

ZYMURGY^{T.M.}

Journal of the American Homebrewers Association [T.M.]

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The Lost Art of Homebrewing

—by Karl F. Zeisler

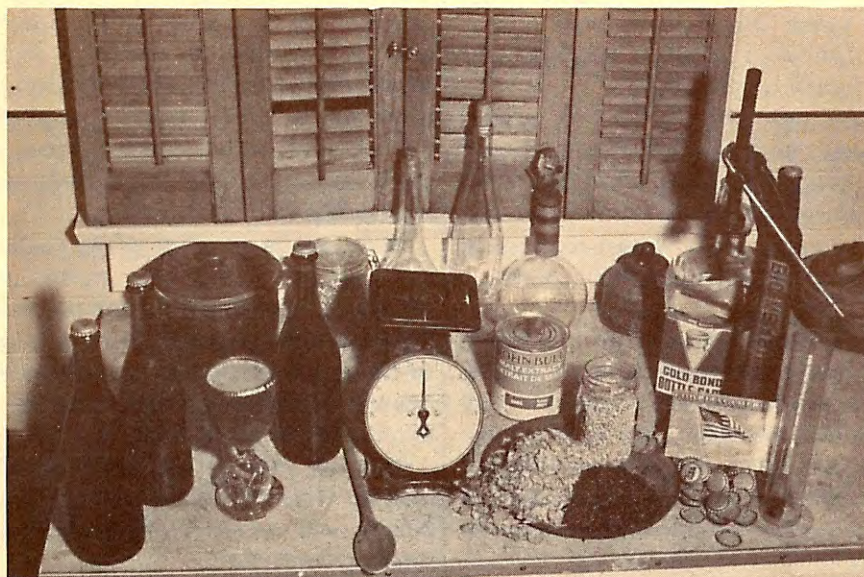
While rummaging through the basement the other day I came unexpectedly upon a curious and at first unrecognizable bit of mechanism; on examination it proved to be a device I once had purchased hopefully for filtering homebrew. The discovery took me right back to pre-New Deal times, the days before the respectable art of homebrewing faded into a poignant past along with candle-molding, lard-rendering, and curry-combing. Memories returned of agonizing experiments with patent filters, cappers, siphons, bottle

washers, and yeast—all those devices which characterized my humble beginning as a homebrewer—and I recalled vividly the last batch I ever concocted, the one I spent an hour wiping off the kitchen ceiling. That catastrophe, on an evening when my wife was entertaining, cured me even without her final ultimatum. Foolishly, I had allowed several bottles to warm up: the second one let go as I pried off the cap and sprayed the whole kitchen, including the supper over which my wife had lovingly labored. I had made the usual mistake of putting my thumb

over the bottle, and so the suds lathered my bosom. After the bottle had finished fizzing, the room looked like the scene of a hatchet murder, and there was a good half inch of beer on the floor.

This explosion terminated years of painful, groping experiments, as far as I was concerned, experiments that had often resulted in disaster, occasionally in a fluid that was actually drinkable, and once or twice, as in any hazardous pursuit, in a marvellously delectable, amber-clear, ivory-collared treasure, to be fondled, held up to the light, and sipped delicately—a gift from the gods as rare as truth from a barrister's lips, and as palatable as manna. It had been

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Congress Passes Homebrew

It's official. If you're eighteen years or older, you may legally brew one hundred gallons of beer for personal use each year—tax free! This probably isn't an astonishing piece of news, as beer-making has been legal in the minds of homebrewers for years.

On October 14, 1978, President Carter signed a bill, H.R. 1337, which dealt primarily with excise taxes on

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... on zymurgy

Zymurgy is the science of yeast fermentation, as in the making of beer and wine. While we may not agree that wine and beer making is all science, it is the last word in fermentation (as well as the last word in the dictionary).

As editors of *Zymurgy*, the journal of the *American Homebrewers Association*, we will limit ourselves to the processes dealing with the fermentation of beers, ales and meads. The home winemakers, in their own ineffable right, produce wine primarily from fruit sugars. Homebrewers make beer and ales primarily from sugars derived from the malting of grains (barley, rice, rye, etc.) and with the use of hops. Homebrewers we know are not so much interested in waiting years for a brew to become of age. That kind of patience is left for the winemaker. Homebrewers are those that are thirsty and can't wait to try the best brew they've ever had—that's homebrewed beers and ales. Pushing our patience to the limit (one year), our brews will include mead (from fermented honey).

Zymurgy will be published four times a year. It will deal with anything (and we mean anything) that has to do with the processes, enjoyment, and indulgence of beers, ales, and meads. *Zymurgy* will refine the science of brewing to an art.

The *American Homebrewers Association* is an organization for homebrewers dedicated to the advancement of the following ideals: 1) homebrewing is EASY, 2) homebrew is good for you, 3) we and our acquaintances can be happier for our efforts and 4) NOT TO WORRY!

As a member of the *American Homebrewers Association* you will receive a one year subscription to *Zymurgy*, and a membership card which will entitle you to fantabulous, great, tremendous discounts and benefits toward *American Homebrewers Association* activities. Also available at a special membership price is a copy of the internationally renowned *Joy of Brewing*, written by Charlie Papazian.



"However, there is still a great deal of satisfaction in knowing that although the moon is smaller than the earth, it is much further away!"

—Jackson Wolfe

...on fermentation

Ever since some homebody, some long time ago, first indulged in an accidental ferment brought about by wild yeasts, there have been homebrewers. While that first ferment may not have been so tasty – its effect was sufficiently rewarding that it was absolutely worth continuing.

Men and women have been fermenting beverages and enjoying the results for a long, long time. Ancient Egyptians brewed a beer they called zythum and knew the value of homebrew, an art perhaps, brought by space voyagers from a distant Galaxy. There are few ideas that endure for thousands of years and endear themselves to virtually all civilizations. From arctic wastes to tropical jungles, people have managed to find something that will naturally ferment to a drinkable alcoholic beverage.

As homebrewers in America, we have reasonable access to an incredible variety of fermentable photosynthetic byproducts in the forms of fruits, grains, roots, vegetables, tree sap, flowers, honey, natural and refined sugars. From all the stories that are about, we wouldn't doubt that everything has been tried at least once. From papayas to peaches, honey or oats, and even sweet smelling old billy goats, you can bet your bottles that somebody's done it – somewhere. If you can think of something that hasn't been done yet—well, you'll probably be the first to try it. The possibilities are infinite.

