

of water is to be governed by cylinder gates, and the weight of the moving parts will be partially taken by a water piston in the wheel. There is a single cast iron draft tube 9 ft. in diameter for each wheel, and the units alternately discharge water underneath the east and west tailrace tunnels. The object of the under discharge is to seal the draft tubes and prevent loss of vacuum, no matter what the elevation of the water in the tunnels may be, and without the necessity for a tailrace



**JUNCTION OF BRANCH TUNNELS AND MAIN TAILRACE TUNNEL,
144 FEET BELOW BED OF RIVER. TURBINES DISCHARGE
UPWARDS INTO SIDE TUNNELS—SIX ON RIVER SIDE AND
FIVE ON SHORE SIDE—MAKING TWO COMPLETE PLANTS
IN ONE.**

weir. By using two tunnels it is possible to shut off the water entirely from one-half of the wheels without interfering with the other half. By closing down the wheels, discharging water into either tunnel, that tunnel will drain itself, and there is no necessity for closing off the mouth of the tunnel. A gate is provided at the mouth of both tunnels, however, in case of extreme back water, which has been known to be 50 ft. above normal in the lower river.