

## **Froes**

By Hank Allen

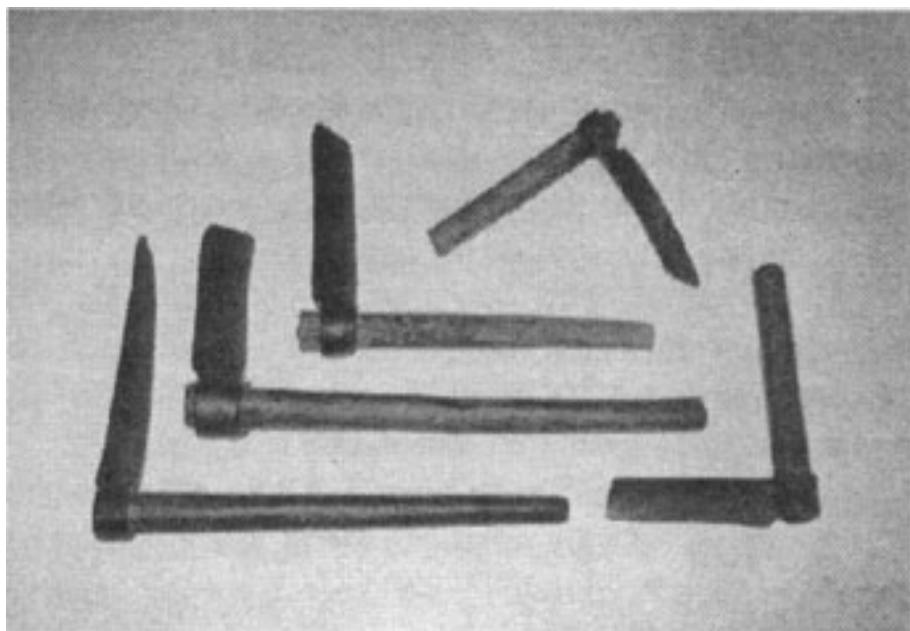
Splitting, or riving, wood in early days was a skill practiced by craftsmen who made boards, shingles, clapboards, fences, basket splints, chair parts, wagon spokes, lath, and more. Our ancestors used axes, gluts or wedges, froes, drawknives and spelk planes for splitting wood.

The froe was designed for splitting. It is typically an L-shaped tool made up of a wedge-shaped blade with a dull, but not blunt, knife edge and a wood handle. Blades were usually straight with a socket forged at one end, but curved blades were also made. Most handles were round and tapered, and were inserted up through this socket. But some froes had eyes similar to those on axes for handles that were wedged. The froe handle is held in an upright position in one hand while the other hand drives the top of the blade downward with a wood froe club or mallet. After a split is started, the froe is wiggled downward to lengthen it until the split is complete. Most old froes were hand forged, but they were also available in many catalogs. The 1873 D.R. Barton catalog offered straight froes at 12 1/2 cents per inch. You can still buy a new froe from Woodcraft for \$50. I couldn't find a curved froe in any catalog.

The following from Alex Bealer's "The Tools That Built America" takes us back in time, "Probably the first real organized industry in the first colony of the British Empire, Virginia, was the splitting of clapboards to be exported to England. ... With no sawmills established at Jamestown, splitting was the only suitable method for making small boards." (The first sawmill in Jamestown was burned to the ground by sawyers, which was the fate of many early sawmills in England.) Even after sawmills obviated the need to split wood, which came earlier in New England where sawmills were in use early on to support the thriving timber export trade, wood continued to be split by hand by those who did not have access to sawmills or believed split wood to be superior for certain uses. For example, we know that rived wagon wheel spokes are stronger than sawn ones. And sometime, splitting can be faster than sawing. Bealer does not believe any clapboards were split after 1850.

