

Randle Holme and 17th century brewing, malting and coopering terminology

Peter Dyer

Randle Holme (1627-1699) was one of a Cheshire family of heralds and genealogists. His father and grandfather - both also called Randle Holme - were sheriff and mayor of Chester; his son, the fourth Randle Holme, was also a deputy herald and freeman of Chester. He himself never held civic office, as he was exempted because of holding the royal sinecure of Sewer of the Chamber in Extraordinary.¹

His book *The Academy of Armory* was published in Chester in 1688, and is thought to have been the first book ever printed in that city.² It is divided into sections, each dedicated to various local notables who were or might become Holme's patrons. The final sections of the book were left unpublished because of lack of funds.

This is how the title page describes the work:³

THE ACADEMY OF ARMORY, OR, A
STOREHOUSE OF ARMORY AND BLAZON.
CONTAINING The several varieties of
Created Beings, and how born in Coats of
Arms, both Foreign and Domestick. WITH The
Instruments used in all Trades and Sciences,
together with their Terms of Art. ALSO The

Etymologies, Definitions and Historical
Observations on the same, Explicated and
Explained according to our Modern Language.
Very usefull for all Gentlemen, Scholars,
Divines, and all such as desire any
Knowledge in Arts and Sciences.

*Every Man shall Camp by his Standard, and
under the Ensign of his Fathers House,*
Numb. 2. 2.

*Put on the whole Armour of God, that you
may be able to stand against the Assaults of
the Devil; above all take the Shield of Faith.*
Ephes. 6. 11. 16.

By Randle Holme, of the City of Chester,
Gentleman Sewer in Extraordinary to his late
Majesty King Charles 2. And sometimes
Deputy for the Kings of Arms.

CHESTER, Printed for the Author, M DC
LXXX VIII.

The Academy of Armory is thus presented as an encyclopaedia of heraldry, and there are indeed chapters describing the origins of heraldry, the kings of arms and heralds, and the rules of blazon. But Randle Holme then goes on to classify and describe all the various things (or 'charges,' as heralds call them) - people,

animals, monsters, inanimate objects - which can appear in coats of arms, and in so doing he cannot stop himself digressing into all sorts of miscellaneous information, some fantastic, some reliable. He is particularly knowledgeable on flowers, birds and fish, but has amassed a great stock of information on many other subjects. In other words, the book is really a general encyclopaedia in heraldic format.

Thus, among many others, Holme has sections headed The Ancient and Modern Revenues of the Earldom of Chester, The Creation and Habit of a Knight of the Bath, The several ways Women wear Hair about their Faces, Diseases insident to horses, Laws of coursing with greyhounds, Several sorts of Bread, How the Sundays or Sabbath days are reckoned throughout the year, Some few terms of Art used by Historians in the description of Fish and Sea-Worms, The parts of a Wind-Mill, Parts of a Yelve, The terms used in the art of printing alphabetically explained, Arithmetick, Terms used in the Jewish Religion Explained, The Office of a Mayor of a Corporation, Men Famous for the Art of Painting, All the Terms used by Dairy People about making of Cheese and Butter, Rules of the Dominican Monks or Black-Friers, and Orders for the Play at Billiards.

The charges Holme describes in Book III - which 'treateth of Coat Armours, which are formed of Artificial Things, such as are Wrought or Invented by the Wit, Art, or Endeavours of Man, for the use and behoof of both Men and all living Animals'

- include tools of trades, and among the trades are brewing, malting and cooperly.

According to Holme, 'two Beer-Brewers slinging of a Barrel' is the 'Badge of the Apprentices, and Workmen at the Brewers Trade; and is a fit sign or cognizance for a Brewer, or a Brew-house.'⁴

He then gives the following technical terms:⁵

Terms used by Beer-Brewers, and Ale-Brewers.

Comb the Malt, is to put it into the Comb.

Heat the Liquor, boil the water the first time.

Strike it over into Steuk, put it into the the Malt in the Comb.

Steuk.

Mash it up, blend or mixt the Malt and warm Water together in the Comb.

