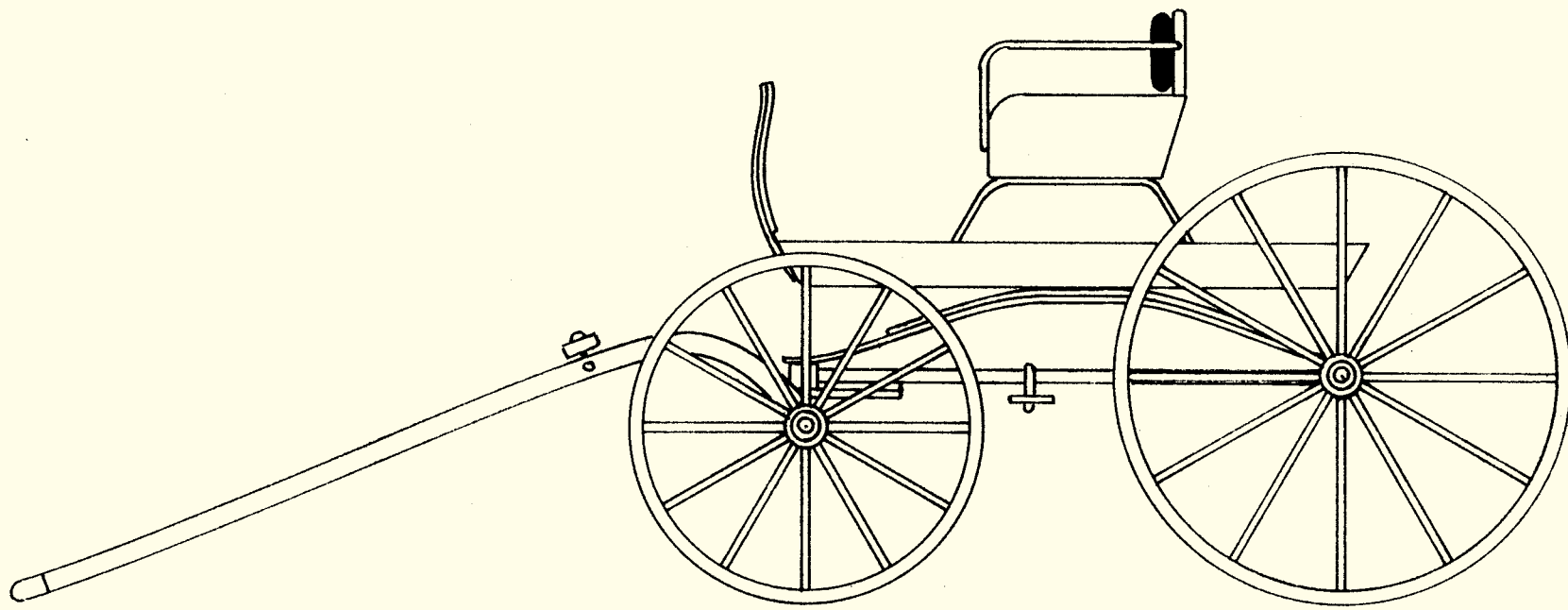
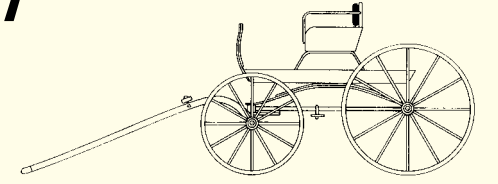


# 1:20.3 one-horse shay

by Ted Stinson | Wiscasset, Maine



If you are modeling a railroad in the period prior to 1920, you will need a supply of horse-drawn vehicles. This is the second of several to be offered.

The one-horse shay was the classic light transport (two or fewer passengers) of its day. The prototype for this shay was built of native woods and finished black with red wheels. It is on display at the Boothbay Railway Museum. The wheels for this vehicle are made of laser-cut ply and are available as a separate item from Northeast Narrow Gauge ([www.nemodel.com](http://www.nemodel.com)).

### Construction

Begin construction by cutting out the "print wood" parts. The print-wood pattern can be copied and glued to firm balsa or ply. Balsa will be the easiest material to cut.

Begin by assembling the seat. Sand the edges smooth and add the .04"-diameter wire handrails. Give the seat at least two coats of spray lacquer. Make the seat cushions from balsa. Add the pins and seal with clear lacquer. Paint the cushions black. Do not glue the cushions in place until the body has been painted. Now make the floor and mud guard. Seal this with clear lacquer before painting. When dry, attach the seat.

Now make the frame. Since the frame is made of dissimilar materials, use CA cement for assembly. Start with a 1/8"-square x 1 13/16" piece of pine. Drill 1/16"-diameter holes where needed. Glue the 1/2" ply semicircle piece in place. Add the tube and the rear axle, followed by the flat-wire springs and step. The round steps can be made from small cardstock discs. When this has fully dried, paint the frame black.

Next, make the front axle and the shafts. Since this assembly is made of dissimilar materials, use CA cement for assembly. The assembly should also be painted black. When dry, attach the front axle to the frame with a pin through the ply semi-discs.

