Petromax based film projector

CONSOLATION

Horilal Vishwakarma is a resident of Pilibhit, Uttar Pradesh and since his childhood he has been involved in carpentry at construction sites. He has 35 years of experience as a carpenter. His family includes his wife, three sons and a daughter. He never went to school and his children too have had little education.

Genesis The sources of entertainment in rural villages of India are very limited especially where the penetration of televisions has not taken place. In such places, films are a big hit but the film hall owners cannot afford modern projectors, which would cost lakhs of rupees, hence the need for a cheaper alternative. Horilal was interested in movies right from his childhood and later on he got a chance to work in a cinema hall. The idea of making a low cost film projector for villages cropped up in his mind then. During the process of the development of the film projector he faced many difficulties in the form of financial instability and availability of raw materials. When Horilal first went to the related officers they found his idea of making a projector very stupid and laughed at him. But his consolation was that he got support from his family and he finally achieved his target in a year. It was a matter of pride for him that when there was heavy demand for the film Sholay in 1975, and the existing film projector was not working, this projector was used for a year in Jay Theater, Pilibhit.

The Innovation

The Film Projector uses a binocular lens system with scope for adjusting focal length as per film formats. The projector is made of 32 bearings instead of brushes and this reduces costs. Soundtrack reading is done with a specialized unit made of wood with a low cost diode, amplifier and photo-sensing circuit. The device has an elaborate system of hand cut precise gears to power the drives. There is a fan motor with regulator to power the unit. This projector does not use carbon-arc of electrodes with a sparking gap in the middle to be reflected by reflectors as this requires constant monitoring by the operator to maintain carbon-arc distance precision. Horilal instrad uses a normal 1000w bulb, which needs no supervision. Due to variable speed control as per reel loading, this projector can handle all three film formats -16 mm, 35 mm and 70 mm, which is done by separate projectors conventionally. The speed of the projector is 24 frames per second. Horilal has built a separate lighting box unit that sends the light from behind the main projection unit. The innovator has used this projector as a mobile unit on a pushcart and takes it from place to place and runs it using a hurricane lamp.

Advantages

The prototype was built at a cost of around Rs. 5000 several years ago. This was much cheaper than the ones found in the market then. The operating cost of the Low Cost Film Projector is comparatively

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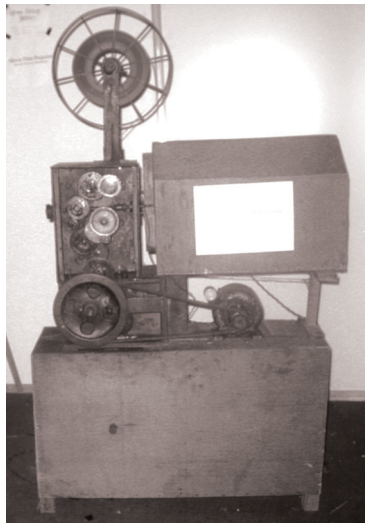

lower as it uses less power as it runs using a high powered lantern or hurricane lamp. Further the projector also has lesser number of parts and complexity than imported machines.

Relevance

People are not too keen on building cinema halls in rural areas due to the irregularity of power supply and the fact that they have to often depend on generators for running the projectors. Also they want the projector to be portable so that it can be taken to different villages and can be run on a high wattage bulb or a hurricane lamp. Thus the market potential for this projector is good in rural areas. The Indian Army is also a potential customer for the Low Cost Film Projector due to its feature of portability. The Low Cost Film Projector can be very useful to spread knowledge in rural areas and with the help of this device, NGOs would be able to show socially relevant films to the rural people. NIF has sanctioned Horilal a sum of Rs.25,000 from the Micro Venture Innovation Fund for evaluating the technical feasibility and market potential of his innovation.