of the slides were made at this station, but these defects have in a great measure been remedied by subsequent alterations and repairs, and much has been done of late years to improve the running of timber, by the lengthening and extension of side and glance piers between the head of the upper and the foot of the lower slides.

Before the Calumet slides were brought into operation, the late Mr. David Moore, sen., had obtained permission from the Government to improve the Rocher Fendu Channel on the opposite side of Calumet Island. He levied a toll on all timber passing his works, but the lumbermen soon found that the arrangements made for their benefit were not adequate to the requirements of the trade, and on application, made the Government improve the new and more important channel, commonly known as the Calumet "Chenail," as an outlet for the large quantities of timber taken from the forests of the Upper Ottawa.

Mr. Moore's heirs afterwards received compensation on the award of the Provincial Arbitrators, because of the opening to the public of the Government slides of the Calumet, before the expiration of his lease of the Rocher Fendu Channel.

## Works at the Calumet are:-

Feet	in length
Stiff 6-ply boom, at entrance of slide, supported by pier and	
heavy anchor	
Canal through solid rock, with an average width of 30 feet	300
Entrance bulkhead, centre of canal (span)	26
Large basin and by-wash, stiff guide boom 3-ply, in basin lead-	
ing to head of long slide	221
Upper crib slide, 26 feet wide	
Middle or long slide, 26 feet wide	
Guard pier, from foot of upper to head of lower slide 18 x 20	
Stiff guide boom, 2-ply	
Lower slide, 26 feet wide	
Guard pier, on south side, from foot of slide	420
Guard pier, on south side, from foot of slide	140

## Joachims.

At the Joachims Rapids, about 140 miles above this city, there is a fall of 28 feet; to overcome this, improvements were commenced in the winter of 1843-44, and during that and the following winters, about the sum of \$18,000 was expended; but the works being defective, a great part of them was carried away at different times, by spring freshets. In 1847-48, the works were reconstructed with some additions, and in the Years 1854 and 1861, the entrance to the slide was improved by excavating a channel through the rock. This is the highest point on the river at which Government works have been constructed, except at the Rocher Capitaine, where the rock was blasted, in 1854, with a view of forming a navigable channel for cribs through a rapid which occurs at that place. Since 1867, the works have been for the most part reconstructed.

## Works at the Joachims are:—

	Feet in length.
North (pier) dam of upper slide, 12 x 16	140
South (flat) " " 12 feet high	107
Upper slide (26 feet wide)	37
Boom between slide (single) supported by four piers	990
North (pier) dam of lower slide, 12 x 16	157
South (flat) " " 12 feet high	206
Lower slide (26 feet wide)	297
Guard pier at lower end of slide, north side, 10 x 12	123
" south "	