

from end to end; whereas a river pool is almost always land locked by its own curvature, it being a rare instance in which the wind would have a fair sweep over 2 miles lineal of water where the depth at the same time approximated to 20 feet, even the very trees which fringe a river bank, would shield the pool to lee-ward: and it is a well known fact that a gale of wind, to raise formidable waves, must have both free range of surface and depth of water to operate upon; for depth is necessary for the action of those peculiar oscillations which form waves, and scope is requisite to give time for the rushing air to draw the particles of water into motion.

There is however another important advantage which pools within a canal, must always possess over a river slackwater, and this is, that the level of the canal water remaining fixed, the towpath of course is never liable to overflow.

A vicious plan of taking earth for repairs from places already weak (merely because the land happens to belong to the company,) has occasionally upon sudden emergencies been practised—indeed necessarily so—by the superintendents.

The remedy for this is plain, the company ought at suitable points upon the beam side of the canal, to acquire by purchase, small lots of ground, whence earth could be conveniently taken for repairs, and as a general rule, no material should ever be excavated for that purpose between the canal and the river, for in addition to the earth in such places being less accessible, its removal has a direct tendency to weaken the earth works of the canal.

So prodigious is the leakage of dams No. 4, 5 and 6, in their present imperfectly gravelled state, that during the past summer the water in their pools subsided so far below their respective combs, that for several weeks it was impossible to introduce more than about 18 inches depth of water over the mitre sills of the Guard Locks, though their gates were thrown wide open for the purpose.

Of course the navigation upon the feeder levels of these dams could not be maintained, and was necessarily suspended for some time. This result was not unexpected at dams No. 4 and 5, but certainly unlooked for at dam No. 6, which, having been built in a much more careful and costly manner, it was reasonable to expect it to be more retentive of water.

Candour however requires the remark, that neither of these dams have ever yet been gravelled to a necessary extent, which, if properly done, ought to prevent leakage sufficiently,