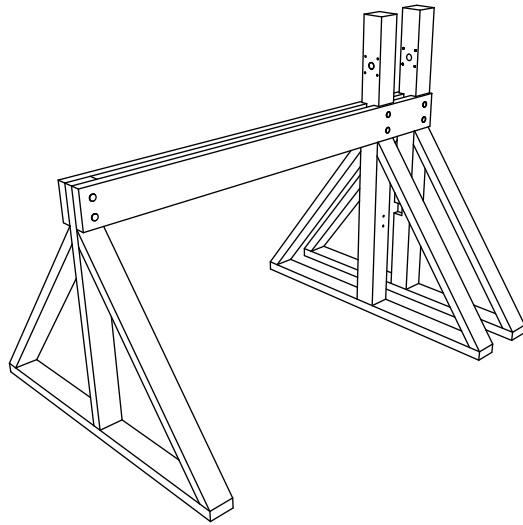
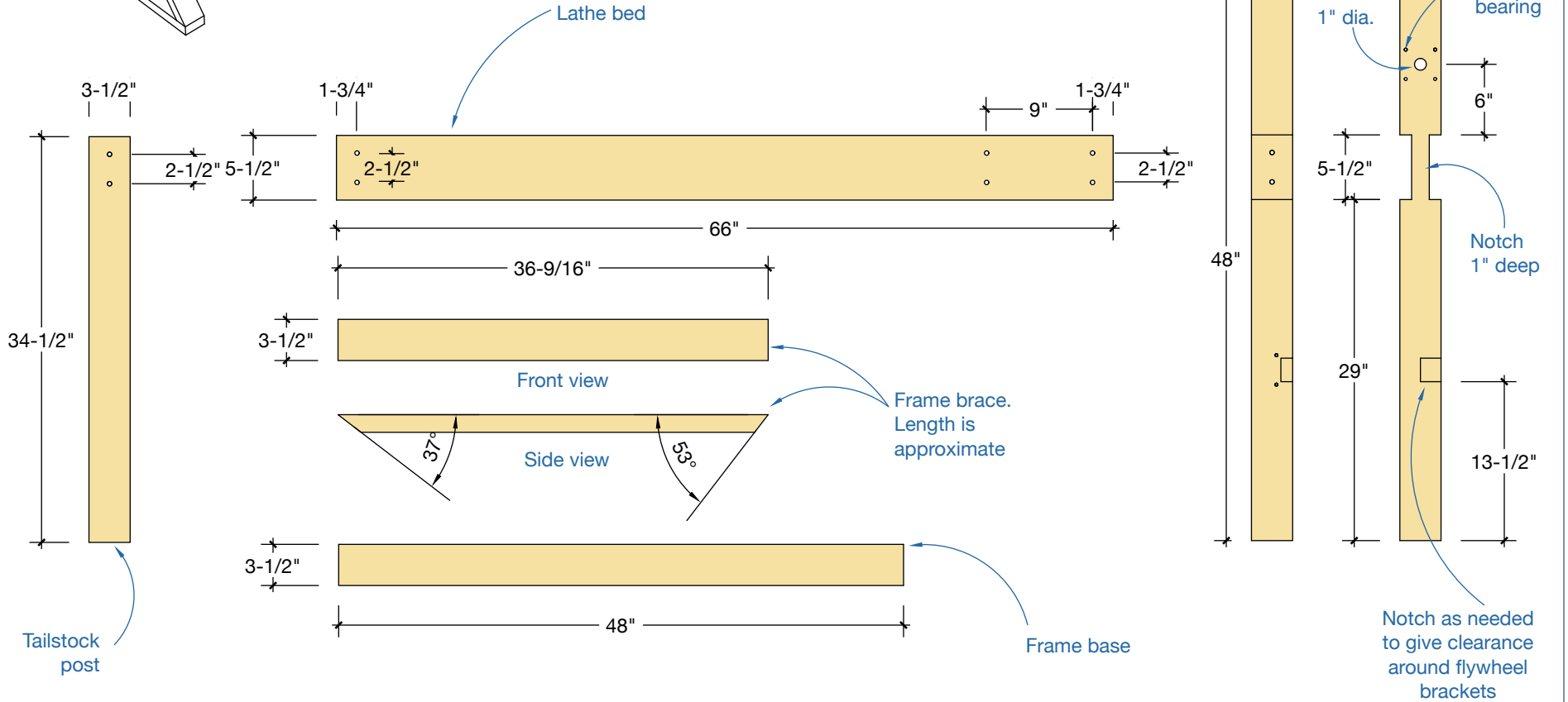


