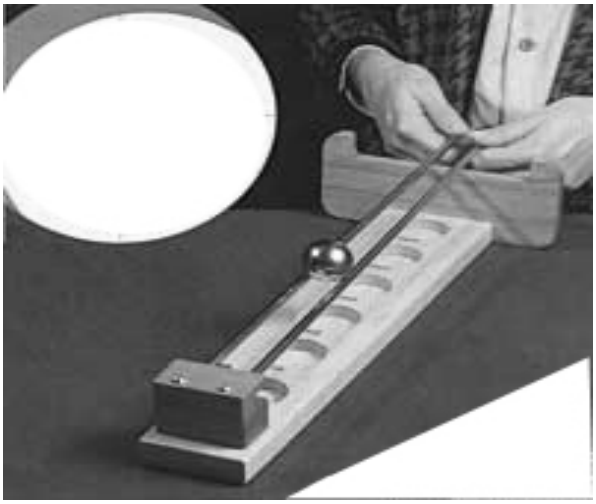


Project 19507EZ:

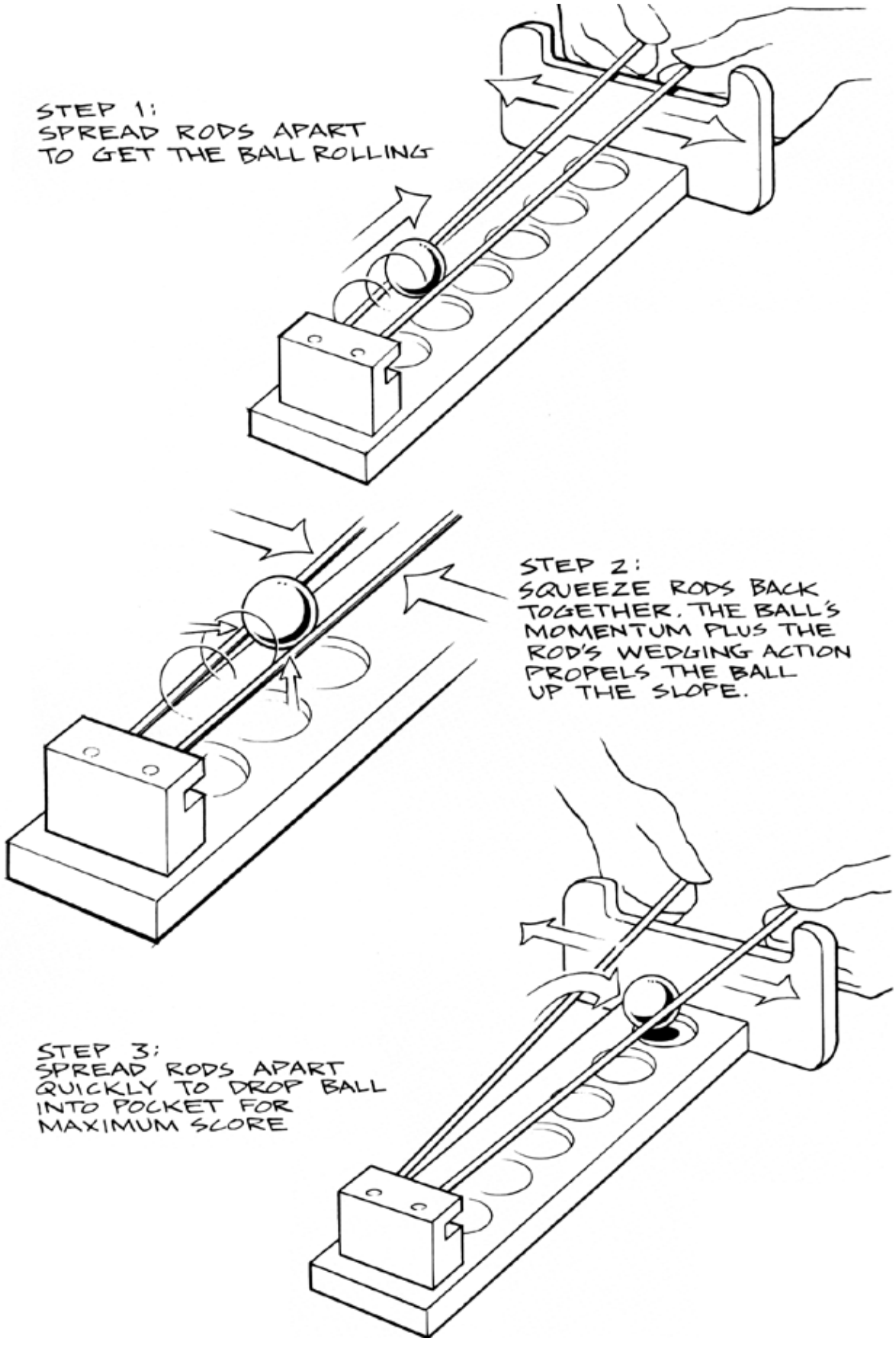
“Shoot the Moon” Rollerball Game

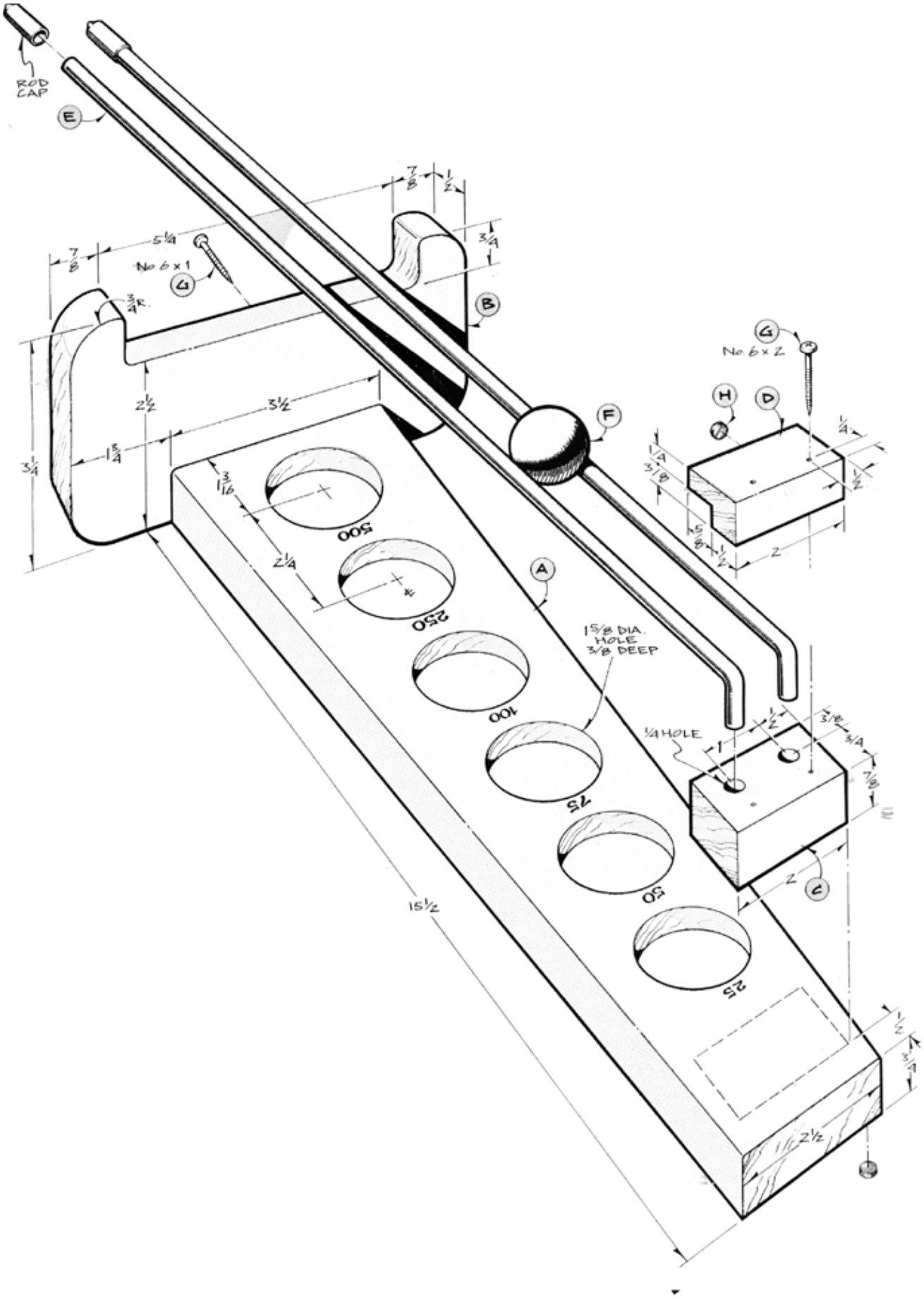
This unassuming looking little game, by Connecticut woodworker David Moretti, has captivated just about all who try to master it.
Although it’s not readily apparent from the photo, when the game is placed on a flat surface, the two steel rods have a noticeable uphill slope, from the bent end to the capped end.
As shown in the Shooting the Moon detail, the object of the game is to get the steel ball to roll up this slope, and then quickly spread the rods apart to drop the ball into the hole pocket with the highest possible score.

