

PROJECT ARTEMIS

HIGH POWER ACOUSTIC SOURCE

Description of the Facility as Installed on the
USNS MISSION CAPISTRANO (T-AG 162)

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INTRODUCTION

This is a supplement to NRL Report 5599, 14 February 1961, which describes the high power acoustic source for Project ARTEMIS. The photographs contained herein show the installation of project equipment on the USNS MISSION CAPISTRANO (T-AG 162) on 22 April 1961 and supplement and/or replace photographs shown in NRL Report 5599.

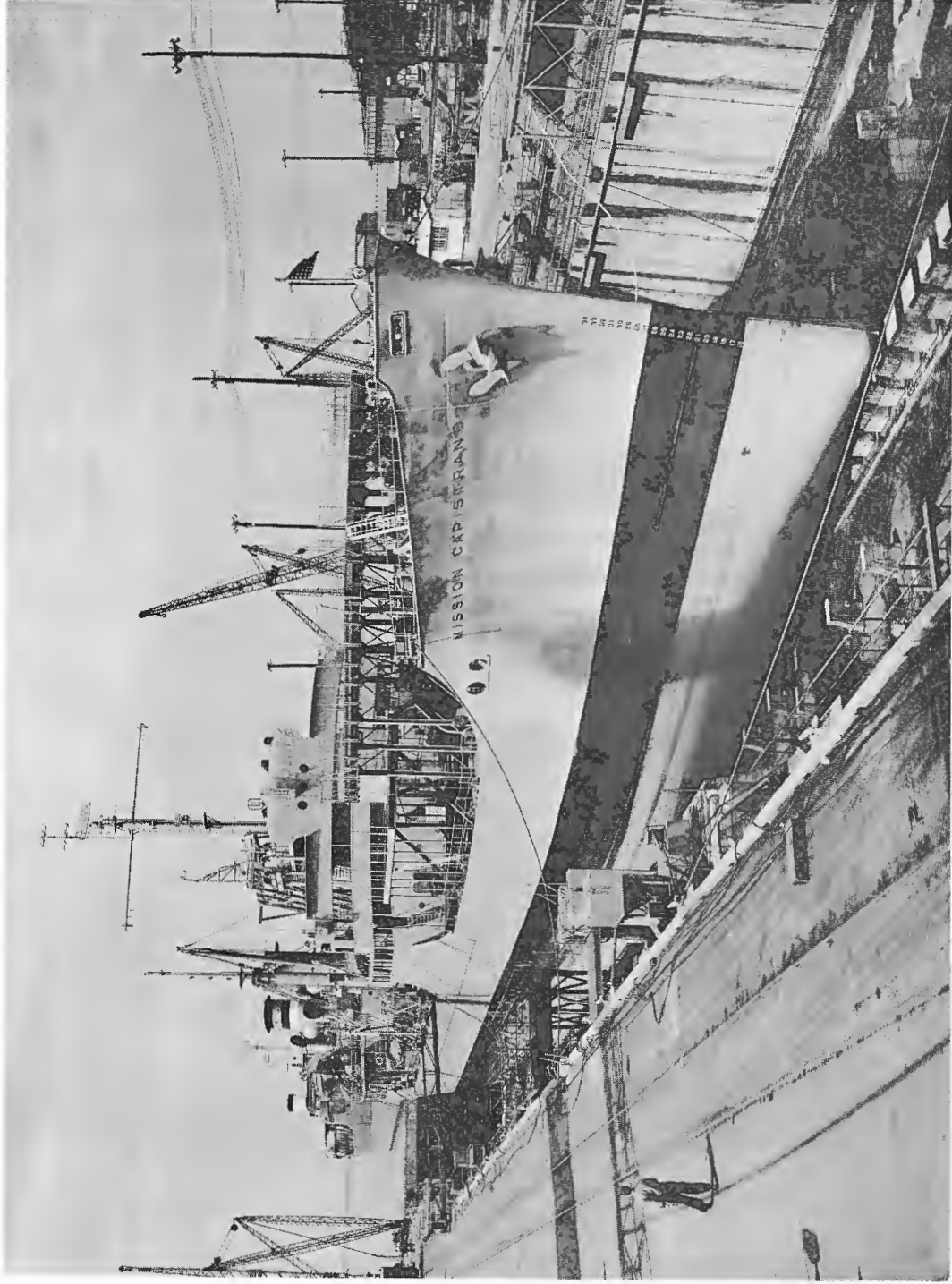


Figure 1 - USNS MISSION CAPISTRANO at Newport News Shipbuilding
and Drydock Company



Figure 2 - USNS MISSION CAPISTRANO at Newport News Shipbuilding
and Drydock Company

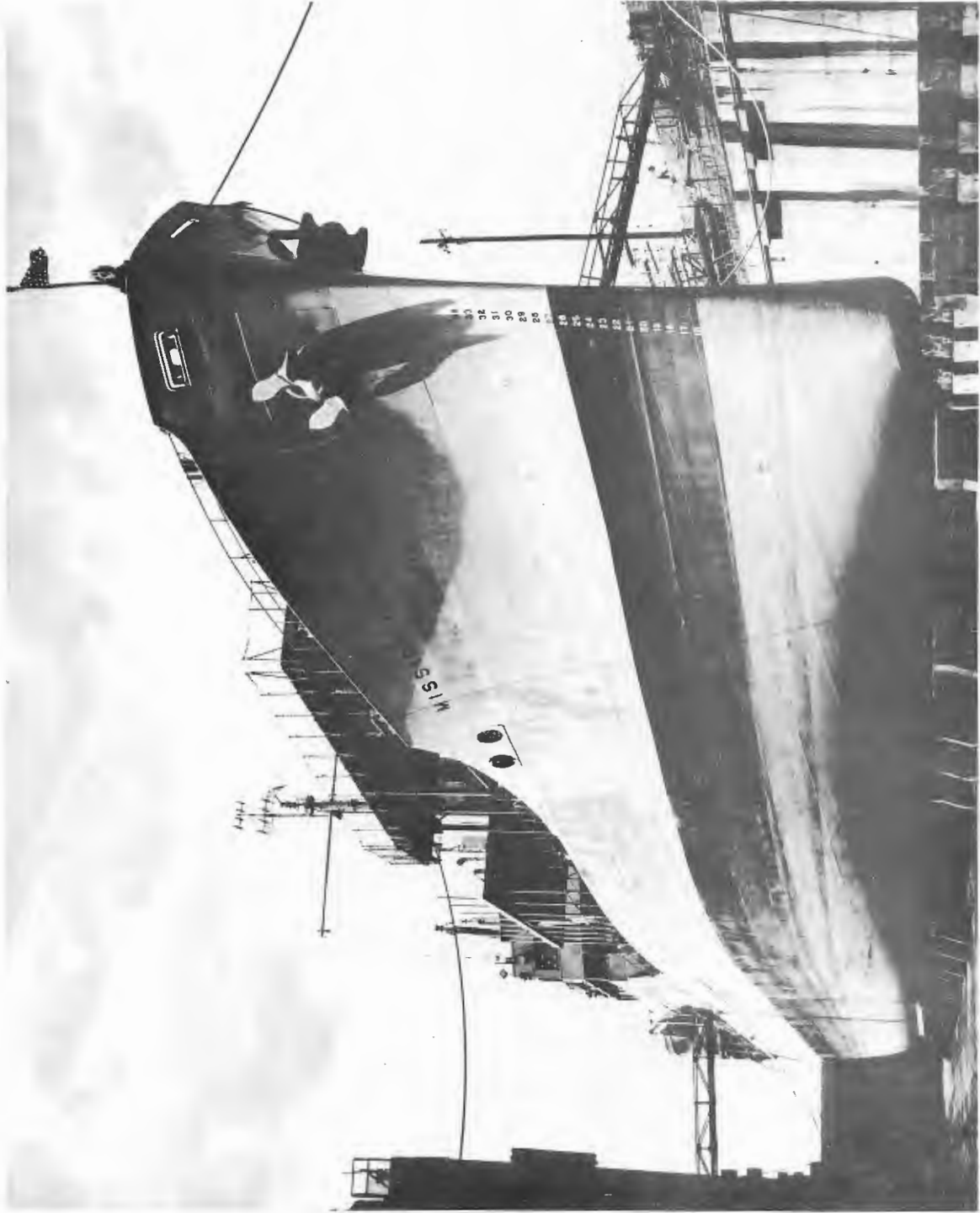


Figure 3 - View of bow while in drydock

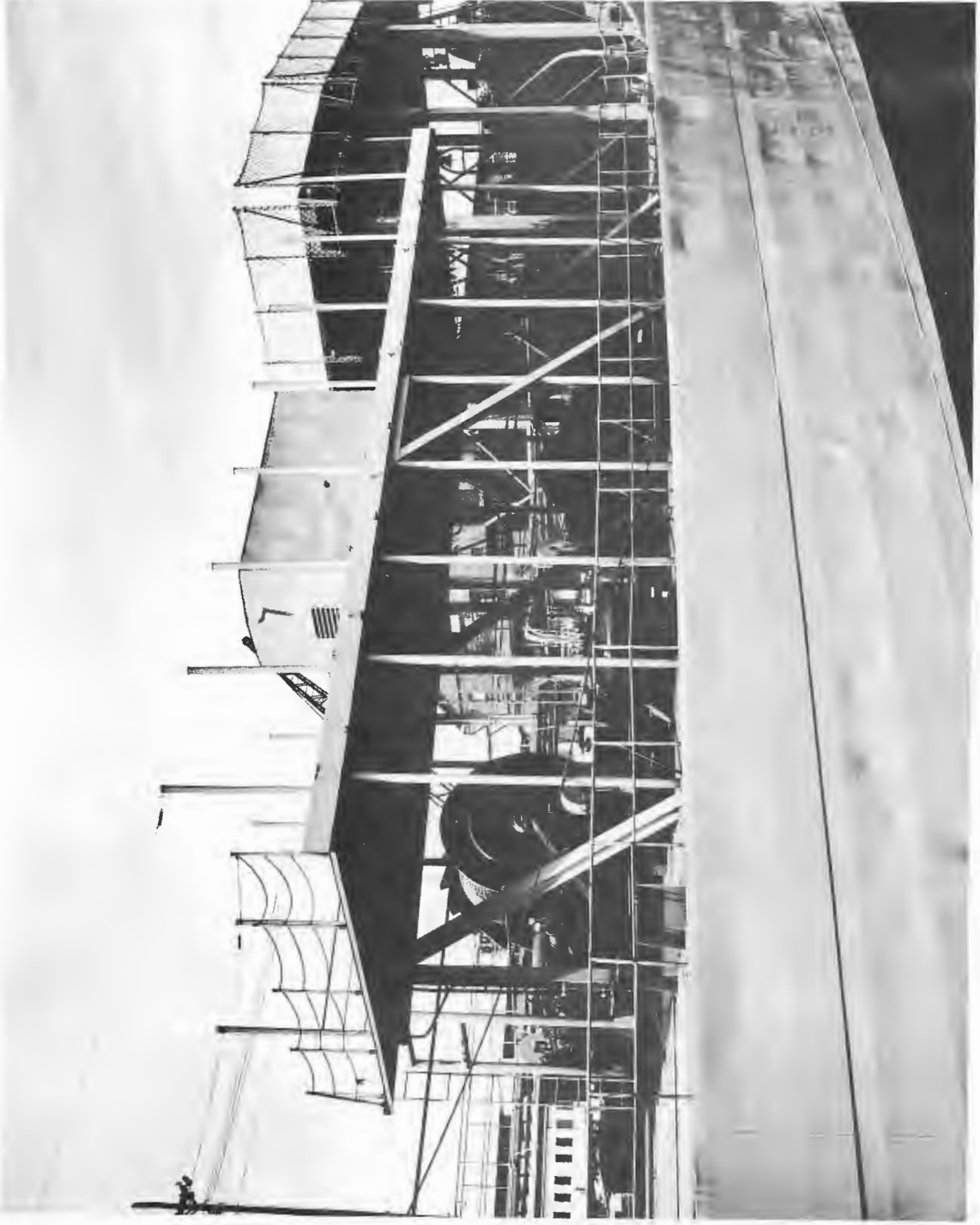


Figure 4 - View of pipe rack and forward deck machinery looking to port



Figure 5 - View of stern while in drydock



Figure 6 - In drydock looking forward



Figure 7 - View of bow in drydock



Figure 8 - Blocking arrangement viewed from stern



Figure 9 - Anodic protection of rudder and hull at stern



Figure 10 - Main mast with ship's radar antenna and special yagi antenna for project equipment as seen from starboard side, 02 level

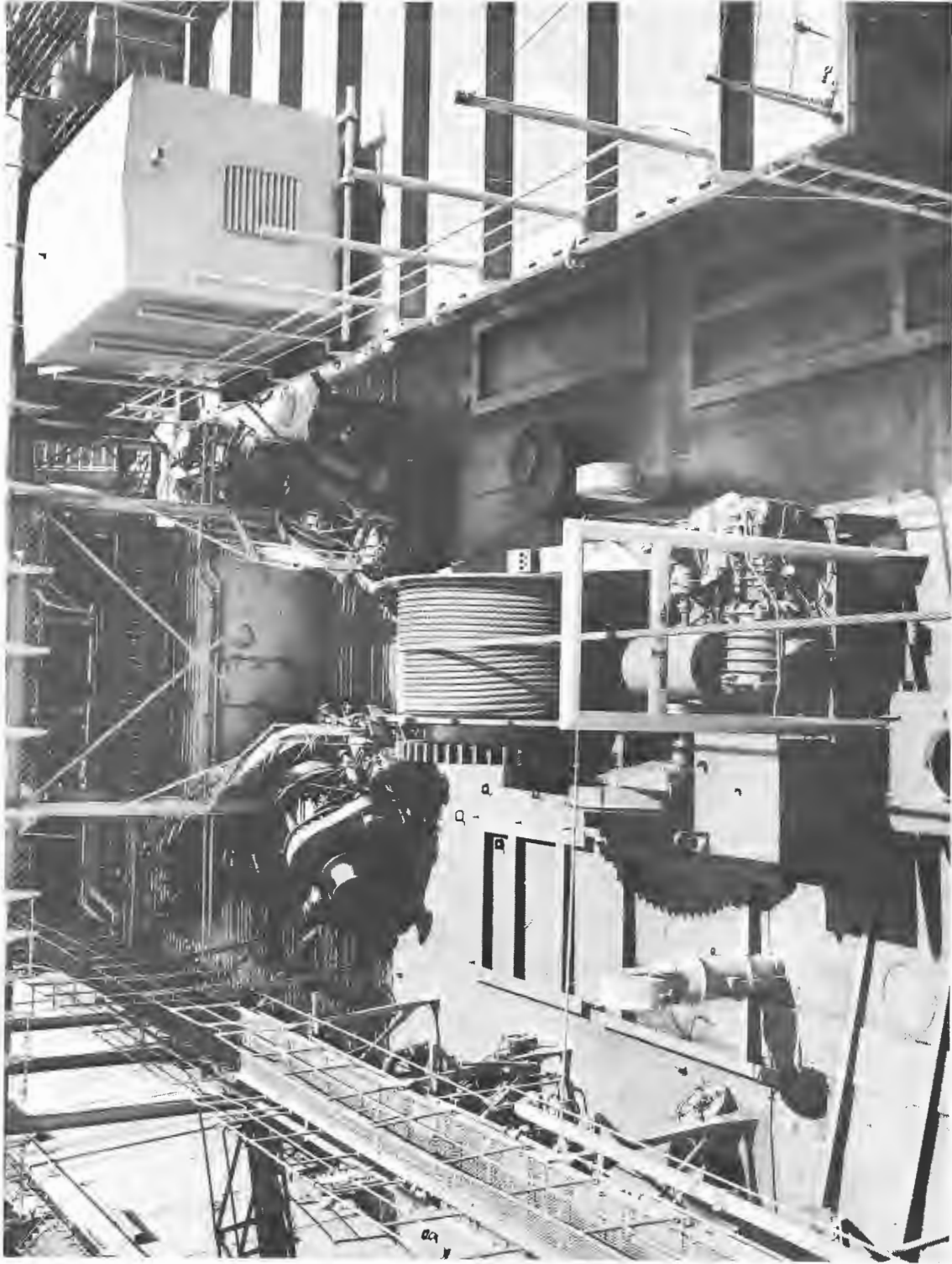


Figure 11 - Deck layout forward of midship deck house showing array winch, 60 kilowatt diesel generator enclosure mounted on pipe rack and two mooring winches as seen from 02 level

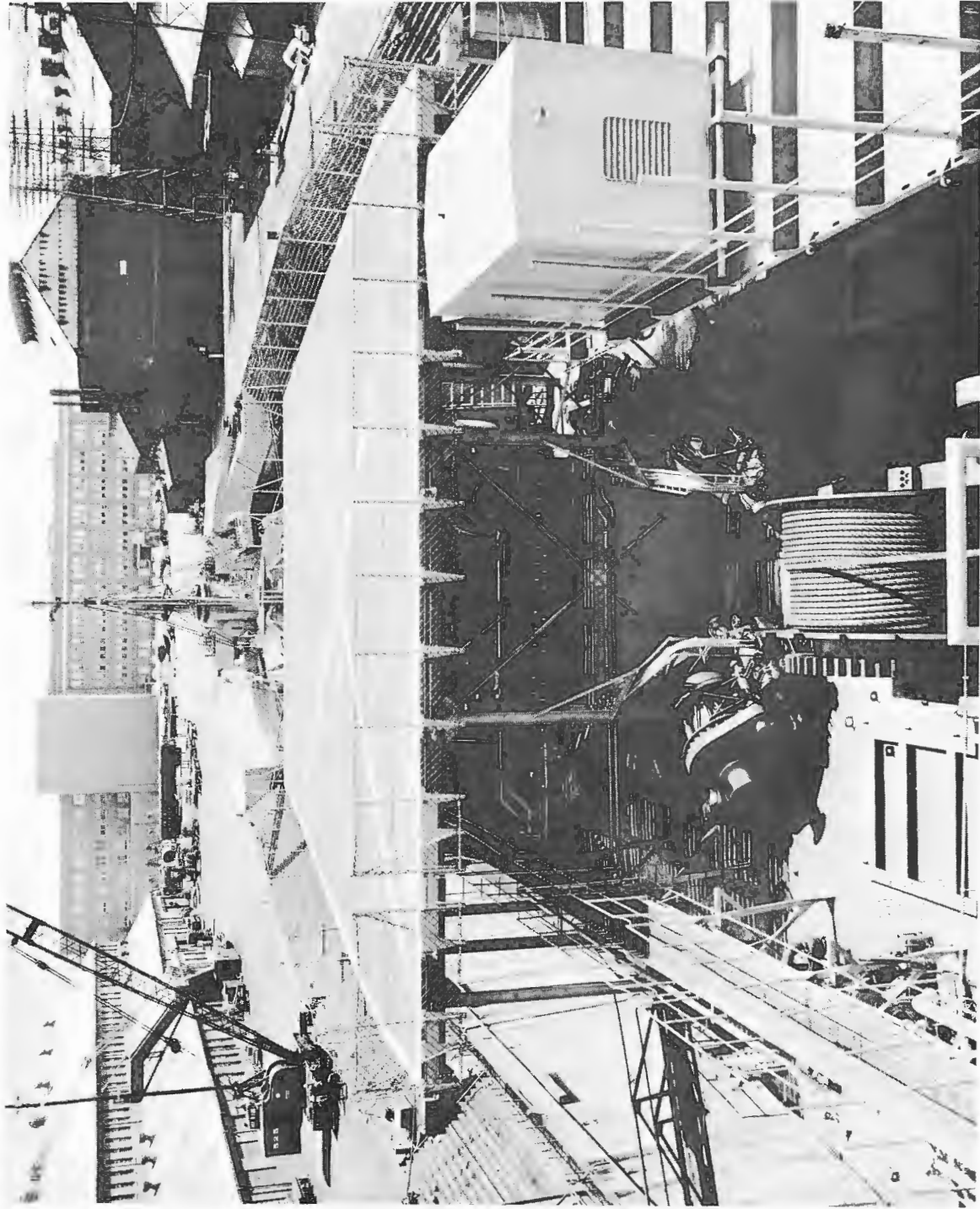


Figure 12 - Deck layout forward of midship deck house showing helicopter landing platform as seen from 02 level

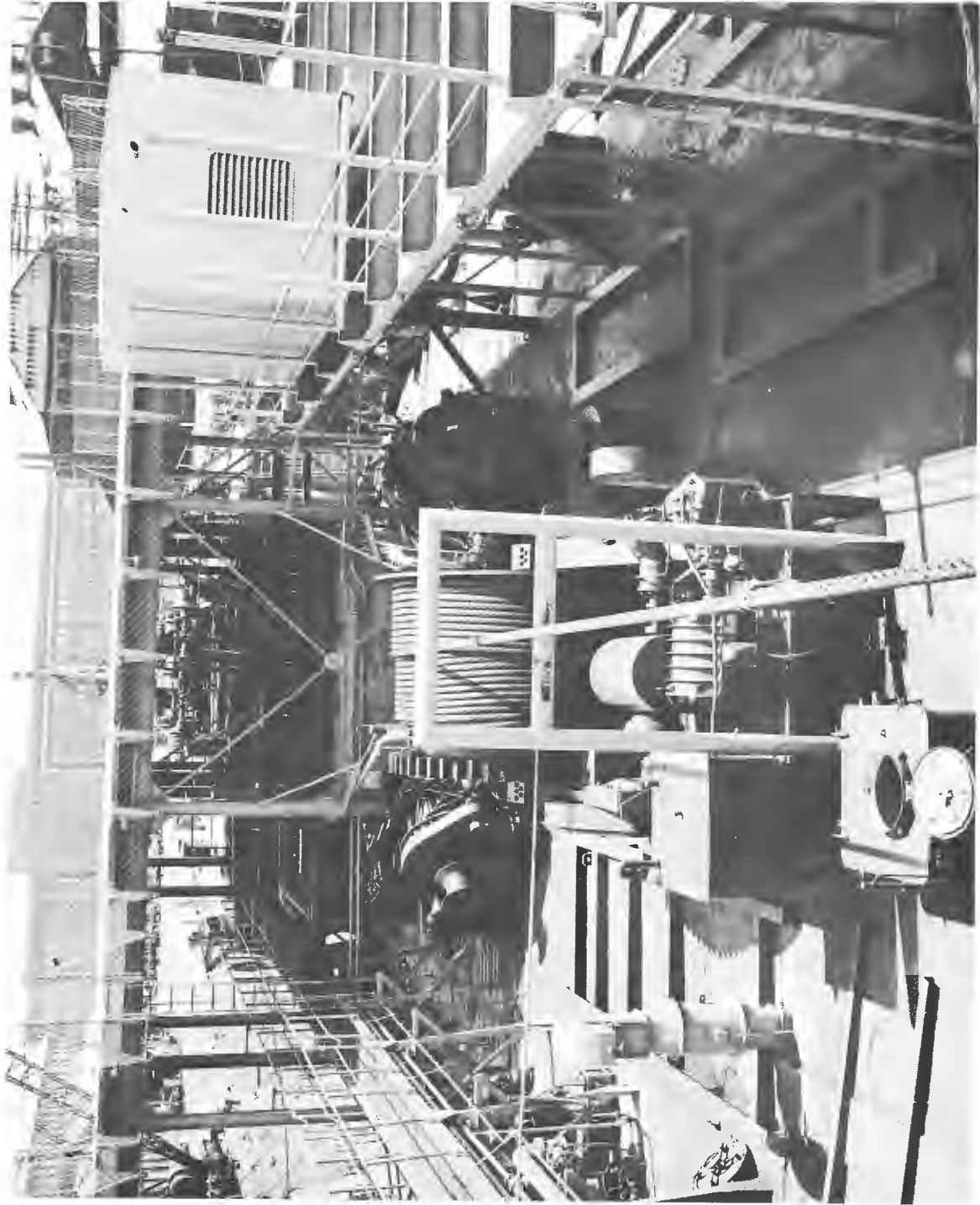


Figure 13 - Deck layout forward of midship deck house showing array winch, 60 kilowatt diesel generator enclosure and helicopter landing platform as seen from 01 level

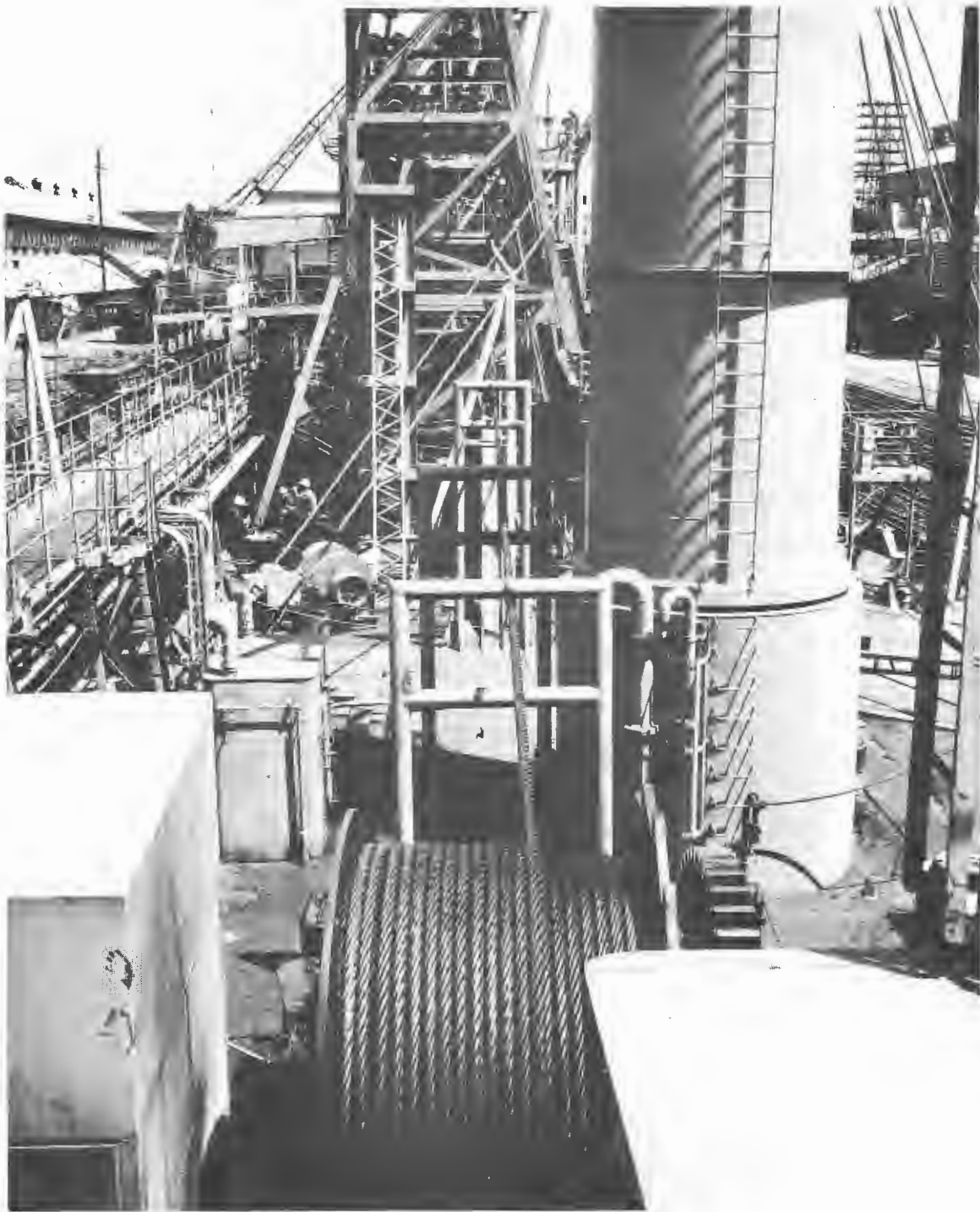


Figure 14 - Deck layout looking forward from aft array winch to the array structure as seen from 01 level

