

# Form, Function and Instruction

Alicia Gibb

# But first a table!



# Step 1



# Step 2

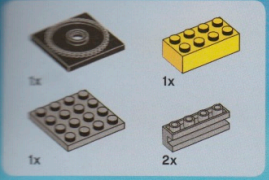


# Step 3

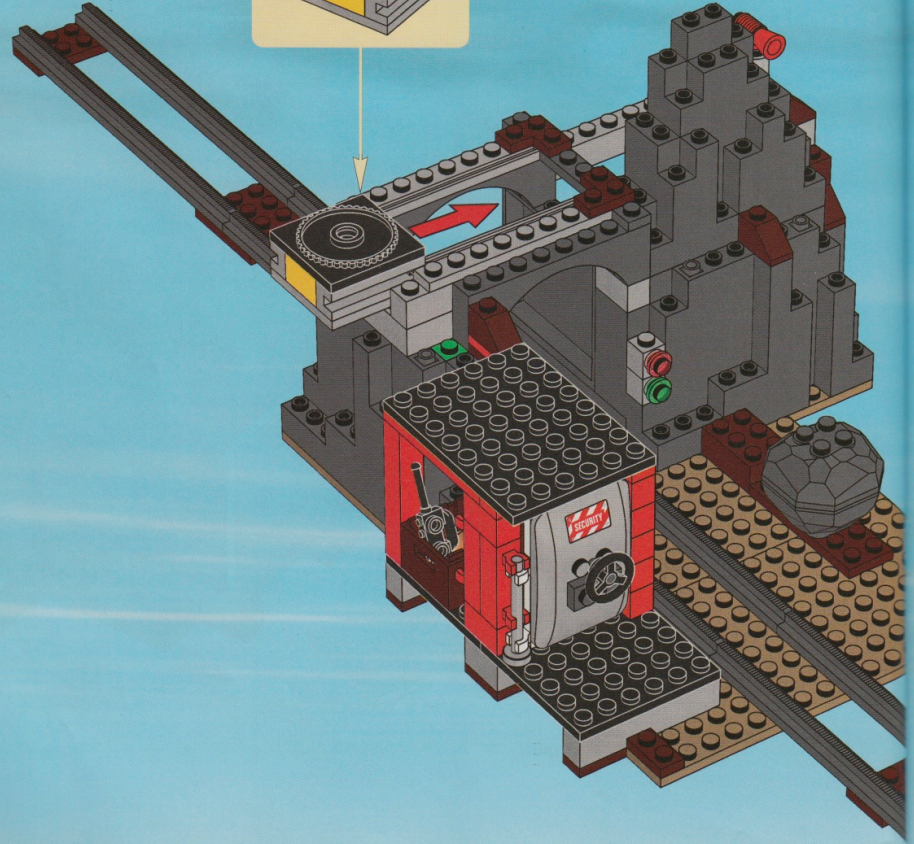


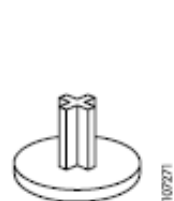
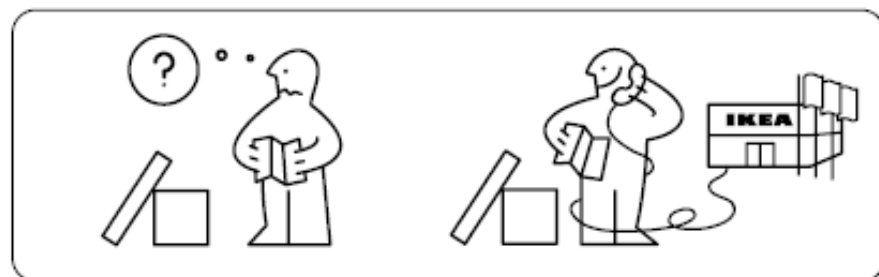
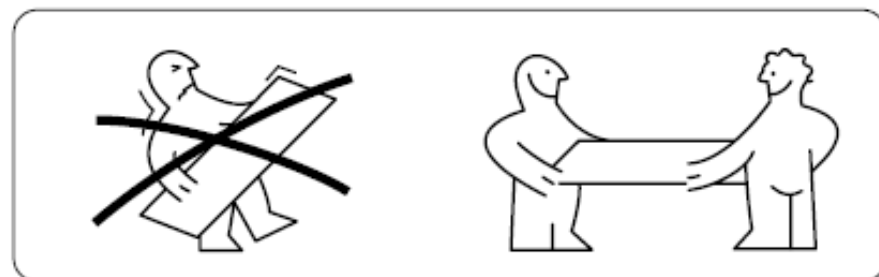
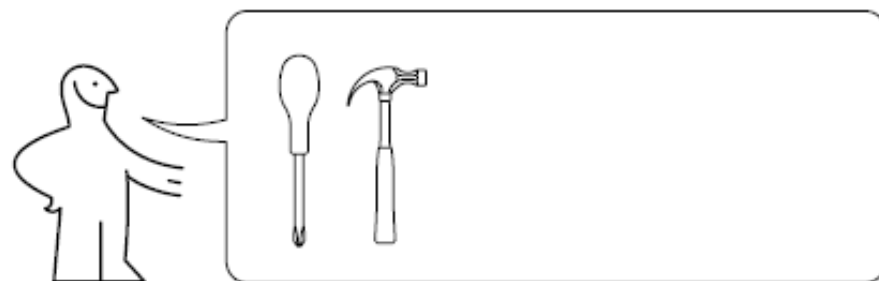
# Instructions