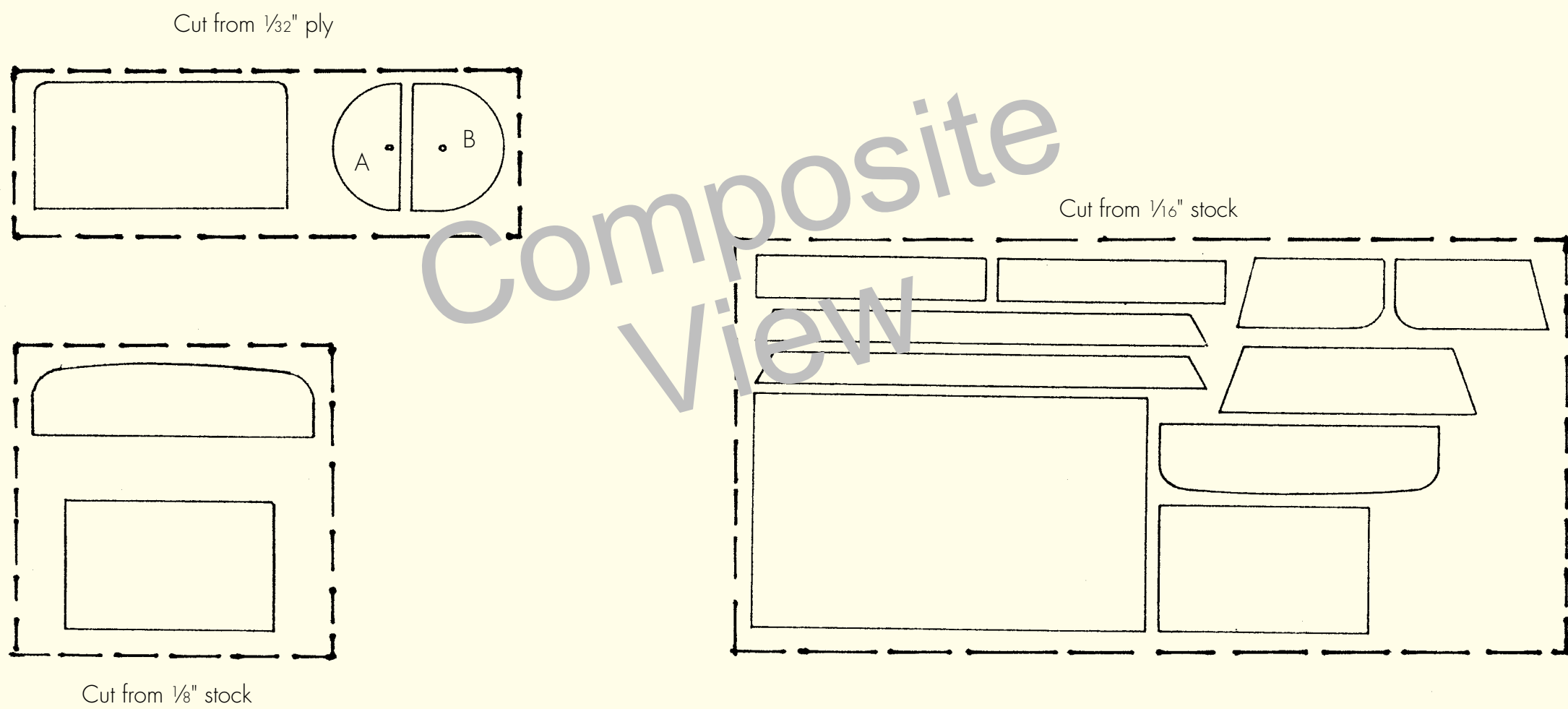
Assemble the wheels. Seal and paint these red. Wheels can be fitted on the axles, and the small eyelet that holds them in can be glued to the ends of the axles.

While the one-horse shay was a small vehicle, a Morgan horse was often used to pull it. One possibility is a Breyer "Paddock Pal" Morgan, available from toy stores, tack shops, or online.

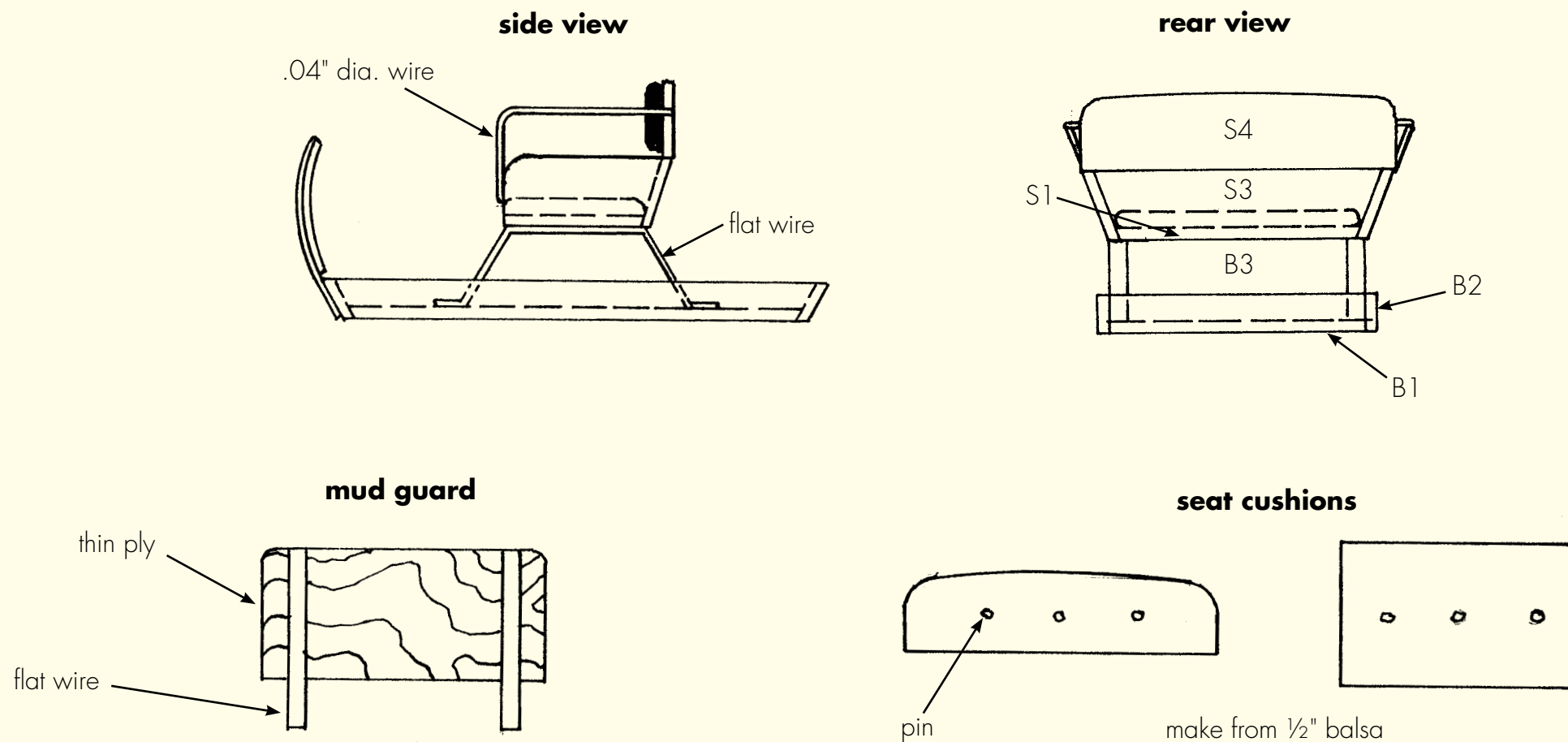
This sheet is a supplement to the December 2005 issue of *Garden Railways* magazine. While supplies last, extra copies of these drawings can be had by sending \$1.50 per set (\$2.00 foreign) to: Sidestreet Banerworks, PO Box 460222, Denver CO 80246 USA. A complete list of available plans can be found at [www.sidestreet.info](http://www.sidestreet.info), or send a stamped, self-addressed envelope to the above address.