Soak, the steeping of the Malt in the Water, whereby its strength and vertue is drawn out.

Draw it into the Trough.

VVort, is the running of the Water from the Malt.

Best VVort, or *Wort of the first running*, or drawing is for strong Beer.

Wort of the second running, it makes small beer.

Wort of the last drawing, it is thin and makes small drink, of some called, put up drink, shower-trough or penny prich: this is only the washing of Grains and the Brewers Aprons, and to give it its true term, it is no other than Water bewitched.

Pump it into the drawing Comb.

Pump or *Guide* it into the Copper.

Boyle the Wort, is the second Boiling.

Fire the Copper, put Fire under the Brewing Pan.

Lead it into the Cooler.

Run it into the yelling Comb.

Put to the store, is to put Barm or Yest to it, to set it on working.

Working of the wort, is the frothing and swelling of it up to the top of the Comb.

Stirring of the wort, is to beat it about the Comb to make the working of it fall, that it run not over.

Sweet wort, the Wort boiled, and not as yet having any store put to it.

New Beer, or *New Drink*; so called whilest it is working in the Comb.

- - - Wort that will not work in the Comb, when the Vessels have been long unused.

Pritch Drink, is drink that drinks sweet and sower, through a tant that it hath taken through the foulness of the Vessels.

Tunning, is powering it into the Barrels when it hath worked enough.

Working in the Barrel, is foming and frothing out of the Bung hole.

Sellar it, is to set the Barrels on Stillages in the Sellar.

Horsing of Beer, is the setting of one Barrel upon two, when the Sellerage and Stillage are two little to contain the Barrells one besides another.

Slinging of a Barrel, is to bear it up with Slings on Mens Shoulders.

Carrying it out, is to bring it to such Customers as are to have it.

Lecking, is when any Beer run through the joynts of the Barrel.

Flying of the Hoopes, is when a hoope come off, or breaketh.

Tap or *Broach the Barrel*, is to thrust the Spigot and Forcet into the Cork hole at the bottom of the Barrel end, thereby to draw the Liquor out.

Brewing Vessels, is the general term for all the things that a Brewer useth in his Trade.

A Malt-Makers Instruments for making of Malt.

A Measure and *Strickles*, to measure his Barley.

A Large Cestern of Lead, or Stone.

A Kill, with good Flores and Loft Floores.

A Cockle, the place where the Fire is made to dry the Malt.

A Disperser.

A Sovel, or Malt-shovel, and Basket.

Ribbs on the drying Kill.

An *Hair Cloth* to dry the Malt on.

A Fan, to cleanse the Malt from its dust.

Terms used by Malt-Makers.

A Malster, is one that maketh and selleth Malt.

Malt, it is Barley wet and dryed again.

Wet the Barley, is to put it into a Cistern of Water.

A Weeting of Barley, is as much as the Cistern will hold at one time to Wet and swell up.

Couch the Barley, is to take it out off the wet and lay it on the Floore a foot thick, for as large a compass as the Weeting will contain.

A Couching Floore, a Floor made of Plaister of Paris smooth and even which no water will hurt; where the wet Barley is laid to come.

The *Comeing of Barley*, or *Malt*; is the spritting of it, as if it cast out a Root.

Wither it, is to cast it abroad on the Kill Floor, when it is come, that the comeings may wither away; and for the Barley to dry. It must be turned every twelve hours.

Turning, is to cast it with a Shovel on a dry Floor, and laying it thin to dry.

Drying the Malt, is to lay it on a Hair cloth on Wooden Ribbs, over a Fire made of Gorse,

Sea-Coal or Coal Calcinde, or burned to Cinders, or Char-Coal.

Turning on the Kill, is to Shovel it over, that all parts may dry alike.

Fanning, is to clean it from dust and all small grains.

Malt Dust, is the comings of the Barley, which being dried on the Kill, when it runs through the Fan falls from the Malt into a kind of Dust, all small Corns falling through with it.'

Later in the same chapter,⁶ he goes on to coopers' terms:

Terms used in the Art of Coopers, viz. making of Barrells.