Much detail on splitting wood is contained in another Alex Bealer book "Old Ways Of Working Wood", one of my favorites. For example, cedar is the most ideal wood to split because it is amenable to splitting almost any way. Thus, a 24" cedar log can be squared with a froe and then easily be split into shingles. An oak, pine, or chestnut log, on the other hand, must first be split by axes or wedges into billets (quarters for smaller logs or triangular radial sections for larger ones). For oak the useless sapwood and the pith of the heartwood is discarded; for pine and chestnut only the bark is removed. Oak billets can then be split radially with a froe which produces boards that are wider on one edge. Thus, oak was the principal wood used for clapboards. Bealer says that pine and chestnut billets must be split tangentially to the annual rings which produces boards of even thickness that will not split when nailed. Herb Kean has demonstrated for me that oak boards can be rived out either radially or tangentially.

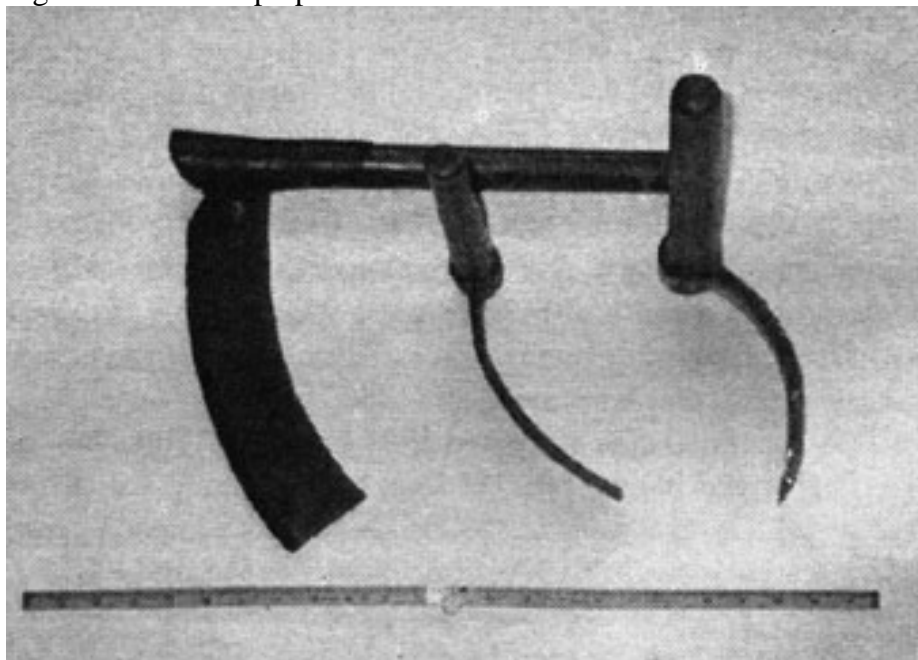
Examples of the most common froe, the straight froe with round wood handle, are shown in figure 1.



