

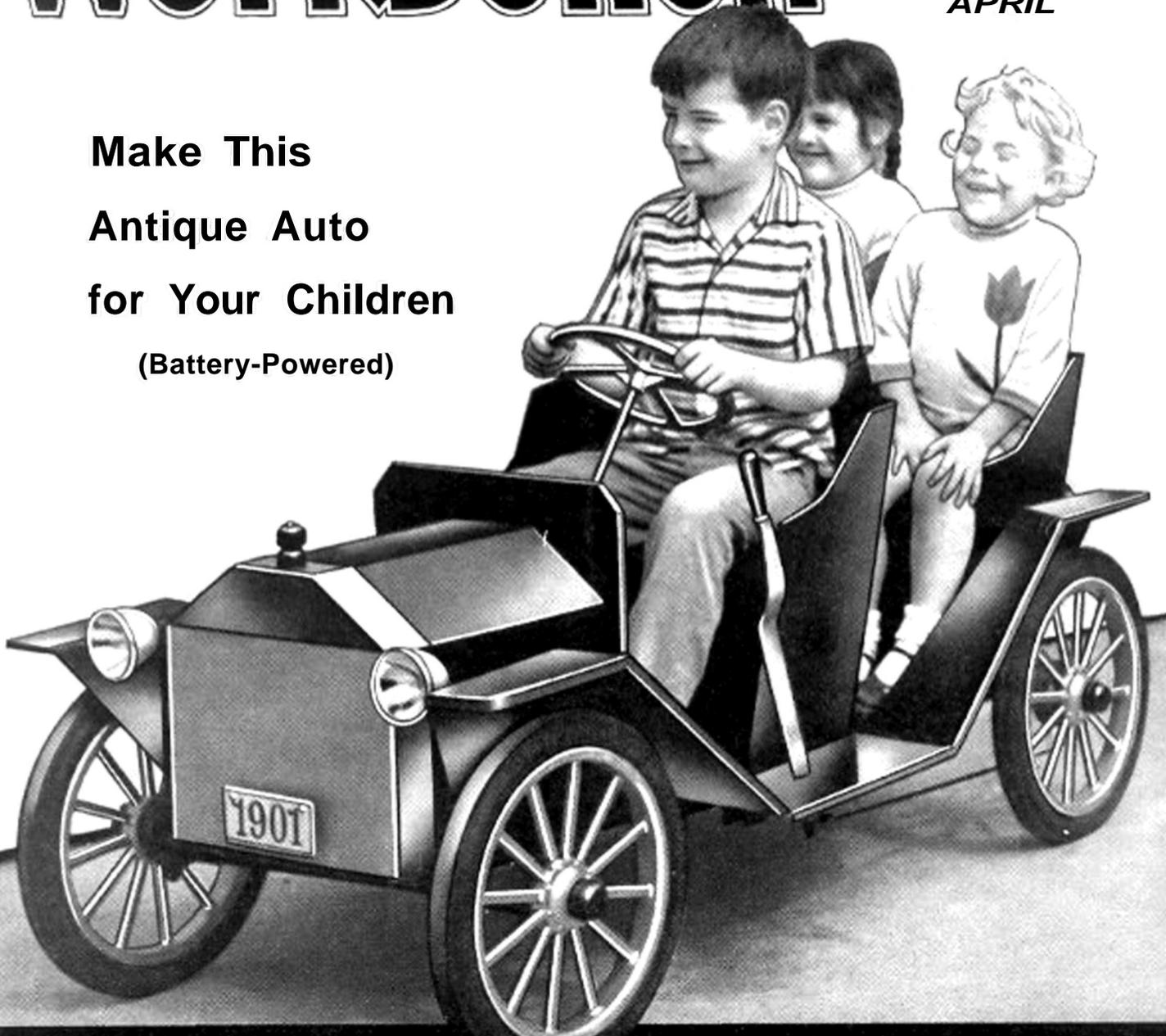
# Workbench

35c

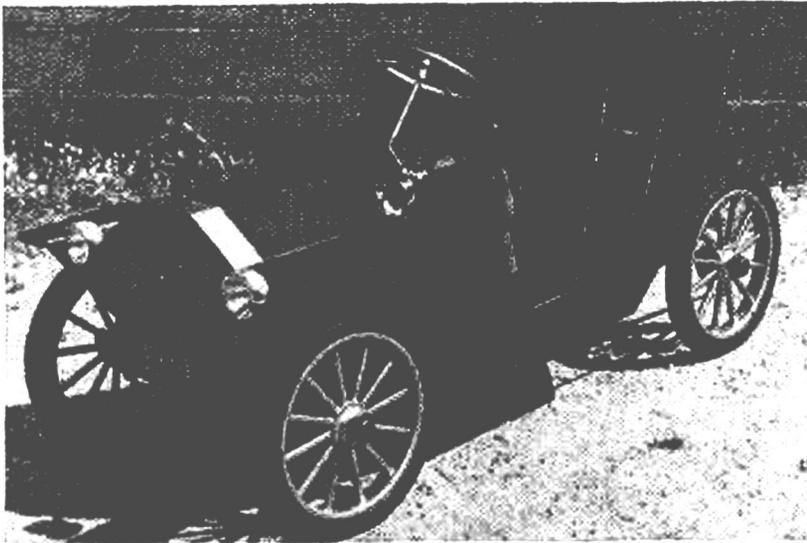
ICD

1962  
MARCH  
APRIL

**Make This  
Antique Auto  
for Your Children  
(Battery-Powered)**



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1. Half-scale replica of 1901 touring car will delight youngsters, bring a touch of nostalgia to Dad and the older folks.

2. Home-shop electric welder will handle necessary welding, or welding shop will do the work for just a few dollars.



# ANTIQUE AUTO

## *Half-Scale*

## *Replica of 1901 Touring Car*

GEORGE E. JONES

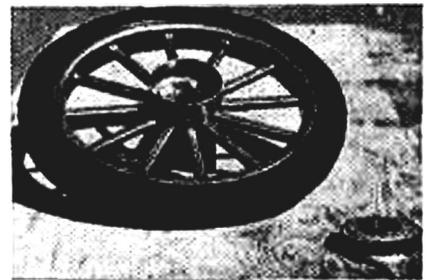
THIS DELIGHTFUL LITTLE CAR of the horseless-carriage age, Fig. 1, and the cover, will let the younger drivers of the family whiz around the neighborhood at a sizzling 5 m.p.h. with three chums aboard, and do it all day on one battery charge. Construction is simple and can be handled in any home workshop. Parts that are difficult to make, such as wheels, brakes, ball joints, etc., can be purchased.

