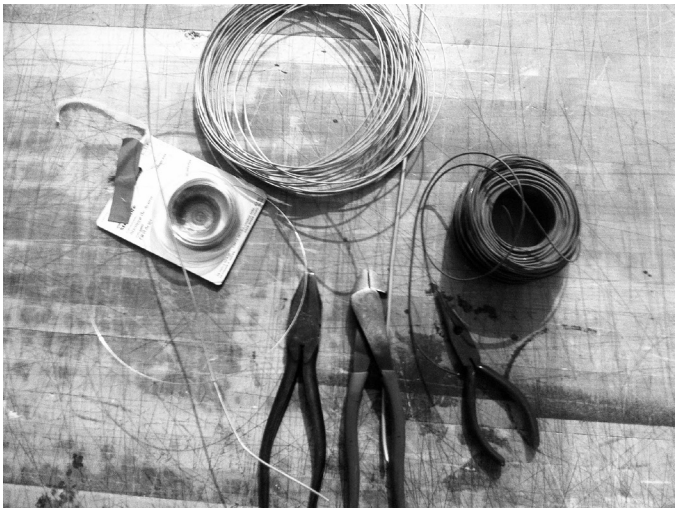
making a wire car (simple directions)



main tools and materials:

wire:

You need atleast 9 gauge steel wire for the bottom frame, wheels, shaft etc. Then you can use softer 9 gauge aluminium for the rest of the body. 20 gauge wire is good for binding. 12-16 gauge is good for small details. Besides trying to find wire at recycling places, you can also buy it from most hardware stores. Some of the wire like "bailing" has oil residue, so if you plan to paint it later, you would need to de-oil it.

pliers:

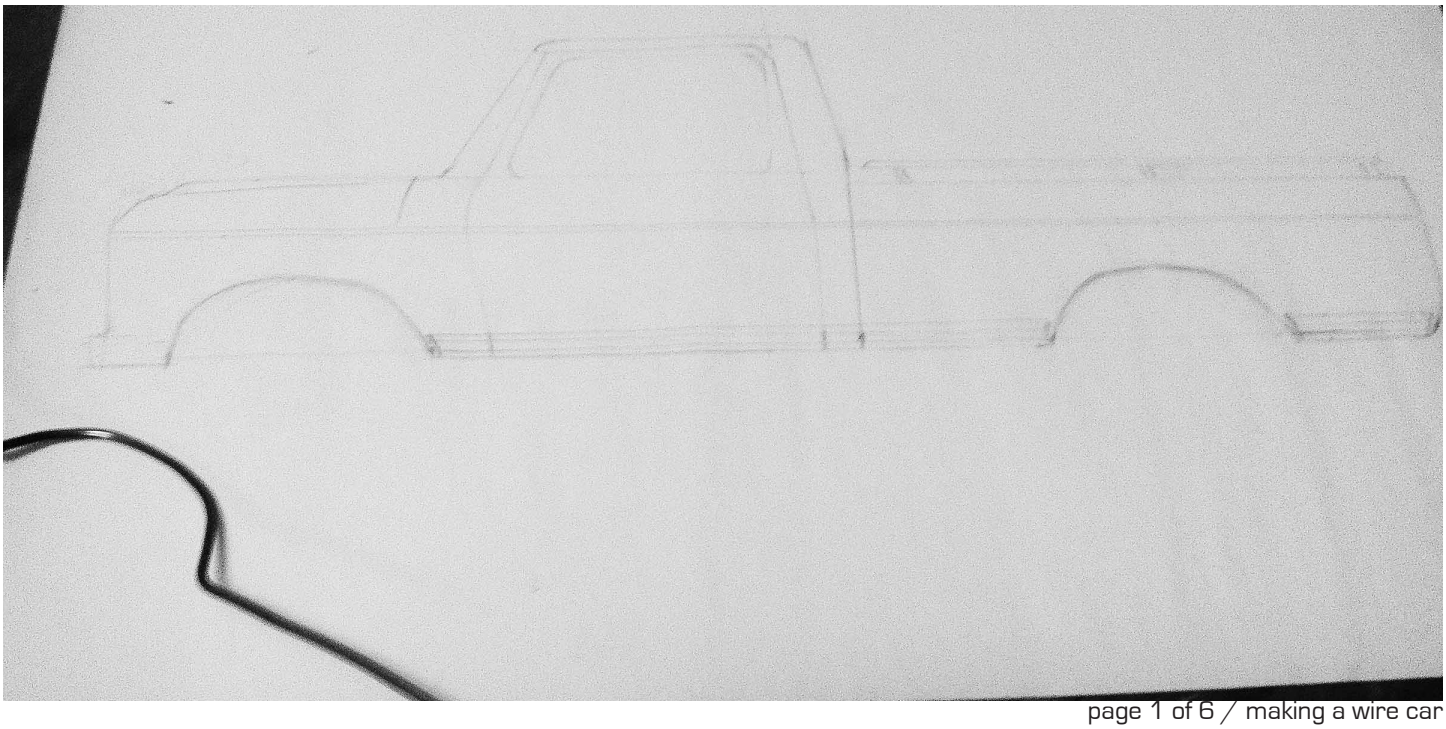
As shown in picture from left to right, a linesman pliers, side cutters pliers and needlenose pliers are essential espacially for harder wire. Not pictured is a bolt cutter which makes cutting the 9 gauge steel easier.