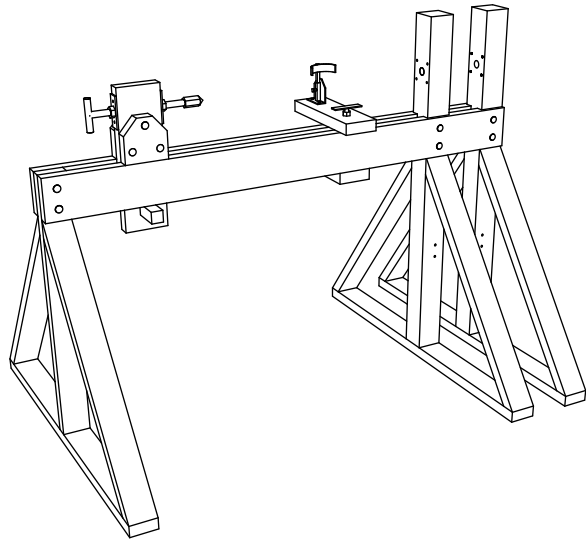
# The Frame



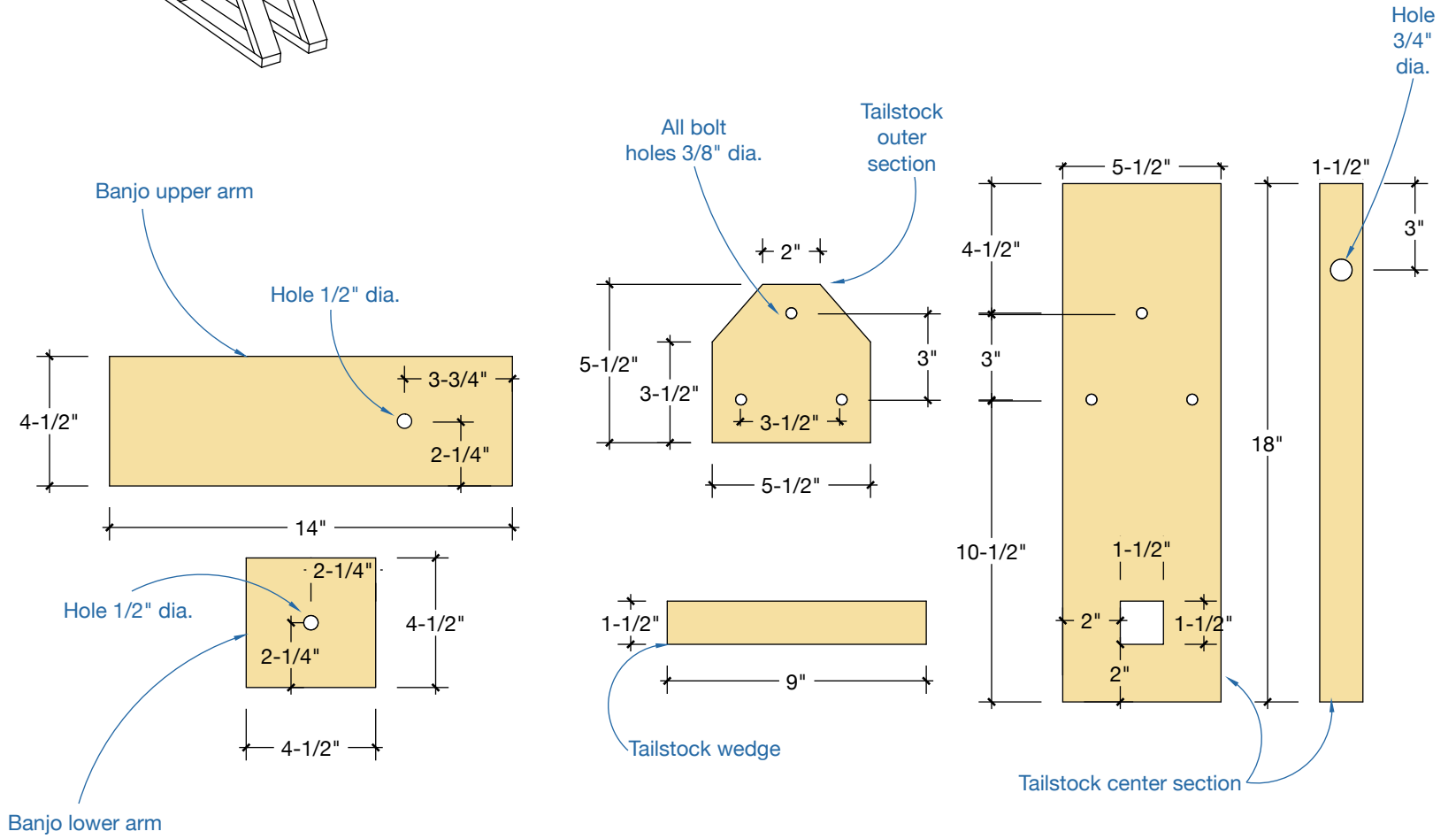
Headstock post.  
Space posts  
5-1/2" apart



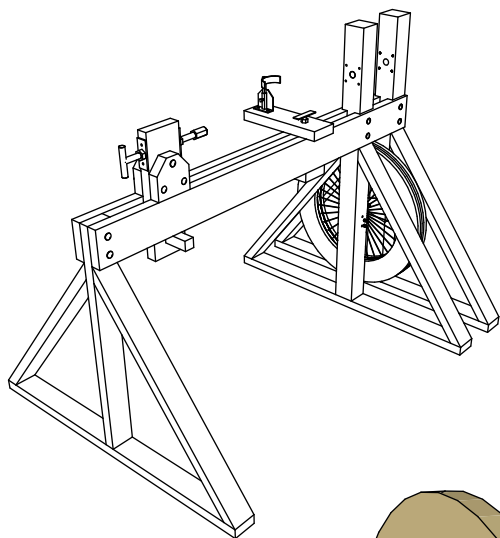
# The Tailstock and Toolrest



Brackets to support dead center are shown on page 8. One bracket is threaded and one drilled out to make it easy to align the tailstock rod.