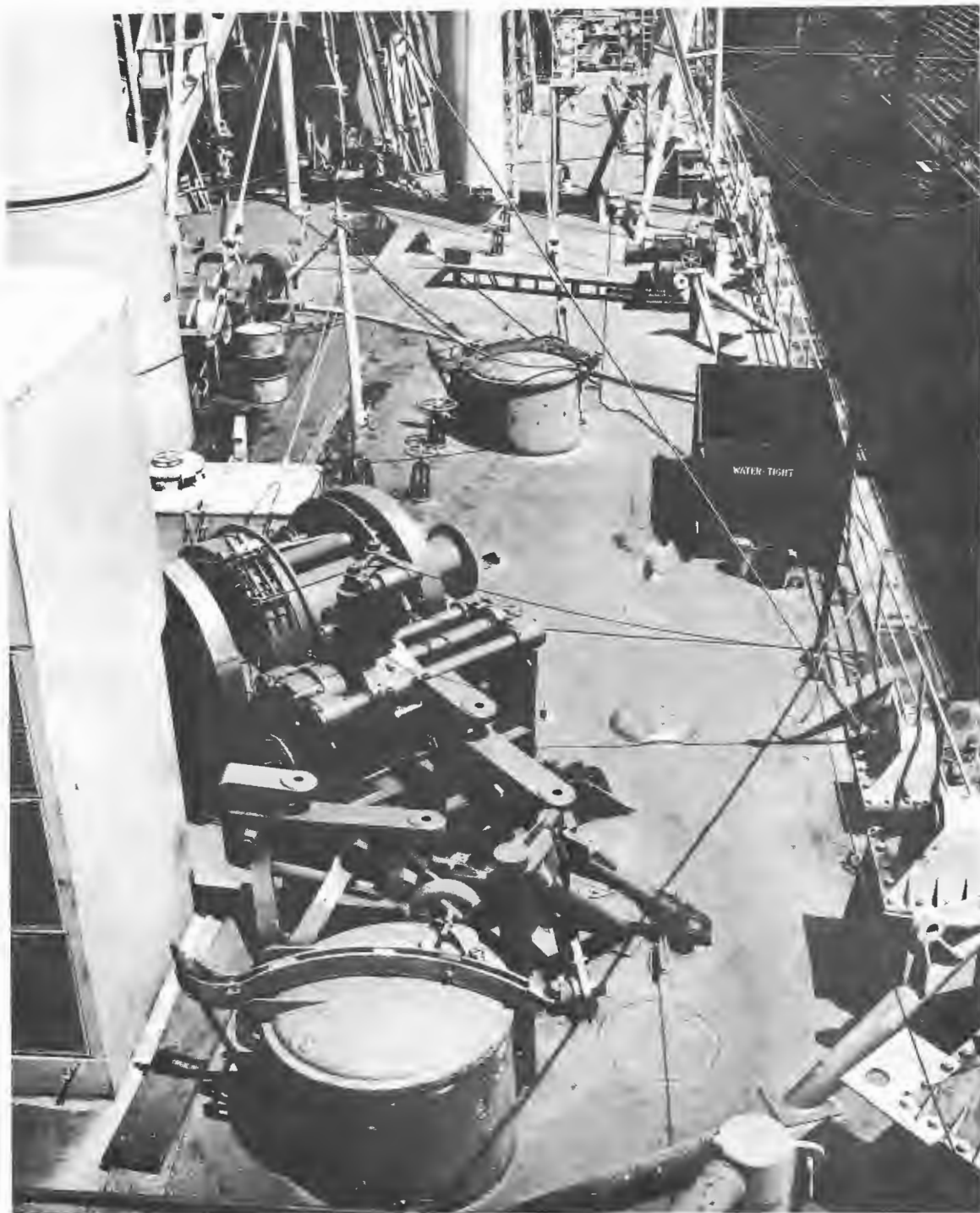


Figure 15 - Deck layout, starboard side looking forward

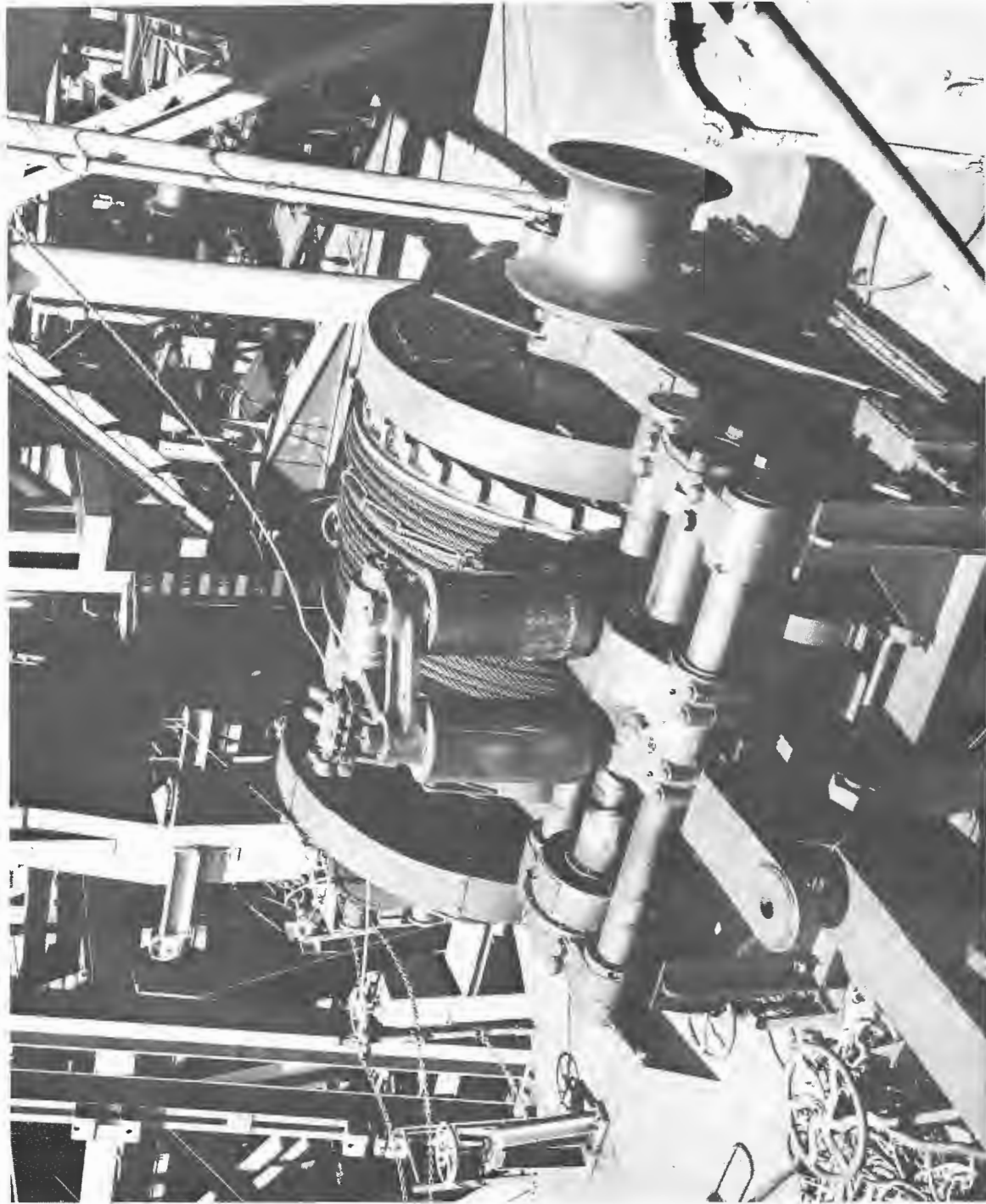


Figure 16 - LST winch installed at approximately frame 59, starboard side aft of the deck house



Figure 17 - Deck layout, port side, approximately midship to the deck house

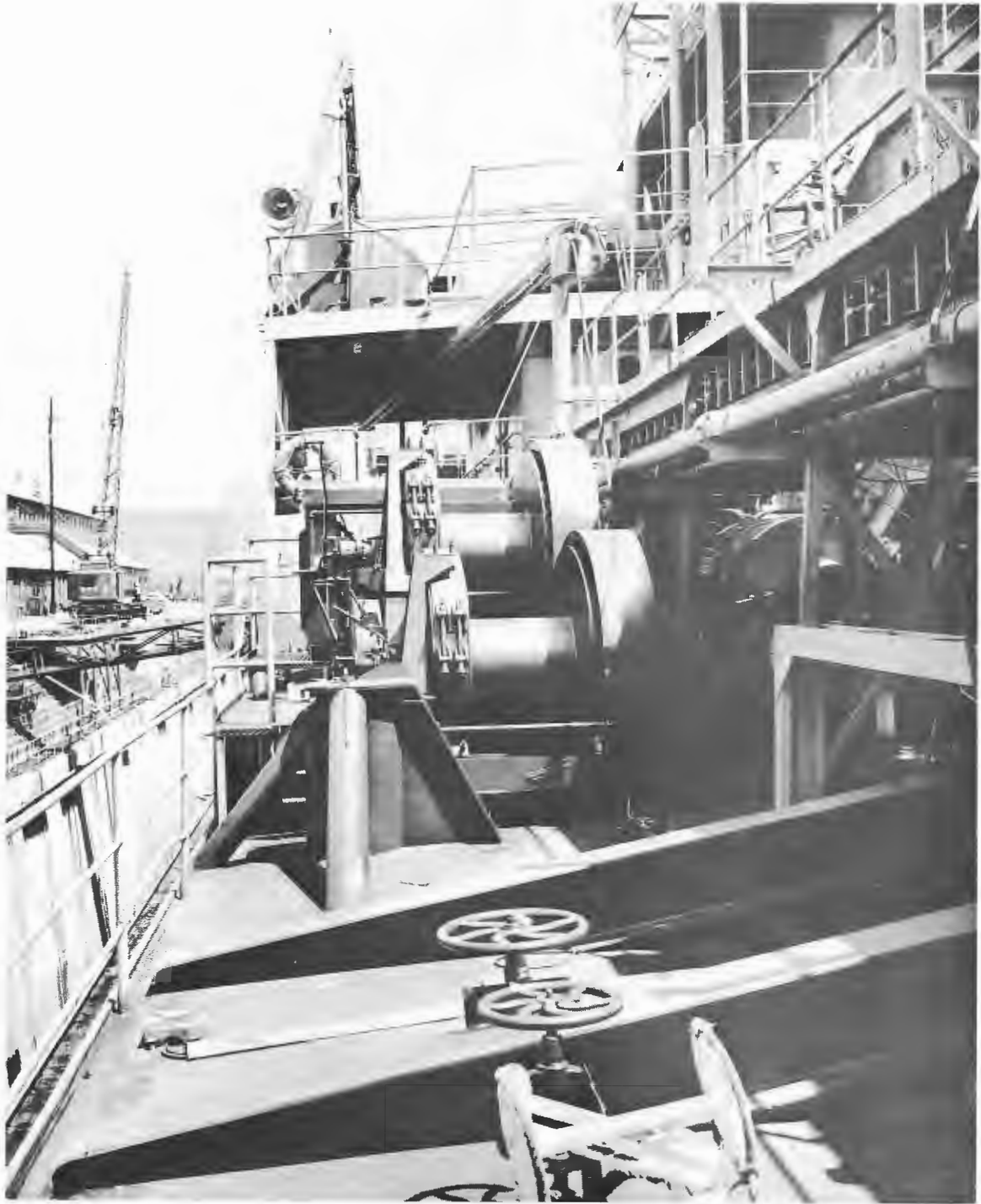


Figure 18 - Tagline winch from the port side

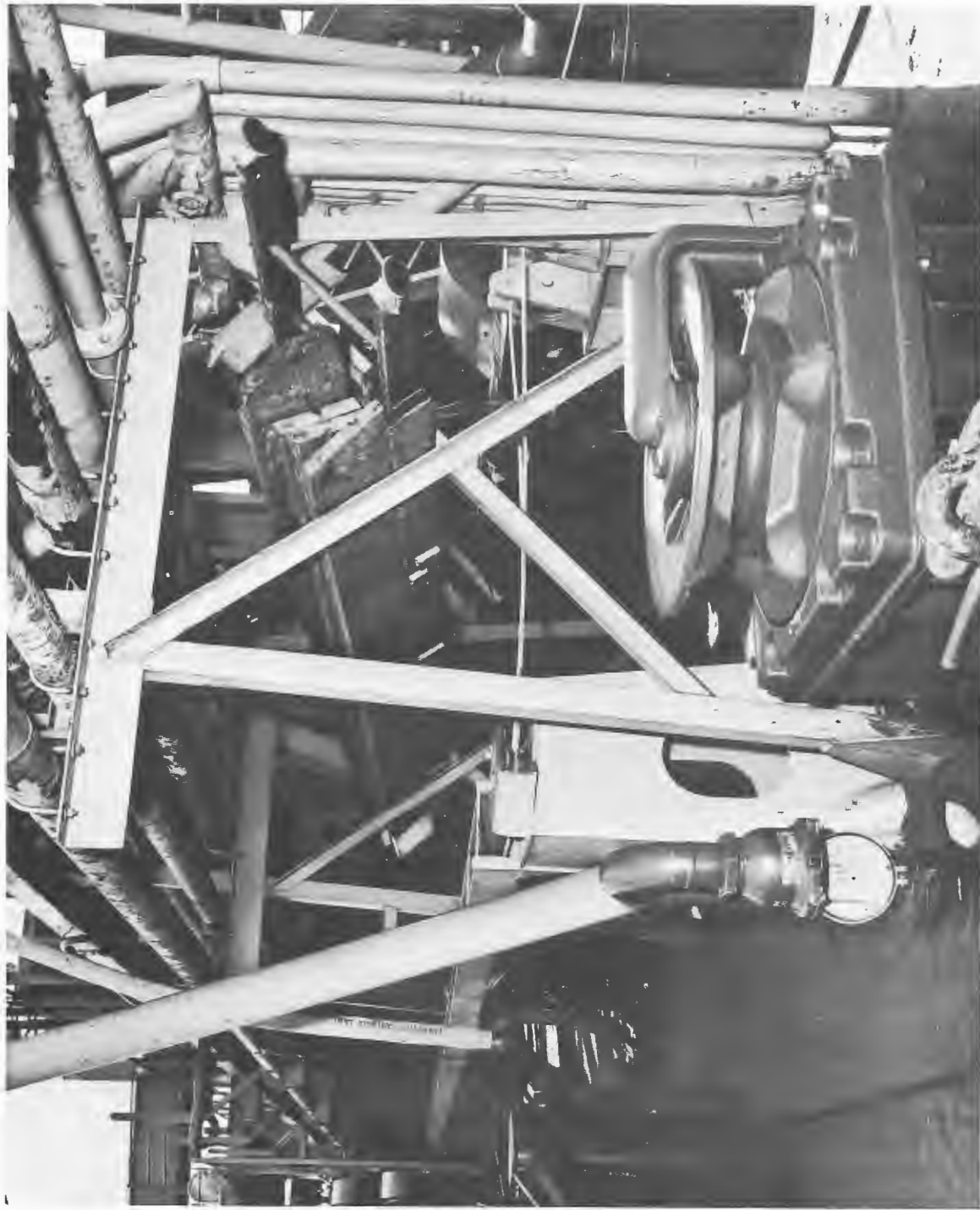


Figure 19 - Wire rope guide trough for wire rope for closing array well door
looking forward, port side

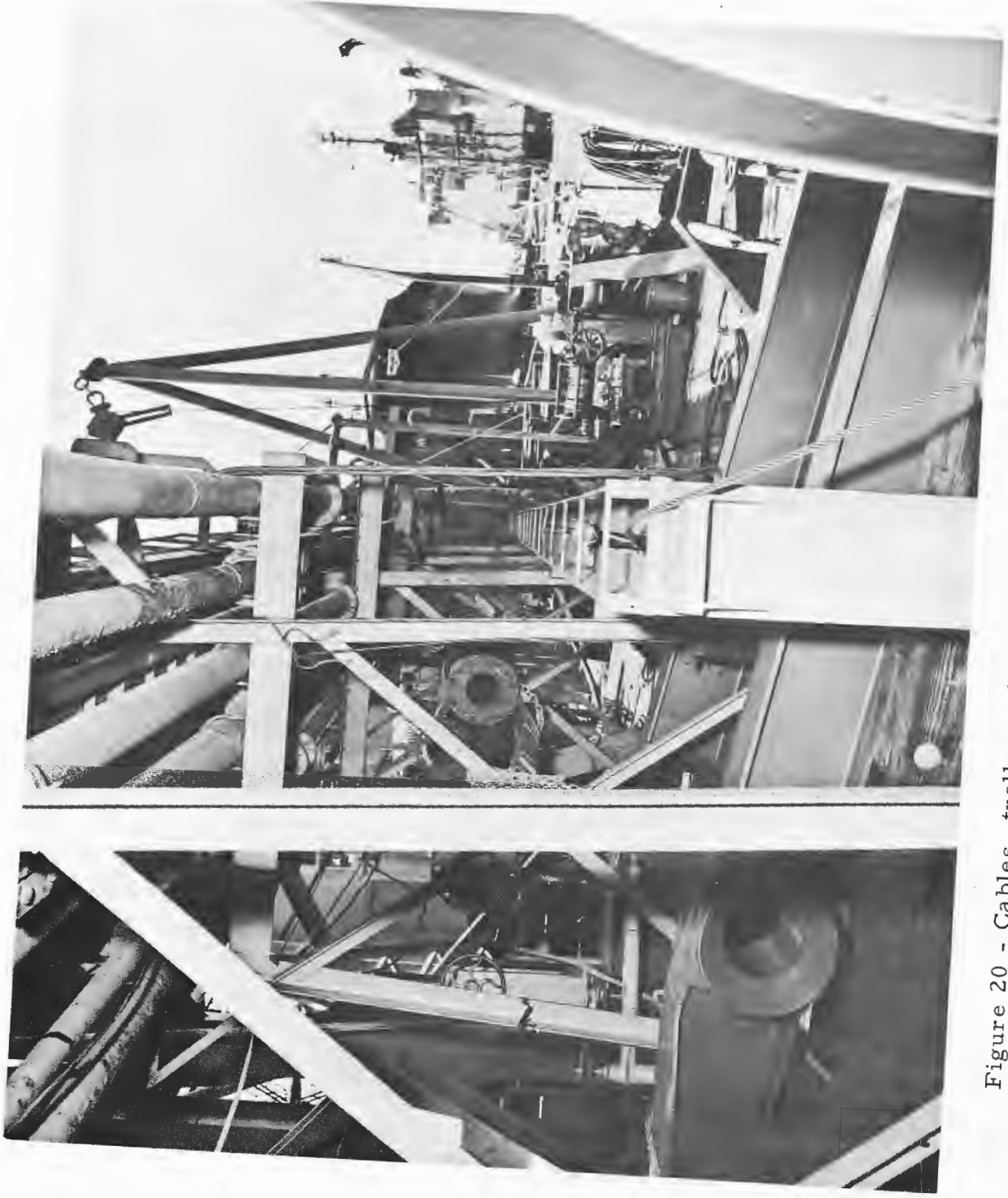


Figure 20 - Cables, trolley and guide trough for closing array well door looking aft, port side

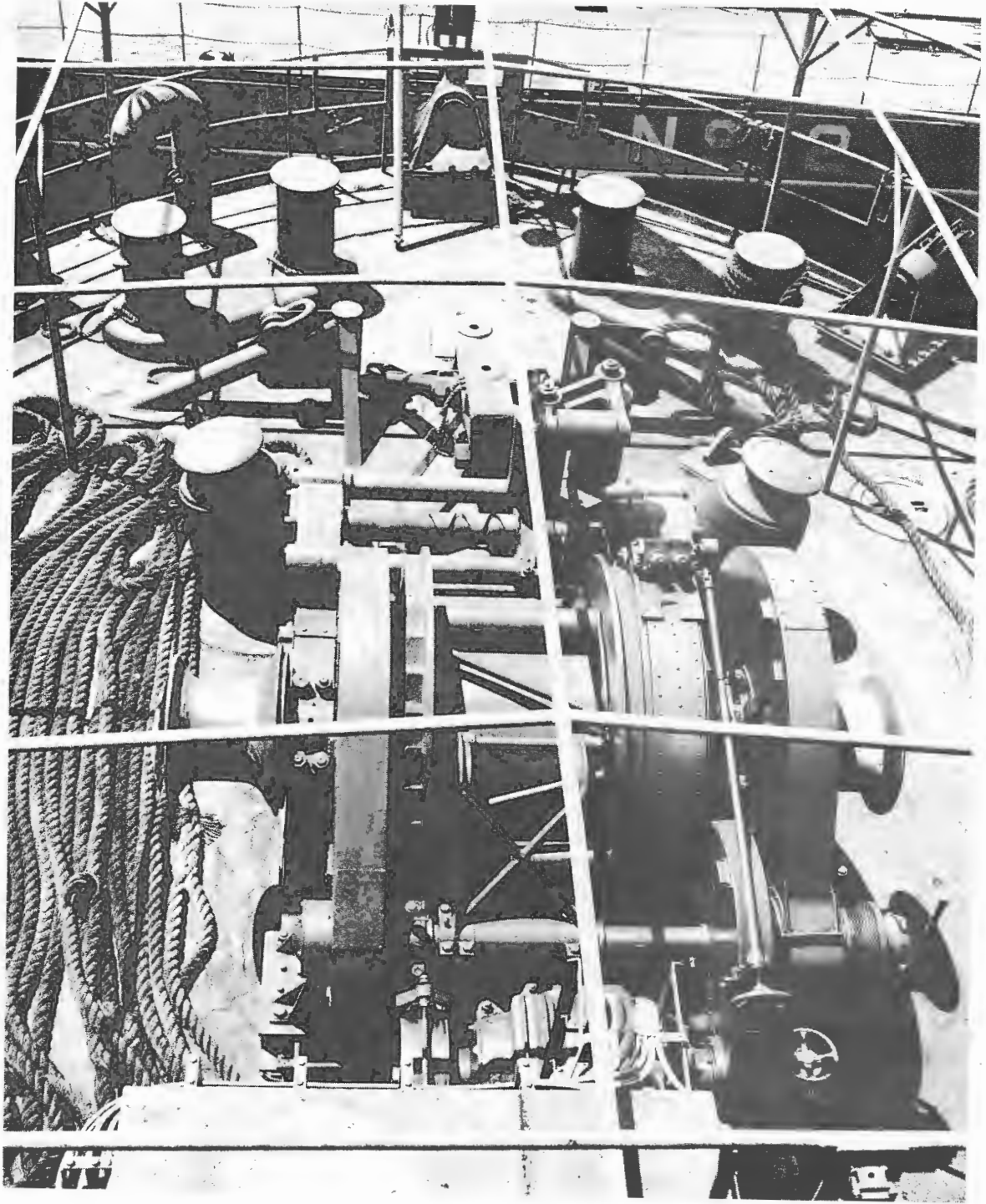


Figure 21 - LST winch and Berger fairleads mounted on the fantail

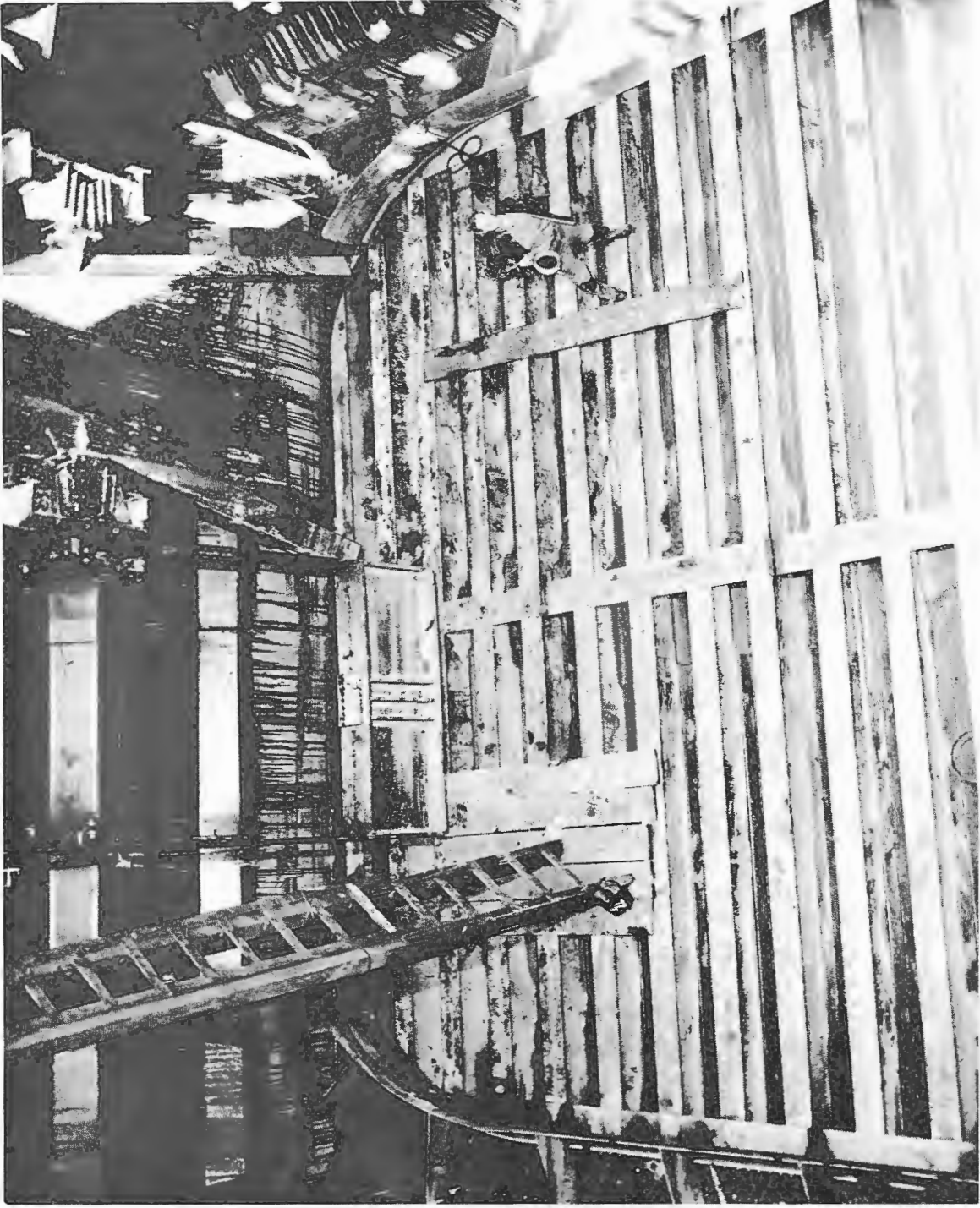


Figure 22 - Array well door and aft well bulkhead showing aft array support hanger