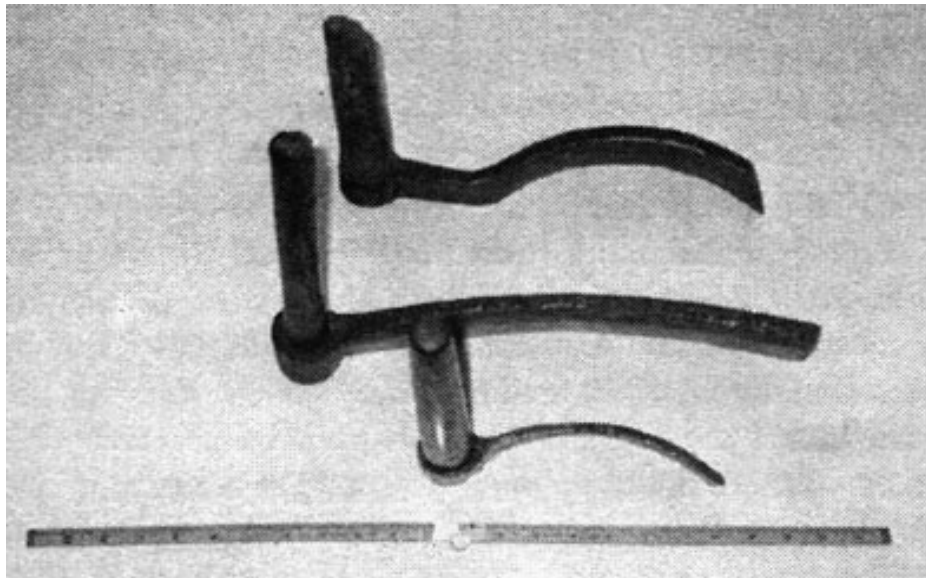
**Figure 1. Straight froes.**

Froe blades were both longer and shorter than those pictured, from 3" for the basketmaker's froe up to 24" for the shinglemaker's froe. Froes with blades 8"-12" long are commonly called "cooper's froes", but their use by coopers is probably exaggerated. More likely, barrel stave blanks made in the woods to be traded to the local cooper may have been riven out with froes. But, it's unlikely that the cooper would have used a froe for any further preparation of barrel staves.

Figures 2 and 3 show a variety of curved froes, including the one in the center of Figure 2 that I was prepared to call left-handed.



**Figure 2. Curved froes.**

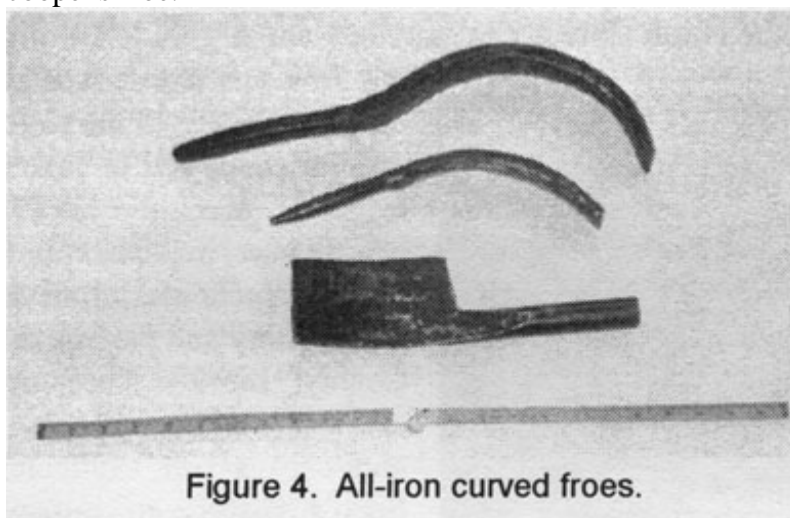


**Figure 3. More curved froes.**

But actually either curve could be held in either hand; therefore, I'll just mention that froes can have different curves. What you'll hear about curved froes is that they were used by coopers to rive out curved barrel staves. Curved froes may have been used to rive out short staves for shallow sap buckets, tubs or pails, or even kegs, but not barrel staves. Bill Rigler, who lives in Tennessee's cedar country, has split cedar with a curved froe and tells me that curved staves come out smooth on both sides, and for runs up to about 18". But for other woods, I quote Edwin Tunis from his book *Colonial Craftsmen*. "[I] doubt that a curved froe will do what is hoped for it. Wood has its own ideas about how it will be split."

