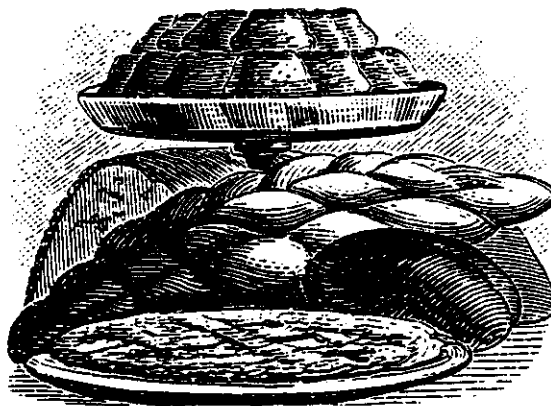


THE BAKER'S HANDBOOK

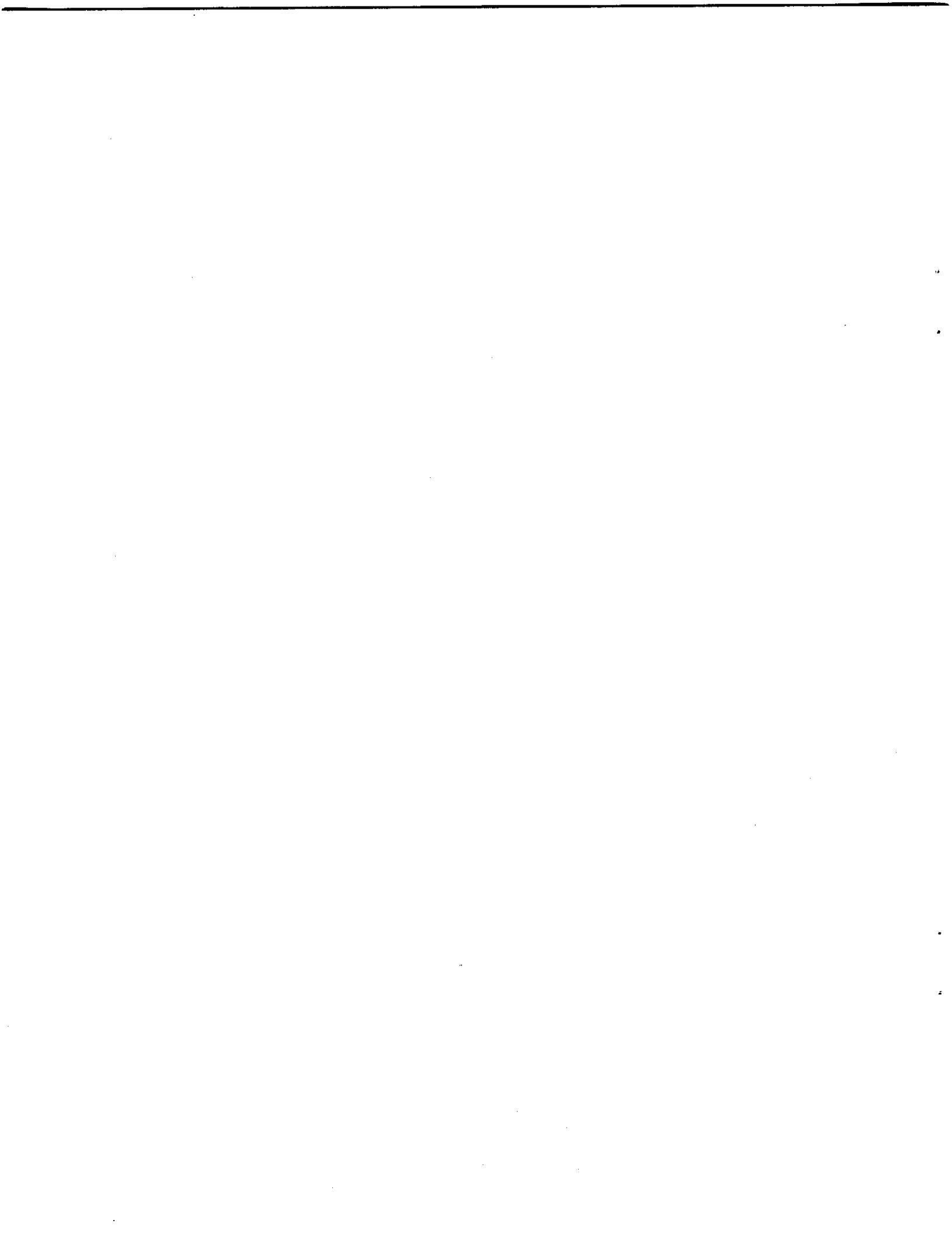
or,
**How to Make a Lot of Dough
in 19th Century California**

by
Mary A. Helmich



Office of Interpretive Services
California Department of Parks and Recreation

1990



THE BAKER'S HANDBOOK

or,
How to Make a Lot of Dough
In 19th Century California

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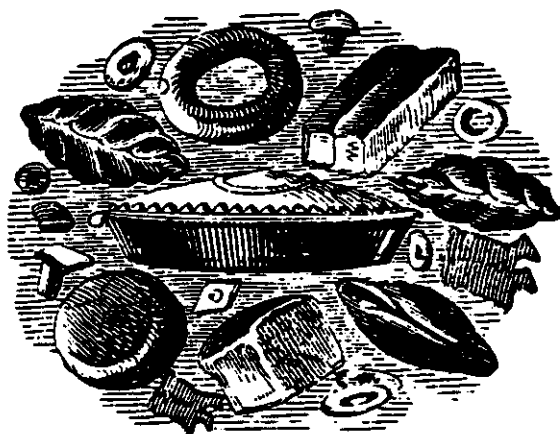
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Bodie State Historic Park
The California Historical Society
California Section, California State Library
California State Railroad Museum
Columbia State Historic Park
Malakoff Diggins State Historic Park
Sacramento Museum and History Division Archives
Shasta State Historic Park

INTRODUCTION

Following James Marshall's discovery of gold at Coloma in 1848, California became a by-word that evoked a reckless, speculative spirit. The discovery set into motion a migration matched by few events in history. From around the world adventurous individuals rushed to California with great expectations. Some chose to mine, while others envisioned opportunities in business and raced here to open new ventures. Today, the California Department of Parks and Recreation preserves Columbia State Historic Park as a representative community of those early gold mining days from 1850 to 1870.

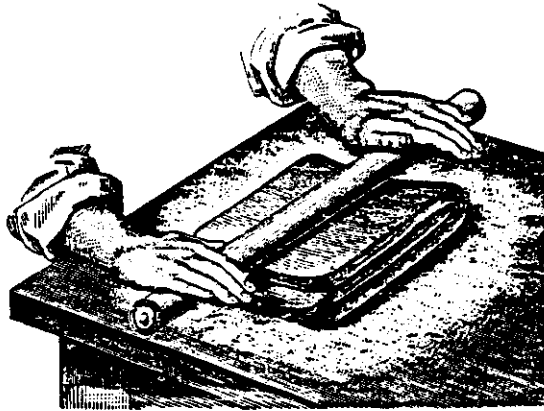
Like other historic districts, Columbia allows the public to experience life of an earlier era. In partnership with the California Department of Parks and Recreation, merchants create a living historic environment that encourages visitors to understand the commercial and social history of California. 19th century-style products and services marketed in historic settings invite the public to return again and again for a rare experience of the past and to purchase a taste or a keepsake of their venture back in time.

Even the earliest makeshift, temporary Gold Rush stores used merchandising methods that reflected the traditions of their more established eastern counterparts. Typical business practices of the era were considerably different from today's: there were no cash registers, few brand names, no paper bags and most items were sold in bulk. California merchants weighed not only their goods, but also the gold dust they received in payment.

Among Columbia's businesses were a number of bakeries. Although a relatively new phenomena in the mid-19th century, California bakers found good markets for their breads, crackers, cakes and pies in male-dominated Gold Rush communities. Home-baked breads, generally considered superior to commercially prepared goods at the time, were not available to most miners separated by thousands of miles from their homes.

This handbook has been developed to assist individuals interested in re-creating an authentic mid-19th century bakery in Columbia State Historic Park. The information provided, however, may also be applied to other 19th century bakery operations.

This manual contains background information on: Columbia's development and early bakeries; bakers and customers of the 19th century; bakery ingredients and products; typical bakery interiors and furnishings; the operational practices of early California bakeries; and advertising. Period graphics and written accounts have been included to illustrate or clarify points in the text. Recommendations and further references are also given in the section entitled "Advice to Bakers" at the end of each chapter.



COLUMBIA: GEM OF THE SOUTHERN MINES

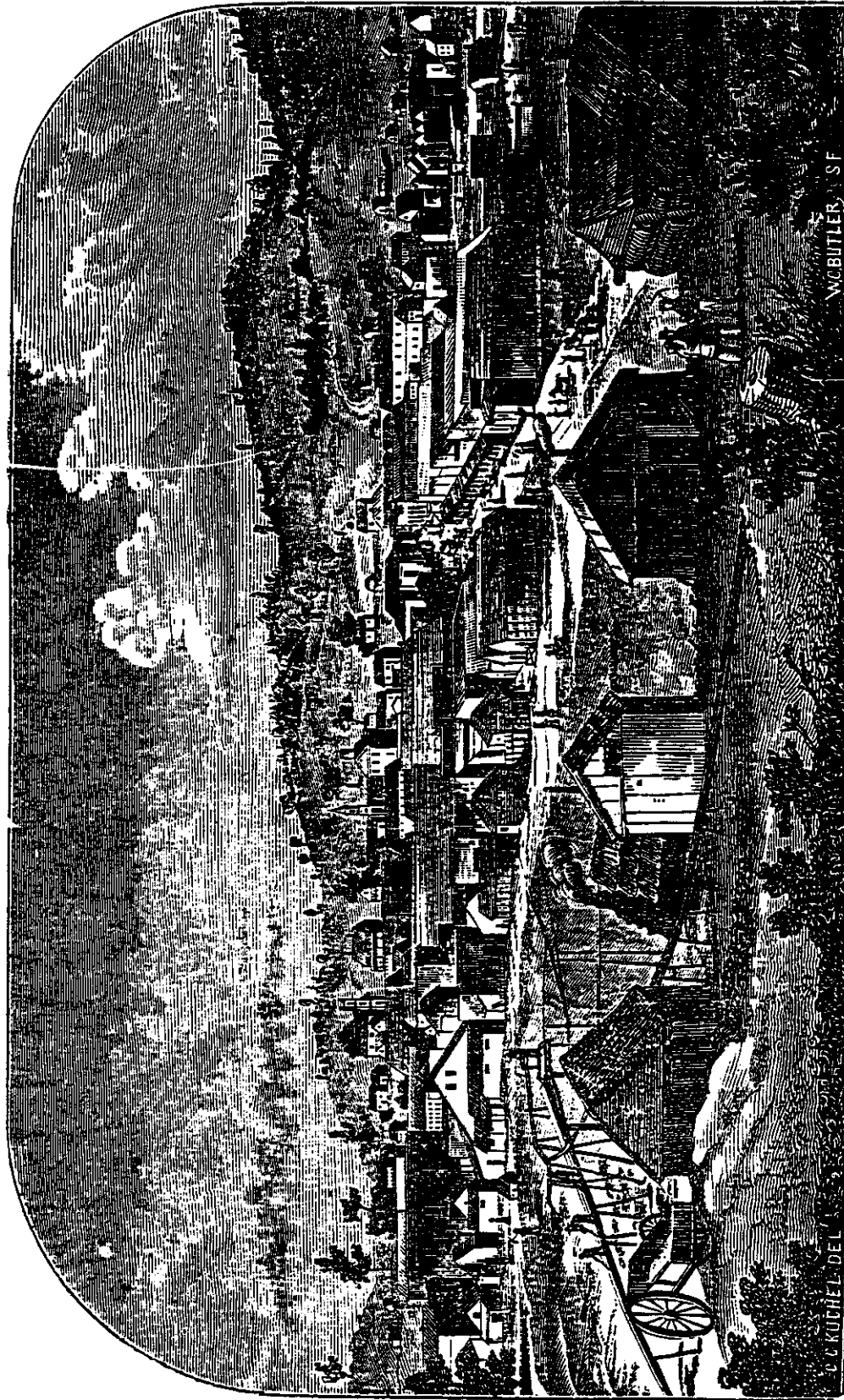
overview

Columbia was only one of hundreds of settlements that sprang up during the exciting years when the cry of "Gold!" brought Argonauts from all over the world to seek their fortunes in California. On March 27, 1850, Dr. Thaddeus Hildreth, his brother George, and a handful of other prospectors made camp near here. Their discovery of gold caused prospectors to rush to the vicinity in hopes of extracting a share the wealth. Before the month was out the tent-and-shanty town of Hildreth's Diggings housed several thousand miners. Its original name quickly changed to American Camp and then, because it sounded more permanent, to Columbia.

