Reduction Gear

The gear which transmits the effort of the turbine to the driven apparatus and reduces the speed of rotation to that suitable for the latter, is of the single plane, double-helical, single reduction type comprising a pinion and gear having their centerlines in the same horizontal plane and supported in a common housing. A sectional assembly of the unit is shown in Fig. 1.

The gear wheel "2" consists of a carbon steel rim shrunk on a cast iron center which, in turn, is pressed on the shaft "5" and keyed with keys "3". The shaft is supported in two bearings "6".

Each of the bearings "6" consists of a horizontally split steel shell, lined with tin base babbitt and having one end faced with babbitt and grooved for lubrication, so that the two journal bearings together form a thrust bearing to limit floating of the driven apparatus rotor. Each bearing is provided with liners "9" held by a retainer "8" and secured with machine screws. By means of these liners the axial location and thrust clearance of the gear can be adjusted. The bearings are prevented from rotating in the housing by pin keys "7", and held in place by the gear housing cover "10".

Leakage of oil out of the housing around the shaft is prevented by a labyrinth oil ring "4", the grooves of which drain back to the gear housing "1".

The pinion "18" is carried in two split bearings "16" located by pin keys "17". Leakage of oil around the pinion shaft is prevented by the labyrinth oil seal "19".

Lubrication of the gear and pinion teeth is accomplished by means of the supply fitting "15", which squirts oil against a spray plate that throws a sheet of oil directly between the meshing gear and pinion teeth. Both bearings and gear teeth are force feed lubricated from the driving unit or other external source, depending upon the nature of the installation.

Item No.	Name
1	Gear Case Base
2	Gear Wheel
3	Gear Wheel Key
4	Gear Shaft Oil Guard
5	Gear Shaft
6	Gear Bearing
7	Gear Bearing Pin
8	Gear Bearing Thrust Liner Retainer
9	Gear Bearing Thrust Liners
10	Gear Case Cover
11	Gear Case End Cover
12	Gear Case End Cover
13	Gear Case Taper Dowel
14	Pinion Oil Spray Lock-Nut
15	Pinion Oil Spray
16	Pinion Bearing
17	Pinion Bearing Pin
18	Pinion Shaft
19	Pinion Shaft Oil Guard

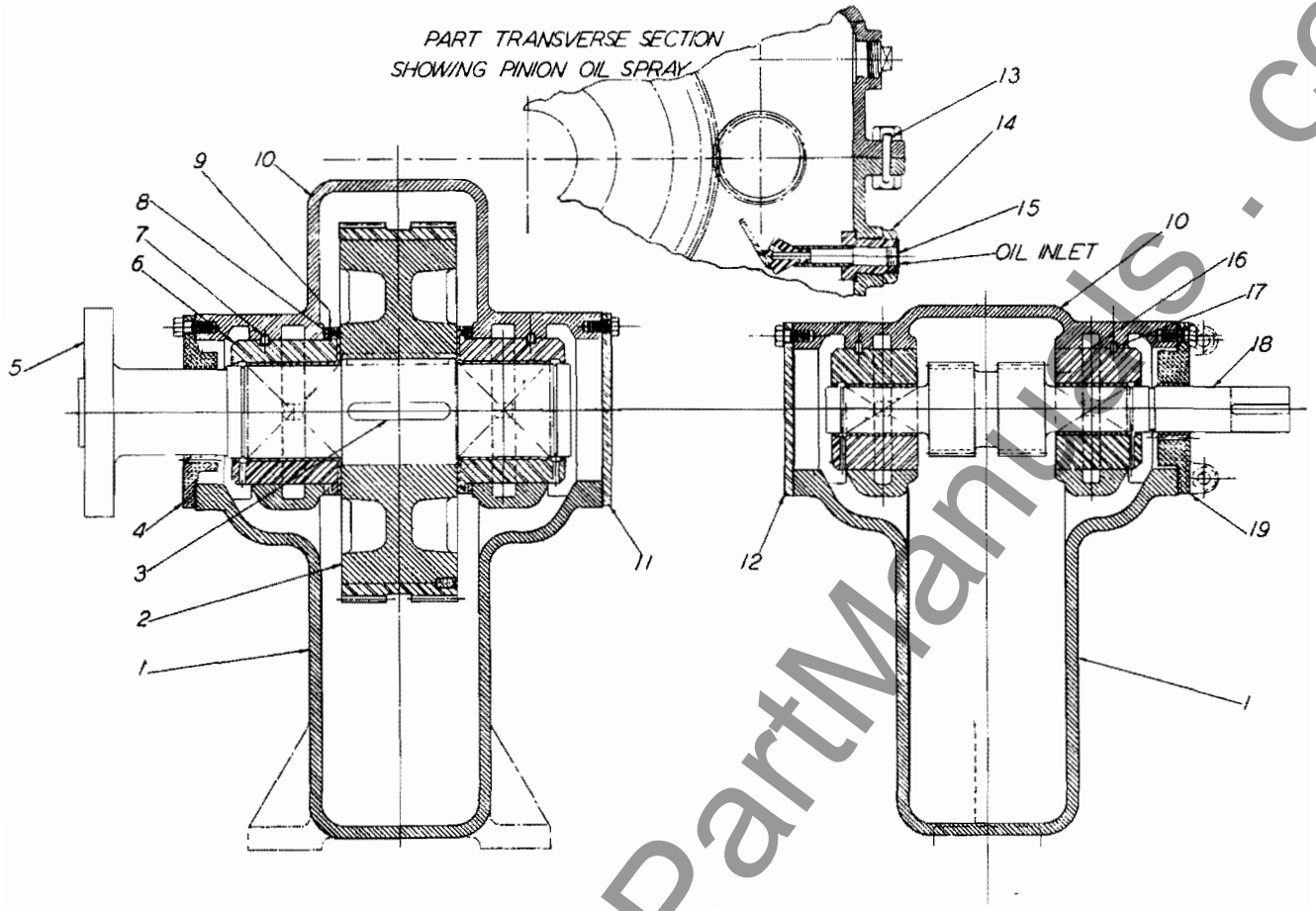

Fig. 1 - Gear Assembly

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