

## The French cochoir or cauchoir(e) de tonnelier

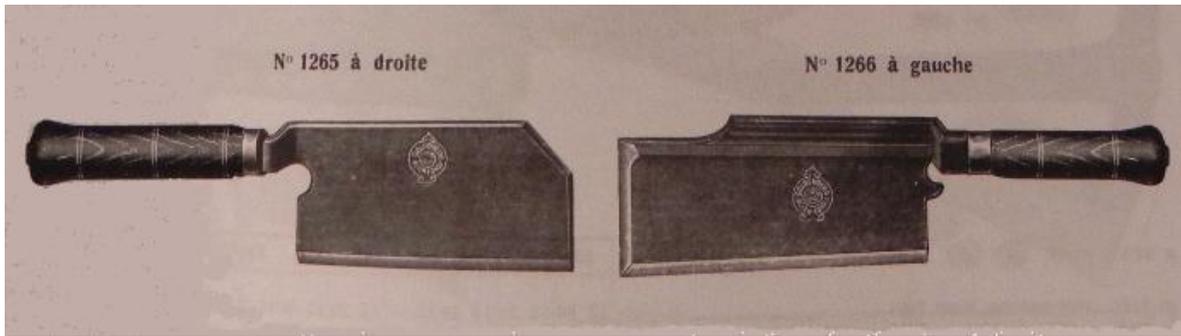
Unknown in the cooperages of England, the ‘cochoir’ or ‘cauchoir(e)’ is a tool used by the ‘tonneliers’ (coopers) and ‘merrandiers’<sup>(1)</sup> (stave makers) of France, and probably also by the ‘boisseliers’ (white or dry coopers). Also known as a ‘serpe de tonnelier’ (coopers’ billhook), and shaped like a square bladed billhook with a straight cutting edge, often with a cranked (or offset) handle, they were used in the production of ‘merrains’, the blanks of oak from which the cooper would cut the ‘douves’ (also known as ‘douelles’) or staves of the barrel.

Sharpened to a single bevel, they used in the same way as a side axe to pare the wood to size. (Note: in modern cooperages the staves are split using a press, or even sawn, but in the past they were always cleft from the billet using a ‘départoir’ (froe) to ensure the grain followed the length of the stave, and the excess trimmed off with the ‘doloire’ (side axe) or the smaller ‘cochoir’.



**Above: some cochoirs from the Bourgogne (Burgundy) region of France**

Many were decorated, and like the coopers’ ‘doloire’ or side axe, they were highly valued. As with the billhook, the shape of the ‘cochoir’ varied from region to region – some had rounded ends and some even had a small beak, or hooked end, like a typical English or French billhook, and they were available in both right hand and left handed versions.



Above: from the catalogue of Goldenberg (Alsace) c 1929; left: 1265 Normande pattern (right handed); right: 1266 Lyon pattern (left handed)



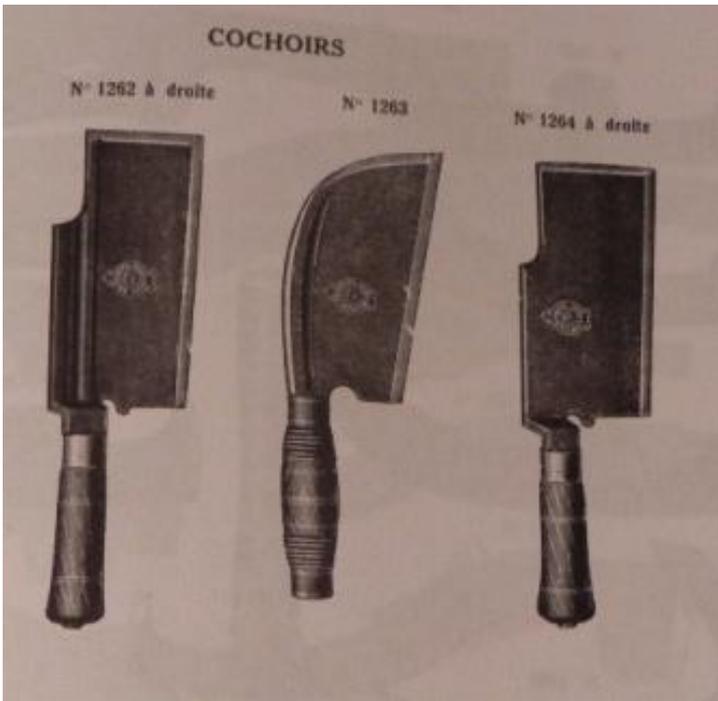
Above: left: billhook shaped; right: Alsace pattern with fullered grooves

