Gin:

* Juniper is the primary flavouring ingredient.
* Modern Gin only started to originate in, roughly, the 17th century.
* In the 1680’s, Gin was cheap to produce and thusly cheap to buy in Great Britain (this led to an explosion of popularity amongst the English population)
* Later, in the 1850’s, the English parliament passed laws to tax and regulate Gin more closely to that of other liquors (calming down the Gin craze in Great Britain.).
* Gin can be flavoured with a wide range of flavourings (as long as Juniper is the most prominent flavouring ingredient).
* Some flavouring ingredients are more common such as orris, angelica root, orange peel, lemon peel, liquorice, anise and cardamom.
* Some less common ingredients have started showing up however, such as “grains of paradise,” green tea, cubeb, honey and hops.

Brewing:

* 1 The Fermenter: The distiller mixes yeast, water, and sugar (or a sugar-containing grain) in a fermenter, aka a mash tun. After three to seven days of voracious fermenting, the yeast has consumed most of the sugar, turning the mash into a wash (10 or 12 percent alcohol by volume). A pump moves the wash into the pot of the still.
* 2 The Pot: A boiler pumps steam into a jacket, or two-walled metal sleeve, that surrounds the bottom of the pot. The heat builds for a half-hour or so to raise the wash to its boiling points—plural. Ethanol boils at 173 degrees F; water at 212.
* 3 The Distillation Column: As blended alcohol and water vapor rises from the pot, it enters a cool copper column. Most of the vapor condenses and falls back into the pot as reflux. Flat copper condensing plates can span the column, controlling the pace of the process (and the taste of the product). The vapor with the highest alcohol content, and thus the lowest boiling point, continues to the outlet at the top of the column.
* 4 The Lyne Arm: Concentrated alcohol vapor enters a horizontal pipe called a lyne arm. Precise heat is key. Too hot and the vapor contains excess water; too cool and not enough vapor enters the arm.
* 5 The Condenser: Vapor in the lyne arm flows into a vertical chamber, where a pipe of cool water surrounds a pipe of alcohol vapor. As vapor cools, it condenses into liquid ethanol, which drips from the condenser into a collection vessel.
* 6 The Distillate: The first 5 percent of the run, aka the foreshots or heads, contains large amounts of cogeners, or volatile chemical compounds such as acetone, aldehydes, esters, and fusel oils. Next comes the hearts, the high-proof alcohol base. Distillers mix the hearts with small quantities of heads, and the blend is diluted and aged to make spirits. With too high a percentage of cogeners, the drink tastes rough; with too little, it's bland. The last bit, the tails, is a low-proof mix often set aside and redistilled later.
* 7 Aging Barrels: The clear liquid emerging from the still is called moonshine, white dog, or white lightning. It is colorless and harsh. But after a few years in oak barrels, it takes on color, richness, and complexity of flavor. Bourbon whiskey is aged in new but charred oak barrels. Scotch whisky resides in old bourbon barrels, and Irish whiskey ages in used sherry casks. Gin, ideal for impatient distillers, takes on its character once the white dog is redistilled with a botanical blend stirred into the pot.
* Why use copper? Because REASONS. Also, Copper reacts with sulfur – an element that has a foul taste and is naturally created when yeast ferments. During the distillation process, sulfur binds with copper and produces hydrogen sulfide (which can be present in the mash) thus forming copper sulfate. This sticks to the copper making it critical to clean and thoroughly scrub the still after every use. The cleaning makes the copper better since the smell of rotten egg is removed. Better flush that stench out than have it included in your liquor.

Presentation Process:

First you must add your grains (barley in this case), distilled water and yeast into a “Fermenter.” This will produce a mixture called “Mash.” The yeast will consume the sugars in the mash and convert it into alcohol. After a period of between three to seven days (depending on the size of your batch) the alcohol content will reach ideal levels for distillation.

Second, you must transfer your mash into the pot of the still manually or by using a pump. Heat the still to the desired boiling point. That’s 173°F or roughly 78.3°C. Once this temperature is reached the alcohol in the mash will begin to evaporate and form vapour.

Once the alcohol begins to boil off of your mash it will begin to rise. The vapour will climb up the “Distillation Column.” As the alcohol climbs the column, pressure will force it down the “Lyne Arm.” The lyne arm connects to the “Condenser.” The condenser is a coiled pipe containing the alcohol vapour surrounded by cool water. As the alcohol vapour cools, it condenses back into a liquid and flows the rest of the way down the condenser.

You must now collect the “Distillate,” or the fluid leaving the condenser using a sanitary vessel. A jar, a pot or even a bucket will do. It’s important to note that the first portions of the fluid leaving the condenser will be the “head” of the distillate. The head contains many chemical compounds, some of which are strong in flavour, pungent or even poisonous. The head makes up roughly the first 5% of the distillate. The rest of the fluid leaving the condenser is the “heart.” A small amount of the head is usually mixed back in with the heart to add flavour. Too much head and the liquid tasted rough, bitter or foul. Too little head and the liquid tastes bland.

Now your distillate must be redistilled with one major difference. You must place a sieve between the pot of your still and the distillation column. Fill the sieve with your flavouring ingredients (this is where the juniper berries come into play). When the alcohol vapour rises up the column it will pass through the sieve and carry many of the compounds and flavours from the flavouring ingredients with it. The most prominent flavour present in the distillate must be the flavour of the juniper berries.

After this second distillation, you will likely be left with a liquid that is roughly 70% alcohol or higher. Add distilled water to your new distillate until you reach the desired alcohol content. At this point, only distilled water can be added to the mixture. You will have to reach an alcohol content of between 37.5% and 50% for your spirit to be legally recognised as gin.

Congratulations, you just made Gin! Add to your preferred cocktail of choice and enjoy! (Or… you know, just drink it straight…)

Sources:

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