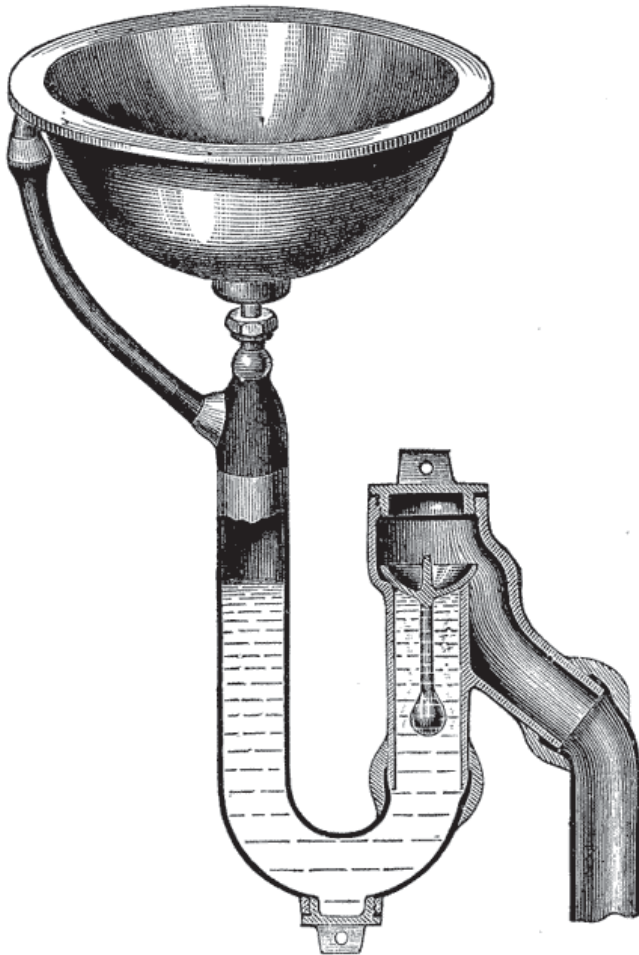


## The Manufacturer and Builder.

### Improved Sewer-Gas Check-Valve.

It was supposed thus far by the public, and by plumbers, that a water-seal was sufficient, and certainly it will prevent a draft of air; the wind cannot blow freely through a pipe connected with a sewer if this pipe is



*Improved Sewer-Gas Check-Valve.*

provided with a water-seal of any kind as long as the seal is not broken; and several contrivances have been patented to guard against this accident, which happens very often in the ordinary kind of seals from various causes, to which we have often heretofore referred. But if any one supposes that he is safe when the continuity of the water-seal is secured, he is greatly mistaken. Physicists long ago discovered that water is porous for several kinds of odors, and the water in a U-shaped seal will absorb with great avidity ammoniacal gases at the sewer end of the trap and give them off freely at the house end of the same, and this with

great rapidity, it having been found that bringing pure water in a freshly filled trap in contact with gas at the sewer end of the trap, fifteen minutes are amply sufficient to cause a perfect penetration and to find the water at the house end to begin an exhalation, which, when once started, goes on constantly. One might as well try to stop the spitgot of a water butt with a piece of loosely inserted sponge. It is true the rapid flow is checked, but a constant transmission is permitted.

The nuisance of these transmitted odors has been so great, and the danger so manifold, that the belief was beginning to arise that *all* plumbing is dangerous, and that wash-basins should not be permitted in rooms intended for occupation, and that even the bath-room should be removed to out-houses, or at least to well-ventilated apartments.

Fortunately, appliances have been invented by which the objection referred to, namely, the porosity of the water-seal, and the consequent transmission of gases through the same, is overcome. One of the best inventions of this kind is that of Col. George E. Waring, Jr., of Newport, R. I., who has invented the check-valve for sewer gas, the application of which to a wash-basin is represented in the adjoined engraving. Its special feature is that the water surface exposed to the gases which may ascend by the sewer connection is covered with a valve closed by a weight, which valve opens at once by being lifted by the hydraulic pressure of the water while descending in the house end of the U-trap and ascending in the sewer end, as soon as the water is discharged, and stands at the same height in both arms, the equilibrium between the two columns is restored, and the weight closes the valve and holds the trap perfectly tight. It is evident that this arrangement gives security against the pressure of the sewer gas, its perforation through the water in the trap, and the removal of this water either by siphonage or evaporation.

These traps are manufactured and for sale at Jennings' Sanitary Depot, A. G. Myers, manager, 94 Beekman street, New York.