sawdust ranged half way between pine and cedar—66 per cent. sinking in eight minutes. Elm sawdust differed from pine, maple, or cedar in that only about 30 per cent. sank in twenty minutes; 75 per cent. of oak sawdust sank in six minutes. So that as far as my experiments went the different kinds ranged as follows: oak sank most quickly, then white pine, maple, cedar, elm. But it must be remembered that the particles in my experiments differed from each other in size and in the moisture they contained, and consequently different results might easily be obtained. The important point is that all kinds sink in a few minutes, especially in agitated water, but not, of course, in a stream with anything like a rapid current.

EXTRACTS FROM SAWDUST.

The first experiments of the season were performed for the purpose of determining the effects of sawdust upon fish eggs. The St. Andrew's experiment had shown that adult trout were not injured by sawdust in rapidly running water; but two other points remained to be determined: (1) Whether sawdust killed fish eggs, and (2) whether it destroyed the food of young, or full grown fish.

Perch eggs were collected along the shallows of Collins Bay, just west of Kingston, and brought to the laboratory on May 12th. They were placed in a clean aquarium with a stream of tap water (from Lake Ontario) running into and out of the vessel. On the same day a bag made of bleached cheese cloth, and filled with a peck of white pine sawdust was placed in an aquarium, 40½in. x 15in. x 16½in. It was weighted with stones to keep it on the bottom. Water entered the aquarium very slowly, so that the conditions of the experiment approximated somewhat to those in the pools of a sluggish stream.

Next morning it was noted that as a result of the bag of sawdust being in the aquarium all night, the water had dissolved out a sufficient amount of material from the sawdust to turn the bottom layer of water a yellowish brown color. This layer measured 1¾in. in a total depth of 16½ inches. Above the yellowish brown layer, and separated from it by a well-defined surface, the water was as clear as that of Lake Ontario. Only about $\frac{1}{5}$ths of the bottom of the aquarium

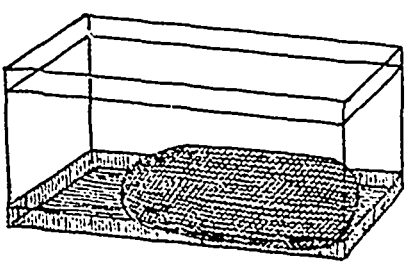

FIG. 2.