A SIMPLE PROSTHESIS FOR RURAL AMPUTEES

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A rural worker in the under-developed countries of the Far East and South-East Asia spends much of his time in paddies or in other wet underfoot conditions; he works in his bare feet. If he does wear an orthodox artificial limb, immersion of the working parts of the ankle and foot shortens the life of the limb. This, in a country where transport is inadequate and where facilities for repairs are distant, is a great drawback to the regular use of the modern artificial limb.

A peg-leg would be an excellent substitute for the orthodox limb; but in the East, as anywhere else, there is a distinct disinclination to use the peg-leg, which renders its wearer conspicuous even when he lets his skirt-like garment, the "sarong," drop to his ankles. Further, a shoe cannot be worn on a peg-leg.

An artificial foot has two joints in it, at the ankle and at the metatarso-phalangeal level: a peg-leg functions as a pivot. If the base of the pivot is lengthened, a new lever comes into play in walking, and the limit of length of this lever is the level of the metatarso-phalangeal joint; beyond that point basic pivotal action has to be modified by a hinge.

Based on the above considerations a type of foot-piece has been evolved. It is manufactured from hardened rubber, solid below and sleeve-like above (Fig. 1).

This sleeve fits closely around the wooden leg-piece. The rubber foot-piece extends only as far as the normal metatarso-phalangeal joint. The resilience of the rubber prevents jarring on hard surfaces and gives just enough at the "ankle" to prevent the rigidity which would result from a solid leg and foot-piece.

With this rubber foot-piece, which is made for a few shillings, the amputee is able to step into water or mud in the course of his work. If he wishes to wear a shoe when on dry land, all that is necessary is to pad the toe cap of the shoe before inserting his "foot." There are no working parts to damage or to rust; the prosthesis is waterproof, stable, comfortable and silent. It can be worn without shoes in the house, as is the preferred custom in the East (Fig. 2), and it is cheap and easy to replace.

Mr D. C. Sri Dillimuni, Workshop Manager, and Mr A. E. Assauw, Assistant Workshop Manager, of the Orthopaedic Clinic, Colombo, have helped in working out the technical problems of this prosthesis, which is now made for us by the firm of Richard Peiris & Co. Ltd., Colombo.

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