Research on the mechanical device and structure of the elevator

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Keywords: elevator; mechanical device; structure

Abstract: In high-rise buildings, many traffic activities need to be completed by elevators. Therefore, the elevators carry many responsibilities, and the mechanical devices in the elevators and the elevator structure should be continuously improved. This paper mainly studies the loading and unloading device of the elevator, and studies the structure of the elevator.

1. Introduction

Nowadays, there are more and more high-rise buildings, which accelerates the development speed of elevators. In the high-rise buildings, the elevators can be used to facilitate people's travel. Therefore, the quality of the elevators is very high, and the elevators are guaranteed. The sTable operation can guarantee people's personal safety. It can be seen that it is of great significance to study the mechanical structure and mechanical devices of the elevator.

2. Elevator mechanical device

2.1 Buffer device

In the operation of the elevator, through the setting of the buffer, it can provide reliable safety for the use of the elevator. In the process of elevator operation, in order to avoid the occurrence of mechanism failure, the car should be controlled according to the actual running speed of the elevator damper device to ensure that the car is no longer adversely affected by nearby things. Not only that, but through the setting of the buffer device, to a certain extent, it can effectively control the damage range of the accident and minimize the impact range of the accident. After the damper device, the normal operation of the elevator car is not affected and the safety of the elevator car is not affected. For the buffer, it is only adjusted according to the actual condition of the spring. In the adjustment, the safety of the elevator car should be ensured according to the relevant operation of the hydraulic mechanism. Under the control of the buffer, the elasticity can be fully controlled. Performance.

2.2 Speed limiter device

For the safety of the elevator, its running speed is an important factor. Therefore, in the elevator, a speed limiter should be installed to ensure the safe operation of the elevator. In the actual operation of the elevator, the operating speed of the elevator should be limited to a reasonable range. Once the limit speed is exceeded, the speed limit system will be started, and the running speed of the elevator can be controlled in time. In the process of installing the elevator, the car should be designed as a linkage mechanism, so that in the event of a fault, the speed limiter device can issue corresponding signals in time, and can also cut off the circuit of the elevator control system in time. The circuit is effectively controlled to fundamentally improve the quality of the car's work.

2.3 Terminal protection device

In order to ensure the sTable operation of the elevator car, the operation law should be mastered, and the reliable operation of the car should be fully controlled. In the operation of the elevator car, it is prevented from being affected by relevant impact factors. In the daily operation of the elevator, the relevant attributes of the switchgear should be comprehensively analyzed. During the process of overhauling the elevator, the maintenance personnel can carry out comprehensive analysis

  DOI: 10.25236/isrme.2019.047

according to the reasons of the common elevator runaway at the current stage. On this basis, the connection of the elevator switch is clarified. The situation ensures the operating efficiency of the elevator switchgear and also ensures efficient operation of the various connection points. In addition, the command signal information can be accurately used in the use of the switch. Once the corresponding protection device of the terminal has a corresponding fault, it is impossible to comprehensively control the elevator device. The trajectory of the elevator should be analyzed in time, the power supply device should be changed in time, and then the operation should be stopped to solve the emergency situation in time.

3. Mechanical structure of the elevator

3.1 Elevator door system

For the door system of the elevator, the composition content is relatively fixed. Under normal circumstances, if the door of the car is fully managed, it can lay a foundation for the sTable operation of the elevator device to a large extent. For the door system, the hall door and the elevator door should also be combined to make the door system and the car at the corresponding running speed. Therefore, according to the composition of the elevator, an effective prevention and control mechanism should be established for the safety accident, and then play The role of the door. Not only that, at this stage, it is also necessary to rationally design the fall air defense system according to the relevant requirements of the elevator waiting. In the use of the elevator, to prevent the interference of external factors, it is necessary to proceed from the demand of the elevator waiting mechanism, the omnipotent research door system, The relevant supporting facilities of the lock system can be controlled by the lock system to close the components of the door system and effectively control the hall door. For the door system, it should be connected with the key. After human control, the effect of connection and disconnection can be ensured, and the high-quality operation of the elevator device can be realized.

3.2 Traction system

In the elevator installation, the traction system is very important, and it plays the power transmission function. During the operation of the elevator installation, the traction system should be analyzed in depth, and the composition of the traction system should be clearly defined. In the actual use of the traction device, it can be effectively integrated in many In the power system. In the traction system, the power transmission rope should be set for the power machinery and the traction system. In actual operation, the two must be effectively combined to ensure that the power device can effectively fuse the base of the system. In addition, the setting of the traction system lays the foundation for the efficient operation of the elevator car, and the technicians pay attention to the structure of the part. It can be seen that for the traction system, in addition to the operating efficiency of the dragging machine, the energy device and the dragging device are combined to ensure the energy transmission quality of the car and reduce the elevator.noise.

3.3 Car system

In the elevator system, the car system occupies an important position, has a service role, and is directly related to the quality of the elevator. When the passenger enters the elevator, the passenger needs to disarm the car, so people pay a high degree of attention to the quality of the car. During the actual use of the car, the upper and lower beams of the car must be operated at the same time, so that the car can be suspended under the support of the fixed system. Not only that, but also according to the actual bearing capacity of the car, the car's load-bearing system should be fully controlled, and then the load-bearing pressure of the car should be controlled to meet the requirements of the rigid system, and fundamentally, the car's efficient operation target can be achieved.

4. Conclusion

In summary, in high-rise buildings, elevators are an essential facility. Through a comprehensive study of the elevator mechanism and the mechanical structure, the operation of the elevator can be effectively controlled. Therefore, in the future work, elevator machinery and mechanical knots should be further studied to improve the overall performance of the elevator.

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