EDITORIAL STAFF

Editor..... Charlie Papazian
Asst. Editor Charlie Matzen
Art..... Bob Telischak

Mr. Papazian has been brewing for years and years and has been teaching homebrew making courses through the Community Free School, Boulder, Co., since 1973.

Mr. Matzen is a graduate student of Mr. Papazian's homebrew class with a Masters Degree in Island Brewing. He is also feast services coordinator for the annual Beer and Steer.

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Zymurgy is the Journal of the American Homebrewers Association and is published four times a year. Subscription and membership are \$4 per year. Zymurgy welcomes letters, opinions, ideas, stories and information in general from its readers. Correspondence and advertising inquiries should be sent to Zymurgy, Box 287, Boulder, Colorado 80306, U.S.A.

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We are interested in your stories, your recipes, your experiences. What about that knockout homebrew you had in Pakistan that was made from millet? And that brewer you met in Germany that gave you her treasured family recipe for Black Forest Ale? Remember the time you visited the other realm after indulging in homebrew concocted from cactus juices in Texas? What do you know about commercial beers? What was it your grandfather or grandmother brewed and how'd they do it? How about those delicious macrobiotic doughnuts made from wort spargings? Perhaps you know something that we don't about the relationship between homebrew and solar energy.

Zymurgy is looking to its readers for stories, fiction or nonfiction, related to homebrewing. We offer free memberships and subscriptions (gift or otherwise) to the *American Homebrewers Association* and *Zymurgy* in exchange for contributions.

Mail all correspondence to *Zymurgy*, Box 287, Boulder, Colorado 80306. We would immensely enjoy hearing from you.



"Lying on a tropical beach, contemplating sunset over warm, blue, water, sipping on a glass of homebrew . . ."

"I admit that would be ridiculously good, but the bottles might explode on the plane."

"You'll be there almost a month. It'd be no sweat to brew a batch and have that cold glass of homebrew waiting for me when I land on Maui. Why, I'll even split the cost!"

No sweat? I felt I was somehow being duped into spending part of my vacation brewing beer, hunting down equipment, and chloroxing bottles, but after all, I had drunk plenty of C.P.'s beer and . . . homebrew in Hawaii? Special precautions were taken in wrapping and packing the ingredients. Charlie had warned me that hops, malt et al. were difficult to find on the islands.

On the plane that night, I had a vision—the malt container in my pack blew apart. Brown, sticky syrup oozed into every nook and cranny. Travelling companions scoffed at this and criticized me for worrying on a vacation. At a stopover in California, I immediately checked the cargo in my pack. I had been wrong about the can of malt; it was still tightly sealed. Instead, the carefully wrapped(?) bag of dried malt had ripped apart. A fine, tan powder clung to every sock, shirt and bookpage. Was this an omen? I replaced the malt lost to my pack, and resealed everything twice.

On the plane to Maui, you are required to fill out a form swearing you aren't carrying any vegetable or plant matter. This time, my vision involved being led off by agriculture agents, fined by a judge, and worst of all, losing

my hops. Fortunately, there were no hop-sniffing dogs checking suspicious-looking packs that day.

Hawaii . . . lying on warm tropical beaches, dipping in cool turquoise water, perhaps some skin diving . . . "Nope, sorry, can't go to the beach this afternoon. I need to get that batch of beer going!" Sadly, I watched my friends walk towards the beach. Oh well, it would all be over soon. I got in the car and headed to town. Few things sold on Maui are cheap. Two 7 1/2 gallon plastic trash cans were \$6.98 each. A "cheap" brewing pot added another \$5.95. Already, this was an expensive batch. There were no special brewing problems, and the brew was started—a black ale that would taste just fine with charbroiled ono.

"Nope, sorry, can't go to the beach this afternoon—need to find some bottles." Not wanting to spend afternoons scavenging for bottles, I planned to pay deposits on quart pop bottles. Unfortunately, they only sell screw-type qt. bottles on Maui, and you can't buy new tops. The thought of washing 150+ 12 oz. bottles didn't excite me. I started hitting restaurants and hotels, but the answer was always the same. Tourists who come to the islands want banana daiquiris and mai-tais served in pineapples, not cheap champagne. More and more precious beach time was slipping away to these errands.

Meanwhile, the batch was ripening quickly in the heat. I tried to buy new bottles. Bottlers wouldn't sell them to me because it was "against policy." Finally, I scored two six-gallon carboys from a water supplier. I told him I needed the bottles for "homemade rootbeer." "Sure," he replied. I didn't

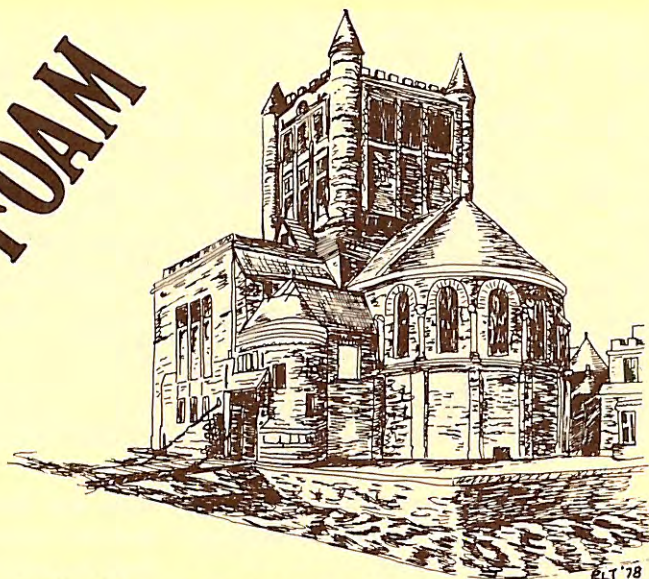
have any fermentation locks, but had seen an engineer friend of mine bottle beer in carboys with a cork and baling wire. What I didn't know was that the pounds per square inch of pressure inside a six gallon jug were significantly higher than in a quart bottle. The cup of sugar I used to carbonate was about three times too much. I was also able to fill about two dozen "Primo" (Hawaiian Schlitz) 12 oz. bottles. A sense of intense relaxation and satisfaction enveloped me when the task had been completed. The rest of my afternoons would be spent on the

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"I can't believe all the things that have happened to me—AND I WAS THERE!"
—Whitey Jensen

FEAST & FOAM



The first bottle was gently lifted from its storage. Ceremoniously and with deliberation, an evening of feasting had commenced. With the familiar sound of liquid effervescence, the strong ale topped off empty mugs. Anticipation now eased, smiling thoughts echoed throughout the castle.

