



Figure C4-18.- View showing the feeding and pulling used to install wires.

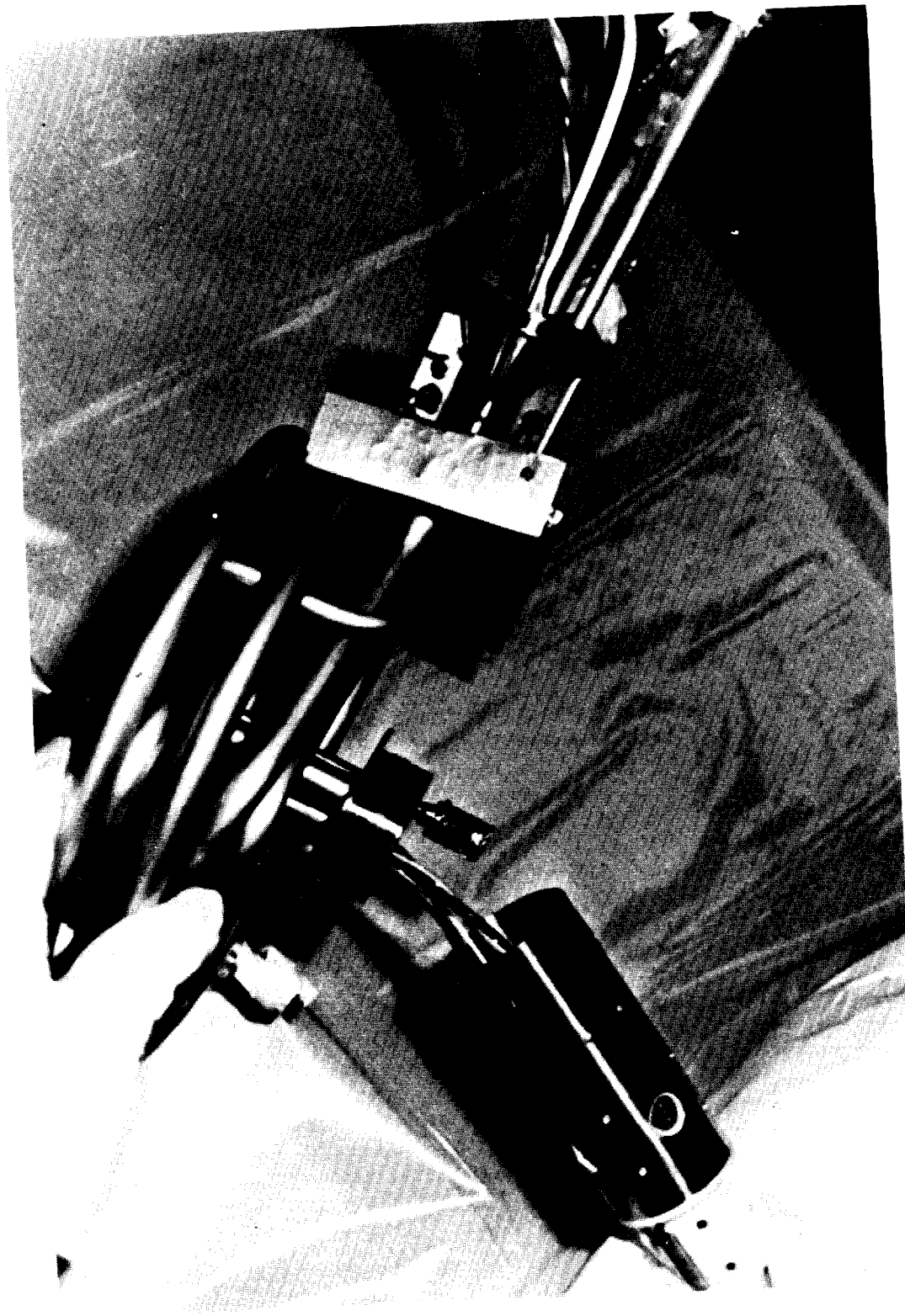


Figure C4-19.- Quantity probe and coil assembly ready to install
fill tube connecting parts.

next items to install are the Teflon adapters and the connecting tube for the fill tube (figs. C4-20 through C4-22). With these parts in place, the quantity probe is bottomed in the counter-bore of the tank tube adapter (fig. C4-23). The fill tube parts are then checked to assure that they are in the proper position by use of a blunt probe through the side holes in the outer tube (fig. C4-24). The electrical feedthrough holes are aligned by eye with the electrical conduit and the entire unit is clamped into a jig for welding (figs. C4-25 through C4-27). Four 1/4-inch-long welds are positioned away from wires and the Teflon fill tube adapter to secure the assembly (figs. C4-28 and C4-29). The Unit is then inspected, cleaned, and bagged for future assembly into the tank.

Prior to final assembly of the tank, all major subassemblies are subjected to component acceptance tests. Specifically these major components are the following: pressure vessel, motor heater fan assembly, coil assembly, probe assembly, and the electrical connector. These tests check all functional aspects that are possible at that level of assembly, electrical isolation, pressure integrity, etc., as appropriate for particular components. These components are then moved to an area referred to as the Ultra Clean Room (a class 100,000 laminar flow clean room) for the final assembly. Operations in this area are performed in full lint-free nylon suits, boots, caps, and rubber gloves. Entry to this clean room is from the Apollo Assembly Area with a simple dressing room airlock for changing clothes. All equipment moves into and out of the area through airlocks.

