

yard; the earth work at the mouth of the hollow will interrupt the road; the drainage of the ravine must be provided for during the construction; the locks must be puddled and embanked in this contracted place; the rail road on the tunnel spoil bank must remain uninterrupted, and the materials for each lock must be hauled over the site of the one below. All these things present obstacles which will enhance the time of completion; and will, I apprehend, cause them, at the ordinary rate of progress to require 30 months from the time they are placed in the hands of an experienced and responsible contractor, before they and their dependent works can be thrown open to the navigation.

The President of the Company has thrown out a valuable suggestion in connection with these locks: it is whether it would not be advisable to overcome the 40 feet of lockage by one, or at most by two locks of high lift, as is practised upon the Lehigh navigation, and for which the character of the ground certainly offers unusual advantages.

If any such plan were adopted, it would perhaps be best to locate one lock of 10 feet lift upon the present site of lock No. 66, and throw the rest of the lockage into a single lift of 30 feet, located about a quarter of a mile below: this would enable the surplus lockage water to waste off at once over the wier upon the 61st level, at the mouth of "Athy's Hollow," and thus prevent any interference with the regular feeding to the lower levels.

This lock, of 30 feet lift, would of course supply the place of three locks each of 10 feet lift, and the first question is would it cost more?

The quantity of masonry in locks being dependant upon their lift, length of chamber, and depth of canal water, and the locks of the Lehigh navigation having the same length of chamber as those of this line, and nearly the same canal depth: hence stone locks, of the same lift, on these two works, ought to contain nearly the same amount of masonry.

The largest lock upon the upper section of the Lehigh navigation being of 30 feet lift, is thus described by the Commission of Inspection, appointed by the Governor of Pennsylvania, in their report to him, dated June 12th, 1838:

"The dimensions of the largest of the locks, (No. 27, called *Pennsylvania lock*,) being as follows: 27 feet thickness of solid wall at the bottom, and 10 feet on the top; 30 feet lift, 3 feet working guard, chamber of 20 feet in width and 100 feet