Friends among friends were simply gathered. The long table overflowed with foods prepared and gathered from the nearby village. The warm light from the candelabras distinguished a long row of homemade pies, breads, and cakes. A warm, sensuous steam rose up from the mountain of stuffed seafoods. Surrounding this were dozens of exotic casseroles, quiches and other godly creations. Fruits and vegetables, salads and appetizers adorned what remaining space there was on the table. Mugs filled with the one month ale sat around the table in noisy satisfaction.

Preparation and anticipation brought daylight into evening. The evening, just an evening, randomly chosen from all of the others.

The ale flowed and quenched all eventide.

The gypsies were loose in the castle. Sound ridiculous? Outrageous? – Absolutely!

A person's home is his castle. With that, a quiet stash of homebrew and a group of friends who wouldn't mind playing gypsy, you've got yourself a memorable feast.

The finest way to enjoy homebrew is with friends. The only other way that I know of enjoying homebrew that

even comes close is with friends and food.

Never mind waiting for Thanksgiving, Oktoberfest, Easter, Yom Kippur, Lincoln's birthday, Super Sunday or the Venereal Equinox. You don't have to wait. There's no better reason than no reason to gather your friends for food and homebrew.

With a stash of homebrew that's getting better every day and a few hours of your own time, you can easily pull off a banquet fit for gypsies. It's as easy as eating pie.

Here's how you can easily manage to prepare a shrimp and stuffed lobster feast for ten people.

First of all and most importantly – relax. Have a beer. Don't worry. Assured that your brew is outasight and ready for the feast, notify a group of ten friends (yourself included) of your intentions. If you have trouble finding people to come to a homebrew feast, the only thing that I can suggest is to use a mouthwash, or a stronger deodorant.

Now that you've found your gypsies, remind them that you'll supply homebrew and will prepare the shrimp and stuffed lobsters. Simply ask for \$5-\$7 (depending on what kind of deal you can get on seafood) from each person in order to purchase these fixings. Quickly follow this request with an explanation that the cost is the same as going to a movie, buying a box of popcorn and then perhaps going out after the show for a piece of pie and coffee.

One other important organizational item is requesting each person or

couple to bring a side dish of a vegetable casserole, homemade bread, desserts, pies, salads or other fitting adornments—emphasizing that the theme is “Outrageous.”

So, you've got ten people coming for dinner and you have their money. Relax. Have a beer. Don't worry. If you can boil water, melt butter, chop onions, garlic, mushrooms and celery, and drink homebrew, you can pull this off with no sweat. You simply need a little time, the right attitude and perhaps loving help from a favorite friend who doesn't mind drinking homebrew while cooking (by the way, this helps the attitude).

So do it. Go to the market and buy the following:

For **Stuffed Whole Lobster A-la-mazing**

- 10 1-1 1/4 lb. whole live lobsters
- 1/2 lb. butter
- 1 bunch green onions
- 1 bunch celery
- 2 lbs. mushrooms
- 3-6 cloves fresh garlic
- 2 lbs. Alaskan King Crab Meat
- 2-3 cups bread crumbs
- parsley (optional)

Use the remaining money to purchase shrimp that will be exquisitely boiled in beer.

Well Alright! It's feast day. Your table is set, plenty of candles grace the room and the homebrew is cold. – And you've given yourself time, a friend, and a glass of homebrew to do the following.

Preparation of the shrimp

Place cleaned shrimp in a pot of slightly salted boiling homebrew. When boiling resumes, cook shrimp for 5-10 minutes or until tender. Remove cooked shrimp and place in a bed of crushed ice. Having asked someone else to bring some cocktail sauce – you're done.

Now the **Stuffed Lobster A-la-mazing**.

First, have a beer. Relax. Don't worry.

Bring a large pot (most likely your brewing pot) of salted water to a rolling boil, sip some homebrew and proceed to prepare the stuffing. Very finely chop 10 green onions, 3-6 cloves of garlic, 2 lbs. of mushrooms, 3-4 stalks of celery and some parsley (optional). No fingernails please.

Have another brew. Don't forget to

share.

Next in large skillet, melt 1 1/2 sticks of butter and proceed to saute what you have just chopped. Saute until soft and fragrant. Add salt and pepper to taste and perhaps 3-4 tablespoons of sherry (optional). Remove from heat.

Chop the Alaskan King Crab meat into small pieces. Add this to the sauteed ingredients. Taste this unbelievable combination, anticipate a bit, and sip some more homebrew. Laugh a little.

To complete this stuffing, add enough bread crumbs to make a desirable paste. You will likely require between 2-3 cups of bread crumbs. Don't Worry.

The stuffing is now complete, and about now your water is probably boiling.

The live lobsters must be dropped into the boiling water and cooked long enough to make the meat firm. Once boiling has resumed, cook the lobster for 5-8 minutes, depending on the size of the lobster (1-1 1/4 lbs.). If your pot is not large enough to hold ten lobsters, you must cook the lobsters in two shifts.

Remove the cooked lobster from the boiling water and place under cold running water. Slit the lobster's underside from head to tail. Have another beer close at hand. Remove the guts and brain. You may save the green liver and add it to the stuffing.

WE'VE GOT HOPS - AND MORE!

Whatever your brewing or winemaking needs, we have the essential herbal ingredients. For example: *Irish Moss* for clarification; *Ginger* for Ginger Mead; *Sweet Woodruff* for May Wine, fresh *Vanilla Beans* for Kahlua and many essential oils for flavoring. Our catalog of over 350 herbs and spices, over 50 essential oils, and many other products has long served health food stores across the nation. Now, in response to the needs of home brewers, we are carrying *Roasted Barley* and *Barley Malt*. Write or call us for our free catalog. In Colorado, call collect 1-444-3055. Out of state, call toll free 1-800-525-2896.

All orders U.S. & A \$3.00 handling charge will be added to orders less than \$25.00.

GREEN MOUNTAIN HERBS
P.O. BOX 2369 BOULDER, COLORADO 80306

From this point on, you've got it made. Simply stuff the lobster with your "a-la-mazing" stuffing, putting most of it in the body cavity. When the time is right, bake for 20 minutes at 350°. OUTRAGEOUS!

Regardless of anything else, you're probably more than ready for the arrival of your friends. With their arrival will come mountains of food and an anticipated thirst.

