In the development of the arched-web section, for turning sharp corners, special attention appears to have been given to securing a simple interlock that would produce maximum strength against pulling apart during driving, maximum tensional strength under pull in the direction of the piling web, as in the straight-web types and at the same time have the material so distributed as to give a section modulus producing the required lateral strength.

For constructions requiring high tensional and compressive strength, in connection with a fairly high trans-

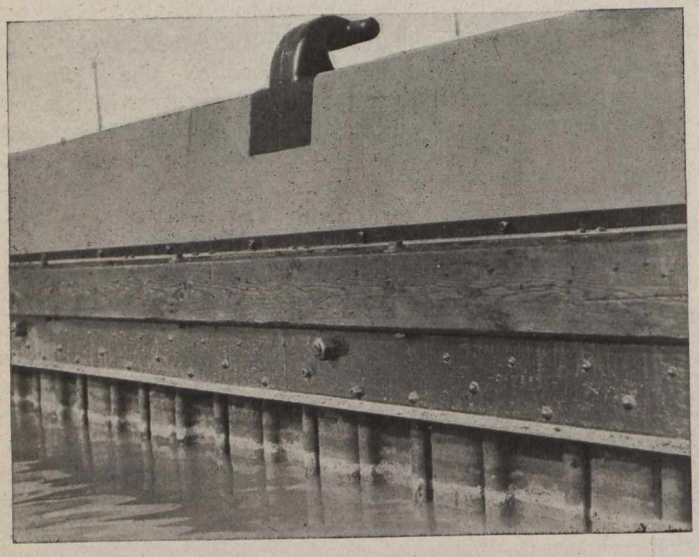

Fig. 2.—Piling Under North Wall of Don River Diversion, Toronto.

verse strength the centre flange type has been designed. The centre-flange acts as a stiffener, increases the section modulus and furnishes means for attaching transverse ties, braces, etc., needed in special work, and for the mechanical bond of the concrete facing in protected piling. One of the methods of protecting this piling with concrete is shown in Fig. 4.

Fig. 5 shows a type of piling that was just recently put on the market. It is cold rolled from steel plate into a type of section designed for use principally under the following conditions:—

(1) Where great economy demands a very low weight and cost per square foot of wall—lower than obtainable with the heavier sections of steel sheet piling.

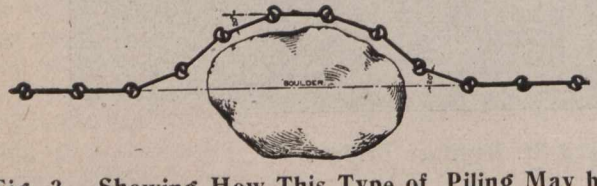

Fig. 3.—Showing How This Type of Piling May be Deflected to Pass Obstructions.

(2) Where the sheet piling need not be driven in long lengths nor in very dense material causing hard penetration.

(3) Where transverse strength of the sheet piling is secondary, due to remaining in position on both sides of the wall and neutralizing the lateral pressures.

(4) Where high resistance against the passage of water through the interlocked joints is essential. This, of course, implies a joint strength sufficient to assure installation of the piling wall without the opening or disarrangement of the joints.

(5) Where the sheet piling must resist rotting action of the teredo and other influences which would make timber sheet piling construction short lived. Steel plate sheet piling, if carefully painted, affords a permanent con-

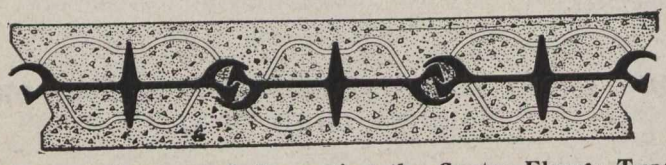

Fig. 4.—Method of Protecting the Centre Flange Type With Concrete.

struction well able to resist any ordinary corrosive action from earth, water or moisture.

The plate type of sheet piling is especially desirable for permanent work in cut-off walls under levees, for core-walls in earth dams and embankments and for cut-off walls underneath masonry foundations where the latter are constructed in saturated soils. In general, this type

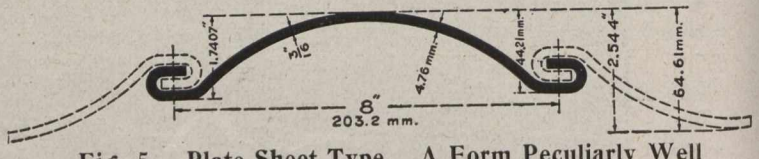

Fig. 5.—Plate Sheet Type. A Form Peculiarly Well Adapted to Light Trench, Cofferdam Work, etc.

of sheet piling seems to possess economic structural advantages for installations where a permanent impermeable wall of very light weight is required to prevent the passage of water.

MONTREAL WATER AND POWER COMPANY.

An excellent report was presented at the annual meeting recently, of the Montreal Water and Power Company. For the year ended April last, there was a decrease in gross revenue of only $8,227, or about 1 per cent., and in net profits, of $13,085, or 6 per cent. The company's business showed an increase of 5 per cent. over that of the previous year. The decrease in net profits was due largely to the fact that the previous year's returns were abnormal by reason of a considerable sum of money which was received from the city for water supplied when the city system broke down. The chief accounts of the company for the past three years compare as follow:—

	1912-13.	1913-14.	1914-15.
Gross revenue	$671,684	$783,689	$775,462
Operating expenses, etc.	299,446	324,340	330,494
Gross profit	$372,237	$459,349	$444,968
Bond interest	240,839	250,536	249,241
Net profit	$131,398	$208,812	$195,727
Less:			
Bond discount, etc.	28,828	29,551	29,936
Disputed accounts	8,000	15,000	.....
Special reserve	2,000	12,100	2,168
Depreciation reserve	.....	60,000	40,000
Total deductions	$ 38,828	$116,651	$ 72,104
Balance	92,570	92,161	123,623
Previous balance	4,311	96,881	189,042
Total balance	$ 96,881	$189,042	$312,665

The company's president stated in regard to the physical value of the company's properties, that an exhaustive investigation carried out by the American Appraisal Company, shows the reproductive value of the company's properties, after generous allowance for depreciation, to be much in excess of the amount it stands at on the company's books.