Some shapes has fullered grooves in the side, or added ribs to strengthen the blade..

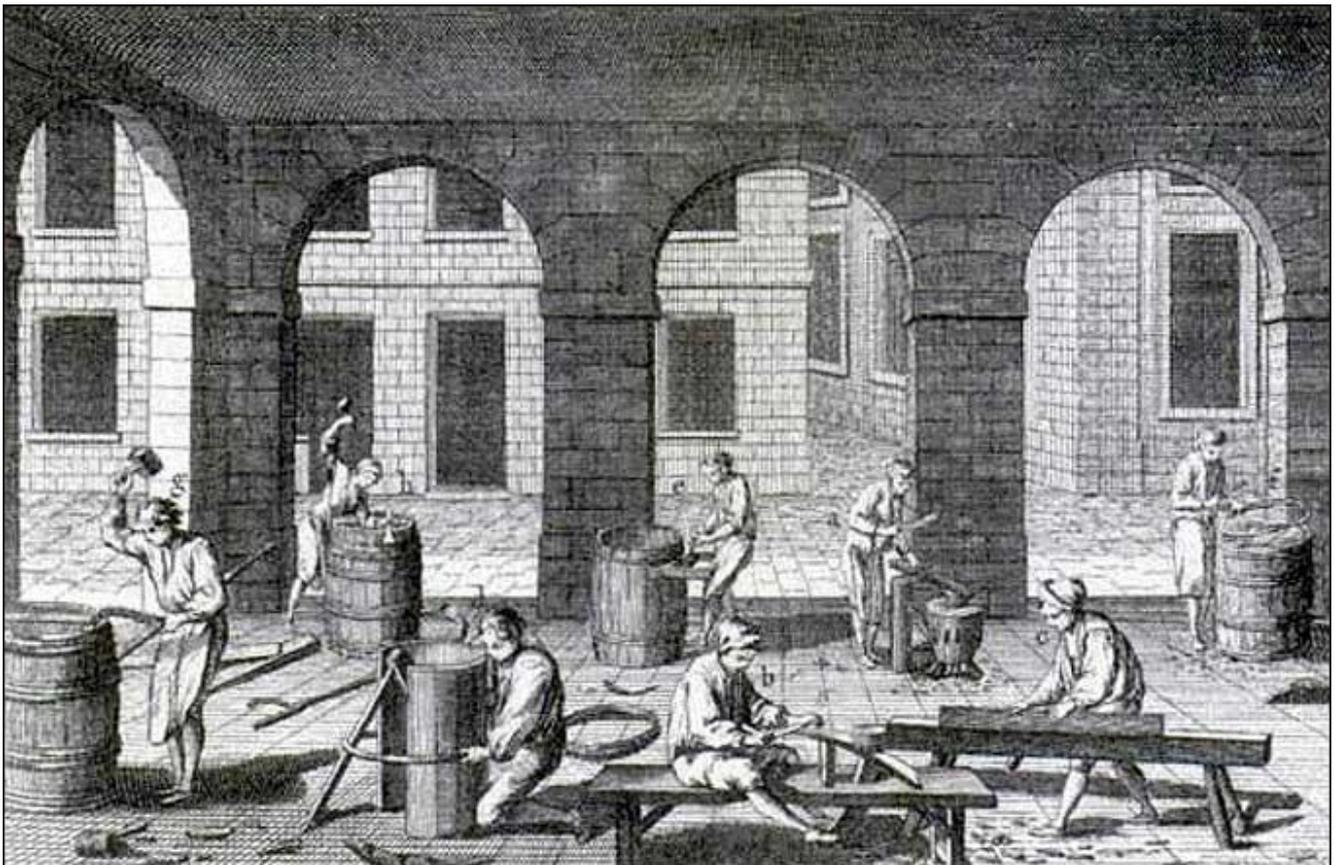


Above: French (regions uncertain), but note the stiffening spine on both patterns