Rollerball Game Materials List

Part	Description	Size	No. Req’d
A	Base	3/4" x 3-1/2" x 15-1/2"	1
B	End	1/2" x 3/4" x 7"	1
C	Block	7/8" x 1-1/8" x 2"	1
D	Cap	5/8" x 1-1/8" x 2"	1
E	Bent Rod w. End Cap*	1/4" dia. x 18 long	2
F	Ball*	1-1/4" dia.	1
G	Screw*	#6 x 1" and #6 x 2"	2 of each
H	Felt Bumper/Foot*	3/8" dia.	5 * See instructions.

Rollerball Game Complete Schematic




ROD CAP
E
7/8
1/2
5 1/4
3/4
No 6 x 1
G
3/4 R.
B
2 1/2
3 1/2
1 3/4
3 1/4
3/16
2 1/4
500
250
100
75
50
25
A
15 1/2
F
1 5/8 DIA. HOLE 3/8 DEEP
1/4 HOLE
G
No 6 x 2
H
D
1/4
1 1/4
3/8
1/2
5/8
2
C
3/8
7/8
2 1/2

Rollerball Game Step-by-Step Instructions

1. Cut the base (A), end (B), block (C) and cap (D) to the precise sizes shown (especially the end block) on the exploded view and in the materials list.
2. Locate the rod holes
3. Notch the rod holes exactly as indicated, or the game will not operate properly.
4. Clamp the block in your bench vise and use a hand saw to make two intersecting cuts cut the rabbet in the cap.
5. Use a 1-5/8" diameter Forstner bit to bore the six hole pockets, spacing the pockets on-center 2-1/4" apart.
6. Lay out and cut the two tapers on the base sides.
7. Drill the 1/4" diameter rod holes in the block 3/8" from one edge and exactly 1" apart and entirely through the 7/8" stock thickness.
8. Lay out and cut the notch in the end (B).
9. Use a coping saw to cut the notch.
10. Use sandpaper to smooth the blade marks and leave the surface level.
11. Make sure the distance from the bottom of the notch to the bottom edge of the end is exactly 2-1/2".
12. Stencil, burn, impress, or paint the numbers on the hole pockets.
13. Apply a lacquer finish.
14. Pre-drill for the screws.
15. Assemble the game (the rods must be in place when the cap is screwed in place). No glue is needed.
16. Apply the felt bumpers (four on the base and one as a ball cushion on the cap), then start having fun!

Playing the "Shoot the Moon" Roller Ball Game

The secret to getting the ball to roll up hill is to first spread the rods gradually apart, which for a short distance allows the ball to actually roll down a slope, gathering momentum (Step 1). Then, as the rods are squeezed back together, the combination of the ball's momentum and the wedging action of the two rods can be harnessed to propel the ball up a slope (Step 2). When the ball reaches the highest point (before it starts rolling back down) the rods are spread quickly apart to drop the ball into one of the numbered hole pockets (Step 3). Any number of players can play, with the winner being the first to achieve a predetermined total score, such as 5,000 or 10,000 total points.

The real trick with this game is finesse, much like it is with pinball. For a high score, you must build up the ball's momentum. The farther apart you spread the rods in Step 1, the greater the ball's momentum. But, too far apart, and you risk the ball falling through prematurely and settling in one of the low-scoring pockets. It takes a deft touch and lightening quick reflexes to achieve the highest score (the 500 pocket) consistently, and in going for that high score, you often risk failure.

These plans were originally published in Volume 16, Issue 3 of *The Woodworker's Journal* (May/June 1982, pages 51-53).