



POSITION ADJUSTMENT BED WITH RESPECT TO GROUND HEIGHT

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ABSTRACT

In this project give short information about the major engineering projects those are design and develop by, we include in it pictures and some information about it. Like why we design? How it works? How it beneficial to human life by the making operations easy and how we generates free energy. Description is also provided for easy understanding of complicated parts

Keywords :- 1.Sensor , 2. Rack and pinion 3. Bed, 4. Adjustable mechanism ,5. Motor, 6. Controller, 7. Battery

1. INTRODUCTION

Hospital beds used by health care professionals are operated manually in most cases, which requires some physical effort. In last few decades it is mainly focused that minimizing risks caused by among others mistakes and indisposition of the medical personnel occurring during the transport of patients in life-threatening conditions Solutions include automation of bed movement by means of motorized devices, for both functional and transport purposes . In addition, it concerns devices that will allow the transfer of a patient from one bed to another or from a bed to a wheel chair , devices providing periodic automatic change of a lying patient's position in order to prevent the emergence of bedsores and advanced automated wheelchairs. The technical development of this kind of devices and their application in the hospital environment are facing many difficulties and limitations . This work presents a design solution for the hospital bed height adjustment mechanism developed within the objectives related to the requirements set for one of the hospitals .The main objective for the mechanism design is to provide comfort and safety for the patient as well as for the medical personnel when performing diagnostic tests.

2. MASTER OF OBJECTIVE OF CONCEPT

1.Our plan is to research existing models hospital beds and to analyze the components and functions of each. We will also survey to determine additional features that could be useful in a modern hospital bed and then begin the design process .

2.To improve quality , safety, efficiency and effectiveness and to provide safe and therapeutic environment.

3.Incorporate more flexible design to minimize the risk and impact of patient falls.

4.To provides stability and easy to use controls for the patient but is also built to satisfy the needs of patient .

5.To have a position convenient for resuscitation in case of emergency which ensures patients safety.

6.Improve the aesthetics of bed while maintain no additional costly components.

3. DESCRIPTION WITH RESPECTIVE TO STAGES

In position adjustment bed with respect to ground height. The purpose of this project is to adjust the bed ground height. The main application of our project is in hospitals Nursing homes and other application. In that we use rack & pinion as a main component which a lofting member, sensor are used to sense's the position of the bad and sends to the information to motor which can run and position of the bed is to be adjusted. flatbed mechanism ,motor, battery , wheels ,etc.

We using two beds in which both are over lapping each other. In between them sensors are located for sensation of the positions of the bad .So that we can adjust the height of the bad when it get tilted.

For power supply, we using the battery source for complimentary units..

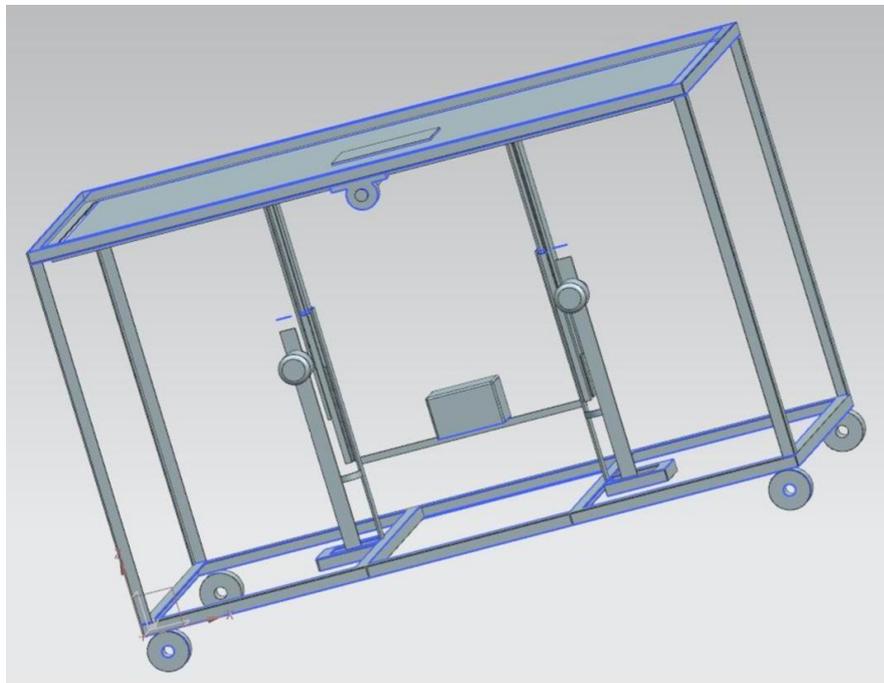


FIG.NO.1

4.METHODOLOGY

- 1.Finding and collection of research paper and related case studies, detail study of research paper
- 2.Describe the area in which innovation or project can be done, finalize the idea for the project, Design and modelling software required for the same.
- 3.To generate virtual model in modelling software and analyze different condition occurring while loading.
- 4.Find and collect component required for the project, check the suitability of the collected devices such as sensors.
- 5.Final actual setup of project.
- 6.Different tests conducted such as load carrying capacity , availability of lubrication and frictional forces.



5. PROBLEM STATEMENT

To design and manufacture automatic position adjusting bed , to improve patients comfort and safety.1.2 Purpose of adjustable bed In order to have a quality medical facilities to maximize the safety of individuals . The facility, quality and the condition of equipment are all key components in medical care which must taken into account when designing hospital beds. In order to assist the medical staff and to have reduced risk of injury while transportation it is important to have adjustable bed which are designed ergonomically.

6. CONCLUSION

Through the researching and developing the model of automatic position adjusting bed ,we are trying to create the awareness of medical situation in an industrializing nation. There is low level of ergonomics awareness and application of beds which we are using in hospitals. The current beds which are using in hospitals has no proper design which are not user friendly ,hence we are designing automatic position adjusting beds which provides secured, convenience and ergonomics also which every patient deserved. The main aim of designing automatic position adjusting bed is mainly about minimizing risks caused by mistakes and indisposition of the medical personnel occurring during the transport of the patients in life threatening conditions. The main part of our project is the validation of reliability of our own design , this took us back to the design matrix that was used to evaluate the original design. We have analyzed all the major linkages within our bed to determine their reliability.

7. REFERENCE

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