Laser-cut wheels for this project are available from Northeast Narrow Gauge for \$6 + \$2.50 shipping for a set of four. If you would like a complete one-horse shay kit (including wheels, less horse), it is available for \$25 + \$6 s&h. Order from Northeast Narrow Gauge, PO Box 191, Wiscasset ME 04578. Web site: [www.nemodel.com](http://www.nemodel.com)

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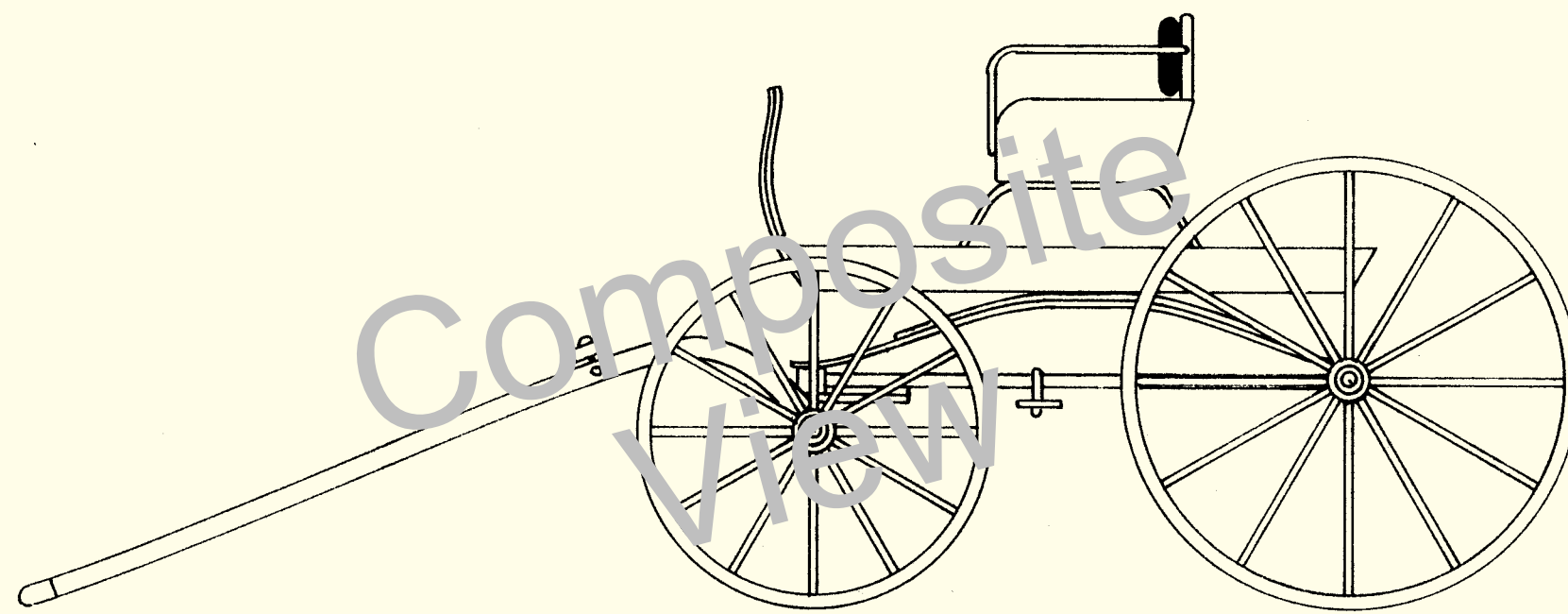
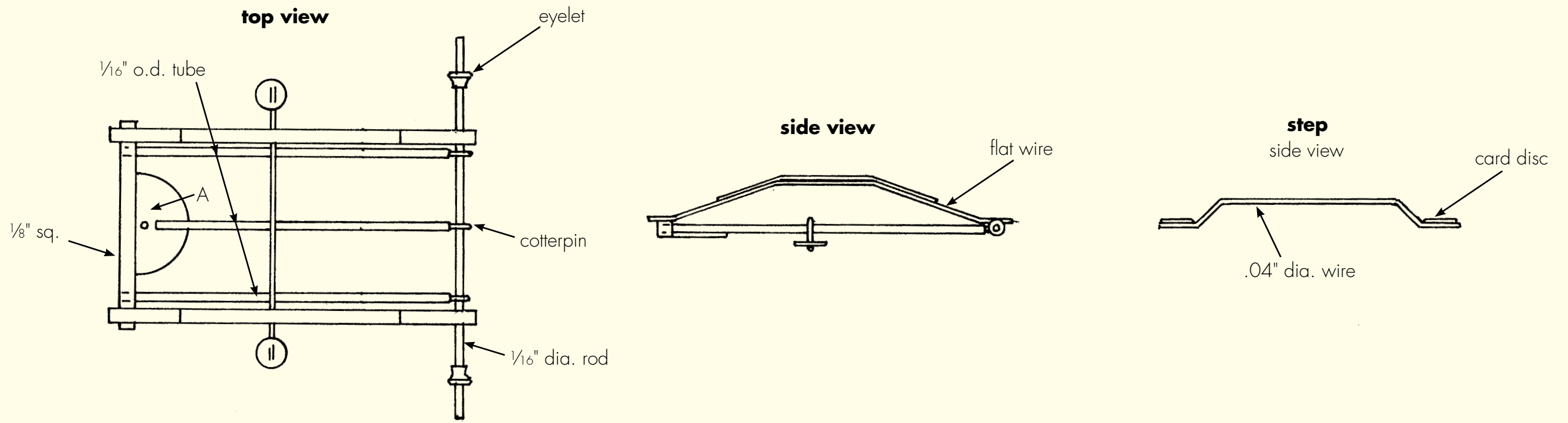
### BODY



