

WOODWORKER'S JOURNAL

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Classic Project



In this plan you'll find:

- Step-by-step construction instruction.
- A complete bill of materials.
- Construction drawings and related photos.
- Tips to help you complete the project and become a better woodworker.

Cat Push Toy

GIFT SHOP



cat
push toy

This cat is a pet that's sure to please. No food, litter, hair, fleas, mess or meow. We call the cat a toy, but it also makes a great mobile sculpture for your coffee table. You'll have to build the cat to see for yourself, but its motion is truly captivating. As the cat is pushed along by its convenient tailhandle, the wheels create a surprisingly catlike leg action. Depending on how the wheels are arranged at assembly, the cat can have either a creeping or a pouncing motion. Our thanks to Schenectady, New York toy builder Skip Arthur for the design.

The cat shown is built of birch and walnut. The color contrast works well and adds to the lifelike look. You will need 1/4 in. thick walnut for the body center (A), 1/2 in. thick birch for the body sides (B), 1/2 in. thick birch for the upper legs (C, D) and wheels (G), and 1/2 in. thick walnut for the lower legs (E, F).

We've provided full-size patterns for the legs, and a grid pattern for the body sections.


The body center and sides are cut out with a band saw or jigsaw. Drill the eye holes and axle holes in the locations shown, but enlarge the axle holes a little to allow the axles freedom to turn. Glue on the two sides, smooth the profile along the back and bottom where the center and sides align, and then round the edges of both sides. A 1/4 in. radius ball-bearing guided roundover bit comes in handy for the edge-rounding on the sides. Use files and sandpaper to shape the head and tail.

The leg sections employ a rounded half-lap joint at the knee. The joint isn't difficult to make, but it's important since it gives the legs their remarkably natural movement. You'll need either multispur or Forstner bits to cut the joints. A 1 1/2 in. diameter bit is needed for the front leg joint and a 2 in. diameter bit is needed for the back leg joint. Multispur bits are the best choice because they produce the smoothest cut.

The best way to make the leg sections is to lay them out on 1/2 in. thick stock, cut the half-lap joints with the multispur or Forstner bits in the drill press, and then cut out the leg section profiles with the band saw or jigsaw. But don't make two identical upper and two identical lower leg sections for each pair of legs. The left and right side leg sections use the same profile, but the half-lap cuts are on opposite sides. An easy way to get everything right is to lay out two of each part, but flip each duplicate pattern. That way you can make all your half-lap joint cuts on the same face of each board. Use the depth stop on the drill press to limit the depth of cut to 1/4 in.

Cut the leg sections out and round the edges as shown. A 1/4 in. radius

The Woodworker's Journal

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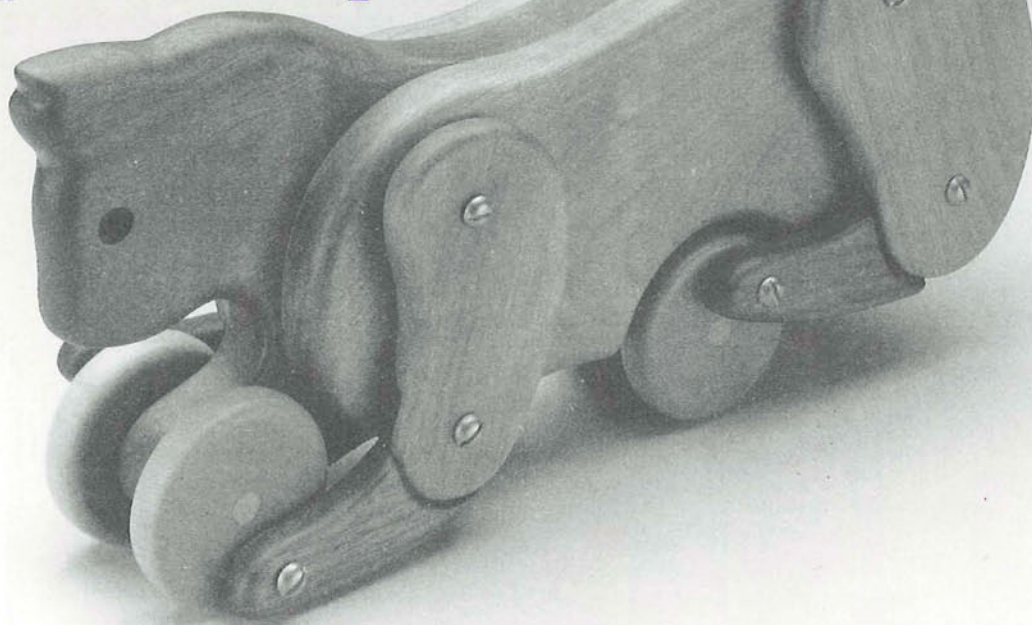
Published in *Woodworker's Journal* May/June 1990

