Abstract

Just4 Water is a non-profit organization started by students at Texas A&M University. They travel to underdeveloped countries to dig water wells for those in need. Each individual well reaches about 27 meters deep and has a 6 inch diameter. The digging process can take anywhere between 15-17 days and is all manual labor. A problem arises when equipment is dropped into the well and becomes nearly impossible to extract by hand. Often times the team has to completely start over in the digging process. Our team has come up with a way to retrieve an auger from the bottom of a well in hopes of making the digging process more efficient and effective.

Objective

Design and create a tool that is capable of retrieving tools (auger specifically) that are dropped into water wells being dug. The device must be easily reproduced and operated, must be useable in both dry and submerged wells, and transportable via commercial flights.

Conclusion

The final product was made of mostly steel and a small amount of aluminum. The equipment met all of the requirements that the team set. The trap door concept was the final plan that the team settled on and it works 9 out of 10 times.