Early businesses in tents and shanties answered the immediate needs of the temporary character of the city's population. Most were general merchandise firms or auctions, which handled a variety of goods. These businesses were typical of new settlements, where permanent, specialized trading establishments had not yet proven their profitability (Atherton:35).

J.D. Borthwick's (40-41) comments on the frenetic lifestyle in San Francisco in 1851 matched that of Columbia's:

The every-day jog-trot of ordinary existence was not a fast pace for Californians in their impetuous pursuit of wealth. The longest period of time ever thought of was a month. Money was loaned, and houses were rented, by the month; interest and rent being invariably payable monthly and in advance. All engagements were made by the month, during which period the changes and contingencies were so great that no one was willing to commit himself for a longer term. In the space of a month the whole city might be swept off by fire, and a totally new one might be flourishing in its place. So great was the constant fluctuation in the prices of goods, and so rash and speculative was the usual style of business, that no great idea of stability could be attached to anything, and the ever-varying aspect of



COLUMBIA.

View of Columbia published in 1856.

the streets, as the houses were being constantly pulled down, and rebuilt, was emblematic of the equally varying fortunes of the inhabitants.

Stephen Massett (126), an auctioneer, actor and writer of the period, recalled "In those days everybody was crazy--money came and went--went and came--you knew not how and cared not where--from morning till night it was one scene of excitement and frenzy."

Families in increasing numbers began to arrive in Columbia in 1852 (Columbia Gazette, Feb. 4, 1853). As the town grew, so did the advantages of opening more durable merchandising operations. Permanent stores were expensive to operate, but proprietors could stock more goods and could provide credit for people in the community upon better acquaintance (Atherton:37). By November 13, 1852, the Columbia Gazette reported the following businesses and places of entertainment:

- 21 Produce and grocery stores.
- 30 Saloons, groceries and restaurants.
- 17 Dry goods and produce stores.
- 4 Hotels.
- 7 Boarding-houses.
- 4 Banking and exchange offices.
- 3 Express offices.
- 2 Book and Stationery stores.
- 5 Doctors' offices.
- 5 Law offices.
- 3 Tobacconists.
- 7 Bakeries.
- 1 Tin shop.
- 2 Barber shops.
- 3 Meat markets.
- 3 Blacksmith shops.
- 8 Carpenter shops.
- 3 Silver-smith shops.
- 1 Printing office.
- 3 Drug stores.
- 2 Wagon-maker shops.
- 3 Laundries.
- 4 Livery stables.

- 1 Reading room.
- 1 Brewery.
- 1 Ground coffee depot.
- 1 Daguerreotype room.
- 1 Boot and shoe shop.
- 1 Wine and Liquor store.
- 1 Fruit and confectionery store.
- 1 Mexican fandango house.
- Total, 150.

The newspaper added:

In addition to these we have a large Hall for a Theatre, as well as an amphitheater for bull and bear fights; and last, though not least, we have a Church, with regular preaching [sic] at two different places every Sabbath; a Masonic Lodge; a Division of the Sons of Temperance, and a Vocal Music Society.

The main construction material used in these buildings was wood. On July 10, 1854, fire--the scourge of California mining towns--destroyed everything in Columbia's central business district except one brick building. The town was quickly rebuilt with locally produced red brick in thirty of the structures, with the added fire protection of iron doors and window shutters, and bricks laid on the buildings' roofs. The local paper of July 11, 1854 reported: "Holister & Co. are putting up their new bakery and are now baking bread and pies for the million."

The town grew. In 1857, Columbia was incorporated as a city by a special act of the legislature (Statutes of California, 1857:188). On August 25, 1857, a second fire destroyed not only the frame structures in the 13-block business district, but several of the brick buildings as well. The loss was not permanent, as reconstruction began almost immediately. Not long after, one advertisement in the Columbia newspaper read: "HILDENBRAND'S SALOON. UNITED STATES BAKERY. Main St., west side, Columbia. Two story Fire-Proof Brick Building."

After 1860 the easily mined placer gold was gone and Columbia began to decline. During the 1870s and '80s, several of the vacated buildings were torn down and their sites mined. The town's population dropped from a peak estimated at six thousand to about five hundred.

*Gold Rush
businesses*

The predominantly male population and the frenetic pace of life in California had its impact on business. Anxious to make their fortunes, time was of the essence to miners. Before the Gold Rush, homemade was generally considered "better." Clothing was made to fit and food was made to order. The Gold Rush changed that. Goods not available in California had to be imported and it was through the California miners' acceptance and encouragement by purchase of ready-made clothing, commercially canned fish and vegetables, and bakery produced biscuits, crackers and breads that these industries gained momentum and revolutionized merchandising in the United States.

bakeries

Bakeries were a relatively recent phenomena in the mid-19th century. The demand for ships' bread and cracker production developed on seacoasts with vessels readying for long voyages. As travelers' requirements for durable foods on long overland journeys increased, the inland progression of bakeries began. Biscuit and cracker production also benefitted from field army requirements for breads that would not deteriorate rapidly (Panschar:53).

By 1840, new varieties of crackers and biscuits appeared. They included the soft or butter cracker, soda cracker and the round sugar-biscuit or cookie (Panschar:31). In the 1850s, the production of biscuits and crackers was aided by the development of hand-rolling machines to thin the dough to the shape required by an automatic stamp (Panschar:46).

Bread baking technology, by contrast, remained virtually unchanged for most of the 19th century. In the 1850s:

Bakeries were for the most part one-oven and one-man shops in which craft traditions still held a tight hold. There was no mechanized equipment. There was nothing but the baker's skill to determine the

quality of his products. His loaf was not always uniform, nor did it always taste the same. Sometimes his entire output was ruined by conditions beyond his control. These were the risks which had long harassed the baker and which were considered as normal to his business. (Panschar:35)

*Columbia
bakeries*

The bakeries established in Columbia produced crackers, breads, and cakes. Among the documented bakeries in town were:

NEW YORK BAKERY on the west side of Main Street, south of Jackson Street. J. McCluskey & J. Roth, proprietors, early 1850s. Followed by G. Sturgenegger & H. Schuler, later 1850s.

FRENCH BAKERY on the east side of Broadway, north of State Street. A. Dutel & P. Lesbasses, proprietors, 1853-54. Burned in 1854 fire.

BOSTON BAKERY on the north side of Washington Street, between Main and Broadway. Gischel & Hildenbrand, proprietors. Burned in 1854 fire.

COLUMBIA BAKERY (BROADWAY RESTAURANT & BAKERY) on the south side of Washington Street between Main and Broadway. 1854, burned in 1857. Columbia Bakery connected with the Broadway Restaurant.

UNITED STATES BAKERY on the west side of Main Street. Michael Hildenbrand, proprietor. Burned in 1854 fire. Rebuilt and continued until 1861.

P.A. CAMPBELL'S BREAD AND CRACKER BAKERY on the east side of Broadway between Fulton and State Streets. 1850s and 1860s.

DUPONT BAKERY on Broadway. Burned in 1854 fire.

HOLLISTER & CO.'S BAKERY on Main Street. 1854.

AMERICAN BAKERY on the east side of Main Street. 1854.

ANTON SIEBERT'S BAKERY, later called BOSS BAKERY, on the west side of Main Street, south from Jackson Street. Anton and William Siebert, proprietors. Established in 1858 and burned 1865. Moved to east side of Main Street, north of State Street.

UNION BAKERY AND COFFEE SALOON on Main Street. Siebert & Bro., proprietors. 1866-67.

**Advice for
Bakers**

Individuals willing to invest the time and the effort to develop a 19th century bakery environment will be rewarded by a public eager to sample and learn about authentic wares of the period. Part of this effort involves understanding the development of bakeries and Columbia in the mid-19th century and being able to communicate that knowledge to your customers. Consider how you might use the preceding information as a part of your sales pitch or in the presentation of your merchandise. You could make reference to historic bakery businesses in Columbia, the lifestyle of the Gold Rush period, or the fires that triggered the construction of brick buildings in Columbia. All of this information will contribute greatly to a visitor's enjoyment and experience in the park.

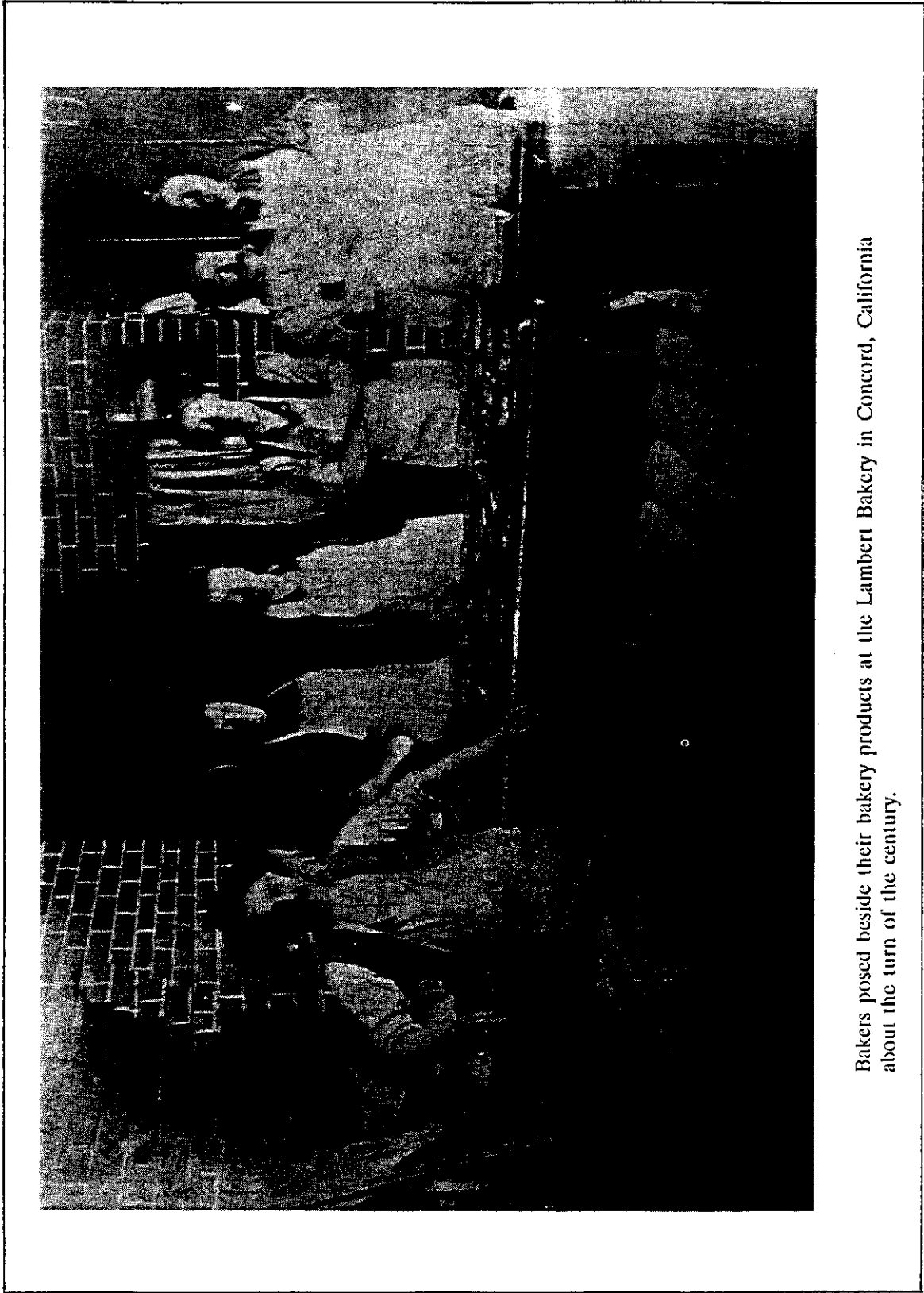
UNITED STATES BAKERY.
Main Street,
COLUMBIA.