35

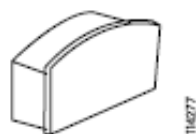


- 1
- 2
- 3





4x



4x



4x



8x



# Inspiration

## **Changes for Parts IX and X**

Changes to Parts IX and X are necessary to comply with new regulations that eliminated the advance ruling process. Until Form 1023 is revised to reflect this change, please follow the directions on this notice when completing Part IX and Part X of Form 1023. For more information about the elimination of the advance ruling process, visit us at IRS.gov. In the top right "Search" box, type "Elimination of the Advance Ruling Process" (exactly as written) and select "Search."

**Changes to Instructions for Form 1023,  
Application for Recognition of Exemption  
Under Section 501(c)(3) of the Internal  
Revenue Code (Rev. June 2006)**

# Grad School



**LASER PEGS**  
The Ultimate Toy For Kids

For Boys  
And Girls Ages  
5 And Up

6 in 1

**LIGHTED**  
CONSTRUCTION SET

670

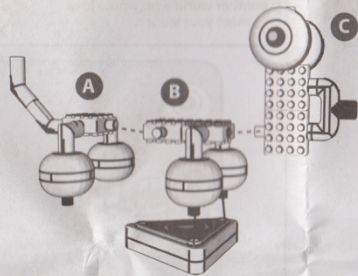
ONLY AT 



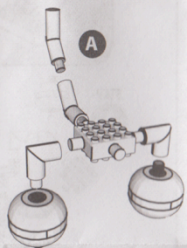
Light Pegs™  
Add light to your  
construction set.

The 3 AAA batteries are only for the  
one function. They should be removed  
from the storage power base and  
replace with 3 yellow AAA batteries  
before going to the store.

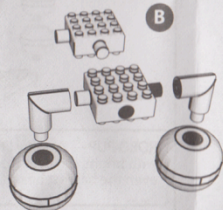
**WARNING:**  
**CHOKING HAZARD** - Small parts.  
Not for children under 3 yrs.  
Do not substitute in mouth.



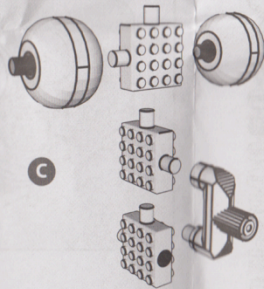
STEP 1



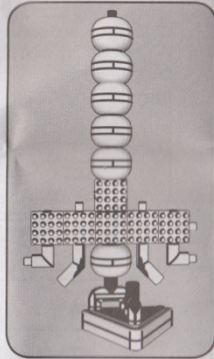
STEP 2



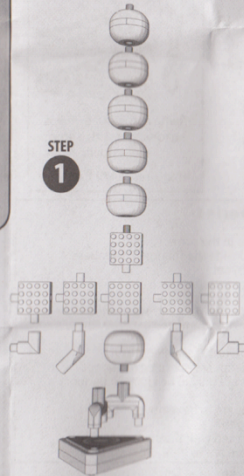
STEP 3



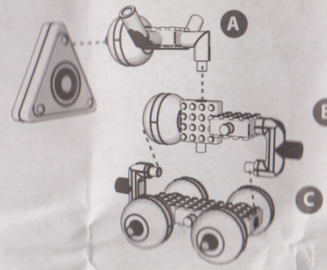
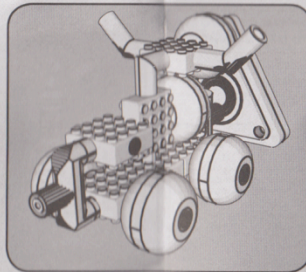
MODEL ROCKET — An elongated projectile which can be propelled to great heights through combustion. **FACTOID**