other tools and materials:

A jam jar to scale wheels, tape (masking tape, duck tape, or electric tape), old bicycle inner tube tire (other subistutes can be used), rope for measuring, measuring tape or ruler, large newsprint paper to draw, pencil, scissors for cutting rubber tire and rope.

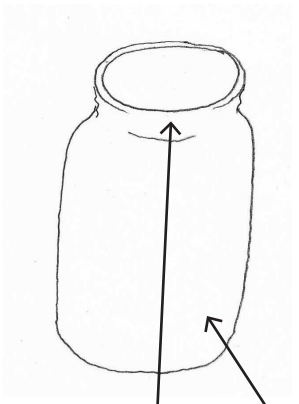
safety: Safety glasses, simple work gloves for comfort, and a box to store to store your stuff.

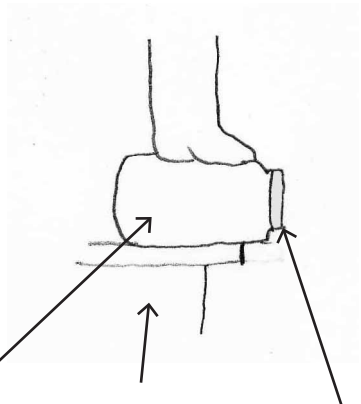
draw your car on large newsprints to the actual scale of your wire car

