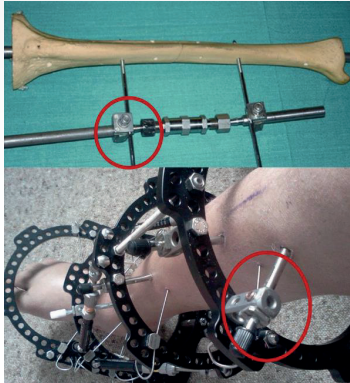


MULTI-AXIAL CLAMP ASSEMBLE



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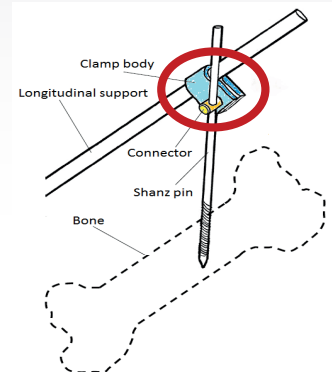
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External skeletal fixator

BACKGROUND

External skeletal fixator systems are used on fractured bones or joints during osteosynthesis typically for more serious injuries involving multiple or compound fractures. Pins are drilled through a patient's skin and into a fractured bone. **Clamps** secure the pins to a common connecting rod, creating a rigid frame that immobilizes the bone.



OBJECTIVE

To Develop Low Cost Hinged External Fixation Systems

PROBLEMS

The current invention available are using **multiple components**. This will cause the invention requires high precision during fabrication to prevent misalignment or poor fit of the components, which would lead to product failure. The need to fit and tighten the multiple components also makes the invention unsuitable for field use or emergency situations where a quick fitting of the external fixator is required.



NOVELTIES

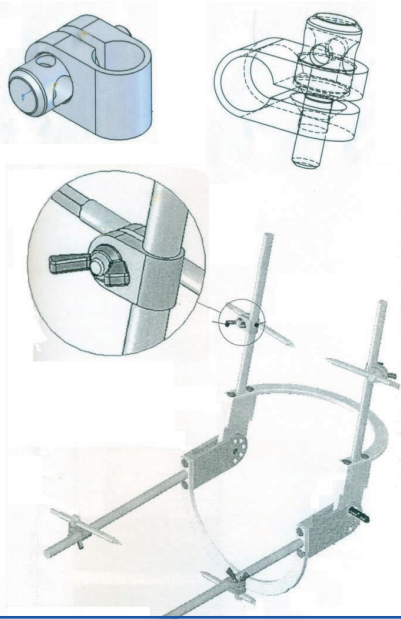
- **Positioning a bone and securing** the relative positions of the bone fixation element fixation against displacement resulting from movement or external forces.
- Allows for **multi-axial** positioning and orientation of bone fixation elements.

ADVANTAGES

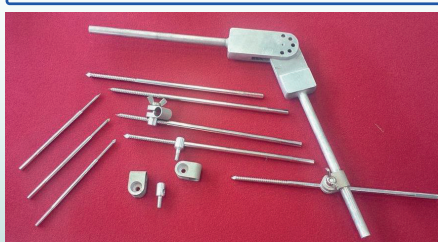
- Able to be used with **different type** orthopaedic external fixator.
- **Lightweight** clamp assembly suitable for field use, particularly in emergency rescue situations.
- Having **minimal parts** of simple construction to avoid the need for multiple and complicated components.

POTENTIAL MARKET

- Hospitals with collaboration with orthopedic surgeons.
- Global market are huge. Competitor with existing products



PATENT GRANTED : MY – 147519



PUBLICATIONS :

1. Z. Hamedon et al. "Design and Development of the Multi Axial Fixation Element (MFE)- The Most Important in External Fixation" - World Congress On External Fixation 17 – 19 Oct 2007 at Cairo Egypt.
2. Badrul AHMY et al. "Design and Develop Malaysian Hinged External Fixation Systems"- World Congress On External Fixation 17 – 19 Oct 2007 at Cairo Egypt.



Biz Malaysia- Alat Bantuan Tulang Patah [15 Apr 2016]
<https://www.youtube.com/watch?v=xab14VcUcU8>