STEP 1



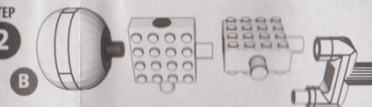
SPEEDSTER — A racing automobile built for super high speeds. **FACTOID**



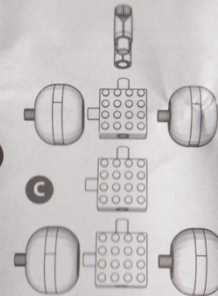
STEP 1



STEP 2



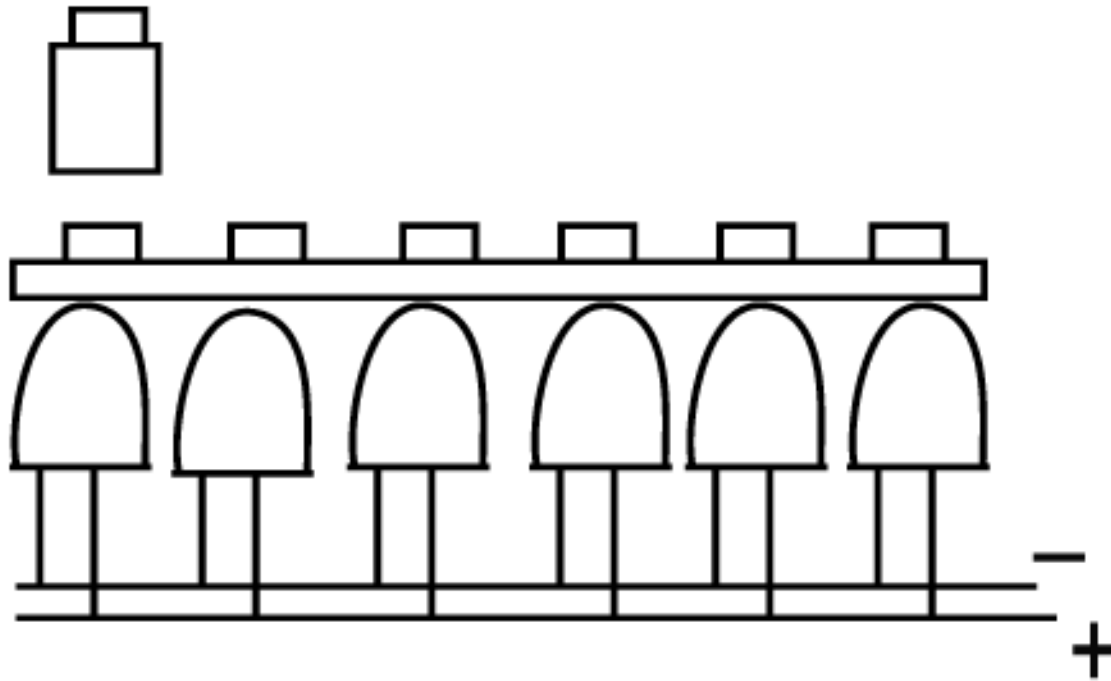
