ed in the parallelogram AFED. P marks the place of the pulpit, and LMNO the front of the galleries. Theſe are carried back to the side walls AB and DC. But at the end oppoſite to the pulpit they do not reach ſo far, but leave a ſpace BFEC about 12 ſeet wide. Below the back of the galleries, on each side, there is a paſſage ABGH, KICD, ſeparated from the ſeated part of the church by partitions which reach from the floor to the galleries, ſo that the ſpace HGIK is completely shut in. The church is an ancient Gothic building, of a light and airy structure, having two rows of large windows above the arcades, and a ſpacious window in the eaſt end above the pulpit. The congre­gation complain of a cold air, which they feel pouring down upon their heads. This is more particularly felt by thoſe fitting in the fronts of the galleries. We ima­gine that this ariſes chiefly from the extenſive ſurface of the upper row of windows, and of the cold ſtone-walls above, which robs the air of its heat as it glides up along the ſides of the church. It becomes heavier by collapſing, and in this state deſcends in the middle of the church.

The ſtove S is placed againſt the middle of the west wall at the diſtance of a lew inches, and is completely incloſed in a caſe of lath and plaſter. The vent, which is to carry off the ſmoke and burnt air, is conveyed up or along the wall, and through the roof or side-wall, but without any communication with the case. In like manner the fire-place door is open to the paſſage, with­out communicating with the caſe; and care is taken that the holes which admit the air into the caſe are ſo diſpoſed that they ſhall run no riſk of drawing in any air from the fire-place door.

From the top of this caſe proceed two trunks Q,R, each of which is two feet broad and six inches deep, coated within and without with the moſt spungy plaſter that can be compoſed. For this purpoſe we ſhould re­commend a compoſition of powdered charcoal and as much clay and quicklime as will give it a very slight coheſion. We know that a piece of this may be held in the hand, without inconvenience, within an inch of where it is of a glowing red heat.—Theſe trunks open into another trunk XVTYZ, which ranges along the parti­tion immediately under the galleries, and may be form­ed externally into a corniche, a little massive indeed, but not unſightly in a building of this ſtyle. This trunk is coated in the ſame manner. It has ſeveral openings *a, a, &c.* which have sliders that can be drawn aſide by means of handles acceſſible from the outer paſſage.—At the extremities X and Z of this trunk are two perpen­dicular trunks which come up through the galleries, and are continued to a conſiderable height. At their junc­tion with the horizontal trunk are two doors large enough to admit a lamp. Each perpendicular trunk has alſo a valve by which it can be completely stopped.

The ſtove is managed as follows : Early in the morn­ing the ſuperintendant ſhuts all the sliders, and ſets a lamp (burning) in each of the trunks X and Z; and ſhuts the doors. He then puts on and kindles the fire in the ſtove, and manages it either in the Russian or German method. Perhaps the latter is preferable, as being liable to feweſt accidents from miſtake or neglect.

The lamps ſet in the lower ends of the upright trunks preſently warm them, and produce a current of air up­wards. This muſt be ſupplied by the horizontal trunk, which muſt take it from the caſe round the ſtove. Thus a current is begun in the direction we wiſh. By and by the air in the caſe acquires heat from the ſtove, and the current becomes extremely briſk. When the ma­nager perceives this, he removes the lamps, ſhuts the valves, and opens the holes *a, a,* &c. beginning with the moſt remote, and proceeding ſlowly towards the ſtove from each extremity of the horizontal branches. The heated air now iſſues by theſe holes, glides along the ceiling below the galleries, and eſcapes, by rising up along the fronts of the galleries, and will be ſenſibly felt by thoſe sitting there, coming on their faces with a gentle warmth. It will then riſe (in great part) ſtraight up, while ſome of it will glide backwards, to the com­fort of thoſe who sit behind.

The propriety of ſhuttſhg the valves of the upright trunks is evident. If they were left open, no air would come out by the holes *a, a,* &c. ; but, on the con­trary, the air would go in at theſe holes to ſupply the current, and the ſtove be rendered uſeleſs. The air de­livered by theſe holes will keep cloſe to the ceiling, and will not, as we imagine, incommode thoſe who fit be­low the galleries. But if it ſhould be found to render theſe parts too warm, holes may be pierced through the ceiling, by which it will riſe among the people above, and muſt be very comfortable. It will require the care­ful attention of ſome intelligent perlon to bring all this into a proper train at first, by finding the proper aper­tures of the different holes, ſo as to render the heat equable through the whole ſpace. But this being once aicertained the difficulty is over.

The air trunks muſt be very capacious, but may be contracted towards the extremities as their lateral diſcharges diminiſh ; and the row of holes which admit the air to the caſe round the ſtove muſt be fully able to ſupply them.

It muſt be obſerved, that in this conſtruction the aſcenſional force is but ſmall. It is only the height of a ſhort column of warm air from the ground to the gal­leries. At first indeed it is great, having the unlimit­ed height of the perpendicular trunks at X and Z ; but during the uſe of the ſtove it is reduced to nine or ten feet. it is necessary, therefore, that the ſtove be highly heated, perhaps conſiderably beyond the Russian practice, but yet inferior to the heat of the Ger­man iron ſtoves. But ſtill we ſtrongly recommend the brick or pottery ſtoves, on account of the wholesome ſweetness of the air which they furniſh ; and we are certain that a ſtove of moderate dimenſions, eight feet long, for inſtance. by eight feet high, will be sufficient for warming a church holding 1200 or 1500 people. If the ſtove could be placed lower, which in many ſitua- tions is very practicable, its effect would be proportion­ally greater, becauſe all depends on the rapidity of the current. When we are limited in height, we muſt ex­tend the ſtove ſo much the more in length, and make the air trunks more capacious. Theſe and many other circumſtances of local modification muſt be attended to by the erector of the ſtove ; and without the judicious attention of an intelligent artiſt, we may expect nothing but diſappointment. It is hardly poſſible to give inſtructions ſuited to every ſituation ; but a careful attention to the general principle which determines the aſe cenſional force will free the artiſt from any great riſk of failure.