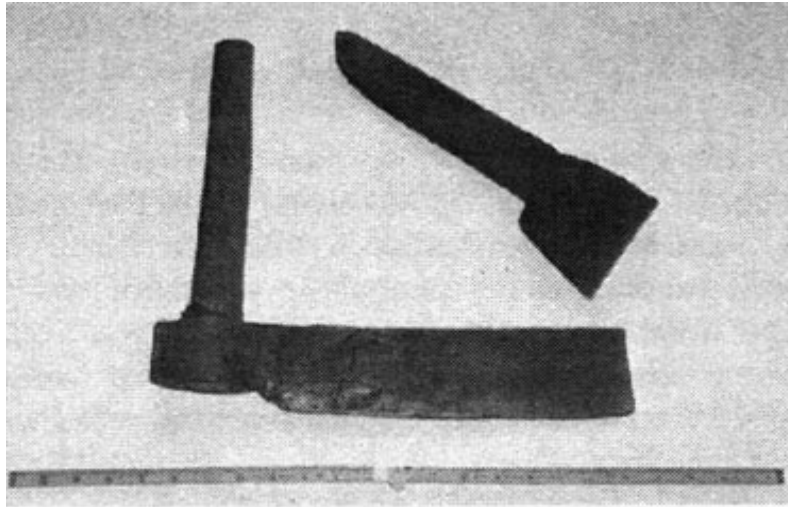
Herb Kean tried to make some one foot curved staves from reasonably straight-grained oak. What resulted were staves that were curved on both sides at the very top of the split, but, as Tunis had warned, the curves soon gave way to the grain, and the bottoms were mostly without any trace of curvature.

Figure 4 shows three all-iron curved froes with straight handles. One similar to the bottom froe is pictured in *The Chronicle* (44:2:54) with the suggestion that it's a cooper's froe.



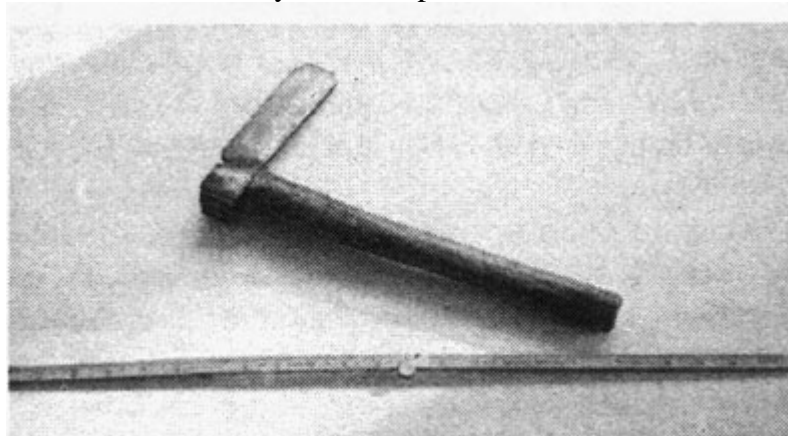
**Figure 4. All-iron curved froes.**

Figure 5 shows two froes with axe-eye sockets.



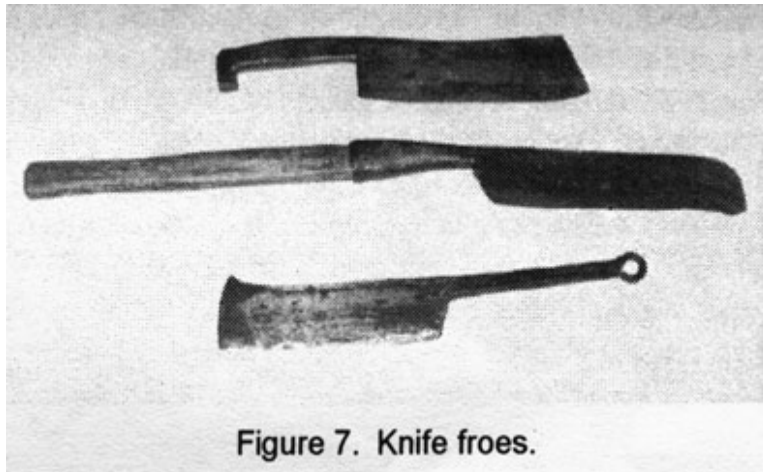
**Figure 5. Axe-eye froes.**

Figure 6 is another axe-eye froe, but this one has a knife edge on the end of the blade. It's a lathmaker's froe from this November's Brown auction. The name is corroborated by Salaman. I couldn't find an explanation of how the edge at the end of the froe was used. If you know, please write.



