Journal
of the
Association of Engineers

VOL. XXVIII JANUARY—MARCH, 1952 No. 1

EDITORIAL NOTES

Tube Manufacture

In a talk regarding the Rural Sanitation of Bengal before the Association of Engineers on the 15th September 1951, Mr. P. C. Bose P.H.E referred to the deplorable conditions of sanitation in the villages. The points are outlined on another page in this issue. A remarkable fact brought out in the course of the talk is the non-availability of the Tubes necessary for sinking, resinking and maintenance of Tube Wells. The Govt. of Bengal spent 15 lacs a year for this purpose but this is found inadequate because the Tubes are not manufactured in India

Here is an industry, the manufacture of Tubes, that needs to be urgently developed in India.

Bullock Cart Wheel

Another point raised in the talk, that needs special emphasis is the poor condition of the village roads and the difficulty of their maintenance due to the destructive effect of the type of cart wheel in use from time immemorial. The tyres are too narrow and the ground cannot bear the load without formation of deep ruts. A wider tyre must be introduced to save the roads.

To do this without too greatly increasing the tractive effort and the cost of the cart a form of wheel recently developed and tested, known as the Vagh wheel, should be brought to the notice of all and progressively introduced as each cart is withdrawn from service for repairs. The Vag wheel has a smaller diameter and wider tyre than

the present wheels but its cost and tractive effort is not very different. It is described in a paper read before the Institution of Engineers, India and published in the September 1951 (Vol. 32, No. 1) issue of the Journal of that Institute and should be given greater consideration than it appears to have received.

The Plastic Theory

The safety and economy of structures depends to a great extent on the theory on which the design and scantlings of the structure are based, and the theory itself must be modified as new facts come to light. In recent years, due to the use of welding and its success in forming a highly redundant steel structure such as the welded rigid frame, which does not fail even when at some point or points the yield stress is reached, a considerable amount of investigational research work has been carried out on the theory of plasticity to see if the yield stress could not safely be used as the working stress in design of rigid structures instead of the usual limit of about half the yield stress generally used under the present Elastic theory. By use of the Plastic theory it is claimed that a saving of 25% is derived with reliability undiminished. A paper read by Mr. B. Karunes before the Association of Engineers describing the various points of the theory is published in this issue and will be found worth reading and studying.

Reference to this theory will be found also the 20th Andrew-Laing Memorial Lecture entitled "Shortcomings of Structural analysis" delivered by Prof. J. F. Baker, O.B.C., M.A., Sc.D. before the North-East Coast Institution of Engineers and Shipbuilders in New Castle on Tyne. An illustrated abridgement of this appears in the "Engineering" Jan. 11th., 1952 presented to our library.

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