Design of an Adjustable Sled for Sled Hockey

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Abstract

Today, Sled hockey is being played around the world by people of all ages. Due to the influx of younger sled hockey athletes, a sled that is adjustable, sturdy and affordable is needed. Many sleds offer minor adjustments, but most are not quick and easy, and the sleds are often extremely expensive. It was our goal to design a sled that was adjustable in three major areas, the tubes, the skates and the bucket positioning. It was also our goal to make these adjustments as easy as possible and to design with weight and durability in mind.

Introduction

Invented : Early 1960’s
Where : Swedish rehabilitation center
Who : Group of Swedes who, despite their physical impairment, wanted to continue playing hockey.
What : Modified metal frame sled
- two regular-sized ice hockey skate blades
- round poles with bike handles for sticks
Goaltenders : None (1960’s)

Areas of Adjustability

**Tubes:**
- **Adjustability** - Adjustable up to approximately 13 inches
- **Material** - Aluminum
- **Locking Mechanism** - Clasp used to tighten holders and create friction with tubes, securing them in place

**Blades:**
- **Adjustability** - 0.6 to 5.3 inches
- **Material** - Aluminum holders, stainless steel blades
- **Locking Mechanism** - Similar to tube mechanism, clasp will pull runners together, creating friction and securing the blades in place

**Bucket Position:**
- **Adjustability** - 8 to 10 inches
- **Material** - Aluminum
- **Locking Mechanism** – Set in screws underneath bucket, adjustments made pre and post game, likely not during

Conclusions

The main success of the sled design lies in the ability to quickly adjust and lock various sections of the sled. The section underneath the bucket in which the blades and tube holders lie is the most important part of the design. It is very difficult to design a snug comfortable bucket that is adjustable, and therefore the focus was placed solely on the area under the bucket. This sled design is almost fully adaptable to parts of other sleds and almost any athlete. A beginner sled hockey player that needs the balance and stability of wide blades and a premier athlete who only needs minor tweaks and adjustments to hone his game could both be potential users of this sled.