The actual final assembly starts with opening the tank by removing the temporary shipping plug from the tank neck (fig. C4-30). Throughout the entire assembly operation, a vacuum cleaner nozzle is positioned adjacent to the tank to help reduce the possibility of dust or lint entering the tank. The heater assembly is then lowered part way into the tank (figs. C4-31 and C4-32). With the assembly held about halfway into the tank, the wires are fed in beside the heater until they are completely inside the tank. The heater is then lowered until the lower motor adapter pin is in the lower support bracket (fig. C4-33). The last portion of this lowering is accomplished by use of duckbill pliers (fig. C4-34). The top portion is then positioned for the upper bolt to be installed. The bolt is inserted by means of a wire holding loop and started by hand (figs. C4-35 and C4-36). This bolt is tightened with an open-end wrench with final torquing achieved by a combination of the open-end wrench and a standard torque wrench. The torque value is adjusted to account for the combined lever arm effect of the wrenches. At this point the wires are fished from the tank with hook (fig. C4-37). The wires are then checked and any tangles are removed. A small stainless safety wire is attached to the wires and they are lowered into the tank again (fig. C4-38).

Next a probe support fixture is attached to the tank neck and the probe is lowered about two thirds of the way into the tank (fig. C4-39).

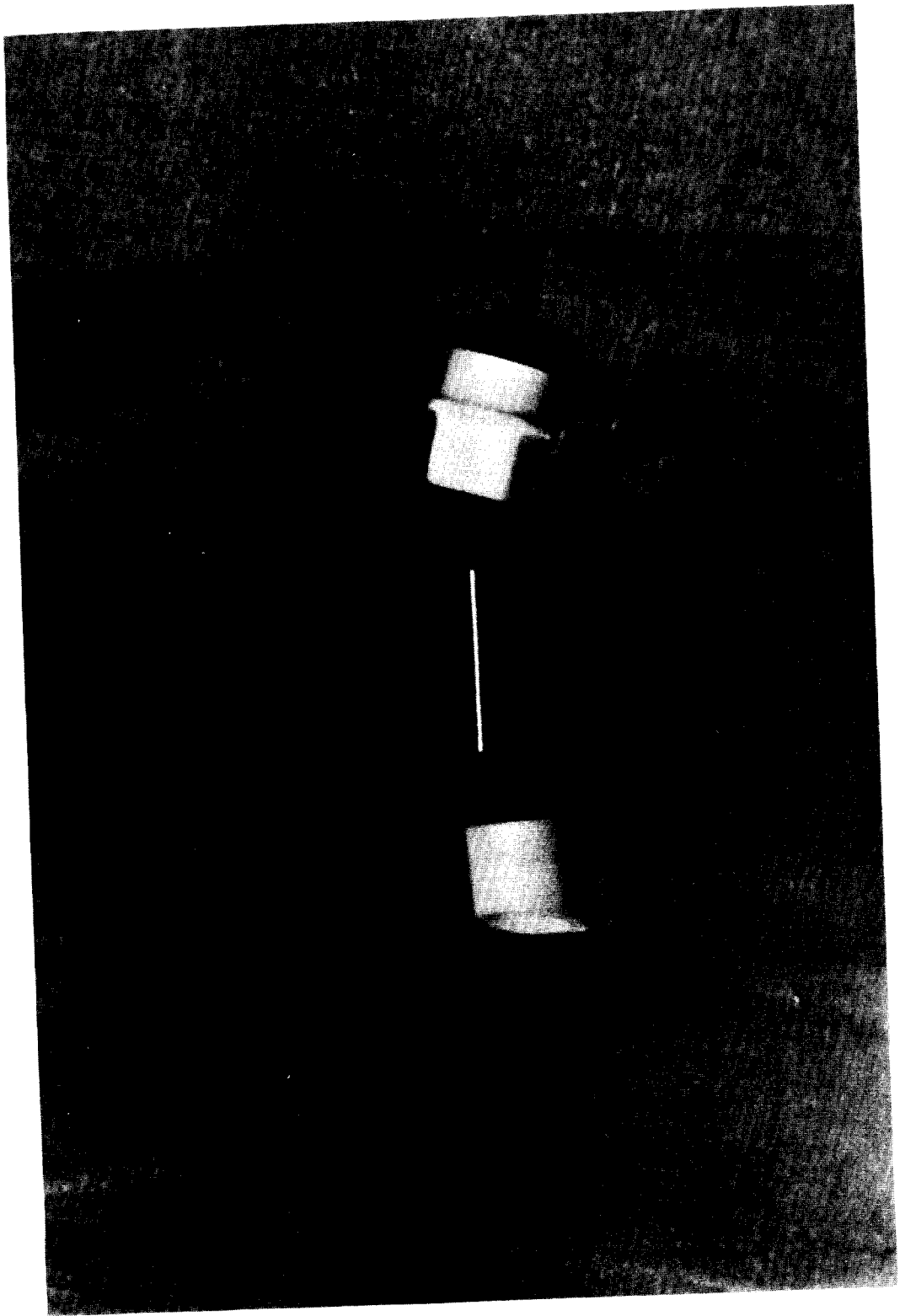


Figure C4-20.- Fill tube connecting parts.



