



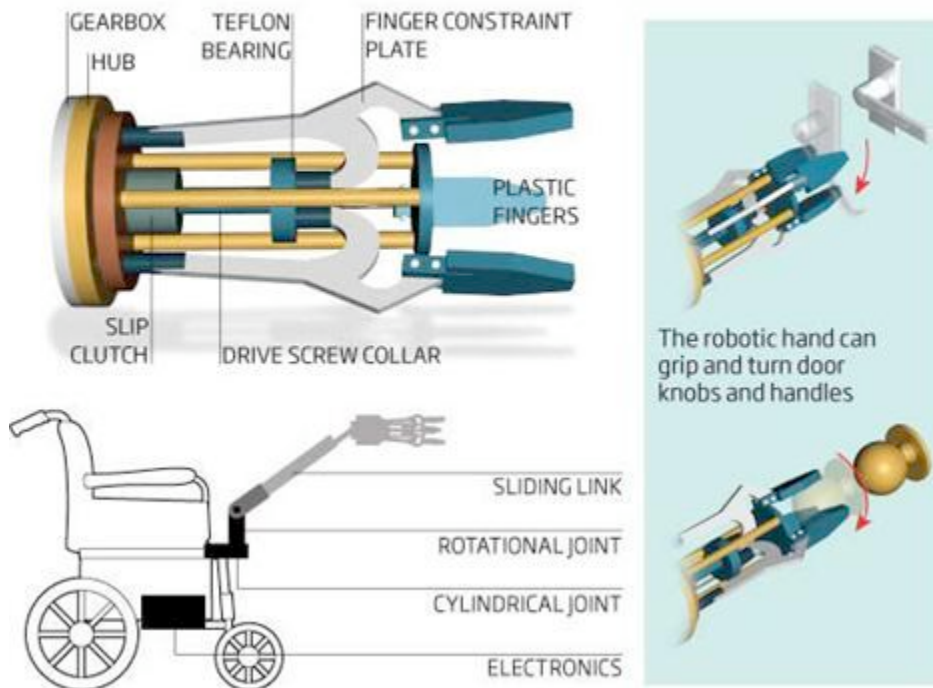
Door opening help

posted Nov 27th 2009 9:23am by [Caleb Kraft](#)
 filed under: [Medical hacks](#), [robots hacks](#)

Another door opens

This wheelchair attachment can open a door by gripping and rotating the door handle up to 82 degrees

©NewScientist



For those who are seeking prosthetic limbs, or just require a little bit of robotic gripper help, the choices are very few and very costly. A newcomer to the area is hoping to change the costly part with their [door opening arm](#). Costing only \$2,000 to build, it is quite cheap compared to the other offerings. This arm can grip, twist, and swing its arm at the same time using a single motor thanks to a slip clutch.

[via [Popular Science](#)]

- [Comments](#) [19]

tagged: [accessibility](#), [prosthetic](#)

Recent Posts

- [Fix a projector on the cheap](#) (12/22/2009)
- [Modular systems using SPI](#) (12/22/2009)
- [BobLight night light networking](#) (12/22/2009)
- [SNES system in the controller](#) (12/22/2009)
- [Rhythmic combo-lock](#) (12/22/2009)

Reader Comments

still no reason why it should cost \$2000 and the assumption that a great deal is ridiculous. i really wish people building this stuff would lose a limb and then some slime ball would offer them assistance for thousands of dollars on top of their medical bills.

Posted at [9:54 am](#) on Nov 27th, 2009 by [hackforfree](#)

Two grand? There's no way that's more than a hundred in materials even if you made it with some nice light titanium alloy. Even if you made just one with no custom tooling at all using standard equipment like a milling machine and a lathe there's no way it would come out to anything near two grand. And if you were to make custom jigs and fixtures for mass production forget about it, say maybe fifty bucks a pop if you want a bit of having fun money for the weekend?

Posted at [10:06 am](#) on Nov 27th, 2009 by [josh](#)

This may sound crazy, but this same thing was commercialized in the late seventies during the rise of industrial accidents.

It was then called the Hand-Tuck-It from a company out of Nantucket, MA.

It was the Hand-tuck-it from Nantucket..

