

The following apparatus is called the Livesey Washer, an invention of the late Sir Geo. Livesey, Chief of the South Metropolitan Gas Co., London, Eng. It is a vessel through which the gas has to pass through liquid in a finely state, which completely removes all trace of tar, and in addition removes a portion of the foul gasses contained. The Livesey Washer affects the greatest possible subdivision of the gas into minute bubbles in contact with liquor. The gas is made to pass through wrought iron perforated plates with holes 1-20" in diameter, placed so that there are about thirty to the superficial inch. One would imagine that these small holes would get made up, or by the corrosive action of ammonia, made larger. These washers have been in successful use for years and the plates remain in as good condition as when first put into use. The illustration will give a good idea of the method of construction of these washers.

The washer consists of a rectangular box, the upper part formed into an inlet chamber, the outlet chamber is formed by the remainder of the top part of the box, and the inlet chamber has securely fastened to it a series of wrought iron tubes formed as shown in detail. The interior of the tubes are in free communication at the ends with the outer chamber but the spaces between the tubes are closed up. The gas has free access from the inlet chamber to these spaces, passing down them and depressing the liquid until the gas escapes through the inclined portion of the perforated plate into the first space which is filled with liquor, up through which it bubbles until it comes into contact with the horizontal part of the perforated plate, carrying some of the liquor with it to the upper surface of the plates. The bubbles of gas pass through the liquor into the tube space and forms foam on the surface, which flows along with the gas to the outer chamber.

The liquor overflow is arranged to give one inch of liquor above the horizontal plates.

The apparatus following the Livesey washer is the washer scrubber. This apparatus differs somewhat from the before mentioned, as the gas, instead of being forced through the liquid is brought into contact with surfaces of a large area in a wetted condition. The machine which most fulfils this condition is the mechanical washer scrubber, one of many which I will now describe, is in the form of a cast iron cylinder divided by diaphragms into a number of water tight compartments in each of which is a sheaf or revolving brush. Each sheaf is composed of segments of Brazillian brass, arranged to present a projecting surface to the gas. The sheaves are fixed as shown, to a shaft which is rotated by means of a small engine. Each sheaf is immersed to about half its depth in one of the water