Figure C4-21.- Installing fill tube connecting parts.

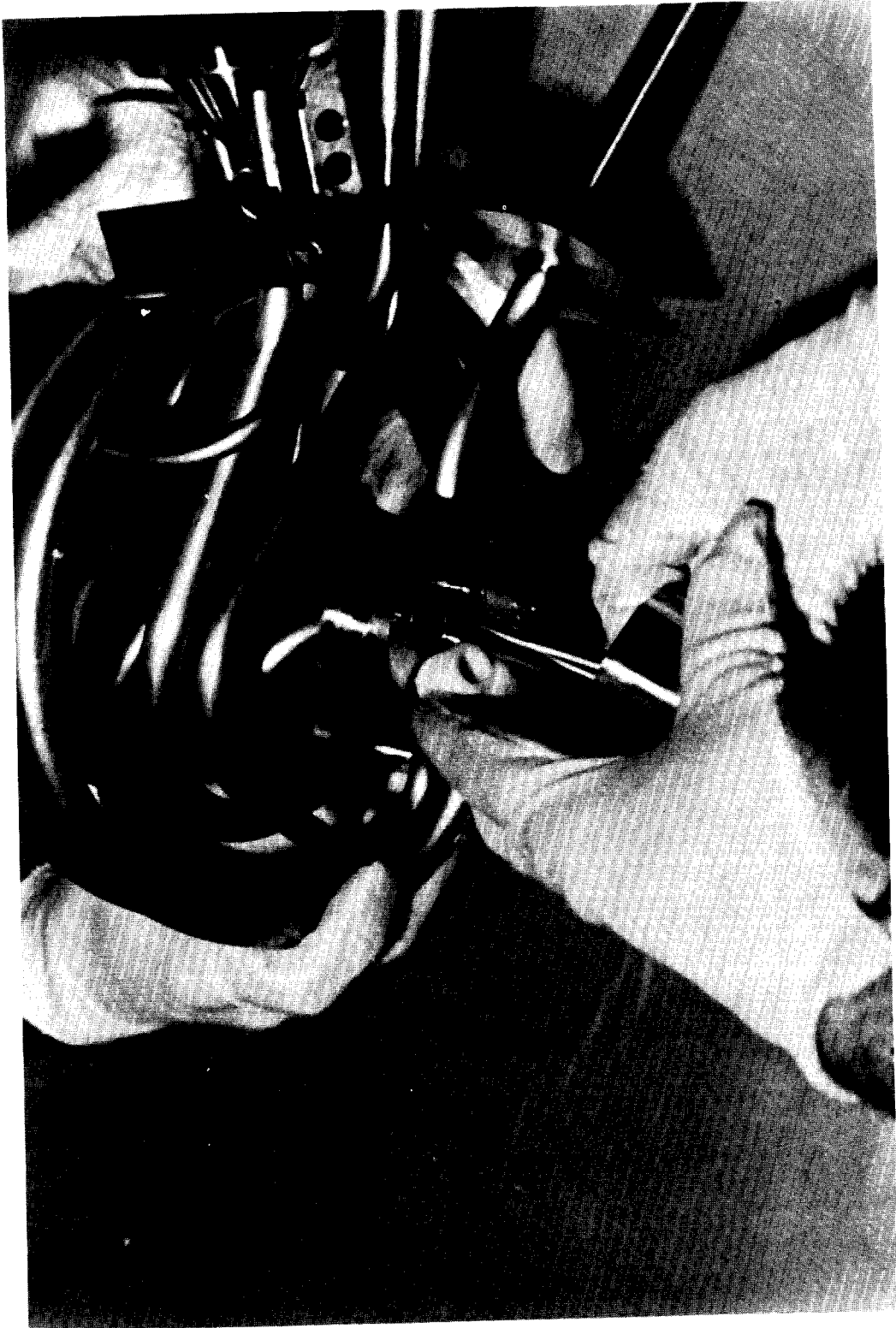


Figure C4-22.- Holding fill tube connecting parts in place.