STEP 3

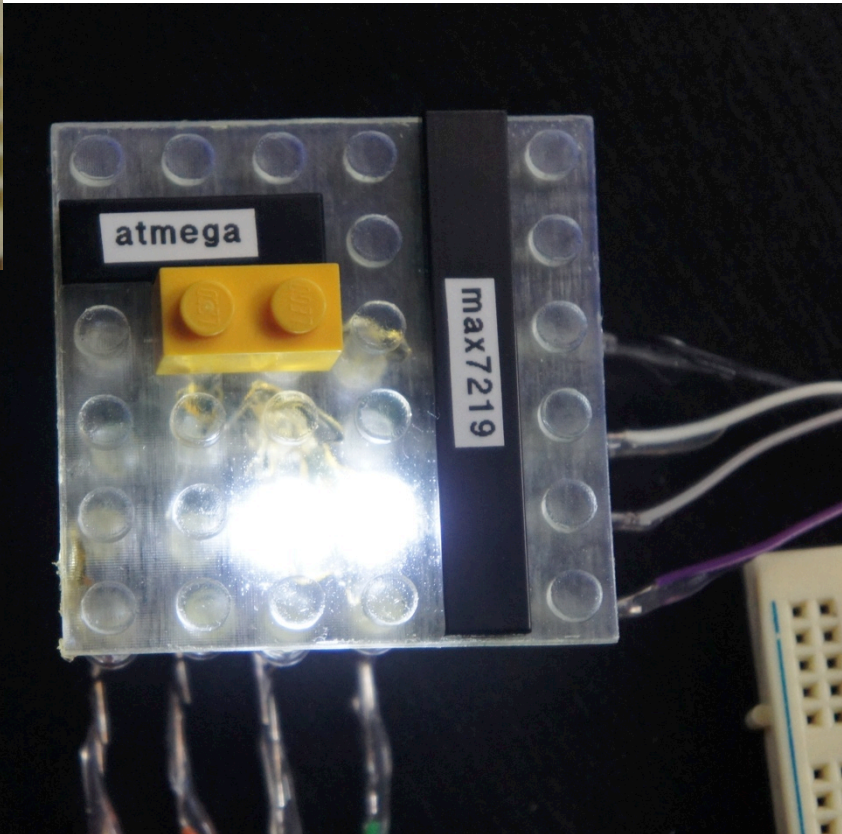
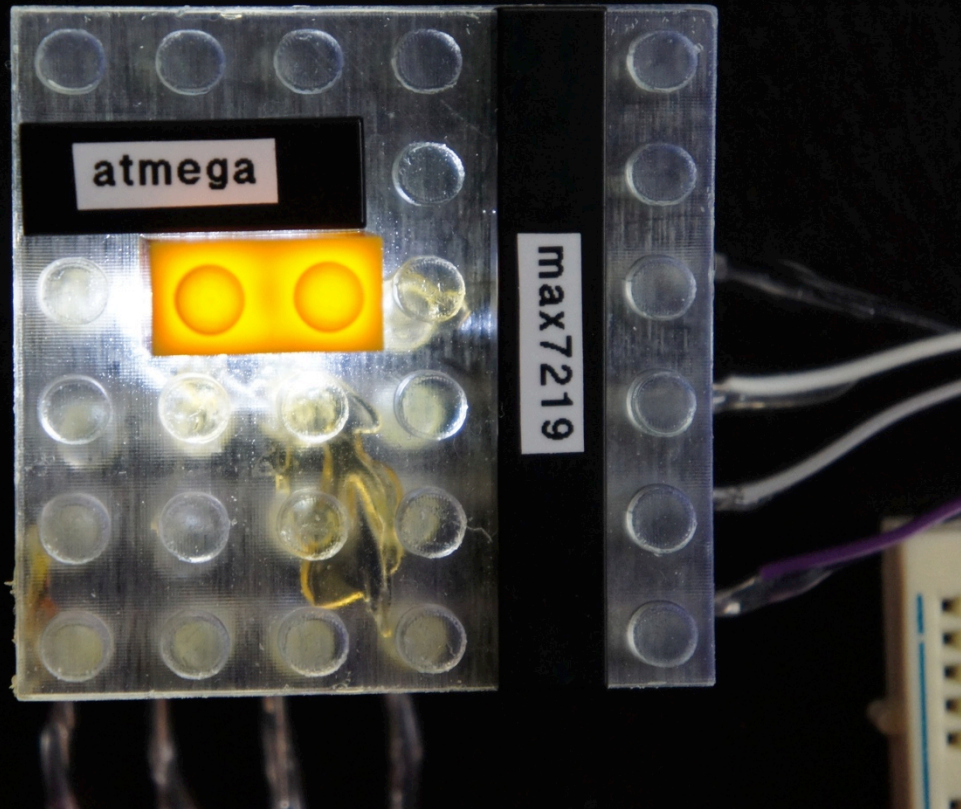


[www.LaserPegs.com](http://www.LaserPegs.com)

Copyright 2012© All Rights Reserved Global & Multiple Patents Pending  
US Patent #7,731,558