M. HILDENBRAND, Proprietor.

Respectfully announces that he is fully prepared to furnish any amount of the first quality of
BREAD, PIES, CAKES,
.....AND.....
CONFECTIONERY

Is also prepared to furnish every
DESCRIPTION OF CAKES
For Balls, Weddings and Private Parties.

Having permanently located in Columbia, and in the midst of the Business Community, he flatters himself that by strict attention to business, and a desire to render satisfaction, he will receive a liberal patronage.



Bakers posed beside their bakery products at the Lambert Bakery in Concord, California about the turn of the century.

CALIFORNIA BAKERS AND THEIR CUSTOMERS

*role of
the baker*

Bakers, like other merchants held a unique position in early California communities. They provided not only provisions for miners, but also news. Most were well informed and respected, if not always agreed with (Johnson:122). Daily transactions familiarized them with the neighborhood and domestic affairs, while occasional travels or contacts with wholesalers or other merchants kept bakers aware of more distant events.

The successful businessman had to be able to communicate with miners from around the world. Franklin Buck, who opened a store in California in '49, learned rudimentary Spanish enroute from the East Coast to the West. In letters home, he wrote:

I can translate it from a book with ease and converse quite fluently. There is plenty of it spoken here, although most of the people are Yankees, yet you meet in the streets people of all nations. Most of the foreigners (sic) are Chilenos, Peruvians and Mexicans and quite a sprinkling of the native Californians . . . (Buck:49)

Going to the store to purchase baked goods, groceries, supplies and other merchandise was not the quick procedure of today, but a social occasion in the 19th century. Individuals came to argue politics, to exchange gossip and to share each other's company. Many leisure hours were spent in the stores and most 19th century proprietors accommodated them. The bakery was a community fixture and most bakers maintained strong personal relationships with their customers.

With American currency scarce in Gold Rush California, merchants had to be well informed on financial matters. They had to understand the exchange value of: gold, foreign coins, bank notes from other communities, and different commodities (Atherton:103). This was especially true in the years before banks became well established.

It was not a pleasant duty for the merchant to tell a customer that his money would be taken only at a discount below that for which the customer had accepted the notes originally. But such action was frequently necessary. Yet, if the merchant did not offer all that the notes were worth some competitor got the business. (Atherton:103)

*typical
clothing*

Businesses in Columbia were operated by Americans, Europeans, Asians and South Americans (Columbia Gazette:Nov. 13, 1852). Diversity marked the attire of these proprietors and their customers in California. J.D. Borthwick (45), an Englishman, noted how different nationalities could be determined by their clothing:

The appearance of the people, being as they were, a sort of world's show of humanity, was extremely curious and diversified. There were Chinamen in all the splendor of sky-blue or purple figured silk jackets, and tight yellow satin continuations, black satin shoes with thick white soles, and white gaiters; a fan in hand, and a beautifully plaited glossy pigtail hanging down to the heels from under a scarlet skull-cap, with a gold knob on the top of it. These were the swell Chinamen; the lower orders of Celestials were generally dressed in immensely wide blue calico jackets and bags, for they really could not be called trousers, and on their heads they wore an enormous wickerwork extinguisher, which would have made a very good family clothes basket.

The Mexicans were very numerous, and wore their national costume--the bright-coloured serape thrown gracefully over the left shoulder, with rows of silver buttons down the outside of their trousers, which were generally left open, so as to show the loose white drawers underneath, and the silver-handled bowie-knife in the stamped leather leggins.

Englishmen seemed to adhere to the shooting-coat style of dress, and the down-east Yankees to their

eternal black dress-coat, black pantaloons, and black satin waistcoat; while New Yorkers, Southerners, and Frenchmen, came out in the latest Paris fashions.

He further remarked:

Those who did not stick to their former style of dress, indulged in all the extravagant license of California costume, which was of every variety that caprice could suggest. No man could make his appearance sufficiently *bizarre* to attract any attention. The prevailing fashion among the ratag and bobtail was a red or blue flannel shirt, wide-awake hats of every conceivable shape and colour, and trousers stuffed into a big pair of boots.

Undoubtedly, a baker's attire reflected his personal background and traditions, whether from the Eastern Seaboard, France, Chile, or elsewhere, and were tempered by his California experience. Storekeeper Franklin Buck (52) in a letter home, wrote:

White shirts I have discarded. They get dirty too quickly and don't wash half as easily as red flannel or calico. Shaving is all humbug. Nobody shaves here and you can't find a better looking set of men. I am going to have my daguerreotype taken and sent home to show you how I have improved. Full dress here is a pair of buckskin pants, fringed, with a red silk sash, fancy shirt and frock of buckskin trimmed with bell buttons and broad brimmed felt hat and a revolver slung on one side and a Bowie knife on the other, with a pair of skins about a foot long.

The photograph on page 16 represents several bakers at work in the late 19th century in the Lambert Bakery in Concord, California. Note their aprons. As today, a white apron appears to have been the "uniform" of the baker.



There are few accounts of women's attire in that period of California history. According to Luzana Wilson (162), her best dress for many years was a clean calico. She noted that the "feminine portion of the population was so small that there was no rivalry in dress or fashion, and every man thought every woman in that day a beauty."

Before the Gold Rush, most clothing was made to fit, whether by a seamstress, tailor or shirtmaker. Typically, women of less well off families made their clothes or purchased them second hand (Levitt:8). In their haste to get to the gold fields, many immigrants brought few items of wearing apparel with them (Johnson: 119), or wore them out very quickly. The predominance of men, with few women to care for their needs, encouraged the development and expansion of the ready-made clothing industry. Individuals like Levi Strauss, Harris Weinstock and David Lubin seized the opportunities offered in the West. J.D. Borthwick (95) commented: "The clothing trade was almost entirely in the hands of the Jews, who are very numerous in California, and devote their time and energies exclusively to supplying their Christian bretheren with the necessary articles of wearing apparel."

status

Clothing in the 19th century generally demonstrated the wearer's wealth or station (Levitt:8). The "rules" of fashion, however, did not function in California Gold Rush society and a person's occupation or apparel did not necessarily reflect their status. Borthwick (54) commented, "No occupation was considered at all derogatory, and, in fact, every one was too much occupied with his own affairs to trouble himself in the smallest degree about his neighbor." He noted:

There was in the crowd a large proportion of sleek well-shaven men, in stove-pipe hats and broadcloth; but, however nearly a man might approach in appearance to the conventional idea of a gentleman, it is not to be supposed, on that account, that he either was, or got the credit of being, a bit better than his neighbours. The man standing next to him in the guise of a labouring man, was perhaps his superior in wealth, character, and education. Appearances, at least as far as dress was concerned, went for nothing at all. A man was judged by the amount of money in his purse, and frequently the man to be most courted for his dollars was the most to be despised for his looks. (Borthwick:48-49).

A Placer Times newspaper article published on October 27, 1849 (2) stated, "The over-dressed man is looked upon as either a fop or a fool, and is probably both."

Advice for Bakers

Bakers of today should try to be as informative as their historic counterparts. In your role as merchant, advise customers about the surrounding historic district, daily activities, neighboring businesses, special events, and nearby historic sites. Assist non-English speaking customers as much as possible. You might also consider capturing the miners' leisure experience, by placing a chair or bench inside your business or just outside the door to encourage visitors to enjoy the bakery's historic ambience. More specific information concerning appropriate period clothing can be obtained from the manuals created by Diana Newington at Columbia State Historic Park, called "Fashions for Men, 1850 to 1870" and "Fashions for Women, 1850 to 1870." Remember your clothing as a merchant could reflect your "background before arriving in Gold Rush California," or attire more typical of western storekeepers.



5121 22

FREIGHT TO CALIFORNIA BY STEAM, VIA PANAMA.

Shippers are informed that the rate of Freight from New-York to San Francisco, including transportation from New-York to Aspinwall by the ATLANTIC AND PACIFIC STEAMSHIP COMPANY; from Aspinwall to Panama by the PANAMA RAILROAD COMPANY; and from Panama to San Francisco by the PACIFIC MAIL STEAMSHIP COMPANY, has been fixed at

\$1.75 per cubic foot

On Merchandise under 45 lbs. to the Cubic Foot.

Over 45 lbs. to the Cubic foot, four cents per lb.

Butter, Sugar, Coffee, &c., three and a half cts. per lb.

To Panama, \$1 00 per Cubic Foot.

Heavy Goods, as above, 1½ cents per lb.

To Aspinwall, 50 Cents per Cubic Foot.

Heavy Goods, as above, 1 cent per lb.; Specie, one per cent. on value.

NO PRIMAGE CHARGED.

**Regular Days of leaving New-York.
1st, 11th and 21st of each month.**

When these dates fall on Sunday, the day of departure will be the Monday following.

No Bill of Lading signed for San Francisco Freight for less than \$15.

No Bill of Lading signed for Panama Freight for less than \$4.

No Bill of Lading signed for Aspinwall Freight for less than \$3.

Shippers will please express value of their shipments on Bills of Lading.

Bills of Lading, of the only form used, will be furnished to shippers, on application. Shippers are required to prepare them for signature, and have them signed the evening before the ship sails.

No Freight received on day of Sailing.

N. B.—ALL FREIGHT MUST BE PRE-PAID.

For further information, inquire of

D. B. ALLEN, Agent,

177 West St., cor. WATER.

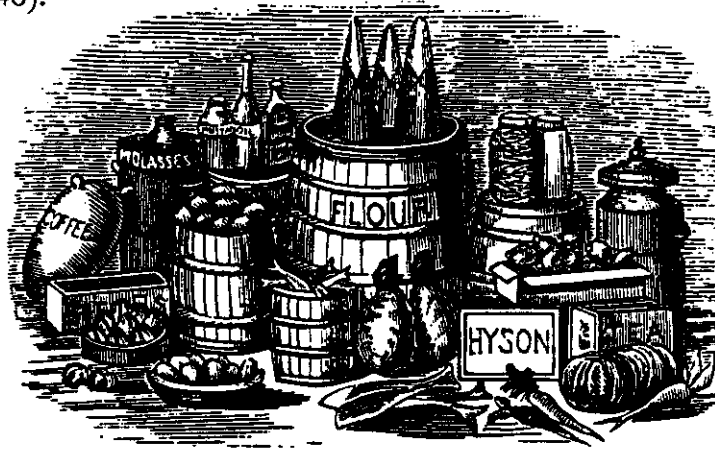
HEBERT AND CO. PRINTERS.

A small handbill advertising shipping rates for California-bound merchandise.

19TH CENTURY BAKERY PRODUCTS

source of supply

Commerce with Gold Rush California was lively. The ports of San Francisco, Sacramento and Stockton were magnets, attracting trade from around the Pacific rim--Mexico, Central and South America, the United States, and Europe. For example, sweet and Irish potatoes, onions, oranges, and lemons, produced in the Sandwich Islands (Hawaii), were very profitably traded in California, while from Chili came flour (Holliday:337; Buck:46).



Most supplies used by early Columbia merchants arrived by ship, bark, brig, schooner, or steamer in Stockton and then were freighted overland by wagon and pack train. Hunt's Merchant's Magazine (Jan.-Jun., 1850:208) detailed 698 vessels departing for California from United States ports during 1849. The cities and the number of vessels on the list included:

New York	214
Boston	151
New Bedford	42
Baltimore	38
New Orleans	32
Philadelphia	31
Salem	23
Bath, Maine	19
Portland, Maine	13

Bangor	13
New London	17
Providence	11
Eastport, Maine	10
Nantucket	8
Fall River	7
Charleston, S.C.	7
Newburyport	6
Gloucester	6
Warren, R.I.	6
Sag Harbor	6
Norfolk	5
New Haven	5
Edgarton	4
Belfast, Maine	3
Mobile	3
Newport, R.I.	2
Bristol	2
Holmes' Hole	2
Saco, Maine	2
Thomaston, Maine	2
Wilmington, N.C.	2
Stonington	1
Plymouth	1
Barnstable	1
Mystic, Conn.	1
East Machias, Maine	1
Frankfort	1
Cherryfield	1
Bridgeport, Conn.	1
New Castle, Maine	1
Portsmouth, N.H.	1
Searsport, Maine	1
Hyannis	1
Norwich, Conn.	1

As can be seen from the above list, most U.S. merchandise was generated and shipped from northeastern manufacturers and ports. In 1849, Isaac S. Hone, Assistant Collector of the port of New York for the Custom House, reported 76,981 tons of cargo shipped from New York alone (Hunt's Mer. Mag., Jan.-Jun., 1850:208).