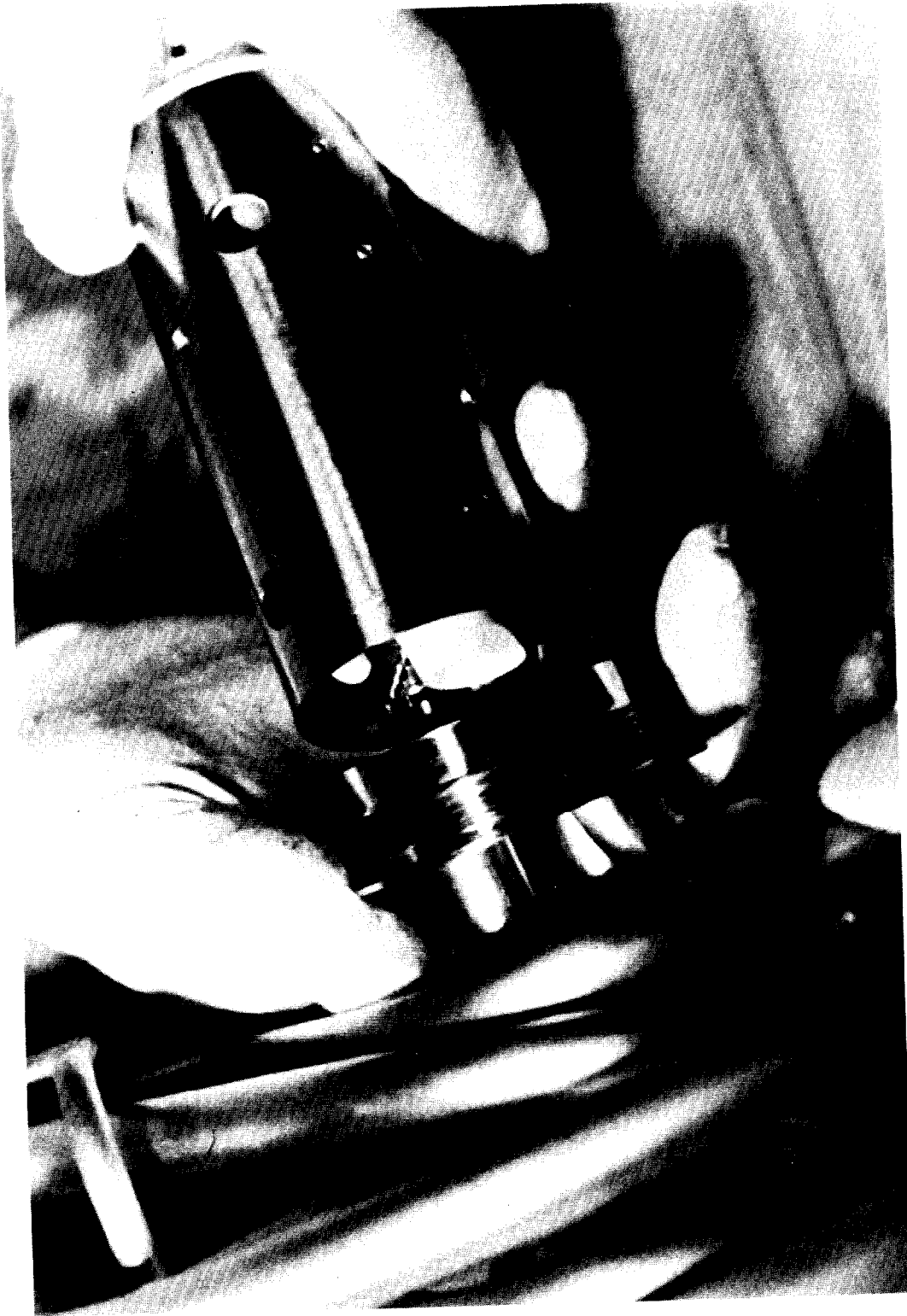


Figure C-4.23 - Final mating of quantity probe and tank adapter.



Figure C4-24.- Probing to assure that fill tube parts are in proper position.

