

[Illustration: FIG. 31. SILO IN CENTER OF BARN NO. 4; UPPER PORTION IN HAY LOFT. LOWER PORTION IN COW STABLE.]

Siding, 8-inch drop siding, put on horizontally, nailed with 10d nails. Ends holding well.

Windows, 12 light, 10 x 12 glass; one window every six feet. This gives an abundance of light in the center of the barn.

Doors, built on circle; (not satisfactory).

Silo, round; diameter, 24 feet over all; height, 53 feet, exclusive of 12-foot space for water tank on top; capacity, 500 tons. Studs of silo, 2 x 4s placed 12 inches on center. Ceiled inside of studs with two thicknesses of half-inch lumber with paper between.

[Illustration: FIG. 32. INTERIOR OF BARN NO. 4, SHOWING STALLS AND FEED ALLEY.]

Remarks: Considering its size, the construction of this barn is apparently too light to be substantial, as the joists and studs are too small and too far apart, yet it has stood for nine years with no more evidence of wear than is common with any barn.

Were the owner to build again he would place the studs only 2-1/2 feet apart and use 2 x 12 joists, 2-1/2 feet apart at the outside wall. He would also use cement plaster on inside of silo.

The owner says it would have cost him as much to have built a rectangular barn without the 500-ton silo, and containing 1300 sq. ft. less floor space. In other words, he gained a 500-ton silo and 1300 sq. ft. of floor space, besides an immense amount of mow room, by building a circular barn.

[Illustration: FIG. 33. ARRANGEMENT OF COW STABLE IN BARN NO. 4, 90 FEET IN DIAMETER; TWO ROWS OF COWS HEADED TOGETHER.]

BARN NO. 5

Built in 1906.

Diameter, 100 feet.

Capacity, 115 cows.

Cost, \$3400.

Studding, 16-foot 2 x 6s, placed 3 feet on centers.

Supports, 3 rows 4 x 4s.

Joists, 2 x 10s, placed 3 feet on centers. Hemlock and yellow pine.

Floor, laid in eight directions.

Rafters, 2 x 6s spiked to studs. A band of two 1 x 6s is placed around the studs just below the rafters, and helps support the rafters.

Supports for roof. There are three purline plates. Two of these are supported by posts, the other by braces running out from the silo. The roof is straight from eaves to peak. The bracing is similar to that of barn No. 4.

Silo, 18 feet in diameter, 56 feet deep, 2 feet in ground. Capacity, 350 tons.

[Illustration: FIG. 34. BARN 92 FEET IN DIAMETER; TWO ROWS OF COWS HEADED TOGETHER; SILO IN CENTER.]