

by the air tubes between the chambers and the adjacent reaches, the gates are opened and the vessel or vessels are free to go on their journey, after being towed out by the capstans. The surcharge contained in the descending chamber simply flows out into the lower reach, while a similar quantity to perform the next lockage is admitted into the chamber which has just reached the higher elevation.

It would appear that the hydraulic lift lock possesses many advantages over locks of the ordinary type. First of all it bears the same relation to the ordinary lock as the double track railway does to the single, for one vessel may be locked downwards and another upwards at the same time, this making no difference whatever to the lockage, as the admission of the vessel is merely a question of displacement of so much water. Again, the saving of time is an important item, for the total operation is readily performed within a space of twelve minutes, while with the ordinary locks an hour or more would be considered fast work. The third advantage, and one which is of great importance where there is a scarcity of water in the upper reach, is the small quantity of water required to make the lockage. In the ordinary form of lock the amount of water is equal in volume to the area of the lock multiplied by the height through which the lift is made, which is very many times greater than the quantity required by the hydraulic lift lock; indeed, certain conditions of traffic may arise which make it possible for water to be delivered from the lower level into the upper.