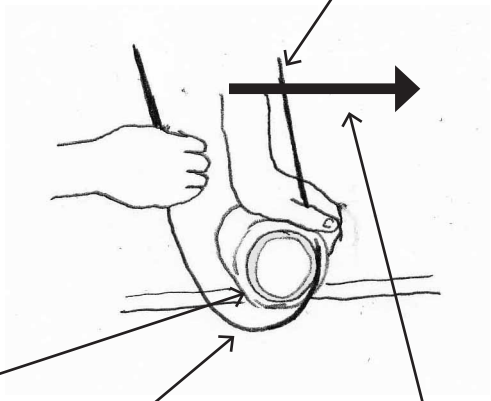


Scale the wire car to the wheels being the size of a jam jar diameter

making the wheels

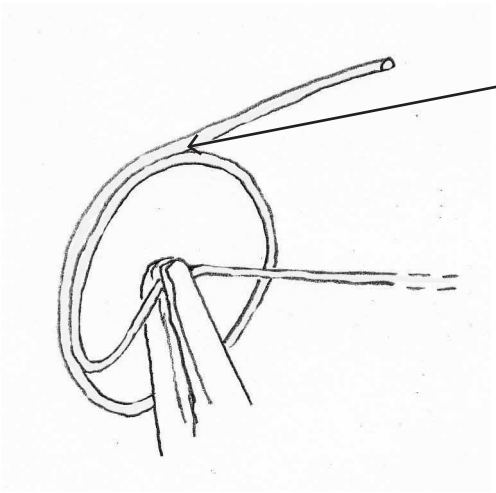


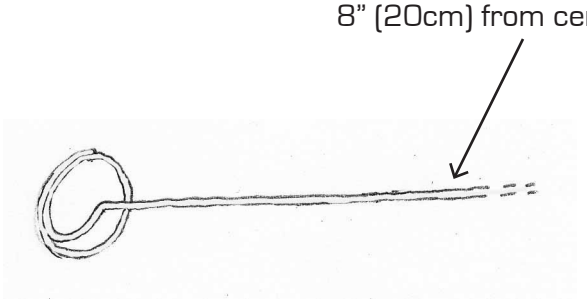




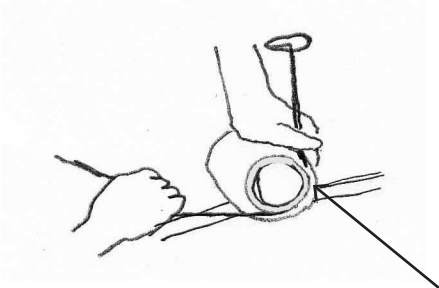
Wrap the lip of the jam jar with tape to cushion when wrapping wire around it, one hand holds jar firmly on table top.

Wrap 9 gauge steel wire around jar lips pushing away from yourself. Make sure no one is in your way. It is easier to bend if you allow access wire in the beginning.

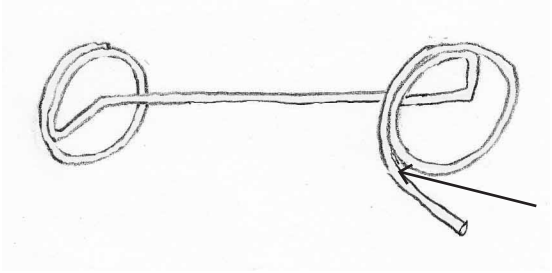




After removing the wire bent into a circle, use a needlenose pliers or linesman pliers to bend the wire 90 degrees into the center of the circle, then bend it again from the center away making the axis. Using a sidecutter pliers, cut access wire off. Mark a 8 inches (20cm) from the center.



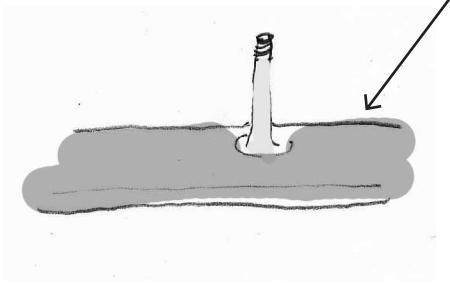
marked spot on wire

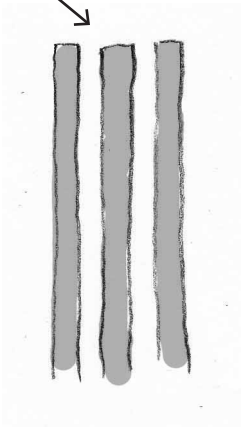


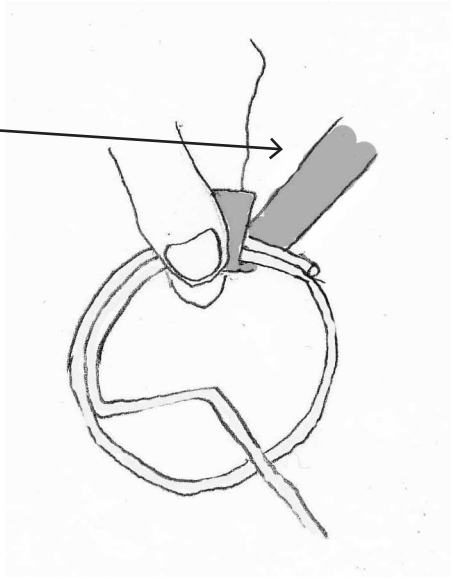
cut access wire here

Press the marked spot on the taped jar lip with your fingers and begin bending away from yourself making another loop.