Start construction with the frame. Fig. 7. Cut the 1-in.-sq. tubing to

length and file curved notches in the ends to receive the axles. If you have decided to make the axles, rather than buy them, do them next. Hacksaw the spindle yokes to length and bend them to shape in a vise. Drill the 1/2-in. holes for the king bolts after the yokes are bent. Cut the front axle and weld the yokes to the ends, centering them on the axle parallel to each other. Position the axle on the frame side members and weld it in place. Fig. 2. Cut the steering-column

perch, drill a 1/2-in. hole in it and weld it to the front axle. Fig. 3.

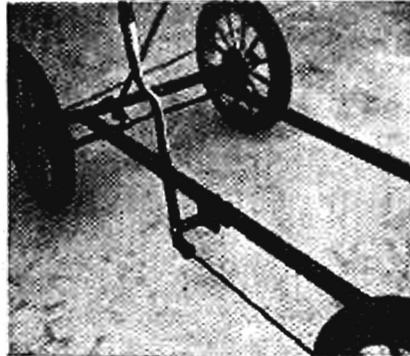
Cut the rear axle and butt-weld the cap screws to the ends. Weld this assembly to the frame rails.



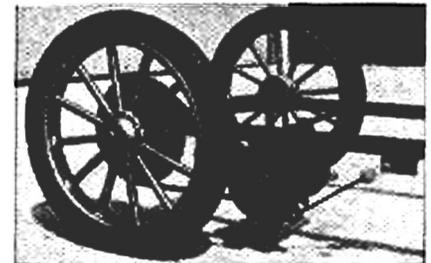
5. Wheels available from supplier can be fitted with 3-1/2-in. Morse internal-expanding brakes; used on rear only.



