better in a fresh cool atmosphere than in an atmosphere that is hot and stagnant. And there is no comparison between the healthfulness of the two conditions. With a window and a door in a room pretty good ventilation can be secured at almost any time. Even a draft is not objectionable if one does not lie directly in the draft But drafts can be avoided by opening the lower sash and placing under it a board of the same width as the sash, as in Fig. 12. The air will find its way in between the sashes, and will stream upwards and spread without creating a draft. The impure air will find its way out of the doorway, the fanlight, or even under the closed door, if a small space is left below the door. Two windows in the room, raised as in Fig, 12, will give very good ventilation.

VENTILATION OF LIVING ROOMS. Any room that is occupied by the family during the day may be ventilated in winter with the aid of the stove or stove pipe. A valuable adjunct to all stoves used principally for heating is a *metal screen* or *jacket*, fastened to the floor and surrounding, or almost surrounding, the stove. This screen serves as a protection from the intense heat of the metal, and at the same time presents a larger radiating surface than the stove itself would do. But it is chiefly as an aid to ventilation that the metal screen is introduced here.

Fig. 13 illustrates a simple and efficient means of ventilation by use of the screen The fresh air is brought in from the outside by a pipe under the floor, and passes into the room under the stove, and within the jacket space. The heat of the stove warms the air, and causes it to ascend, until finally it emerges from the jacket and spreads over the room. By such a device a circulation of the air is kept up, and a more uniform and comfortable temperature maintained throughout the room. This plan is especially to be recommended for school-rooms heated by stoves.

Fig. 14 illustrates a method of making use of the heat from the stove-pipe to provide fresh warm air for an upper room, or, if desired, for the room in which the stove stands. The fresh air is introduced as in the preceding illustration, the pipe rising through the ground floor and up through floor above, widening out just after it leaves the lower floor so as to contain the stove-pipe, and at the same time to carry the required volume of air. The heat from the stove-pipe warms the air, and thus causes a current to ascend continually. By this means a constant stream of fresh (warm) air is passing into the bedroom above.

REMOVING FOUL AIR. The foregoing suggestions on House Ventilation relate to fresh air and to methods of bringing it into rooms. But in order to be able to bring in fresh air, the air which is already in the room must be drawn off. To this end, in addition to the ordinary means that require no care or contriving, there are certain devices of a special nature, yet simple and inexpensive. The best contrivance for removing foul-air is the *chimney flue*. With two or more flues built in the same stack, one of which is used as a smoke flue, when the latter is in use the smoke ascending warms the adjacent flue. If between this flue and the room through which it passes, openings are made for air, the warming of the air in the flue will create a draft upward. the air will be drained out

NOTE.—Illustrations Nos. 13, 14 and 15 are taken from Billings' Ventilation and Heating.