lumber and shingles varied for the different barns, to draw an exact comparison it was necessary to base it upon the money value, and for this purpose the total cost of lumber has been figured in each case. The lumber values used thruout are the best average prices that could be obtained. As the same prices are used for the material of all the barns, the comparisons of cost are correct, altho these exact prices will not hold for all localities and all times.

[Illustration: FIG. 8. SHOWING CONSTRUCTION OF PLANK FRAME BARN, END VIEW.]

Since a silo cannot be economically built inside of a rectangular barn, the first comparison is made with the barns simply enclosed, altho one of the chief advantages of a round barn is the deep silo which it is possible to build so economically in the center.

[Illustration: FIG. 9. SHOWING CONSTRUCTION OF MORTISE FRAME BARN, SIDE VIEW.]

Another item of economy in the circular barn is less framing lumber. This form has the strongest possible construction with the least lumber in the frame, and the least bracing, not a single timber larger than a 2 × 6 being required above the sill. The arched circular roof requires no supports, and no scaffolding is needed inside during its construction.

The accompanying tables show the comparative amount and value of lumber and cubical content in round barns 60 and 90 feet in diameter, and rectangular barns of equal area and height of posts.

TABLE 1A.--A COMPARISON OF THE COST OF MATERIAL IN ROUND AND RECTANGULAR BARNS OF THE SAME AREA, _Not Including_ Foundation And Silos.

A: Framing lumber,
B: Sheathing, siding, and flooring,
C: Shingles,
D: Bolts,
E: Total cost of lumber,
F: Content, cubic feet,

	Round barn, 60 feet in diameter	Rectangular barn, 36 × 78-1/2 ft. Plank frame	Rectangular barn, 36 × 78-1/2 ft. Mortise frame
A	13,976 ft. @ $25 = $349.40	19,833 ft. @ $25 = $495.83	29,074 ft. @ $25 = $726.85
B	12,971 ft. @ $22 = 285.36	15,355 ft. @ $22 = 337.81	15,355 ft. @ $22 = 337.81
C	44,000 @ $3.75 = 165.00	45,000 @ $3.75 = 168.75	45,000 @ $3.75 = 168.75
D		20.88	
E	=$799.76=	=$1023.27=	=$1233.41=
F	=117,669=	=117,138=	=117,138=

TABLE 1B.

A: Framing lumber,
B: Sheathing, siding, and flooring,
C: Shingles,
D: Bolts,
E: Total cost of lumber,
F: Content, cubic feet,

	Round barn, 90 feet in diameter	Rectangular barn, 36 × 176-3/4 ft. Plank frame	Rectangular barn, 36 × 176-3/4 ft. Mortise frame