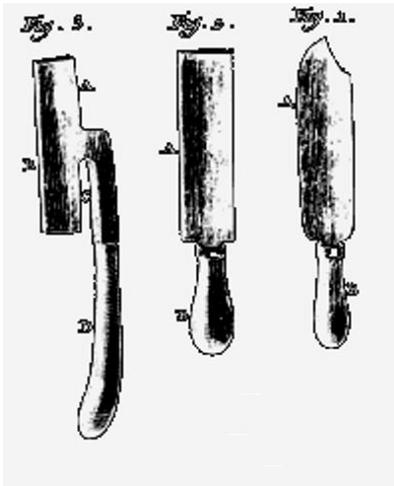
The blade is much thicker than that of a billhook, more like that of an axe, often being 8mm to 10mm ( $\frac{3}{8}$  to  $\frac{1}{2}$  inch) thick at the spine. Some patterns were also sharpened on the end as well as the edge, and often the handle was double ferruled, like that on an English mortice chisel, which implies that they may have been struck with a mallet to get through a particularly tough piece of oak, or a knot.



Above: from the 1929 Goldenberg catalogue; left: 1262 Mâcon pattern; centre: 1263 Alsace pattern, right: 1264 Paris pattern.



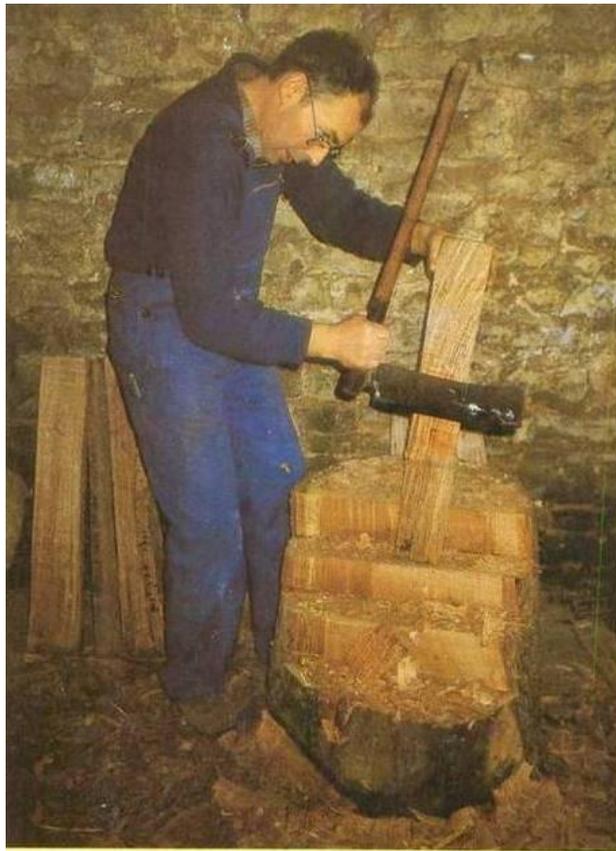
Above: Le Tonnelier (the cooper) - Plate 1 of volume 10 from Diderot's L'Encyclopédie <sup>(2)</sup>



Above: left: enlargement of the previous image showing the ‘cochoir’ in use; right: a ‘doloire’ and two types of ‘cochoir’ also from l’Encyclopédie de Diderot c 1751 (‘outils de tonnellerie’).



