Lightning Protection for Shelters

Are the shelters on your golf course protected against lightning?

Small unprotected buildings on a golf course are not the most desirable places in which to seek refuge during an electrical storm; but they can be made more nearly safe by proper use of steel poles.

The subject was first brought up by M. C. James, of Greeneville, Tenn., who said in part:

"There have been several golfers killed by lightning on nearby courses this year, and there seems to be quite a bit of interest in building low, flat shelters to encourage players taking shelter. However, there has been some objection to this practice of shelter inasmuch as the clubs with steel shafts plus a crowd in the shelters seem to draw lightning. I have suggested grounding the shelters for lightning, but several others seem to think that trying to ground them would only add to the danger, as they do not think there is a sufficient ground for lightning."

We submitted the matter to the National Bureau of Standards of the U. S. Department of Commerce, and the following helpful reply was received from John A. Dickinson, Secretary, Sectional Committee for the Lightning Code:

"The problem presented in your letter is a most interesting one. I have noted in local newspapers a number of cases of golfers or spectators being struck by lightning on a golf course.

"For a small structure such as a shelter, the protection might best be taken care of by using four steel poles set out at a distance from the corners of the building. (See Lighning Code P. 49). These might be of 2" pipe or 2½" pipe below ground with 2" above ground.

"The poles should be set deep enough to reach permanently moist ground (6 to 8 feet). The height should be such that the shelter would be wholly within the 4 cones of protection set up by the poles (45° angle from the top of the pole, or a pole-height radius about its base).

"This method was used successfully during World War II to protect buildings containing explosives. It keeps differences of ground potential around the building to a minimum.

"If lightning conductors are placed on shelters with a ground adjacent to one side of the building, large differences of potential may exist between points on the surface of the ground which are a few feet apart. The frequent killing of livestock under a tree which is struck is attributed to such potential differences. Fortunately the human animal has a shorter 'wheel base' than a horse or cow and consequently deaths of persons from this cause are rare.

"A dry raised wood platform in the shelter would decrease the possibility of shock from this cause. (I am assuming they would not have a built-in floor).

"The poles or pipes could be painted a 'grass' or neutral green to improve their appearance without affecting their effectiveness. (Underground section should be bare)."

As Ernest Jones Sees It

Ernest Jones, well-known New York golf instructor, has distilled his teaching into the following essence, which he has distributed on little printed cards:

Swing the club head with the *hands*. *Make* it swing. Do not allow anything to overpower the swinging motion; if it is a swing, it demands freedom.

To acquire greater distance, increase the arc of the swing; but never swing the head back beyond a point where hand control is lost. Swing the clubhead with *both* hands. Swing it with *live* hands.

Above all, *trust* the *swing*.