Agriculture in California grew with the demands of the mining communities and the awareness of the state's fertile valleys' productivity. The number of flouring mills also kept pace. By the mid-1850s, they were established in Stockton, Sonora, Knight's Ferry, Sacramento and elsewhere. A testimonial used in an advertisement published in the 1856 Miner's & Business Men's Directory noted several sources of California flour:

We have always made it a point in our business to secure for our customers the best flour to be had in the State, and have used Horner's, Golden Gate, Stockton City Mills, San Joaquin, Pilot, Santa Clara, Alviso, and numerous other brands, and for the past five months have used exclusively the Stanislaus mills flour, and without hesitation pronounce it far superior to any brand we have ever used, and fully equal, to give it age, to the celebrated brands of Richmond flour, Haxall and Gallego.

McKentry & Church

Knapp & Co.

Columbia, Feb. 1st, 1855.

shipments

Merchandise unloaded along Stockton's waterfront often mirrored the less than ideal circumstances of their shipment. New goods may have looked old after a journey of several thousand miles by way of a sailing vessel or freight wagon. Despite careful packing at the outset, many commodities were adversely affected by the length of the passage, heat, cold, high humidity or dry conditions. Some wholesalers also took advantage of California's remoteness by shipping second quality merchandise. Sacramento boarding house operator Luzana Wilson (151-152) described her experiences in 1849:

I found afterward that many of our purchases were . . . deceptive, for the long trip around the "Horn" was not calculated to improve an article which was probably inferior when it left New York. The flour we used was often soured and from a single sievelful I have sifted out at one time a handful of long black worms. The butter was brown from age and had spent a year on the way out to California. I once

endeavored to freshen some of this butter by washing it first in chloride of lime, and afterwards churning it with fresh milk. I improved it in a measure, for it became white, but still it retained its strength. It was, however, such a superior article to the original "Boston" butter, that my boarders ate it as a luxury.

containers

Most commodities before the Civil War were shipped and sold in bulk (Johnson:94-95). This was a practice that lasted well beyond the turn of the century. Flour, sugar, coffee, tea, vinegar and salt, along with other basic food stuffs came in barrels, kegs, tins, tubs, crocks, or sacks.

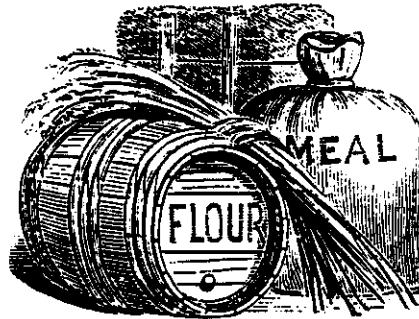
Brand names were rarely used:

Coffee and tea were sold under general trade names, every wholesale center carrying supplies of Imperial, Young Hyson, and Gunpowder tea, for example. A merchant could buy these from any wholesale grocery house, none promoting a special brand. The same condition prevailed in the drygoods line, manufacturers and wholesalers leaving the advertising in the hands of the local merchants, and customers selecting their purchases without previous bombardments in favor of some particular brand. (Atherton:123)

The 1850-1851 ledger book of J.B. Starr Co., an auction firm in early Sacramento, recorded the types of containers typically used in the 19th century to ship the raw ingredients used by bakeries. They included:

Bags or Sacks: flour, oats, onions, potatoes, sugar, table salt.

Note: Most bags were made from cotton fabric until the Civil War, when its scarcity forced the use of other kinds of materials (Johnson:32).



Barrels: bread, cider, dried apples, dried peaches, dried plums, flour, vinegar.

Bottles or Jars: blackberry jam, brandy, brandy peaches, currant jelly, lemon syrup, lime juice, pie fruit, rose water, sherry.

Boxes: cake flour, china, claret, cocoa paste, fruit cake, peaches, potatoes, raisins, rice flour, saleratus, table salt.

Note: The above boxes were many sizes and constructed of wood or metal. Cardboard did not come into common usage until many years later.

Cans or Tins: black pepper, butter, carrots, chocolate, crackers, dry cheese, potatoes.

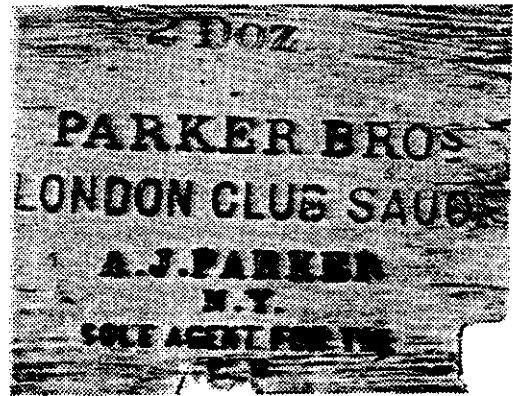
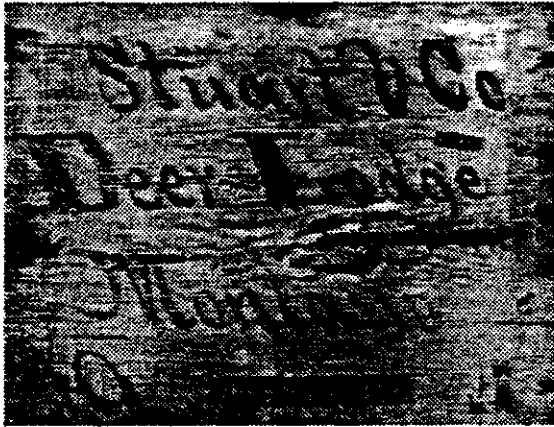
Note: Cans were different sizes. The term "tin" was principally used by the English. In the early part of the 19th century, Americans, although generally suspicious of canned foods, tended to prefer imported varieties (Johnson:86).

Cases: ales, books, brandy peaches, lemon syrup, lime juice, mangrove, sherry.

Casks: brandy, molasses, navy bread, port wine, syrup.

Kegs: brandy, brandy fruit, butter, cherries, cordials, dried peaches, lard.

Pipes: brandy.



Examples of 19th century shipping crate labels recovered from the steamship, Bertrand.
(courtesy, National Parks Service)

Reams: wrapping paper.

Ceramic crocks filled with butter were also recovered during the excavations of William C. Hoff's store (Pastron:33).

*shipping
labels*

Large wooden shipping containers were very simply labeled with the name of the consignee, city and sometimes the manufacturer (Petsche:46-48). The information was stenciled or burned into the bare wood or lettered in ink with a free-hand, backhand cursive style (Petsche:46-48). Rare 19th century examples of labeled shipping containers were found in the excavations along the Missouri River of the steamboat "Bertrand" (Petsche:48). They typically read:

- Vivian & Simpson, Virginia City, M.T. or,
alternately,
- V. & S, Virginia City, M.T.
- Stuart & Co., Deer Lodge, M.T.
- J. Murphy, Ft. Benton, M.T.
- G.P. Dorris, Virginia City, M.T.
- Worden & Co., Hell Gate, M.T.
or alternately,
- Worden, Hell Gate, M.T.
- M. Kingman & Co., Virginia City, M.T.
(Petsche:48)

Columbia-bound merchandise probably was similarly addressed with the name of the firm, followed by "Columbia City, Calif." They may have read, for example: "New York Bakery, Columbia City, Calif." or "French Bakery, Columbia, Calif."

ingredients

Most mid-19th century bakers did not have a dependable source for their bakery goods ingredients. Furthermore, they could not count on obtaining uniformity. In this era, grain was ground in small water- or windmills found throughout the country. By adjusting the millstones and the fineness of the sifters, different grades of flour could be produced (Tannahill:291). None of it was very clean, and the oils left by the stone-grinding process turned it rancid after a few weeks (Tannahill:291).

Different localities, crops, weather conditions, mills, or mill-runs gave wheat different baking characteristics. Proper mixing and fermentation times and the size, color and flavor of the resultant product varied with the particular flour used. The baker reduced his problem somewhat by blending several purchases of flour. It was also possible to stagger purchases so that only a portion of the blend would have to be changed as one type of flour was used up.

(Panschar:38)

Flour milling technology did not change in the United States until after the Civil War (Root and deRochemont:231). A process invented in Hungary in the 1840s replaced rotary millstones with rollers, producing a lighter, whiter flour (Root and deRochemont:231). The rollers:

. . . squeezed the inner part of the wheat kernal [sic] out its coating, depriving it in one operation of bran and germ alike. Wheat germ is highly nutritive, but it also contains oil which causes flour made with it to spoil in a few weeks, so bakers were glad to be rid of it. As the oil also darkens the flour, germless flour is whiter as well as easier to keep; it appealed to the eye of the guileless housewife, who was accordingly predisposed to believe the baker who told her that white flour was superior, especially as it did not occur to her that in the baker's vocabulary "superior" meant "more profitable." In 1870 the Hungarians hit upon another idea; they made flour mill rollers of porcelain, which produced an even finer, whiter (and longer keeping) flour. (Root and deRochemont:231-232)

Other ingredients used by 19th century bakers were considerably different in form from those used today. After the Civil War, granulated sugar gained increasing popularity, but whiteness did not become the "symbol of quality" in sugar until late in the century. Before then

. . . it was coarse and brown, and so hardened in the barrel or hogshead in which it was shipped that a

special augur was needed to loosen it, and a sugar grinder was part of the grocer's necessary equipment. (Johnson:59)

Before 1868, each baker had to make his own yeast mixture, because compressed yeast was unknown (Panschar:36,63).

There were almost as many brews as there were bakers, since each had secret recipes which he thought superior to those of other bakers. Actually, the baker merely cultivated the growth of yeast cells in a fermented brew made from flour, sugar, malt, water, potatoes or old stock yeast. The original stock yeast might be brewer's yeast or barm, the so-called patent yeast, or other forms of fermented materials. Brewer's yeast was a frothy liquid from the top of ale. Patent yeast was made from malt, hops and water. (Panschar:36)

Charles Fleischmann's commercial production of compressed yeast in 1868, did not gain ready acceptance from bakers for many years (Panschar:63). The yeast was difficult to keep fresh without adequate refrigeration and distribution was costly beyond metropolitan areas.

Until a regular delivery system was established at the turn of the century, most bakers continued to rely upon their own ferments (Panschar:63).

Bakers also depended upon another leavening agent called saleratus (a name later changed to baking soda). It was convenient to use, but required the assistance of an acid, like cream of tartar, to perform properly. "In 1856, baking powder was devised; this provided the cream of tartar, or some equivalent acid, already mixed with the baking soda" (Root and deRochmont:225).



bakery goods

In Columbia's early years, bakers stocked an assortment of goods that appealed to the diverse customers bound for the gold fields. Most businesses, including bakeries in the early years, were general in nature, allowing merchants to take advantage of every opportunity for sales. Within a few years, however, bakeries became more specialized.

Newspapers and city directories of the period provide a sampling of the kinds of goods that bakeries offered between the years 1850 and 1870. The quality and diversity of baked goods developed as the city matured and more and better ingredients became available.

Typically the items produced by California bakeries would have included breads, rolls, pies, fancy and iced cakes, crackers, tea biscuits and possibly coffee and tea. Examples of the types of breads and rolls and other baked goods that might have been offered can be seen on pages 33 and 34. Refer also to Appendix A for recipes published in 1903 in The Baker's Book, Vol. II, by Emil Braun.

**Advice for
Bakers**

The authenticity of your historic bakery depends upon the presentation and type of merchandise you stock. Consider the types of containers used for shipping ingredients in the 19th century. Where appropriate, use wooden crates, boxes, barrels, kegs, etc. as would have been characteristic of this period. You might consider stenciling or hand lettering them with your store's name and "Columbia, Calif." Arrange the barrels and boxes



VARIETIES OF BREAD

(top row, left to right)

Long pumpernickel, Italian bread, American Rye, Pullman loaf, round cinnamon loaf.

(2nd row)

Braided loaf, French bread, Jewish Chalah, six-strand braided loaf.