3. Closeup shows arm welded to bottom of steering column, bracket welded to front axle to support end of column.



4. Brake handle is fitted on spacer in position it outside of body to it projects up through running board.

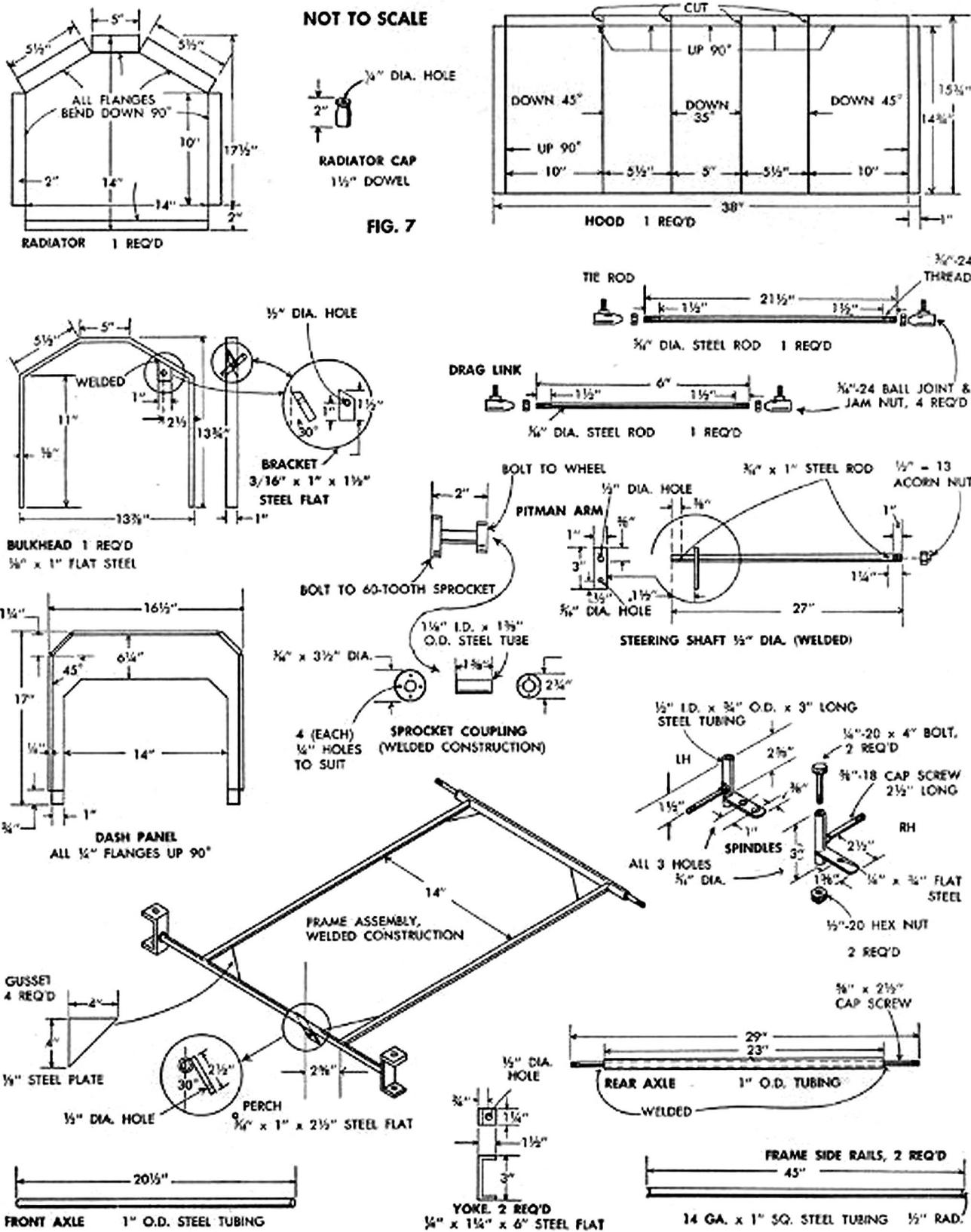


6. Shown in this photo are positions of electric motor, support, sprockets and chain. Brake is visible on far wheel

Make the four gussets, Fig. 7, and weld them to the underside of the frame at the corners. Fabricate the front-wheel spindle assemblies, Fig. 7. Drill 5/16-in. holes in the

arms first. Make the brake-handle bracket and attach it to the left side of the frame, Fig. 4. Cut the floor pan and make notches in it for the bulkhead legs, steering column and

brake handle. Now, cut all rods to length and thread them: Drag link, tie rod, motor-hanger rod, brake rod, motor-adjusting rod and steering column, Fig. 7. Weld the pit-

