



FIG. 497 — SECTION OF WALL.

usually galvanized iron, which forms a large pan or vessel in which all meltage water is collected. Water is very destructive to the ice, and the warm air is kept away from the top of the ice to prevent the moisture from being condensed there and settling into the ice. When the ice is low in the ice chamber, vapor may accumulate in the space above the ice. A ventilator in the top of the room is of service in conducting this away from the ice and keeping it dry. As the water from the melted ice will absorb air and gases, it is spread out over as large a surface as practicable, and the air is conducted over it to be purified. There are several plans by which these general features are accomplished in the construction of cold storage houses, some of which have been patented. The plans shown in the illustrations embrace the essential features of good cold storage construction.

The general arrangement of cold storage houses for any size is as shown in Figs. 485-488. Large houses require a girder and posts under the centre of the ice floor, and the air flues are best made double, with one set at each side of the girder along the centre of the room. The construction of the walls varies. Walls filled with sawdust, charcoal, tan bark, or other non-conducting materials, have been in use for many years. Carefully conducted tests, however, have proved conclusively that a wall of this description is inferior to a wall which contains dead air spaces, felt or paper linings, a section packed with mineral wool, and an outer circulating spaces *a* which are open to the outer air at the sill, and at the top open into air space. The wall shown in Fig. 487 gives good satisfaction. It comprises air the loft under the roof. Dampers (*d* Fig. 486) are placed at the bottom so they can be closed when desired. The next section of wall *b* (Fig. 487) is of dry sawdust, packed in place between walls of matched boards; the outer surfaces of these walls are lined with prepared waterproof paper. The inner section *c* contains dead air spaces which are about twelve inches square. The inner wall is of matched lumber, and the outer one is of weather boards. This construction keeps the sawdust dry and the walls free from dampness. There should be large flues *f* (Fig. 486) through which the air circulates. The drainage and meltage water is carried off by a trapped drain *e*. The galvanized iron floor can be flushed through openings *s* made for the purpose. A wooden backing *g* is placed below the iron floor. Wooden slats *h* hold the ice above the meltage water, and the outer air spaces carry off the heat imparted to the weather boards by the direct rays of the sun. When the air is humid or charged with moisture these air channels are tightly closed. The thickness of the walls may be varied with the capacity of the building. Additional sections of filling and dead air are required for larger houses where great quantities of goods are refrigerated. The cold storage house shown in Figs. 486 and 488