**Figure 6. Lathmaker's froe.**

Figure 7 shows three knife froes. The one with the wood handle is the only froe in my collection with a maker's mark. It was made by the Underbill Edge Tool Co. of Nashua, New Hampshire, and thus dates to 1852-90.



And finally, the most unusual froe has eluded me. I have never seen the double-handled froe whose straight blade has a socket at each end for handles. This froe is pictured in the Crane catalog of August 1983 (it sold for \$85) and also in Bud Steere's Catalog No. 29 dated December 1983 (priced at \$110). Do you think Bud bought it in August and sold it in December? Or maybe he had more than one! Anyway this froe is at the top of my most wanted list.

Special thanks to Herb Kean and Bill Rigler for their help with this article.

Downloaded from *The Tool Shed* Number 90 February 1996

## Some Froes

Buy one - see:

[Ray Iles Large Froe](#)

[Ray Iles Large Froe, unhandled](#)

[Ray Iles Small Froe, unhandled](#)

[Ray Iles Large Froe \(Parallel sided eye\), unhandled](#)

[Ray Iles Small Froe](#)

[Muller Froe 35cms](#)

[Muller Froe 22cms](#)

[Ray Iles large Froe PREMIUM](#)





COUNTRY WORKSHOPS FROES. Common froes are made from one piece of steel, with the ferule formed by bending an end into a loop. The problem with this construction is that it is difficult to exactly fit a handle to the unevenly shaped ferule. Our froes are made with a mild steel blade that is welded to a tubular steel ferule. With a round ferule it is easy to turn a perfectly fitted handle from kiln dried hardwood. The welded construction also makes it possible to increase the depth of the ferule (which helps to keep the handle tightly fitted). To increase the effect of leverage, the blade is comparatively narrow and thick. The Chairmaker's froe has an 12 inch blade that is 1-1/2 inches wide and 3/8" thick; the lighter Basketmaker's froe has an 8 inch blade measuring 1 1/4" wide by 1/4" thick.)



<http://www.leevalley.com/wood/page.aspx?c=3&p=20116&cat=1,41131,41140>

Froes are used for splitting out shingles or shakes as well as for riving green wood. This one is substantial — 10-3/4" long blade, 3/8" thick at the back — but roughly finished; strong but not pretty.

