

in length, 86 feet clear of the swing of the gates, and containing 9,972 cubic yards of masonry, and 242,419 feet board measure of timber work."

One lock then of 30 feet lift in "Anthony's Hollow," if built on the same plan as those of the Lehigh, would contain 9,972 cubic yards, or 10,769 perches of masonry: now, as 3 locks of 10 feet lift each, upon the plan hitherto proposed, would only contain in all 4,050 perches, it would seem that 6,719 perches of masonry would be saved by adhering to the 10 feet lifts.

Still, as owing to peculiar circumstances, the "Pennsylvania lock" may be built much heavier than would be requisite, if of the species of work in use here, (to which opinion I incline,) and as in consequence of the ingenious arrangements employed to fill and empty this lock, but six minutes is needed to pass a boat through it, being nearly the same time usually consumed in a transit through one of our 10 feet lifts. I cannot avoid regarding the suggestion of the President as being of such importance, that previous to letting out these locks, I would respectfully advise the Directors to cause their Engineer to examine the works upon the Lehigh, the only place in the world where such high lift locks have been brought into successful use, and report at length upon their merits and defects.

The 61st level, leading out of "Athy's Hollow," is 1 mile and 1,916 feet in length, about $\frac{3}{4}$ of a mile of which is heavy hill side work, the rest being easy bottom land. Nearly all the earth work but no masonry has been done upon this level.

By lock No. 61, of 8 feet lift, and yet untouched, we descend to the 60th level, on which no masonry has been done, and whose length is 3 miles and 1,807 feet. Just below lock No. 61 it enters upon a heavy hill side, of a mile in length, along which the earth work is far advanced towards completion. Leaving the hill side, this level enters the "7 Mile Bottom," and continues through easy ground, yet unbroken, to near the middle part of that bottom.

By lock No. 60, of 8 feet lift, of which no masonry is laid, we descend to the 59th level, whose length is 3 miles and 681 feet, and upon it some little masonry has been done at a culvert. This level lies entirely upon the favorable ground presented by the surface of the "7 Mile Bottom;" no earth work