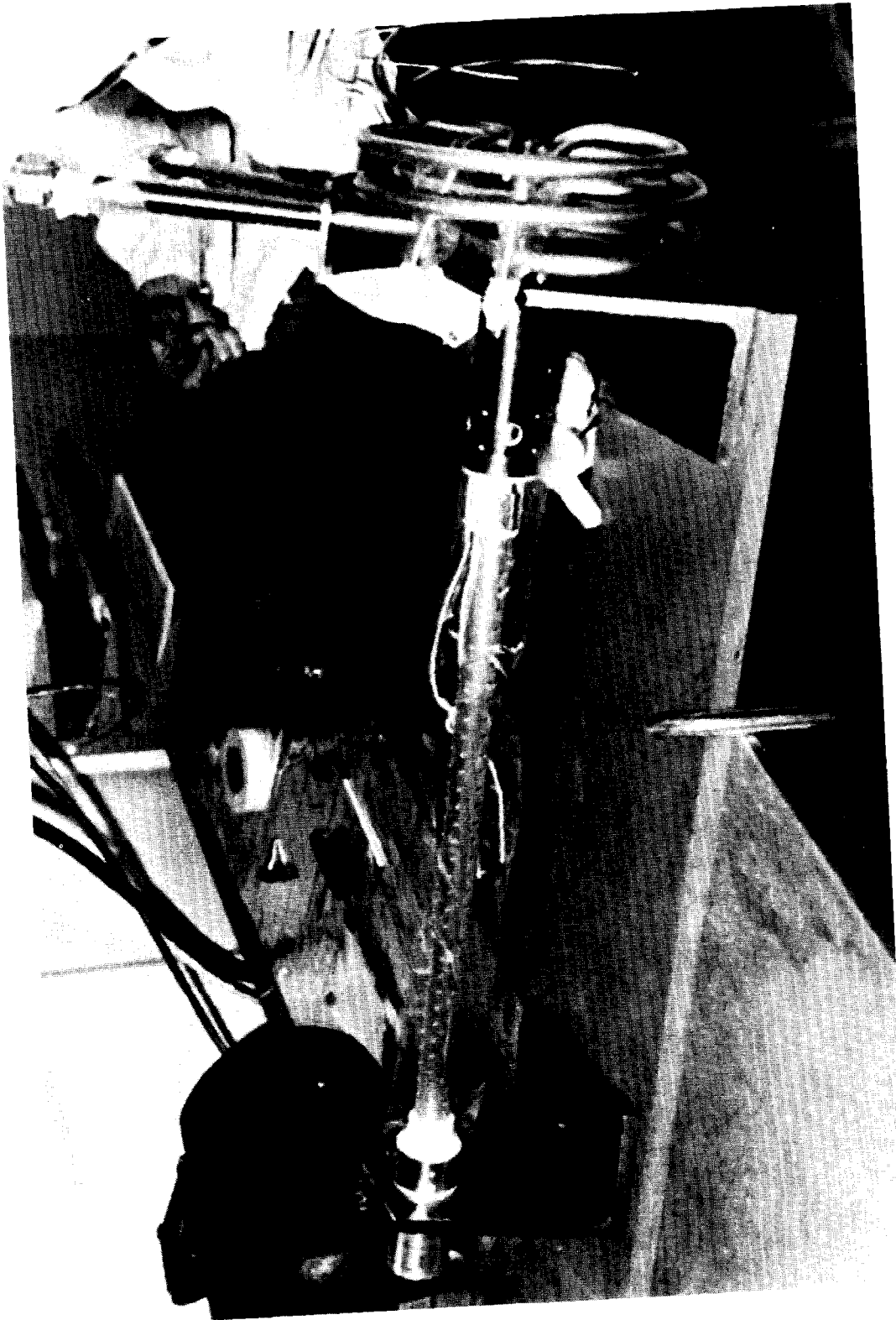


Figure C4-25.- Quantity probe and coil assembly in welding jig.

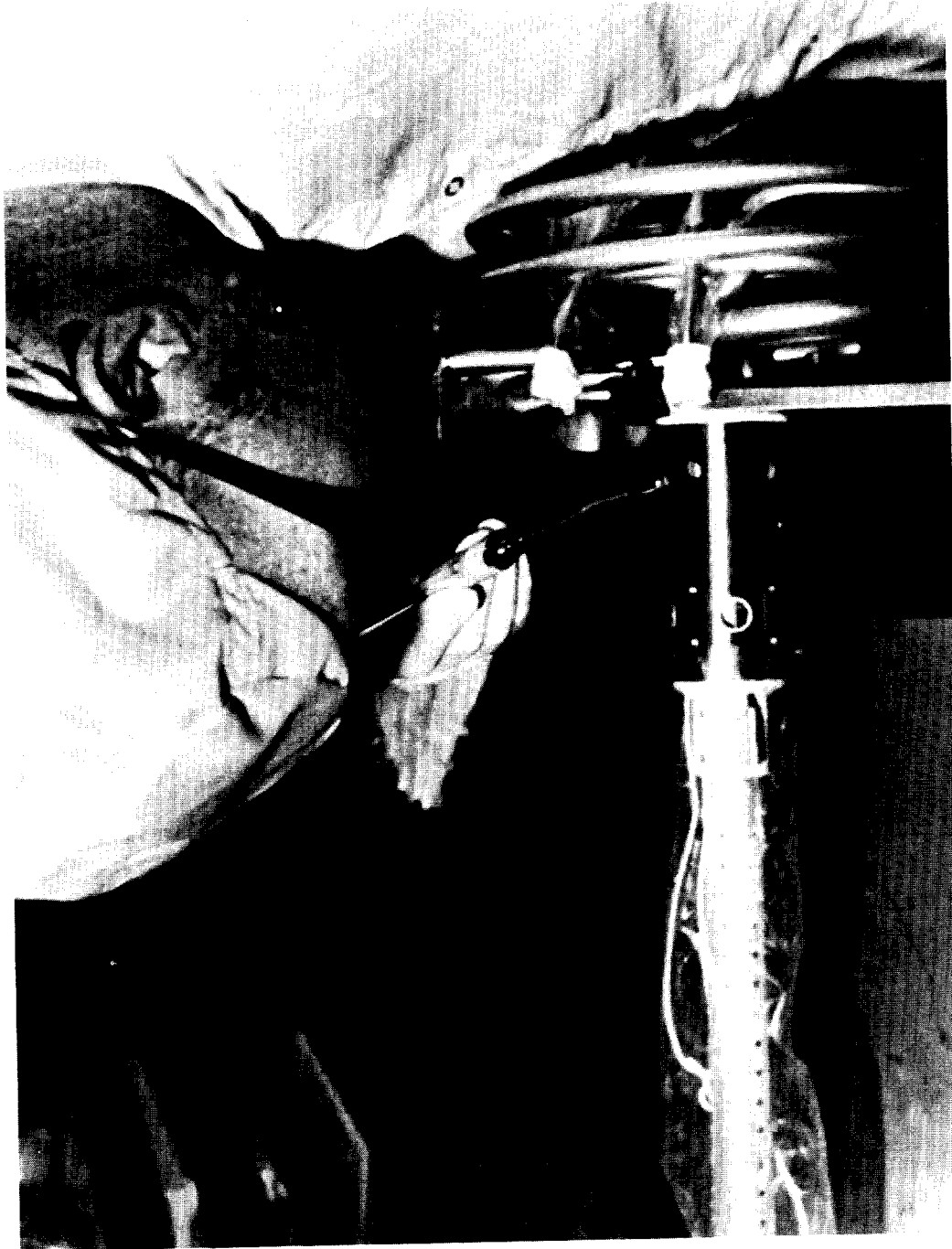


Figure C4-26.- Final inspection of fill tube connecting parts.

