tlings, scour, frost, springs, piling, platforms, concrete, sand-piles.

Excluding of water from foundation areas, dams, coffer-dams, caissons, divers, pneumatic processes.

Designing and executing rock and earth excavations and embankments, tunnels, slopes, gullets, lifts, falls, chambers.

Drainage of storm and sub-water—Catchwaters; under-drains; road-bed; water tables; crowning; snow sheds.

Fencing—Post and board; block and picket; block and rail; A fence; snow fence.

Protection work—Rip-rap; cribbing and stream diversions.

Designing of iron bridges.

Sections of members of iron bridge frames.

Sections of connections for members of iron bridge frames.

SECTION III.

Estimating, setting out and supervision of Work.

Sub.-Section (A)—Construction and use of Tables of Excavation and Embankment.

The information necessary before estimate of quantities can be made for showing probable cost of a proposed public work.

Calculation of cubic contents of line cuttings and embankments, by the method of mean heights and tables.

Calculation of do do by the method of prismoidal. Formula and tables.

Calculation of do do by the method of mean areas.

Comparison of the advantages and the disadvantages of these methods as regards accuracy in theory, and accuracy in practice and time and labor of the computor.

Construction of Tables, MacNeil's.

do Canadian Pacific Railway.

Methods used on the Intercolonial Railway, the Canadian Pacific Railway, and the Quebec Government Railways for final estimates for contractors.

Setting out of Excavation and Culverts.

Measurement of line excavations, and borrow pits by level, rod and tape in the field, and degree of accuracy required setting in slope stakes, grade pegs, centre cuts and fills, gullets, &c., &c.

Setting out position and lengths of level culverts in the field.

Setting out position and lengths of inclined culverts in the field.