

It will be readily seen that if the air supply is of a higher pressure than that required to lift the water, the pump will be filled with air at full pressure, while air at a more moderate pressure would do the work. On this account, where the pump draws its air from a general supply, the throttle valves should not be opened any wider than is sufficient to operate the pump at the required speed.

The makers of the Halsey pump claim for it the following advantages:

1st. The automatic feature of the system by which it is impossible for the pump to either pump itself dry, and in consequence run wild on the one hand, or to fail to keep up with the supply of water and thereby flood the workings on the other. Up to its limit of capacity the pump simply takes its water as it comes, either slowly or rapidly.

2nd. The absence of all fitted or finished parts in water chamber, and consequent durability under adverse conditions, such as gritty or acid water.

3rd. The utilization of the pipe line to its fullest capacity, the delivery of the pump not being measured by a certain number of strokes per minute, but by the capacity of the pipe to carry the water, the pump being presupposed to be proportioned in accordance with the pipe employed.

4th. The absence of stuffing boxes or packing of any kind about the valve motion.

5th. The absence of adjustments of any kind to adapt the pump to different conditions of pressure, etc., it being only necessary to put the pump in the water, connect the pipes and turn on the air.

6th. The property of the pump by which, if necessary, it will work when completely submerged or drowned.

Another feature might be named among the advantages for the pump, and which the makers do not appear to have laid claim to, viz: that the entire working parts of the pump can be dismantled and taken to the surface for repairs if need be, without disturbing the main