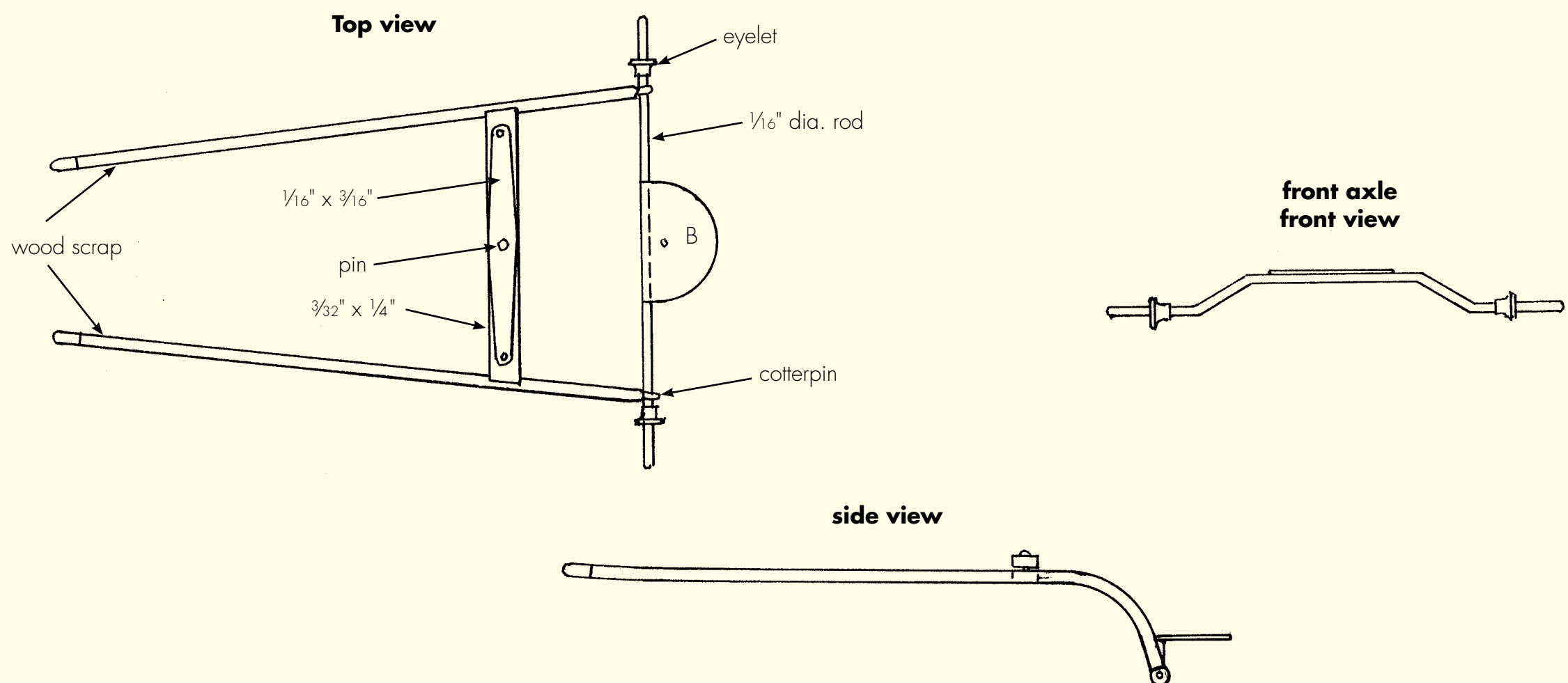
**Are you working in a different scale?**

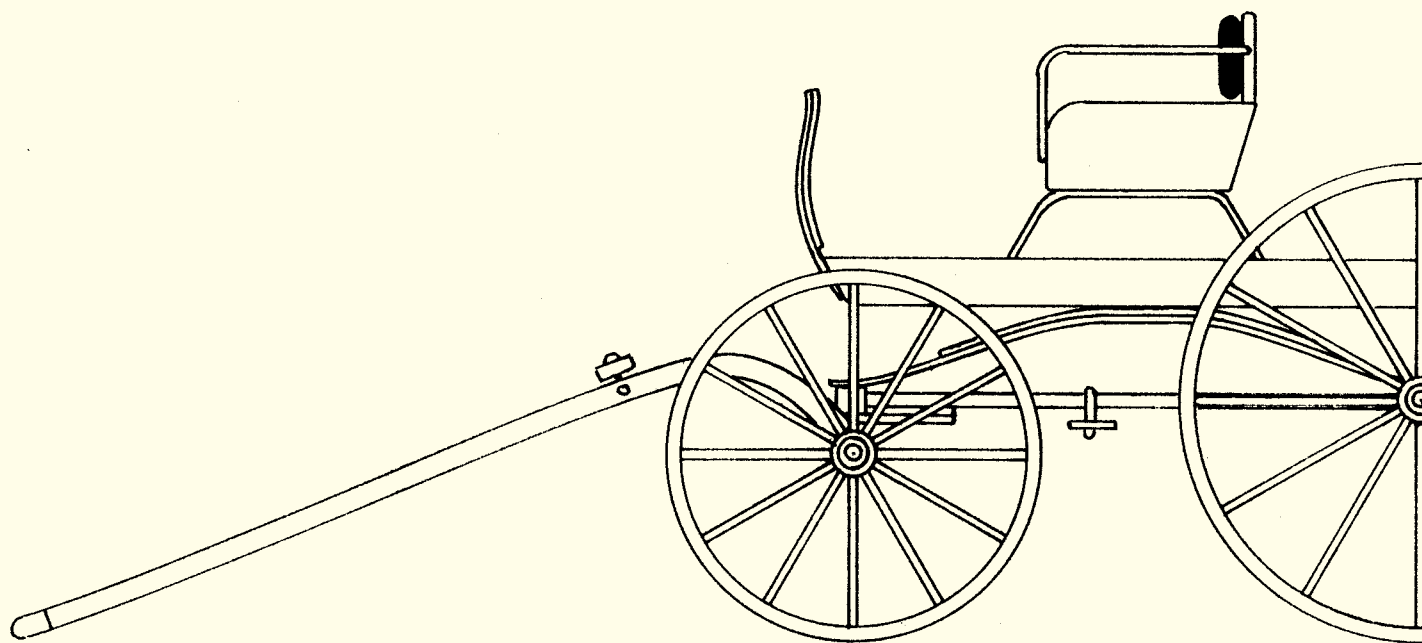
If you are working in 1:32 scale, reduce these drawings to 63%.  
 If you are working in 1:29 scale, reduce these drawings to 70%.  
 If you are working in 1:24 scale, reduce these drawings to 88%.  
 If you are working in 1:22.5 scale, reduce these drawings to 90%.  
 If you are working in 16mm scale, enlarge these drawings to 107%.  
 If you are working in 1:13.7 (7/8") scale, enlarge these drawings to 148%.