Above: left an unusual form of ‘cochoir’ with a ‘queue d’ hirondelle’ (swallow tail) , similar in shape to the ‘coutre’; right: a cooper’s ‘coutre’ a froe like tool (without its handle), used trim the stave after splitting from the billet with the ‘départoir’ – unlike a froe this tool is not struck with a mallet, but is used to pare the billet, c.f. as with a side-axe.



Above: left splitting the billet into staves with the '*départoir*'; right trimming the rough stave with the '*coudre*'.

The Alsace pattern was also found in Germany, and the author has found one example in Poland, so it is likely that although unknown in English cooperages, it was widespread in continental Europe.



Above: the blade from a '*cochoir*' found in Poland, together with a Polish billhook.

The name for the ‘*cochoir*’ in other languages is yet to be established, but there may be no specific word (as in French) and it may just be called a cooper’s axe. The German coopers used a ‘*küferschnitzer*’ a short sturdy chopping knife (see Page 8, below).



Above: three Austrian tools that have many similarities with the French ‘*cochoirs*’ - a thick blade, single bevel, decorative cut out below the handle and a thickened spine.

Some examples from Germany have cast brass handles, similar to those found on the 19<sup>th</sup> century cavalry swords, naval cutlasses and military fascine knives. The origins are unknown, but the blade shape is similar to those from Alsace, and it is possible they were also made for military (or naval) use, e.g. to provision a military force where stores had to be transported, often in wooden casks or barrels (for both dry goods and liquids, and also for gunpowder).



Above: from Wuppertal in western Germany, near the Dutch border, marked CFB.

On a visit to the Victoria and Albert Museum in London (the V&A) in 2008 the author noticed a brass handled version in a display case, labelled as a butcher’s cleaver, with fullered grooves to let out the blood (curious as by the time a butcher uses a cleaver the carcass has already been drained of blood). (Unfortunately I did not have my camera with me, but the blade shape and the brass handle leads me to think

that this is a German pattern. What it does emphasise is that because the tool is virtually unknown in England, it can easily be mis-identified, even by experts).

Notes:

1. In Dutch carpenter's shops a straight bladed billhook similar in shape to the Alsace pattern '*cochoir*' was commonly used (c.f. the carpenter's side axe that was commonplace in English workshops up to the mid 20<sup>th</sup> century). The billhooks from northern France and Belgium also often have straight cutting edge, as do certain patterns from the east of England and the London area.



Above: left: Belgium, centre: Dutch, right: Herts pattern UK (with single bevel)

2. In certain parts of France the term '*cochoir*' is used for a small side axe ('*hachereau*'), similar in size to that use by the '*sabotiers*' (clog makers) and much smaller than the usual '*doloire*'.

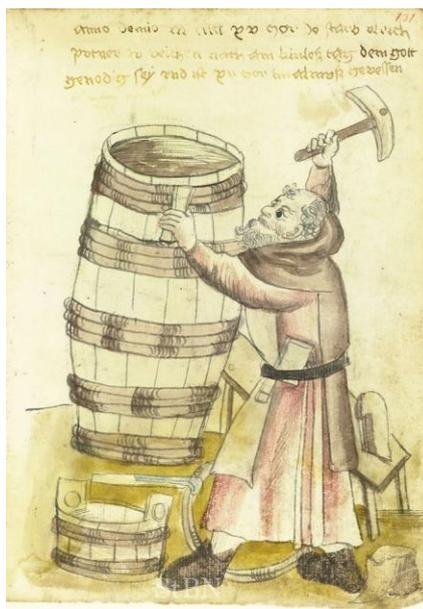
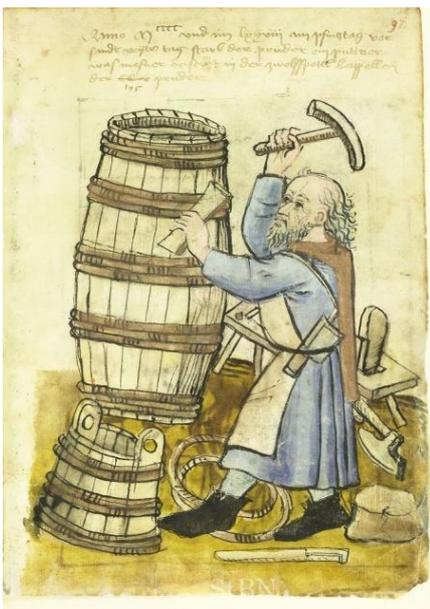


