

The letter under consideration is divided into ten clauses, and I propose to deal with it in that order.

In the first clause the letter speaks of "unforeseen" difficulties in attempting to carry out the contract, etc., and in the second clause the use of the word "unforeseen," is sought to be justified on the ground that "the conditions of the new structure require a greater depth of excavation in the bed of the river than that in which experience was had in the construction of the present aqueduct, and because the mode of construction is different." Had no aqueduct therefore been successfully built at Welland some twenty-five or thirty years ago, the writer of the letter would have been without his argument in support of "unforeseen" difficulties.

The third clause states that the location of the new Aqueduct compelled the placing of the coffer-dams so close to the proposed structure as to destroy their stability by the moving of the ground on which they stood, after the counterpoise afforded by the river water and bed had been removed.

This statement is readily met by the fact, that on the west side of the first section of the proposed Aqueduct, the contractors were not limited for space, but instead of keeping well away from the site of the Aqueduct, thereby getting into shoal water, and giving a form to the coffer-dam which was suggested to them by many parties, they came as close to the proposed structure as they could do, with any show of reason, for the purpose of reducing the area of the space to be enclosed, and consequently lessening the quantity of water to be pumped out of the coffer-dam. It is, therefore, reasonable to infer that had they been equally unrestricted on the other sides of the coffer-dam, the same false ideas of economy would have prevailed. The location argument and the removal of counterpoise is particularly unfortunate for the contractors' from the fact that the first and great failure of the coffer-dam occurred on the west side, where, as already stated, there was abundance of room for any description of coffer-dam.

On this side, on the night of 10th October, 1878, the coffer-dam burst, and became a total wreck for 130 feet in length, where the water had only been lowered four feet ten inches, and not a particle of material had been removed from inside the dam since the piles were driven. When it is taken into consideration that the coffer-dam was to stand against a head of water varying from 26 feet at low water to 32 feet at high water, the fact of its going to pieces for 130 feet in length when not one-fifth of the head was upon it which it would have to stand at low water, seems to call for some other reason than the one advanced in clause 3 of the contractors' letter.

In the 4th clause the letter says: "That the true nature of this foundation was not suspected by the Government engineers is evident from the fact that we were compelled, &c., &c., to fill the coffer-dam with water to prevent the canal bank giving way before we had commenced work near the said bank.

The reply to this clause is, that before the design of the proposed aqueduct was prepared, careful boreings were taken on the site and neighborhood of the proposed Aqueduct, which boreings are referred to in clause 5, page 11, of the specification, and a further indication of the character of the bottom is given in clause 4, page 7, of the specification, where it is stated that it is believed from the nature of the material which forms the bottom, that the greater portion of the piles required for a dam of the class above referred to can be driven without being shod with iron, and that one top band will be sufficient for every ten or twelve piles, thereby indicating precisely such a bottom as has been found.

The facts as regards the pile driving are, that the piles were not shod with iron, but that instead of a top band serving for ten or twelve piles, it did not for some time serve for ten or twelve blows; whether in consequence of the bottom being hard or of the bands being made of cheap iron, I will leave the contractors to state.

As to the canal bank moving before the contractors had commenced work near the said banks, Mr. John Hunter is aware that such is not the case, as the toe of the canal bank, on the side next the river, had been dredged away to a considerable extent before a pile was driven for the coffer-dam, and the movement on the bank did not occur until the coffer-dam had been pumped out. The movement of the