For appetizers, serve the beer boiled

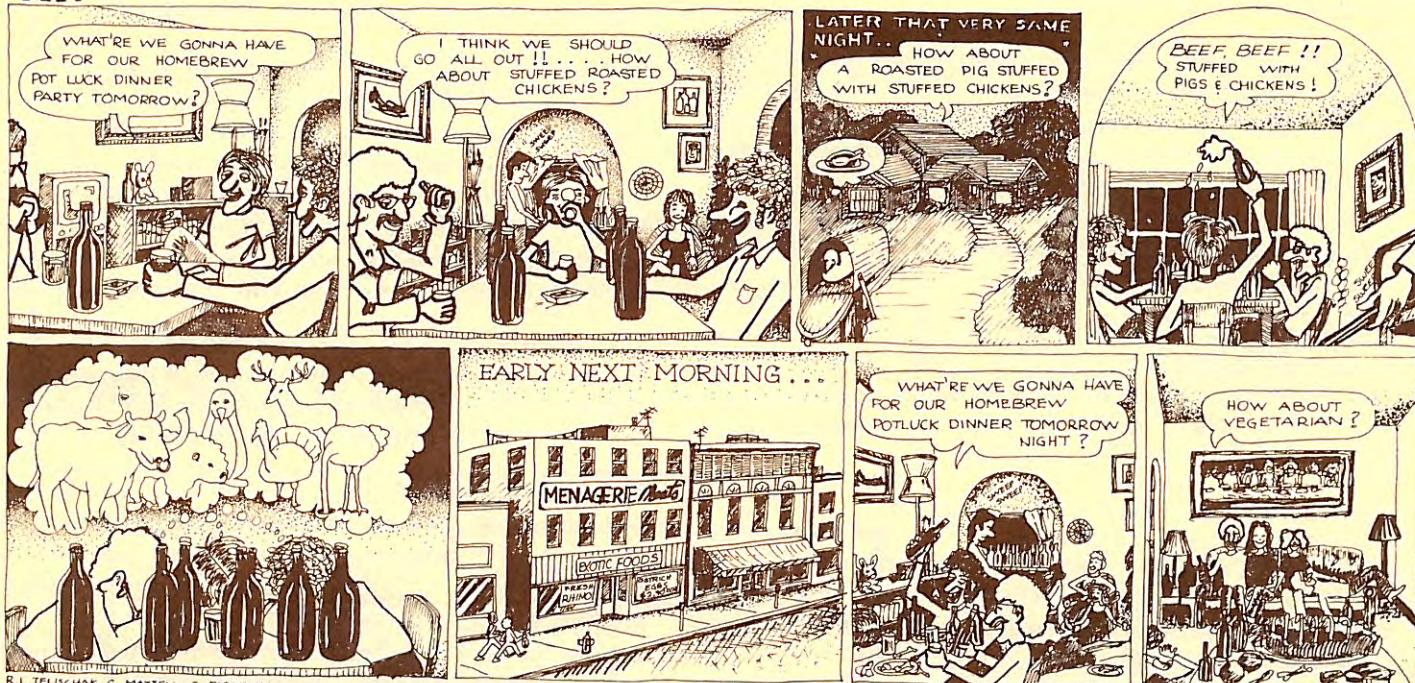
shrimp with a brown ale or lager.

With the main course, a light lusty ale with a notable flair of a clean hoppy tang will complement your seafood best. To accompany dessert an after dinner, all-malt dark heavy lager will do just fine.

With little or no effort, you will find yourself enjoying the evening.

Feast, food and foam - enjoy, behave yourself. And remember, "Smile when you drink homebrew."

AHA



Direct to you from basements, kitchens, sheds, and cellars from all over the free and not so free world . . . In this column, we'll bring to members of the *American Homebrewers Association*, "Wonderful Worts"—fantastic and well meant recipes for the brewing of the unusual, the exquisite, the basic and oh so amazing stuff. Black, brown, amber or light—Beers, ales, stouts, meads—Spruce and honey lagers—Bitter, sweet, mild, fizzy, not so fizzy, expensive, extravagant or economical.—It's all here!

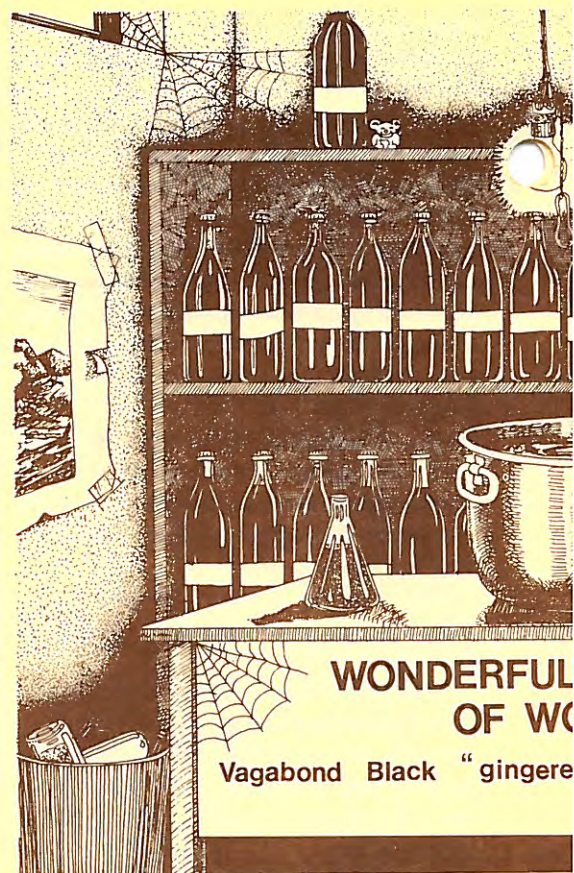
Complete recipes, accompanied with basic instruction, will be joyously celebrated in this column within every issue of *Zymurgy*.

It will be presumed that readers of *Zymurgy* and "Wonderful Worts" will have some basic knowledge of brewing procedures, ingredients, vocabulary and equipment as explained in the *Joy of Brewing* or other technical literature on homebrewing.

The *Joy of Brewing*, a book written by Charlie Papazian, is available through the *American Homebrewers Association* at a special membership price. Additional copies are also available for \$2.50 each. The *Joy of Brewing* presents an easy, foolproof, and economical method for the homebrewing of good beers, ales and assorted brews.

As mentioned earlier, recipes presented in this column will not go into every detail of the hows, whys and wheres of the homebrewing process. But realizing that this is the very first issue of *Zymurgy*, a brief introduction of homebrewing procedures (as approved by the *American Homebrewers Association*) will be presented.