Above: left: French cooper's axe type of '*cochoir*'; right: the much larger '*doloire*'

3. The '*cochoir*' is sometimes also misidentified as a '*serpe de cerclier*'<sup>(3)</sup>(also spelled '*cercleur*'), a type of billhook that was used to cut the wooden hoops ('*cercles*') used to hold the barrel together, especially in 'dry' cooperage, i.e. barrels used to hold dry goods, where metal hoops were not often used: in the wine growing regions of France they were also used on wine barrels in addition to the wooden hoops to take the wear of rolling the barrel on the cellar floors. However, the making of the '*cercles*' was predominantly a woodland or coppice task, undertaken on the green wood (usually chestnut) in the woods. As with the cleaving of hazel in the UK to make sheep hurdles or thatchers' spars, a single bevel tool would be unusable, as it

would ‘run out’ of the grain. A normal double bevelled billhook would have been used, far cheaper than a ‘cochoir’, and less costly to replace if lost in the woods. The confusion probably arises as it was used in the workshop by the cooper to cut the notches (variously known in French ‘encoches’, ‘coches’ or ‘entailles’) on the ‘cercles’ when fitting them to the barrel.

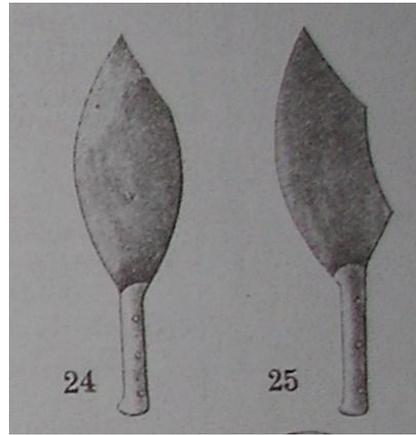
4. The images of retired coopers in the Hausbuch der Mendelschen <sup>(4)</sup> clearly shows the German coopers with a similar tool.



Above: left 1478; centre 1485; right 1515



Above: left 1518; centre 1604; right detail of the ‘küferschnitzer’ (cooper’s knife) from 1515



Above: left a French ‘*serpe à épointer*’ used on a block for vineyard stake sharpening; right: *Serpe Limande Bossue* (literally flounder shaped & hunchback) from the 1920’s catalogue of F Bret à Charavines (Isère) – note the similarities in shape to that from Germany c1515, above.

5. Although not directly showing, the cooper in Jost Amman’s <sup>(5)</sup> illustration of a Bavarian cooper’s shop c 1568 is also wearing a large sheath containing a similar cutting tool (see also 1604 above):



Above: left: the cooper’s shop, Jost Amman c 1568: right detail of the sheath and below the elbow of the cooper can be seen the handle of his knife.

Hypothesis:

