guard against the possible consequences, viz., *drafts*, *cold*, and *dripping* or condensation of moisture within the room. The problem then are:

(1) To find a force that will keep the air in motion: removing foul air and bringing in fresh;
(2) To introduce and distribute the air so as to avoid drafts;
(3) To prevent the ventilated room from becoming too cold;
(4) To prevent condensation of moisture in the room.

NATURAL AIDS TO VENTILATION. Under the first of the above mentioned heads, there are certain natural forces or tendencies in the gases of which air is composed, that aid in ventilating a room or stable. The first of these we shall consider under the head of "Gravity."

Built in the days ... tion was, not how to let fresh air in, but how to keep it out.

When the air is ...ed, it has a tendency to expand, and will do so if allowed. The r... of the expansion is that it becomes lighter, bulk for bulk, than the cooler air. The warm air, as a consequence of its lighter weight, is displaced by the cooler air, and driven upward, on the principle that heavy bodies sink when immersed in fluids that are lighter than themselves. A stone when thrown on the top of water sinks to the bottom on exactly the same principle that cold air flows in underneath or falls down through warm air and forces the latter upward. This sinking of cold air and rising of warm air is called *convection*, and this convectional movement of air is one of the forces, if we may so speak, that operate in ventilating buildings. In an occupied room or stable, the heat from the bodies of the occupants warms the air and produces the upward tendency. If this tendency is encouraged so far as to allow the rising air to escape altogether, and if at the same time provision is made for the cooler fresh air to find its way into the room or stable, we have ventila-