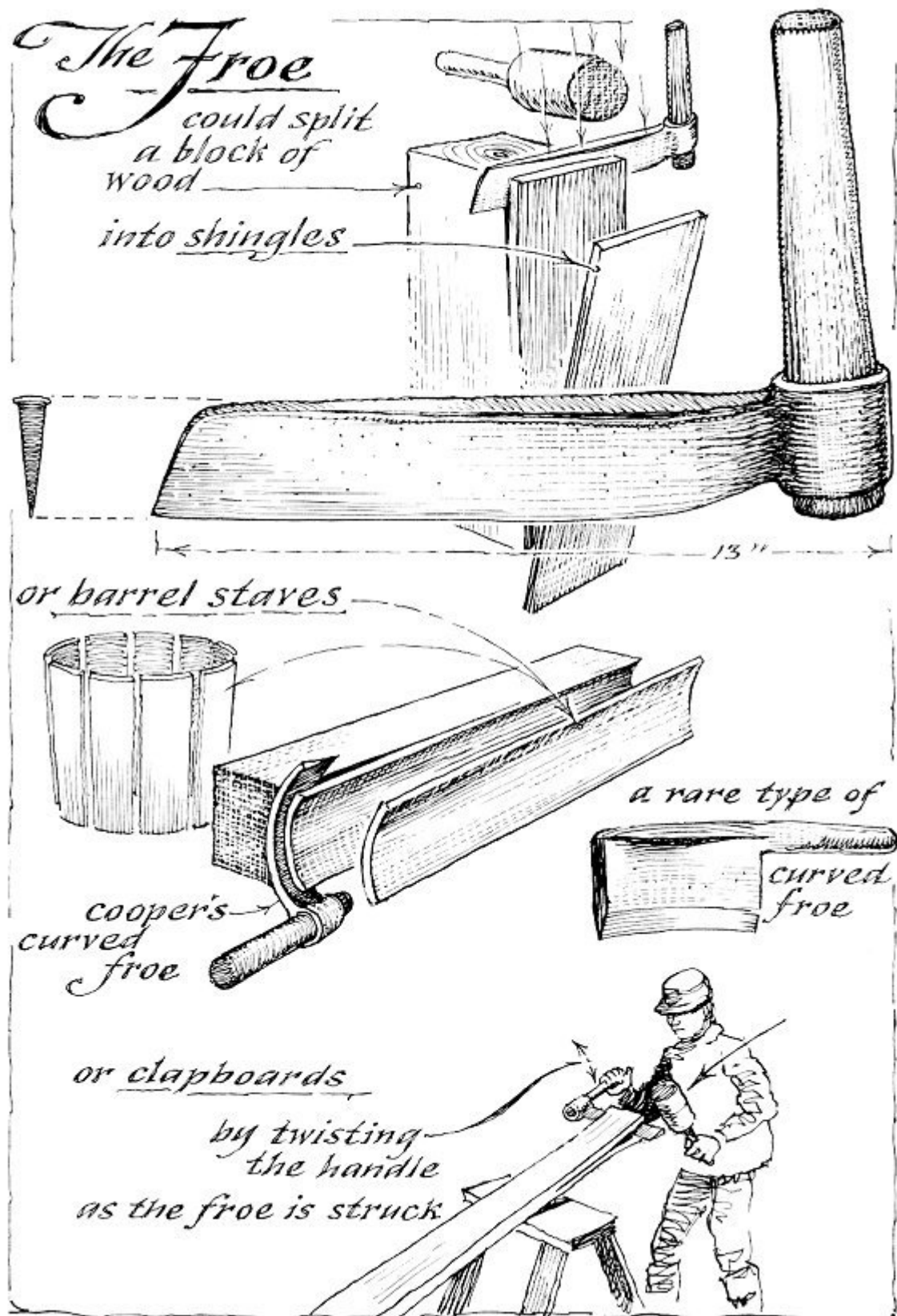


Old Froes





The illustration below is from Eric Sloane's "A Museum of Early American Tools".



## Riving

<http://www.greenwoodworking.com/riving/riving.htm>



See also

<http://www.heartofthewood.com/riving1.htm>



## Froe and riving brake

<http://www.bodgers.org.uk/bb/phpBB2/viewtopic.php?f=2&t=638&start=0#p3328>

by [Follansbee](#) » Wed Nov 12, 2008 2:09 am

I've been reading the froe thread, and meaning to chime in. I think that the ideal length depends on what you're splitting. the blade needs to be longer than the width of the stock you are splitting. If the tip of the froe's blade is buried within the stock, you can ruin the stock by having it break 90 degrees from your intended splitting plane. This is particularly critical when trying to split wide-faced stock like the panels I use in joined furniture. These panels are about 10" wide.



I have several friends who swear by froes made from springs, or flat stock, etc. I have used them, they work, but I prefer a smith-made froe. Mine are usually old ones. The two examples pictured are about 10-12" long, beyond the eye. They are wedge-shaped, right from the thick back, thus no bevel to really speak of. One of these I lost when an apprentice tried to split stock that was too thick, I forget if it broke or just bent...but it's gone. I bought the next one on ebay, about 8 years ago. I doubt I spent more than \$40 for it...



Gavin mentioned the benefit of using a riving brake, and I use one for all my longer stock, say anything over 2 feet...the one I use is a tripod with 2 cross pieces nailed or bolted to the front legs of the tripod. The lower of these rails is set horizontally, and the upper one meets the lower at one end, and rises up at the other end. this creates the fork you jam your stock into. the advantage of this over the first brakes I learned about is that the stock is held horizontally, thus you can exert pressure straight downwards. works great. I'll get better pictures next time I'm out riving some oak.