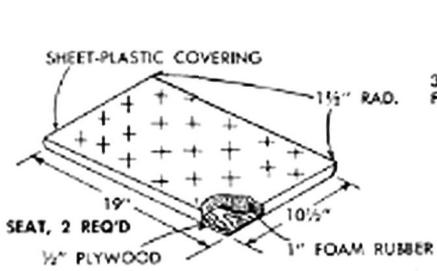
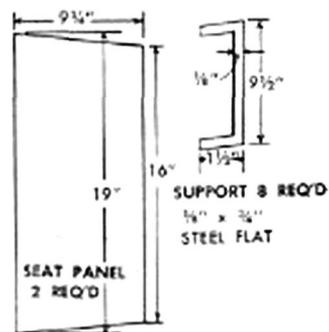
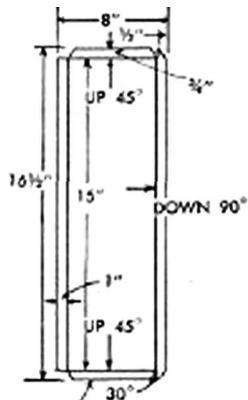
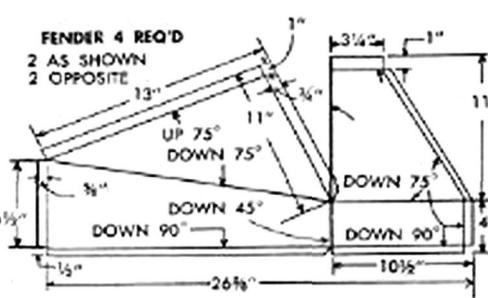
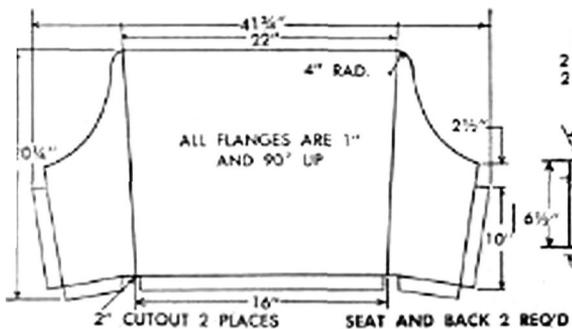


man arm to the steering column 1-1/2-in. from the end. Assemble the ball joints on the tie rod and drag link. Bolt the ball joints to the spindle arms. Make the sprocket