# Electronics under

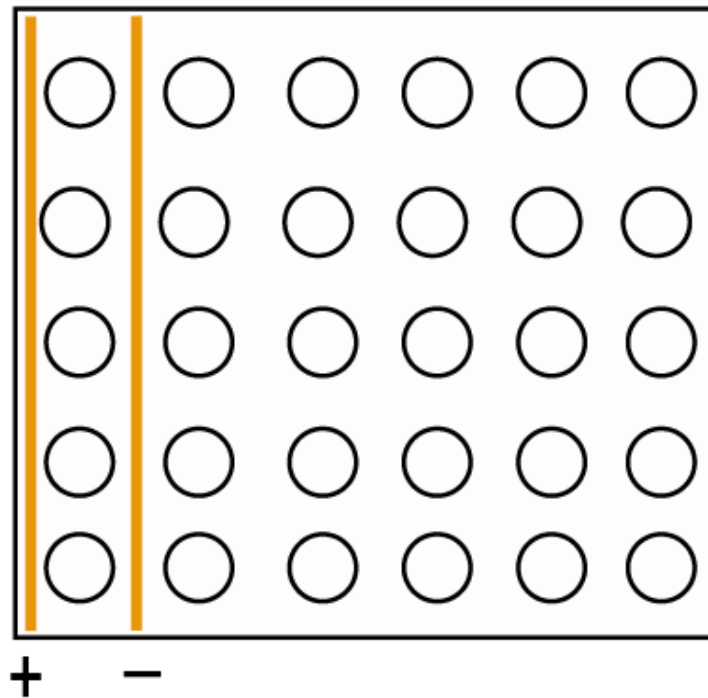




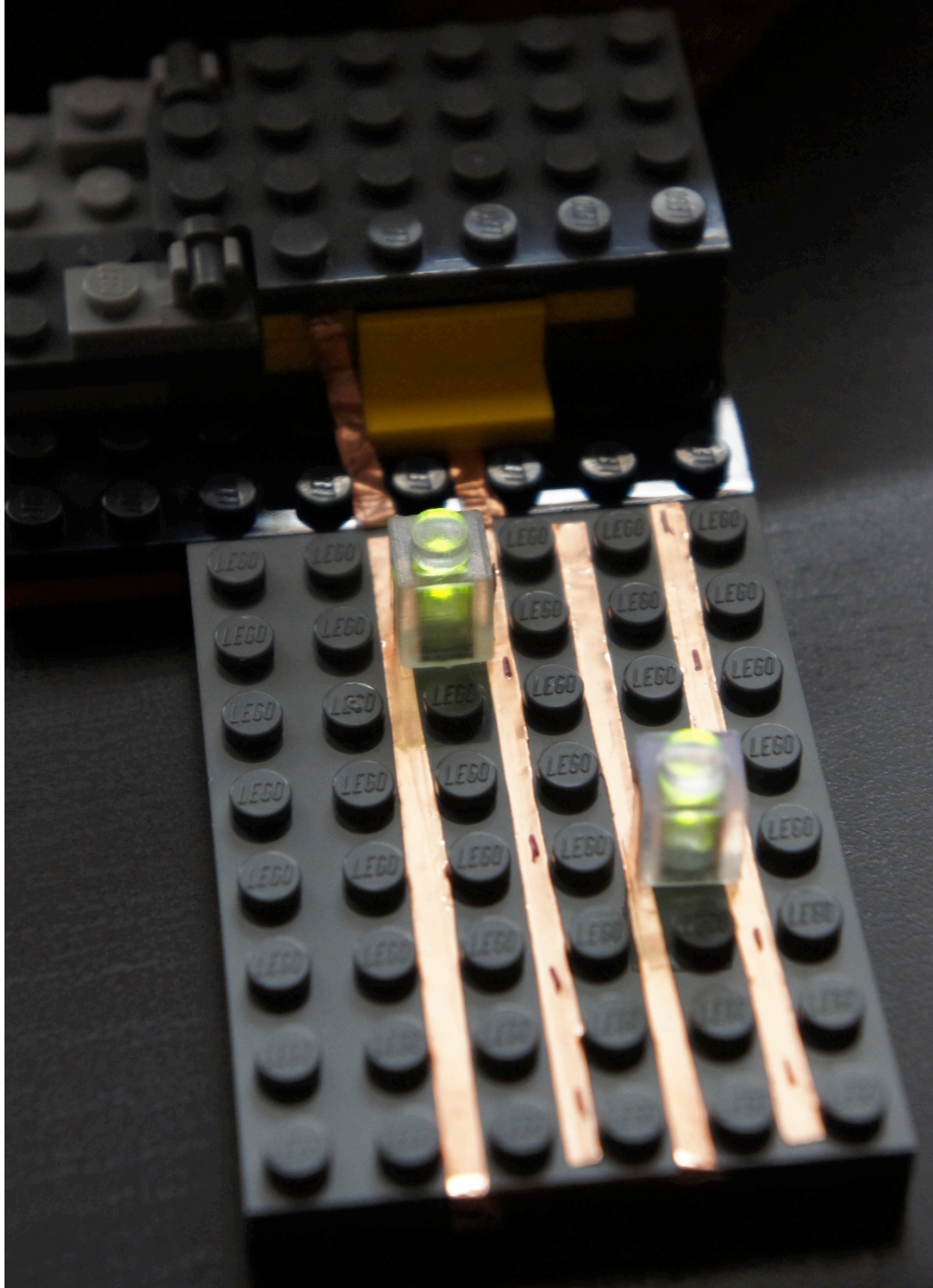
# Problems

- No Z access available to the LEDs if using opaque Legos
- Clear Lego baseplates are almost non-existent