**FRAME**

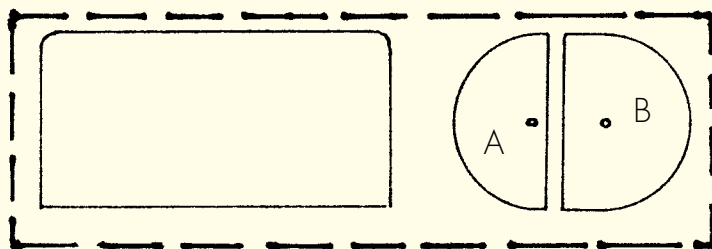


**FRONT AXLE & SHAFTS**



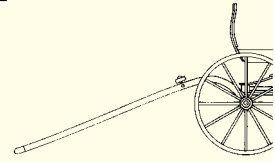


Cut from 1/32" ply



# 1:20.3 one-horse shay

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Assemble the wheels. Seal and paint these red. Wheels can be fitted on the axles, a  
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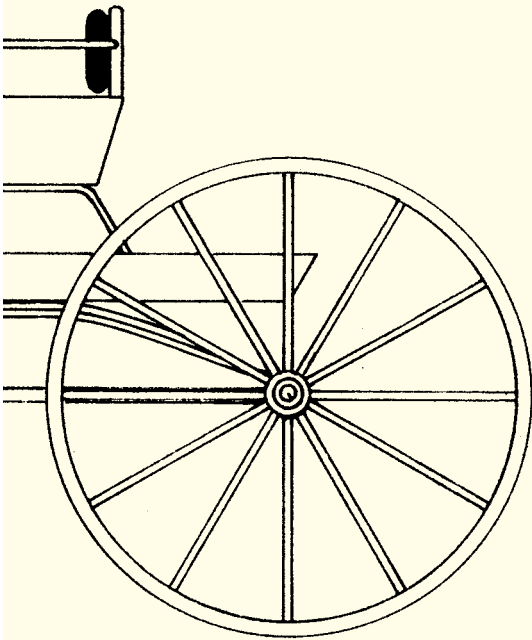
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\* \* \*

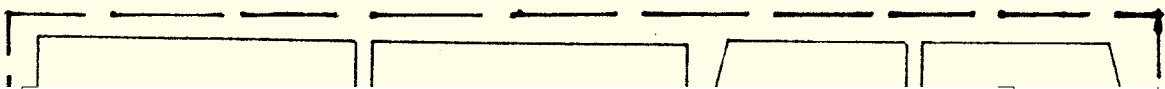
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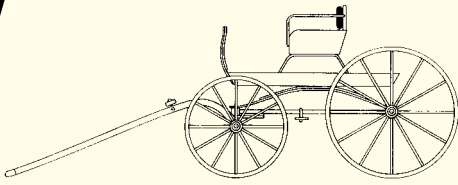


Cut from 1/16" stock



### Plan set #74

y



you will need a supply of horse-drawn vehi-

or fewer passengers) of its day. The prototype with red wheels. It is on display at the Boothbay of laser-cut ply and are available as a separate

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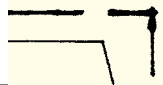
can be fitted on the axles, and the small eyelet

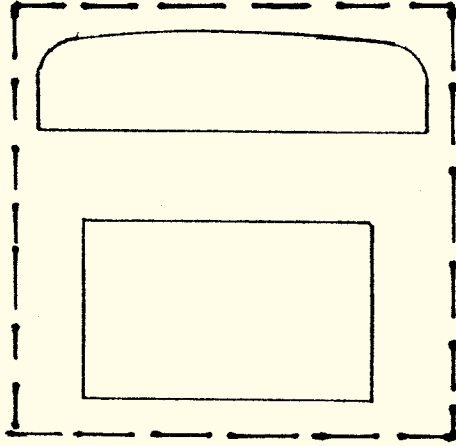
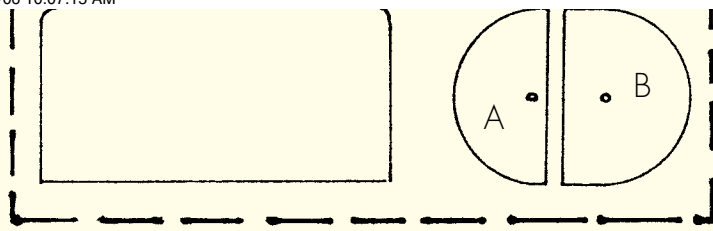
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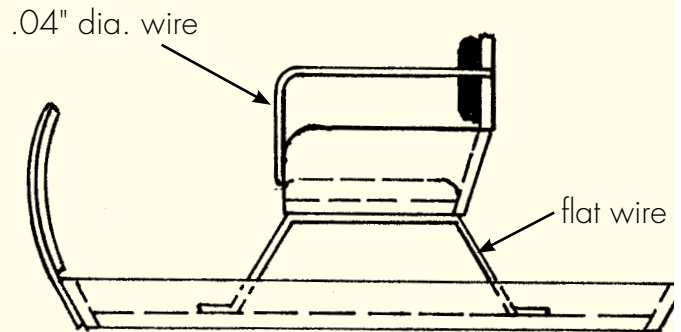
e. These drawings may be photocopied by indi- y commercial use or for distribution is prohib-