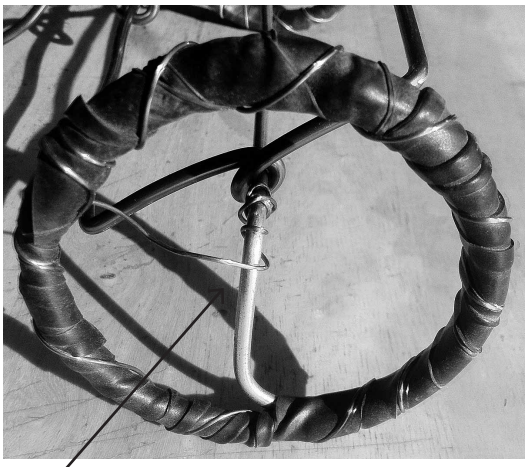
bicycle inner tube tire

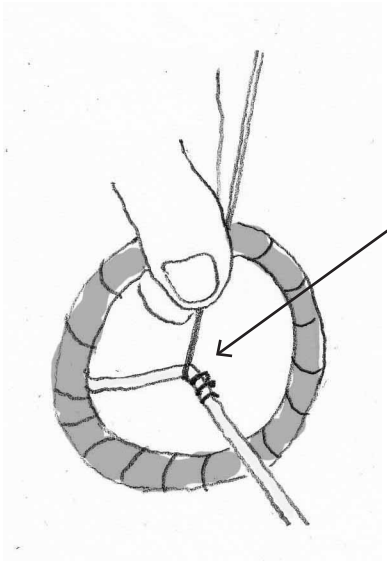






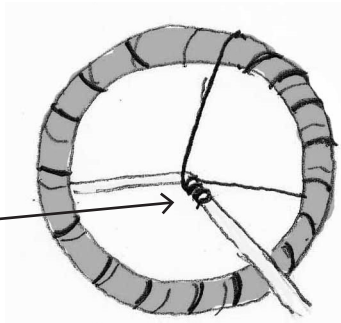
Find an old inner tube bicycle tire, use a scissors to cut it into strips of 3/4 inches (2cm) and 12 inches (30cm) long. Then start wrapping around wire wheel tightly, overlapping to hold it in place. You may have it as thick as you want, just keep it even.



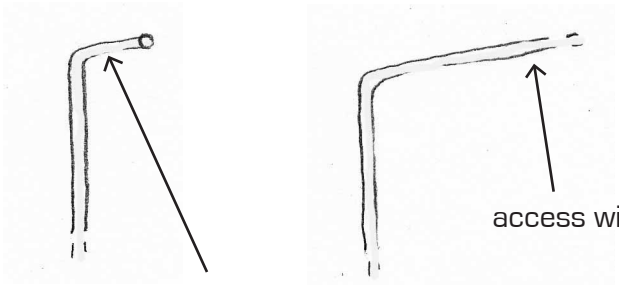


While holding in place the end fo the rubber tire (preventing it from becoming loose, wrap 20 (thin) gauge wire from center to around the wheel on top of the rubber to keep it in place.

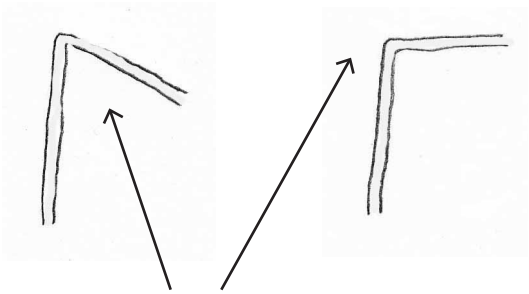
Then wrap the end of the wire back at the center after wrapping all over the rubber tire.



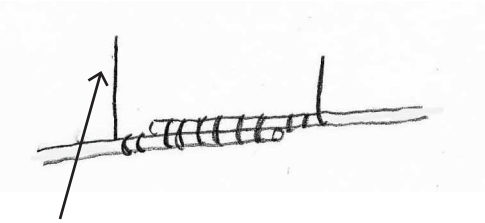
basic wire bending and wrapping techniques:



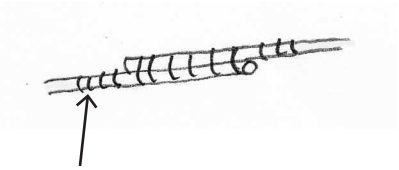
It is easier to bend the wire if you have extra wire you will cut of later, its harder to bend it when it is shorter.



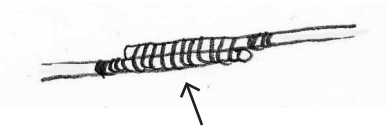
To get a sharp 90 degree angle, either use the needlenose pliers or linesman pliers to bend the wire more than 90 degrees then bend it back. Be careful not to bend it too repeatedly on the same spot since aluminium can break.