# Electronics on top



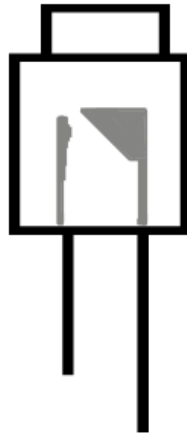




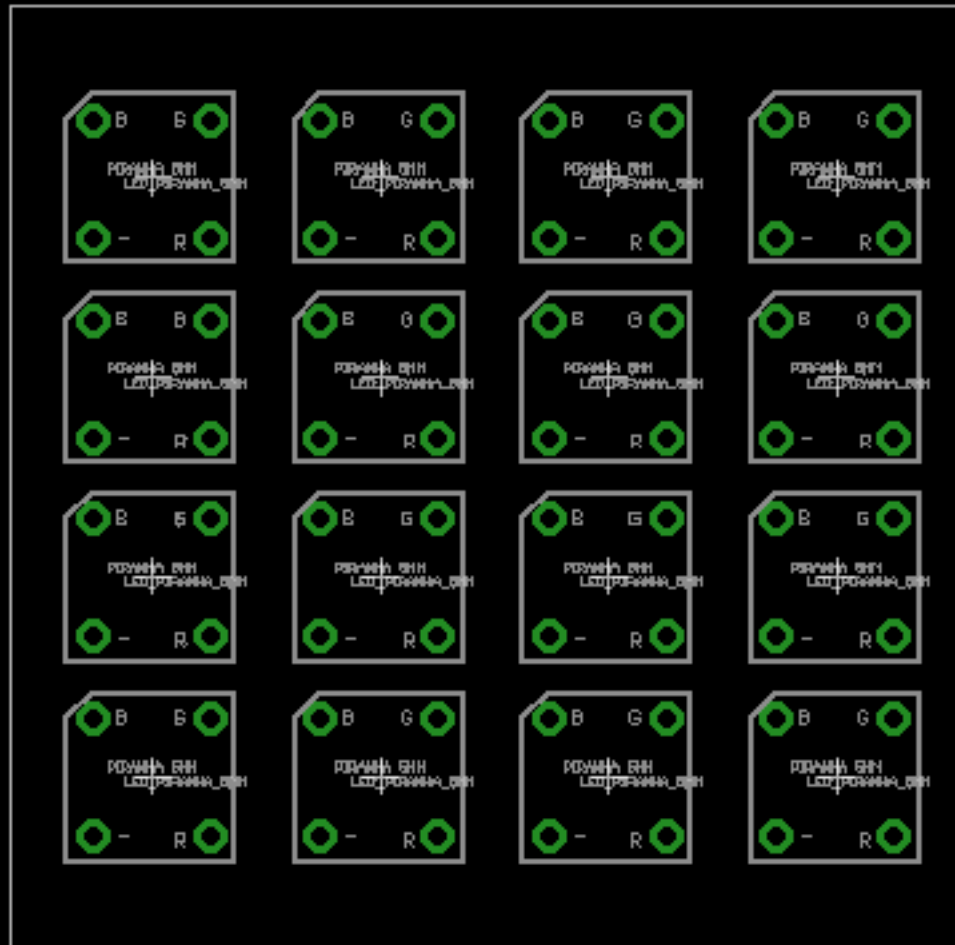
# Problems

- Pressure fit for the legos to make a good enough connection
- LEDs are really difficult to affix in Legos
  - Potential solution: 3D print the LEDs and leads into the Lego block
- Copper tape is not a good solution for production
- Isn't really embedded instruction

