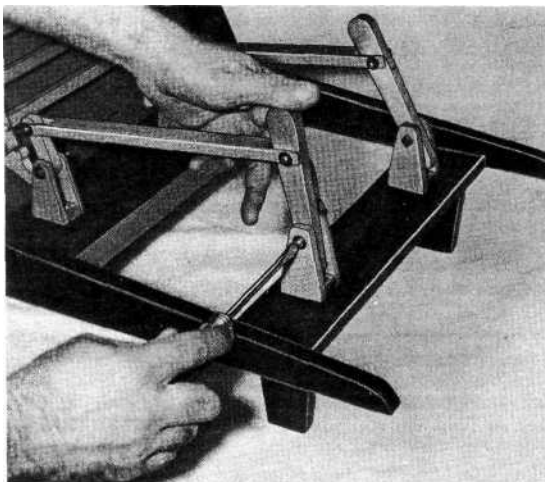


Roll-a-ball

Here's a game for both children and adults that provides a real challenge to coordination, fast reflexes and a delicate touch

By C. L. WIDDICOMBE

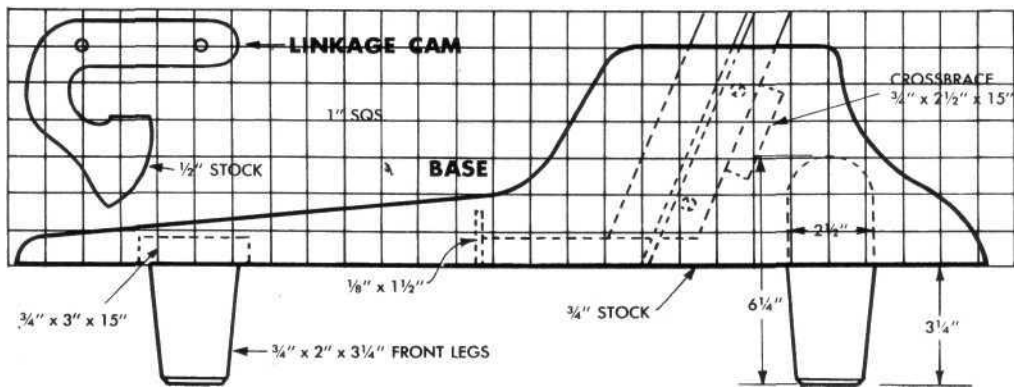
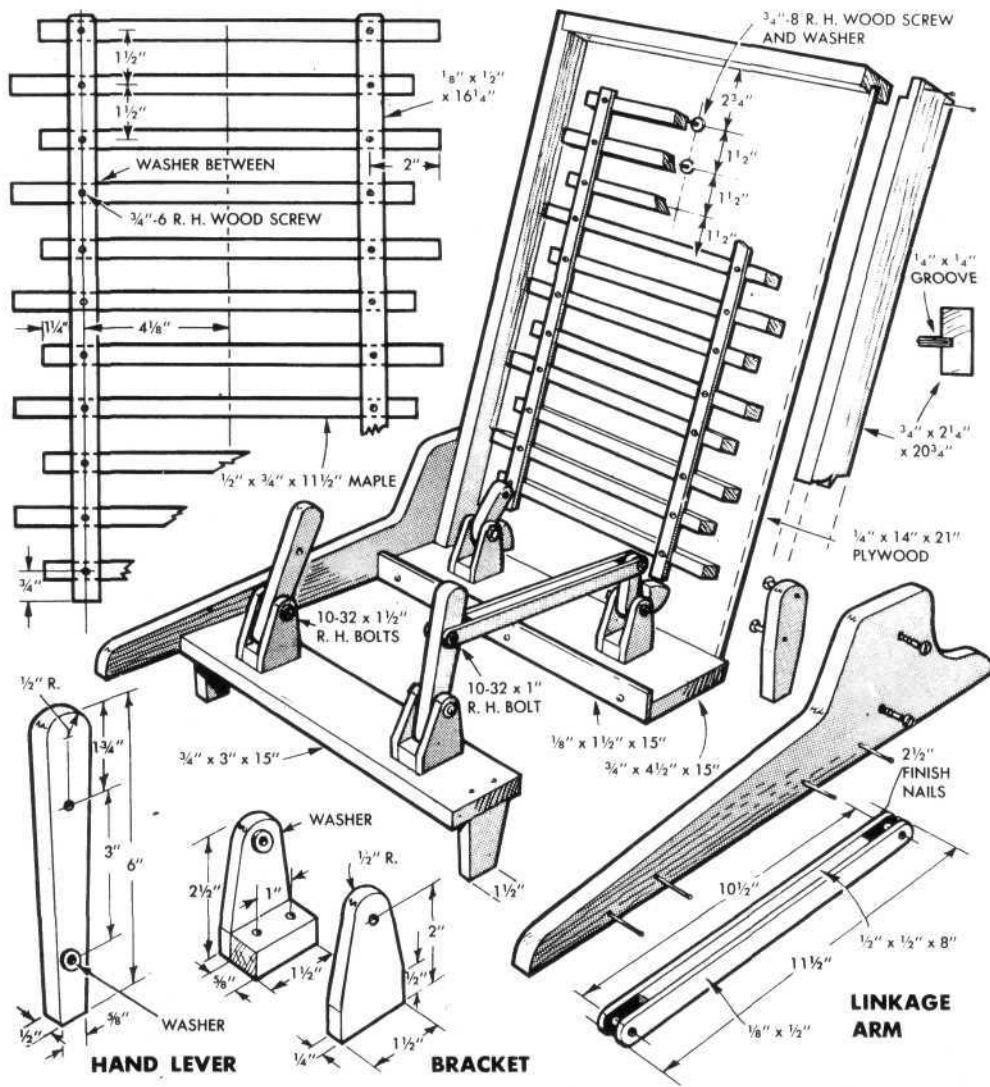


Assemble the activating linkage with steel washers between all moving parts and under the peened-over bolts. Keep contact points waxed

YOUNGSTERS worn out by the "creative" toys and push-button monsters they got for Christmas will find *this* game a welcome relief. It's plain fun, with emphasis on coordination, not education.

It's as simple to construct (mostly from scraps) as it is to play. The principle is to zigzag a large marble or steel ball from the starting position shown above through the pivoting parallel bars to the base. You've got to manipulate the levers skillfully to avoid inclining the bars so much that the marble shoots past the projecting catch-end of the next-lower bar. And even when you master this, you must reverse the pitch at just the right moment to send the caught ball in a new direction. If you seesaw the bars too much, the ball just rocks back and forth at the center. When you've mastered this, add a second ball at the top when the first is halfway down.

To protect the pivoting mechanism, the panel on which the bars are mounted is set in a grooved frame. Softwood can be used for this frame and for all base members, but the bars, pivot strips, levers and linkage should be cut from maple. Finishing of the bars is important, since the ball



must roll freely. Apply linseed oil, then two coats of shellac, rubbing each with steel wool. Then brush on flat varnish and rub it smooth when dry.

When you fasten the bars to the back panel, place washers between them and the plywood—and don't draw the screws snug. The screw holes in the plywood should let them turn freely. Attach the pivot strips so the entire assembly will respond freely to any movement of the cams. A

playing tip: When you grasp the levers, keep the cams in constant pressure against the lower ends of the pivot strips. Apply wax to these contact points to cut down friction and make the parts move freely.