

The meter is made of cast-iron, and in plan is circular in shape ; its height and diameter are about equal ; it is divided horizontally into four chambers or compartments.

On the outside, upturned face are a series of horizontal dials, which register revolutions, actuated from gear wheels inside the top chamber, they derive their motion from a central vertical shaft, passing through the other compartments, and having a bearing on the bottom of the meter.

To this shaft are fastened two miniature brass paddle-wheels, or spider frames, of eight arms each, with vane-shaped ends, curved slightly forward.

The second, or steam entry compartment, contains one paddle-wheel, which revolves almost touching the bottom. A circular opening in the bottom, connects the third, or steam exit compartment. The bottom compartment, which is closed, all but a small hole round the shaft, contains the other paddle-wheel, and is always full of condensed water, in which the paddle-wheel revolves, stationary vanes preventing the water from being bodily whirled in the direction of rotation.

Steam is admitted through a square pipe, the centre line of the opening being on the line of the inside circumference of the chamber, giving the steam a circular motion, as it enters ; within, and from the top of the square pipe, is hung a long copper tongue, the same width as the pipe. The tongue rises and falls as the quantity of passing steam varies, but always directs it, upon the vane-shaped ends of the spider, which revolves in the steam, at a speed proportional to the amount and pressure of the steam admitted. The bottom spider, revolving in water, acts as a governor, and prevents the too rapid revolution of the shaft, the revolutions of which are recorded by the counters on the top. The steam passes out of the third compartment, the exit being nearly at right angles to the entrance.

The quantity of steam passing through the meter is not measured, or recorded in any ordinary terms of measurement, such as pounds, or cubic feet, but in "units," the value of which, have been determined by experiments, the amount of condensed water, resulting from steam passed through, having been accurately weighed. Charges for steam supplied through