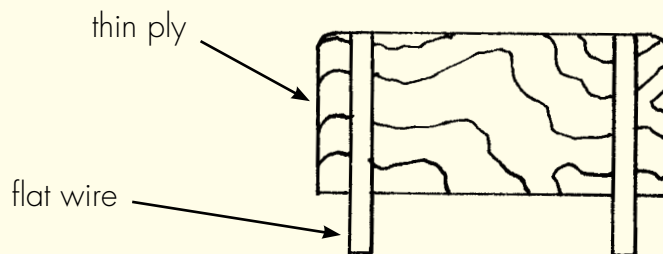


Cut from 1/8" stock

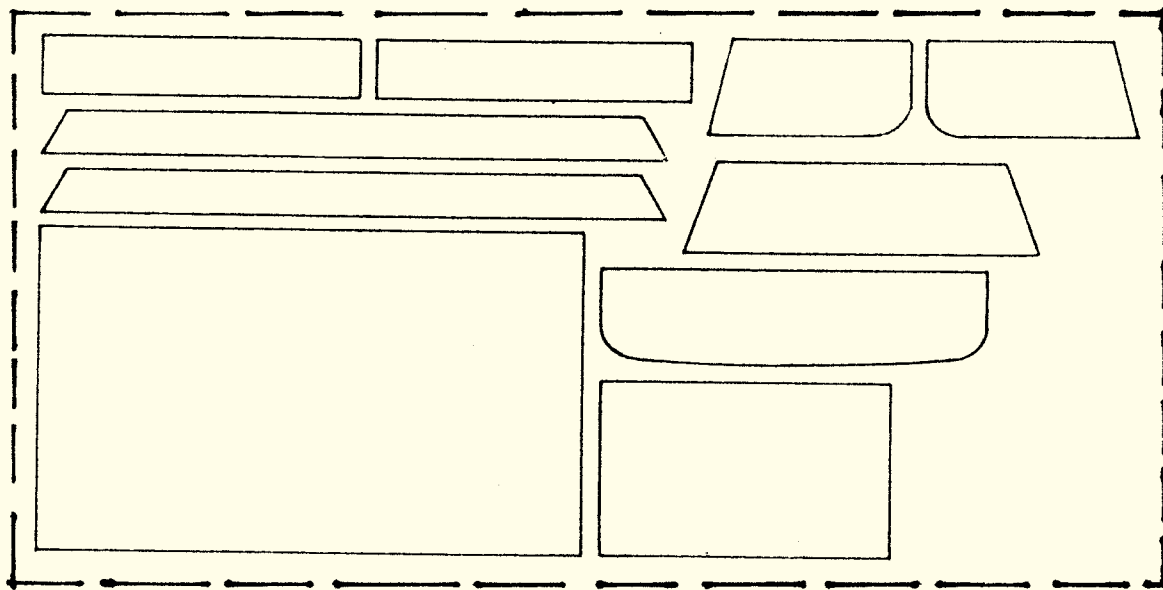
**side view**



**mud guard**

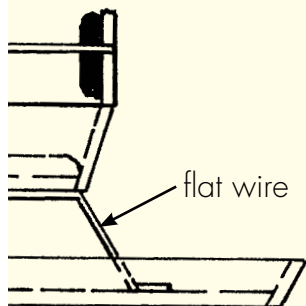


Cut from 1/16" stock

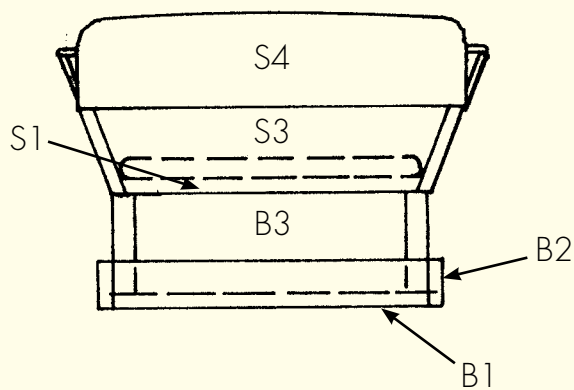


### BODY

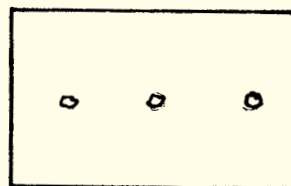
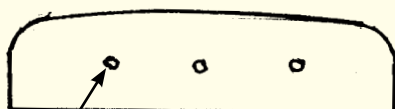
ew



rear view

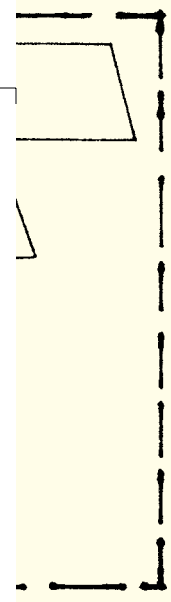


seat cushions

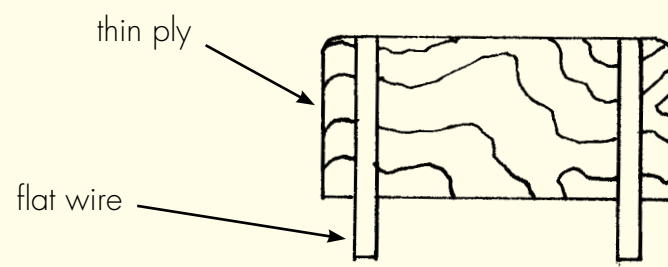


pin

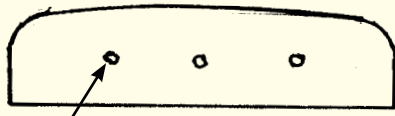
make from 1/16" balsa



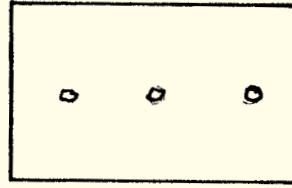




### seat cushions



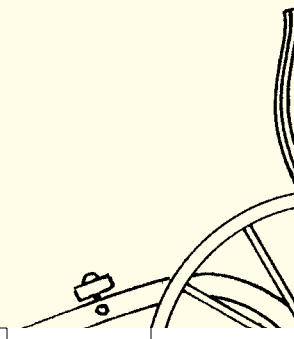
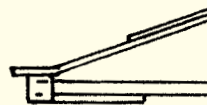
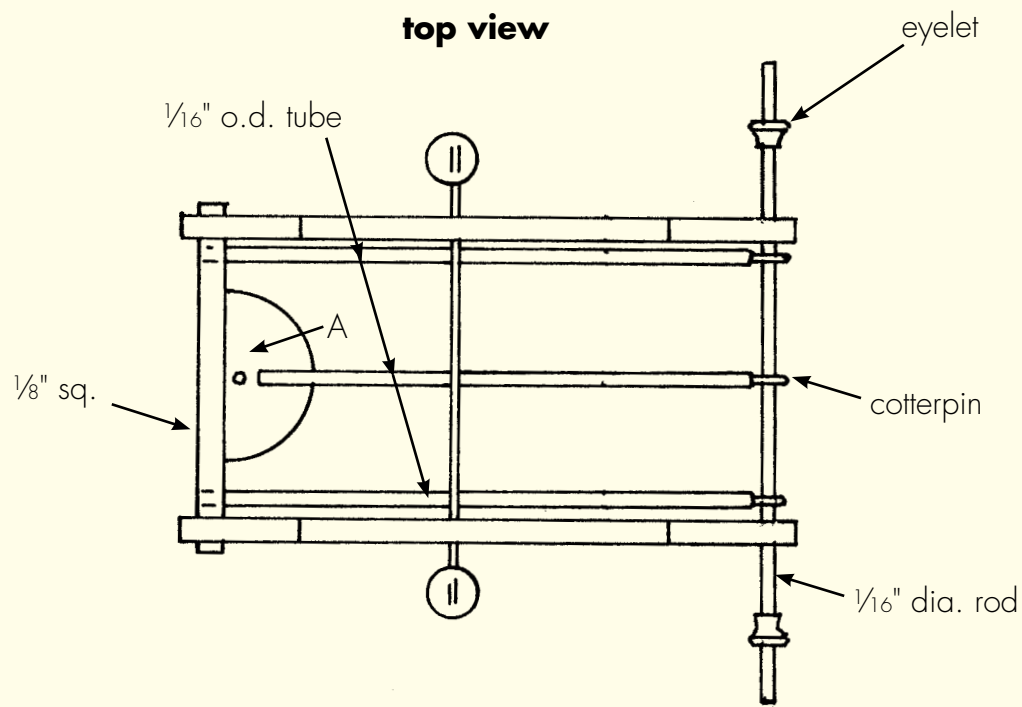
pin