Basically, beer or ale is made from water, sugars (malted barley), hops and living yeast. When given the right conditions, yeast organisms will begin to reproduce, and the fermentation process commences. Yeast will convert sugar into alcohol and carbon dioxide, resulting also in the characteristic tastes of



GLOSSARY

Carboy—5 or 6 1/2 gallon, glass bottle with a narrow opening atop, upon which a rubber cork will conveniently fit. 5 gallon carboys are primarily used as containers for bottled spring, artesian or distilled water. 6 1/2 gallon carboys are commonly used to store industrial acids. Carboys when properly cleaned are used as secondary fermentors.

Fermentation Lock—Used during secondary fermentation. It is a simple water and bubble type device which prevents oxidation (vinegar spoilage) of homebrew by not allowing ambient air to come in contact with the fermenting brew. At the same time, the fermentation lock is designed to permit the escape of carbon dioxide (a byproduct of fermentation). It is usually situated atop a carboy being used as a secondary fermentor.

Finishing Hops—Fresh aromatic hops that are tossed onto homebrew during primary fermentation. These uncooked hops provide a wonderful aroma for fine homebrewed ales and beers. They also eliminate the "skunky" odor associated with inferior homebrew.

Homebrew—That which is to be enjoyed.

Primary Fermentation—Process of initial fermentation. It is generally considered to be the first 60–75% of the fermentation process and takes place in an open container such as a large clean plastic pail.

Primary Fermentor (the "Primary")—Any vessel in which primary fermentation occurs. It is usually a loosely covered plastic, garbage type pail.

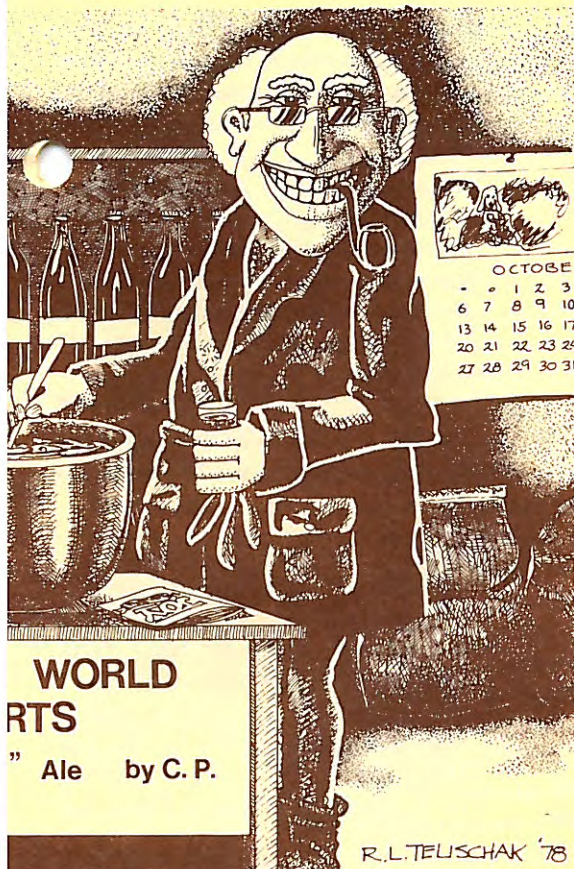
Rack (racking)—Process of transferring unfinished homebrew from a primary fermentor to a secondary fermentor. A siphon is always used in order that yeast sediments be allowed to remain undisturbed in the primary.

Secondary Fermenting—Fermentation which occurs after the brew has been transferred from the primary fermentor into a second (or secondary) fermentor, usually a carboy. It is the final 25–40% of fermentation which immediately precedes bottling. This latter stage of fermentation is much less active and proceeds more slowly. The brew is more susceptible to spoilage during this time, therefore, it is desirable to protect the brew with a fermentation lock.

Secondary Fermentor (the "Secondary")—Any vessel in which secondary fermentation occurs. It is desirable to use a carboy. Carboys have the advantage of a small opening on top to which a fermentation lock can easily be secured.

Sparge (sparging)—Process of removing spent grains and hops from the boiled, concentrated wort. This is simply done by the utilization of a kitchen strainer and a subsequent quick, hot water rinse of the caught spent grains and hops (spargings).

Wort—Lovingly prepared liquid which will ferment to homebrew.



WORLD RTS

"Ale by C. P.

fermented beverages. When the fermentable sugar supply is exhausted, fermentation stops. It is at this stage that a small measured amount of additional sugar is added to the brew for carbonating purposes (this supplies additional food for the yeasts and arouses their activity once again). The brew is subsequently bottled. Stored for a proper time, you will end up with a fantastically clear, fine tasting brew carbonated exactly for your pleasure.

So let's cut the shuck and jive and get on with a recipe.

Vagabond Black "gingered" Ale

Here is a recipe for seven gallons of a deliciously dark, full bodied ale, with the gentle essence of fresh ginger tickling the taste buds.

For starters, invite some friends over. Then . . .

Boil for 1-2 hours in an enameled or stainless steel 4-5 gallon pot:

- 2 gallons of water
- 7 lbs. (2 cans) Munton & Fisson dark plain barley malt extract
- 1 lb. Crystal Malt (in grain form—must be cracked, easily done with rolling pin)
- 2 oz. good brewing Hops
- 1/3 lb. Black Patent Malt (grain form—must be cracked) no sugar content—aids flavor and dark color
- 2 teas. gypsum—a mineral found naturally in many water sources—produces "hard water"—aids in clarification, taste and yeast environment.
- 1 teas. pure salt (sea salt or pickling salt)
- 1 1/2 lbs. Corn Sugar (dextrose/invert sugar)—a less expensive form of fermentable sugar than barley malt—Do Not Use Cane Sugar
- 7 oz. grated fresh Gingerroot—Available at many supermarkets and oriental food outlets—do not use powdered ginger from spice cans. If chunked dried ginger is used, use only 3 1/2 oz. after coarsely grinding

While this wort is boiling at a gently rolling boil in a covered pot, clean one plastic (garbage) pail suitable for the brewing of 7 gallons of ale. This will be where primary fermentation occurs.

Next, have a beer. Get relaxed.

After this concentrated wort has boiled for two hours, turn the heat source off and allow the wort to cool for 1/2 hour. Have another beer.

Then sparge the contents into your primary fermentor. In other words, pass the wort through a strainer in order to catch the spent hops and grains. Rinse the "spargings" with a small amount of hot tap water in order to gain most of the sticky wort. But don't worry!

Now complete the wort by adding sufficient cold water to bring the TOTAL volume of wort to 7 gallons.

Add 1/2 oz more of "finishing" hops to the surface of the 7 gallons of wort now in the primary. Finishing hops impart a fine aroma to beer and ale.