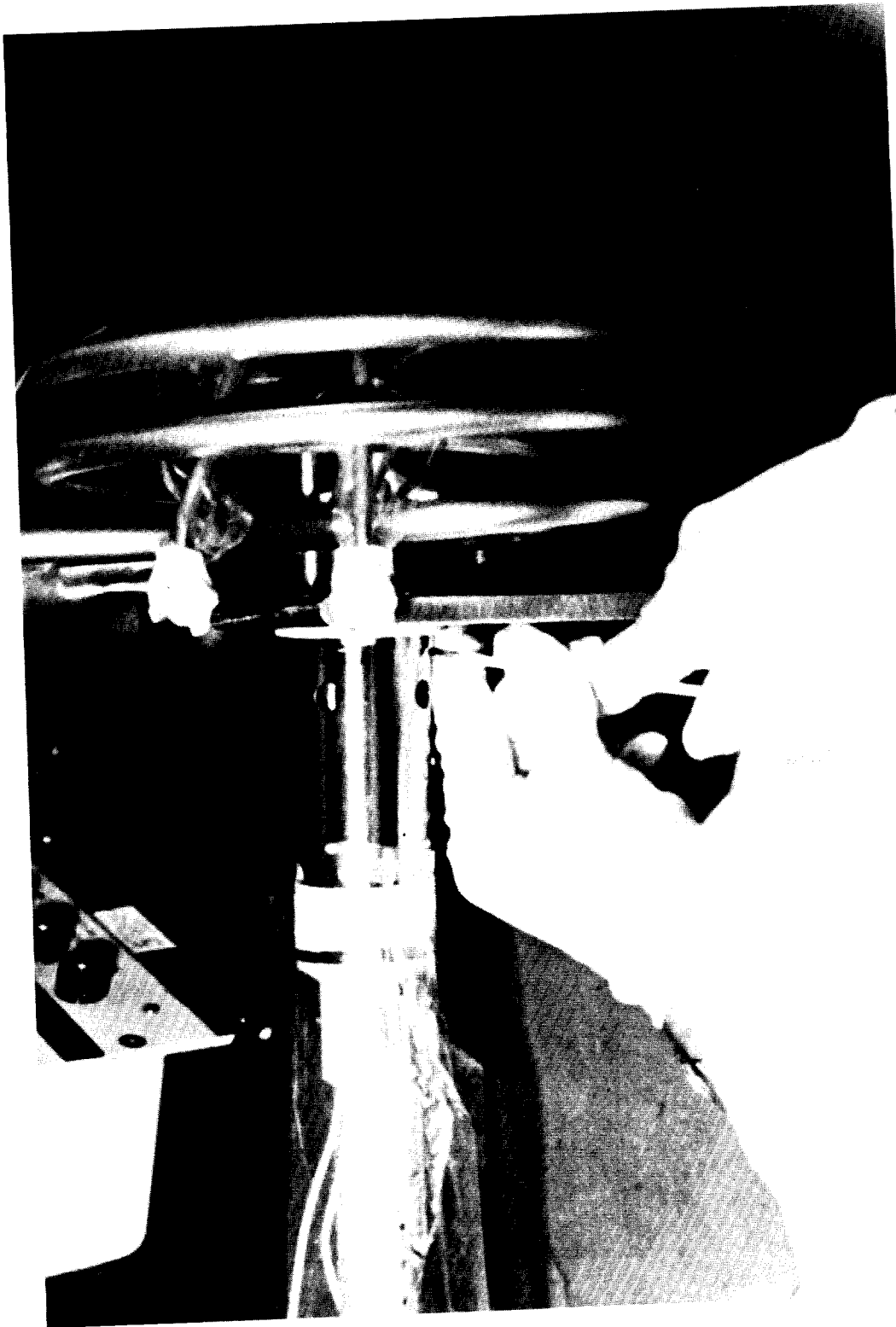


Figure C4-27.- Marking the weld positions.