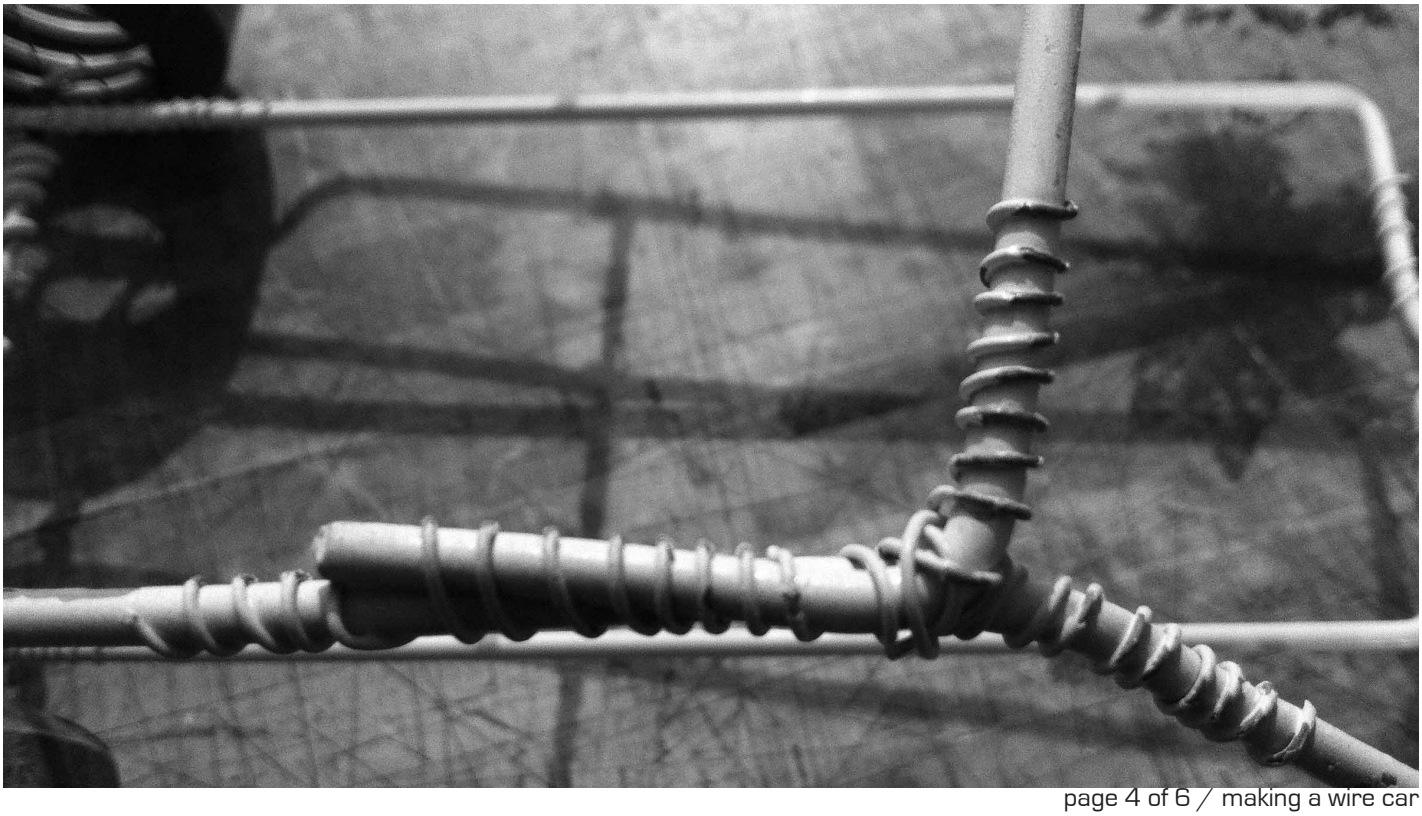
Access wire in beginning the wrap with smaller 20 gauge (thin) wire.