Figure 23 - Array well looking to the keel and aft lower stabilizing strut
shown on port side

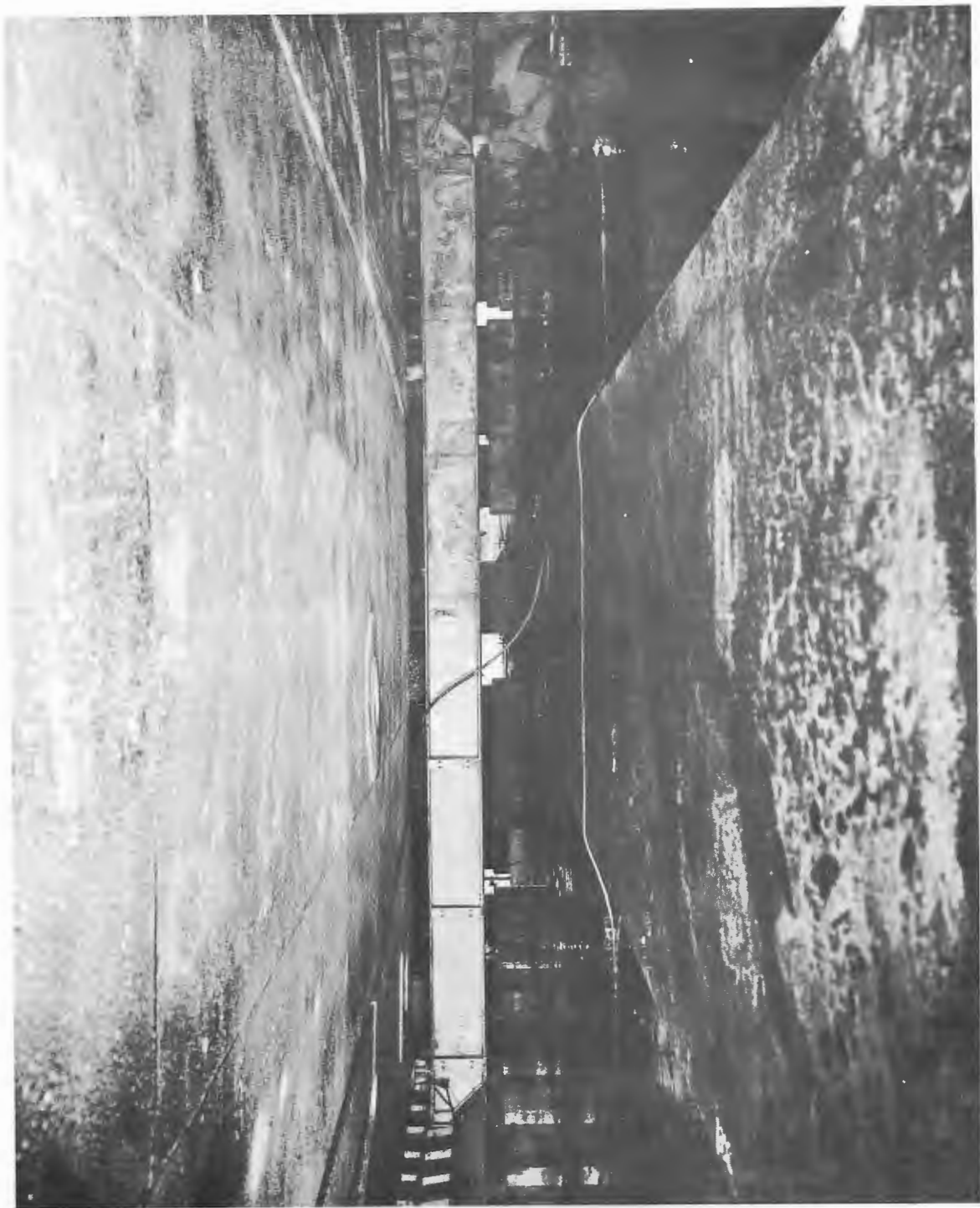


Figure 24 - View of well door from beneath ship looking forward



Figure 25 - Termination of well door wire rope used to close well door



Figure 26 - Wire rope termination and locking pin sleeve on forward part of well door

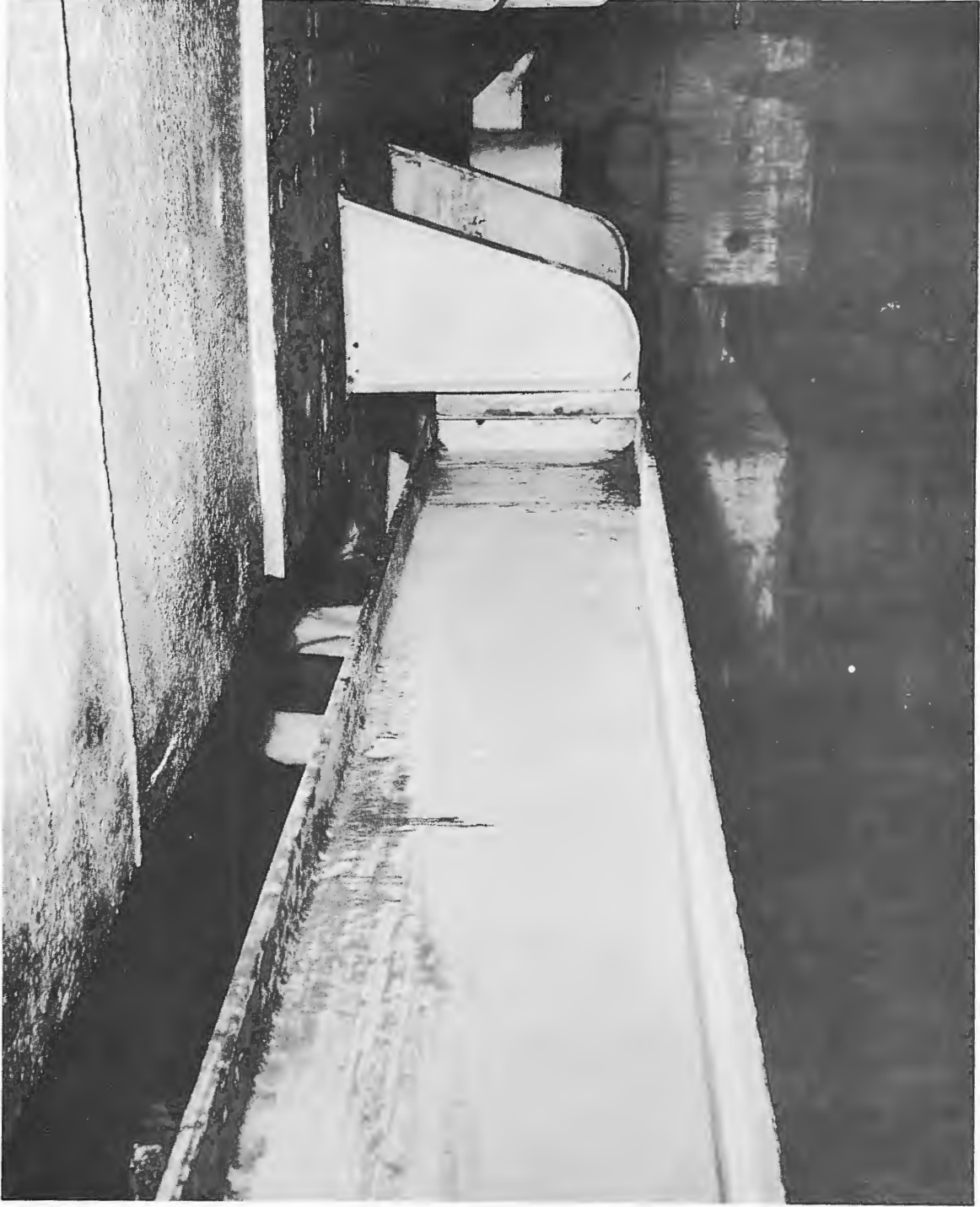


Figure 27 - Well door track and support structure

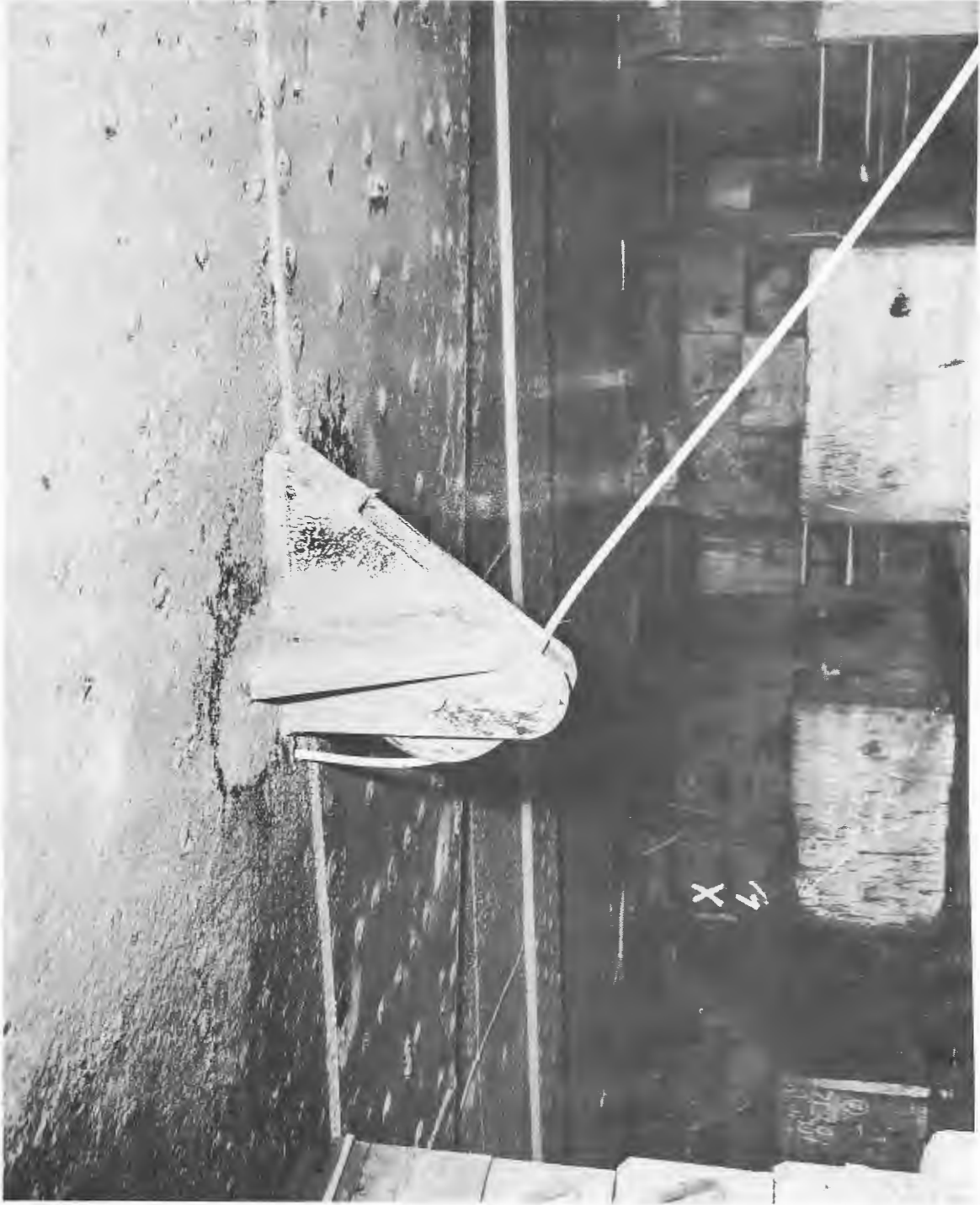


Figure 28 - Wire rope sheave for well door, underside keel, starboard side aft of door

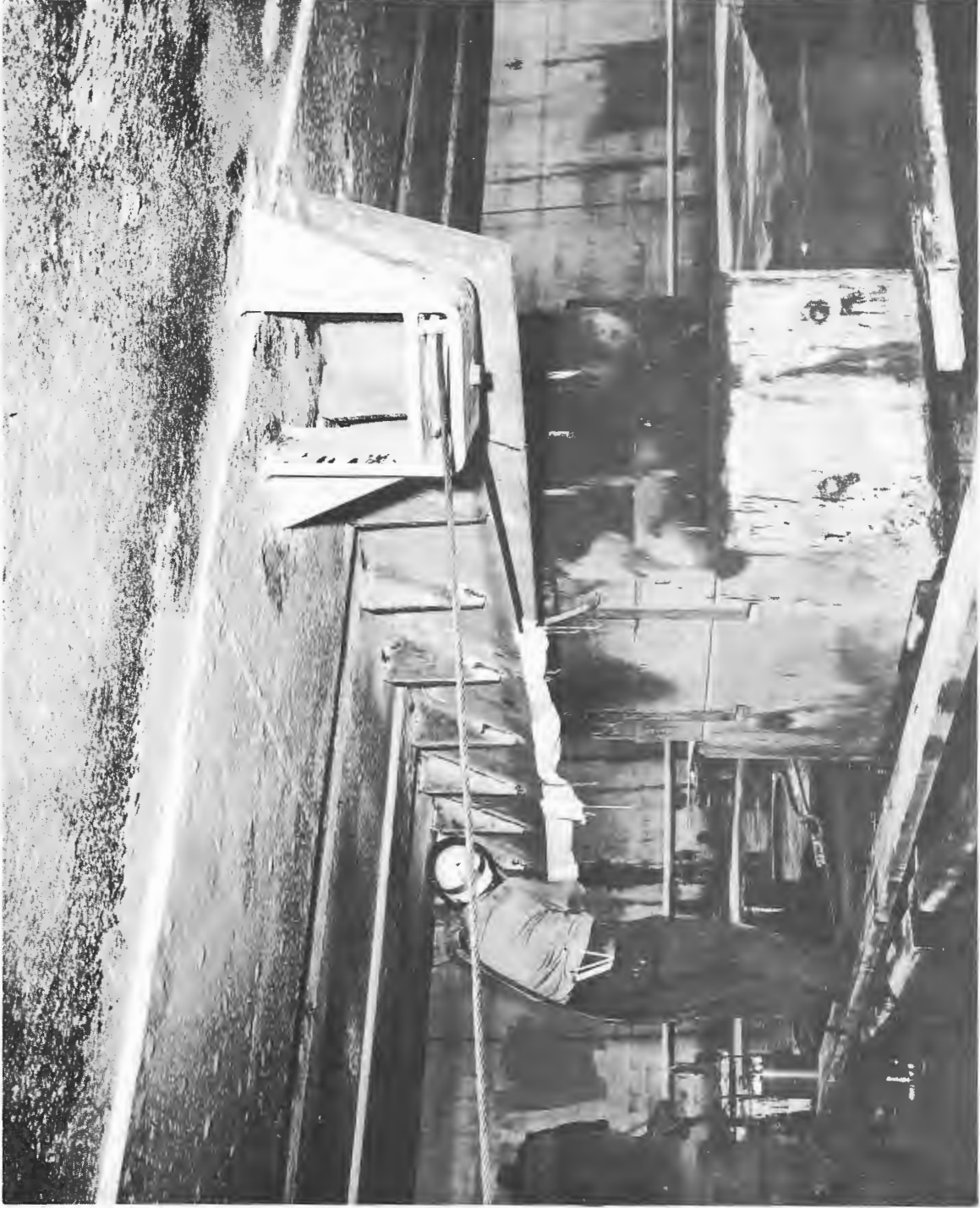


Figure 29 - Fairlead sheaves for forward cable used to open well door,
underside of keel



Figure 30 - Fairlead for array door opening cable and the cable sheave,
port side



Figure 31 - Cable shield for array door opening cable and the cable sheave,
port side

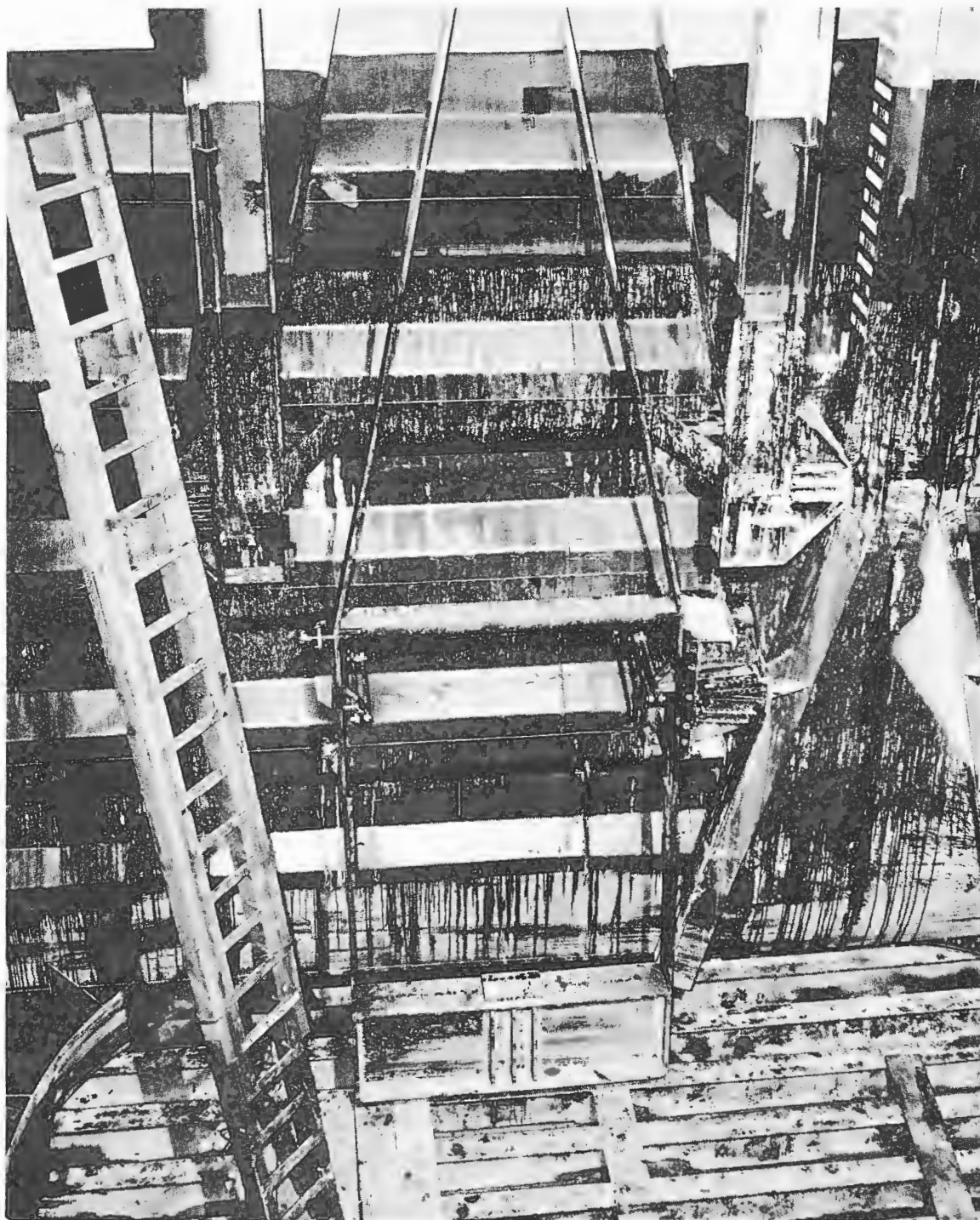


Figure 32 - Array well looking aft showing array hinge support shock mounted guide and wire rope roller path guide support