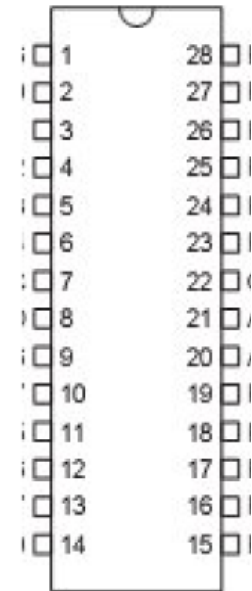
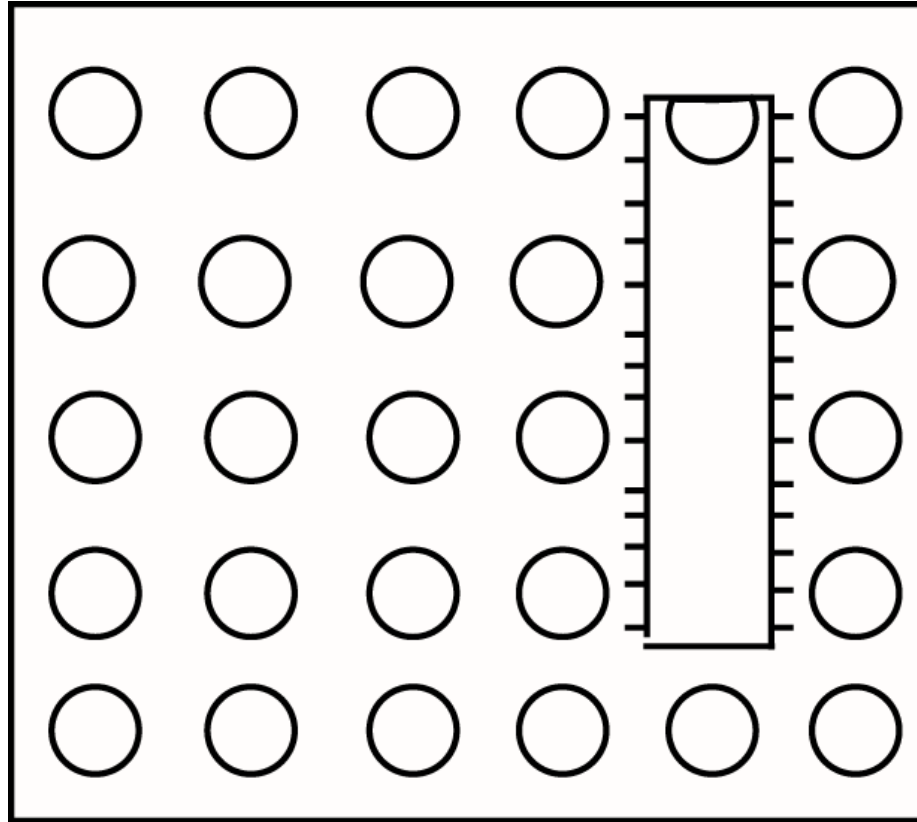
# Shaped epoxy on LEDs



# Through hole Lego PCBs



# And the chips



# Problems

- Heat of a soldering iron on plastic baseplates

Question: Is there a silicon spec that high?

Still have a potential problem of the Z axis, but there could be a way to string leads through multiple layers of LEDs.



# Expired patent of the day: Lego

Rob Beschizza at 1:07 pm Fri, Oct 21, 2011

Oct. 24, 1961

G. K. CHRISTIANSEN  
TOY BUILDING BRICK

3,005,282

Filed July 28, 1958

2 Sheets-Sheet 1

FIG. 1.

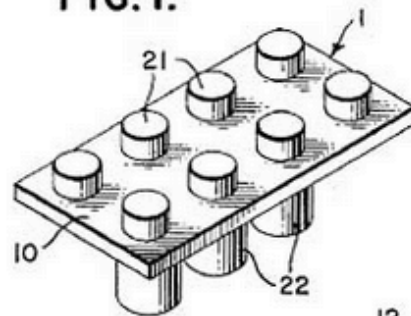


FIG. 2.

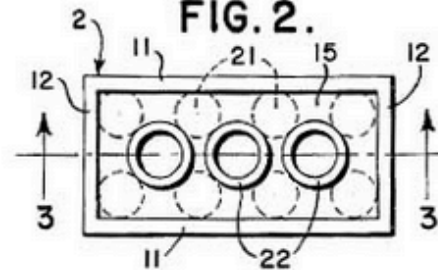


FIG. 3.