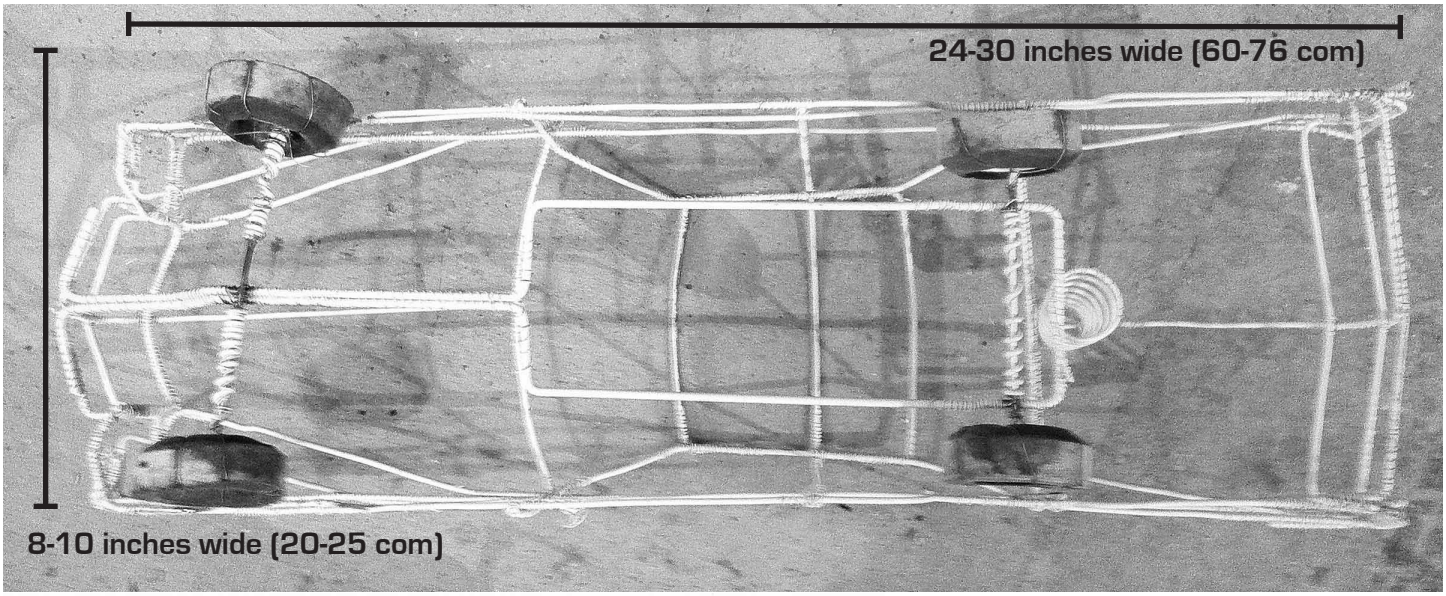
First wrap on one wire before adding the two, then finish on the singular other wire. Besides wrapping tightly, it helps locking it in place.

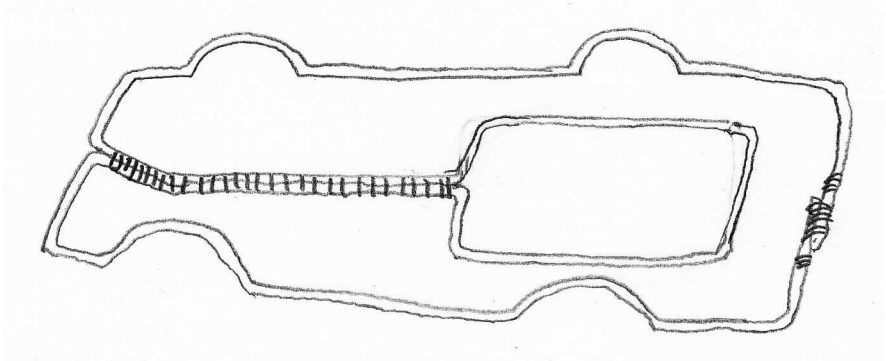


You can wrap it neatly together, loosely as the image on left. Use the needlenose pliers to wrap the ends in so they do not prick you.