(3rd row)

Vienna loaf, round pumpernickel, White Mountain bread, white pan bread.

(from, The Bakers' Manual for Quantity Baking and Pastry Making by Joseph Amendola)



VARIETIES OF ROLLS

The first four rows are soft rolls as follows:

(top row, left to right)

Single knot, double knot, figure eight, square knot, braided roll, spiral butter roll.

(2nd row)

Butter twist, Parker House roll, twin roll, butter roll, frankfurter roll.

(3rd row)

Whole wheat roll, spiral roll, clover leaf roll, pan roll, snowflake roll.

(4th row)

Hamburger roll, poppyseed roll, Maryland roll with flowertop, Vienna roll without flour top, Vienna bridge roll.

The 5th and 6th are hard rolls as follows:

(5th row)

Kaiser roll, crescent roll, French roll, rye roll.

(6th row)

Water roll, small French roll, club roll, rye roll.

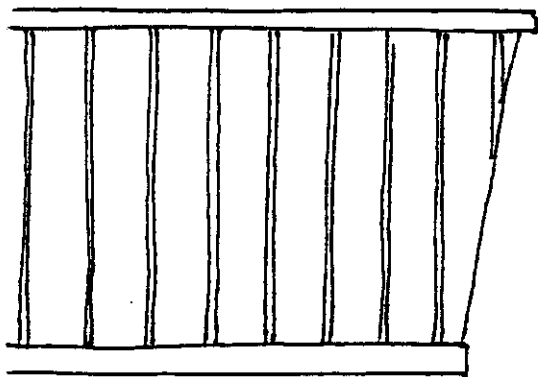
near the doorways and counters to appear as if they had just been received.

Explain to your customers the problems encountered by bakers of the last century, who tried to produce consistent products with less than perfect ingredients.

Consider carefully the baked goods you propose to produce and sell. Choose items which resemble those sold in 19th century Columbia. Refer to the recipes in Appendix A for ideas.

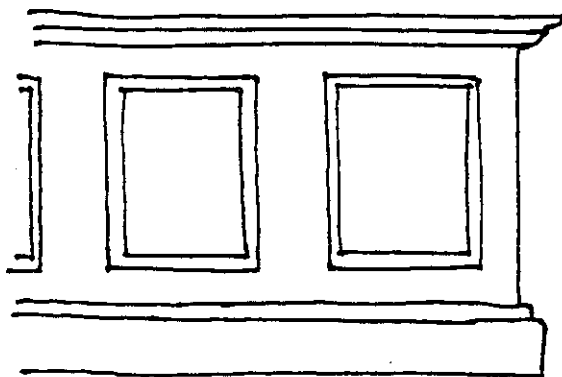
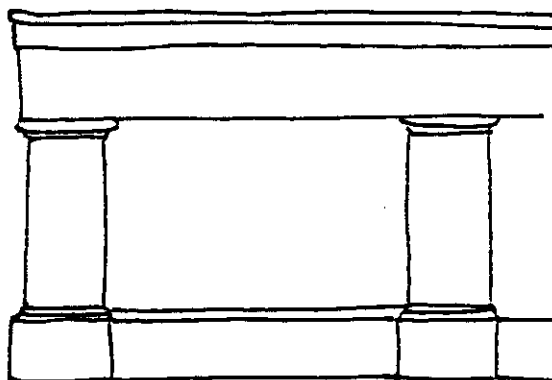


COUNTERS
CALIFORNIA EXAMPLES



SLANT BACK
vertical tongue-and-groove
continued in use through century
(Express Office, Columbia S.H.P.)

GREEK REVIVAL
(Wells Fargo Office, Columbia SHP)



PANELLED
most common counter used in all
types of stores in California
through the 20th century
(Mobeley Store, Malakoff Diggin's SHP)

19TH CENTURY BAKERY INTERIORS

typical bakeries

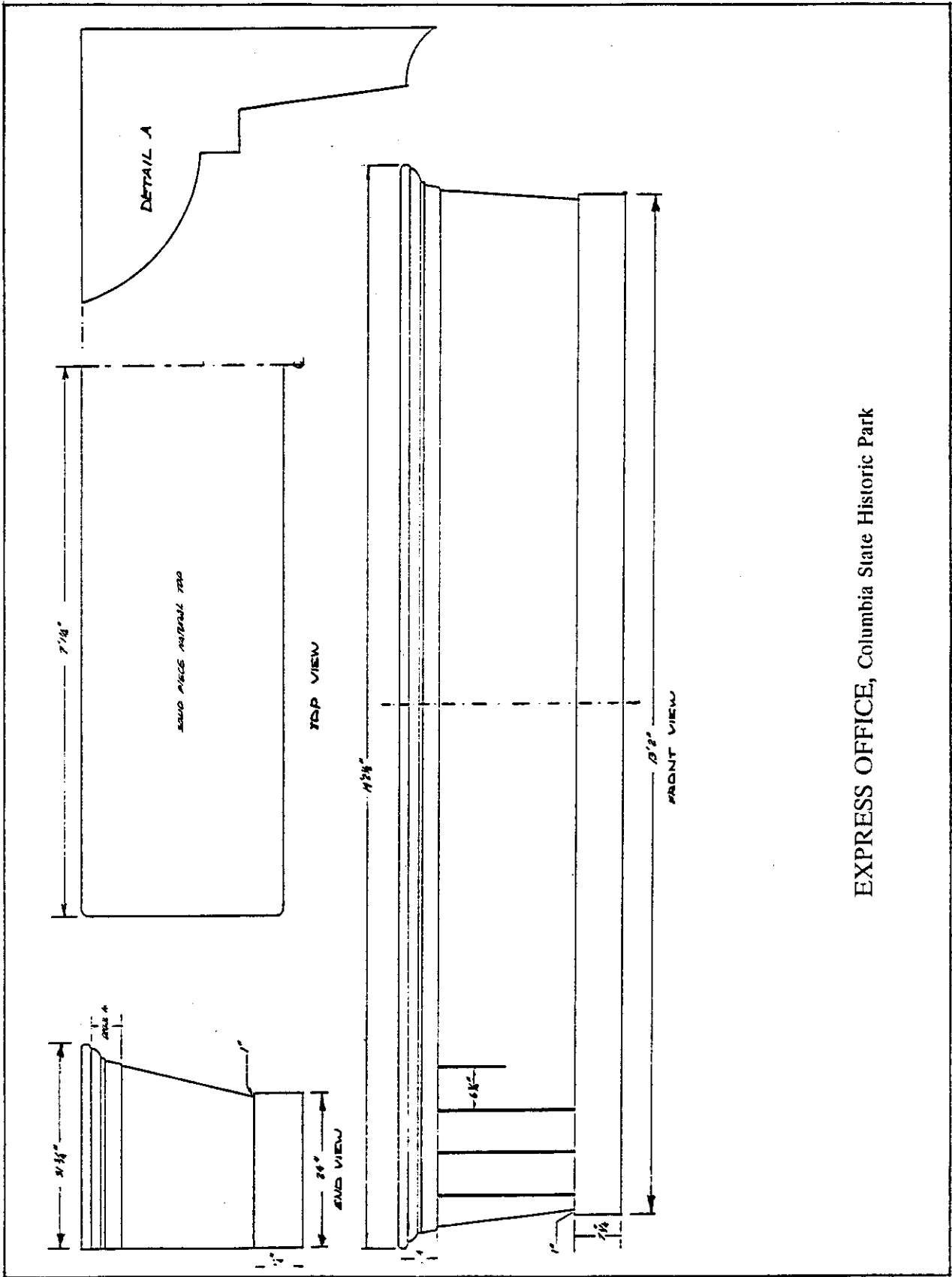
Interiors of 19th century bakeries varied as much as bakeries of today. Building design and construction, location, size, clientele, capital investment and merchandise all contributed to their individuality. As today, the interiors of most 19th century retail bakeries were divided with the salesroom in the front of the structure and the bakery with the hot oven located at the back.

salesroom fixtures

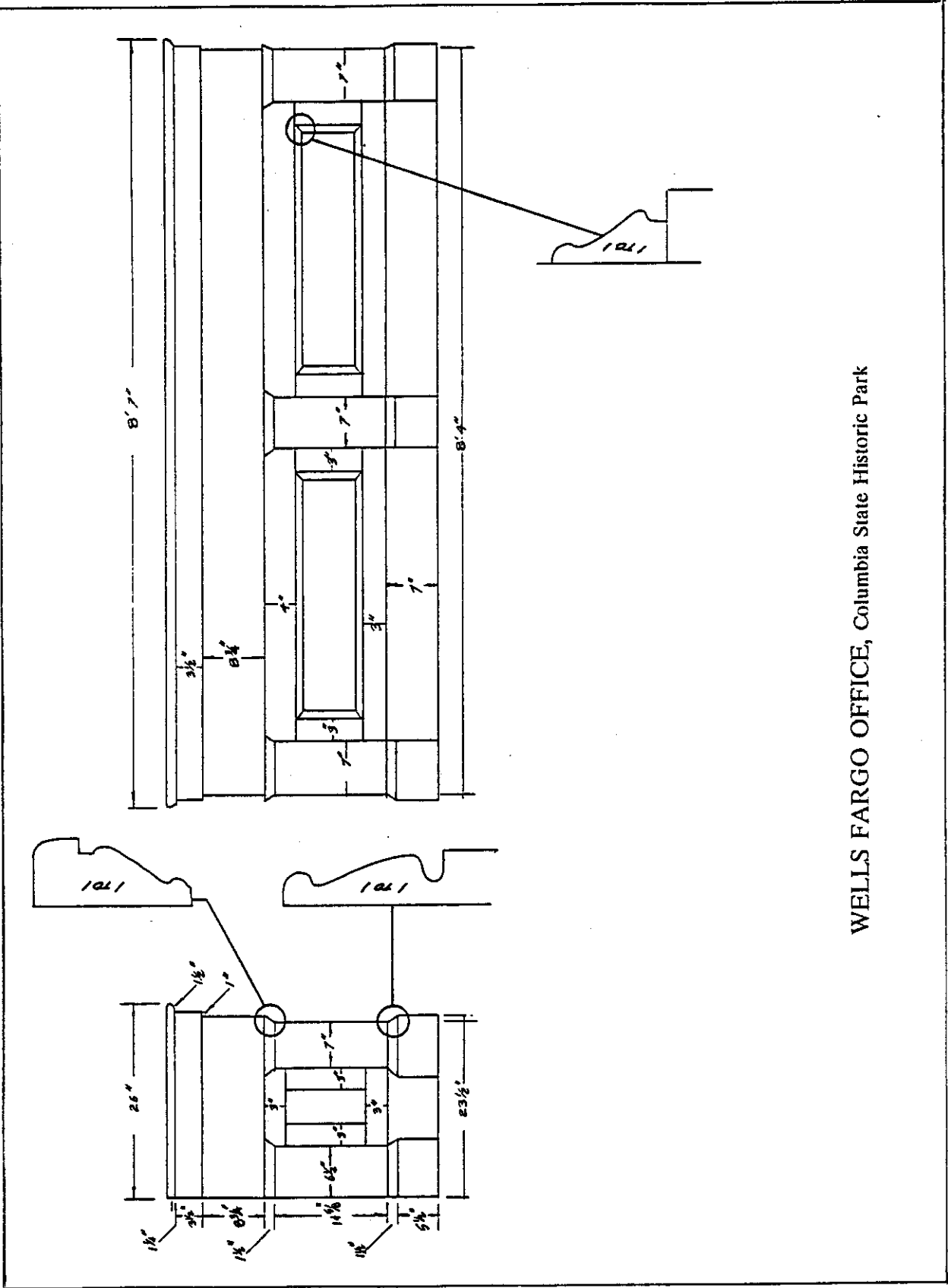
The basic layout of most bakery salesrooms has changed little over the years. Then, as now, baked goods were stacked on shelving behind the counter, as well as in glass cases or in baskets on countertops. It remains one of the few businesses in the 20th century where customers have to ask for the goods they wish to purchase and a clerk's assistance is essential to the sale of the goods. Two basic fixtures have typified the bakery salesroom: the counter and fixed shelving.