When your wort has reached a temperature of $72^{\circ} \pm 5^{\circ}$, add ale yeast. Usually, within 24 hours, fermentation has visibly begun. Keep your brew desirably less than 75°F and ideally between 55° and 70°F .

The beginning specific gravity of this

ANNOUNCING

The First Annual National Homebrew Competition

Sometime during the month of May, 1979,
in Boulder, Colorado

Open to all persons 21 years or older.

Brews will be judged in the following categories:

Beers and Lagers - light and dark

Ales - light and dark

Stouts

Unusual Brews

Judging will be based on presentation, appearance,
aroma and taste.

Entry fees, dates, places, events, awards and other
details will appear in the next issue of Zymurgy.

The American Homebrewers Association
will graciously accept any donations for
the advancement of its ideals.

could boast of making his wife clean the crock.

Commercial brewers speak today with unseemly pride of the age of their beer; this grates on the ear of a homebrewer, for it was universally believed that the homemade stuff would spoil if kept over a month. It required about three days for the clouds of sediment to precipitate, and hardier brewers took their first taste then. It was better, however, to let the shot of sugar complete its work and put a little life in the brew before sampling. There was a delicious instant of expectancy when you finally held a bottle to the light, found it clear to within an inch or so of the bottom, and carefully pried off the cap. If the contents didn't detonate in your face, the first crisis was passed. Then you tipped the bottle and allowed the contents to glide ever so

continued from page 3

beach, while Black Lava Ale got better and better. Who cared if it had to be drunk six gallons at a time?

About a week later, I was showering after a mellow afternoon in the sun when I heard a sickening explosion. It sounded like the T.V. tubes we used to break as kids behind Kitron Electronics. Running out of the shower, I could hear shouting from the bedroom. The top of one of the carboys had blown off. Inch pieces of glass were embedded in the closet wall. Spots of black ale covered the newly painted walls and ceiling, and the freshly cleaned drapes, floors, beds, lamps, paintings, etc. Clothes hanging in the closet where the carboys had been stored were beyond recognition. Stunned, we watched a pool of tan foam disappear into the shag-covered floor.

Now I was beginning to panic and ran downstairs to the apartment below. An old woman in a bathrobe met me at the door. "Uh, I just lost about six gallons of liquid upstairs!" When we got to her closet, Black Lava Ale was dripping from the closet ceiling onto her designer originals. Fortunately, she was able to save most of her clothes, had been drinking, and took it amazingly well. I helped her clean up quickly and made promises about paying for cleaning and repainting her closet. But there was one carboy left, and I expected to hear it explode any

slowly into the glass, otherwise you would pour nothing but suds; and you always had to guard against complete decantation, too, lest the dregs leave the bottom of the bottle. Finally, you tasted it. Co-partners in a batch anxiously scanned the features of the first taster. If the grimace was not too demoniacal, sighs of relief were heaved—it was then evident that the stuff could be drunk.

Sermons were preached against homebrewing, and editorials in the dry organs pilloried it as the first station on the road to the Drink Habit, as an evil influence undermining the American home, and as insidiously breaking down moral fiber. Well, I will grant that the manufacture of homebrew was potentially destructive of character, but there was nothing insidious or underhanded about its effects. True, I

have heard high school principals, after two bottles, tell stories in mixed company that would bring blushes to the cheeks of a week-end tour stewardess, but I always attributed this potency more to desire than actuality. Prohibition drinking generally was animated by expectancy, so that the effect of whatever quantity of alcohol was imbibed was heightened by a receptive conviction that intoxication must be immediate and inevitable. As for the claim that homebrewing led to chronic inebriation, I submit that exactly the opposite was true.

Unquestionably the cellar art was the greatest force for temperance in the whole insufferable Prohibition era. Practicing it, as I have revealed, was just too damn much trouble.

reprinted from the November, 1935 issue of The American Mercury

The Art of Homebrewing – Feelings vs. Technology

Hop Growing Treatise on Black Patent Malt

Origins of Brewing Treatise on Siphoning

Black Holes and Homebrew

What is "commercial beer" and how do they do it?

The Dregs – 101 ways to actually use them

Kegging Homebrew – how to go about doing it

Homebrewed Stuff Around the World

second. I rushed back upstairs and tried to talk someone into helping me move the second carboy into the plastic trashcans. By now, this was the most precious liquid I had ever brewed—it would have cost less to fly in a keg of excellent imported beer by Lear Jet. If the second keg exploded, I wanted to save some of the liquid. Homebrew with glass splinters would be better than no homebrew at all. Repeating the scene downstairs wasn't a very appealing idea either. Courageously, Jim offered to help while my other friends huddled behind furniture at the far end of the apartment. I stuffed a pillow inside a coat, wore glasses, gloves, cut the wires on the cork, and prayed that I wouldn't make the island newspaper: "Tourist,

27, killed by exploding batch of beer." Luck was with us, and the transfer was a success.

"I'd like to go snorkling this afternoon, but I've got to paint the bedroom and closets!" I washed the closet carpet and hung it out to dry. An hour later, someone stole it. (If I wanted to exaggerate, I could think of something better than this!) "I imagine volleyball on the beach is a lot of fun. I'll try and make it after I've found a piece of carpeting for the closet!"

No sweat? That second carboy somehow made it the next two weeks although I heard it explode in my dreams every night. Charlie watched me uncork it. Black Lava Ale was delicious, and we had no trouble consuming the six gallons in two days

with fish, coconuts, and sunsets a la carte. We packed a few bottles to Molokai.* I've reprinted the recipe and a cost breakdown below to assist in planning a budget for island ale.

Black Lava Ale (all malt)

Mash for one hour at 150°, 7 lbs. Edme dark malt and 3 lbs. malted barley. Sparge. Boil for one hour, 7 lbs. dry malt, 1 lb. black patent, 1 lb. crystal malt, add 2 tsp. gypsum, 2 tsp. citric acid, 2 tsp. salt, licorice, 4 oz. hops. Sparge, and add sufficient water to make 15 gallons. Ferment with ale yeast.

Costs

Initial ingredients	\$ 25.00
Replacing malt lost to pack, socks, shirts, etc.	4.00
Cost of brewing equipment on Maui—plastic tubs, brewing pot	20.00
Deposits on carboys (one blew up. When I went to return the second, the water company had gone out of business!)	10.00
Cleaning costs	9.00
Carpet	15.00
Gas around island	8.00
Paint	8.99
	<u>\$ 99.99</u>

*Charlie was bitten by an eight inch Molokai centipede while drinking one of these bottles. We were calmly watching a sunset when he shot six feet into the air, howling like a banshee. We thought he was a victim of island madness. A doctor had warned us about the dangers of centipede bites,

especially the paralyzing swelling. In order to sleep amongst the centipedes that night, we finished off the rest of the homebrew. For some strange reason, Charlie's bite never did swell. To this day, we believe it was the homebrew that saved his life.