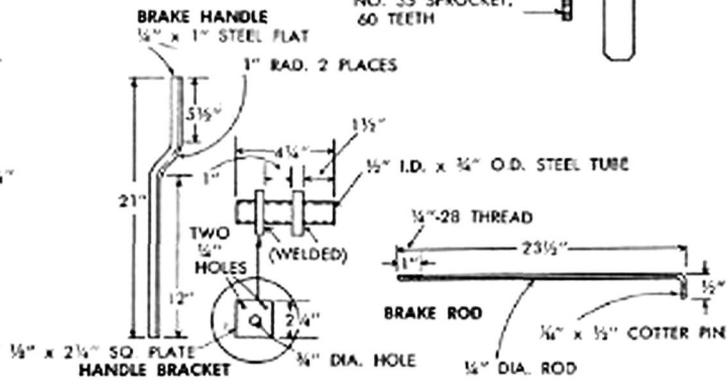
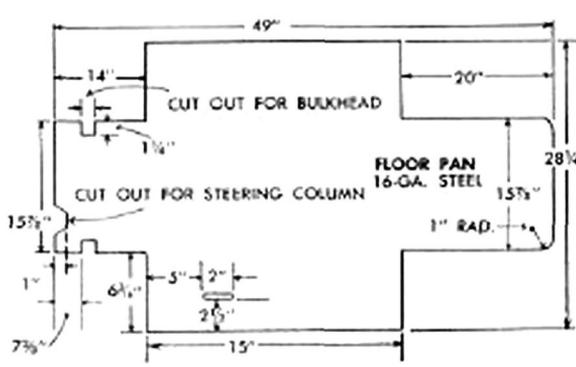
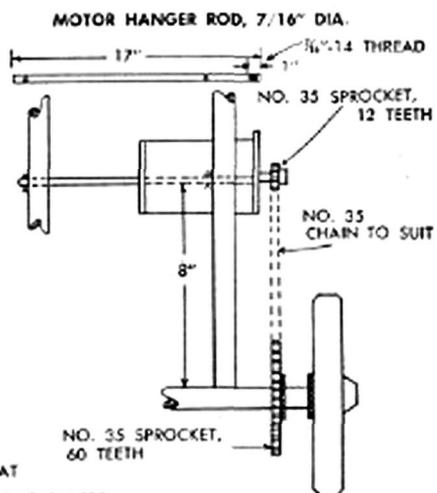
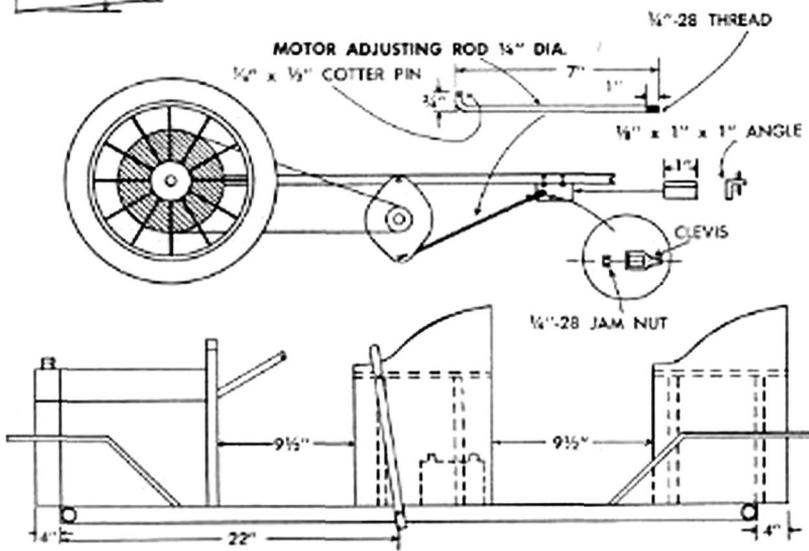
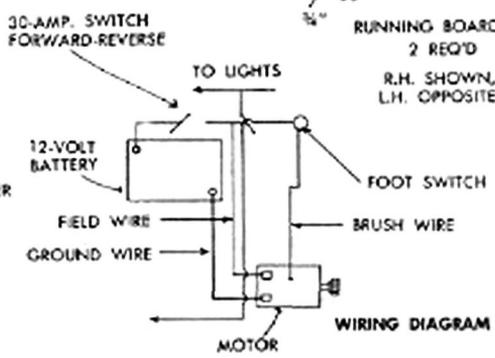
coupling next.

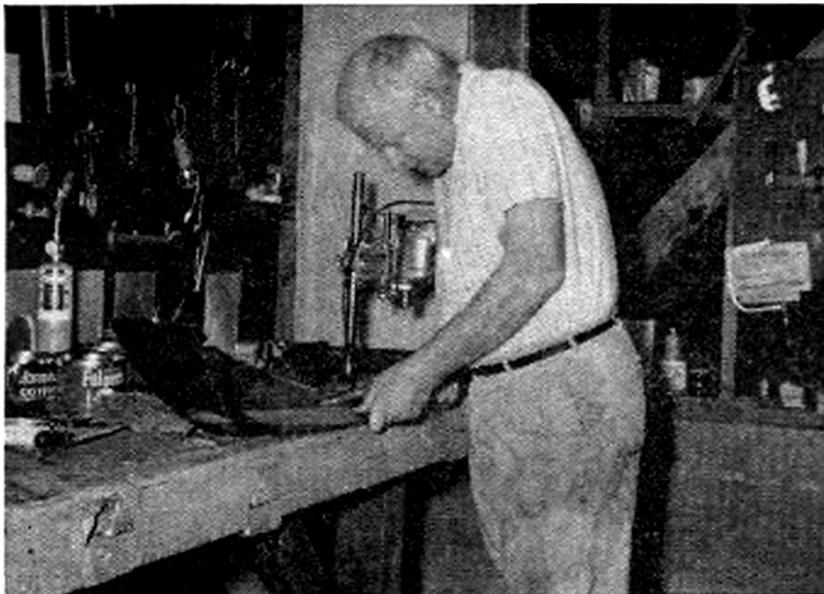
Clean off all grease, rust and weld spatter from the frame and paint it with metal primer, then one coat of flat-black enamel. When

the paint has dried, put on the front wheels, backing off the castelated nuts 1/4 turn from snug so the wheels spin freely. Pin the nuts with a cotter pin. Adjust the ball



NOT TO SCALE





8. Parts for the car body are easily cut and formed with ordinary hand tools. Here fender is being cut to shape.

unit. Fig. 10. Paint all body sub-assemblies with a coat of metal primer, then a coat of glossy black enamel. Wheels can be gold or red.