Counter styles varied, but usually were one of the three basic styles indicated on the opposite page and detailed on the following pages. Most counters extended the length of the salesroom, were "L" shaped or ran across the back of the



EXPRESS OFFICE, Columbia State Historic Park

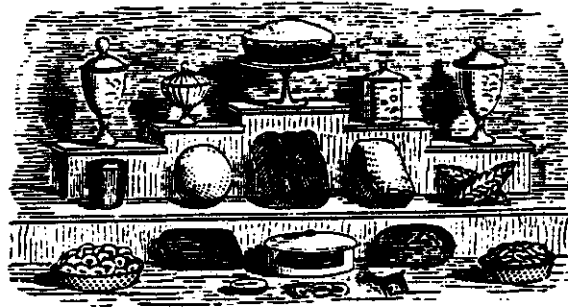


WELLS FARGO OFFICE, Columbia State Historic Park

salesroom. The counters were generally either painted (white was common) or grained.

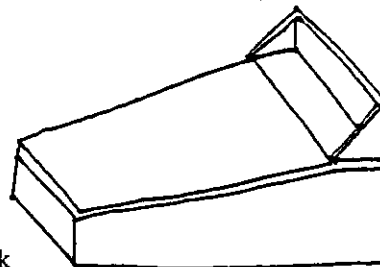
Shelves located against the walls and behind counters ranged from simple, basic designs--typical of California's early Gold Rush period--to more decorative wall units with elaborate cornices or with sliding or hinged glass doors (see the pages that follow for examples of shelving styles). Shelves were generally painted (white was common) or grained.

Pyramidal shelf units, as illustrated below, were an alternative style employed behind counters or used for window displays in bakeries.

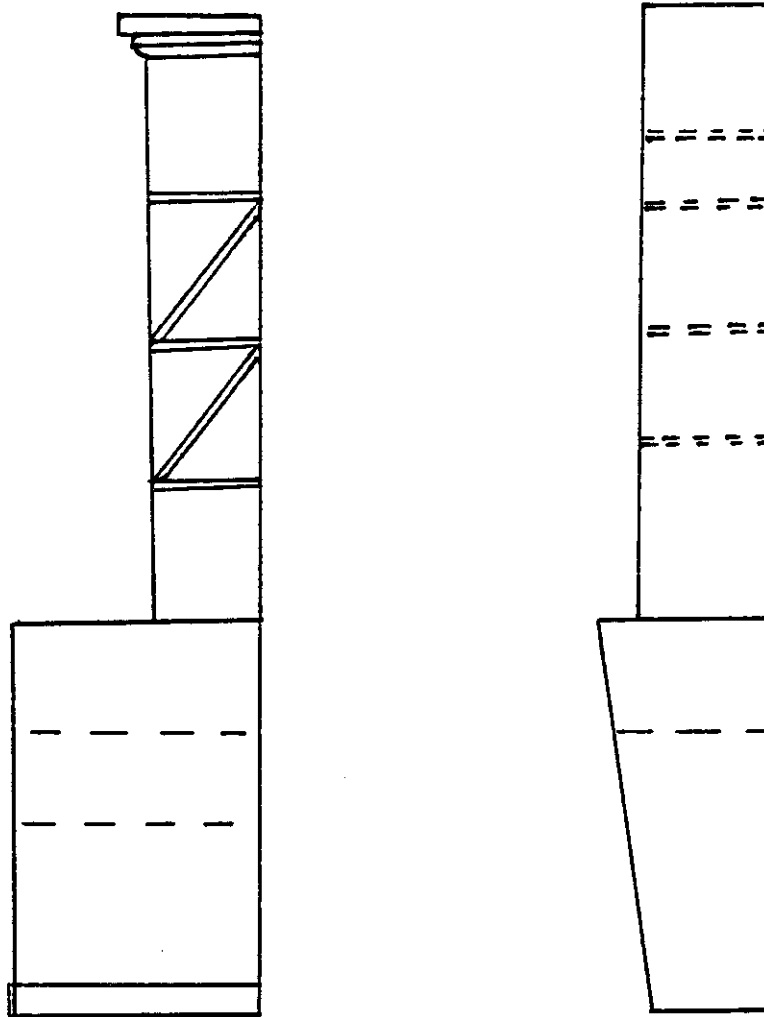


Merchants used counter tops for additional product display space. Glass cases and woven baskets placed on counters held baked goods and provided customers a close-up view of the goods offered for sale. Variations of the different glass case styles can be seen on page 46.

The cash register did not become a common store fixture until the 1880s. Before then, merchants kept records of their transactions in books. Often these books were kept in a portable lift-top desk located on a counter or a table in the store. Examples of these desks can be seen in the Express Office in Columbia and in the Mobeley Store in Malakoff Diggings State Historic Park.



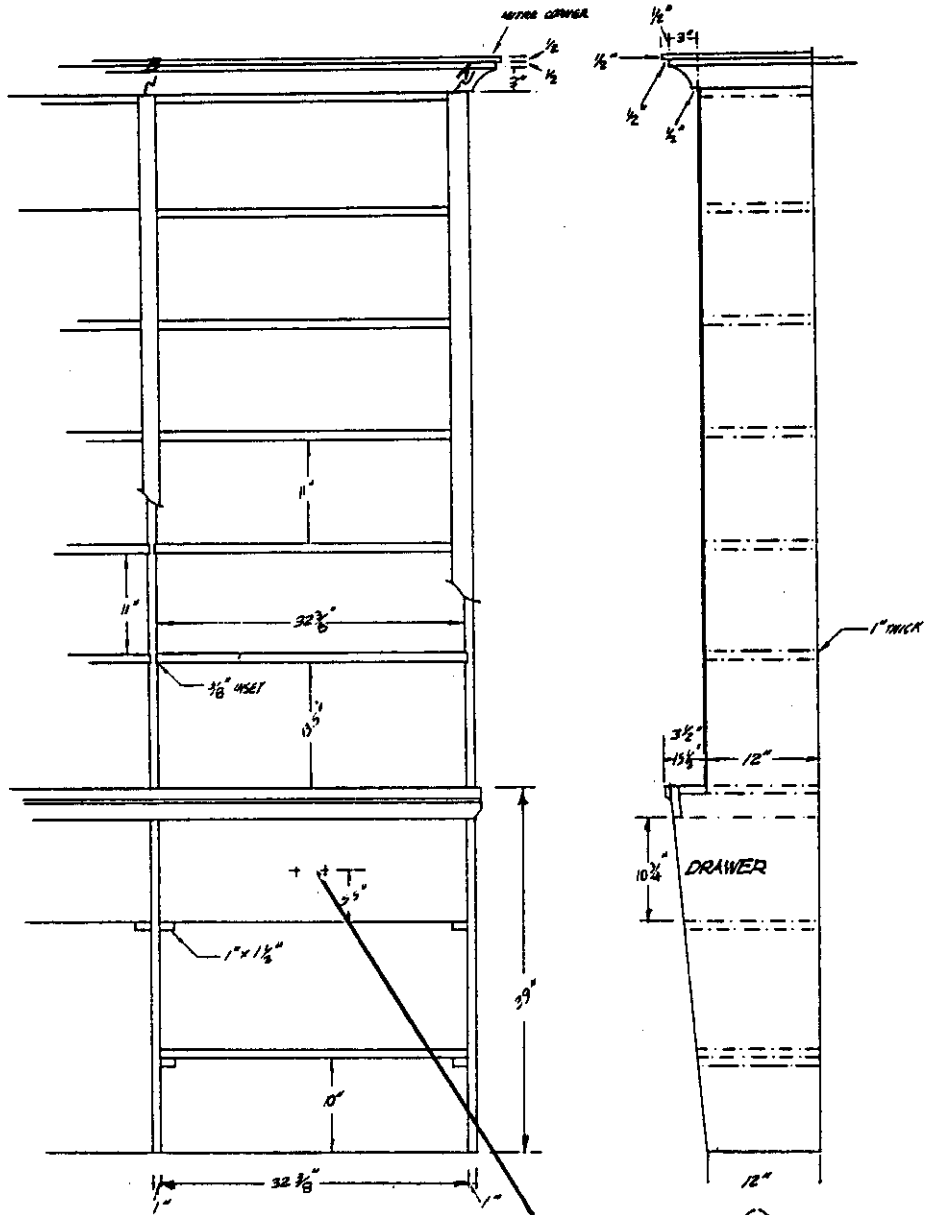
Lift-top desk



SHELVES

basic counter or slant-back base with drawers and/or bins
 with or without cornice
 usually no back
 shelf front open or closed
 regular or irregular spacing of shelves
 slant-backs for some shelves used for the display of merchandise
 painted (white common) or wood-grained

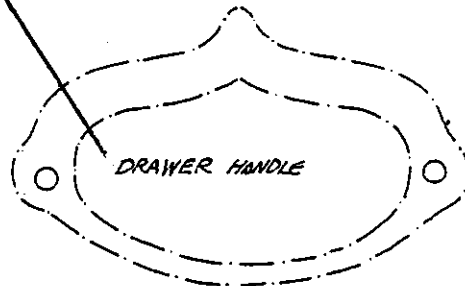
3 1/2' BETWEEN COUNTER BACK & SHELVES



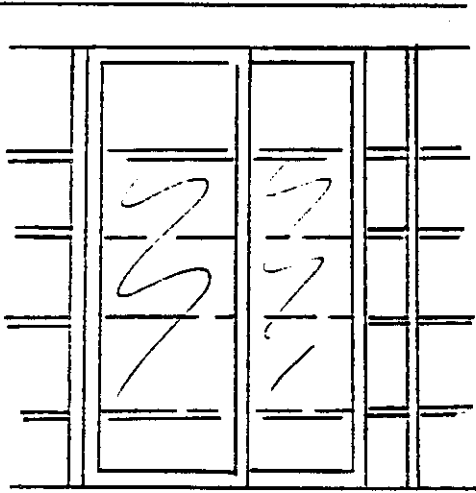
SECTION B

SECTION A

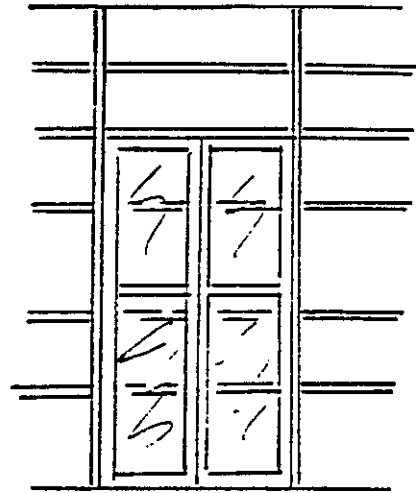
MOBLEY STORE
Malakoff Diggin's State Historic Park



