

# Garbage Into Gold: A Pin Vise, Version 1.1

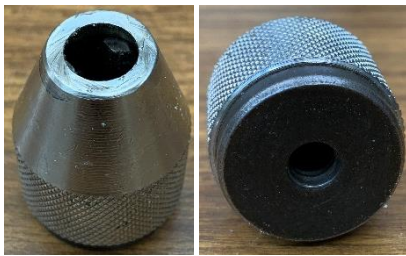
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By **R. G. Sparber**

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About thirty years ago, I pulled a small box full of broken toy drills out of the garbage. Most were beyond salvaging, but I did rescue two really crappy drill chucks.



These chucks had terrible run-out and a very limited range. On the plus side, they had a 1/4-20 thread.



Diving into my junk drawer, I retrieved a piece of pipe nipple, a coupler, and a plug.



I drilled and tapped the plug 1/4-20 and screwed in a bolt from the inside. Assembly took no time at all.

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This pin vise has served me well for three decades.

If you are new to the metalworking hobby, you are probably asking yourself, “what good is this?”

Here are a few answers. Hopefully, others will add to the list. Do notice that none of these uses are high precision nor put a lot of force on the pin vise.

- Finishing the end of a short rod – you may be tempted to hold a short rod in your fingers as you run the end against a bench grinder’s wheel, polishing wheel, or a belt sander. Beyond probably getting a burn from the hot metal, you can slip and take off a bit of finger. Chuck the rod in the pin vise and stay far away from the action. It will also be much easier to spin the rod by the pin vise.
- Cross-drilling a small rod – it is relatively easy to drill a hole in a ½-inch diameter rod on a drill press. But as the rod gets smaller, it becomes harder to hold the rod and position the drill. Instead, clamp the rod in your pin vise and then clamp the pin vise in your drill press vise.
- Hand filing - nothing new here; clamp the rod in the pin vise and clamp the pin vise in your bench vise. You get great visibility, and marring of the part is kept to a minimum.
- Twist fine wires together – clamp one end of each wire into the chuck, hold the far end in a vise or pliers, and twist away on the pin vise.
- Hand inserting roll or dowel pins – the pin vise is far easier to handle than trying to use pliers. The chuck can, to a limited extent, compress the roll pin, which will make it easier to insert. Do not hammer on the end of the pin vise. The vise won’t hold, and you may bend the ¼-20 bolt.
- Hold Swiss files – these files are tiny and have a round handle about 1/8-inch in diameter. The pin vise will give you a lot of leverage, which is a blessing and a curse. You can snap the file in half if you apply too much force.
- Breaking small drills – although you may be able to hold a 1/32-inch drill bit in this pin vise, it is a great way to snap the bit off. Don’t do it. You can buy much smaller pin vises that would be safer to use.

Marv Klotz of [homemadetools.net](http://homemadetools.net) suggested a modification: add a support handle. You can see his first-rate implementation at <https://www.homemadetools.net/forum/improvements-pin-vise-65497#post104421>

Here is my slapped together copy:

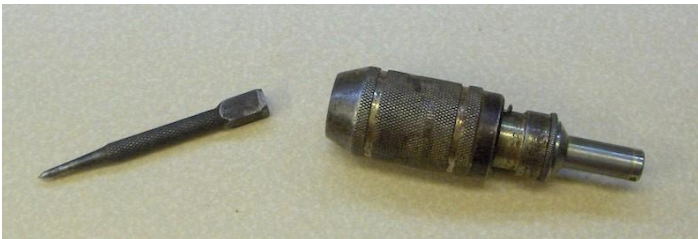


By holding the handle, I can spin the chuck without having it move sideways. Thanks, Marv! My pin vise just got a bit more precise.

John Herrmann has an interesting variation on the pin vise idea.



A brace and bit is designed to hold square shank bits.



After removing the chuck from the brace and bit, John turned down the shank.

The result is a punch securely centered and held in the chuck.



The shank goes into a handheld electric drill. With the drill running, John grinds the point of the punch to a uniform taper.

I welcome your comments and questions.

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