

iron from which the batch of pipes was cast, and upon the hydraulic test applied to each pipe.

The circular and bolt-hole dimensions of all flanges are to follow the existing Standard Flange Specification, which is in general use by engineers and valve-makers; while the thicknesses are arranged in two classes, AB and CD, and set out in the specification.

Provision is made for the machining of all flange faces, and of the sockets and spigot-ends of turned-and-bored pipes. The taper on the latter has been fixed after careful enquiry, it having been found that if this is too steep the pipes rebound rather than make a good fit when driven up at the time of laying.

#### Arbitration

Matters in dispute, arising out of the specification, are to be the subject of arbitration, by a single arbitrator,

to be agreed upon between parties or, failing agreement, appointment by the Chairman of the Engineering Standards Committee for the time being.

#### Tables

The specification is accompanied by 14 tables showing (a) The dimensions and weights of each size and class of pipe; (b) The dimensions of each size and class of socket and spigot for pipes and specials; (c) The dimensions of standard flanges, and (d) The form and dimensions of  $\frac{1}{4}$ ,  $\frac{1}{8}$ ,  $\frac{1}{16}$  and  $\frac{1}{32}$  bends, tees,  $45^\circ$  branches, enlarging and reducing tapers and collars.

In order to limit the number of standard tapers, differences in the diameters of the ends have, in general, been restricted to 2 in., and where greater differences have to be provided for, the tapers will have to be used in combinations of two or more castings.

## St. Lawrence River Power Development

### Dominion Government Requests Co-operation of United States in Comprehensive International Scheme

WITH the return to a peace basis, the Dominion Government will, it is understood, take up the question of joint development with the United States of the St. Lawrence River water powers. A comprehensive scheme has already been tentatively submitted in its broad outlines.

Surplus power generated and not needed in Canada would be exported to the United States under treaty arrangements permitting of its return when required on this side of the international boundary.

One phase of the scheme would entail the practical abandonment of the present canal system of the St. Lawrence, it is said, as the result of a deeper waterway by means of dams.

#### International Action Urged

International development of St. Lawrence water powers was urged on the government of the United States when the application of the St. Lawrence Power Co. was before the International Joint Commission. It was represented to Washington that the endeavor should be to design at the outset a complete scheme into which successive developments might be fitted from time to time. But in such a scheme, it was pointed out, there was always present the great danger that the ultimate possibilities of St. Lawrence navigation might be neglected or irreparably injured. "On the other hand," reads an order-in-Council passed at the time, "it is certain that the subordinate and incidental but important use of these international boundary waters for power purposes can never be rendered as efficient and productive through a policy of simply permitting a haphazard series of unrelated private enterprises as through a carefully considered and comprehensive scheme of development carried out under public auspices by the two countries; and obviously it is only by agreement and concerted action between the two countries that such development can be undertaken."

Now that the armistice has been signed and there is no longer any need for intensive aluminum production for the building of aeroplanes, there is no longer any valid international reason for the installation of the submerged weir in the St. Lawrence River. But the International Joint Commission gave permission for this weir for

the period of the war or for five years, whichever might be the longer. That war is over before the weir is half completed does not affect the company's right to the weir until the end of the year 1923, says a government official who is in close touch with the work. If it be found that the weir is actually in the way of any larger international development within the next five years, the company may be persuaded to remove it upon being compensated for part of the expenditures involved in its construction. It is thought that by restricting the flow of water through the company's canal, and by other measures, the two governments could easily persuade the company "to be reasonable" at any time.

That the International Joint Commission is keenly alive to the fact that public sentiment is against granting any permanent rights to the company is shown by a booklet just issued by the Commission. This booklet contains the text of the Commission's interim order and a long legal opinion upon same by P. B. Mignault, K.C., one of the Canadian commissioners. Discussing the scope of the order of approval, Mr. Mignault says:—

"The principle which dominates the order of approval granted by the Commission is that the construction of the submerged weir is approved merely for a term of five years or until the termination of the present war, whichever shall last occur. The order of approval is adopted 'as an interim measure,' and the Commission does not, at the present time, finally decide the question whether it should approve of the construction and permanent maintenance of the weir. In other words, following the practice of courts familiar to all lawyers, an interim order is made, and the whole question of the right of the applicant to construct and maintain the weir is not finally passed upon. The question therefore remains an open one, and no right of any government or interest to object to the weir as a permanent structure is affected by the order of approval.

#### No Further Order Needed

"The order goes further and obliges the applicant to remove the weir at the expiration of the period specified. By constructing it under the terms of the order, the applicant accepts this condition, and without any further order