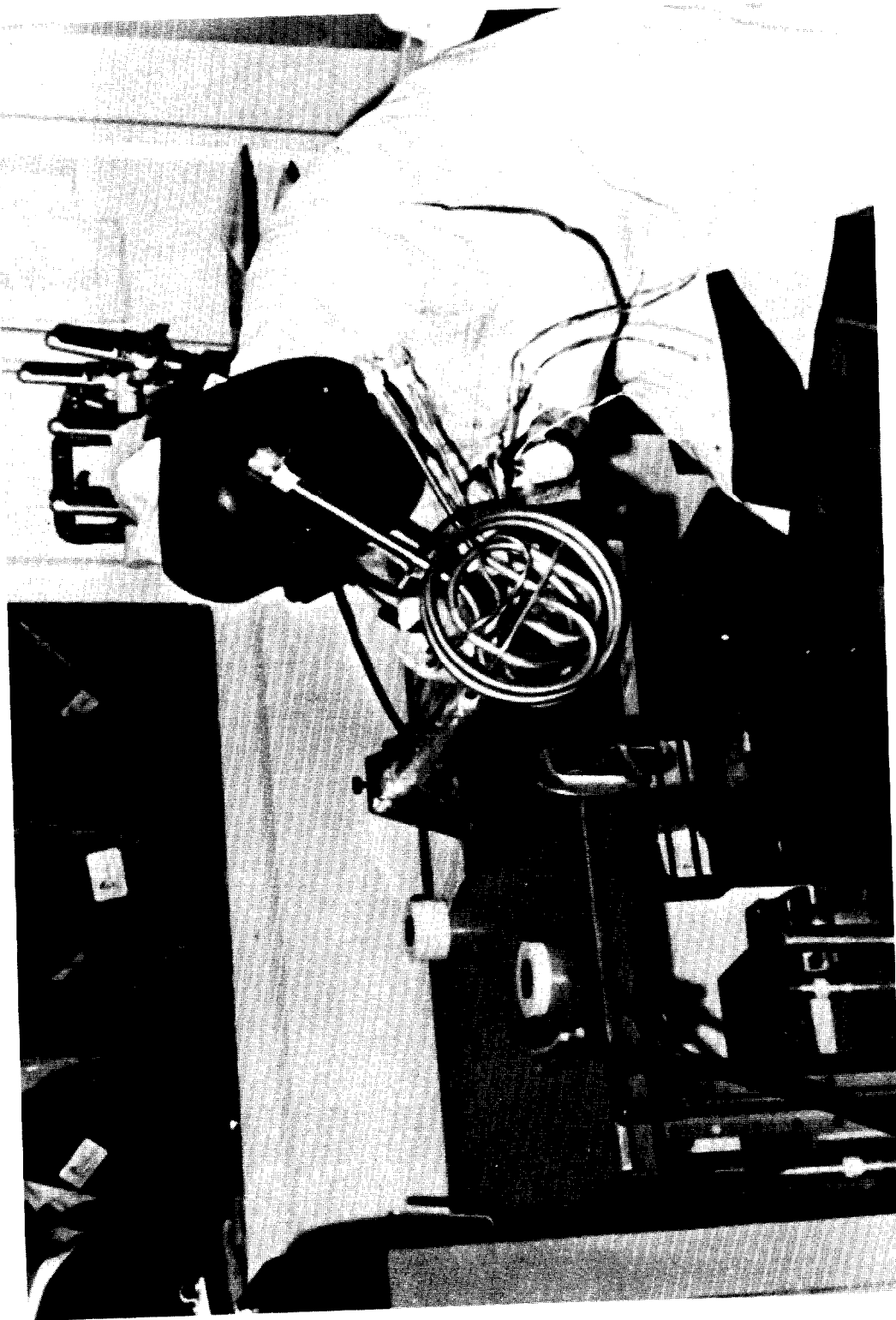


Figure C4-28.- Welding the quantity probe to coil assembly.



Figure C4-29.- The completed quantity probe to coil assembly welds.

