

HOT-AIR FURNACES AND AIR-TIGHT STOVES.

EDITORS CULTIVATOR.—I have noticed the remarks in the Cultivator during the past year, by Geo. Geddes and others, on the advantages of Hot-Air Furnaces. Having used one in my own house for the past seven or eight years, constructed in a manner precisely similar to those described, I can endorse with confidence, all, or nearly all, that has been said in their favor. There are, however, some defects which should be known. These defects are not merely attached to poorly constructed ones, for mine was a good one, with a large stove and eight drums, well put together so as not to smoke.

The advantages, as before stated, are chiefly, the facility with which large wood, four feet long, may be used without cutting or splitting; keeping up only one fire for several rooms; freedom from dirt and ashes, from stoves and fire-places; saving in room; freedom from cold currents through door-cracks, &c.; and uniform temperature day and night.

The disadvantages are, the furnace, unless in a very large cellar, so as to be entirely separated by partitions from the rest of the cellar, heats it too much, usually causing the speedy decay of apples, &c.; it occupies as much room below as it saves above stairs; the wood being heavy, but few women can lift it, and hence a man must be at hand; the fire being away, out of sight, is apt to be forgotten and neglected till too low; after standing and absorbing moisture during summer, the plaster and brick-work throw off an unpleasant and damp smell into the rooms for some days after the fire is first commenced in autumn; the cost, in no case, of a good furnace, can be much less than a hundred dollars. Not one of the least objections is the difficulty of regulating the heat properly in rapidly changing weather, as from cold to warm, from warm to cold, or from calm to windy. Large sticks six inches to a foot in diameter will be an hour or two in getting thoroughly on fire; and when once on fire, continue burning half a day or more. In the meantime there may be a considerable change in the weather, in which case the rooms may be greatly over-heated, or become too cold to be comfortable. It often happens that a fire is built up for the night, while the weather is calm; a fresh wind springing up in the night will rapidly diminish the heat of the rooms; or, if the weather is windy when the fire is made, and the wind then subsides, the heat soon becomes oppressive. It is found to require twice as much wood in a high wind, at 25 degrees, as in a calm at zero. Wind also changes the course of the ascending hot air in the pipes, warming those rooms chiefly which lie in a direction from the wind, often sweeping the air from the windward rooms down the hot-air pipes, and out of the air-chamber, through the feeding pipe. This is a serious inconvenience. It may indeed be obviated by properly adjusting

the registers, and by two or three cold-air feeding pipes on opposite sides of the furnace, to be closed or opened as the case requires; or a new fire may be built of small wood, if the weather suddenly becomes windy; or, on the other hand, if it suddenly becomes calm or warmer, the fire may be smothered with ashes, or lessened by shutting the fire draft. But all these require much attention; more than farmers generally are willing to give; and would be a grievous tax on a housekeeper where no man is at hand.

Every establishment, therefore, which cannot keep an attentive hired man, always at hand, should not be encumbered with a furnace. But in a large house, where such care can constantly be given, and where there are as many as five or six rooms to be constantly heated, a good furnace will be found altogether the most convenient mode. It is also just the thing for large schools, where many apartments are in daily use, obviating the care and interruption of replenishing fires in the separate rooms; or for hotels, and large public buildings generally.

For small houses, nearly all the advantages of the hot-air furnace are secured by the use of the best air-tight, self-regulating sheet iron stoves. The cost of two or three of these is much less than of a furnace; they are always at hand and easily fed; they consume less wood by nearly one-half, as I have amply proved by long experience with both; and they will maintain a fire as long during the night as a furnace. The very common objection to the furnace, that every part of the room is heated alike, and that every person, whether thinly or warmly dressed, must endure the same heat; or those who have been all day riding in the cold can have no warmer fire than others, is wholly obviated by the air-tight stove. So rapidly may a room be heated with one of these, that five minutes are scarcely needed in any case; while the self-regulator, properly adjusted, will preserve an equable temperature for a long time. With an additional improvement—that of inserting a transparent plate of mica in the regulating valve, the light from the fire would be thrown into the room, and the advantage, so much prized by many, of seeing the “cheerful blaze,” would be at least partially attained.

With one of the larger sized air-tight stoves, (Race's \$14 ones,) I am enabled to heat a family room and three adjacent sleeping apartments, more comfortably than I could formerly with a furnace; for which one cord of good wood will last about one month of average winter weather; and my fruit and vegetables now keep well in the cellar.

But air-tight stoves have their difficulties. There are two in number, namely—the sudden puffs of smoke or explosions; and the inconvenience of pipes choked with soot, or dripping with pyroligneous acid. The first never takes place except when the stove is closely shut. Im-