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BY CHARLIE PAPAZIAN
illustrations by Steve Lawing

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I have made good homebrew
I have made bad homebrew
I have never made homebrew

circle one

yes no I intend to brew
yes no I have tasted bad good homebrew
yes no other:

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certain trucks, buses, tractors, distributions from retirement plans, and permission for certain persons to receive cash payments in lieu of food stamps.¹ Beer—whatabout the beer? On August 23 of this year, Senator Alan Cranston (D-Calif.) and Senators Schmitt (New Mexico), Bumpers (Arkansas), and Gravel (Alaska) proposed an amendment to this bill (Amdt. No. 3534). The amendment called for equal treatment under the law for home winemakers and home beer brewers. Brewing 100 gallons per adult, up to 200 gallons per household, would be permitted for personal use. The term “brewer,” used in current federal regulations and taxation was clarified to mean a person who brews beer for sale or who brews more than the legal amount. Homebrewers do not have to register or pay taxes on their 100 gallons of personally used brew.

The Treasury Department expressed concern that removing restrictions on homebrewing would encourage the production of “moonshine distilling operations.”² Homebrewers could use their mash to produce hard liquor. However, Senator Cranston contacted Professor M. T. Lewis, University of California at Davis, who is an expert in malting and brewing science. “According to Professor Lewis, virtually any combination of yeast and a sugary material is a mash fit for distillation. Baker’s dough qualifies.”³ Professor Lewis also stated, “In my position I have met many hundreds of

homebrewers. Never has a homebrewer inquired about distilling. The intent is not there.”⁴

Senator Cranston commented, “Obviously, BATF [Bureau of Alcohol, Tobacco and Firearms] agents are not barging into bakeries and kitchens arresting persons as potential illegal distillers. BATF has not even arrested any of the thousands of technically illegal homebrewers because they know that neither the arrest nor the prosecution would be sustainable in any court.” “. . . BATF has stated that the Agency has not the slightest interest in small-scale homebrewers and has not made any arrests of small-scale homebrewers since prohibition was repealed 44 years ago. To go ahead with legislation requiring homebrewers to register is a foolish waste of everybody’s time, energy, and money.”⁵

The amendment also changed an earlier provision of the bill which limited the legal on-hand supply of homebrew to 30 gallons because, as Senator Cranston put it, “Beer must be aged to acquire an acceptable taste. Homebrew should be aged at least 2 months—meaning it should not even be tasted until 2 months from the day the yeast was pitched. And 3 months is better. Many homebrewers have multiple batches going and with the standard 3-month aging period, the 30-gallon limit would penalize them by reducing the amount of beer they would be allowed to make in a calendar year. The effect of such a limit would be to discourage homebrewing and encourage the purchase of store beer.

“Homebrewers brew home beer because domestic beer lacks the rich, malty taste they like. Homebrewers share a creative desire to concoct beer to their own personal taste. They also share a consumer’s need to cook a tasty brew for the equivalent of 15 to 25 cents a quart. My bill would permit them to enjoy these privileges, just as home winemakers do.”⁶

A high-ranking representative of the A.H.A. had these comments about the new law: “Obviously, Senators Cranston, Schmitt, Bumpers and Gravel had done their homework on homebrewing. The A.H.A. salutes these men for championing our cause on the floor of the Senate.” And what about the other congressmen? Unfortunately, a voice vote was taken (rather than roll call) and at the present time, the names of any (if any) who voted against the bill are not publicly known.*

*Editor’s note: The A.H.A. urges you to contact your representatives to find out how they voted on this issue, and to take this into consideration the next time you visit the polls. With unity, the A.H.A. may become a powerful political force that Washington will have to reckon with. Think Homebrew Power.

¹United Press International, from the Daily Camera, Boulder, Co. Sept. 23, 1978. See also H.R. 1337, Amendment No. 3534.

²⁻⁶Congressional Record, August 23, 1978, pp. S14210, 11.

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TO:

beer is about 1.042 at 72°F. Specific gravity is taken with a simple device called a hydrometer that measures the density of liquids. The more sugar that is dissolved in water, the denser ("thicker") the liquid. As yeasts "eat" the available sugars, there becomes less sugar in the solution – thus the solution is "thinner" (less dense). All of this is easily measurable with a beer or wine hydrometer.

After seeing visible fermentation in the primary fermentor, it will take somewhere between 2 and 7 days for the brew to ferment to a specific gravity of 1.020. When fermentation has reached this point, the brew should be racked (siphoned) into a 6 1/2 gallon glass carboy. Of course, the sediment should be left behind in the primary fermentor. Once the brew is in the carboy, a fermentation lock should be properly affixed to the top. The carboy is now known as the secondary fermentor. The fermentation lock is a simple and inexpensive device that allows carbon dioxide gas to escape from the carboy yet does not allow ambient air (specifically oxygen) to enter the carboy, thus preventing the oxidation or spoilage of your brew.

Left in the secondary fermentor, your brew will cease activity anywhere from 1–3 weeks (depending on brew temperature). When activity has stopped, very few bubbles can be seen rising to the top of the ale. Also, specific gravity readings will remain

constant for 3 consecutive days. If this recipe has been followed exactly, terminal specific gravity should be about 1.016. Variation in brands of malt used will produce variations in beginning and terminal specific gravity.

Now you are ready to bottle. Siphon the flat ale from the carboy to a clean plastic (garbage) pail. Leave the thick yeast sediment in the carboy, but be absolutely sure not to worry if you see a visible amount of sediment pass through your siphon hose. It will all eventually settle out. Worrying spoils the taste of homebrew more than anything else could.

If the ale was now bottled as it is you would end up with flat, good tasting ale. Therefore, it is necessary to add ONE cup of corn sugar to the ale and stir it very well until surely dissolved. Now bottle, cap, and store.*

While in storage, you may become somewhat depressed at the sight of all that ale just sitting there not ready to drink. Do not lament. Keep yourself busy. Chop wood, cook an extravagant dinner, BAKE PIES, fix your automobile, jog. If you begin to foam at the mouth and drool, get a bib. But **DON'T WORRY!**

*note: *The Joy of Brewing* presents an easy, safe, and absolutely foolproof method of bottling homebrew without ever having to worry about over carbonation or exploding bottles.