Now, the final assembly: Position the floor pan; install the hood assembly, the fender assemblies and steering column. Fit the brake handle through the running-board slot and adjust it to the brake rod. Wire the motor to the battery and floor accelerator. The battery is located under the front seat, held by brackets fabricated to suit the battery size. Fasten all components with rivets or sheet metal screws.

Hop in the car, flip the dash switch to forward and step down on the accelerator. You are under way for years of fun. Twenty-four parts and accessories for the car can be purchased from: Ma-Jo Lektri-Kars. P. O. Box 3134, Glen-Oaks Station, Burbank, Calif. Write for a parts list.

9. One template is used to make all four fenders. Two, of course, are reversed in bending to produce pair.

joints on the tie rod to produce 1/16-in. toe-in for the front wheels.

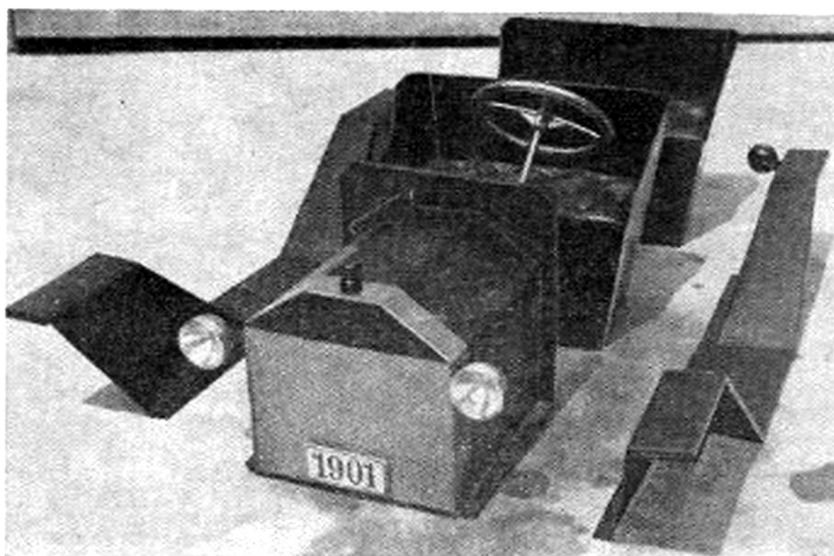
Bolt the brake drum to the rear wheel. FIG. 5. and mount the brake-shoe assembly on the axle. Snug up the wheel with a castellated nut and lock with a cotter pin. Put on all hub caps. The right rear wheel is the drive wheel on which is bolted the 60 tooth sprocket, Figs. 6 and 7. Bolt the wheel to the axle, lock with cotter pin.

The power plant for the car can be a converted electric gear motor, a government surplus item selling for about \$16 to \$20. It will run on 6 or 12 volts and is fully reversible. Burden Sales Co 900 West "O" St., Lincoln, Nebraska, has many types of these motors in store. Your power plant also can be a regular 2- or 3-brush auto generator. To convert the generator, remove the third brush if it has one and leave the grounded brush as is. The wire from the other brush goes to an outside terminal. The fields are solder-connected and wires from the two fields are led to an outside terminal. Most auto shops can make the conversion.

Position the motor on the hanger rod inserted through holes in the frame. Align the two sprockets and install the chain. Mount the motor rod to the motor and to the frame and adjust its length so there is 1/2-in slack in the chain between

sprockets. Next bend the brake handle to suit arm length. Fig. 7. and drill the rod and pivot holes. Do not install the handle.

Cut all parts of the body, Fig. 8, then use a couple of lengths of 2 x 4 clamped together to make all bends. Put all sub-assemblies, Fig. 9, together. Assemble radiator, hood, dash and bulkhead as one



10. Shown are all sheet-metal components ready for assembly on the chassis. Black is the color of the original.