

- N^o. 6. A leaf, of the common size, after the flower has fallen, and the seed-vessel is ripe. Some of the principal nerves of the leaf are represented.
- N^o. 7. The germen, or seed-bud, with the style, and stigma, of the size they appear a few days after the falling off of the flower.
- N^o. 8. One of the leaves of the flower cup.
- N^o. 9. A seed, of its natural size, when ripe.
- N^o. 10. A filament and anthera, of the natural size.
- N^o. 11 and 12. The antheræ, at the time of their shedding the pollen, or fecundating dust, bursting laterally.

N^o. XLII.

Observations on the construction of Hospitals, by Mr. LE ROY. Member of the Royal Academy of Sciences—(Extracted from an Essay on the subject, which, with several elegant plans, was transmitted by the author to the Society, but could not be inserted entire, as it contained many remarks of a local nature, respecting Paris—only.

THE construction of Hospitals is in general objectionable, either because many of the wards do not admit of perfect ventilation, or because the air passes from one patient over another, by which means contagious diseases are often spread.

To avoid these inconveniences, a large Hospital should consist of distinct and separate buildings, each forming one ward, erected upon arches or columns, at a considerable height

height from the ground, and ranged at a distance from each other, like the tents of an encampment.

The ceiling or roof of each ward should be formed into a number of spherical arches according to its size, the crown of each arch being in the middle of the breadth of the ward, and opening into a funnel like a common chimney, which should be supplied with a vane, (resembling that we call a cow) so that it may always open to leeward.

In each floor, midway as to breadth, should be a row of holes at suitable distances from each other, to admit air from below, so constructed that the quantity of it may be regulated at pleasure,

In consequence of this structure there must be a constant change of air, for that which is in the lower part of the ward, being warmed by the patients and nurses, and the necessary fires, will ascend, and in consequence of the spherical construction of the roof, will be directed to the openings in it, and flow through them, while the holes in the floor will afford a constant supply of fresh air, which will move rapidly as it enters the room so low.

A number of arches with openings is preferable to a single arch in the center, because the air in passing from the extremities of the room to the center flows, from one patient over another—and a plane or flat ceiling, even with apertures, is improper, because the upper air at a distance from the apertures cannot move to them.

The rooms may be warmed by placing grates or stoves over these holes in the floor, and no bad effect can be produced by the fire as the air and vapours will ascend from it and go off by the holes in the ceiling—If it be necessary to quicken the circulation of air, either on account of the sluggishness of the atmosphere, or of the contagious nature of any diseases in the ward, small fires may be fixed

in grates or stoves near the openings in the ceiling, to increase the motion of the air.

To prevent the spreading of contagion, as well as to keep the sick from beholding the sufferings of each other, a screen of suitable height should be placed between each bed.

For contagious disorders and surgical cases, there should be a number of wards, at a distance from the Hospital, and to leeward of it with respect to the prevailing winds.

PRESENTS