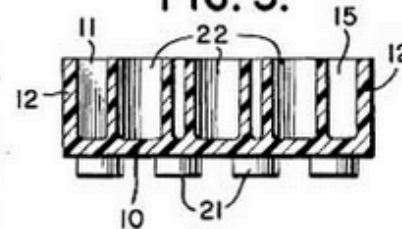
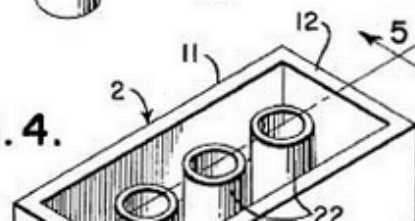


FIG. 4.

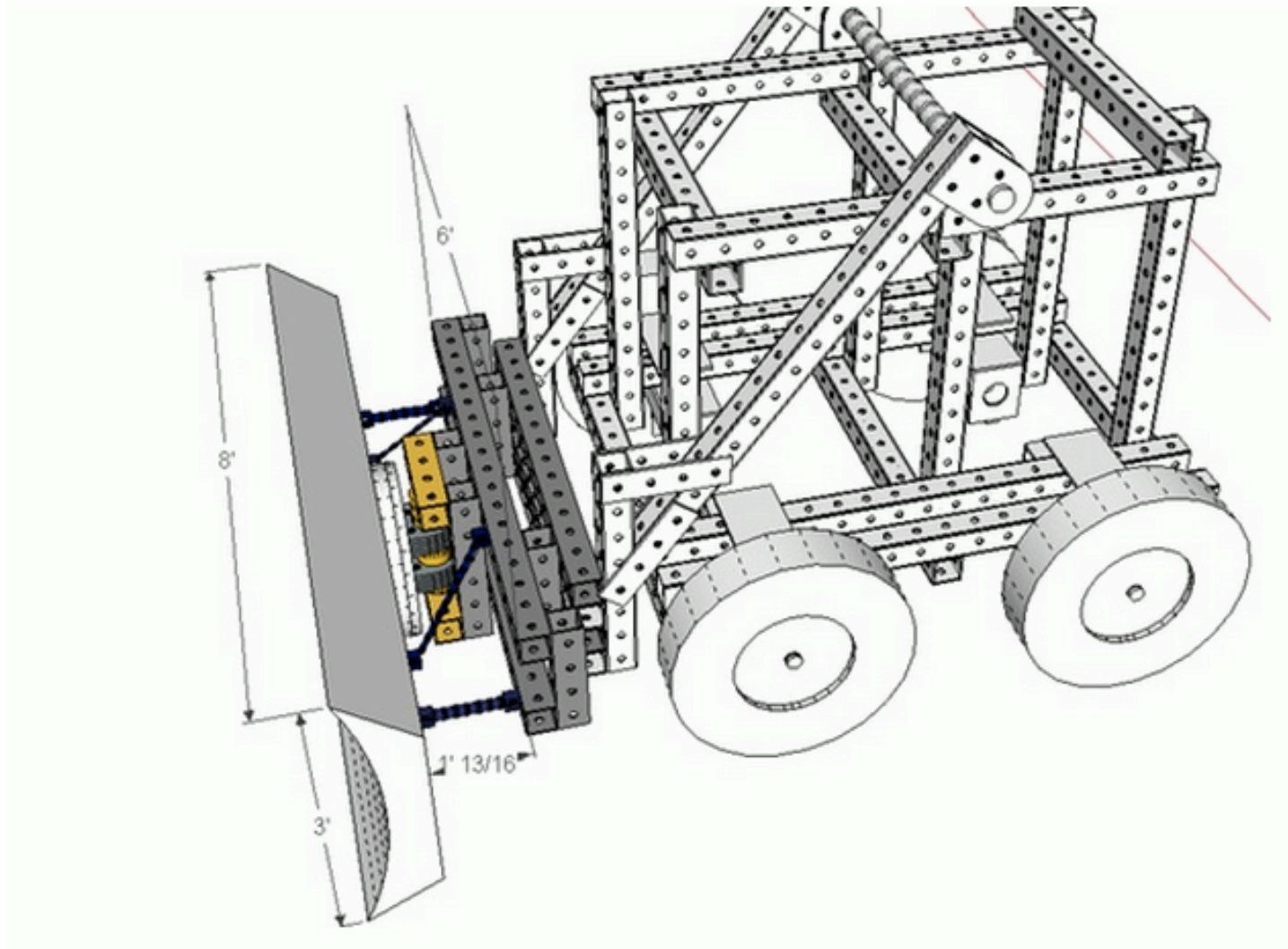


# Embedded Instructions





# Global Village Construction Kit



Open Hardware Summit 09/06/2013

[summit.oshwa.org](http://summit.oshwa.org)

