

HYDROGRAPHIC WINCH

A winch suitable for lowering and hauling up of costly hydrographic apparatus like Bathy-thermograph, Reversible thermometers, Current flow meters etc., was designed, fabricated and tested at Off Shore Fishing Station, Cochin. The first model of this winch is now in use on board the motor vessel Pratap, a Tuna Long liner.

The winch consists of a gear box with a cover, which houses the gear and pinion and holds enough lubricant for the gears. A dog clutch is provided between the gear box and winch drum. The winch drum which can take up to 450 m. of 4 mm. wire rope is of cast aluminium alloy provided with gun metal bush bearings and an inter-space, to take lubricant, between the two bearings. The motion of the winch drum can be arrested by a brake provided at the other end of the drum. The brake band, provided with a liner, is operated by a brake control lever of the screw rod type. A self aligning double row ball bearing and plummer block is provided between the winch drum and v-pulley which is intended for belt drive from a suitable prime mover. The gear box, the base plate, bearing support and v-pulley are made of cast iron while the main shaft is of steel. The gear wheels are of cast steel. A handle is provided for

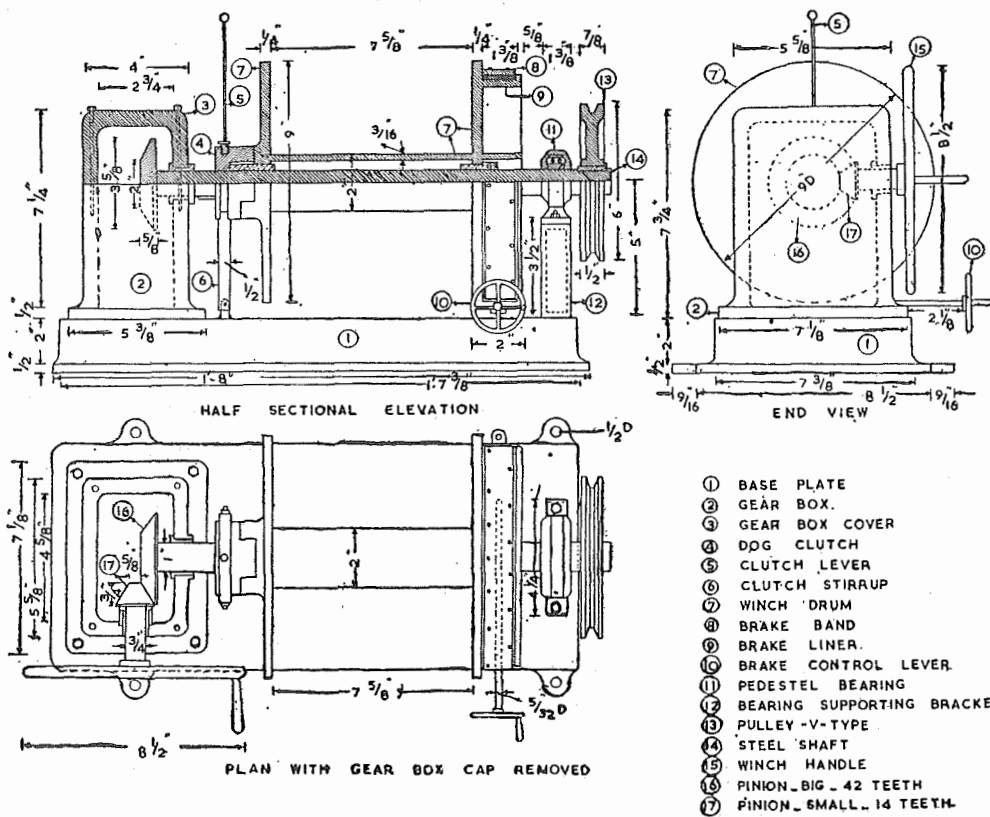
hand operation which can be removed quickly in case power drive is desired, for which provision has been made. The winch is designed to take a load up to 100 kg. with a factor of safety of five. A 3 to 1 reduction is given for hand operation to minimise effort required to haul up heavy equipments. However, the speed can be increased by changing the gear wheels to give a ratio of 2 to 1 for the reduction. The hauling speed when operated by hand is 12 to 14 m. per minute. But for periodic attention to the lubrication, the winch requires no attention.

The weight of the winch excluding wire rope comes to 60 kg. and occupies a space of 700 mm. x 300 mm. The estimated cost is about Rs. 400/-. In fishing boats this winch can be installed conveniently to take a drive from a pulley fixed on the winch shaft just outside the nigger head. For hydrographic work the winch has to be placed suitably along with a davit and a snath block. This type of winch is very useful for all experimental fishing apparatus.

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HYDROGRAPHIC WINCH

(SCALE - 1/4 FULL SIZE)



OFFSHORE FISHING STATION
COCHIN