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cat push toy



This cat is a pet that's sure to please. No food, litter, hair, fleas, mess or meow.

We call the cat a toy, but it also makes a great mobile sculpture for your coffee table. You'll have to build the cat to see for yourself, but its motion is truly captivating. As the cat is pushed along by its convenient tail/handle, the wheels create a surprisingly catlike leg action. Depending on how the wheels are arranged at assembly, the cat can have either a creeping or a pouncing motion. Our thanks to Schenectady, New York toy builder Skip Arthur for the design.

The cat shown is built of birch and walnut. The color contrast works well and adds to the lifelike look. You will need $\frac{3}{4}$ in. thick walnut for the body center (A), $\frac{5}{8}$ in. thick birch for the body sides (B), $\frac{1}{2}$ in. thick birch for the upper legs (C, D) and wheels (G), and $\frac{1}{2}$ in. thick walnut for the lower legs (E, F).

We've provided full-size patterns for the legs, and a grid pattern for the body sections.

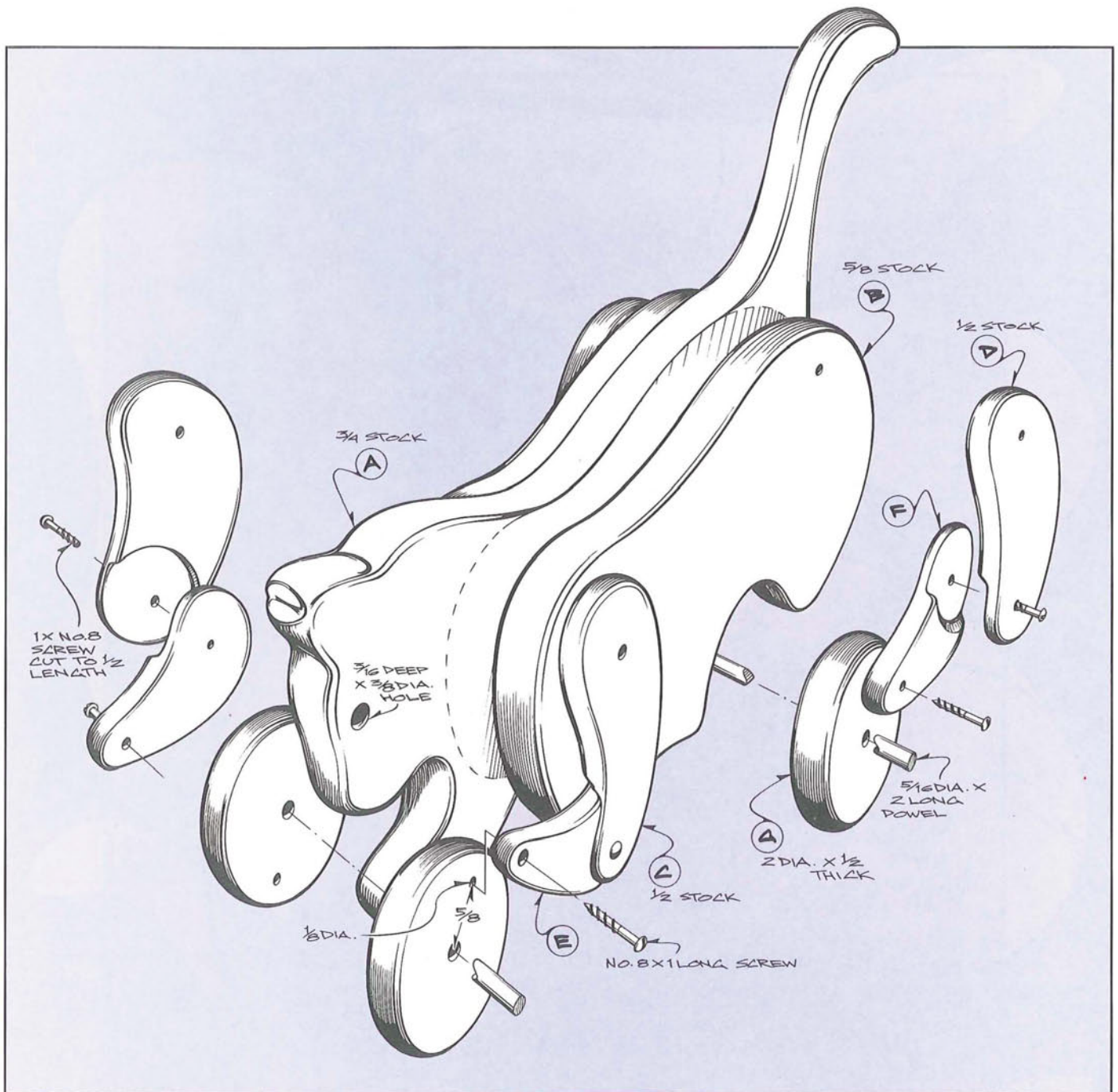
The body center and sides are cut out with a band saw or jigsaw. Drill the eye holes and axle holes in the locations shown, but enlarge the axle holes a little to allow the axles freedom to turn. Glue on the two sides, smooth the profile along the back and bottom where the center and sides align, and then round the edges of both sides. A $\frac{1}{4}$ in. radius ball-bearing guided roundover bit comes in handy for the edge-rounding on the sides. Use files and sandpaper to shape the head and tail.

