

Portable Break-Down Cheese Press



By

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The Supply Chain Challenge – Team Cheese

History

Cheese presses have been in use since Roman times and possibly even earlier. In its earliest forms, a cheese press consisted of a ceramic container with holes in the sides and bottom to allow the whey to drain out (see Figure 1). These containers would be stacked one on top of the other, and gravity would do the work of pressing out the whey. However, this would not be practical for larger sizes of cheese, or for producing “harder” cheeses, as the downward pressure of additional weight involved would crack the ceramic.

As time progressed, mechanical presses were developed for various tasks including pressing olives for oil, grapes for wine, and milk products for cheese. A typical press would involve four simple pieces (see Figure 2 and 3). A base called a drain table would have grooves cut into it to drain off the whey. Above the drain table would be a support frame be built consisting of two uprights and a cross piece spanning between them. Suspended from the cross piece would be a weight that could be raised and lowered, with some sort of mechanical device such as a lever, screw and nut, or winch. Finally, a cheese form (similar to the ancient cheese presses, having holes on the sides and bottom to allow the escape of the whey) with a “follower” would be placed below the weight. The weight would press the follower down into the cheese form, thus pressing out the whey and forming the cheese.

Description

My cheese press was inspired by the period examples that used a screw and nut to raise and lower the weight of the press. My press is much smaller than those typically used in period, because it was designed to be portable. It also breaks down into its component pieces, also to allow for portability. The press is constructed entirely of walnut, with standard bricks used as the weight.

The base of the drain board was constructed of two pieces of walnut joined together to make a 16” x 16” base. Grooves were carved into the base for draining the whey (see Figure 4). Vertical boards were attached to both sides and the rear to contain the whey and provide additional structural stability. Two mortises were cut into the base for mounting the vertical uprights. Mortises were also cut into each end of the cross piece. Tenons were cut into the vertical uprights on both top and bottom to fit into the mortises on the base and cross piece. This provides an extremely stable, but easily disassembled, structure that can support the weight used in the press (see Figure 5).

In addition to the mortises, a 1” diameter hole was drilled into the center of the cross piece. I obtained a 1” tap and die set for wood. This allowed me to turn a 1” dowel into the screw I needed. I made a “nut” out of two scrap pieces of walnut, and tapped for use with the screw. I also made an 8” x 8” base to attach to the bottom of the screw, which would be used to hold the bricks and press down on the follower (see Figure 6).

Standard bricks were used as the weights because they are a consistent size and weight, each being 8” long and weighing almost exactly five pounds (to within +/- 1 oz). Their smaller size and weight also lends to the portable aspect of this press. The press as currently designed can accommodate four bricks, or a total of 20 pounds. If the vertical uprights are increased in height, additional weight could be added.

Figure 1 - Roman Cheese Press, 3rd C. BC



BBC News

<http://news.bbc.co.uk/1/hi/england/cambridgeshire/4908180.stm>

Figure 2 - 15th C. Cheese Press



St. Fagan's Museum of Welsh Life

<http://uk.geocities.com/ptgallery@btinternet.com/stfagans/fag/cilewent08.jpg?33,67>

Figure 3 - Cheese-press, Merionethshire



<http://www.gtj.org.uk/en/small/item/GTJ31093/>

Figure 4 - Channels Cut into Drain Board of Press



Figure 5 – Mortise and Tenon Joint



Figure 6 – Nut, Screw, Plate, and Weights

