

wrong in stating, that a quick current will bring more Frazil than a slow one.

If the frazil is *uniformly* distributed in the water, each gallon entering an opening, will bring in its proportion of frazil, be the current quick or slow. For this reason, if the open Canal will pass 60 percent more water, as Mr. McAlpine says it will, 60 per cent more frazil will enter with it.

If the frazil is *not uniformly* distributed in the water, it must be at the bottom, top, or some intermediate position. We maintain that once freed from the bottom, the great bulk of the frazil will be found *at, or close to the surface, and consequently that it will not enter a submerged Entrance.*

In support of this view we refer to the following opinion of Mr. Keefer quoted by Mr. McAlpine.

At about 40° the anchor ice (Frazil) leaves the bottom and "bursts to the surface," and as it is "nearly of the same specific gravity as water, floats *chiefly* below the surface" and is easily drawn by any current *under* the fixed surface ice."

Mr. Keefer in his report to Council 10 June 1868 also says.

"With the contraction of the water way the strength of the incoming current to supply the wheels is increased, and then the frazil, which is stealing along shore, *rising from the bottom or blown by the wind into the open unprotected mouth of the aqueduct*, is sucked under the aqueduct, ice and pressed up by its *buoyancy* to the underside of the latter where it attaches itself, thickening the sheet from below, or packing in upon the slopes."

Mr. Shanly in his letter 25 Oct. 69 also confirms our position as follows.

"I have no hesitation in saying that your plan of a covered conduit all below low water level, and with the entrance fully 10 feet below the surface, would effectually obviate all the difficulties that now interfere with the winter efficacy of the Water Works."

Lastly, Mr. McAlpine himself furnishes the strongest evidence that Frazil will not enter conduit, in as much as he says there will be none at the place we proposed locating Entrance: in the following extract from his report p. 15 referring to Frazers Bay he states.

"It is generally believed that the frazil does not form under ice or any other covering over the water and hence, that