Trussing a Barrel, is putting it together from Boards or Staves within a Hoop.

Trussing Hoop, is a large strong Hoop which is first put about the Barrel staves to draw them to their compass.

Paring the Staves.

Fireing and Driving.

Hoopng or Hoop.

Twigging a Hoop, is binding the two ends together with cloven Twiggs of Wither, or Osier Twiggs.

Noching of a Hoop, when the two ends are cut into two contrary cross Nochings or Nicks, which being put into the other, holds as fast as if it were Twiggged.

Twiggs.

Barrel staves, or *Boards*; are long and slender or narrow Boards, which Barrells and other Vessells for liquor are made off.

Grooping, is the making of the Rigget at the two ends of the Barrel to hold the head in.

Heading, or *Head*; is to put in the round Boards fitted together into the Groop made to receive them.

Cross Barr, is the fixing of a Bar or two over the head of the Barrel to keep it firmly and strongly in its place.

- - - the Peggs as keeps the cross Barrs on.

Chine, or *Lag*, is a piece put into the top of a Barrel staff that is broken off at the Grooping.

Belly, is the round swelling bulk of the Barrell.

Bungg, is a large round hole in the side through which liquor is put into the Barrel.

Vent, is a small hole made to give Wind to the Barrel.

Tap, is the Forset hole made in the head of the Barrel to draw the Liquor out.

Several sorts of Vessells made after the Form and Fashion of Barrells.

A Dryfett.

A Tunn, is eight Barrells.

An Hogshead, is two Barrells.

A Pipe, is a Barrel and half.

An half Pipe, is three Firkins.

A Barrel, is four Firkins, or thirty six Gallons.

An half Barrel, is two Firkins.

A Firkin.

A Kilderkin.

An half Firkin.

A Rundlet of thirty six quarts, all other Vessells less are called Rundlets of twelve, ten, six, four quarts &c. till you come to a Rundlet for Oysters pickled, containing about a quart, or a pint and half.

He returns to brewing and coopersy in a later chapter:⁷

The third⁸ and last necessary Trade for the support of a Mans Life, is the Beer-Brewer, an Occupation very needful, if the Fruit of their Labours were not too much abused by intemperate persons, such as care not which End

goes first so they can get Drink; and though the Wife and Children Starve at Home, they will be full Abroad.

Holme describes (with illustrations) a number of tools, such as the Coopers Hatchet, the Coopers Axe, the Drawing Board, the Gimblet, the Coopers Mallet, and the Gage or Raising Stool.

He then repeats the terms of art in slightly different form:

The Measure of these kind of Vessels.

A *Tun* contains 8 Barrels.

A *Hogshead*, is two barrels.

A *Terce*, is a Barrel and an half.

A *Barrel* is 36 Gallons, but of Ale it is 32 Gallons.

A *Kilderkin* or *Half Barrel*, is 2 Firkins.

A *Firkin* is the fourth part of a Barrel, containing nine Gallons.

A *Rundlet*, is any Vessel under a Firkin, and of any measure from a Pint to 9 Gallons, which are called Rundlets of such or such a measure or quantity.⁹

The several parts of a Barrel, Hogshead or Tun.

A *Cask*, the general term for all such kinds of Vessels.

The *Staves*, is the Timber of which the Cask is made.

The *Head*, the round Boards at the ends of the Vessel.

The *Groop* or *Crownes*, the nick in which the Barrel Head is fastned.

The *Raising Hoops*, the first strong Hoops that holds them together.

The *Over Run Hoops*.

The *Bildge* or *Bulge Hoops*.

The *Quarter Hoops*.

The *Hoop Twigs*, are Withen Twigs Cloven.

The *Leg* or *Chime*, that part above the Barrel head.

The *Cross Bar*, the cross piece over the Barrel Head.

The *Bar Pins*, the Pins that holds it on.

The *Vent-hole*.

The *Bung* and *Bung-hole*.

The *Forcet hole*.

