faith of our recommendation, ſhould prefer one of theſe ſtoves to the German stove, whoſe management is simple and obvious, might be greatly disappointed. But by fol­lowing this method, we are confident that the Russian ſtove will be found much ſuperior both in warmth and agreeable air. The ſpreading out of the embers, and wait­ing till all is reduced to aſhes before the doors are ſhut, is alſo abſolutely necessary, and a neglect of it would expoſe us to imminent danger of ſuffocation by fixed air; and this is the only inconvenience of the Russian ſtove, from which the other ſtove is free. The fixed air has no ſmell ; and the firſt indication of its preſence is a slight giddineſs and laſſitude, which diſpoſes us to sit down and to ſleep. This would be fatal; and we muſt imme­diately open the upper paſſage and the fire-place door, ſo as to produce a ſtrong current to carry the vitiated air of the room up the chimney. Throwing up the ſaſhes, or at leaſt opening all the doors, is proper on ſuch an occasion.

If we burn pit-coal, either raw or charred, this pre­caution is ſtill more necessary; becauſe the cinder is not ſo eaſily or ſo ſoon completely confirmed. This fuel will require a little difference in the management from wood fuel, but which is eaſily ſeen by any perſon of re­flection. The ſafe way would be to rake out all half­-burnt coal before ſhutting up the doors.

If we uſe raw pit-coal, great care is necessary to prevent the accumulation of soot in the upper part of the ſtove. It is an inaccessible place for the chimney ſweep; and if we attempt to burn it out, we run a great risk of ſplitting that part of the ſtove which is the moſt slightly conſtructed. It is adviſable therefore to burn it away every day, by giving a brisk draught with an open door for five minutes. With wood or coak there is no danger.

It will not be improper in this place to give ſome instructions for the conſtruction of ſtoves for warming ſe­veral floors in a great manufactory, ſuch as a cotton­mill, or a public library or muſeum.

In ſuch situations we think cleanliness, wholesomeneſs, and ſweetneſs of air, no leſs necessary than in the drawing room of a man of opulence. We therefore re­commend the brick-ſtove in preference to the iron one; and though it would not be the beſt or moſt economi­cal practice to heat it but once a-day, and we ſhould ra­ther prefer the German practice oſ constant feeding, we still think it highly proper to limit the heat to a very moderate degree, and employ a large ſurface.

If the dispoſition of the rooms allows us the conveniency of a thick party-wall, we would place the ſtove in the middle of this wall, in an arch which pierces through the wall. Immediately above this arch we would carry up a very wide chimney through the whole height. This chimney muſt have a passage opening into each floor on both ſides, which may be very accu­rately ſhut up by a door. The ſtove being ſet up under the arch, it muſt have a pipe communicating with its flue, and rising up through this chimney. Could an earthen pipe be properly ſupported, and ſecured from ſplitting by hoops, we ſhould prefer it for the reaſons already given. But as this is perhaps expecting too much, we muſt admit the uſe of a cast iron pipe. This is the real chimney or flue of the ſtove, and muſt be of as great diameter as poſſible, that it may act, by an extensive ſurface, all the way up.

The ſtove ſtands under the arch in the wall ; but the air that is warmed by its ſurface would eſcape on both tides, and would be expended in that single floor. To prevent this, the ſtove muſt be incloſed in a caſe : this may be of brick-work, at the diſtance of two or three inches from the ſtove all round. It muſt be well ſhut in above, and at the foundation muſt have a row of ſmall holes to admit the air all around it. This air will then be warmed over the whole ſpace between the ſtove and the caſe, pal’s up the chimney, and there receive addi­tional heat from the flue-pipe which is in the middle. Great care muſt be taken that the fire-place door have no communication with the ſpace between the ſtove and its caſe, but be incloſed in a mouth-piece which comes through the caſe, and opens into the feeding room. Thus all the air which goes up to the rooms will be pure and wholeſome, provided we take care that every thing be kept clean and ſweet about the air holes below. Obſerve that thoſe air-holes which are near the furnace door muſt be incloſed in a wooden trunk which takes in its air at ſome diſtance from this door ; for ſince the current between the ſtove and caſe may be almoſt as great as the current within the ſtove (nay, when a puff of wind beats down the chimney, it may even exceed it), there is a risk of ſome vitiated air and ſrnoke being drawn into the caſe.

If the ſtove cannot be placed in the arch of a party­wall, it may be ſet adjoining to a ſide or outer wall, and furniſhed with a caſe, a large chimrrey, and a flue­pipe, in the ſame manner. But in this caſe a great deal of heat is wasted on this outer wall, and carried off by the external air. In this ſituation we would recom­mend to line that part of the wall which is behind the ſtove (at two or three inches diſtance), and the whole of the chimney, with platter on laths. Theſe ſhould be nailed on battens properly fattened on the wall, leaving a ſpace of an inch between the laths and the wall. The platter ſhould be of the moſt ſpungy kind, having in it a quantity of clay in powder inſtead of the full proportion of land. Horſe-dung, waſhed with water and ſtrained through coarſe flannel, leaves a great portion of unaſſimilated vegetable fibre, which will mix very intimately in the plaſter, and make it a ſubſtance very unfit for con­ducting heat. There is no danger of catching fire by this lining. We have ſeen a moſt tremendous fire rage for three hours, in contact with a partition of lath and plaſter (on the plaſter-ſide however), without diſcolouring the thin laths on the other ſide. We once ſaw a cottage chimney on fire, and burn till the ſoot was conſumed. This chimney was nothing but a pipe of a foot wide, made of lathes, and plaſtered on the inside and outſide; and it paſſed through a thatched roof. We therefore recommend this in place of the brick-caſe for incloſing the ſtove. It would save heat; and as it might be made in pieces on detached frames, which could be joined by iron ſtraps and hinges, any part of the ſtove could be laid open for repairs at pleaſure.

We have no heſitation in saying that a ſtove conſtruc­ted in this manner would be greatly ſuperior in power to any we have ſeen, and would be free from many of their diſguſting defects. We beg leave therefore to con­clude this part of the ſubject by describing one which was to have been erected in one of the churches of the city of Edinburgh.

Fig. 4. is a sketch of the plan of the church contain­