Make Your Own Toys

Nails →
A
G (Cork)
F ← Gut Fiddle or Banjo String
Rubber Ball E
B →
← B
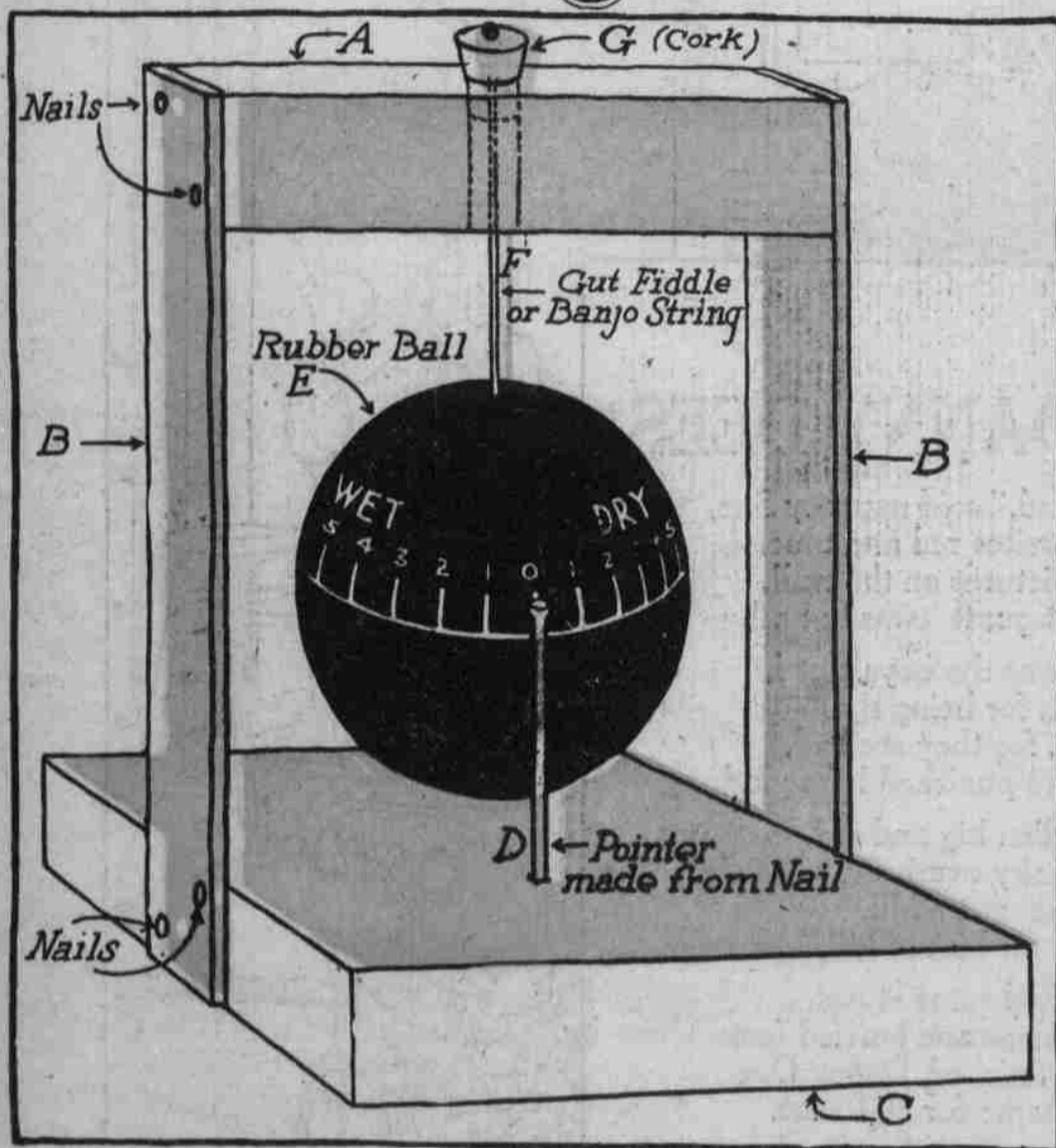WET 5 4 3 2 1 0 1 2 3 DRY
D ← Pointer made from Nail
Nails →
← C

The Weather Ball
or
Hydrometer
by
Edward Thatcher

The Weather Ball pictured above is a very useful and interesting toy to make. Changes in the weather cause the ball to turn, so that if it is going to rain, the ball will turn around toward the word Wet, and if it has been raining and it is going to clear, the ball will swing toward the word Dry. The reason for this action is very simple. There is always more or less moisture in the air, whether we can see it in the form of rain or not. The ball is suspended from the wooden framework by a piece of fiddle or banjo string. These strings are made from the intestines of certain animals (not the wire strings sometimes used for these instruments, of course; do not try to use these). When the air becomes moist, the fiddle string absorbs moisture, which causes it to swell and to twist slightly, thus turning the ball. When the moisture dries out of the air, it, of course, dries out of the fiddle string also, causing it to shrink and also twist, thus turning the ball the other way. By making and watching the Weather Ball you may become quite a weather prophet and mystify all your friends.

To make the Weather Ball you will need a short piece of a fiddle or banjo string about 5 inches long, one rubber ball 2¼ or 2 inches in diameter, a small cork, some flat pieces of wood for the framework, eight small nails and one large one.

Make the wooden framework first. The piece of wood which is used for the base C should be about 1 inch thick and 4 inches square. The two side supports B, B should be made of thin wood about 1 inch wide and 5 inches long. Cigar-box wood will do very nicely for these. The top piece A should be about 1 inch square and 4 inches long. A hole slightly larger than the small end of the cork G, which is to be pushed in it, should be bored through the center of the piece A, as shown. The frame should then be nailed together.

Make a hole in the rubber ball for one end of the fiddle string. A simple way to do this is to shove a large needle in an old penholder, heat the needle red hot and then push it through the rubber to burn a hole. A hole may be burned through the cork in the same way. Tie a small knot in one end of the fiddle string. Pour some alcohol in a small cup and soak the fiddle string in the alcohol for a few minutes to remove the rosin, etc. Then push the knot at the end of the string through the hole in the rubber ball, so that the ball will be held at the end of the string. Push the other end of the fiddle string up through the hole in piece A and then through the hole in the cork. Slip the cork in place, pull up on the fiddle string until the ball swings clear of the base and then tie a knot in this end of the string to hold the ball in place. Drive a nail in the base C, so that it forms a pointer, as shown at D. Paint the wooden framework and the ball as you like, but do not paint the fiddle string.

Set the Weather Ball on the porch where it is shielded from the sun, wind or rain, but where the air may circulate freely about it. Make a chalk mark on the ball opposite the pointer and then after an hour or so see which way the ball has turned, and notice the state of the weather and mark the ball accordingly, after which the words "wet" and "dry" may be painted on, as shown in the picture.

How Well Do You Know Your Bible?
Can You Read the Pictures?

PROVERBS 17:7