# The Flywheel Assembly



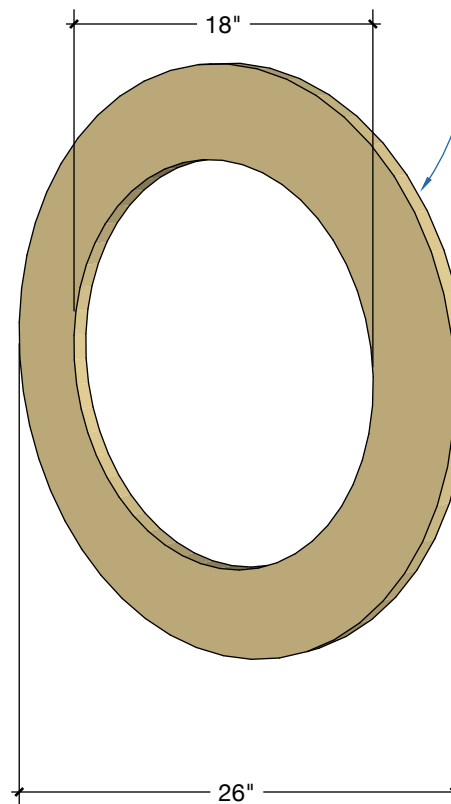
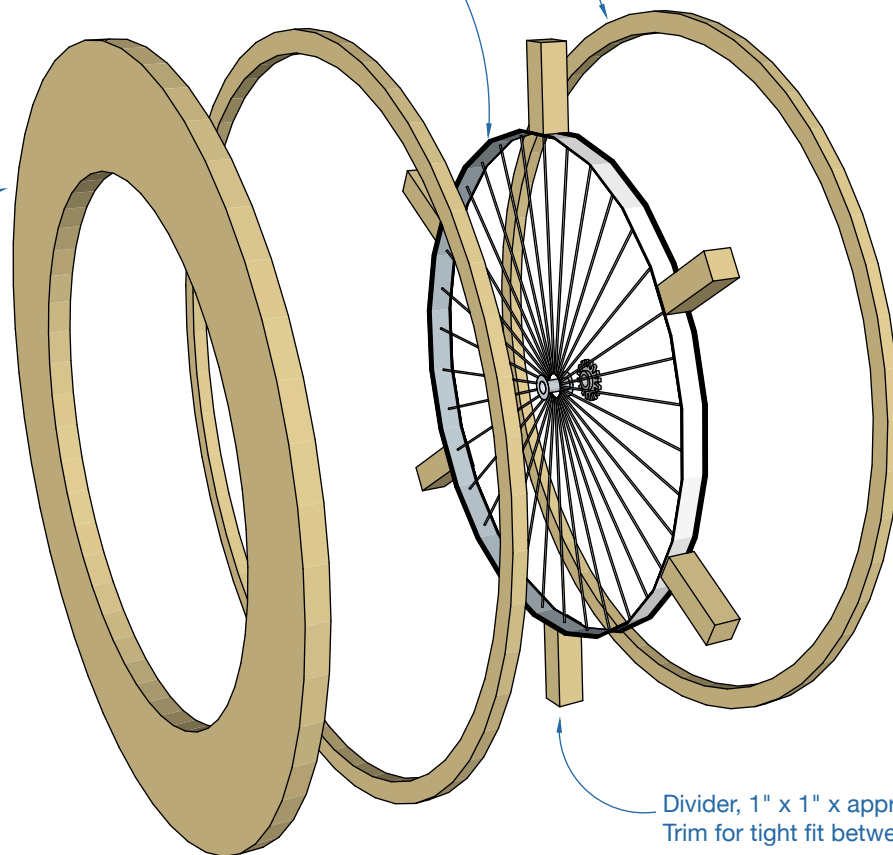
Bicycle wheel axle  
mounts to brackets  
bolted to headstock posts

