# 土木學會誌

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#### SYNOPSES

# SOME VIEWS ON CONTRACTS AND MANAGEMENT OF THE CONS. TRUCTION INDUSTRY WITH EMPHASIS ON ITS PRODUCTIVITY

BY DR. ENG., K. WATANABE, C.E. MEMBER (Page 5)

During the stage of the economic development of Japan from 1954 to 1960, bid prices of construction works lagged remarkably behind the rise of basic costs; and this was due to the increase of the productivity of the construction industry. This paper explains the trend of the increasing productivity of the construction industry and also explains briefly many problems as to engineering contracts and management. The State of university education on these problems is refered to considering the fact that most of these problems are not educated in universities, but are left to young engineers for their self education.

### ESTIMATION OF RUNWAY STRENGTH BY LCN SYSTEM

BY G. HAYASHI, C.E. MEMBER,

AND A. TAKEDA, C.E. MEMBER (Page 12)

The present paper describes the principle and characteristic of LCN system and moreover the result of load test carried out before and after the reinforcement work of the pavement at Tokyo International Air Port is examined.

#### LATEST DREDGER

BY J. MIYAKE (Page 18)

The present paper plainly describes the trail of progress of mechanical engineering with respect to various dredgers recently built in Japan.

## ON THE SOLUTION OF CONTINUOUS RIB ARCH BY DEFORMATION METHOD

BY H. KOJIMA, C.E. MEMBER,

AND DR. ENG., M. NARUOKA, C.E. MEMBER (Page 24)

This paper deals with the solution of continuous rib arch from the standpoint of effective application of digital computer to structural analysis. The authors method is based on the fundamental force displacement equations and the mechanical tabulation method for writing the equilibrium equations at the assumed panel points. Two-span continuous rib arch was solved as an example, and KDC-1 was used to obtain the inversed matrix of 34 and 35 elements. As Prof. Mise pointed out in his nine-displacement theorem, the characteristic values of intermeadiate pier has a significant influence upon the sectional forces.

## ON AN APPROXIMATE ANALYSIS OF CONTINUOUSLY SUPPORTED BOX GIRDER BRIDGE

BY DR. ENG., H. HOSHI, C.E. MEMBER (Page 30)

With respect to a continuously supported box girder bridge with steel plate floor mainly its deformation was analyzed three dimensionally, and its approximate solution was proposed.

The resurt of calculation on an example was shown for illustration.