Figure 33 - Array hinge support in retracted position

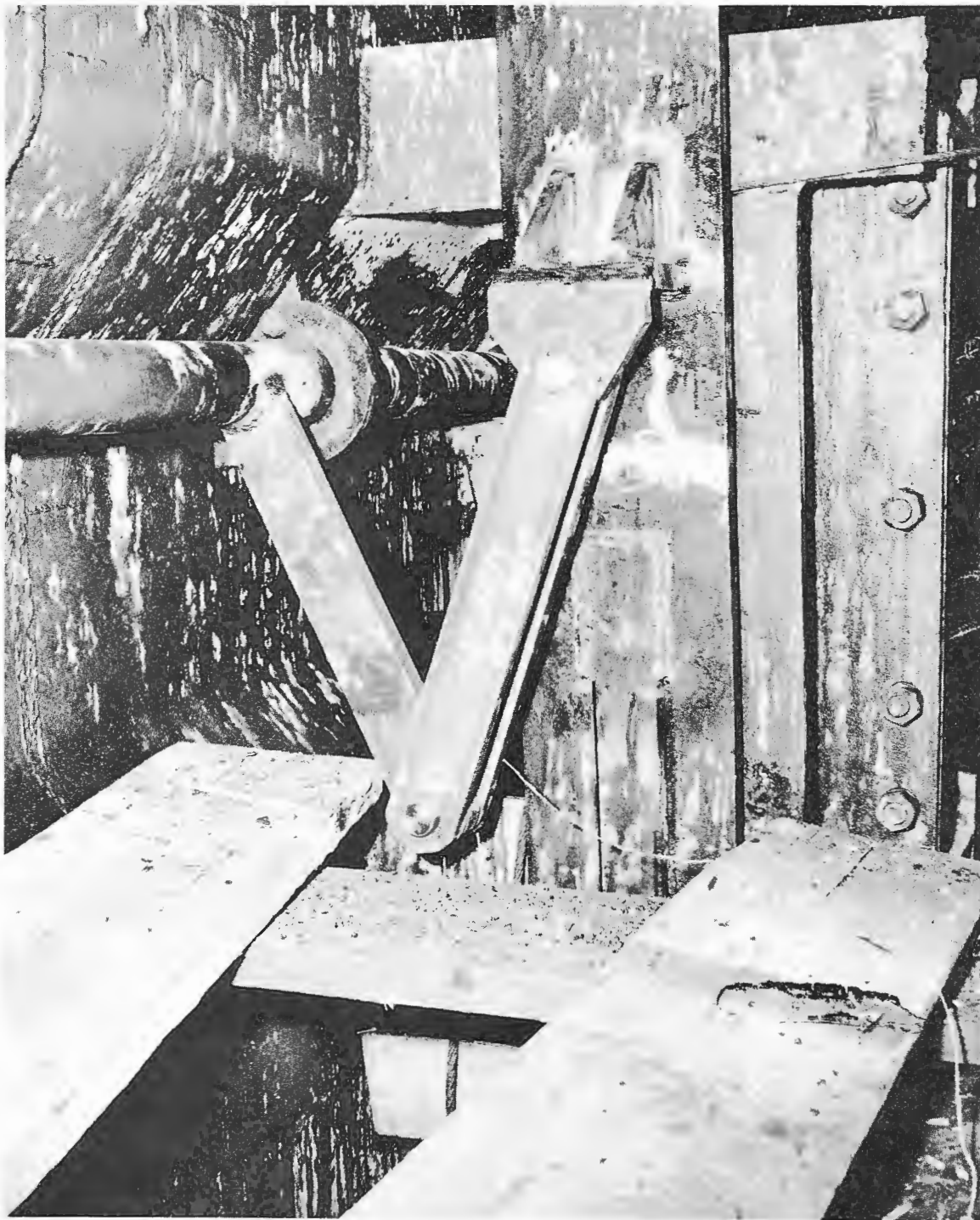


Figure 34 - Scissors mechanism for rotating array hinge support into position

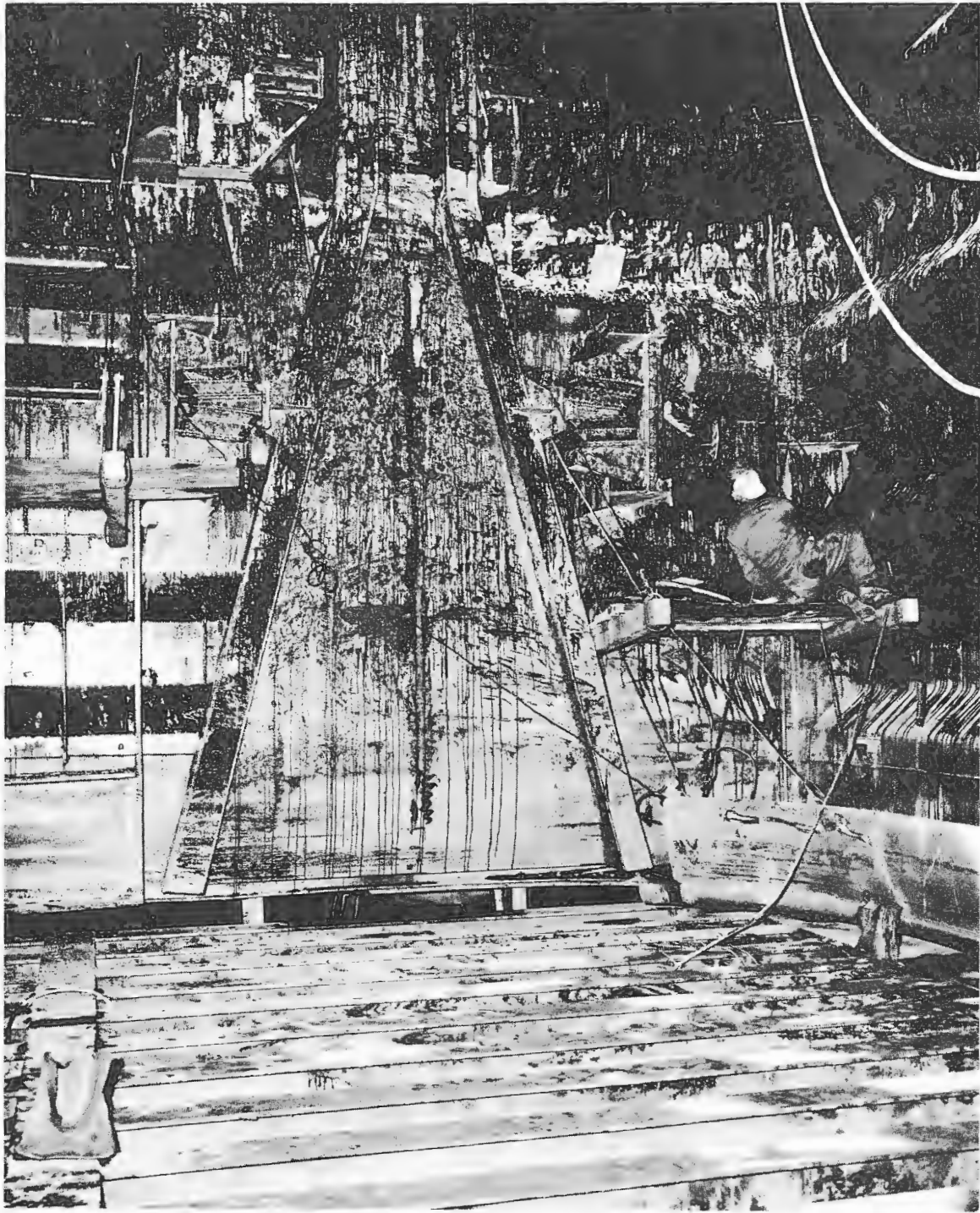


Figure 35 - Shock mounted array guide looking aft

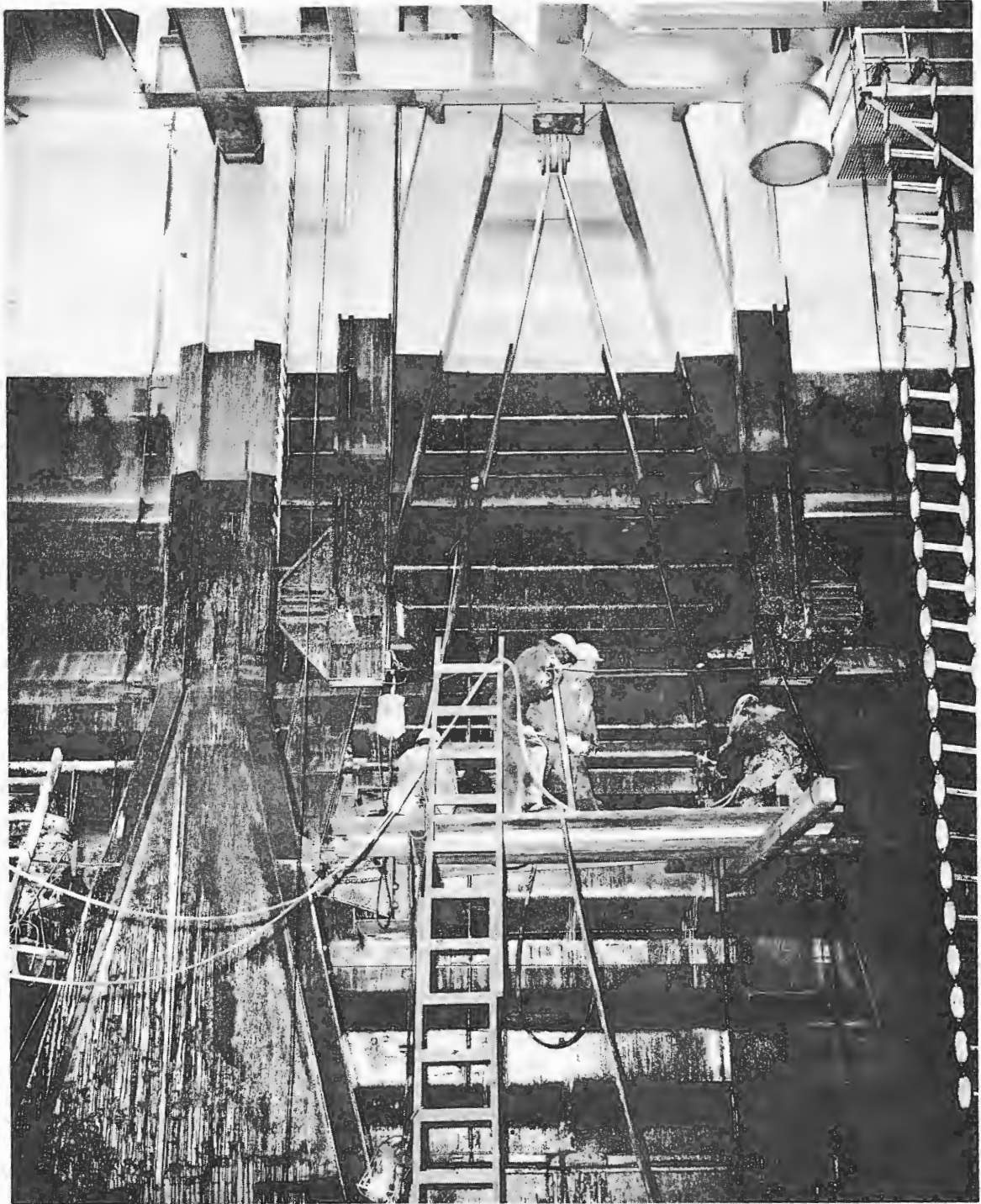


Figure 36 - Array well looking forward showing shock mounted guide, hinge support and wire rope roller path guide



Figure 37 - Array shock mounted guide and cable roller path guide support
looking forward



Figure 38 - Array shock mounted guide and cable roller path guide support
looking forward

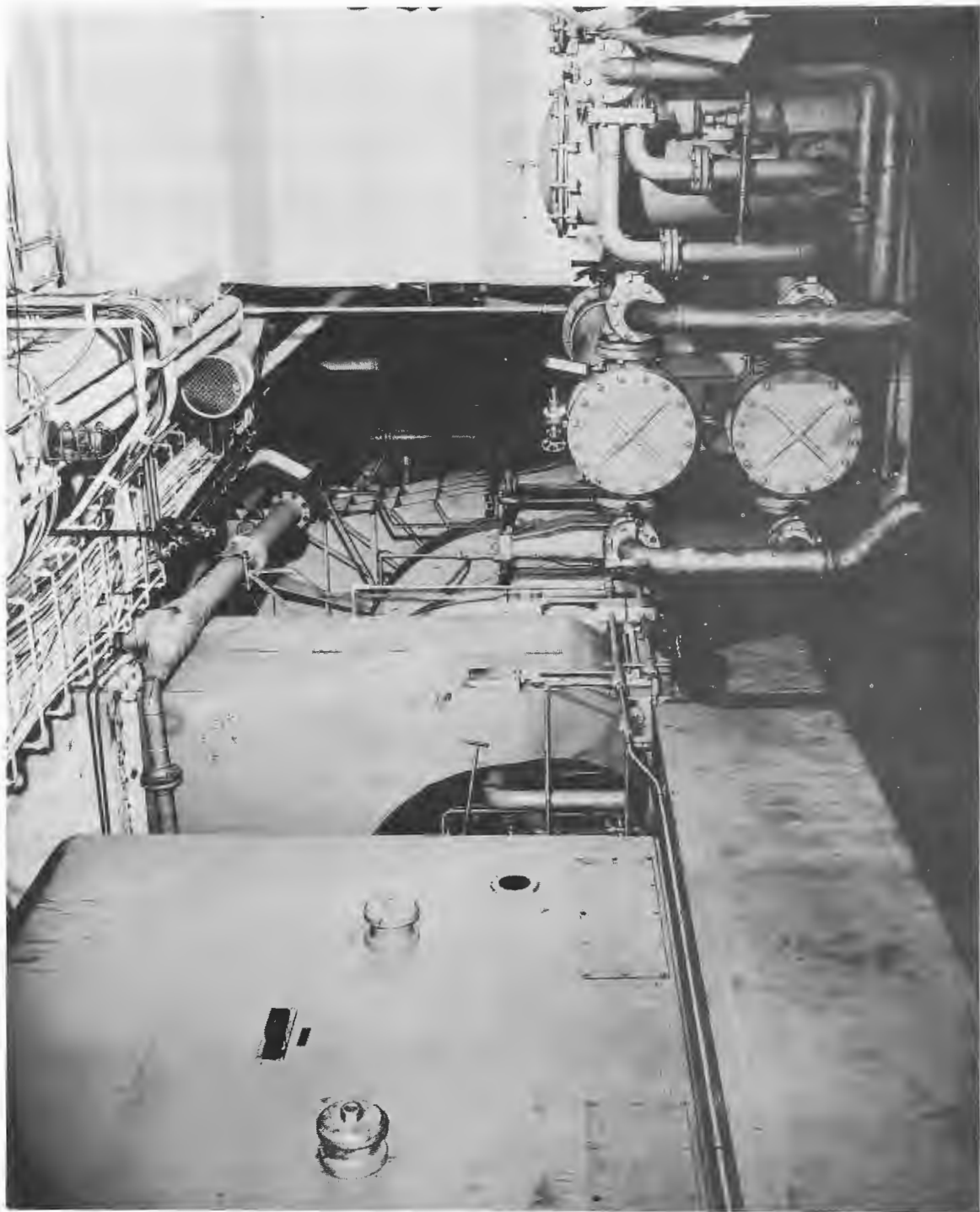


Figure 39 - Gas turbine generator and auxiliary equipment viewed from generator end, port side

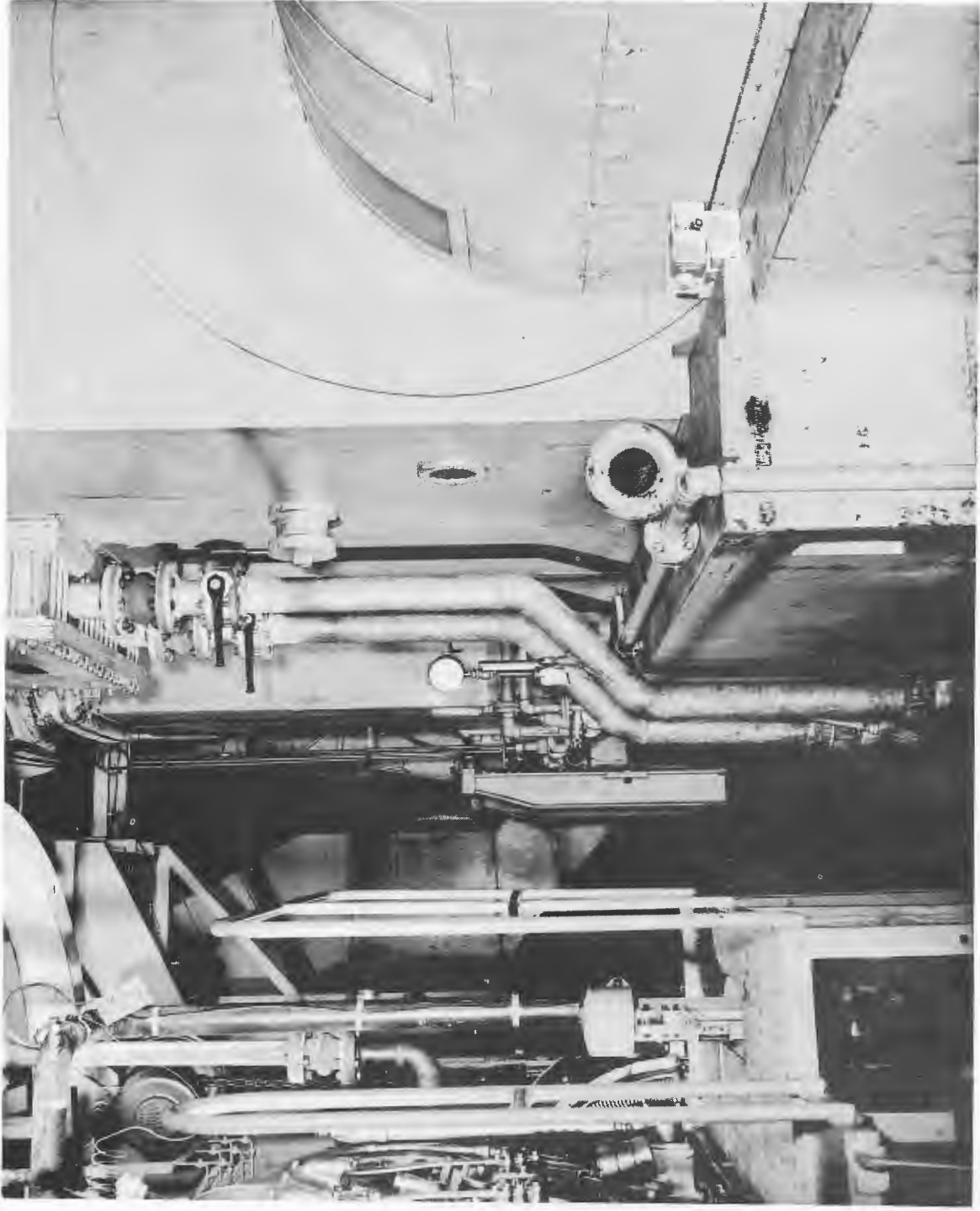


Figure 40 - Gas turbine generator looking aft from starboard side

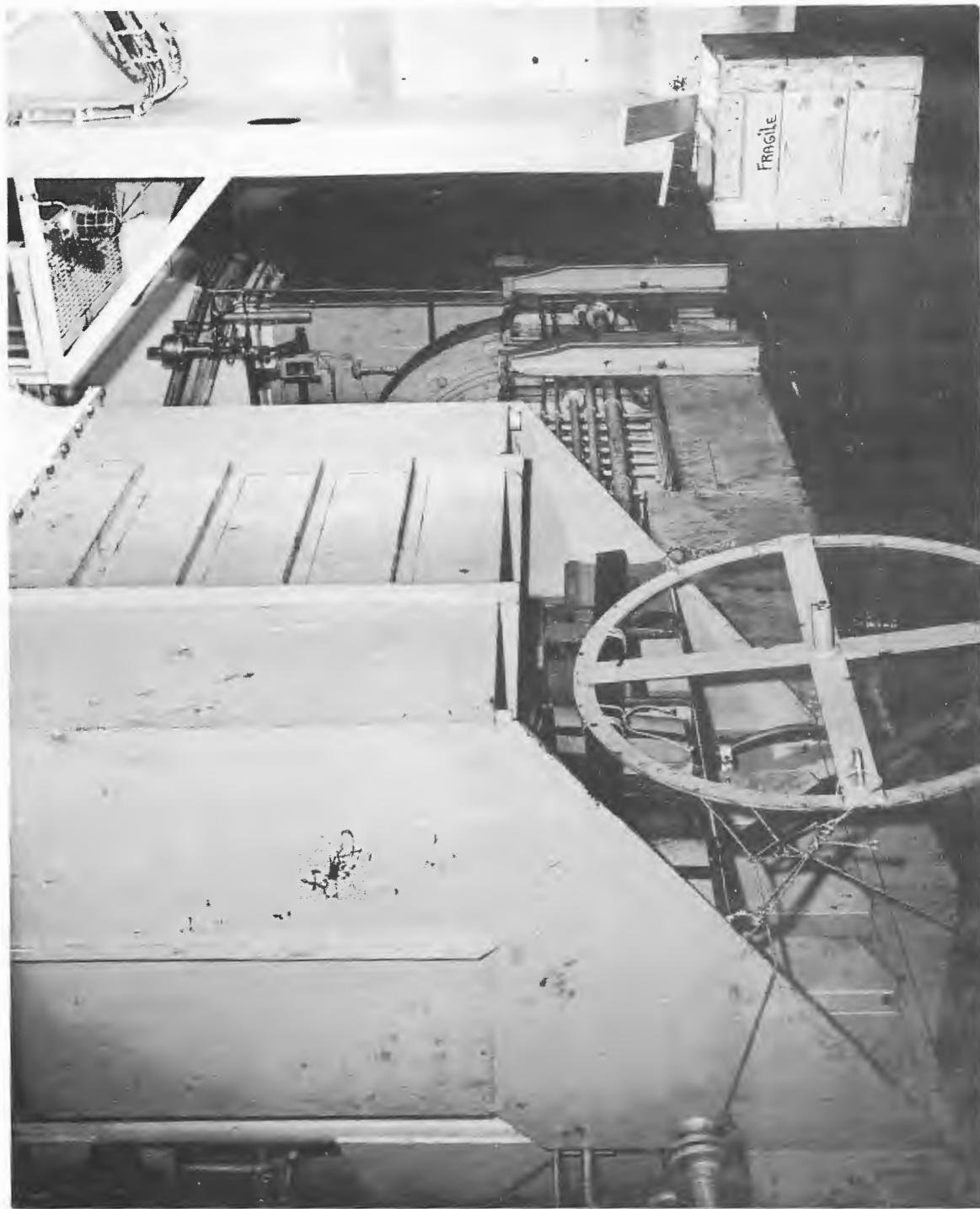


Figure 41 - Gas turbine viewed from starboard side looking forward

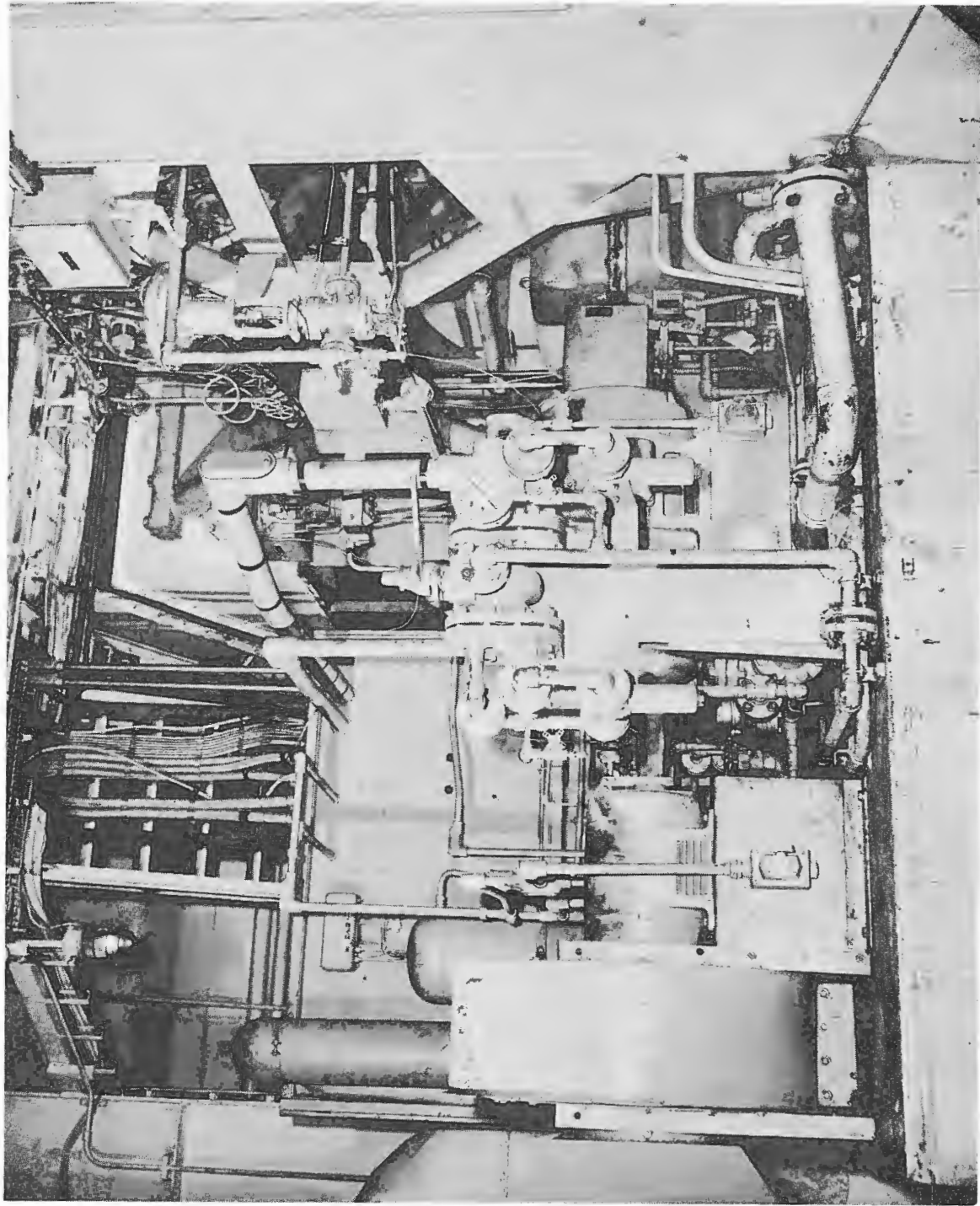


Figure 42 - Gas turbine auxiliary equipment mounted on bed plate aft of the combustion chamber

