

Drive a nail through the strip here. If the wall is to be 6 inches thick measure from the centre of this nail 6 inches farther, and drive another nail through. Then scratch them along the floor to mark sections of two circles. Now take a fine wire, tie a pencil to one end, and measure it the exact length from the inside circle to the centre. Select any point on the inside curve, mark it, then strike a point on this same curve as far as the wire will reach from the point selected. This marks off a part of the circle equal to one-sixth of the circumference of the silo. Lay a straight board between the two points designated, measure exactly half the distance, and draw a line from the centre of the circle to the middle of the board described. This divides in half exactly the enclosed segment. From the two points marked "X" in the diagram, measure back 4 inches towards the centre, inside the inner circle, and 8 inches beyond the outer. Take a piece of 1-inch board, 8 inches wide, 10 feet long. Saw down the middle and lay the pieces as indicated. Nail lightly to the floor, and with the scratching-nails mark out the curves as shown. This makes one pattern each for the inner and outer forms. Two of these must be joined to make a full section one-sixth the circumference. The strips used in holding the two parts together should be at least 4 feet long, and cut on the same circle as the form. Make the forms 3 feet or 3 feet 6 inches high, and cut six pieces from the pattern for each section of the form. This means thirty-six inner and thirty-six outer pieces. Use 2- by 4-inch material to join the pieces together as required. Cover each section with sheet iron or matched lumber. As shown in the diagram, the patterns are sawn in the line leading to the centre, so that they will fit in a circle. When complete, set up and bolt together in a circle, placing the inside form first. Bolt through the ends of forms, and by means of short pieces on top. To keep the inside form just 6 inches from the outside form, make several pieces 6 inches long for spacers. Place these 4 or 5 feet apart. The cost of forms for a silo 13 feet in diameter should not exceed \$40.

MIXING THE CONCRETE.

The concrete should be prepared on a smooth water-tight mixing-board, about 10 by 12 feet in size. A suitable mixture for silo-construction is one part cement, two parts sand, and four parts coarse gravel, commonly known as one to six. The most convenient method of measuring is by means of the bottomless box. The gravel or stone used should be clean and free from any foreign substances which would destroy the action of the cement. After adding the cement to the gravel and sand, mix thoroughly by shovelling, then add sufficient water and shovel again back and forth at least three times. Concrete hardens rapidly, and should not stand long after the cement is wet without being placed. The manner of handling is of great importance when placing concrete, for the materials must not separate when poured, as good concrete is obtained only when the stones and gravel remain in contact with the mortar. Avoid pouring from a height on this account, and have the mixture wet enough to be handled without breaking apart. To prevent cavities, place a layer about 1 foot deep in the forms, and then tamp or puddle with a flat spade or sharpened board. By working the spade along the sides of the form until the water rises on top, a smooth surface will be secured. The upper surface should be irregular to make a stronger bond with the next layer, and if the second be poured before the previous one