just as effectual, but Mr. Ruttan has invented this stove for supplying a deficiency—the hot-air machines in use being too cumbrous and expensive for small dwellings, school houses, offices, even if the air proceeding from their hot-air chambers was not injured by heat. Mr. Ruttan's principle, with regard to the ventilating air appears to be quantity of air not heat. He barely warms the air, and makes up by quantity of air what has hitherto been accomplished by quantity of heat;

Fig 4

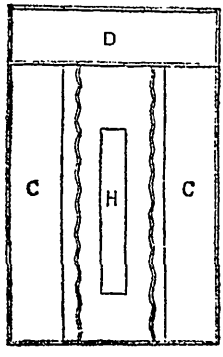
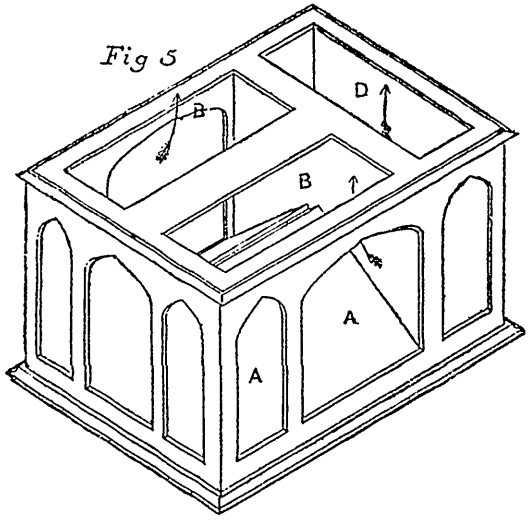


Fig 5

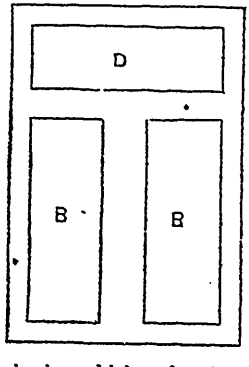


and in order to cause this extra quantity of air to flow through the house (for this, upon his plan, appears to be the desideratum,) he very much enlarges the chimney flues, and increases the number, so as to exhaust the building to the extent required.

Now, if it be a fact, what Mr. Ruttan asserts, that air will flow through a building so constructed, as to take in the atmosphere at a lower point than that at which it is taken out, under all circumstances and with a rapidity in a ratio equal to the difference between these two points, then we think he has accomplished what he professes to have done, and the importance of this principle to the ventilation of dwellings is beyond dispute.

Mr. Ruttan's is the downward principle of ventilation, and he says the building may be filled

Fig 6



with warmed air, which, after it has done its work in warming and carrying off the miasm, all settles and falls down under the floor, and is thence carried out through the chimnies or "foul air shafts," as he calls them. The *modus operandi* of constructing the first floor of the house, will be comprehended by a view of figs, 7 and 8 where it will be observed the foul air is drawn under the floor, to the boards of which it imparts the residue of the warmth, and then passes out

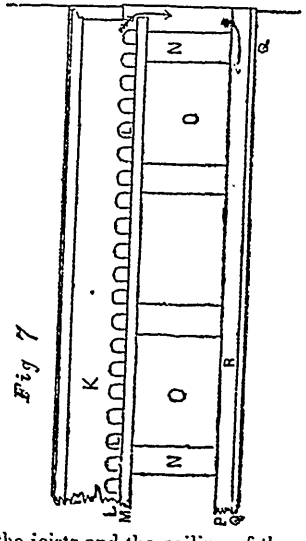


Fig 7

between the joists and the ceiling of the cellar or basement, into and up the flues.

We will not commit ourselves by expressing an opinion upon the practical operation, but we do think *there* ought to be sufficient enterprize and public spirit in some of our architects to give the system a trial; if found to work, and our archi-