

# Hydraulic Arm Built for Polio Paralyzed Worker

LOS ANGELES, May 26. — (AP) — A helping hydraulic arm for polio paralytics, designed by aircraft engineers, may point the way to speedier rebuilding of stricken muscles.

The substitute arm, with bones of steel veins of rubber hosing and a life-blood of hydraulic fluid, is the development of a group of men at North American Aviation Co. They built it for Marv Pulliam, a fellow worker once almost completely paralyzed by polio.

Thus far the Sabre arm, as they call it, is still in the experimental stage, but the model that Pulliam has enables him to feed himself, operate an electric typewriter, use a telephone, read a book or play chess.

"I can even scratch my nose," says Pulliam. "You'd be surprised what that means to a man who has been immobile so long."

Pulliam, who has regained slight use of his legs, operates the ingenious arm by moving pedals with his feet. Mounted on rollers, the device locks into his wheelchair so that his feet fall naturally on the control pedals. Eight stainless steel tubes carry the hydraulic fluid to the back of the arm, and flexible hoses convey it to cylinders which actuate movable extremities.

Pulliam's own arm is suspended from the manufactured arm by a web strap. His right thumb and hand fit into plastic guides, and the first two fingers into metal-tipped leather thongs.

An electric pump supplies the pressure, up to 450 pounds per square inch, needed to power the arm. The control pedals open valves that regulate the arm's motions and the speed with which they are performed.