20" BMX  
bicycle  
wheel

Inner rim.  
26" outside dia.,  
24" inside dia.,  
1/2" thick

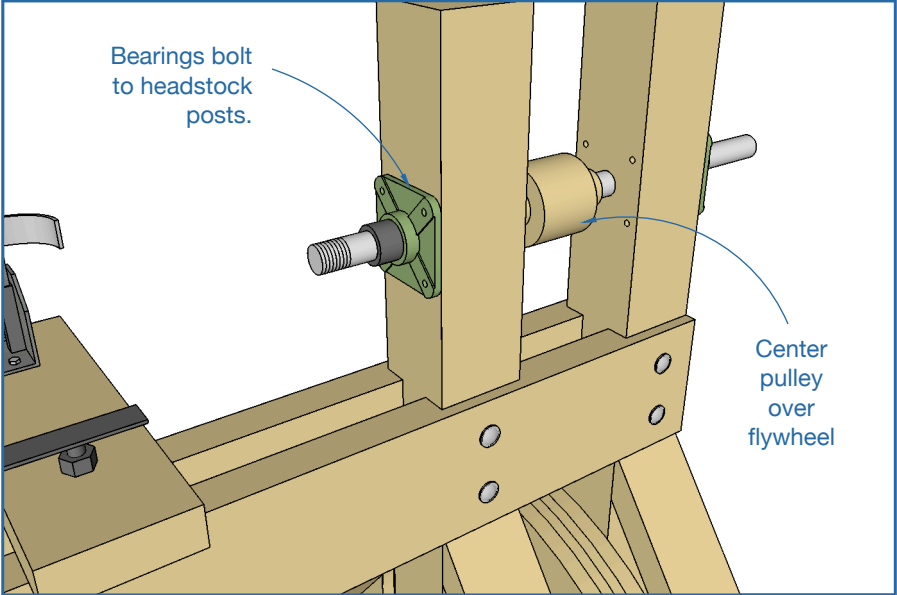
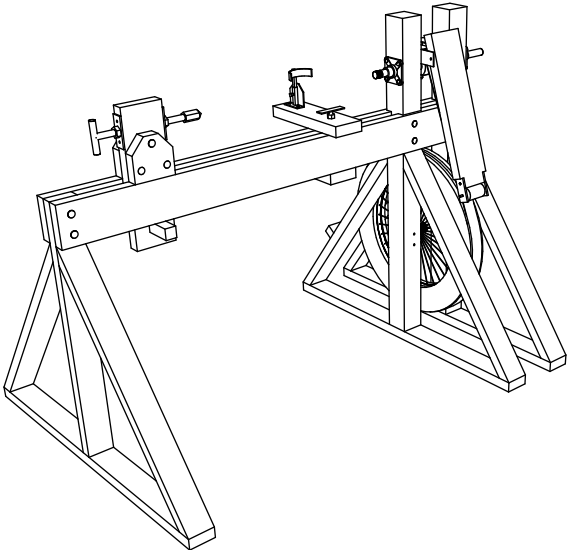
Outer rim,  
3/4" thick

After assembly,  
turn a slight crown  
on rim to help hold  
drive belt in place.



Divider, 1" x 1" x approx. 4" long.  
Trim for tight fit between wheel and inner rim

# The Headstock



Bearings bolt to headstock posts.

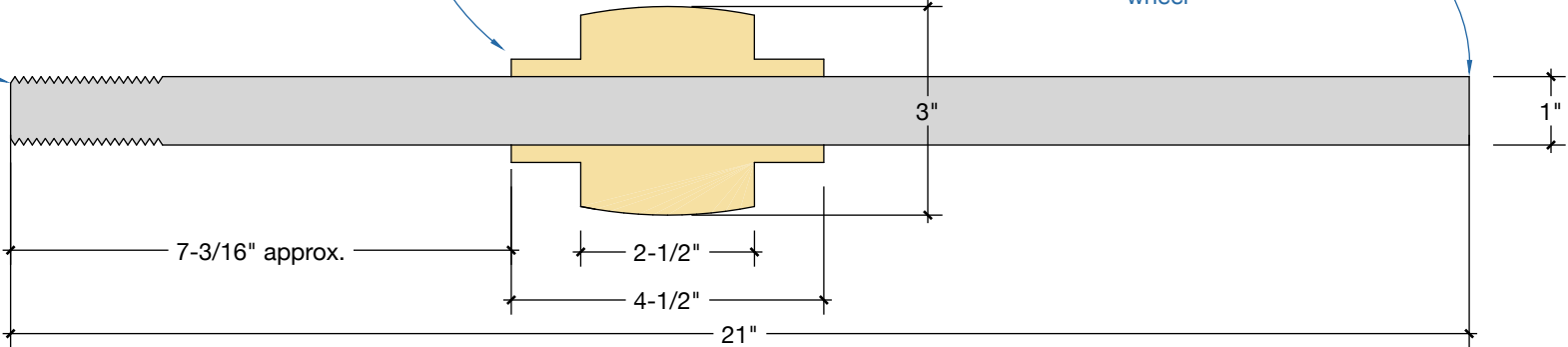
Center pulley over flywheel

Pulley. Attaches to headstock shaft with hose clamps

1x8tpi threading

Turn a slight crown on pulley to hold drive belt

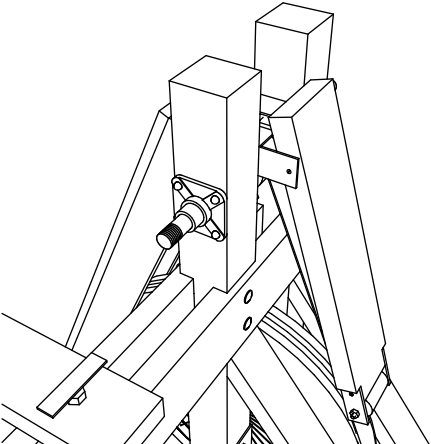
This end can be reverse-threaded to hold a grinding wheel