make from 1/2" balsa



FR

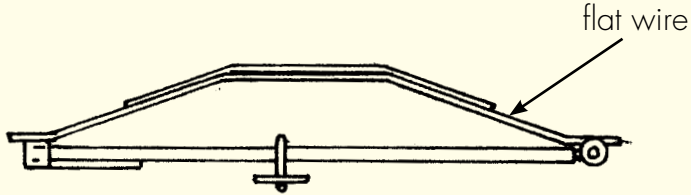


## Are you working in a different scale?

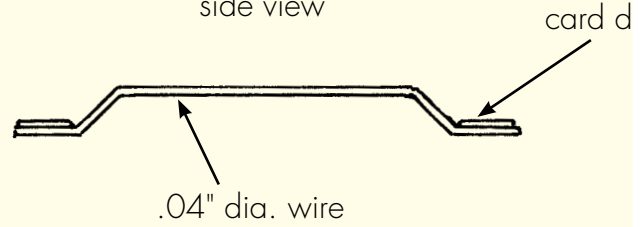
If you are working in 1:32 scale, reduce these drawings to 63%.  
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If you are working in 16mm scale, enlarge these drawings to 100%.  
If you are working in 1:13.7 ( $\frac{7}{8}$ " scale), enlarge these drawings to 100%.

## FRAME

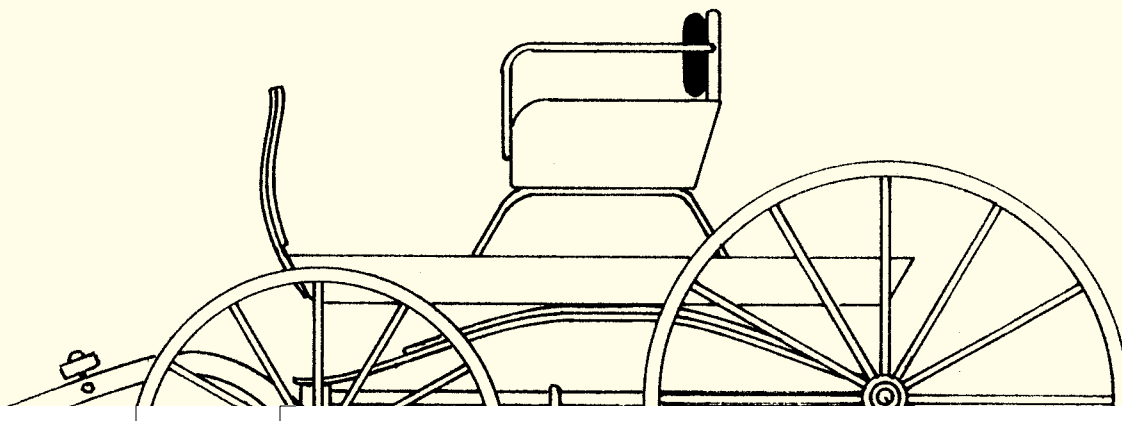
side view



step side view



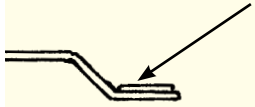
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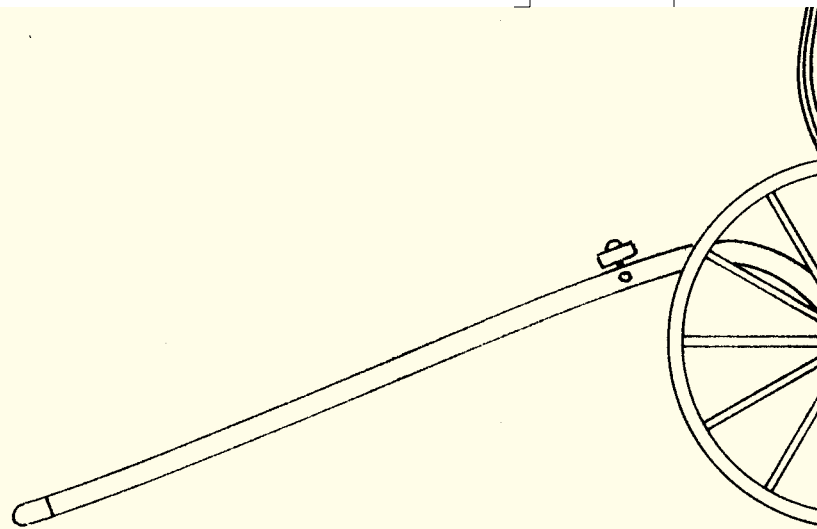


