

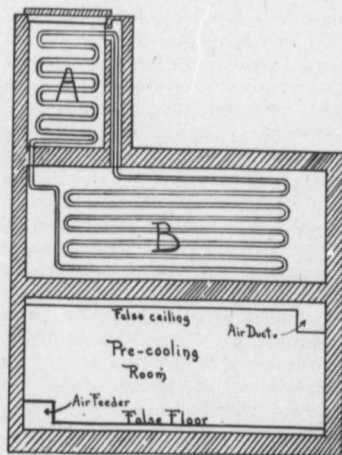
Precooling and Cold Storage of Fruits

J. A. HEMPSON, '18.

MOST Men will tell you that they have their fair share of worry. The fruit-grower will tell you that he has his fair share and then "some;" and after you have spent a few crowded minutes turning over in your mind the operations and significance of insect pests, fungus diseases, winter injuries, weather eccentricities, the labor situation, the vital problems in marketing

and glutted markets, and cold storage work has grown into importance accordingly. To anyone interested or engaged in horticulture, the object of this article is to give a brief outline of how it is done and why it is done. What it has done and what it bids fair to do will be outlined by Mr. Bonham, manager of the Dominion Cold Storage Plant at Grimsby, Ont., who has promised to supply an article which will appear in the next issue of *The Review*.

How it is done is by natural ice. Briefly, and these are just the cold, hard facts—the warm work of technical intricacies is for the delectation of the physicist and does not concern us—briefly, the ice is crushed, mixed with a percentage of salt varying from 10% to 20%, and packed around a system of pipes which contain a solution of calcium chloride. Attached to this system of pipes, continuous with it, and in a room beneath it is a second system of pipes, suspended free in the air of the room. Beneath this room again are storage rooms, and a powerful and efficient system of ducts and fans makes possible the interchange of air between the pipe or "coil" room and the storage rooms.



A- Ice and salt in tanks surrounding 1st system of pipes.

B- 2nd system of pipes in coil room.

fruit to advantage, and a whole host of other horticultural difficulties, you will begin to realize that he has told you a very concrete fact.

Any factor, under existing circumstances, which can lessen the growers' troubles is of importance. Precooling and cold storage has offered a solution of the weighty problem of restricted

Don't you "get" the idea perhaps even cold storage facts can be super-compressed into hot air, let me re-solidify by explanation. Salt has an affinity for water, and consequently melts the ice; ice in melting of course absorbs heat. In the case in question, the heat is absorbed from the calcium chloride solution in the first system of pipes. Now cold calcium chloride brine has a higher specific gravity than warm brine. Consequently, being heavier, it sinks down into the