Cutaway view of spindle shaft and pulley

# The Belt Guard and Belt Tensioner

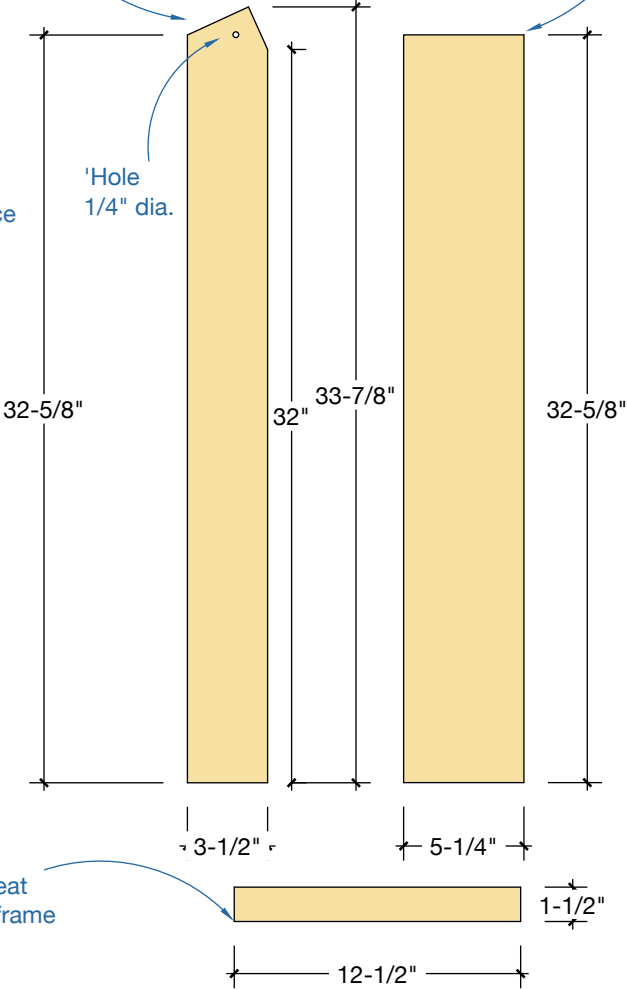
Belt tensioner pivots on rackets on headstock posts, held by bolts that also hold bearings,