## nt scale?

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- duce these drawings to 90%.
- nlarge these drawings to 107%.
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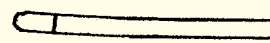
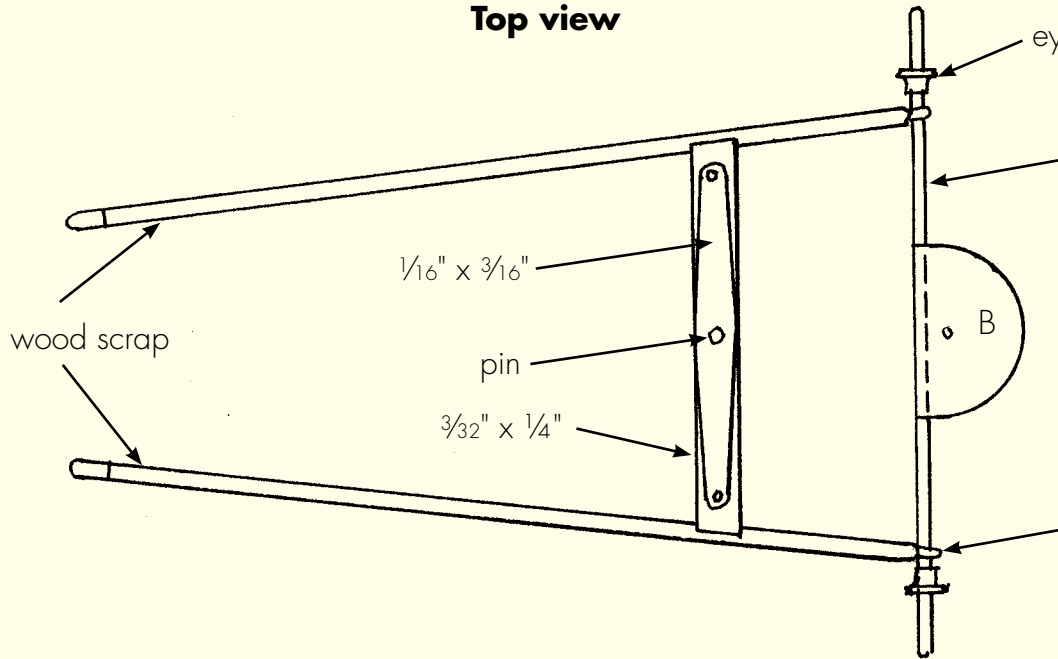
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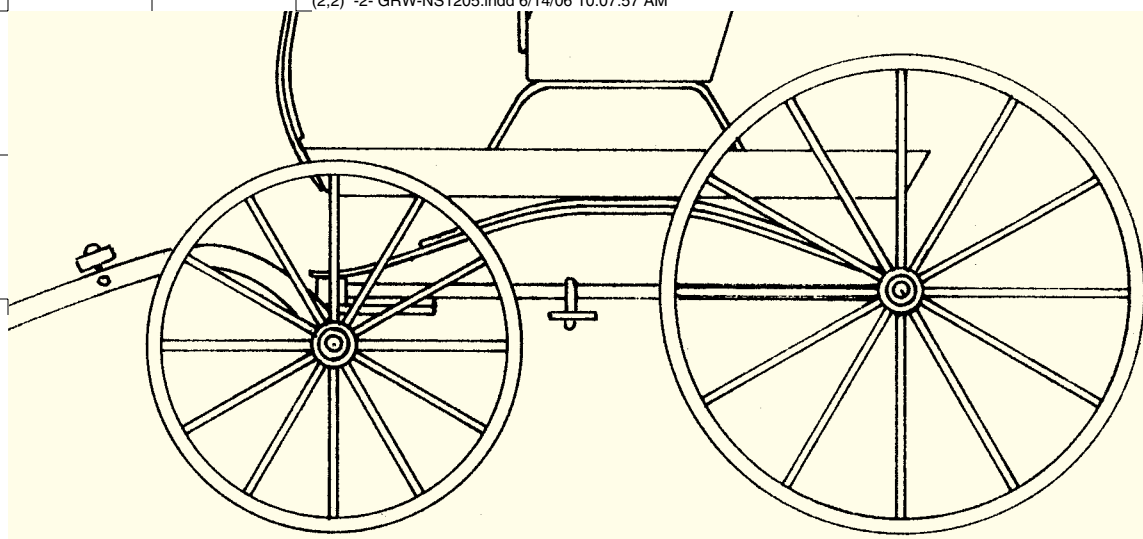




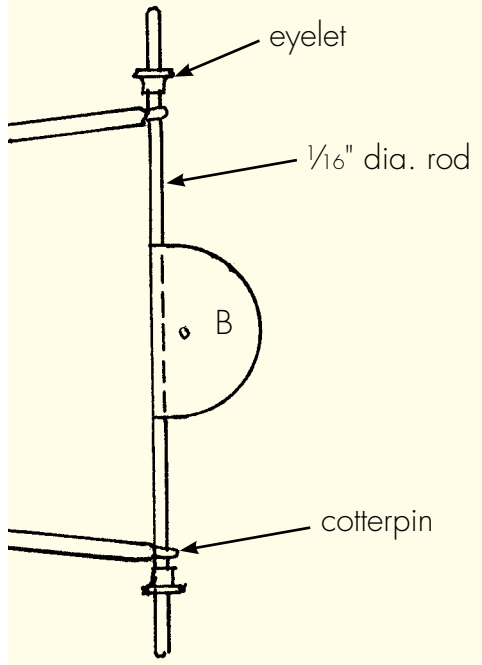
# FRONT

## Top view

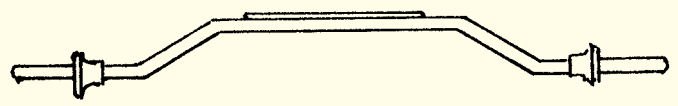




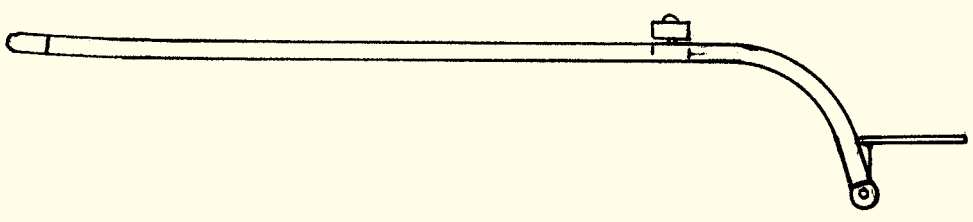
### FRONT AXLE & SHAFTS



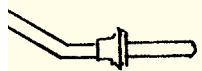
front axle  
front view

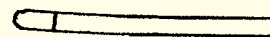


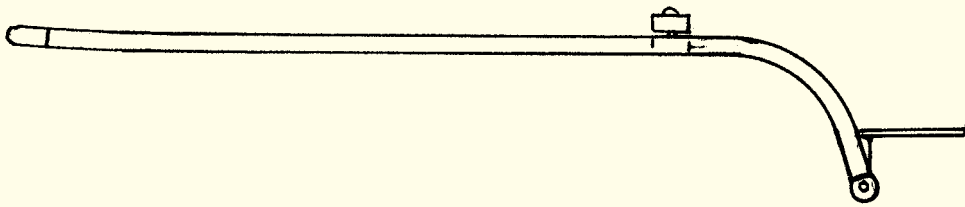
side view











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