these condections possible, there isna' muckle chance o' salvation for him. He'd juist better sell oot an' go an' work by the day for some man that wasna' born tired, an' wha kens hoo tae pit