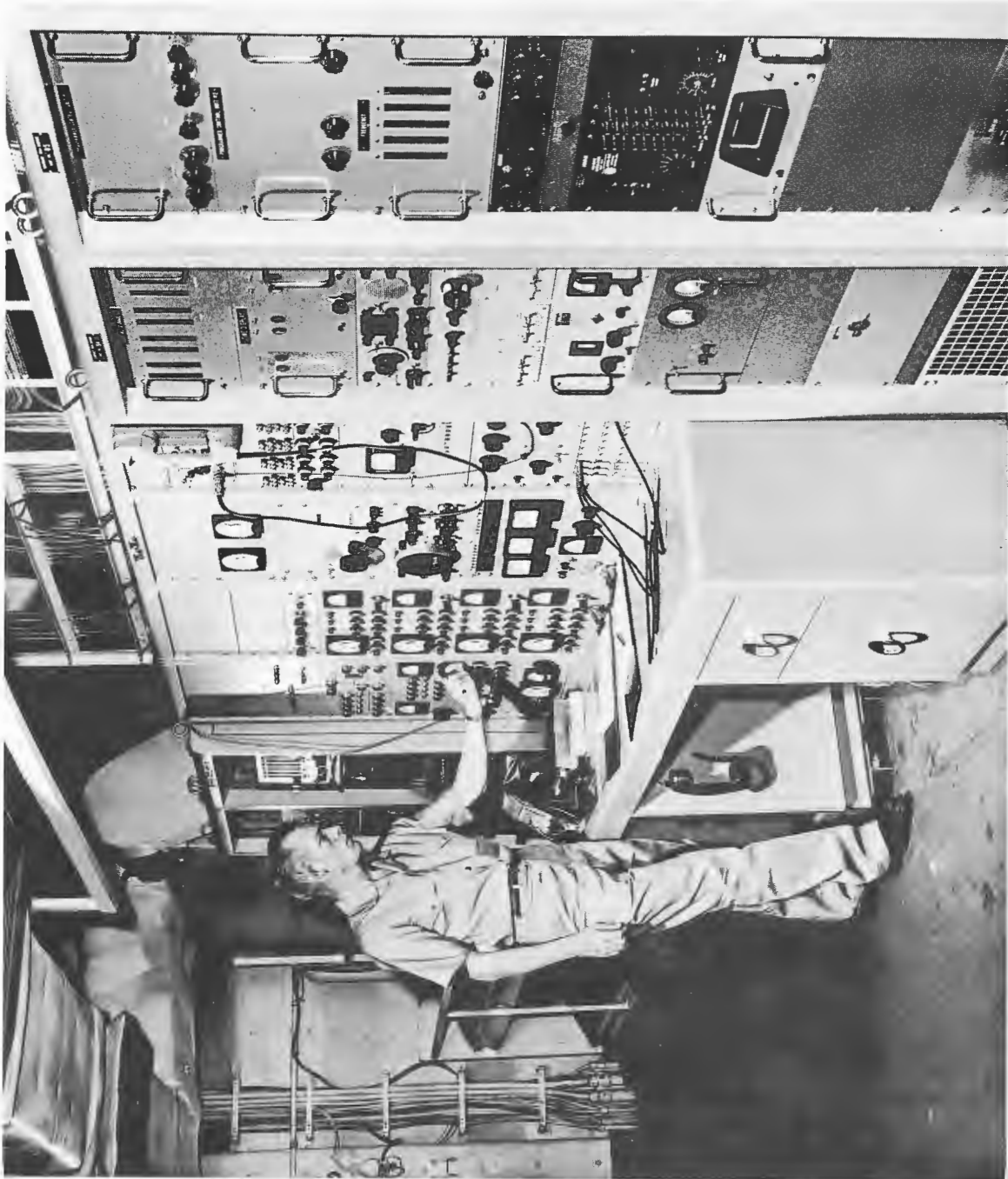


Figure 43 - Amplifier control console and system programmer

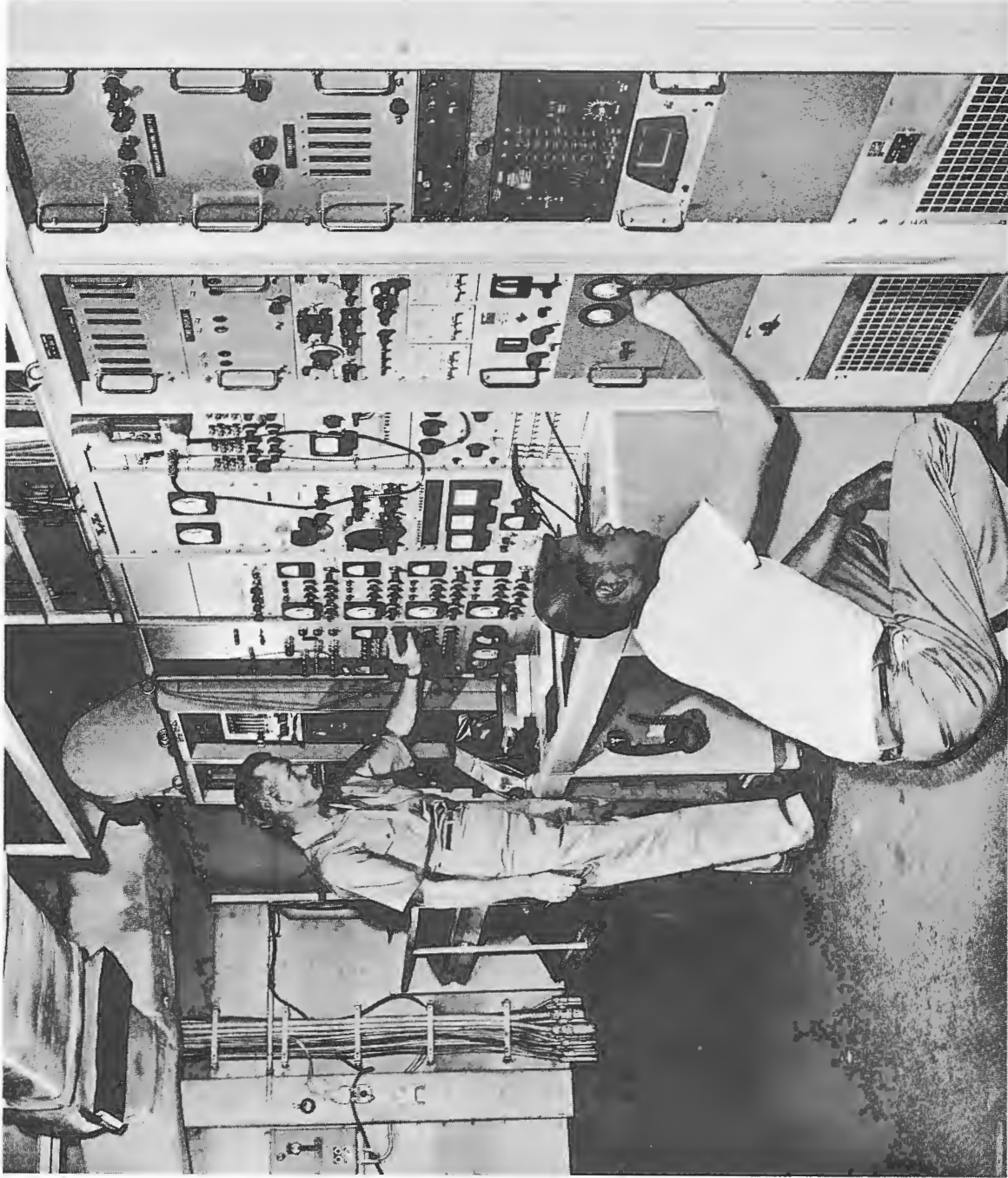


Figure 44 - Amplifier control console and system programmer



Figure 45 - Ling amplifier



Figure 46 - Front view of four Ling amplifiers

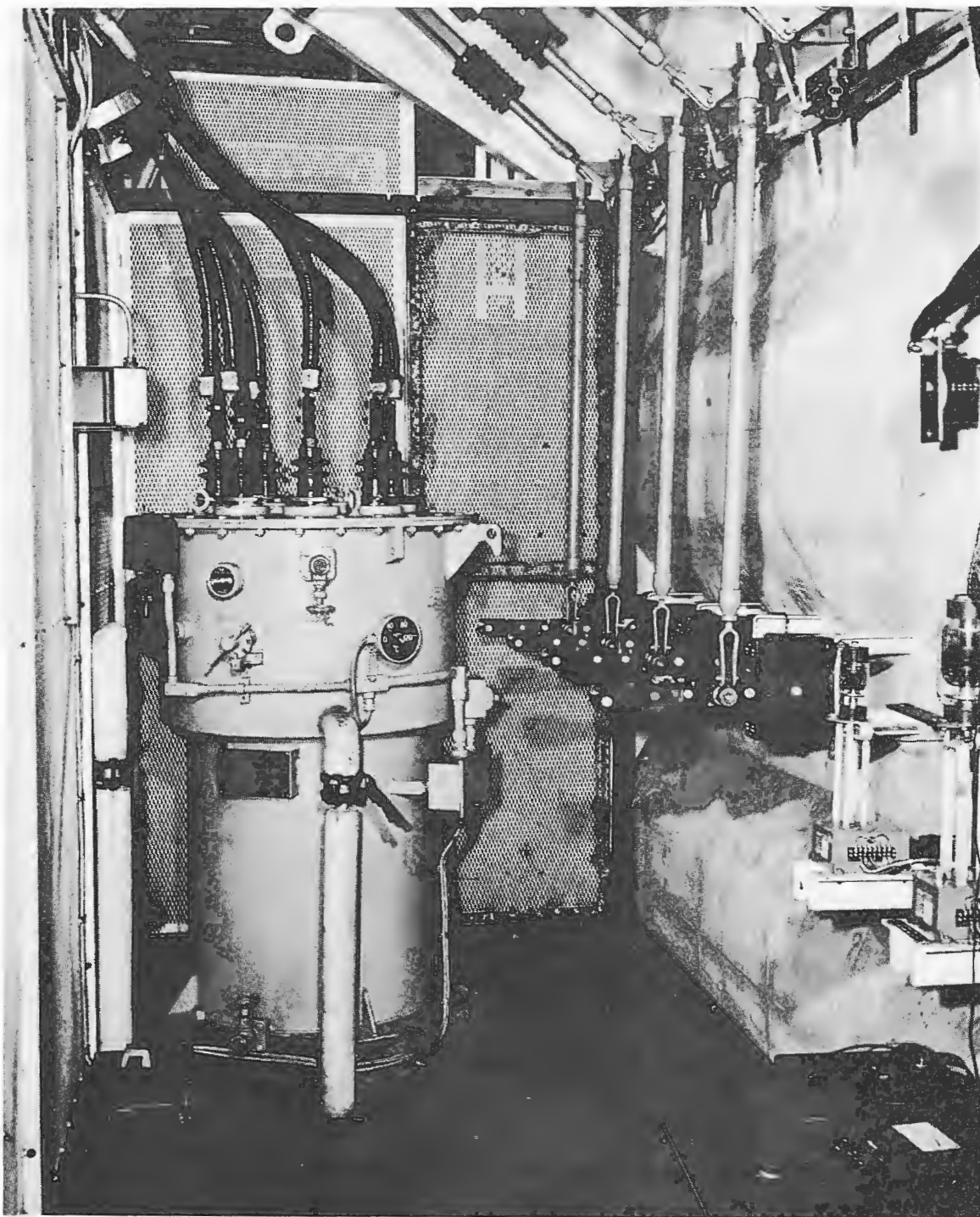


Figure 47 - Amplifier matching transformer



Figure 48 - Single amplifier and system test load

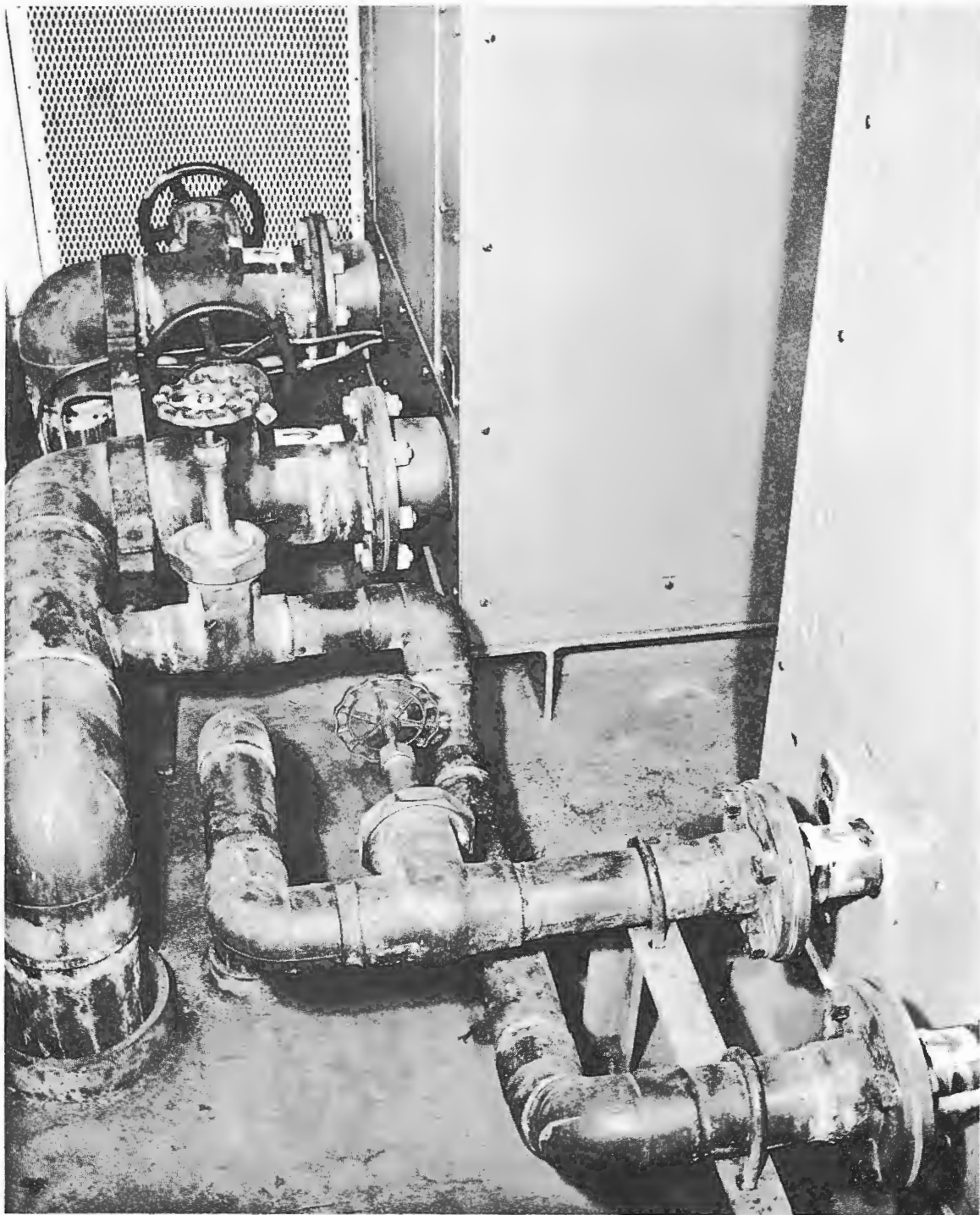


Figure 49 - Piping to single amplifier and system test load



Figure 50 - Single amplifier and system test load cooling water

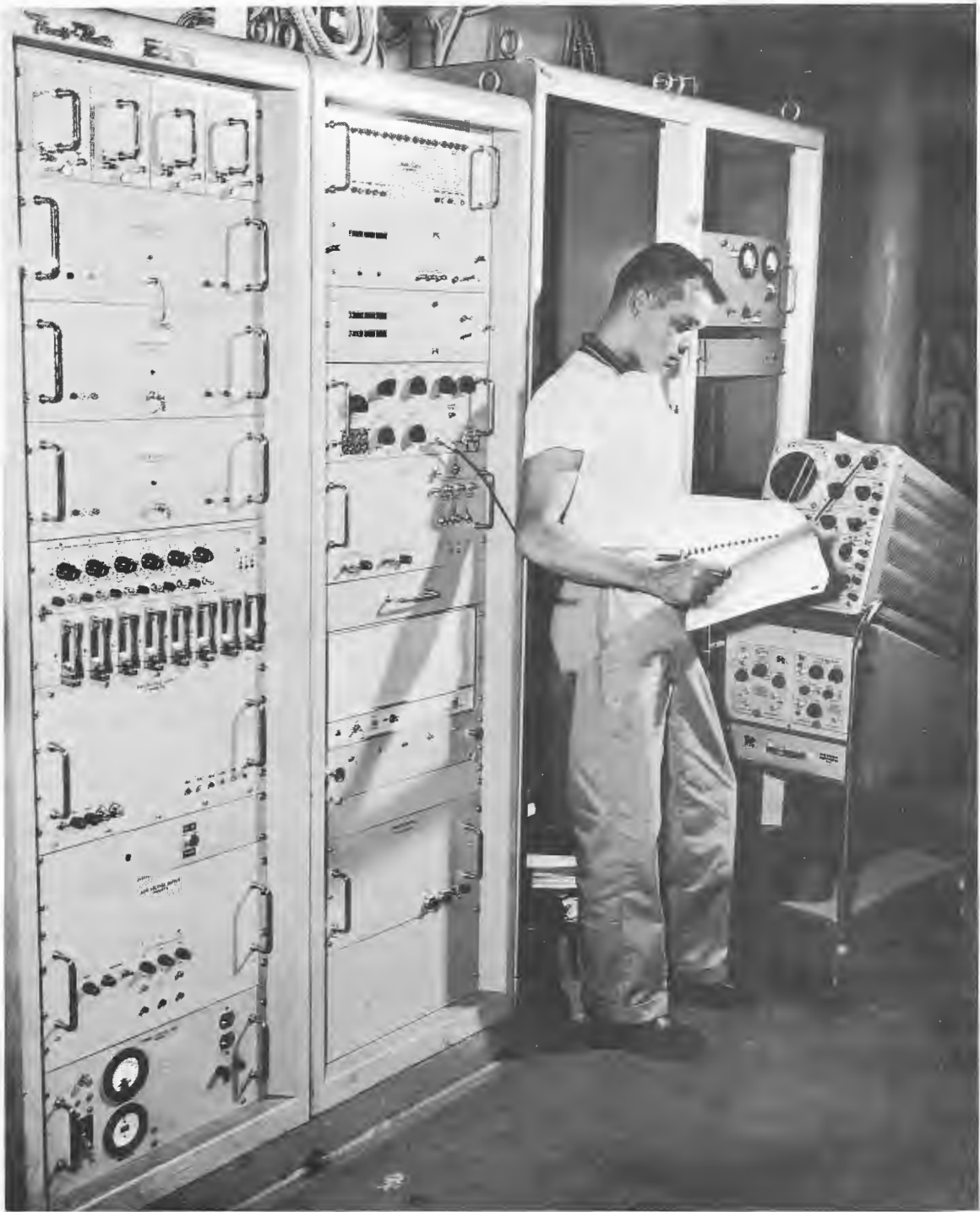


Figure 51 - Amplifier room PDS array instrumentation rack

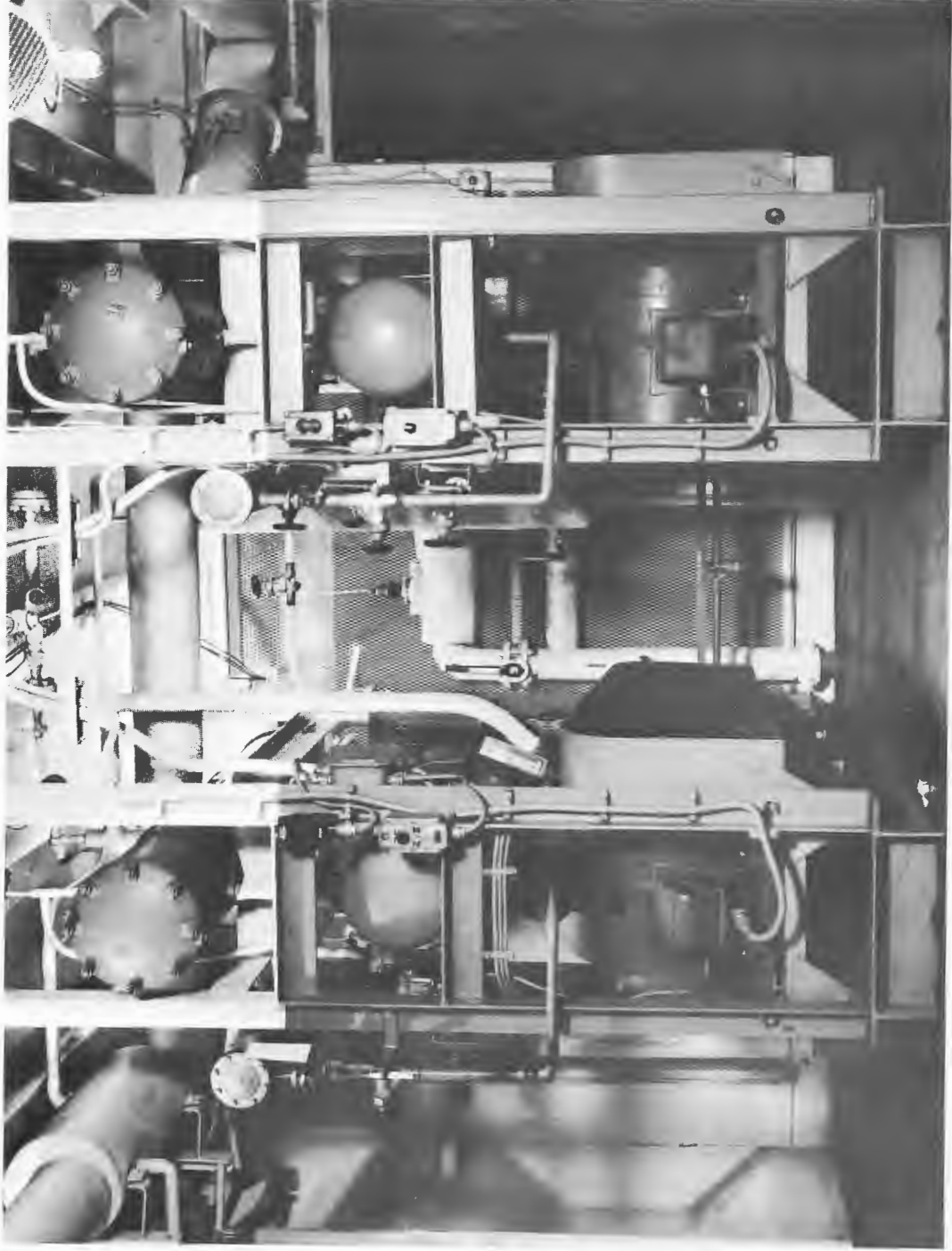


Figure 52 - Refrigeration equipment for amplifier room air conditioning



Figure 53 - Electric cable winch for instrumentation cable

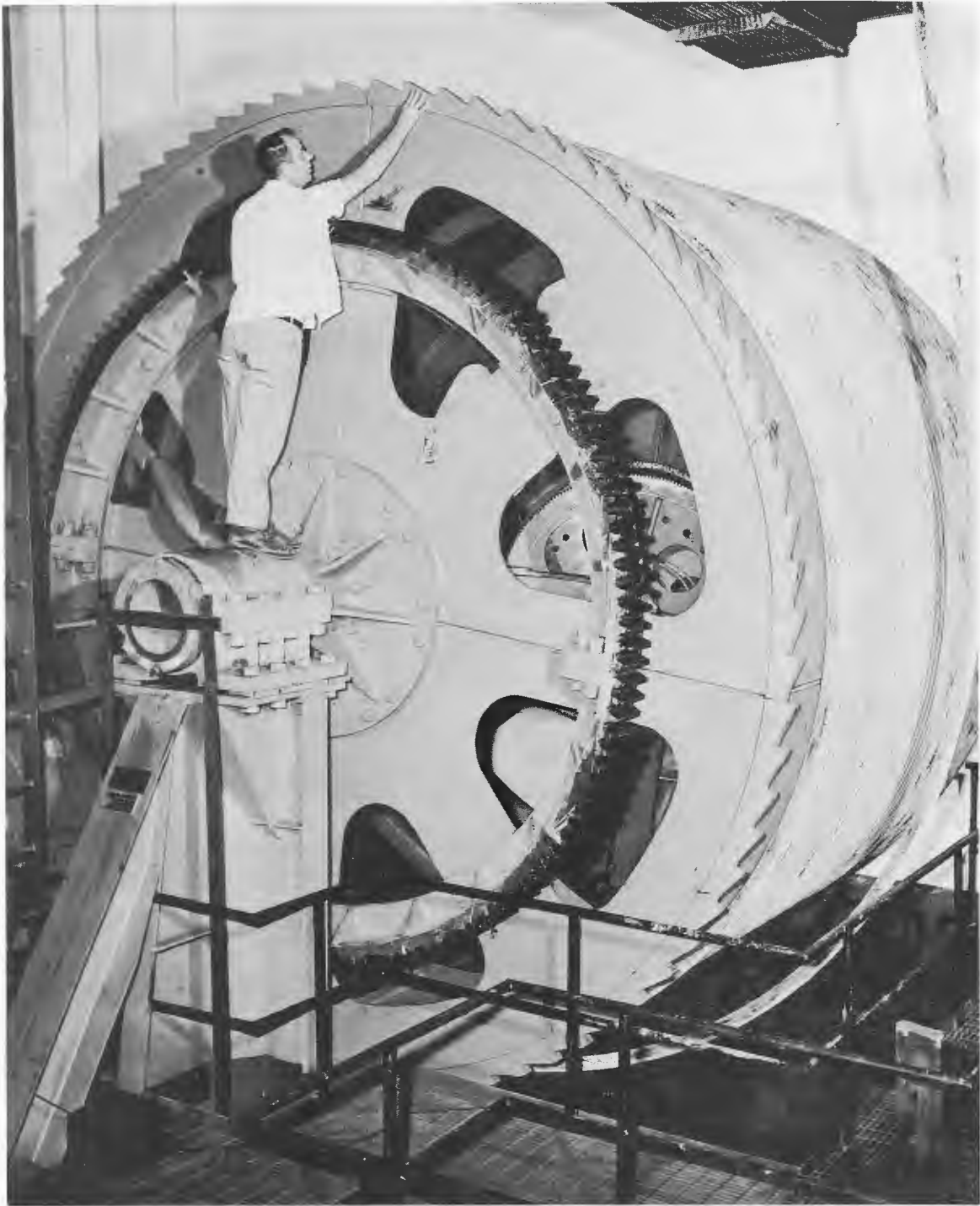


Figure 54 - Electric cable winch for instrumentation cable



Figure 55 - Fleeting sheave for three phase cable winch

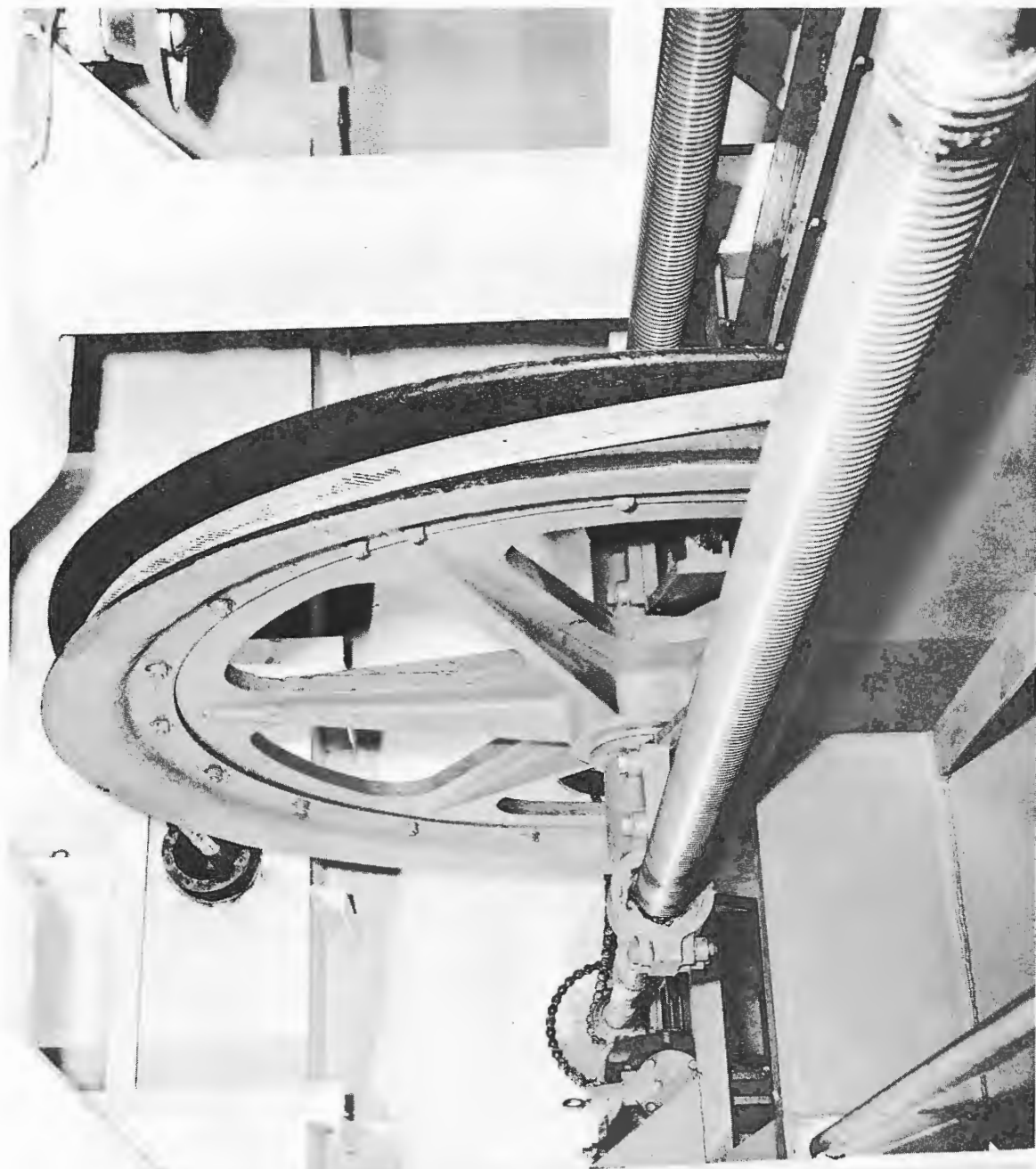


