AUTOMATED UNMANNED RAILWAY LEVEL CROSSING SYSTEM

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Abstract

In the rapidly flourishing country like ours, accidents in the unmanned level crossings are increasing day by day No fruitful steps have been taken so far in these areas. our paper deals with automatic railway gate operation (i.e.,) automatic railway gate at a level crossing replacing the gates operated by the gatekeepers, It deals with two things, Firstly it deals with the reduction of time for which the gate is being kept closed and secondly, to provide safety to the road users by reducing the accidents. By employing the automatic railway gate control at the level crossing the arrival of the train is detected by the sensors placed near to the gate. Hence, the time for which it is closed is less compared to the manually operated gates. The operation is automatic; error due to manual operation is prevented. Automatic railway gate control is highly microcontroller based arrangements, designed for use in almost all the unmanned level crossing in the train.

Keywords: Railway gate, level crossing.

1. INTRODUCTION

The place where track and highway/road intersects each other at the same level is known as "level crossing". There are mainly two types of level crossing they are Manned level crossing and Unmanned level crossing. Manned level crossing is classified into spl.Class, 'A' Class, 'B' Class, 'C' Class. Unmanned level crossing is classified into 'C' Class, 'D' Class. Railways being the cheapest mode of transportation are preferred over all the other means .When we go through the daily newspapers we come across many railway accidents occurring at unmanned railway crossings. This is mainly due to the carelessness in manual operations or lack of workers. We, in this paper have come up with a solution for the same. Using simple electronic components we have tried to automate the control of railway gates. As a train approaches the railway crossing from either side, the sensors placed at a certain distance from the gate detects the approaching train and accordingly controls the operation of the gate. When the wheels of the train moves over, both tracks are shorted to ground and this acts as a signal to the microcontroller indicating train arrival.
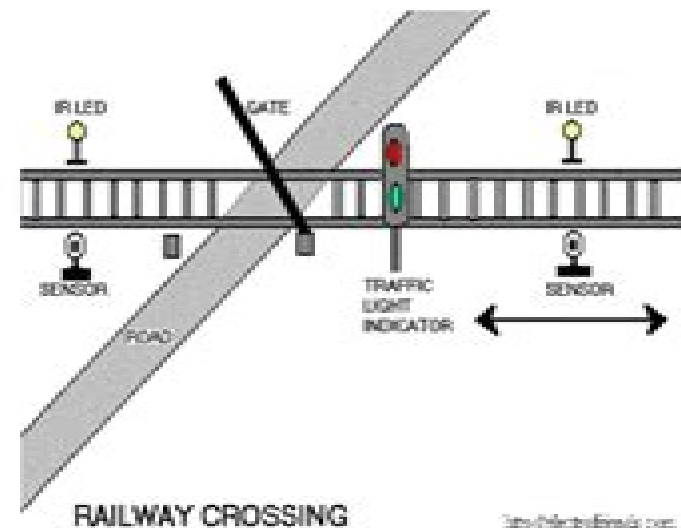
Also an indicator light has been provided to alert the motorists about the approaching train.

2. ACCIDENT AVOIDENCE DETAILS

When the train arrives in a particular direction the transmitter IR senses and generates appropriate signal, then at the same time the receiver IR receives the signal and generates an interrupt.

When the interrupt is generated the stepper motor rotates in clockwise direction. When the interrupt ends the stepper motor rotates in anti clock wise direction.

• Railway Crossing

RAILWAY CROSSING

Automated Unmanned Railway Level Crossing System

Ken Harris

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   Rail International ,1993   **Electronic Engineering** ,1969   *Report on Level Crossing Protection* Great Britain. Department of Transport,British Railways Board,1978   *Parliamentary Debates* India. Parliament. Lok Sabha,2009

   International Railway Journal ,2003   *Jane's World Railways 2008-2009* Ken Harris,2008-11 This directory gives the reader data on railway systems and railway equipment manufacturers across the globe The text is split into two sections a country by country listing of the railway systems of the world and the railway manufacturing and services industries

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