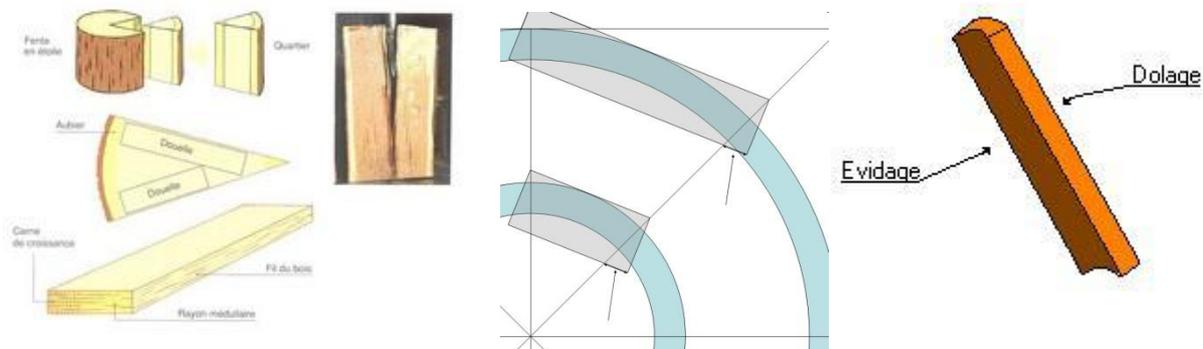
The ‘*cochoir*’ (both the billhook type that is the subject of this article, and the small axe type, the ‘*hachereau*’), the ‘*doloire*’ and the ‘*coutre*’ all appear to have a similar cutting action, and to serve the same function, that of trimming the staves to size before they start to be assembled into the barrel. The staves are made from straight grained oak, cleft on the quarter, i.e. radially, into triangular pieces that are then trimmed on the

face and the sides into rectangular blanks or ‘*merrains*’ (1m<sup>3</sup> of billets will produce about 0.20 m<sup>3</sup> of staves)<sup>(6)</sup>. The blank staves are then seasoned naturally in stacks for about three years before being taken into the cooperage to be made into barrels.



Above: Industrial scale production of ‘*merrains*’ – left: Canada; right: France

The cooper then finishes these into ‘*douves*’ (staves) by rounding the outer face slightly to give ‘*dolage*’ and hollowing the inner face to create ‘*évidage*’.



Above: diagrams to show how the ‘*douve*’ is cut from the ‘*merrain*’.

He then shapes them to a tapered ‘boat’ shape before running them over the ‘*colombe*’ a large upside down jointer plane to smooth the edges and give them a slight radial bevel.

There are thus several similar processes in making a barrel:

1. Squaring the rough cleft oak into ‘*merrains*’
2. Rounding the outer edge of the ‘*douve*’ to create ‘*dolage*’
3. Tapering the edges of the ‘*douve*’

In all three stages the process is similar – using a single bevelled cutting tool to shape the oak. The ‘*merrandier*’ works with fresh green oak, the ‘*tonnelier*’ uses seasoned dry oak, but the basic process is the same.

Further research has found a French cooper’s manual<sup>(7)</sup> written in the first half of the 19<sup>th</sup> century:

*Cochoire: L’outil avec lequel on fait les encoches. Il sert aussi à une infinité des autres usages.*

The cochoir : The tool with which the notches are cut. It also has a multitude of other uses. <sup>(8)</sup>

and

*La cochoir est destinée à couper le merrain quand le tonnelier commence à le dégauahir. Il sert aussi à former les coches ou entailles sur les cercles avant de les lier avec l’osier.*

The cochoir is (the tool) of choice to cut the staves when cooper starts to shape them. It also serves to form the notches or indentations in the hoops before joining them with willow. <sup>(9)</sup>

To further confuse matters the word ‘*coutre*’ appears to be used in the sense of a ‘*départoir*’:

*Coutre: Outil de fendeur qui sert à faire des serches, des lattes des charniers etc\**

The coutre : A tool of the splitter used to make the hoops, the slats (laths), the stakes etc. <sup>(10)</sup>

**\* Translation: serche, obsolete word for cercle (hoop); charnier, obsolete word for échalas (stake)**

This may be construed as further evidence of use of different tools used for the same task, and their nomenclature, in different regions. The author also mentions the ‘*doloire*’ as a tool for ‘*dresser la planche*’ (‘*dresser la planche*’).