Figure 56 - Fleeting sheave for electrical cable winch

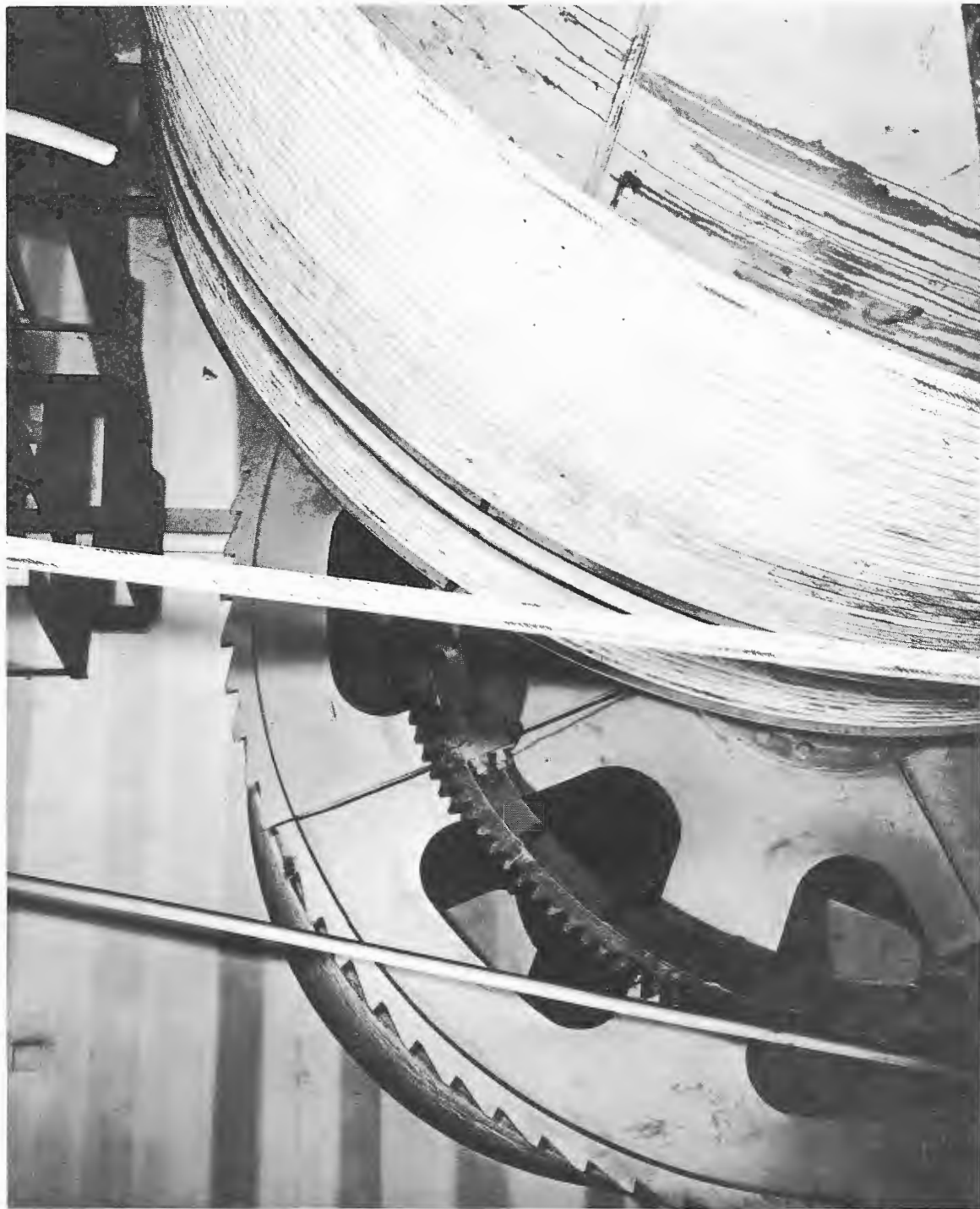


Figure 57 - Electric cable winch drum for single phase and three phase cable



Figure 58 - Electric cable winch, drum and slack cable indicator bar



Figure 59 - Array control station off of midship deck house at 02 level;
controls for fore and aft array winches

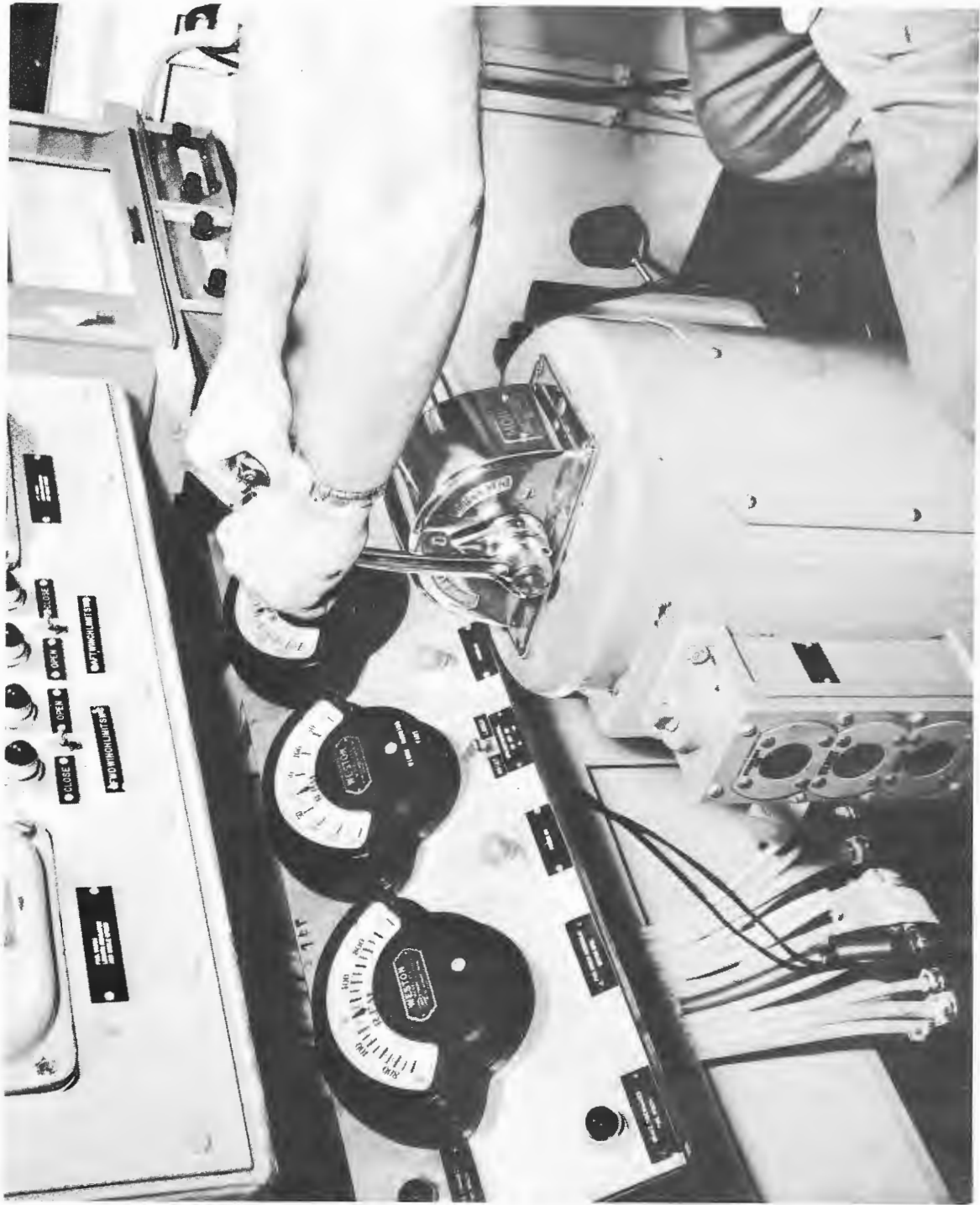


Figure 60 - Array control station; controls for fore and aft array winches

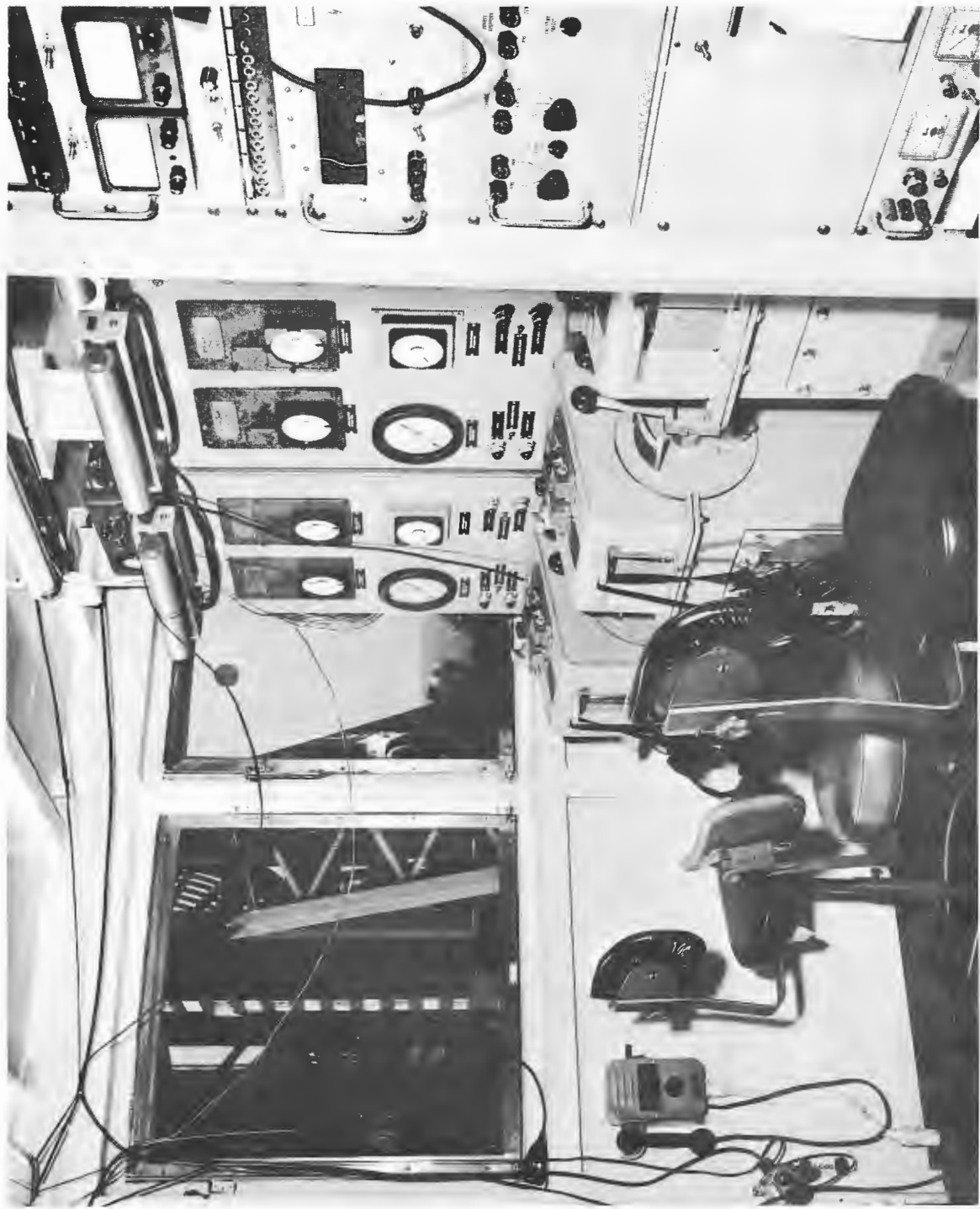


Figure 61 - Array control station; electric cable winch control and array instrumentation rack

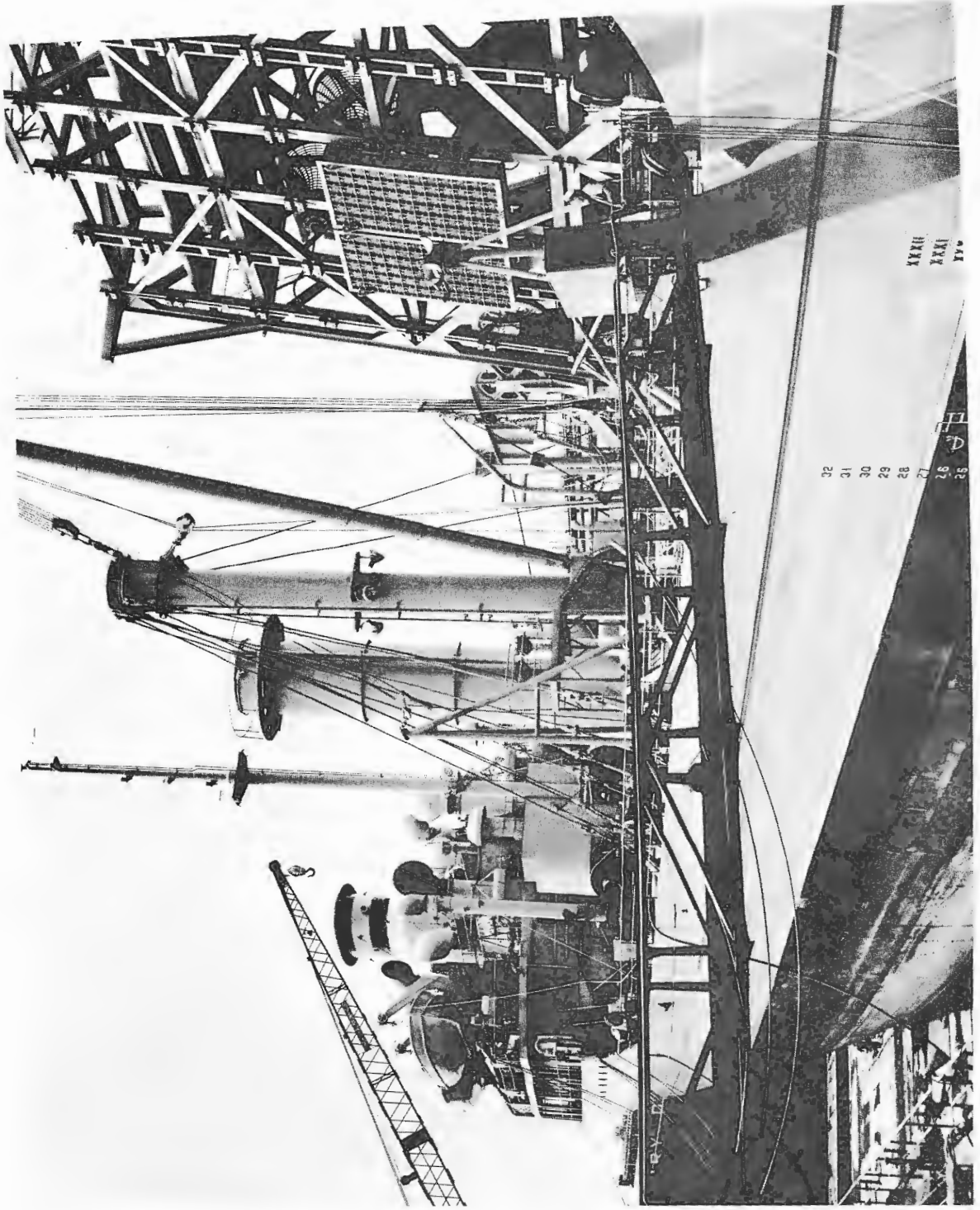


Figure 62 - In drydock looking aft

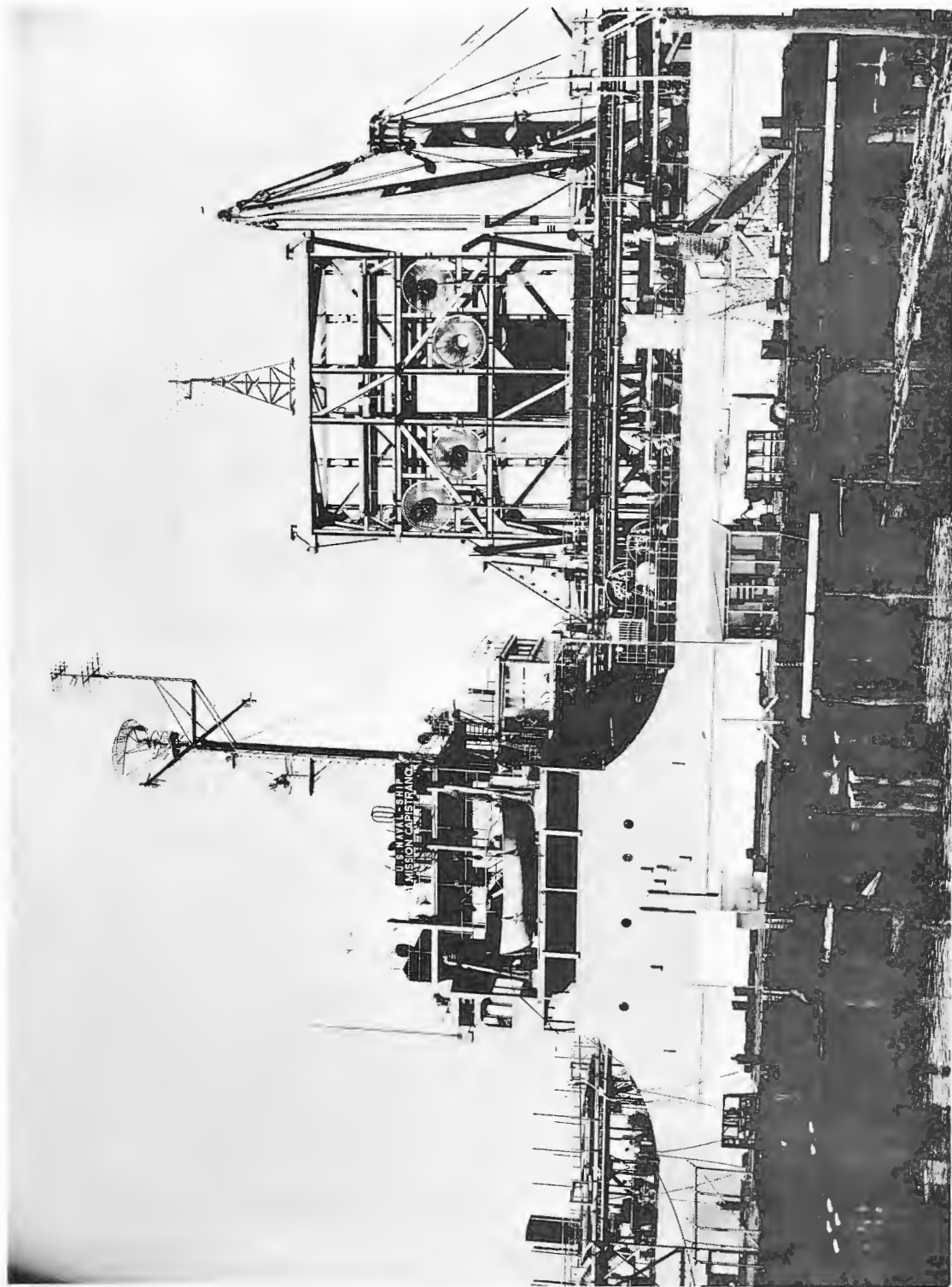


Figure 63 - Midship section of ship viewed from port side with array structure in elevated position

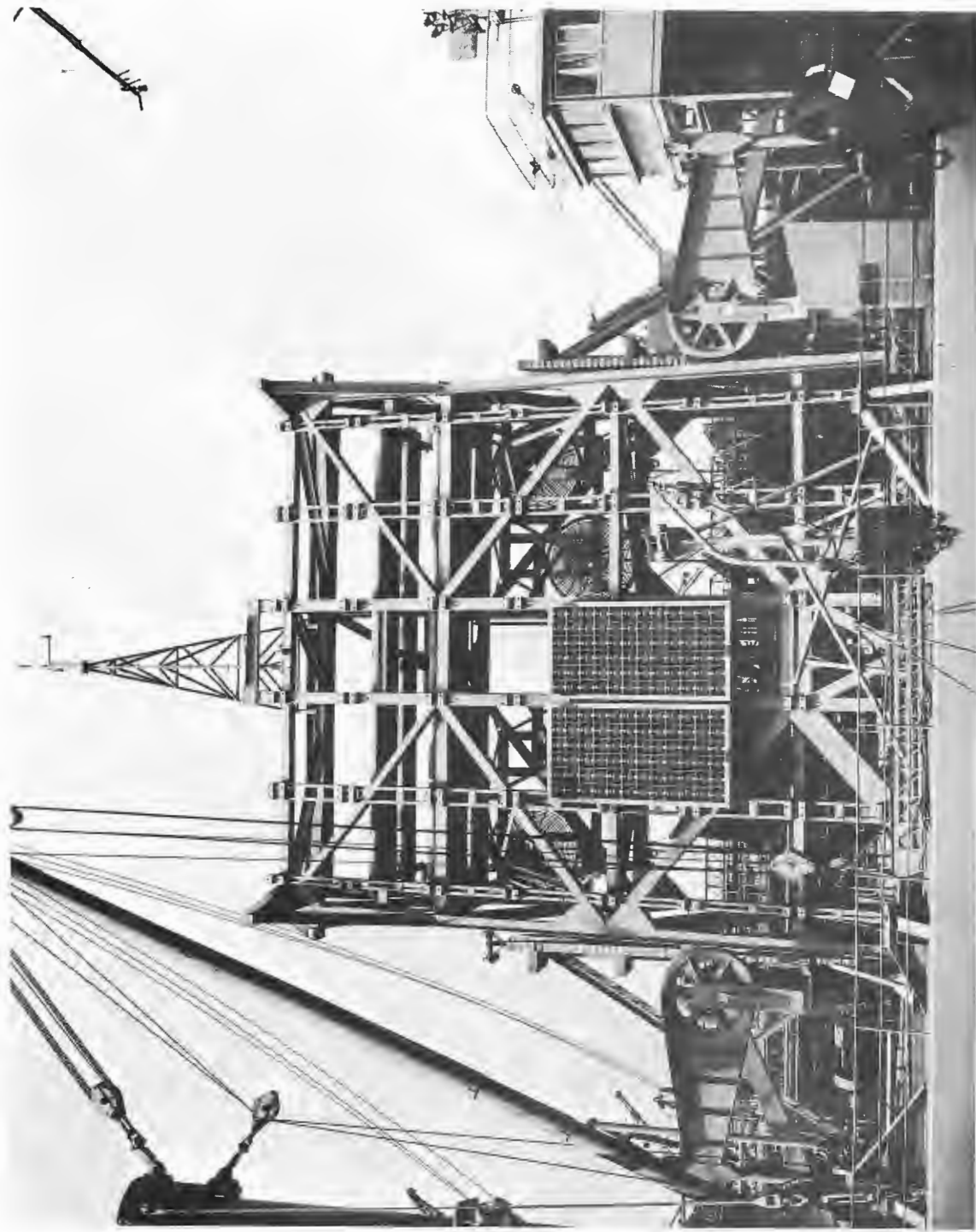


Figure 64 - Array structure in elevated position viewed from starboard side

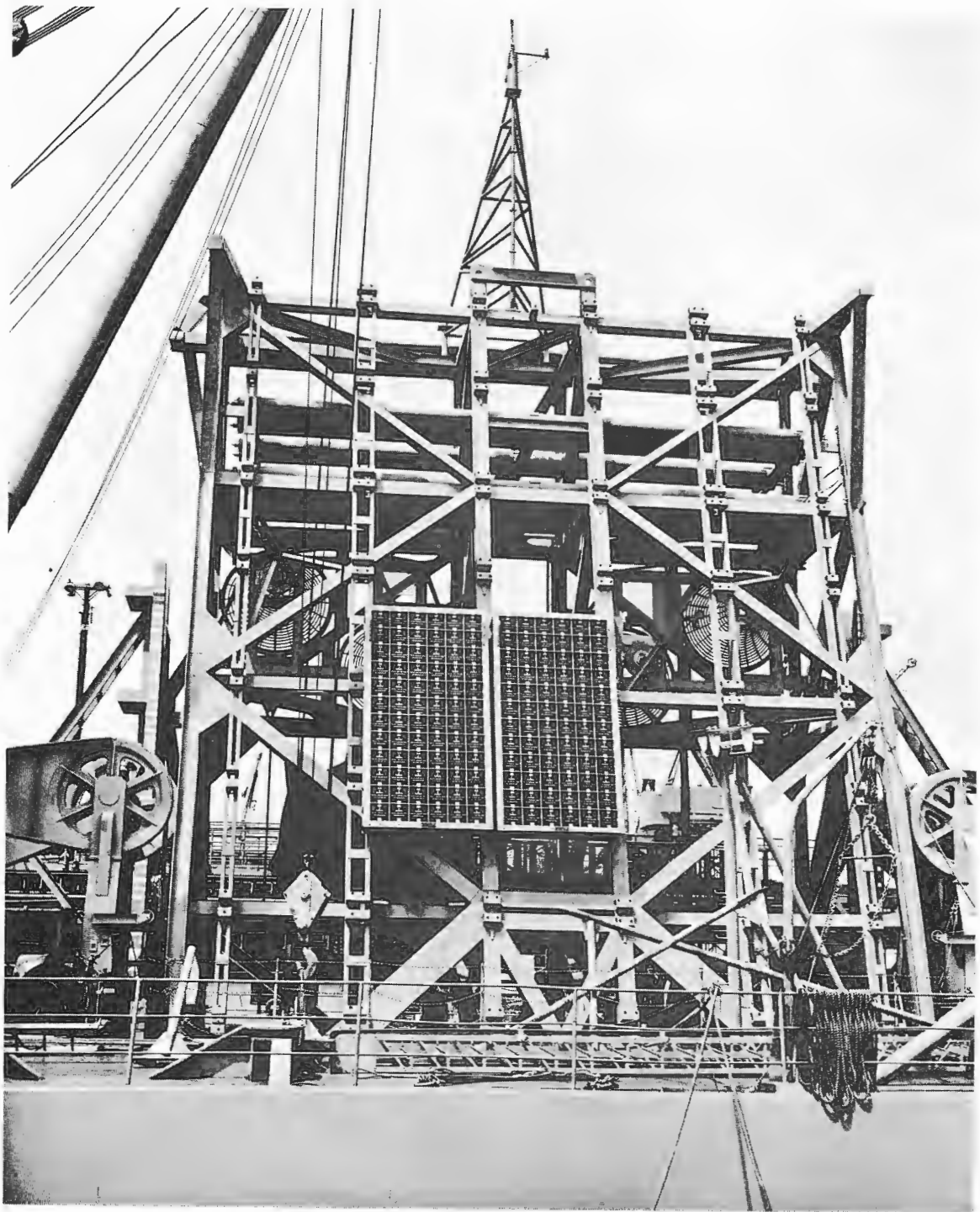


Figure 65 - Array support structure in elevated position viewed from starboard side

