Cylindrical Arches.

CVI. Arch Truss bridges have been constructed with cylindrical arch castings, in connection with uprights, dividing and diverging downward from the arch to the beams, thus serving to give lateral support to the arch, and preserve it in line.

This form of arch castings was supposed at one time, to possess sufficient advantage over that already before described, and which is commonly known as the Independent Arch, to warrant its adoption, inasmuch as it is the stronger form to withstand compressive strain. But it is also more expensive in the manufacture, to an extent perhaps sufficient to balance any practicable saving in weight of metal. Hence, the Independent Arch has acquired decidedly the greater popularity, to which its just title can scarcely be questioned. Further detail, therefore, as to the mode of constructing the cylindrical arch bridge will not be here recited.

Iron Beams for Bridges.

CVII. It is now over thirty years since the writer's attention was first directed to the subject of Iron Truss Bridges; a period which may be said to comprise the history of the use of iron as the sole or principal material in the main supporting members of those useful structures.

At that time, there was one Iron Truss Bridge in use in the state of New York, and only one, to the writer's knowledge, either in this state, or in the world, though the fact may be otherwise.

That bridge, though possessing merit as the result of a first effort, did not prove a complete success, hav-