Belt guard held in place by brackets bolted to headstock posts

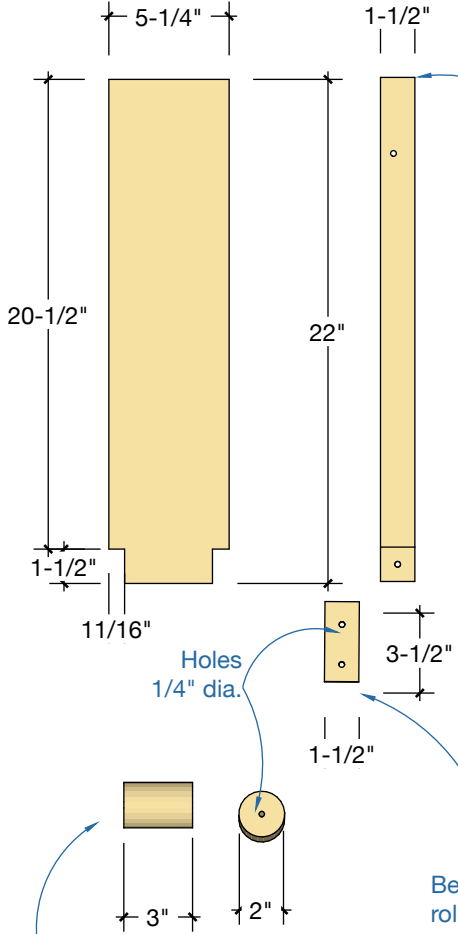
Belt guard side

Belt guard cover



Front view

Side view



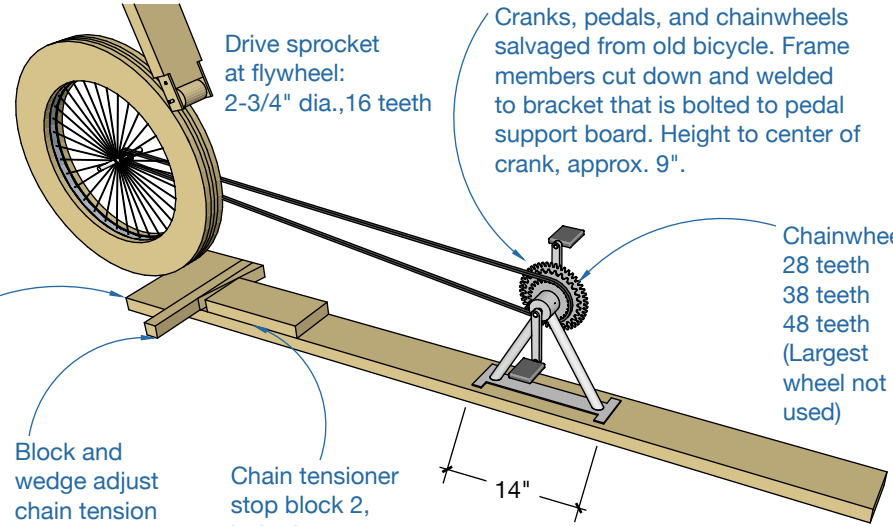
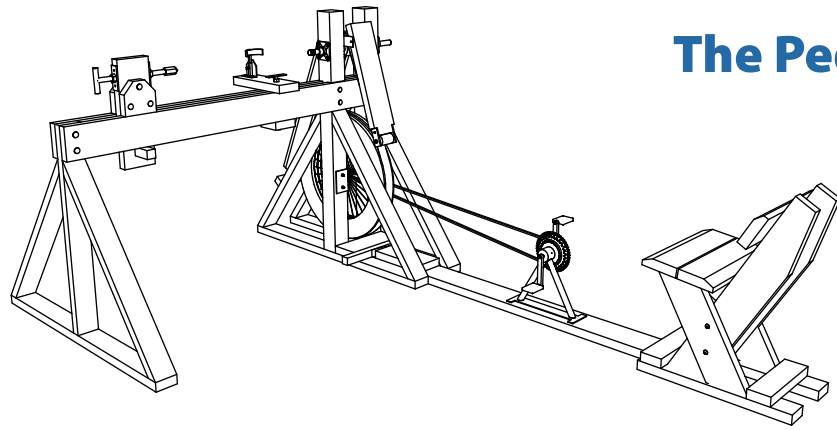
Belt tensioner arm

Belt guard cleat (Attaches to frame braces)

Belt tensioner roller

Belt tensioner roller bracket

# The Pedals and Chair



Drive sprocket at flywheel:  
2-3/4" dia., 16 teeth

Cranks, pedals, and chainwheels salvaged from old bicycle. Frame members cut down and welded to bracket that is bolted to pedal support board. Height to center of crank, approx. 9".

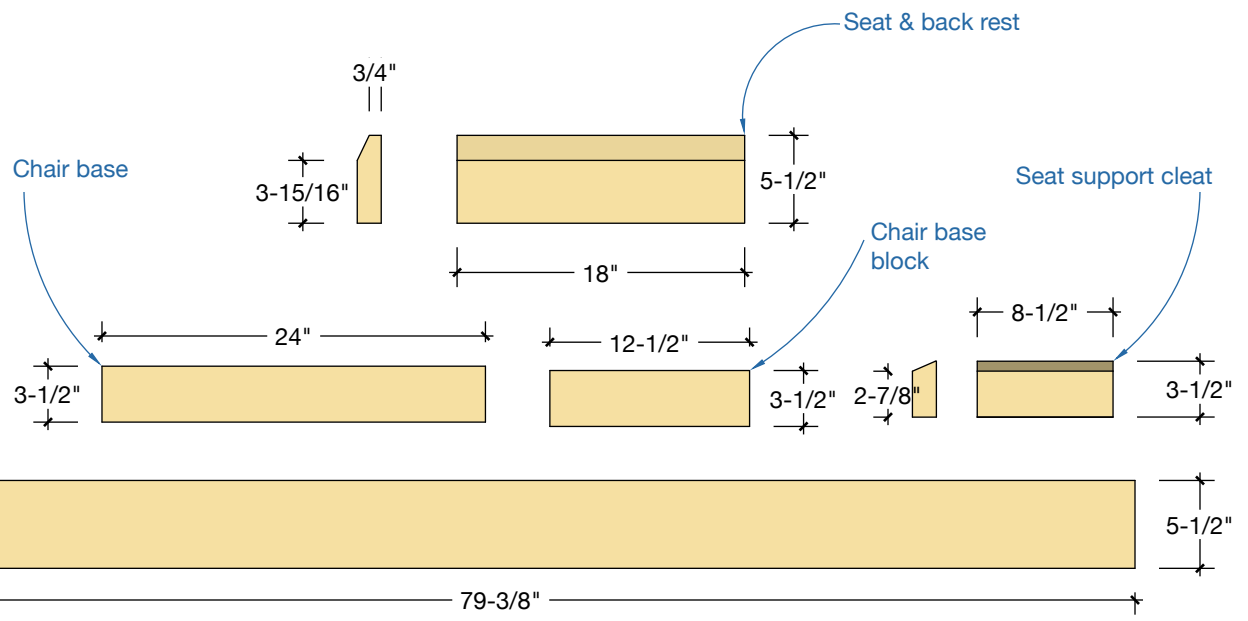
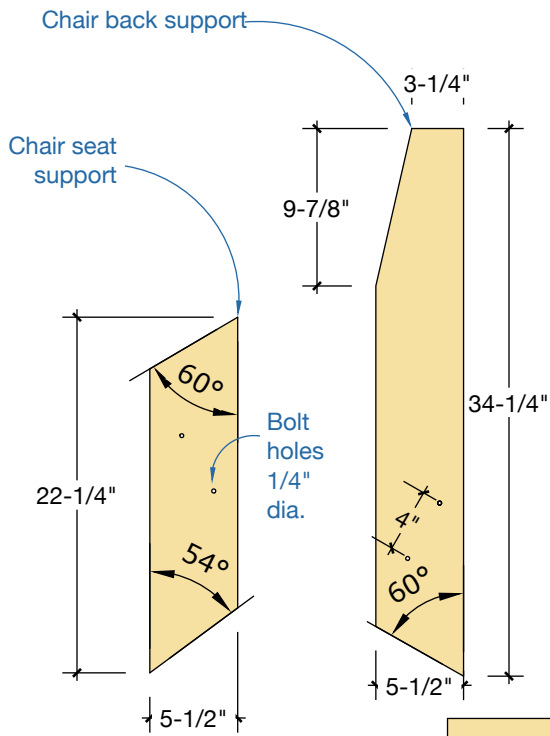
Chainwheels:  
28 teeth  
38 teeth  
48 teeth  
(Largest wheel not used)