The leg sections employ a rounded half-lap joint at the knee. The joint isn't difficult to make, but it's important since it gives the legs their remarkably natural movement. You'll need either multispur or Forstner bits to cut the joints. A $1\frac{1}{2}$ in. diameter bit is needed for the front

leg joint and a 2 in. diameter bit is needed for the back leg joint. Multispur bits are the best choice because they produce the smoothest cut.

The best way to make the leg sections is to lay them out on $\frac{1}{2}$ in. thick stock, cut the half-lap joints with the multispur or Forstner bits in the drill press, and then cut out the leg section profiles with the band saw or jigsaw. But don't make two identical upper and two identical lower leg sections for each pair of legs. The left and right side leg sections use the same profile, but the half-lap cuts are on opposite sides. An easy way to get everything right is to lay out two of each part, but flip each duplicate pattern. That way you can make all your half-lap joint cuts on the same face of each board. Use the depth stop on the drill press to limit the depth of cut to $\frac{1}{4}$ in.

Cut the leg sections out and round the edges as shown. A $\frac{3}{16}$ in. radius



roundover bit in the router table will simplify most of the roundover work on the leg sections, but you can also round the edges with sandpaper. You'll need to hand sand the roundover on the inside curve of the half-lap joints.

Now drill the assembly screw holes. The assembly screws are all 1 in. long by no. 8 brass roundhead screws, but the four screws that secure the knee joints are cut to a 1/2 in. length. Small parts can be a choking hazard for young children, so we used epoxy to anchor all the screws.