Posted at [10:10 am](#) on Nov 27th, 2009 by [tj](#)

All inventions start out with a high price tag but come down after stream lining. How much did the first prosthetic foot cost? This looks to me like something else to add to the ever growing Swiss Army Knife of aids to help the handicap.

Posted at [10:12 am](#) on Nov 27th, 2009 by Max

Wasn't there an upright wheelchair at some point? No need for robot arms there.

Posted at [10:16 am](#) on Nov 27th, 2009 by CH

I *think* that part of the expensive bill is due to this being classified "medicine" and having to get FDA-approval and such.

Posted at [11:26 am](#) on Nov 27th, 2009 by Zero

the upright wheelchair, i think your referring to is the IBOT. I think it cost over \$30,000 us. there are many people that have cervical injuries, where the use of their arm and hand muscles are either non existent compromised.

SO an IBOT still wont open doors.

The first problem i see with this design is , if the person is using a wheelchair, they do not fit through the old size, non ADA door.

The 2000 price tag is ridiculous, as is the price on all of this type of stuff.

A typical wheel chair, the ones that someone would use to try and live a normal life cost around \$10,000. They are made to break down quick so that the users can transfer into a car, beak down the chair and put it in the backseat. only those with enough upper body use and strength can do this.

Posted at [11:51 am](#) on Nov 27th, 2009 by micke

Super-size one of those Gator Grip sockets and rubberize the pins.

Attach gearbox + motor for rotation.

????

Profit.

Posted at [12:10 pm](#) on Nov 27th, 2009 by

I see bad things coming from giving senior citizens mechs...

Posted at [12:27 pm](#) on Nov 27th, 2009 by supershwa

Quantitatively, what kind of torque would something like this have to apply to turn handles/knobs? Any tips motor selection for accomplishing tasks that require fairly significant amounts of torque

(well...compared to the things we see in smaller electronics)?

Posted at [2:20 pm](#) on Nov 27th, 2009 by [Jon](#)

\$2000 is ridiculously expensive. It'd be much cheaper to just replace the doorknobs in your house to the kind shown on top in the picture (and use a much simpler stick arm, if necessary).

I don't know about other countries, but in the United States, most public buildings don't use knobs to open doors. It's either the same kind I just mentioned or a crash bar.

Posted at [2:46 pm](#) on Nov 27th, 2009 by SheeEtin

Note on the iBot things, they're not being produced anymore, not enough sold sadly enough

Posted at [7:46 pm](#) on Nov 27th, 2009 by Ryan

in 50 years robotic prosthetics will be as common as crutches today

Posted at [9:41 pm](#) on Nov 27th, 2009 by therian

If you can do it so much cheaper, please do. As for replacing all your door knobs, the point is to enable people to go more places. You may not have an issue at the store, but offices, hotels, and other people's homes may not be as user friendly. The "crash bar" works on the way out, but how do you get in? not every one of those is on an unlatched door like at the mall.

Posted at [2:21 am](#) on Nov 28th, 2009 by Kevin

if you want to price anything specific to disability then start at the price it is worth and add a 0 on the end. Wheelchairs that are really a modded pram \$12,000, bath chairs made from PVC tubing and "shade cloth" \$500... so it would seem \$2000 is par for the course ...shittingly so }-(

Posted at [4:10 am](#) on Nov 28th, 2009 by SPARCS

This is not an invention or a hack. It looks to me like someone applying unnecessary technology to a problem that is simple to solve. Ok, meby by that rationale it is a hack. Just take the doors off?

Posted at [5:33 am](#) on Nov 28th, 2009 by Gareth

@gareth,
that works in your own home, but what about when you leave?

Posted at [8:26 am](#) on Nov 28th, 2009 by [Caleb Kraft](#)

But what if the door is locked? If you have trouble turning a doorknob, inserting a key and turning it is even harder for people with limited mobility.

That's why my wheelchair will sport a shotgun with a breaching round.

Posted at [1:53 pm](#) on Nov 28th, 2009 by Viadd

@Viadd:

Mine will have an arm a la Johnny Five's multi-tooled arm w/ lockpicking capabilities and still twist knobs, push panic bars and pull open doors. Shotgun? Well... I'll save that for a hidden surprise for some trying to jack my sweet chair. lol

Posted at [10:09 pm](#) on Dec 1st, 2009 by Rollyn01

Leave a Reply

Name (required)

Mail (will not be published) (required)

Website

Notify me of follow-up comments via email.