He then describes some brewing instruments.¹⁰ The Roman numerals refer to the illustrations; the text gives a heraldic description (blazon) of a real or imaginary coat of arms, introduced by the formula 'He beareth' and followed by the name of the family, if any, to whom it is ascribed. A few basic heraldic terms may be explained here, without going into great detail: the colours used are Gules (red), Azure (blue), Sable (black), Vert (green), Argent (silver) and Or (gold); proper means in its natural colour; the chief is the top part of the shield; a fesse is a horizontal bar, a bend or bend sinister a diagonal stripe, a salter or saltire a diagonal cross, and a chevron a figure like an inverted V. So 'Azure a bend Or,' for instance, means a blue shield with a gold diagonal stripe.

LXXXVI. He beareth Azure, a *Brewers Mash* in Bend sinister, *surmounted* of a *Scoop salterwise*, Or. These are two Instruments belonging to the Trade of Brewing, the one to stir up the *Malt* in the *Combe*, while it is soaking in the Liquor, which is termed *Mash it up*, and the Pole is termed a *Mash-Staff* or *Pole*, or a Mashing Staff; And the Scoop is to lade

the Liquor from, one Vessel to another, till from Water it is made Beer, as before I have shewed in the Beer-Brewers Terms of Art. This is born by the name of *Scopemash*. [Vert] 2 Scoops in Salter [Or] born by the name of *Scope*.

[Gules] 2 such in Salter [Or] is a part of the Coat or a quartering of the Town Arms of *Schwabach* in *Germany*.¹¹

In the base of this quarter, is a *Brewing Dish* or *Bowle*, it is of Wood, with which *Wort* is stirred about when it is working in the Combe. Van Linsingen beareth [Gules] on 3 Bars [Azure] 7 Bowle Dishes 3 3 and 1 [Argent].

In a later chapter,¹² Holme describes several more instruments, such as the Thwittel, the Addice and the Churn Shave, used by white coopers and barrel or wine coopers, after which he adds some further terms omitted from previous chapters:¹³

Beer-Brewers Instruments.

I Must again Beg an excuse for the neglect of omitting some Instruments belonging to the *Ale* and *Beer-Brewers* Art or Mistery, which I have set here together, what was wanting in the former place, chap. 6. numb. 75.

CXX. He beareth Argent, a *Trowe*, or *Beer-Brewers Trow* or *Dray*, Sable; or a *Trow* in Fesse borne by the name of *Trowle*. This is a thing drawn by an Horse, having only sides and Axel-tree and Wheels, with overthwart pieces to hold all together, between which pieces Barrels of Beer are usually laid to be carried from the Store-house to the Customers house.

A *Trow* in Fesse [Sable] between 3 Barrels [Gules] in a Field [Argent] is borne by *Bierburgh*.

CXXI. He beareth Azure, a *Comb*, or a *Brewers Working Comb*, or *Yelling Comb*, Argent; in chief the *Slings* with the *Chains extended*, proper. The *Yelling Comb* or *Tub* is that Vessel into the which the *Wort* is put to Work with the *Yeast*, or *Bearm*.

[Azure] a Cheveron between 3 Brewing Combs [Or] by the name of Combs.

[Azure] the like Comb with 3 Ears of Barley on their Stalks out of it, contrary Bowed [Or] by the name of *Mout*.

The *Slings* are a strong thick, yet short Pole, not above a yard and an half long, to the middle is fixed a strong Plate with a hole in which is put a Hook with an head, which will turn any way after the manner of a *Twert*. On this Hook is fastned two other short Chains with broad pointed Hooks, with them clasping the ends of the Barrels above the heads, the Barrel is lifted up, and born by two Men to any place, as is shewed, *chap. 5. numb. 146*.

The third thing in this quarter, and set in the sinister side, is termed the *Brewers Thorn* with the *Tap Staff* through the middle of it. This is a thing set over the hole in the bottom of the *Brewing Comb*, with the Staff in the hole to keep that no Liquor run out, but when the Master pleaseth; the Thorn keeping that none of the *Grains* run out with the *Wort*: It being (as it were) a strainer over the hole, to keep the *Wort* from the Malt, at the drawing of it out into the *Trough* or *Drawing Comb*.



