10 (56). **"A new form of float for water or alcohol manometers,"** with demonstration: **HAVEN EMERSON.** (By invitation.)

The float consists of an aluminium cylinder with very thin wall, supporting a writing arm of fine aluminium wire. For manometer tubing of $\frac{9}{32}$ in. inside diameter, $\frac{3}{16}$ in. or $\frac{1}{4}$ in. aluminium tubing $2\frac{1}{2}$ in. long is used. This is bored out until the walls are sufficiently light. In the upper end is forced a solid cap of aluminium with a small hole in the center into which the wire for the writing lever is driven. The lower end is plugged with cork. Both ends are painted over with hot paraffin to prevent leaking. For use in alcohol a somewhat larger tube is necessary. Three crossed hairs held in place across the open arm of the manometer tube by a strip of adhesive plaster keep the writing arm centered with sufficient accuracy.

The value of the float consists in its cheapness, the ease with which it can be made, its very slight inertia, and its convenience in estimating delicate changes in pressure for which a water or alcohol manometer is needed.

11 (57). **"Gelatin as a substitute for protein in the food": J. R. MURLIN.**

In a series of experiments on dogs the starvation nitrogen was first determined during fasting periods. Varying amounts of gelatin, containing from one fourth to two thirds of this amount of nitrogen were then fed, the remaining three fourths to one third of the starvation quantity being supplied in meat or other proteins. The calorific requirement of the animal, estimated from Rubner's tables, was made up in each experiment with fats and carbohydrates. Results show an equal sparing of the body-protein, whether one fourth, one third or one half of the starvation nitrogen was fed in the form of gelatin, the coincident sparing of protein by fats and carbohydrates being the same. When the coincident sparing of protein by non-nitrogenous food was increased by feeding a larger percentage of carbohydrates and less fat, the fraction of the starvation nitrogen fed in the form of gelatin could be raised to two thirds, the other one third being fed in meat. Nitrogenous equilibrium was maintained on this diet for several days.