

Fabrication of Fin Prostheses For Bilateral Amputee

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In the late spring of 1966, Richard Landry, a bilateral lower extremity amputee, was measured at Boston Artificial Limb Company for new prostheses. Dick lost his legs in a train accident 18 years ago at the age of six. In spite of an above-knee amputation of his right leg, and a below-knee amputation of his left, he has not let this handicap keep him from performing both usual and unusual activities.

We were quite amazed, however, when this amputee informed us that he had taken up scuba diving. He reported that he had difficulty in keeping the swim fins on his stumps when trying to swim fast, and that the fact that the swim fins were attached at different levels caused some directional deviations. He asked if there was anything that could be done to overcome these two problems.

After discussing the matter with our staff, we decided that we would fabricate two plastic appliances which would encompass the stumps and equalize their length. The swim fins could be easily attached to these appliances. We took casts of the stumps over his diving suit, did the usual cast work, added an extension to the above-knee side to make it equal in length to the below-knee side, and then did the laminating.

The resulting appliances had the appearance of pylons, and we decided that Dick could use them as such to walk to the water's edge. The swim fins were fastened to adaptors which were attached to the pylons by means of nylon pins inserted through nylon bushings in the ends of the pylons. Dick



FIG. 1—RICHARD LANDRY

can thus ambulate on dry land as required, and then attach the swim fins easily for his diving and swimming maneuvers.

Although it is doubtful that there are many bilateral amputees who are also scuba divers, we feel that this story points up the fact that there are probably very few activities which are impossible to the handicapped person who has motivation, coordination, and imagination.

Richard Landry is the type of person who is so busy doing things that he has no time to find out that, according to Hoyle, he can't do them. Would that more amputees were of his calibre.

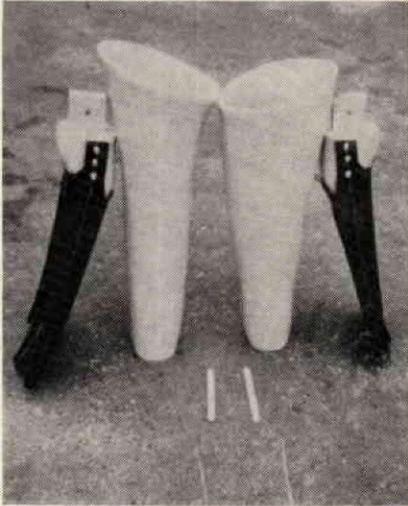


FIGURE 2—The appliances with swim fins detached

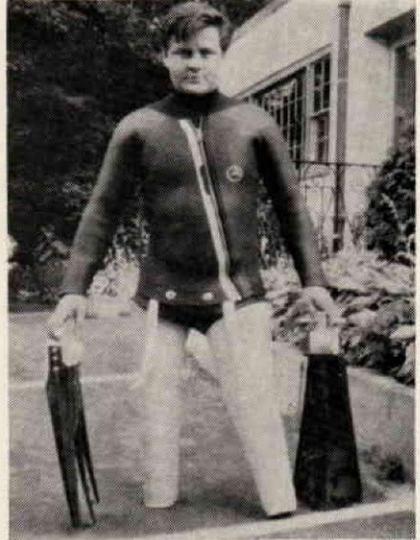
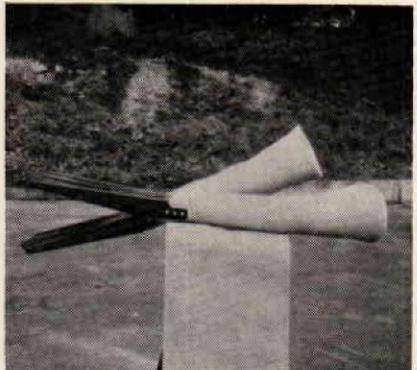
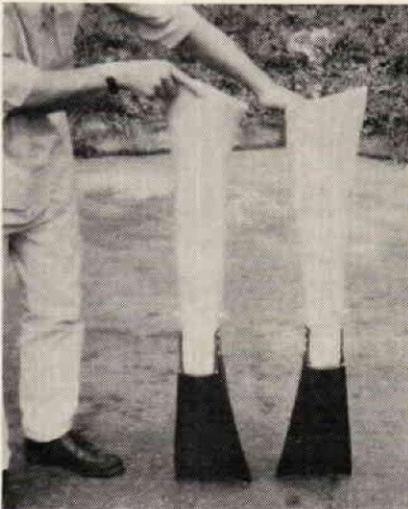


FIGURE 3—Dick walking on the solid ends of the pylons



FIGURES 4 & 5—The appliances, showing attachment of fins