Figure 2. Plate to Book III, Chapter VII; nos. 120 to 126 are brewing implements.

CXXII. He beareth in this quarter, an Instrument belonging to the Vintner or Merchant, called a *Valentia*; and three other belonging to the Brewer, the *Tunning Dish*, the *Cooling Vessel*, and the *Bearing Staff*.

The first being the *Valentia*, is a Pipe made of Silver or Tin, round and taper, and hollow withal, with a small Pipe at the large end, and an hole at the bottom: This being put in at the Bung-hole of either Wine or Beer, or any other Liquor will fill it self immediately, which being stopped with your Thumb in the higher hole, will keep it in the said *Valentia*, hold it never so much down; till you give it Air by removing your Thumb off the hole, then it will run into a Taster or Glass, or what else you please, till you stop the hole again with your Thumb, as beforesaid.

[Sable] a Cheveron between 3 Valentia's
[Argent] born by Tapster.

The second is a *Tunning Dish*, some term it a *Fulling* or *Filling Dish*; for by the help of it Liquor is poured into Vessels with small holes, without the least shew of spilling, by putting the Pipe of the Dish into the hole of the Vessel, and so pouring the Liquor into the Dish, which immediately runs into the Vessel. This [Argent] between 3 Roses [Or] in a Field [Azure] is born by *Tuningen*.

The third is a kind of a *cooling Vessel*, having an oval like broad bottom with ebb sides; I draw this from an Ancient Coat of Arms, but by whom it was born, or how properly to term it, I know not, except an *oval pointed cooler*, for all coolers have an hole at one side in the bottom.

The fourth is a *Bearing Staff*, by which empty Barrels are carried by Servants from place to place, by fixing the ends of the Staff into the Barrels at the Bung-holes, and so putting the middle of the Staff on his Shoulder.

CXXIII. He beareth in this quarter, a *Brewers Pump* set in a *Stone Trough*; and the use is this, when the *Malt* in the Comb is sufficiently *masht* and *soked* with the Boiled Water, then it is drawn out from the Grain into the Stone Trough set under the Comb, out of which place it is Pumped into a *Wooden Trough*, through which it runs into the *Drawing Comb*, or into the *Copper Brewing Pan*, to have a second Boiling.

[Argent] the like [Gules] is born by *Pump*. Also by a *German Family* called *Van Pumperell*.

The second is the form or fashion of the *Brewers running Trough*, or *Gutter Trough*, by which the Liquor is conveyed from one Vessel to another, as you heard before.

The third is the *Brewers* or *Water-Leaders Water-Bags*: They are only used in *Chester*, and not any other place as ever I saw or heard; they are carried upon Horses, and was a part of the Antient Coat, and is still owned to this day of the Company of Water Leaders in the City of Chester, as you may see *chap. 3. numb. 43. See numb. 125.* another.

[Argent] a Chester Water Bouget (or Water Bags) [Sable] in chief 2 Scopes in Salter [Azure] is born by *Waterman*.

CXXIV. In this part of the Plate under the Figure before set, is three other Brewers

Instruments; the first on the dexter side towards the chief, is termed a *Gawn*; it is a Vessel made after the form of a *Piggen*, but it hath a long handle or neck thereby to reach to the bottom of deep Brewing Vessels to fetch out the Liquor; it is most used by Ale-Brewers.

[Argent] 3 such [Or] is born by *Gaune*.

The second is called a *Fane*, it is used both by Malsters and Brewers, that make their own Malt; to *Fan* or cleanse the *Malt* from Dust and *Comings*, and all small Light Corn.

The third is the *Brewing Pan*, of some called a *Brewers Copper*, from the Metal which it is made of. This is usually set upon a *Furnace* or *Fire place* made either of Brick or Stone, which is termed the *setting of the Pan*; the top that goes out wider than the bottom, is called the *Flang* of the Pan.

CXXV. In this quarter is the Instrument used about Malt called a Shovel; it is to cast Malt into the *Measure*, turn it in the *Kilne*, and is a Servant for several uses about the Lady Ceres; of which there are several fashions as they are set down *chap. 8 numb. 3. 4.* but this is the only and peculiar form of them and most used.