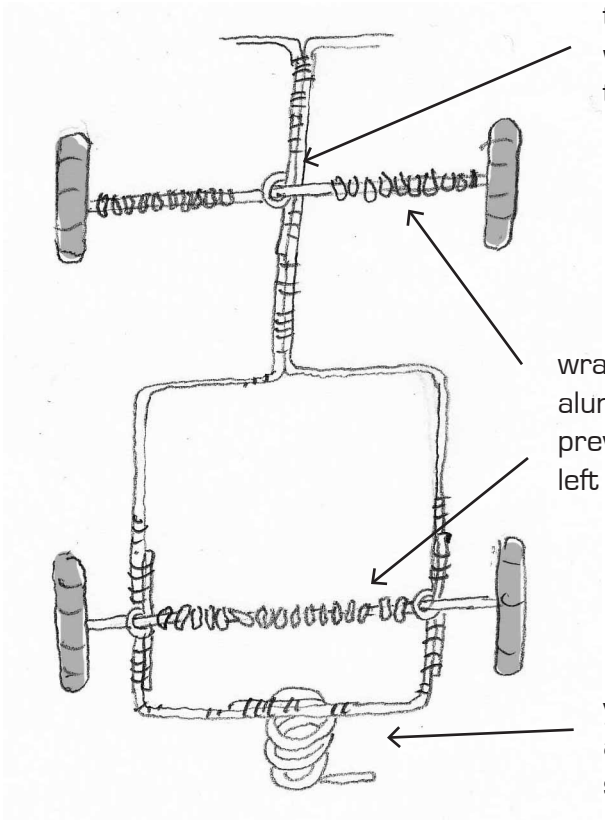


making the bottom steel structure wire:

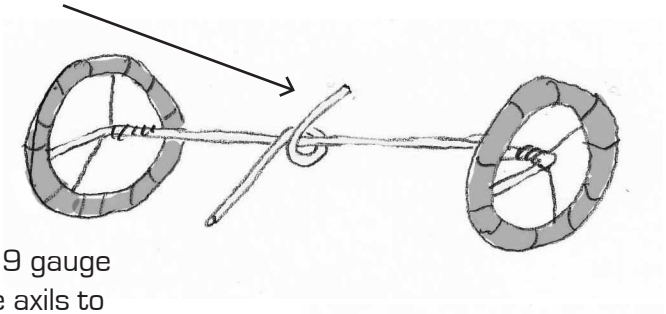




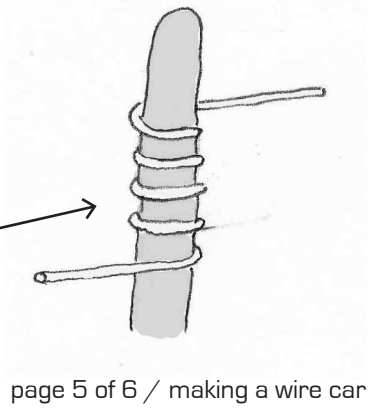
If you have the roll of wires from a hardware store, it is usually 4-5 loops of wire to make this. This is when the string is useful with the measuring tape or ruler. It should approximate between 8-10 inches wide (20-25 com) and 24-30 inches wide (60-76 com).



twist a loop for the wheel and add it to the axil then shaft.

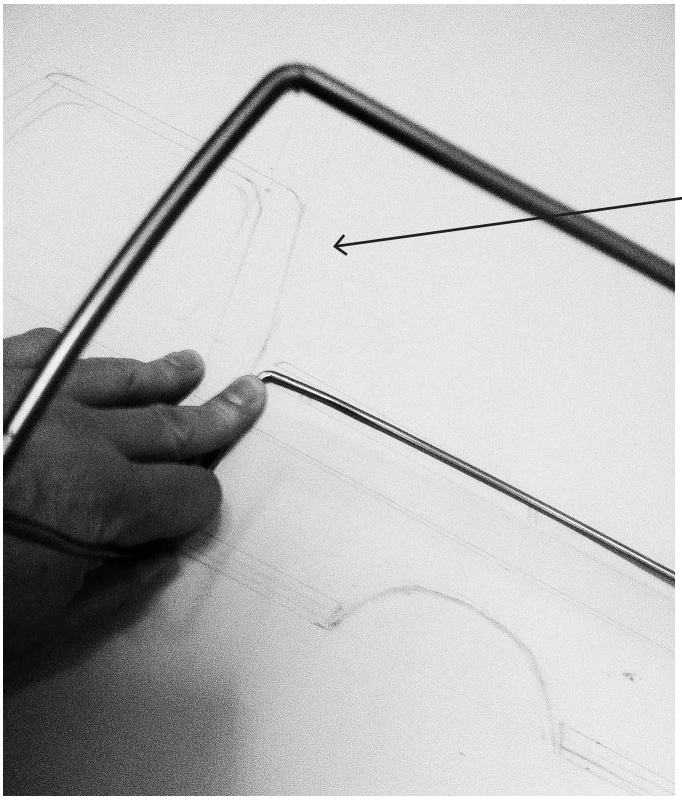


wrap the thicker 9 gauge aluminium on the axils to preven wheel from sliding left and right.

