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Canadian Society of Civil Engineers.

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TRANSACTIONS.

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THE COLONIAL GOVERNMENT DRY DOCK, ST. JOHN'S, NEWFOUNDLAND.

By H. C. BURCHELL, M. Can. Soc. E. C.

To be read on *Monday, March 28th or April 11th.*

The Dry Dock, which is the subject of this Paper, is situated at the Riverhead or Western end of the harbour of St. John's.

It is built of wood and concrete. The form is illustrated by accompanying drawings, and the following are the principal dimensions:—

Length upon top from inside of head to gate when at outer sill.....	600 ft.
Length upon the line of keel blocking.....	553 "
Width upon top at head.....	78 " 6 inch
" " " " body.....	132 " 6 "
" " " " abutments.....	84 " 9 "
Bottom width from inner end of abutment to angles near head.....	49 " 10 "
Bottom width at abutments.....	52 " 9 "
Depth of water over gate sill (H.W. Spring Tides)	25 "

The floor is founded on a bed of Portland cement concrete, laid on exceedingly hard cemented gravel (glacial drift) immediately overlying the bed rock. Bedded in the concrete and held down by frequent anchor straps of 2½ in. x ½ in. iron is a system of longitudinal pitch pine timbers 12 in. square. Immediately under the keel track four of these are laid close together, each anchored to the concrete and all bound together by through bolts. Two on each side of the keel track timbers are one foot apart, and the remainder of the longitudinals from this to the edge of the floor are set with three feet spaces. The anchor straps are bolted alternately to opposite sides of the timbers, and are held in the concrete by a simple right angle bend.

Cross floor timbers of pitch pine 14 in. x 16 in. and 4 ft. from centre to centre are laid on and securely fastened to the longitudinals. Their ends are boxed down to receive a stringer piece 12 in. x 14 in. which runs around the sides and head, and receives part of the thrust from the main braces.

The concrete extends beyond the floors, and is carried three feet up the sides and head behind the altars. Within the floor area it fills the spaces between cross floor timbers at their ends, and slopes thence gradually to shallow drains formed between the longitudinals, one on each side of the keel track. The entire lower system of floor timbers is completely embedded in and covered by concrete.

The working floor is of 3 in. plank, spiked to the cross timbers with ample opening left at the joints.

In order to lessen the possibility of water courses, the longitudinal