IMPULSE BLADES

Figure 1 shows the arrangement of an impulse element consisting of two rows of rotating blades attached to the rotor, and one row of stationary blades attached to the cylinder.

The rotating blades are secured to the rotor by the "double T-root" type of fastening. This consists of a double T-root machined on the blade shank which fits in a similarly shaped groove in the rotor. The blades are held against the top of the groove by three half-round steel sections caulked in place as shown.

The stationary blades are secured in straight sided grooves by a series of short keys which fit in auxiliary grooves cut in the blade shank and in the side of the main groove.

These blades are shaped so as to form their own shroud thus forming a closed passage for the steam flow. The shanks are machined accurately to fit closely to one another and to give the correct spacing for the steam passage area. In order to reduce vibrational stresses, the rotating blades are bound together in groups by machining a dove-tailed groove in the ends of the blades and inserting strips which are then welded in place.

When it is desired to decrease to a minimum the leakage of steam around the blades, seal strips are used as shown in the Figure. These seals consist of thin flat strips and are held in place by soft steel locking strips which are caulked into grooves. The seal strips and locking strips must be fitted after the blades are installed. Since the strips are very thin, slight rubs between them and adjacent parts are negligible. Hence they can be set with a close running clearance.

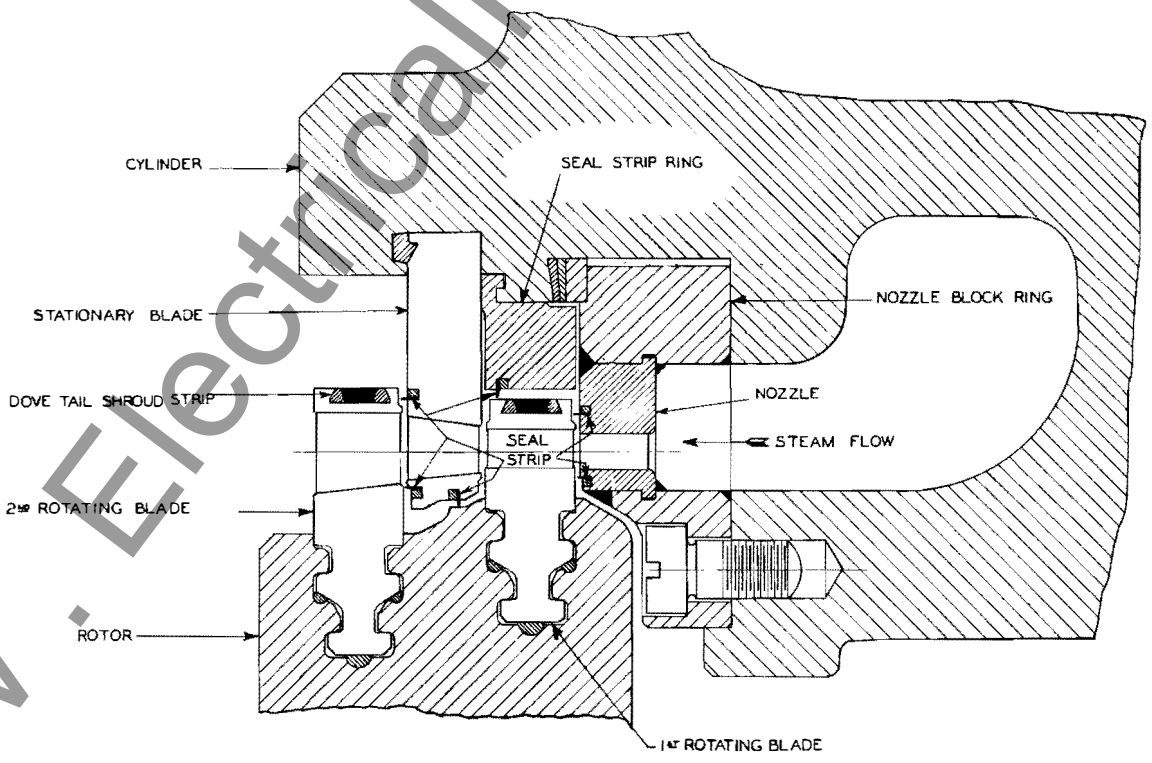

Figure 1