Chain tensioner stop block 1, screwed to frame base

Block and wedge adjust chain tension

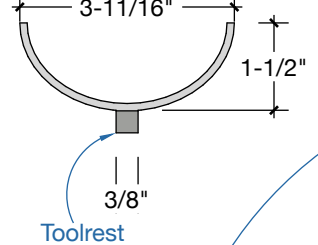
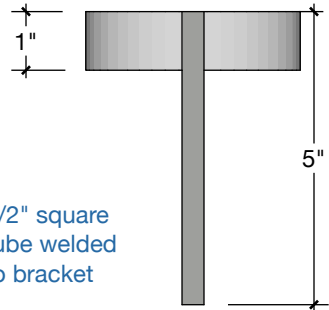
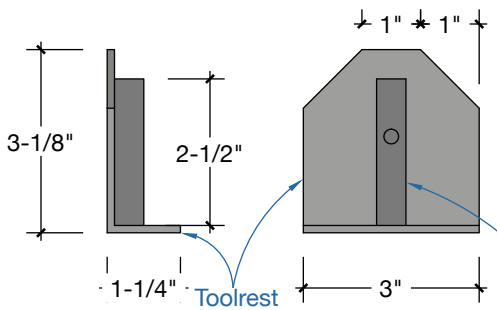
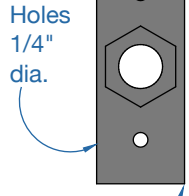
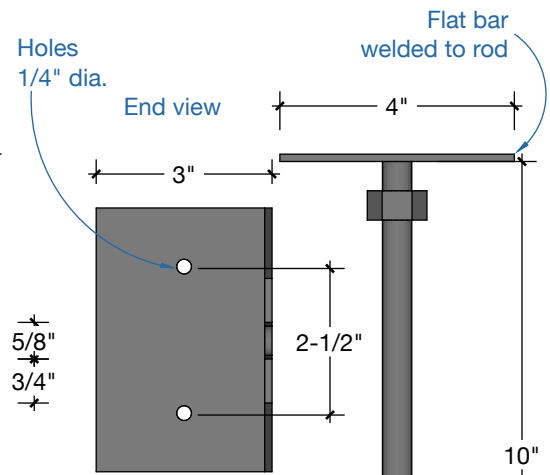
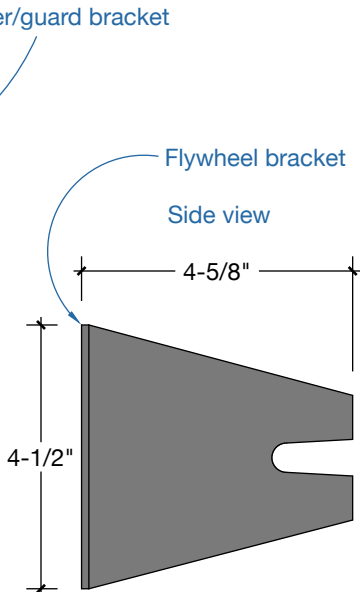
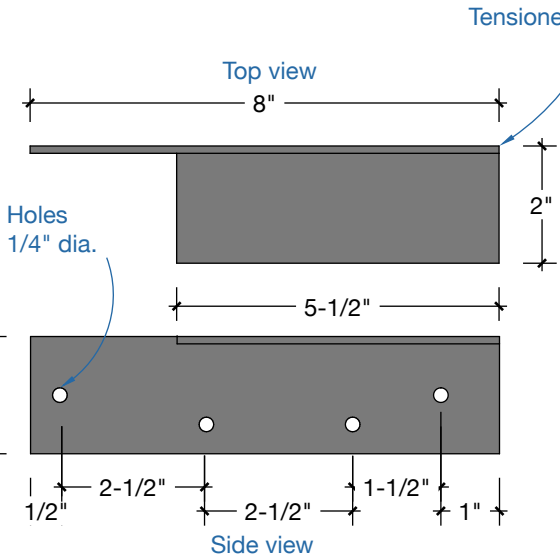
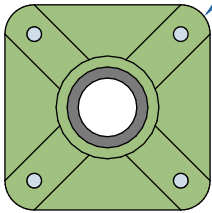
Chain tensioner stop block 2, bolted to pedal support board