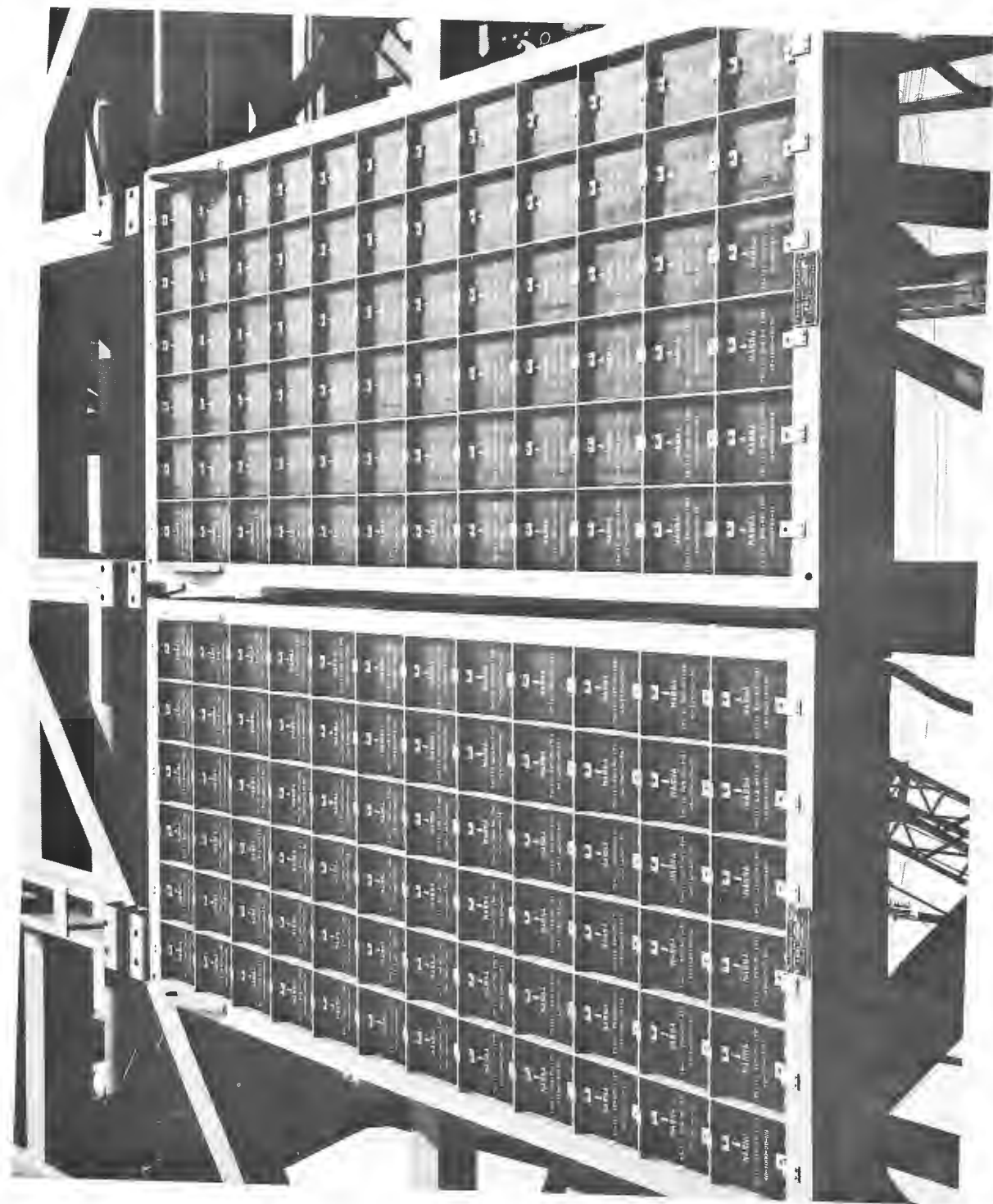


Figure 66 - Array structure transducer modules, serial numbers 5 and 6
as seen from main deck starboard side

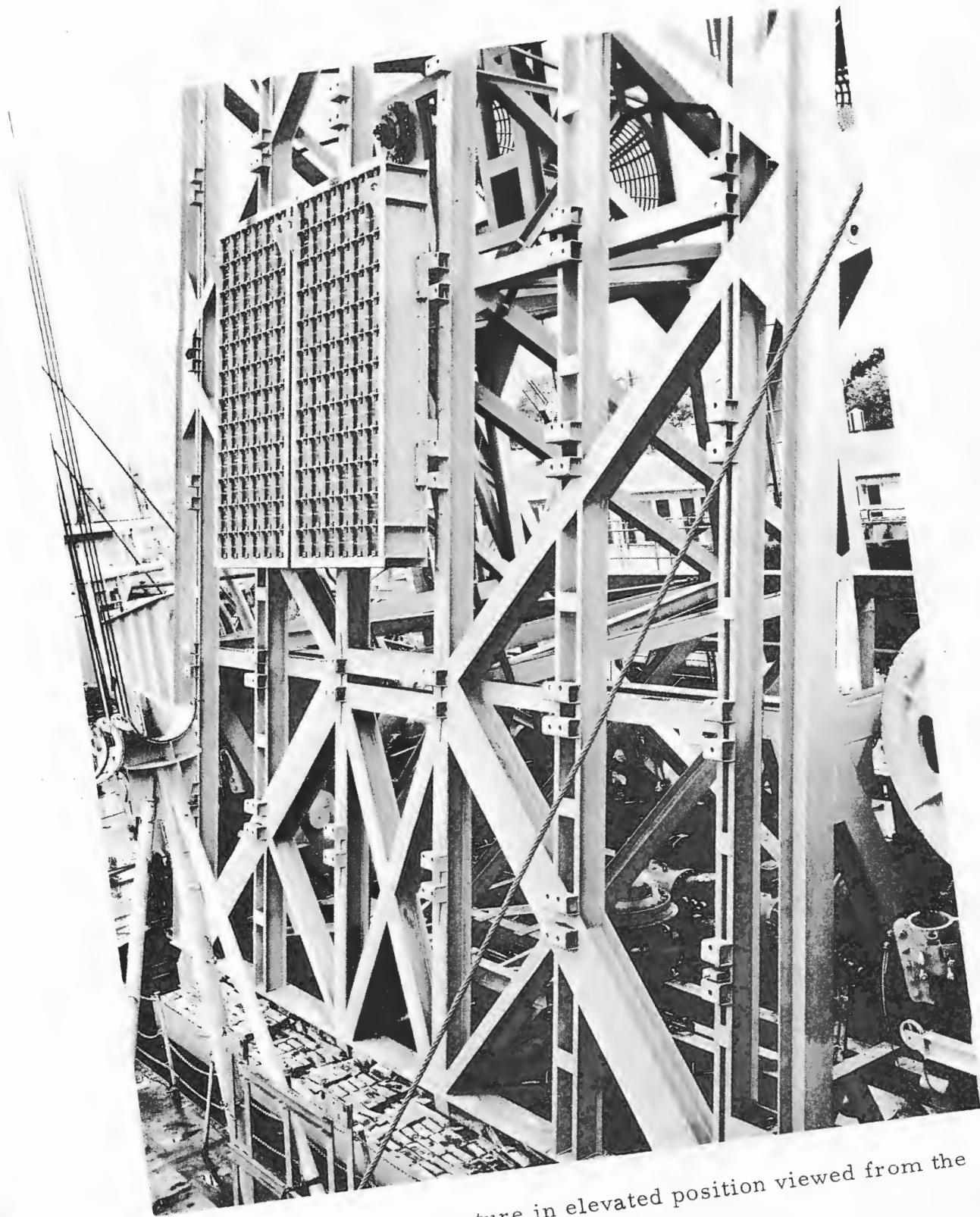


Figure 67 - Array structure in elevated position viewed from the starboard side, 02 level

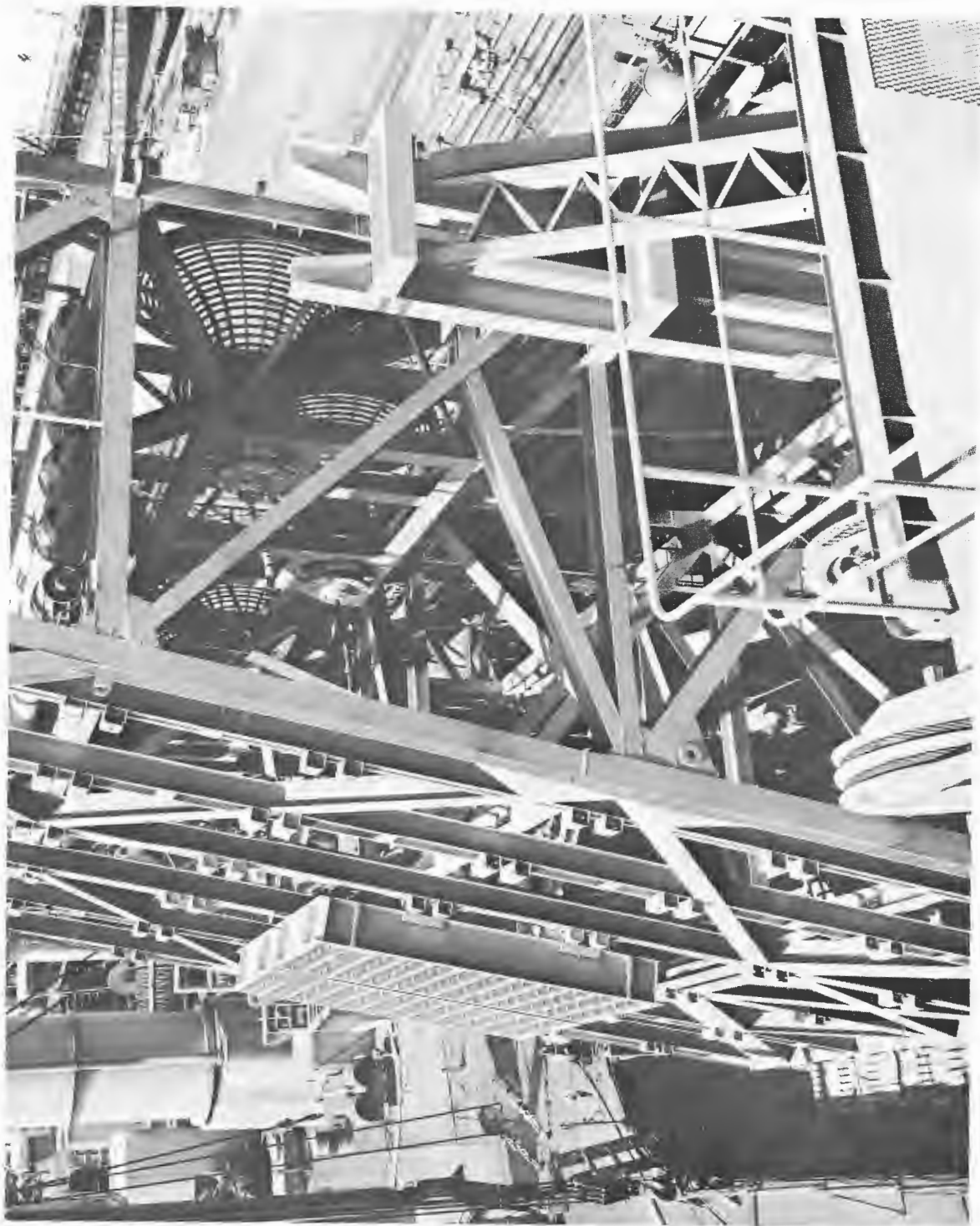


Figure 68 - Array structure in elevated position looking aft from flying bridge deck



Figure 69 - Array structure in elevated position viewed from the starboard side at 02 level



Figure 70 - Array structure viewed from forward showing nitrogen bottles and electric cable entrance bells

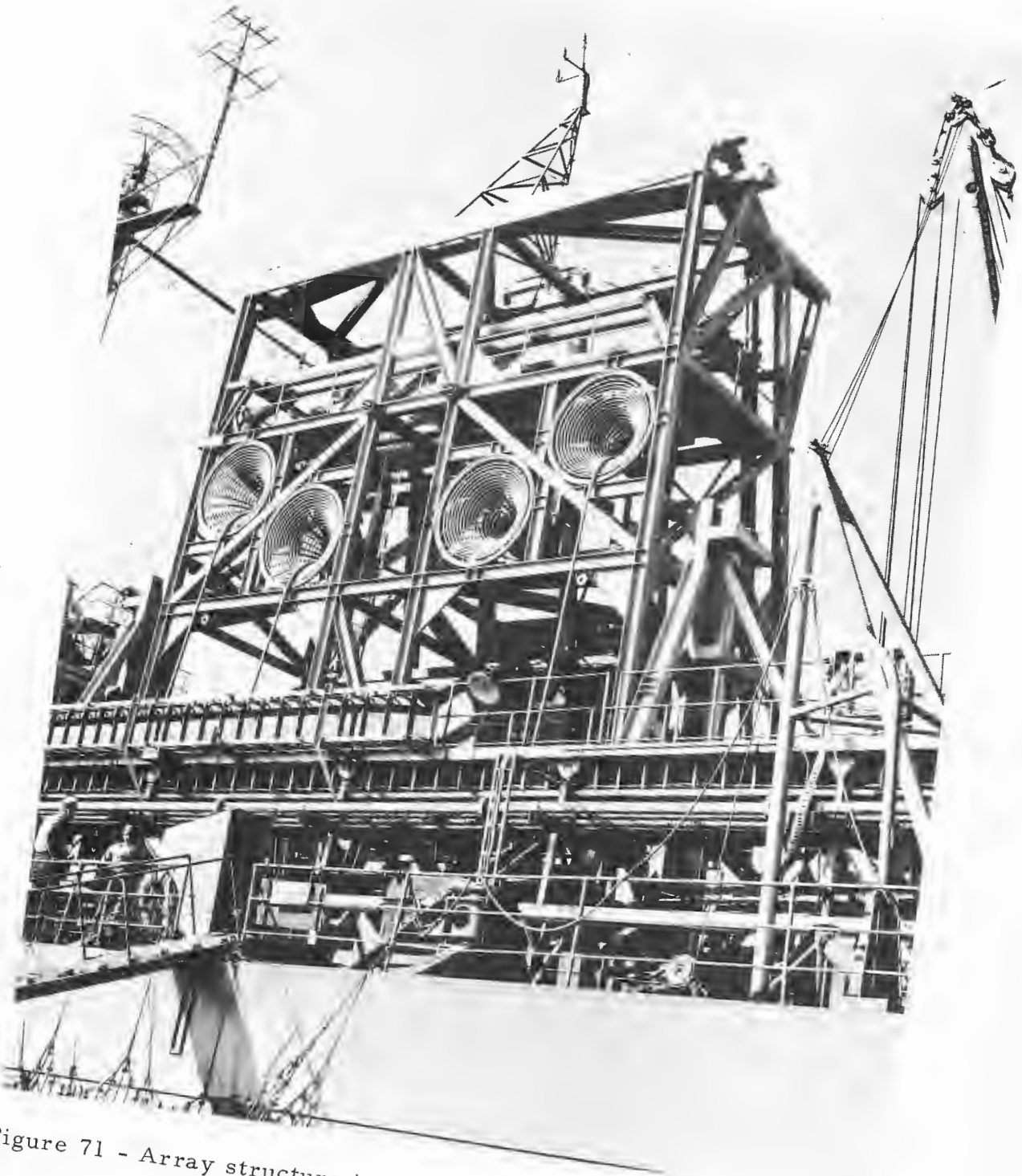


Figure 71 - Array structure in elevated position viewed from port side

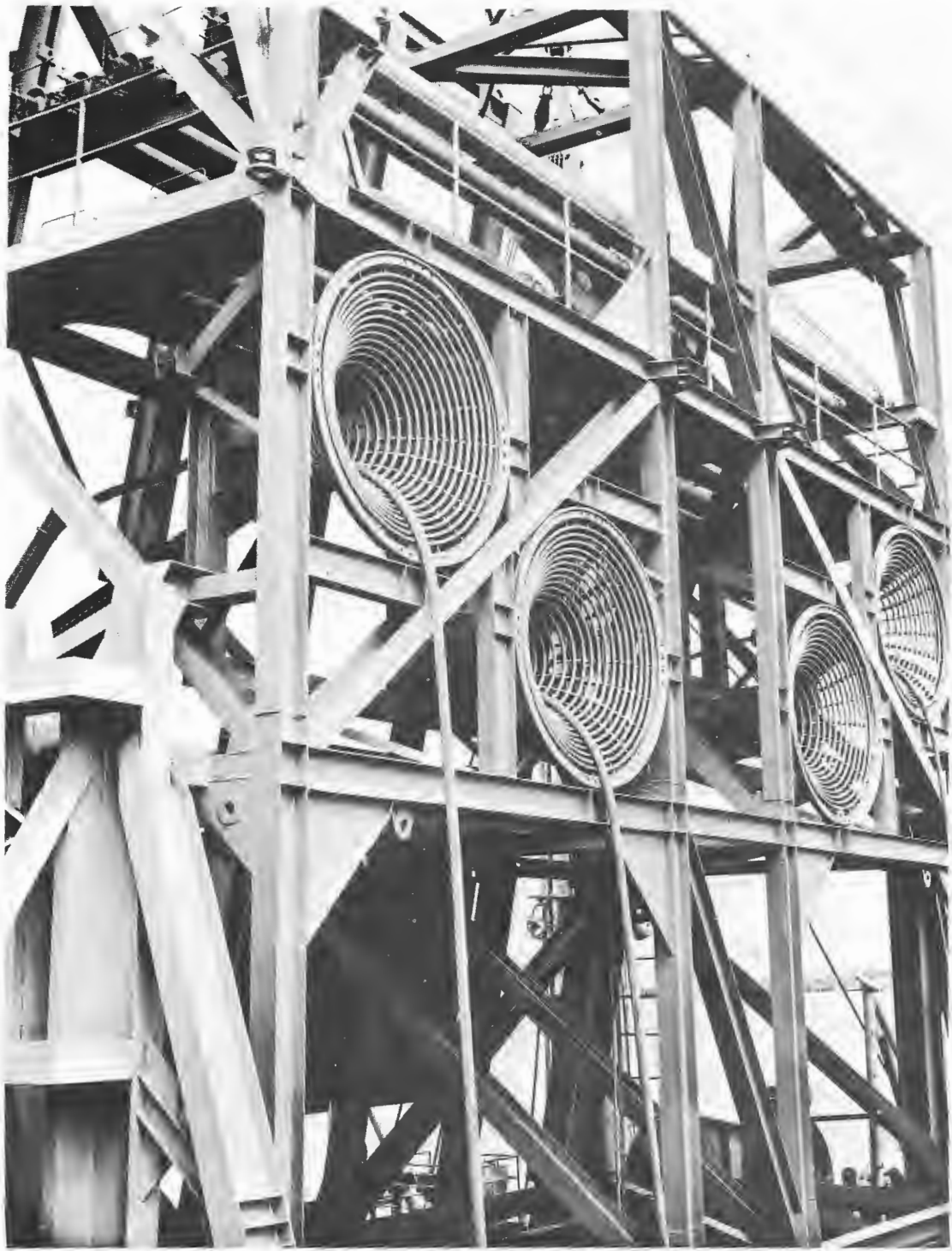


Figure 72 - Array structure in elevated position viewed from port side



Figure 73 - Array structure in elevated position viewed from aft

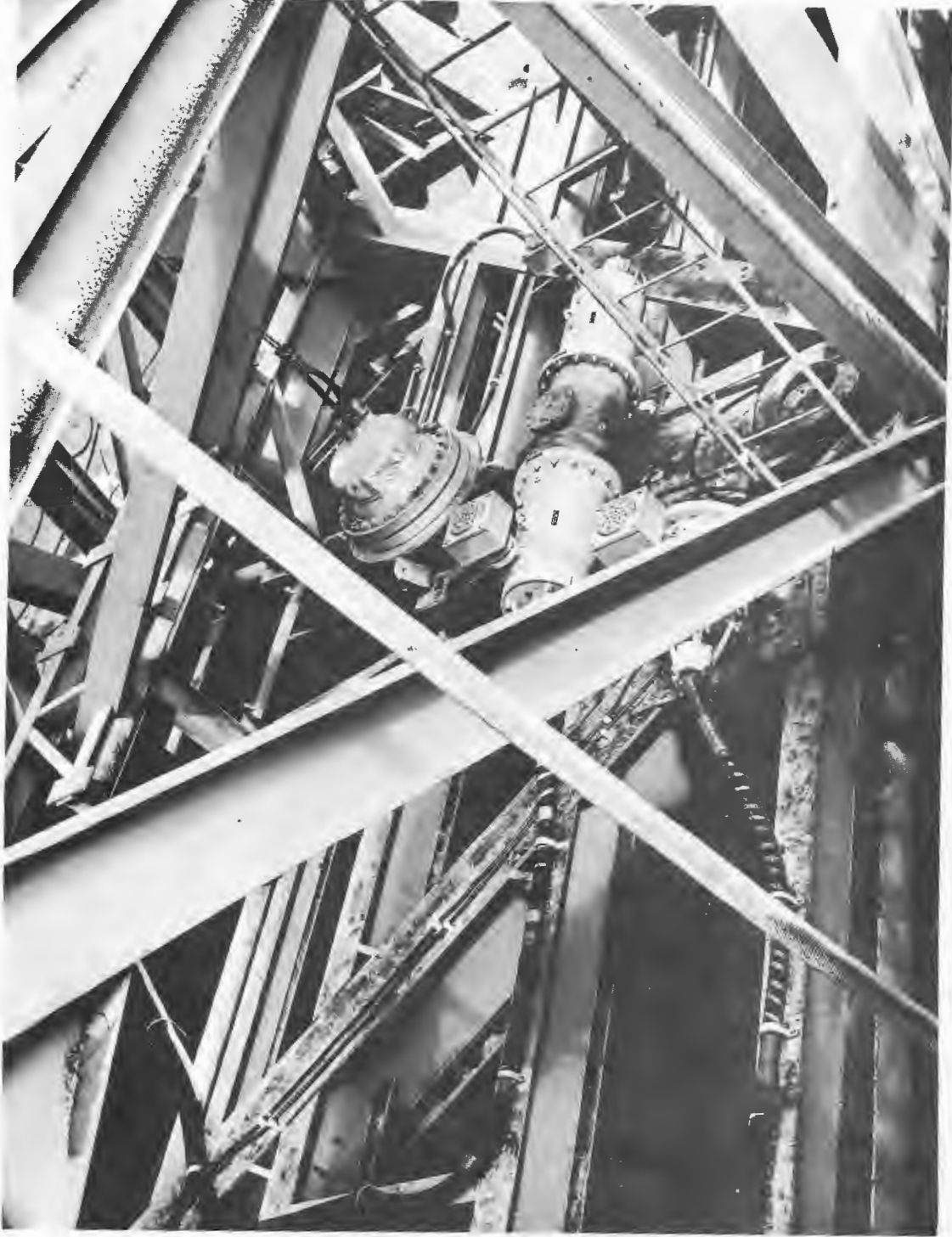


Figure 74 - Array structure base showing Massa junction box with Simplex cable terminations and instrumentation cable termination

