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PRINCIPAL CONTENTS

REMUNERATION OF SURVEYORS

REPRESENTATIONS are being made by the Association of Dominion Land Surveyors to the Civil Service Commission in regard to the classification and remuneration of surveyors in the employ of the Dominion government. At the present time comparatively few surveyors employed in Ottawa on office and routine work are being paid more than $7 a day. The salary of the surveyor-general is only $4,000 a year. The highest salary paid last year to any man in the field was $9 a day, with the exception of chiefs of parties who were working on international boundary surveys—obviously important work calling for the greatest accuracy—who were paid $12.50 a day. The chief of a field party of 24 men, working on base-line surveys, controls the expenditure of between $25,000 and $30,000 a year. The chief of a party of 20 men, working on sub-divisions, land settlement and clearing, controls an annual expenditure of over $15,000 and is paid $9 a day.

To junior engineers these salaries may seem fairly liberal compared with those that have been offered in the past to some men engaged in purely engineering activities, but it must be remembered that many surveyors who are doing field work for the Dominion government cannot depend upon more than five or six months' employment each year at those rates, and for the remainder of the year they must find other means of livelihood unless they can secure office positions. It is the uncertain term of employment that inflicts the hardship upon the surveyor, rather than the actual daily rate of remuneration. If steady employment cannot be guaranteed, naturally the remuneration must be increased as a compensating measure.

As C. A. McGrath pointed out last month at the annual luncheon of the Dominion land surveyors, there has probably been no branch of technical service from which the government has received better value per dollar spent than from the various branches engaged in surveying. There is no 6-hour day nor 8-hour day for parties in the field. They work hard from sunrise to sunset, regardless of the fact that there is no supervision and no direct check on their conduct. The zealous interest and professional pride in their work that has been shown by nearly all surveyors, could well be taken as an example by all other bodies of government employes. Any increase that the Civil Service Commission may see fit to grant to the surveyors will receive the hearty endorsation of all other technical employes of the government who are familiar with the arduous work performed by the field parties and the hardships that they must often endure.

Letter to the Editor

DEVELOPMENT OF SEWAGE PURIFICATION

Sir,—Certain of the technical journals are raising the question as to who is or is not the inventor of the so-called "activated sludge" process. I cannot help thinking that this is hardly a question of invention but rather one of evolution, and that anyone working along a set course with the same object must of necessity have arrived at a like result,—in this case at "activated sludge."

Looking back over the past 30 or 40 years of my life and its association with sewage purification works and the engineers who were responsible for them, I cannot help knowing that this is a simple fact as far as sewage at least is concerned. In the old days of, say, Sir Robert Rawlinson, Mr. Eassie, Bailey Denton, Rogers Field, Dr. Bruce Lowe, Prof. Douglas Galton and others,—that coterie of early sanatarians,—we had the first process, simple land irrigation after tankage, then chemical precipitation with its troublesome secondary decomposition and sewage-sick land, then the intermittent discharge of tank effluent onto the land by means of Field's syphon, and always the creation of sludge to be pressed into cake, or to foul the land it was stored on, or to be barged out to sea as at Barking and Salford.

Chemical treatment and land filtration had their long life until Mr. Dibden, who was at that time chief chemist to the London county council, found that at Barking a half-acre rough filter absorbed and was able to digest the increasing volumes of sewage which he put upon it; this was the origin of the bacterial contact bed.

The Sutton beds followed, replacing the chemical precipitation tanks, and Sutton became the "Mecca" of men seeking light on matters sanitary, at least as far as sewage purification was concerned. The filtrant here was simply burnt clay, but this artificial filter served its purpose better than the natural land, and was able to deal with three fillings per day. The liquid content of the bed was one-third its cubic capacity, the filtrant occupying the remaining two-thirds.

In the meantime Mr. Cameron, the then city engineer of Exeter, introduced his septic tank. He trapped the inlet pipe to and the outlet pipe from his sewage tank with a view to preserving the top scum and preventing the active life which developed within being drawn off, and he covered over the tank, believing that the anaerobic bacterial action which was necessary for the dissolution or breaking up of the organic matter was aided thereby. (These covered tanks were dangerous. Serious explosions have resulted from their use, one particularly at Sheringham, where part of the esplanade beneath which the tank was built—with masses of concrete and tons of sand—was blown into the air. In this explosion two men lost their lives.)

It was suggested that the gas (a marsh gas which burns well through a mantle) might be used for lighting purposes, but the amount obtained,—I believe about one cubic foot per person,—was insufficient for any practical purpose. The Swiss tank, commonly known as the "Fosse Mouras," was