The ‘*cochoir*’ appears to be confined to a few regional patterns, those found on the Burgundy region, Alsace and Normandy (not a wine growing region, but renowned for its cider). However, there are many more wine growing regions, e.g. Bordeaux, where barrels were, and still are, made – so why no regional patterns for these?? The hypothesis is that to a large extent the ‘*cochoir*’, ‘*hachereu*’, ‘*doloire*’ and ‘*coutre*’ are

interchangeable, and that their usage is a result of local tradition and personal preference on the part of either the ‘*merrandier*’ or the ‘*tonnelier*’. With the system of ‘*compagnonnage*’ in France, whereby apprentices undertook a ‘*Tour de France*’ before becoming master craftsmen, these regional preferences may have gradually disappeared as the tools and techniques from one region were taken to another by the travelling journeyman.

In Britain only the cooper’s side axe, similar in shape and size to the ‘*doloire*’ of the French ‘*tonnelier*’ is to be found. Neither the ‘*coutre*’ nor the ‘*cochoir*’ appear to exist in the coopers’ shops. Further historical research needs to be undertaken to find out if this has always been the case, or if the other (older??) tools ceased to be made and used after a certain period....

## References

1. <http://fr.wikipedia.org/wiki/Merranderie>
2. <http://en.wikipedia.org/wiki/Encyclop%C3%A9die>
3. <http://www.anciens-outils.com/tonnelier.htm>
4. <http://www.nuernberger-hausbuecher.de/index.php?do=page&mo=2>
5. [http://en.wikipedia.org/wiki/Jost\\_Amman](http://en.wikipedia.org/wiki/Jost_Amman)
6. <http://www.cognac-brisson.com/lang-en/content/12-cooperage>
7. Nouveau manuel complet de tonnelier et boisselier, Paulin Désormeaux, Paris, 1838
8. Ibid. (Page 101)
9. Ibid. (Page 274)
10. Ibid. (Page 274)

## Appendix:

Cochoir (n.m) (le cochoir) also occasionally (and erroneously) written (n.f) (la cochoir) - also spelled cochoire, cauchoir, cauchoire, encochoir or serpe de tonnelier, serpe de merandier, serpe à entailler, serpe à encocher and (erroneously) serpe de cerlier.

**COCHOIRE. L'outil avec lequel on fait les coches. Il sert encore à une infinité d'autres usages.**

La **cochoire** est destinée à couper le merrain quand le tonnelier commence à le dégauchir; il sert aussi à former les *coches* ou entailles sur les cercles avant de les lier avec l'osier. On en trouve de très-bonnes chez M. Gougis et à l'Orme-St-Gervais. La fig. 95 représente une **cochoire** de la forme la plus nouvelle. Cet outil coûte environ 3 francs 50 centimes. On en faisait autrefois qui étaient droites. La **cochoire** sert aux mêmes usages que la *serpe*; mais est beaucoup plus commode. Nous l'avons représentée en plan et en élévation, afin d'en faire mieux saisir la cambrure.

**CAUCHOIRE** : ¶ Outil de tonnelier, que P. MADRULLI décrit ainsi: L'outil se présente comme une truelle - manche déporté par rapport à la lame-, avec des bords parallèles et un côté tranchant à biseau sur le dessus' ... C'est, note L. BASTARD, une sorte de Doloire, une Hache à Lame rectangulaire munie d'un manche en bois court ... De tels exemples sont présentés. in [438] 4ème éd., p.166, fig.63 à 68 & p.167.  
Var. orth: Cochoir & Encochoir, d'après [3093] chap.XII, p.38.

**COCHOIR** : ¶ "Outil fort ancien du tonnelier avec lequel il fait les **coches**<sup>(1)</sup> sur les cercles de bois (-voir: Taillefond)." [2973] p.132.

Var. orth. de Cauchoire (-voir ce mot), d'après [3093] chap.XII, p.38.

. "Tonnelier: Hachette à un seul biseau, genre Doloire, toute en longueur, pour cocher le Feuillard." [2788] p.218.

(1) Entaille sur les 2 bouts d'un cercle de bois pour en retenir l'osier avec lequel il les relie solidement, d'après [2973] p.131.

¶ "n.m. Instrument qui sert à démascler le liège de l'arbre." [4176] p.370.

¶ "En Anjou, Instrument qui sert à dréger (peigner le lin avec la Drège)." [4176] p.370.