Hack a Day serves up fresh hacks each day, every day from around the web and a special How-To

hack each week.

[Send us your hacks](#)



Hacks

- [android hacks](#) (38)
- [arduino hacks](#) (251)
- [beer hacks](#) (4)
- [blackberry hacks](#) (6)
- [cellphones hacks](#) (189)
- [classic hacks](#) (432)
- [cnc hacks](#) (79)
- [cons](#) (123)
- [contests](#) (43)
- [digital audio hacks](#) (156)
- [digital cameras hacks](#) (155)
- [downloads hacks](#) (100)
- [ds hacks](#) (33)
- [firefox hacks](#) (21)
- [g1 hacks](#) (26)
- [gameboy hacks](#) (60)

- [google hacks](#) (38)
- [gps hacks](#) (56)
- [green hacks](#) (17)
- [Hackaday links](#) (5)
- [HackIt](#) (46)
- [handhelds hacks](#) (116)
- [hardware](#) (15)
- [home entertainment hacks](#) (341)
- [home hacks](#) (231)
- [how-to](#) (35)
- [iphone hacks](#) (104)
- [ipod hacks](#) (106)
- [laptops hacks](#) (81)
- [laser hacks](#) (61)
- [led hacks](#) (188)
- [lifehacks](#) (11)
- [linux hacks](#) (29)
- [lockpicking hacks](#) (4)
- [macs hacks](#) (96)
- [Medical hacks](#) (12)
- [misc hacks](#) (1150)
- [multitouch hacks](#) (43)
- [netbook hacks](#) (44)
- [news](#) (585)
- [nintendo hacks](#) (142)
- [parts](#) (33)
- [pcs hacks](#) (249)
- [peripherals hacks](#) (399)
- [phone hacks](#) (3)
- [playstation hacks](#) (76)
- [podcasts](#) (8)
- [portable audio hacks](#) (60)
- [portable video hacks](#) (49)
- [pre hacks](#) (4)
- [psp hacks](#) (41)
- [rants](#) (2)
- [repair hacks](#) (5)
- [reviews](#) (8)
- [robots hacks](#) (341)
- [roundup](#) (17)
- [security hacks](#) (199)
- [solar hacks](#) (13)
- [tablet pcs hacks](#) (8)
- [teardown](#) (3)
- [tool hacks](#) (179)

- [toy hacks](#) (18)
- [transportation hacks](#) (173)
- [Uncategorized](#) (330)
- [video hacks](#) (37)
- [wearable hacks](#) (67)
- [wii hacks](#) (61)
- [wireless hacks](#) (162)
- [xbox hacks](#) (89)

Resources

- [Send us news tips](#)
- [Contact us](#)

RSS newsfeeds

- [RSS news feed](#)

Powered by [WordPress](#)

Most commented on (30 days)

- [STM8S-Discovery: Microcontrollers reach a new low](#) (190)
- [Fanboys want to take AT&T down](#) (74)
- [Arduino shield for Arduino. No, really.](#) (70)
- [Verizon users shout "I am root!"](#) (68)
- [\\$100 free from your favorite hobby supplier!](#) (67)
- [AC Shield will take your breath \(heart beat\) away.](#) (63)
- [Destroying optical media](#) (52)
- [Pink wireless-terminal of wonder](#) (51)
- [What's the worst way to transmit video?](#) (48)
- [Fully-automatic crossbow](#) (48)

Recent comments

- Pissed Off Read on [Bobbie teaches you about SSH tunnels](#)
- Pissed Off Read on [Bobbie teaches you about SSH tunnels](#)
- bobonfire on [Fix a projector on the cheap](#)
- Chris on [SNES system in the controller](#)
- The Best Avaya Store on [Funkytown performed by old hardware](#)
- gpilzner on [How to build a life-sized electronic game](#)
- Yaniv on [Perspective tracking with only a web cam](#)
- Vince on [BobLight night light networking](#)
- JohnAspinall on [C-clamp current monitoring](#)
- nachowarrior on [Verizon users shout "I am root!"](#)

All contents copyright © 2008, Hack A Day. All Rights Reserved.

☺