GLASS DOORS

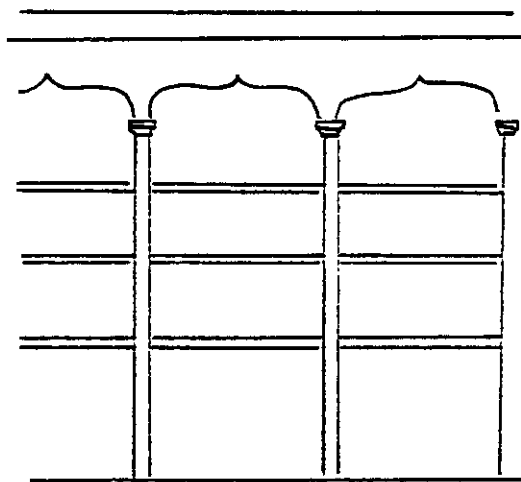
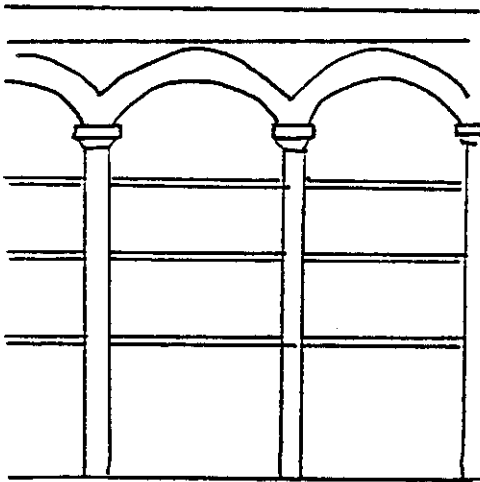


doors slide in tracks

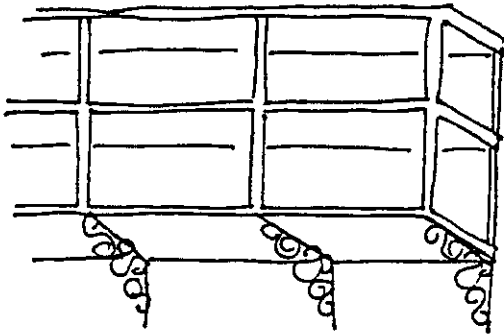


doors swing open

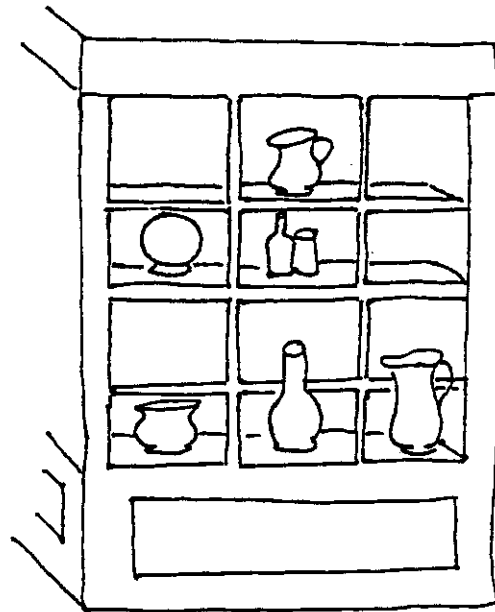
FANCY CORNICES



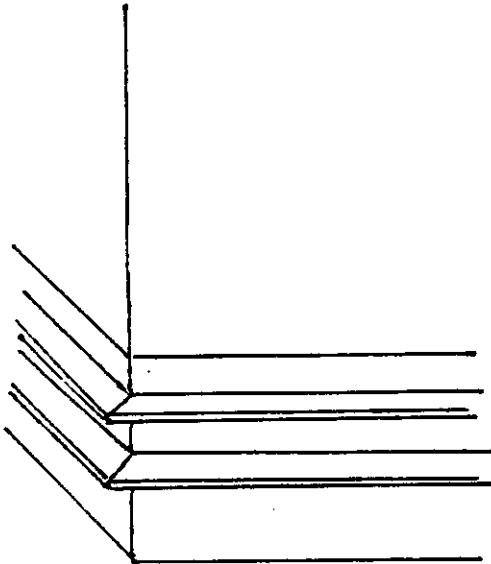
SHELF VARIATIONS



wall-mounted shelf with metal
bracket or wood bracket
simple shelves and supports

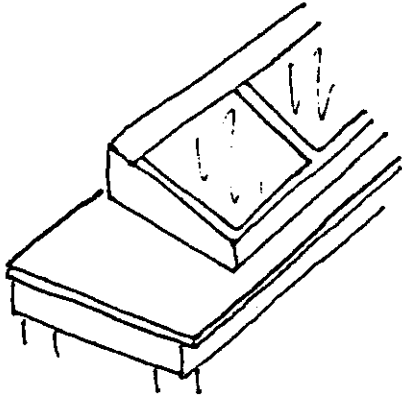


shelves behind display window
normally lines up with muntins

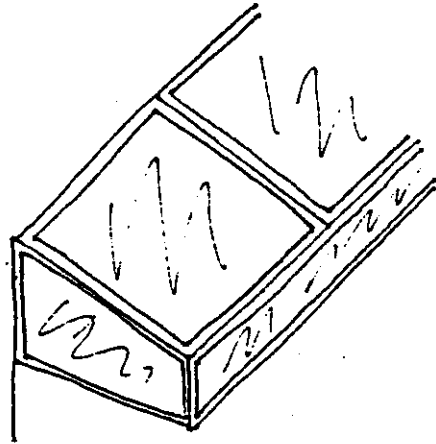


low shelves under windows
can turn corners

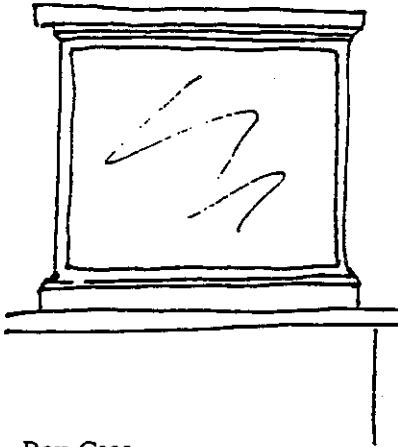
GLASS CASES



Slant-Top
set on table or counter
one or more sections
wood frame and sides



Slant-Top
custom-sized with base
one or more sections
wood frame, glass top and sides

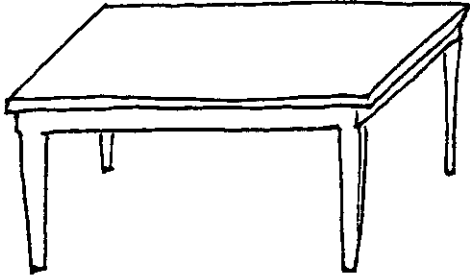


Box Case
wood frame with molding
glass sides

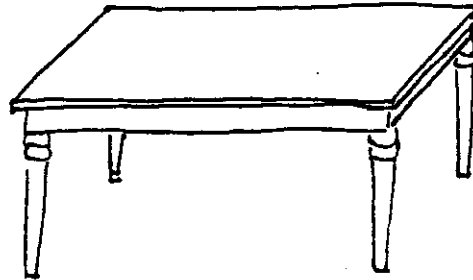


Box Case
custom-sized with base
one or more sections
wood frame, glass top and sides

TABLES



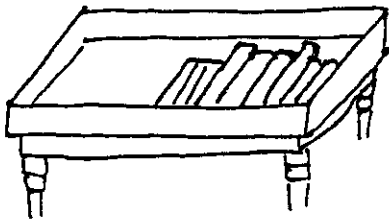
very plain
straight or taper legs



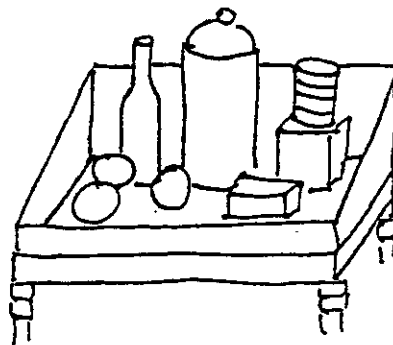
turned legs
most common type throughout
19th century

sometimes placed end-to-end in long rows down
the center of the store
with or without tablecloth to hide crude construction
or for formal effect

TABLE-TOP VARIATIONS



Bin Top



provides backstop for merchandise
slanted sides

Bakeries created additional display space (and sometimes a small dining area for customers) was with tables. These were relatively simple in design, as indicated in the illustrations on page 47.

The 19th century merchant sometimes provided seating in front or inside the store for the convenience or comfort of their customers. Examples of styles appropriate for the mid-19th century are shown on page 49.

neatness

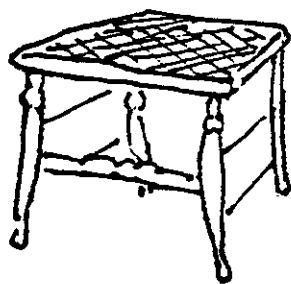
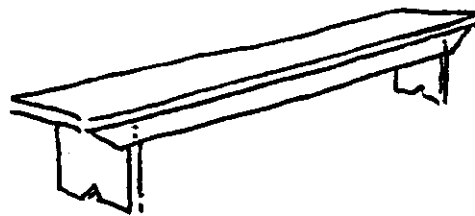
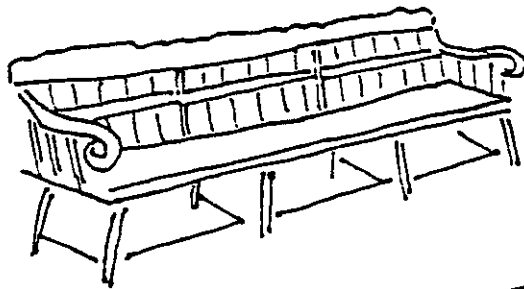
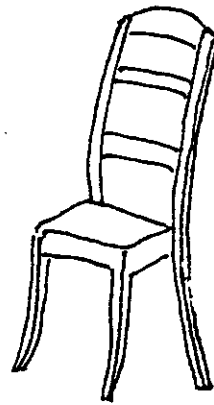
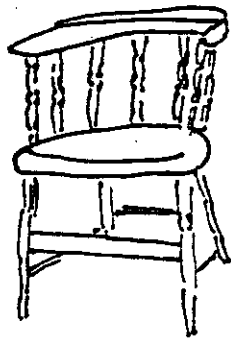
The appearance of a store's interior was influenced by the owner's attitudes about efficiency and neatness. As early as 1849, Hunt's Merchant's Magazine (Jan.-Jun.,1849:119) promoted neatness in the display of goods:

The store or show-room should, in the first place, be thoroughly cleansed, then it should be kept so, by all proper care and neatness. Goods should be arranged with good taste and an eye to the general effect. Every one employed in the store should be made to stand on the support nature gave him, or if he be weak or lame to sit on a stool or chair. If visitors annoy by sitting, leaning, or lounging upon the goods, placards should be put up forbidding it; and a person who has so little good taste, or so much carelessness as to offend in this way, should not take umbrage if he be reminded of his fault. And finally, clerks should be educated in this as well as many other respects before they are considered competent to graduate. . . . Long years of laborious practice under good instruction will alone accomplish it, and it were well if this were more generally understood.

The above article makes no recommendations about the best layout for a store, concentrating more on the appearance of the store and the behaviour of clerks maintaining it. After the 1870s, professional advice paralleled what was thought to be a more "scientific" approach taken to space planning for offices and factories. One short article, called "Two Stores Contrasted," provides an early example of modern merchandising principles, comparing the "bad"/old-fashioned store to the "good"/modern one. (Refer to the illustration on page 50.)

SEATING

plain, utilitarian styles were used throughout the 19th century



Half-Chair
used like a stool for seating
seat and legs only



THE above shows the interior of the grocery store where cheese, butter, flour, sugar and other articles, containing moisture, are saturated with tobacco smoke. It may be the privilege of the proprietor to make his store the general resort of amusement seekers, loungers and smokers, but such a course is never to be commended as profitable to business.



THE charming window display of goods in this store attract to the interior, where the order and general neatness are evidences that the groceries for sale here are of pure quality, the butter not filled with the flavor of tobacco, nor the sugar with kerosene. These pleasant surroundings further indicate that prompt and genteel attention will be given the customer.

Suggestions About Shopping. Conduct in the Store.

PURCHASERS should, as far as possible, patronize the merchants of their own town. It is poor policy to send money abroad for articles which can be bought as cheaply at home.

Do not take hold of a piece of goods which another is examining. Wait until it is replaced upon the counter before you take it up.

Injuring goods when handling, pushing aside other persons, lounging upon the counter, whispering, loud talk and laughter, when in a store, are all evidences of ill-breeding.

Never attempt to "beat down" prices when shopping. If the price does not suit, go elsewhere. The just and upright merchant will have but one price for his goods, and he will strictly adhere to it.

It is an insult to a clerk or merchant to suggest to a customer about to purchase that he may buy cheaper or better elsewhere. It is also rude to give your opinion, unasked, about the goods that another is purchasing.

Never expect a clerk to leave another customer to wait on you; and, when attending upon you, do not cause him to wait while you visit with another. When the purchases are made let them be sent to your home, and thus avoid loading yourself with bundles.

Treat clerks, when shopping, respectfully, and give them no more trouble than is necessary. Ask for what is wanted, explicitly, and

if you wish to make examination with a view to future purchase, say so. Be perfectly frank. There is no necessity for practicing deceit.

The rule should be to pay for goods when you buy them. If, however, you are trusted by the merchant, you should be very particular to pay your indebtedness when you agree to. By doing as you promise, you acquire habits of promptitude, and at the same time establish credit and make reputation among those with whom you deal.

It is rude in the extreme to find fault and to make sneering remarks about goods. To draw unfavorable comparisons between the goods and those found at other stores does no good, and shows want of deference and respect to those who are waiting on you. Politely state that the goods are not what you want, and, while you may buy, you prefer to look further.