14"

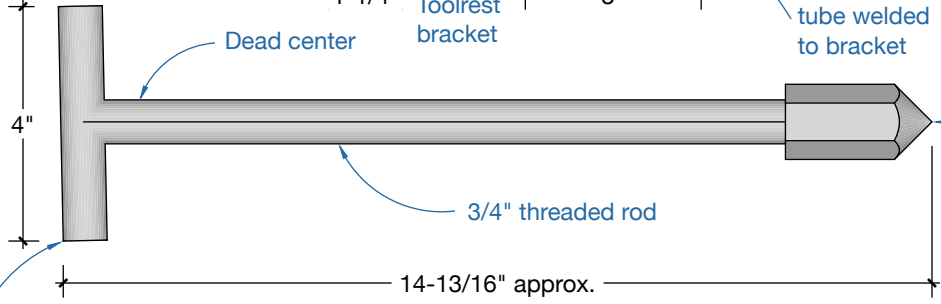


# Brackets and Other Hardware

Headstock bearing  
from Princess Auto  
(www.princessauto.com)  
Part no. 3870185



Tailstock bracket.  
3/4" nut welded to  
plate. Leave 1 nut  
threaded, drill out  
the other, to make  
it easier to align  
dead center.



Banjo locking bar.  
1/2" threaded rod, with  
nuts attached.

Handle to suit welded to rod

Coupler nut  
sharpened to point



# Cutlist

Part	Qty.	Length, in.	Width, in.	Thickness, in.	Notes
<b>Frame</b>					
Tailstock post	1	34-1/2	3-1/2	1-1/2	
Lathe bed	2	66	5-1/2	1-1/2	
Headstock post	2	48	3-1/2	3-1/2	
Frame base	3	48	3-1/2	1-1/2	
Frame brace	6	36-9/16	3-1/2	1-1/2	Length approximate. Cut angled ends to fit
<b>Tailstock</b>					
Center section	1	18	5-1/2	1-1/2	
Outer section	2	5-1/2	5-1/2	1-1/2	
Wedge	1	9	1-1/2	1-1/2	
<b>Toolrest &amp; banjo</b>					
Banjo upper arm	1	14	4-1/2	1-1/2	
Banjo lower arm	1	4 -1/2	4-1/2	1-1/2	
<b>Flywheel</b>					
Outer rim	2	26	26	3/4	Cut out inner circle so rim overlaps bicycle rim
Inner rim	2	26	26	1/2	Cut 1-in. ring
Dividers	6	4	1	1	Length approximate; cut to fit
<b>Belt tensioner</b>					
Belt tensioner arm	1	22	5-1/4	1-1/2	
Belt tensioner roller bracket	2	3-1/2	1-1/2	1/4	Can be plywood, MDF, or metal
Belt tensioner roller	1	3	2	2	
<b>Belt guard</b>					
Belt guard side	2	33-7/8	3-1/2	3/4	
Belt guard cover	1	32-5/8	5-1/4	3/4	Plywood
Belt guard cleat	1	12-1/2	1-1/2	1-1/2	

Part	Qty.	Length, in.	Width, in.	Thickness, in.	Notes
<b>Headstock</b>					
Pulley	1	4-1/2	3	3	
<b>Chair</b>					
Pedal support	1	79-3/8	5-1/2	1-1/2	Length approximate. Cut to suit users.
Chair seat support	2	22-1/4	5-1/2	1-1/2	
Chair back support	2	34-1/4	5-1/2	1-1/2	
Chair base	2	24	3-1/2	1-1/2	
Chair base block	2	12-1/2	3-1/2	1-1/2	
Seat and back rest	3	18	5-1/2	1-1/2	Cut angle on one edge.
Seat support cleat	1	8-1/2	3-1/2	1-1/2	Cut angle on one edge as needed
Chain tensioner stop block 1	1	12-1/2	5-1/2	1-1/2	
Chain tensioner stop block 2	1	12	5-1/2	1-1/2	
Chain tensioner block	1	15-1/2	1-1/2	1-1/2	
Chain tensioner wedge	1	9-1/8	1-1/2	1-1/2	Taper to point