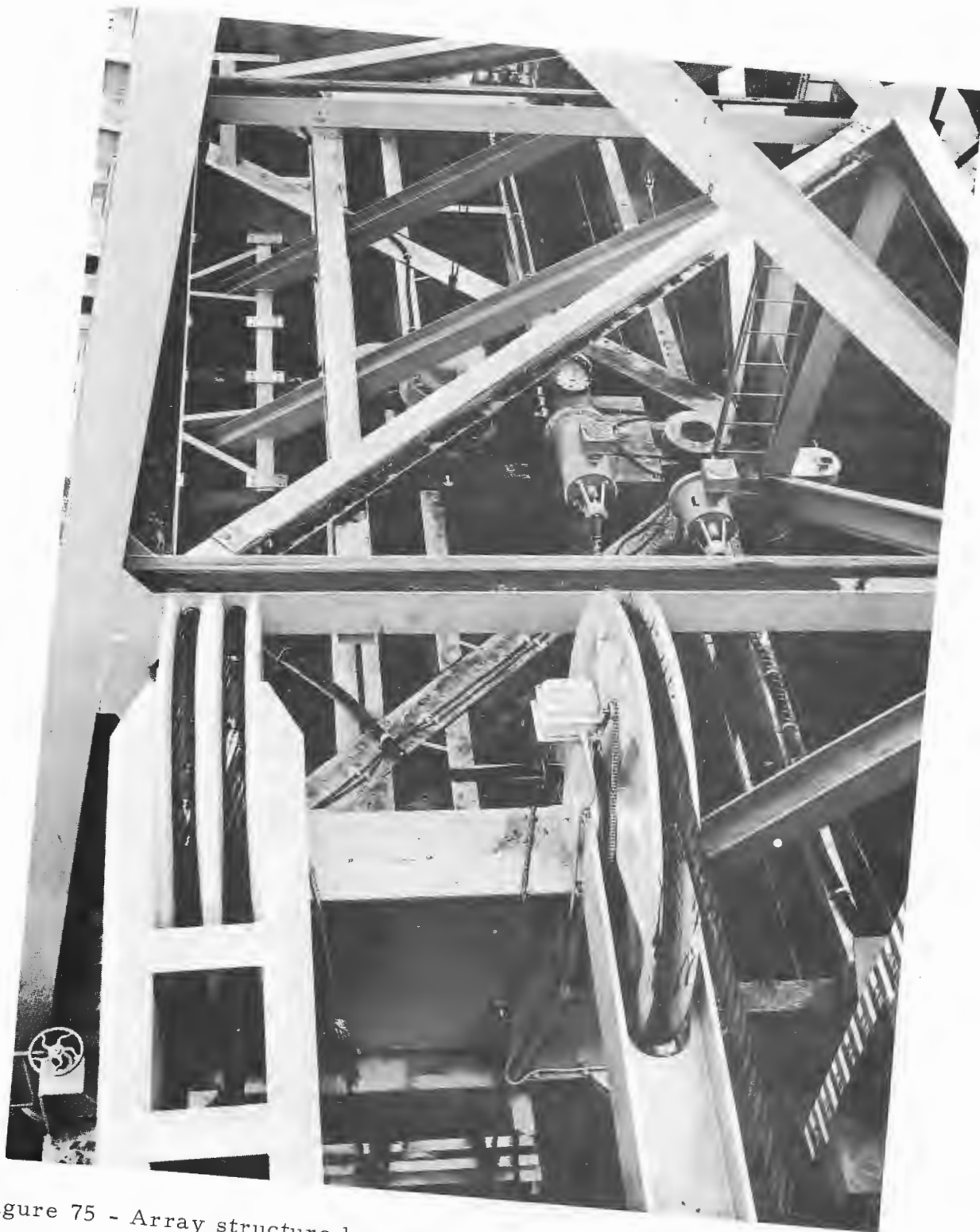


Figure 75 - Array structure base showing Massa junction box with Simplex cable terminations and instrumentation cable termination



Figure 76 - Array support structure in raised position viewed from below,
looking aft

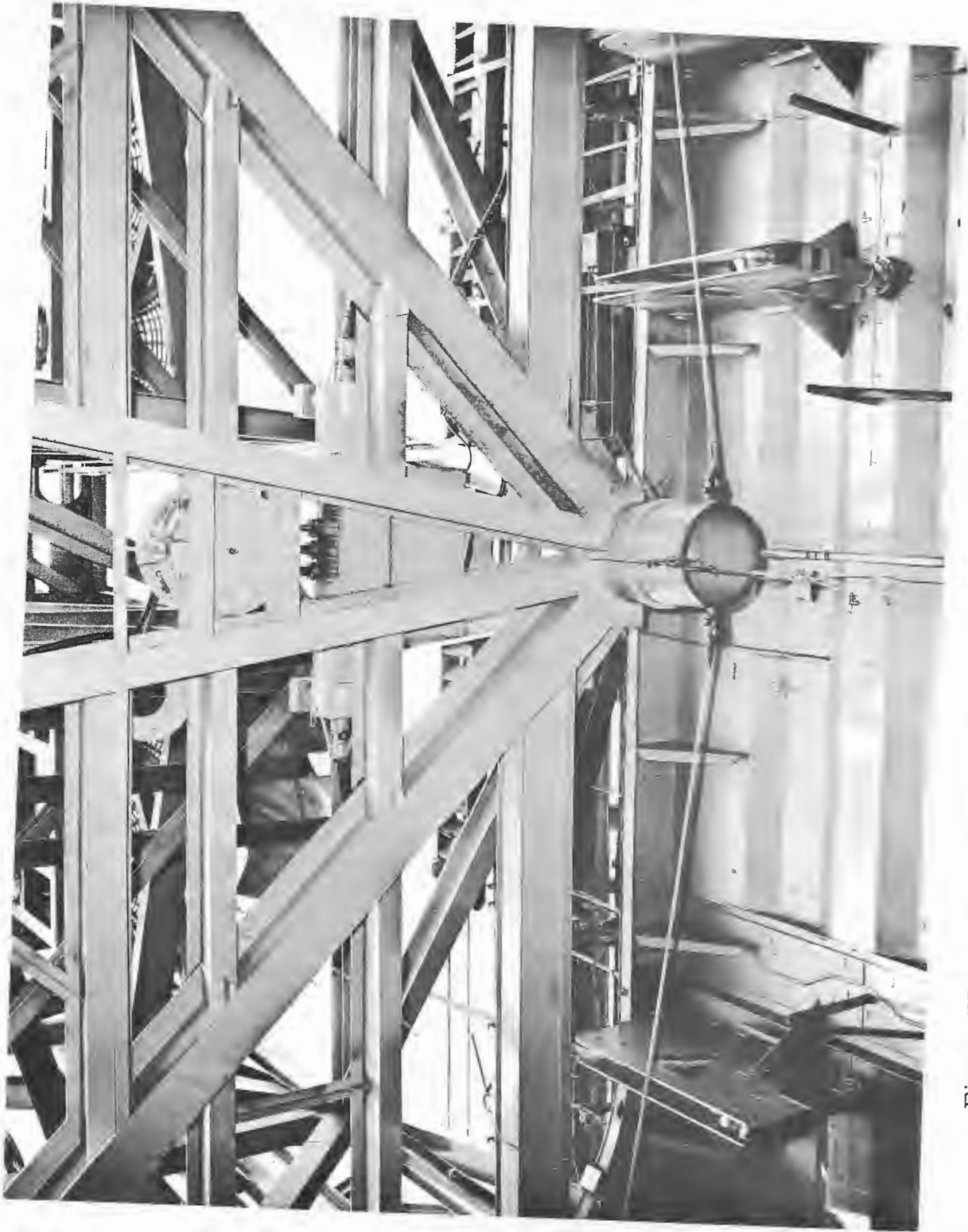


Figure 77 - Array support structure in raised position viewed from below,
looking to port



Figure 78 - Transducer array structure in stowed position



Figure 79 - Transducer array structure in stowed position



Figure 80 - Array structure with top beam wash showing PDS and wire rope roller path guide



Figure 81 - Position determining system hydrophone array showing array structure partially submerged

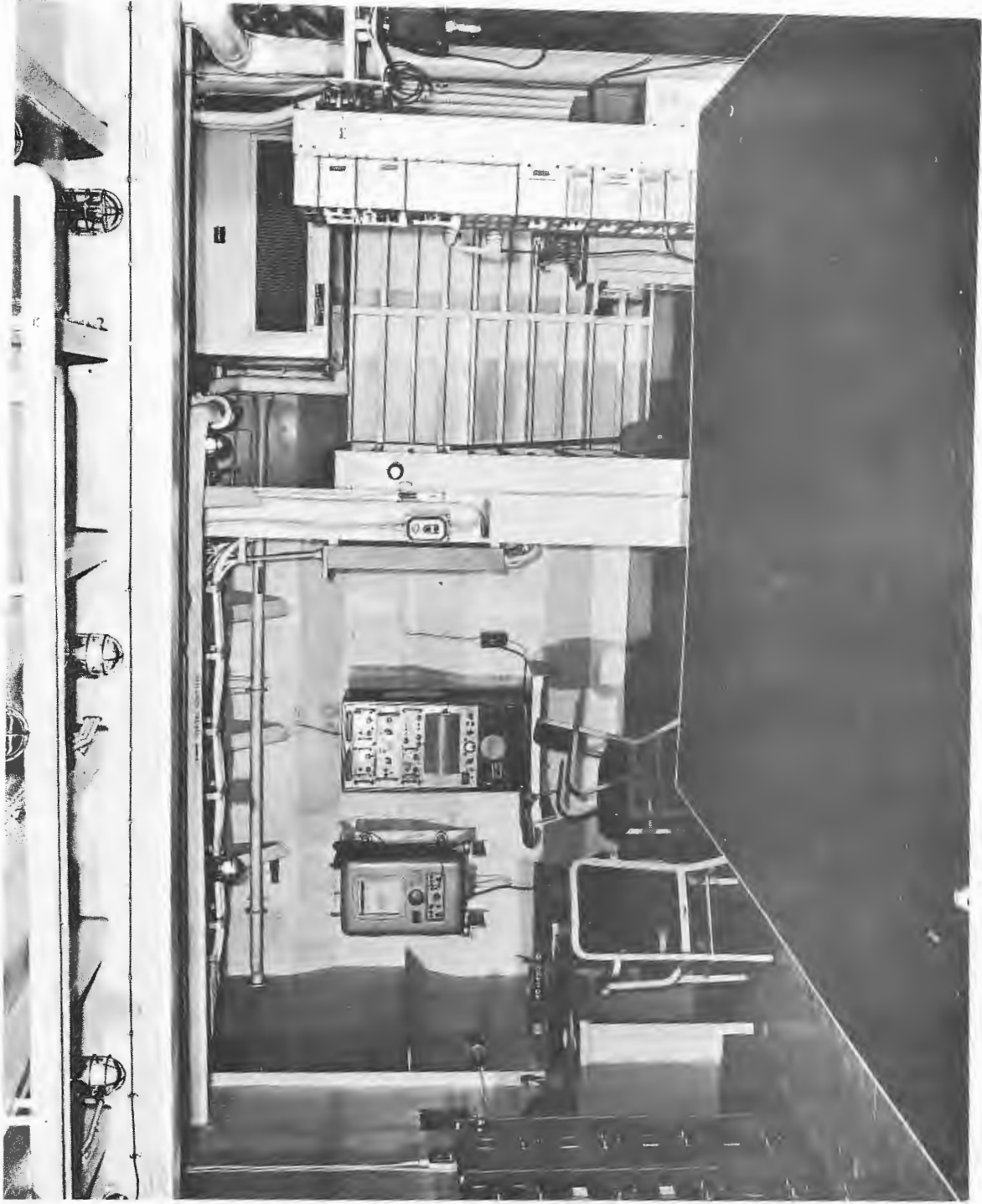


Figure 82 - Project control center looking forward



Figure 83 - Project control center looking aft

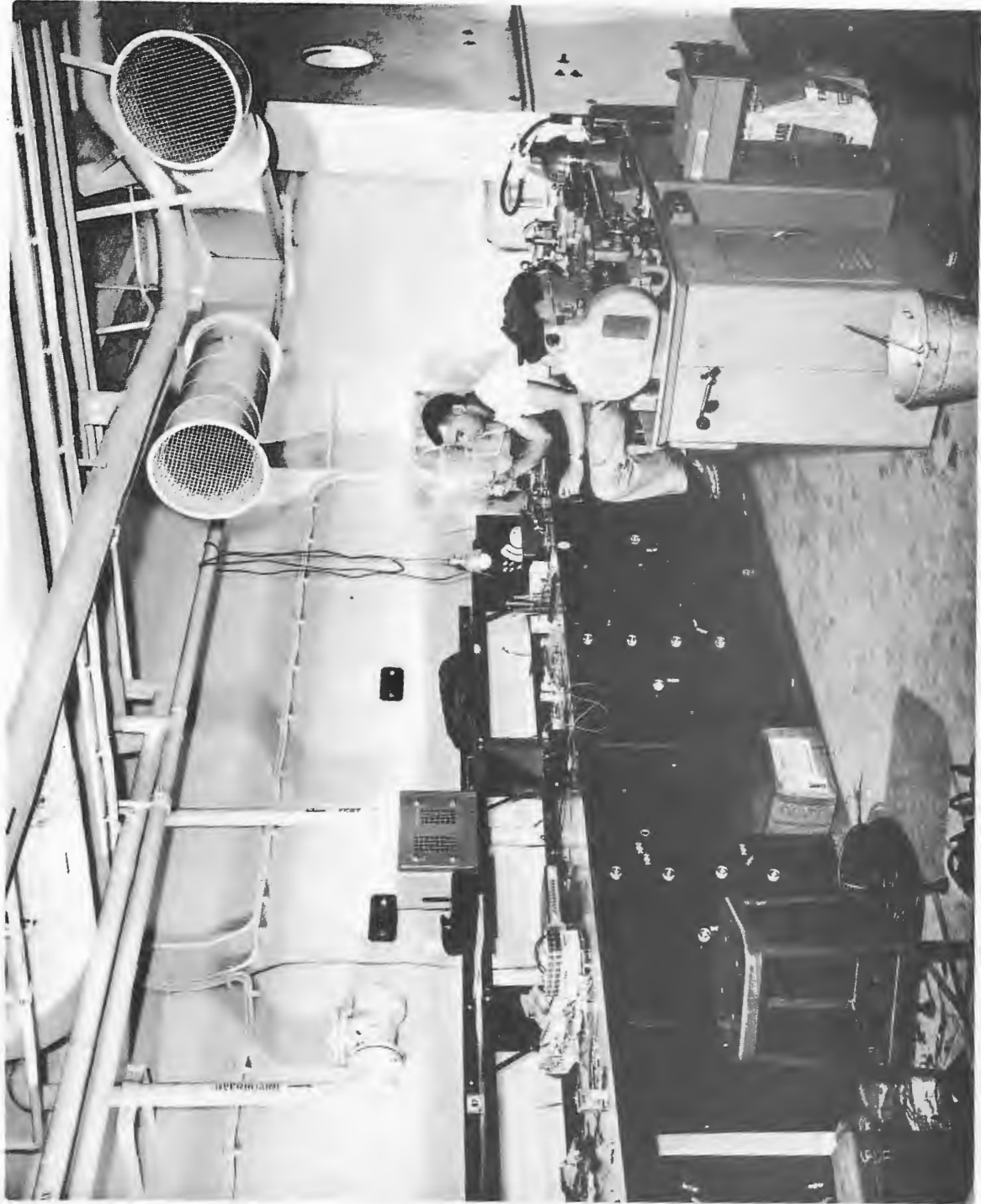


Figure 84 - Electronics work shop



Figure 85 - Technician's state room

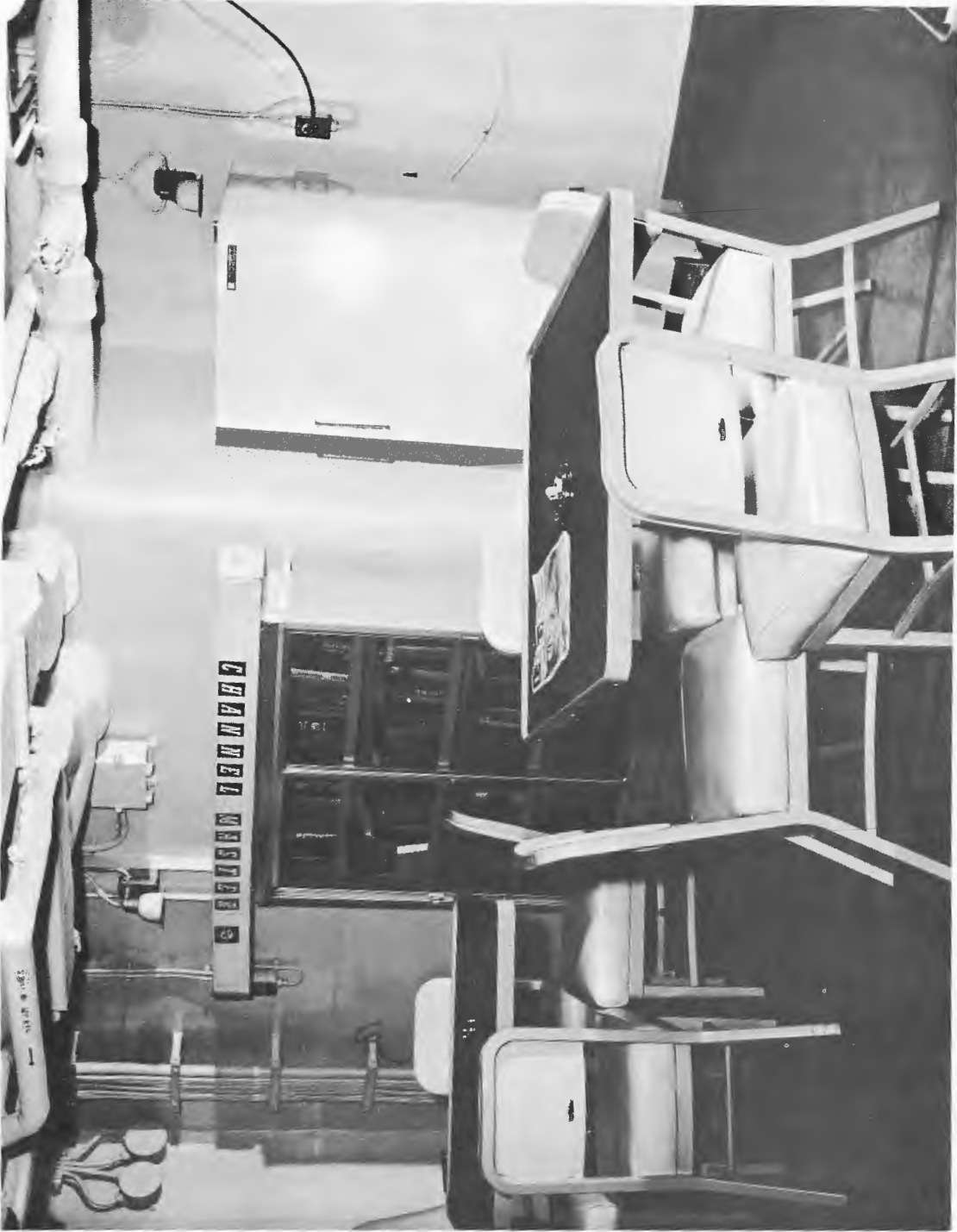


Figure 86 - Technician's recreation room



Figure 87 - Technician's recreation room



Figure 88 - USNS MISSION CAPISTRANO wheelhouse

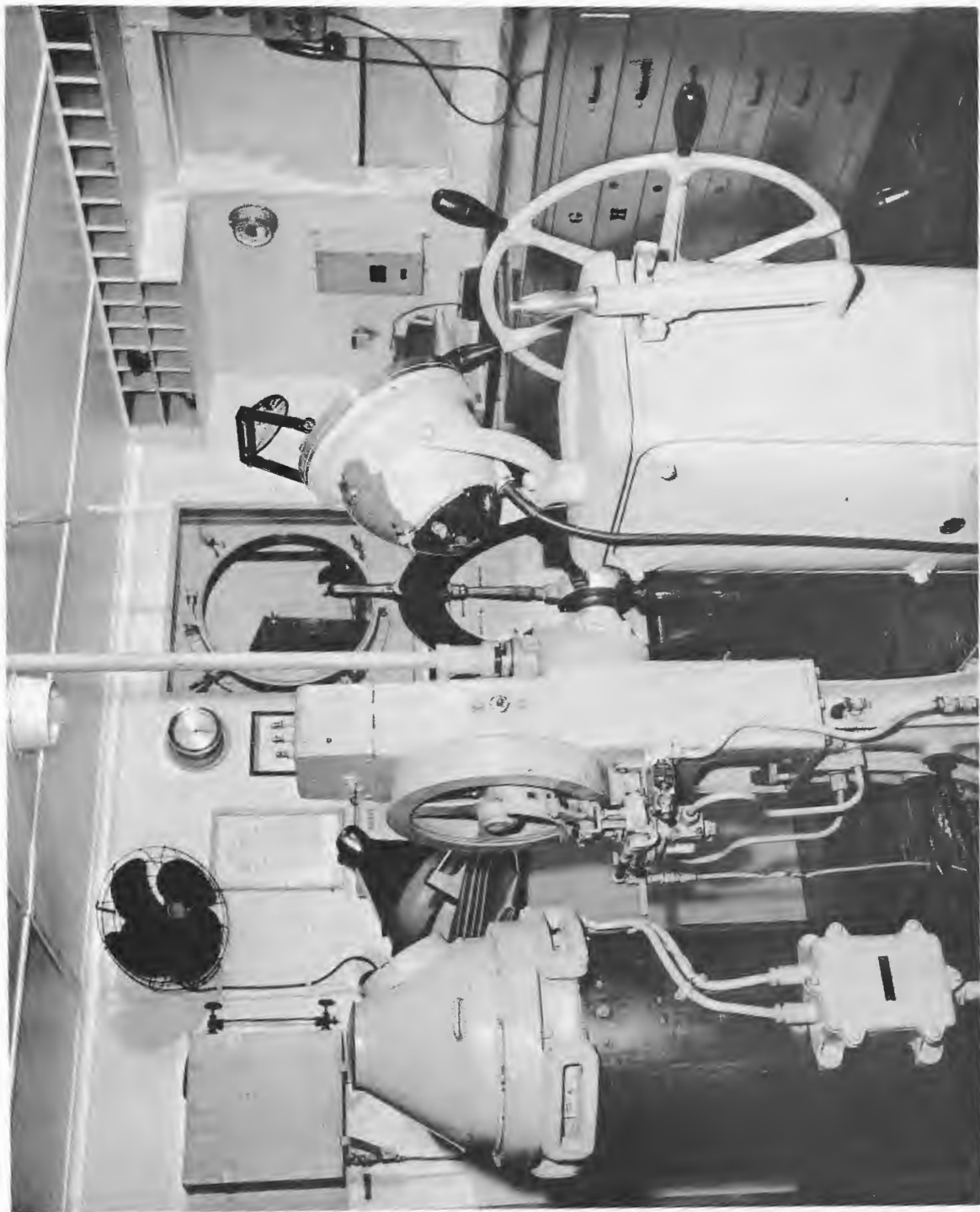


Figure 89 - Wheelhouse

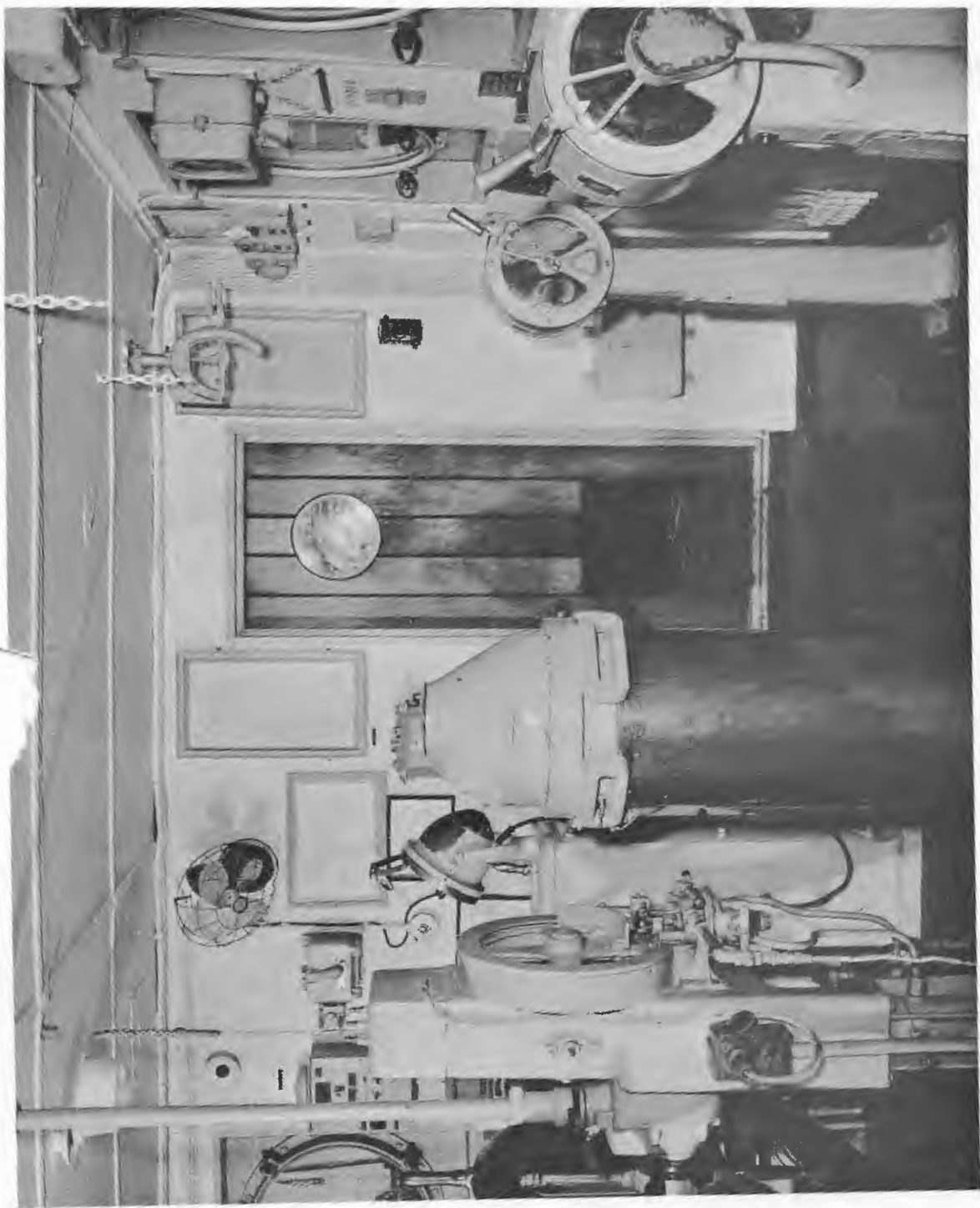


Figure 90 - Wheelhouse