While in storage the small amount of additional corn sugar will be consumed by the invisible yeasts and produce a desired amount of carbonation.

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primo aging: 2–3 months

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"Nummy"

—Barbralu Manning – on homebrew

continued from page 1

made, for all I could ever determine, exactly like the other batches which turned sour, deliquesced into suds, or outdid the Missouri in muddiness; yet there she stood, so help me, like a fan dancer at a ladies' aid meeting, a masterpiece deserving, if any beer ever did, only one name—Pilsner! Ah, me, if I could but pass on to posterity the secret of those ineffable brews, I would face the prospect of another arid era with fortitude, even anticipation.

Unfortunately, however, all I can do is to record the technique of an art whose beginnings are already lost in antiquity, awaiting exhumation by some doctoral candidate. Professional *bierbrauers*, made jobless by the Volsteadian ukase, concocted the first wort for neighborhood consumption: it was several years before big business

realized the profits inherent in purveying all the ingredients of beer but the water, the collar, and the kick. Even then the dehydrated materials were at first sold surreptitiously, and in ultra-dry territory malt and hop stores were subject to frequent rude visits from the police. Before the Sahara was crossed, however, malt was sold under glorified brands, and even had radio programs dedicated to it. Batch-laying became a recognized profession like piano-tuning, with reputable practitioners making the rounds of the boulevard districts to serve bankers and chiropractors rich enough to escape the drudgery. And in more modest homes, men whose domesticity, under uxorial duress, encompassed nothing more complicated than drying teaspoons, became authorities on sterilizing bottles and dissolving

yeast and sugar.

Homebrewing was practiced in upstairs halls, bedrooms, broom closets, telephone booths, and dumb-waiters, but my own technique required an entire basement. Mere dilettantes brewed only five gallons at a time—the quantity made from one can of malt—producing about 45 twelve-ounce bottles. But more sophisticated fermenters like myself made a double batch, netting approximately 85 bottles at a single ordeal. Purloining the bottles was one of the sobering elements in the whole business, for only plutocrats laid out good money for them, and many a nocturnal scavenging expedition up alleys was undertaken to meet the needs of a confirmed brewer.

Next, you acquired several gross of

caps and a capper—and if anyone thinks invention ceased with Edison he should have seen some of the contraptions inventors fondly imagined would affix stoppers to homebrew bottles. There were varieties that stood upright, that nailed on the door jam, that worked with levers and foot-pedals and thumbscrews, that had universal joints, free wheeling, and knee action; but they all broke bottles, pinched fingers, and jammed, making the capping job one of the most profane in the entire business. Patent siphons exercised all the ingenuity of a hydrostatic engineer, evolving from a simple rubber tube into elaborate affairs replete with valves, hooks, strainers, bulbs, and four-wheel brakes. Strainers and filters exhausted the gamut of resourcefulness, utilizing everything from pumice to the family Bible as media for separating the malt from its ineradicable sediment; but none of them ever functioned. Sooner or later most of these accessories were thrown violently behind the furnace and you got down to fundamentals.

Aside from collecting an assortment of measuring cups, spoons, kettles, pans, dish towels, and the like, you were ready now to lay a batch. A quart tin of malt was emptied into the big crock, and five gallons, or thereabouts, of water added, along with enough sugar to impart the desired kick. Last, a half cake of yeast was dissolved with water and stirred in vigorously by means of a broom handle or furnace poker. Then you adjourned to the laundry tubs to wash up, and called it a night.

The occult phase came next—fermentation. Ordinarily the process took 72 hours more or less, depending on the temperature, the phase of the moon, and the number of times the furnace was shaken. The first morning produced a fine welter of coarse white suds pushing over the rim of the crock; a little later the foam became flecked with brown, like a scorched meringue; carefully these extrusions were skimmed off and the surface of the repulsive fluid scrutinized. Men have been known to crack during these anxious hours, beating their wives, frightening their children, and sending stenographers into convulsions, for it was all-important that the brew be

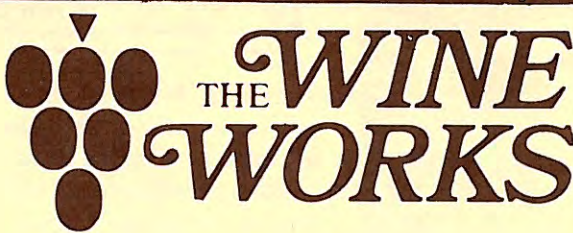
incarcerated in the bottles just as it reached the right turn. Specific gravity meters, litmus paper, and any number of scientific devices were sold to help detect this critical point, but they proved of little value. There were a few gifted individuals who, by looking at the rioting malt, could tell infallibly when it was ready for bottling. But most brewers agreed that when the malt ceased exuding suds and attained a mottled appearance with tiny white bubbles and clear brown patches, the fateful moment had arrived, usually about the third night and the one on which the local dominie invariably called.

Decorum tempts me to pass over the final process of bottling; after all it was purely mechanical. But posterity must know the difficulties as well as the pleasures of homebrewing, and I may as well be frank. To bottle, one donned a bathing suit, waders, fireman's helmet, and a grim but determined countenance. The bottles were lined up closely around the box whereon sat the crock of brew, high enough to let the siphon function. A half teaspoon, more or less, of sugar was dropped into each bottle; at least you hit as many as you could, with some getting double or triple doses and some getting none at all. (Those overcharged would later taste like maple syrup produced in a kerosene refinery, if they did not blow

up; those without any sugar could easily be confused with a solution of green soap.) Then you started to toy with the siphon. Prone, with one cheek on the cold floor, you held one end of the tube deep enough in the solution to draw and not so far as to reach the sediment, put the other end in your mouth, and sucked. Alchemy never produced anything viler than the gush of tepid beer that immediately drenched your tonsils; but you managed, simultaneously, to retch and to divert the geyser from the tube into the nearest bottle. Only a few squirts could be put in at a time, as the foam ran over and made the bottles sticky; so you circulated the hose from bottle to bottle till they were all full, or the siphon ran out with an obscene gurgle, and you had to ladle out the last few bottles, half full of yeasty dregs, which were carefully put aside for your wife's brother.

Capping, too, was a purely mechanical task. If you survived without six blood blisters and a dozen broken bottles, you considered yourself lucky. If you were fastidious, you wiped the outside of the bottles and put them neatly on a shelf; but most of us just sluiced out the basement with a hose and went wearily to bed. It was considered the mark of an exceptionally masterful spouse if he

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