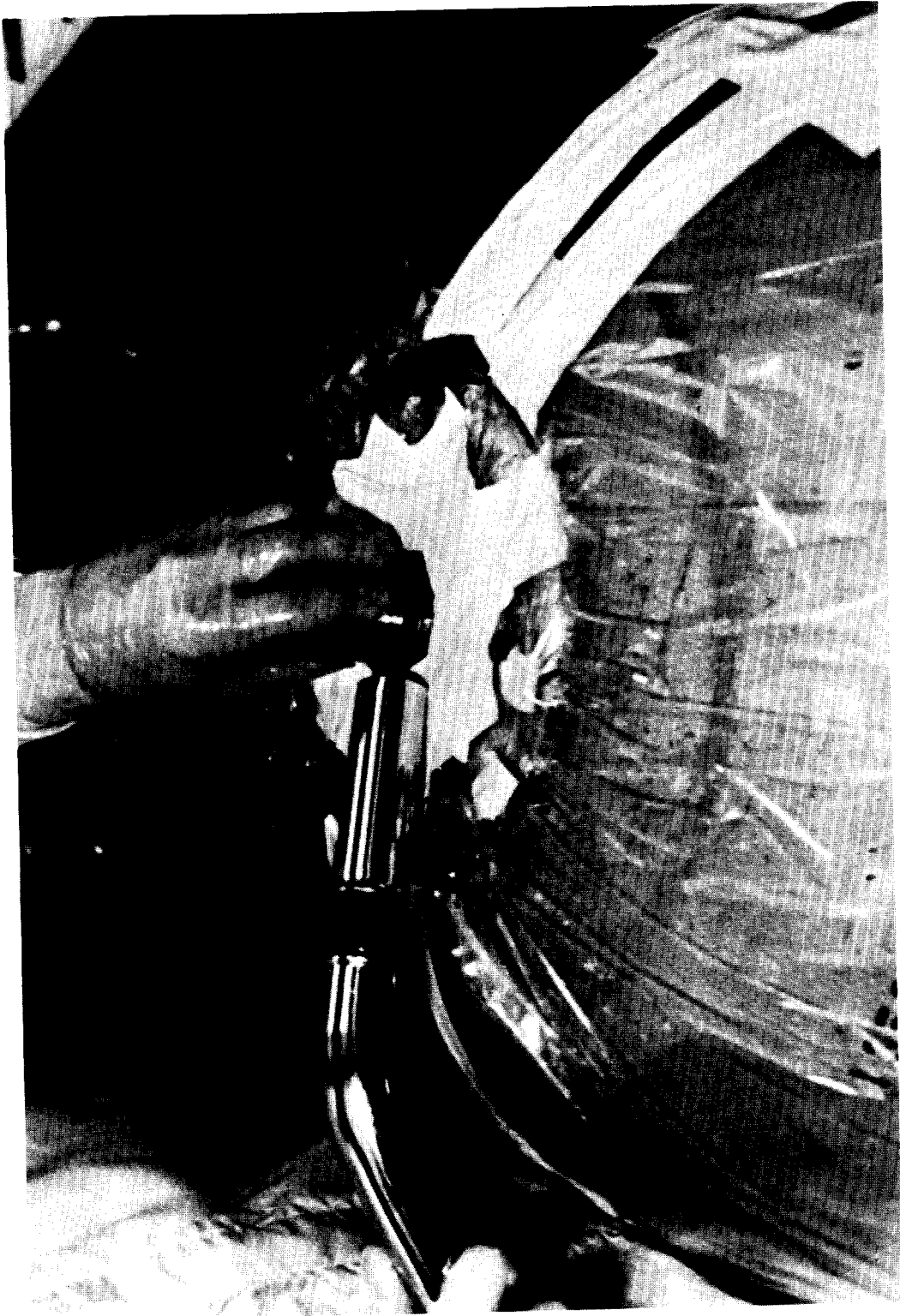


Figure C4-30.- Removing tank shipping plug.

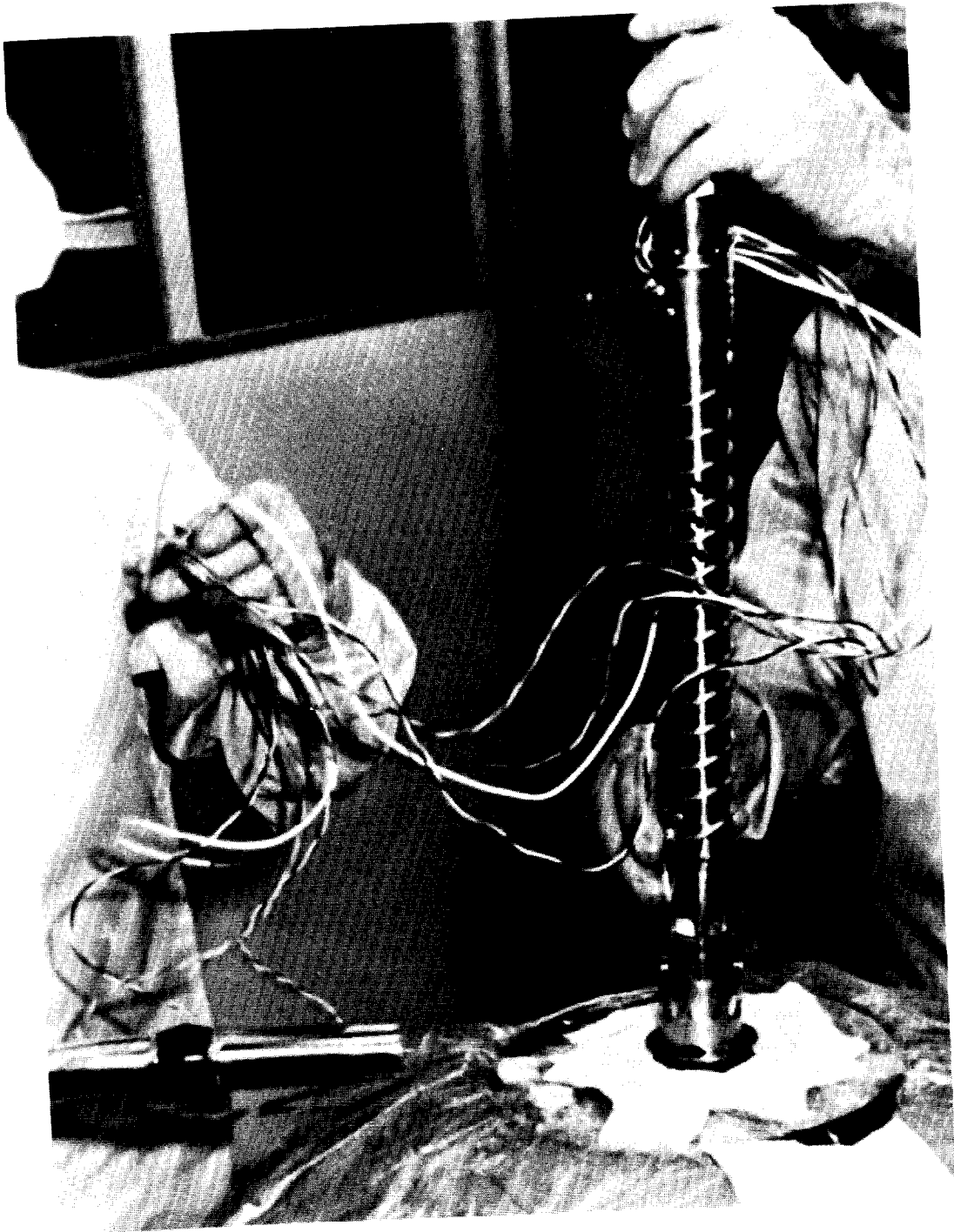


Figure C4-31.- Inserting fan and heater probe.



Figure C4-32.- Feeding wires into tank
beside heater probe.



Figure C4-33.- View inside tank showing heater probe in lower support.