[Azure] 3 such [Or] born by *Shoule*, or *Shovel*.

The second is termed a *Cooler*; it is only made flat with Boards in the bottom, and so close jointed, that no Liquor can run out; the height is a Board also of about a foot high: it stands upon Posts or Pillars, under one corner of it (where the hole is (to let out the Wort) is set the *Yelling Comb* into which the Liquor

runs, when the Brewer judgeth it cold enough, he puts *Bearm* to it to set it a working; it hath its name *Cooler*, from its Office, which is to cool the Hot Wort, and that it doth sooner by having the liquor broad and shallow, or ebb in it, than if it were altogether in a deeper Vessel.

In the sinister chief is another kind of *Water Bags*, with the *Leather* under it which covers the Horse-Back, and keeps him from the continual running of the Water upon him, which might do the Horse hurt to be always wet; but by means of this cover he is very rarely wet on his Body, and when the Bags wax old, and the neck of them weak, so that they fall together, then they are kept open with two *Sticks set cross* the mouth of them, as the Figure sheweth.

CXXVI. He beareth Argent, a *Brewing Pan set*, with three *Steps* by the side of it, Gules, with Fire under it, proper. The Pan thus set in the place for Brewing hath many terms about it; as

To *Set the Pan*, is to compass it about with Brick or Stone, that the Fire may more speedily Boil its Liquor.

The *Barrs* in the Furnace.

The *Door* of the Furnace.

The *Furnace* or Fire place.

The *Vent holes* and *Chimney*.

The *Furnace hole*, or place where the Ashes fall.

The *Steps* to rise to it.

The *Flange* of the top.

In the Sinister side, is a *Drawing Pipe*, of some called a *Crane*, or *Crane Pipe*. It hath one end almost twice as long as the other, let

the short end be put into any Liquor, and the longer end hang lower out from it, and but suck the Liquor through the long end, and upon your withdrawing your mouth, all the rest of the Liquor will follow till it come equal to the end of the Cane which is in the Vessel of Liquors. By this means the Brewers by a *Leaden Crane*, draw their Wort from one *Cooler* to another, till it be cool enough for them to put it together for Working.

Elsewhere in the book¹⁴ Holme gives some more examples of coats of arms in which these objects appear. Thus Party per Salter Gules and Azure, on a Cheveron between three Annulets (or Hoops) Or, a Drawing Board Sable, between two Axes of the second is stated to be 'the Coopers Coat of Arms to this time.'¹⁵ Argent on a Cheveron Gules between 3 such [Gages] Sable, 3 drawing Boards Argent is 'the old Coat of the Company of Coopers within the City of Chester, used about 1590, but now it is wholly rejected, and that of the City of London is used by them.'¹⁶ Gules on a Cheveron Argent 3 Barrels Sable Hooped Or between six Garbs 2 2 and 2 Salterwise Or is 'the Coat of the Company of Beer Brewers.'¹⁷ Vert a Rundlet with 3 Leaves out of the Bung Or is allegedly the arms of a family called Kilderkin.

How reliable Randle Holme's brewing terminology is cannot be stated with certainty. It may come from his own knowledge - apparently he was at one time an innkeeper at Barnet¹⁸ - or he may have consulted others. Generally, though, his knowledge of everyday trades appears to

be thorough, and he did obtain information from craftsmen as well as relying on his own observations (see his remarks on St Hugh's Bones, for example, or his account of the blowfish shown him by a Chester fishmonger). In any case it is likely to be slightly more reliable than his account of the habits of Brazilian women:¹⁹ 'in most places they are Barbarous, going start naked, and on Festival Days (that is) when a company comes together to be merry, and rejoice over a roasted fat Man, that they cut in collops, and Eat with great Greediness and much Delectation.'

