

## 5. Casting

All pipes to be cast vertically in dry sand, faucet down, and to have sufficient length (from six to eight inches) cut off the spigot end to insure a perfectly sound spigot; they are to be cast without core nails or chaplets, each size to be uniform in bore and thickness of metal, to be straight, smooth, and well cast, free from flaws, lumps and defects of any kind.

Each pipe shall have cast upon it the letters T. W. W., the year in which it is made, the letter of the class to which it belongs, and the running number of the casting of the same size.

The letters and figures to be cast back of the faucet in block letters, two inches in length and one-eighth of an inch in relief.

## 6. Coating.

The pipes are to be thoroughly cleaned and dressed under cover; and, before being allowed to rust in the slightest degree, they are to be coated, by immersion for the requisite time, in Dr. R. A. Smith's patent coal pitch and oil, heated to the proper temperature, and put on in such a manner as to produce a smooth, tough and tenacious covering, not to be brittle or liable to scale off. The whole to be done under the inspection of an agent for the Commissioners.

## 7. Turning and boring

In pipes with turned and bored joints the spigots are to be turned and the faucets bored, as shown on plans, and the greatest care is to be taken that they are made truly circular, as well as uniform in taper and diameter, so that any two pipes of the same specified size will fit accurately together. The taper to be at the rate of 1 in 36, or  $\frac{1}{36}$  of an inch in  $4\frac{1}{2}$  inches. The turning and boring is to be done after coating, and the cut surfaces to be coated with tallow on leaving the lathe.

## 8. Proof

After being coated all the pipes are to be proved by the contractor, in the presence of an Inspector, to a pressure of 300 lbs. per sq. inch, to be well hammered while under proof, and to show no defect whatever. If lead, putty, rust or any other preparation be found in holes in any pipe it will be forfeited to the Commissioners, and the Contractor will be held responsible for all expenses and damages arising from any such stuffing, should the pipe have been laid before it is discovered.

## 9. Inspection, Acceptance not final.

The inspection and proof at the works shall not relieve the Contractor of responsibility for defective pipes, and any defective casting which may have passed the Inspector at the works or elsewhere, will be at all times liable to rejection when discovered, until the final completion and adjustment of the contract.

## 10. Weights.

The pipes are to be weighed and proved by the Contractor in presence of an Inspector, appointed by the Engineer acting for the Commissioners, and the weight is to be marked on the inside of each pipe in plain figures, with white lead.

## 11. Alteration

The Commissioners shall have it in their power to alter to any extent the relative quantities of the different sizes of pipes, or to substitute one size for another, down to and including six-inch; and also to increase or diminish the total weight stated in the table, to the extent of twenty-five per cent. of the total quantity unmade at the time notice to such effect is given, and also to direct which sizes shall be first delivered.

## 12. Inspection.

The pipes will be inspected during and after manufacture by an Engineer appointed by the Commissioners for this purpose, who by himself, or deputy, shall have access at all times to the foundry, and all are to be subject to approval by him in terms of this Specification.

## 13. Wide Socket

In case turned and bored pipes are adopted, a portion of each size, not exceeding three per cent., may be required to be cast with wide sockets, the pattern drawing of which will be given by the Commissioners' Engineer, and must be strictly followed.

## 14. Delivery

Delivery of pipes in good order will be taken F.O.B. at specified ports in Britain, or "over the side" on barges at Montreal, or in Toronto, free of all charges, except customs duty. Eight hundred tons of the 30-inch pipe must be delivered in Toronto by the first of August, and the remainder of the 30-inch, and all of the 24-inch, by the first of September. Five hundred tons of the 12-inch must be delivered by the first of August, and the remainder of the order by monthly instalments of three hundred tons. Three hundred tons of the 6-inch must be delivered by the first of August, and the balance of the order at the rate of three hundred tons per month during the season of navigation. If delivery be accepted at any other place than Toronto, then the pipes must be delivered at such earlier dates as will enable the Commissioners to have them forwarded to Toronto by the dates above specified.