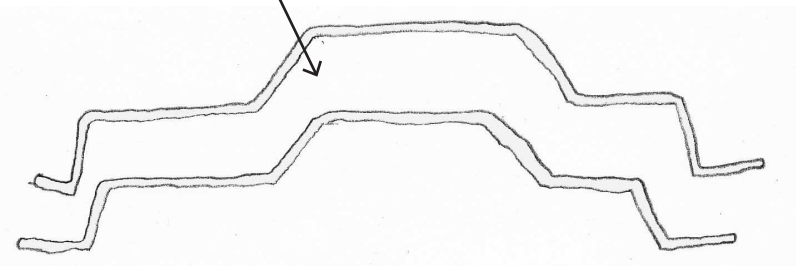


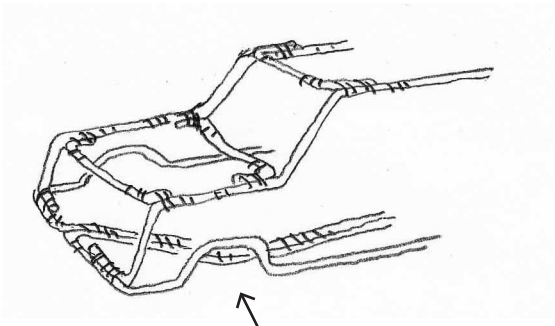
you can wrap the thicker wire around a broom handle to make a spring to attach at the end.

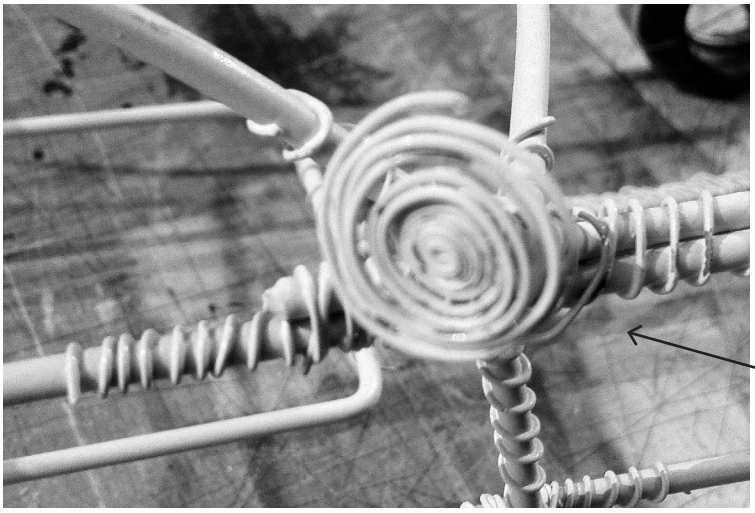
making the rest of the body



use your drawings as guides, checking with the measureing tape or ruler to make sure your double for the other side is equal.

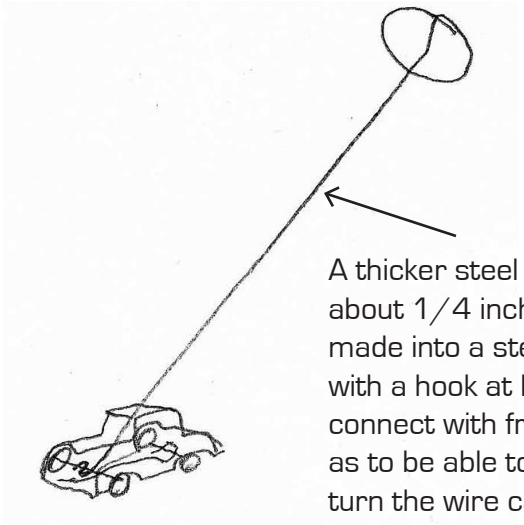






connect the different parts together, and the rest is just detailing, like the rear view mirror here on the left.

pushing and steering the wire car:



A thicker steel wire rod, about 1/4 inch (0.6cm) is made into a steering wheel with a hook at bottom to connect with front wheel so as to be able to push and turn the wire car.