References

1. See Earwaker, J.P. (1892) 'The Four Randle Holmes of Chester,' *Journal of the Chester Archaeological Society*, New Series Volume IV, p.113; Fursey, A.K. (2000) 'A Note on Deputy Heralds, the Holme Family and the Academie of Armory, 1688,' in: *Tribute to an Armorer. Essays for John Brooke-Little to mark the Golden Jubilee of 'The Coat of Arms'*, The Heraldry Society, p.131.
2. Three parts of the book were published in 1688, and a fourth existing in manuscript was discovered and published in 1905 by the Roxburghe Club. A facsimile of the section of the book dealing with printing was published in 1972. This article is based on my copy of the 1688 edition.
3. All quotations are as in the original, with no attempt made to modernise the grammar or spelling; in a few places abbreviations have been expanded, this being indicated by square brackets.

4. Book III, Chapter III, p.104; he repeats this in slightly different words in Book III, Chapter V, p.262. Chapter III is dedicated to the Right Worshipful Sir Francis Leicester, of Tabley, Baronet.

5. Book III, Chapter III, pp.104-105.

6. Book III, Chapter III, p.108.

7. Book III, Chapter VI, p.294. Chapter VI is dedicated to Peter Edwards, Mayor of the City of Chester, in the year 1682. It deals with 'Mechanick Tools and Instruments, together with such as pertain to the several Mysteries and Occupations depending upon the Liberal Sciences.'

8. The other two are butchers and bakers.

9. Liquid measures are also given in the section dealing with distilling equipment, wine-presses and surgical instruments: '2 Half Gills makes a Gill, or Quadran. 2 Gills makes an Half Pint. 2 Half Pints makes a Pint. 2 Pints makes a Quart. 2 Quarts makes a Pottle. 2 Pottles makes a Gallon. By these measures, Wine, Water, Ale, and Beer, are measured; yet with this difference, that the Barrel of Beer is 36 gallons, all other Liquors, but 32 gallons' (Book III, Chapter XI, p.425). Note the distinction between beer and ale barrels.

10. Book III, Chapter VI, p.296.

11. The scoops (German: Schapfen) appeared on the seal of Schwabach (Bavaria) in 1371, as a symbol of the local brewing industry, and the quartered shield referred to above was used until 1953 (see Stadler, K. (1968) *Deutsche Wappen*, vol. 6, Bremen).

12. Book III, Chapter VII, pp.317-319. This chapter is dedicated to the Worshipful Austin Legh, of West Hall, High-Legh, in the County of Cheshire, Esquire.

13. Book III, Chapter VII, pp.319-321.

14. Book III, Chapter VI, p.295.

15. This is the coat of arms of the Worshipful Company of Coopers of the City of London, granted in 1509. It may also be blazoned: Gyronny of eight gules and sable, on a chevron between three annulets Or a royne (a grose) between two broad axes azure; a chief vert, thereon three lillies argent (in other words, a shield divided into eight red and black sections, with a gold chevron between three gold rings, a blue royne and broad axes on the chevron, and three silver lillies on a green band at top). See Fox-Davies, A.C. (1915) *The Book of Public Arms*, 2nd edition, London; Bromley, J. and Child, H. (1960) *The Armorial Bearings of the Guilds of London*, London; Briggs, G. (1971) *Civic & Corporate Heraldry*, London.

16. Fox-Davies (op. cit.) also notes that the Coopers' Company of Chester without authority used the same arms as the London company, and describes a similar unauthorised coat of arms used by the Company of Coopers and Hellyars of Exeter.

17. This coat of arms was granted to the Worshipful Company of Brewers of the City of London in 1544, to replace an earlier grant of 1468. It may also be blazoned: Gules, on a chevron engrailed argent between three pairs of barley sheaves saltirewise Or three kilderkins sable hooped gold (in other words, a red shield with a silver chevron between three pairs of crossed gold sheaves and three black barrels on the chevron). See Fox-Davies, op. cit., Bromley and Child, op. cit., and Briggs, op. cit. Chester also had a Brewers' Company, incorporated in 1607 and granted a royal charter in 1634, but I do not know whether it had a coat of arms.

18. Fursey, op. cit., p. 134.

19. Book III, Chapter V, p. 240.