May/June 1990

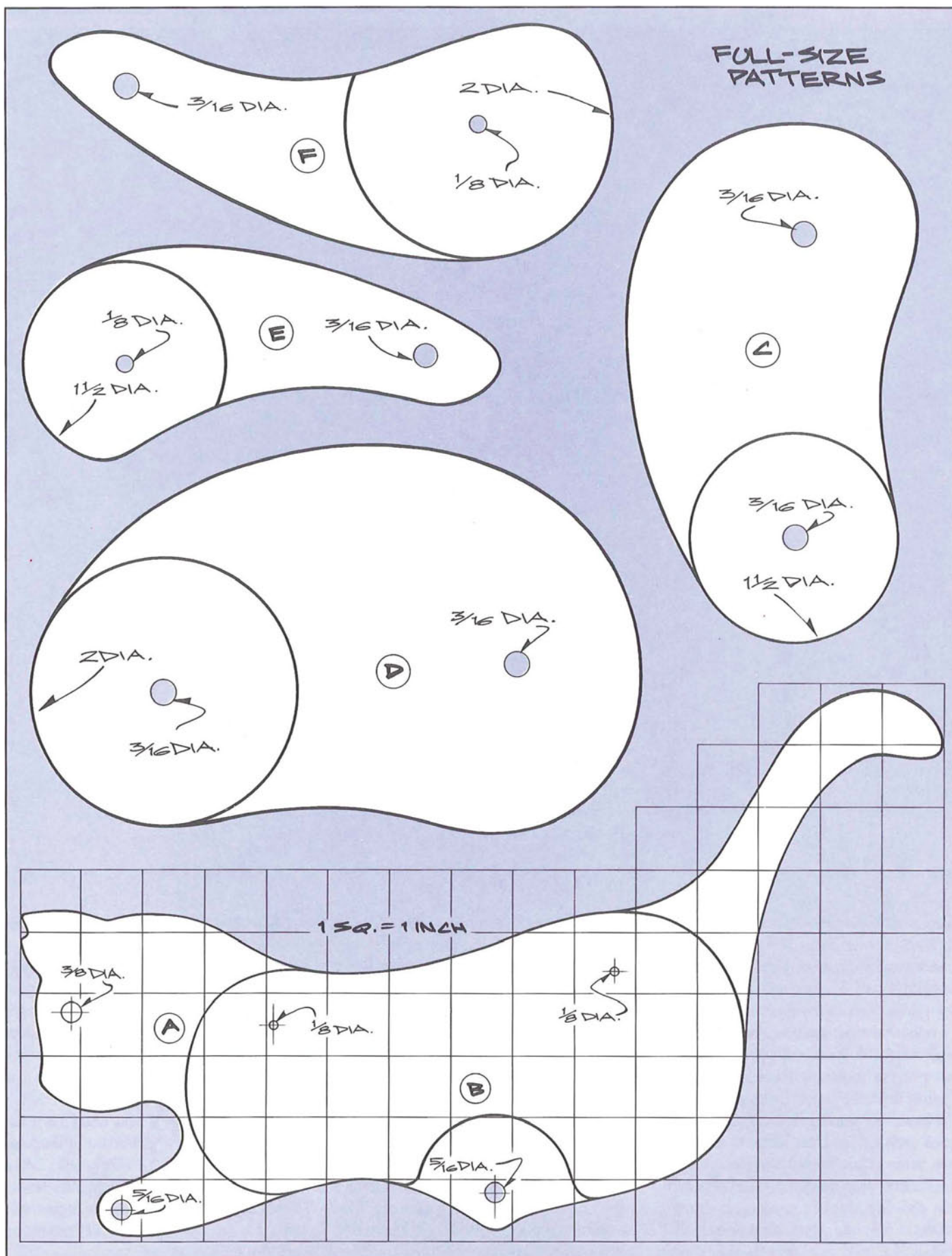
The wheels are just 1/2 in. thick by 2 in. diameter disks with rounded edges. Lay out the wheels with a compass, cut just outside the line with the band saw or jigsaw, then use the disk sander to final sand to the line. A jig made from a scrap of 3/4 in. thick plywood, with a dowel mounted in the plywood as a pivot point, is a handy way to sand the wheels perfectly round.

There are several ways to arrange the legs in relation to the wheels. The creeping motion is produced when the opposing wheels are positioned so the

screws are 180 degrees apart. This way the lower leg sections—or paws—seem to advance one after the other, just as with a cat stalking prey. If you align the wheels with the screws at the same point, the cat seems to pounce.

The best finish for wooden toys is to leave them natural. If you want a finish to accent the wood grain, try Preserve. It's a non-toxic nut oil that's safe, even when wet.

FULL-SIZE PATTERNS



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Matt Becker
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