If a mistake has been made whereby you have been given more goods than you paid for, or have received more change than was your due, go immediately and have the error rectified. You cannot afford to sink your moral character by taking advantage of such mistakes. If you had made an error to your disadvantage, as a merchant, you would wish the customer to return and make it right. You should do as you would be done by. Permanent success depends upon your being strictly honest.

Say "No" Politely.

A COMMON saying is, "A man's manners make his fortune." This is a well-known fact, and we see it illustrated every day.

The parents who considerately train a child amid kindness and love, rear a support for their declining years. The teacher that rules well and is yet kind, is beloved by his pupils. The hotel proprietor, by affability and an accommodating spirit, may fill his hotel with guests. The railway conductor who has a pleasant word for the lonely traveler, is always remembered with favor. The postoffice clerk who very carefully looks through a pile of letters and says, "not any" very gently, pleasantly adding a word of hope by saying, "it may come on the afternoon train," we always gratefully

recollect. When the time comes that we can return the kindness, we take great pleasure in doing so.

The man who shows himself to be a gentleman, even though he may not buy what we have to sell when we solicit him, we always know will get his reward. His affability, when he declined, demonstrated that he could say "no" with a pleasant word. The very fact of his impressing us so favorably, even when he did not purchase, clearly indicated that he was thoroughly schooled in the ways of politeness, and that he lived up to the golden rule of doing to others as he desired others to do to him.

The above [see graphic opposite to the left] shows the interior of the grocery store where cheese, butter, flour, sugar and other articles, containing moisture, are saturated with tobacco smoke. It may be the privilege of the proprietor to make his store the general resort of amusement seekers, loungers and smokers, but such a course is never to be commended as profitable to business.

In contrast:

The charming window display of goods in this store attract to the interior, where the order and general neatness are evidences that the groceries for sale here are of pure quality, the butter not filled with the flavor of tobacco, nor the sugar with kerosene. These pleasant surroundings further indicate that prompt and genteel attention will be given the customer.
(Hill:17)

The accompanying illustration provides more specific information about interior details. The good store had windows across the entire front of the building, offering more light as well as additional display possibilities. The bad store was dark inside and had smaller, poorly lit window display areas. The good store had a large doormat outside and a floorcloth or tile strip in the center of the store. The bad store had plain, wooden floor boards and a step down to the sidewalk. The shelves in the good store had attractive cornices and stocked merchandise in uniform rows. The shelves of the bad store might have sagged a bit and the goods were arranged haphazardly. The area in front of a good store's counters was free of merchandise, except perhaps for a compact sugar bin against one counter. The central area of a bad store was filled with barrels, boxes and baskets of merchandise. The good store had a separate cashier station, where a neat young lady handled the money. Well-dressed clerks behind the counter did not contaminate goods or offend customers. There were no seats or other invitations to loiter in a good store; all the people were expected to be conducting business. A bad store provided chairs to accommodate loungers, who might play cards instead of make purchases. The good store displayed its fresh produce together.

The bad store set the butter next to the kerosene, and left its salt barrel outside with the tar barrel.

Clearly, the good store was more "business-like" and met a standard emulated by many businesses at the end of the 19th century. The bad store, was more typical of the mid-century, thus the need to criticize it as out-of-date in the above 1870s article. However, the cluttered interior, where goods were haphazardly placed rather than carefully set to enhance their saleability, continued well into the 20th century, particularly in hardware and grocery stores, where quantities of different products were sold.

store lighting

Light levels of 19th century interiors were much lower than those of today. Fuel and candles were costly and not to be wasted. During the day, people made do with available sunlight from windows and the occasional skylight. At night, a single candle or lamp was all that was normally used.

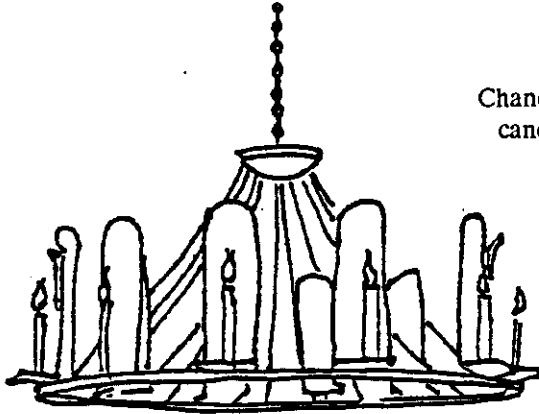
Candles were the most common light source in early Columbia, as elsewhere. Illustrations and personal accounts of miners indicate that liquor bottles were frequently used as holders for single candlesticks. There were undoubtedly some wall sconces and ceiling-hung fixtures for candles, as well. Some period illustrations indicate candles with reflectors, or fluid burners with round shades were used.

The fanciest lamps burned liquid fuel and were available very early. Gambling parlors especially, were noted for their elaborate chandeliers. On June 6, 1850, an advertisement appeared in the Sacramento Transcript, which read:

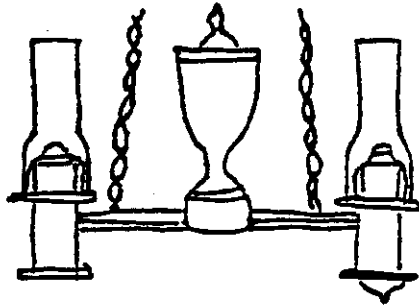
Just received by steamer "Caroline," the celebrated manufacture of Dietz, Brother & Co., New York; also girandoles [branched candlesticks], in sets of 3, 5 & 7 light, both gilt and bronze--among the lot one splendid set of mantle ornaments, with chandelier and solar lamp to match. A full stock of chimneys and wicks for sale by John H. Spies 2nd Street, between J & K.

LIGHT FIXTURES

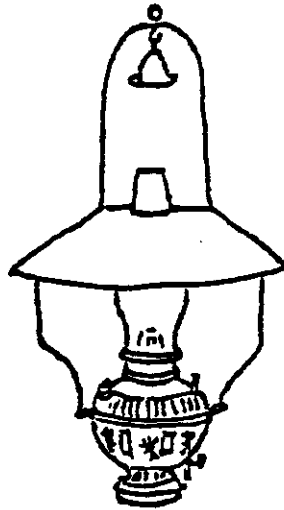
Chandelier
candles



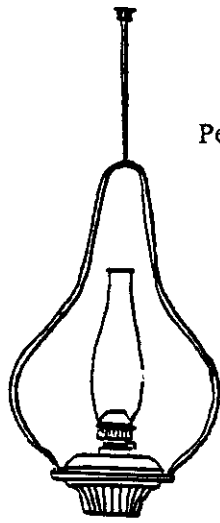
Argand-burner Chandelier
whale oil



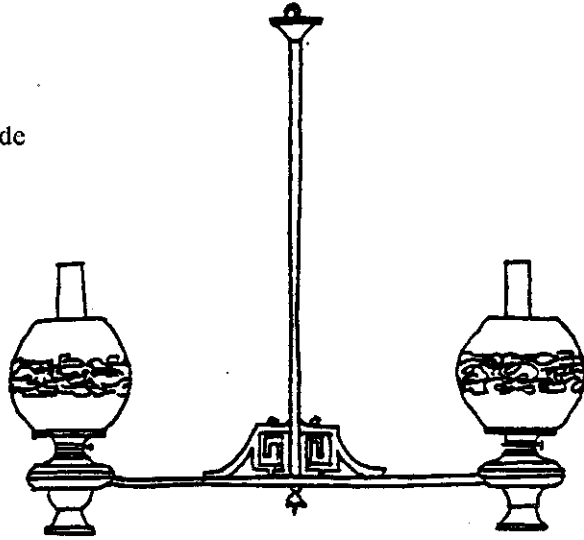
"Store Lamp"
coal oil (kerosene)



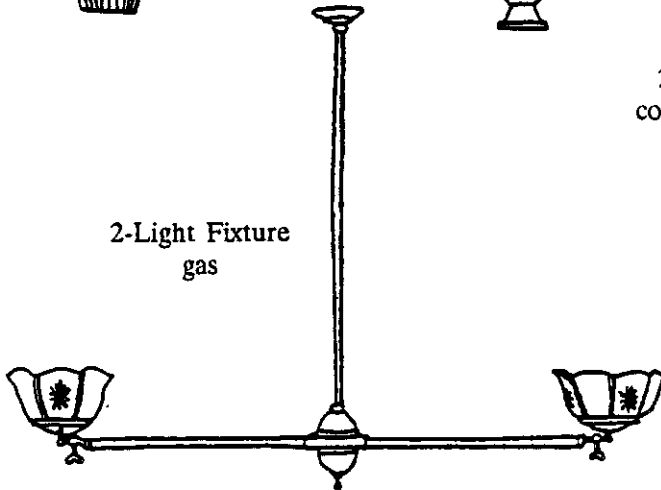
LIGHT FIXTURES



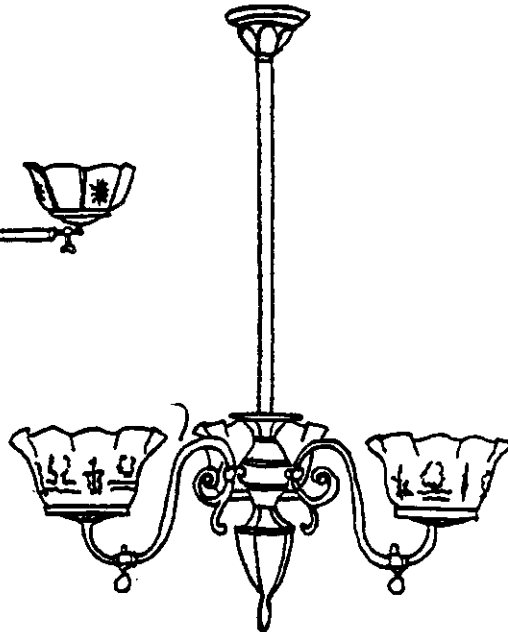
Pendant Without Shade
coal oil (kerosene)



2-Light Fixture
coal oil (kerosene)



2-Light Fixture
gas



3-Light Fixture
gas

Archeologists have found evidence of brass hanging and standing lamps at the Cothrin Store in Sacramento:

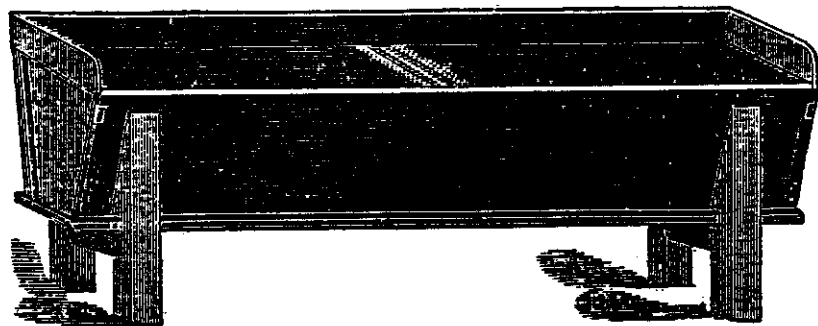
Several of the items recovered, due primarily to their uniqueness, are more likely to represent part of the store furnishings rather than its trade goods. Fragments of brass lamps were excavated from both the front and the rear of the store--doubtless the source of illumination necessary for the interior of the store. (Butler:62)

Although stores elsewhere in the country used utilitarian styles of lamps, the Cothrin Store may have used a fancier one, as five decorative glass prisms were found with the lamp remains.

Kerosene, called coal oil at the time, was still being developed in the 1850s and was not commonly used until the 1860s. It was the kerosene lamp that eventually became the standard fixture for 19th century stores across the nation: a large brass font hanging from a simple wire harp, tall glass chimney, and often a plain tin shade set over the top of the harp (see illustration on page 53). Another common form for stores after 1860, was the simple "T"-shaped chandelier, which supported two brass fonts with glass globes. This form continued to be used in stores and public buildings, well after the introduction of gas.

bakery fixtures

Each bakery had room for storing, sifting and mixing ingredients, preparing dough for a variety of bakery products, and baking. Most 19th century were equiped with: wooden barrels, boxes, sacks and crocks which stored ingredients; a large wooden trough for mixing and kneading dough; scales and weights



Wooden Dough Trough.

for weighing dough; a table for working the dough into a variety of shapes and products; a large brick oven; overhead racks which held long handled implements called peels for placing and removing baked goods in the oven; and one or more large baskets and/or racks to hold the freshly baked items.

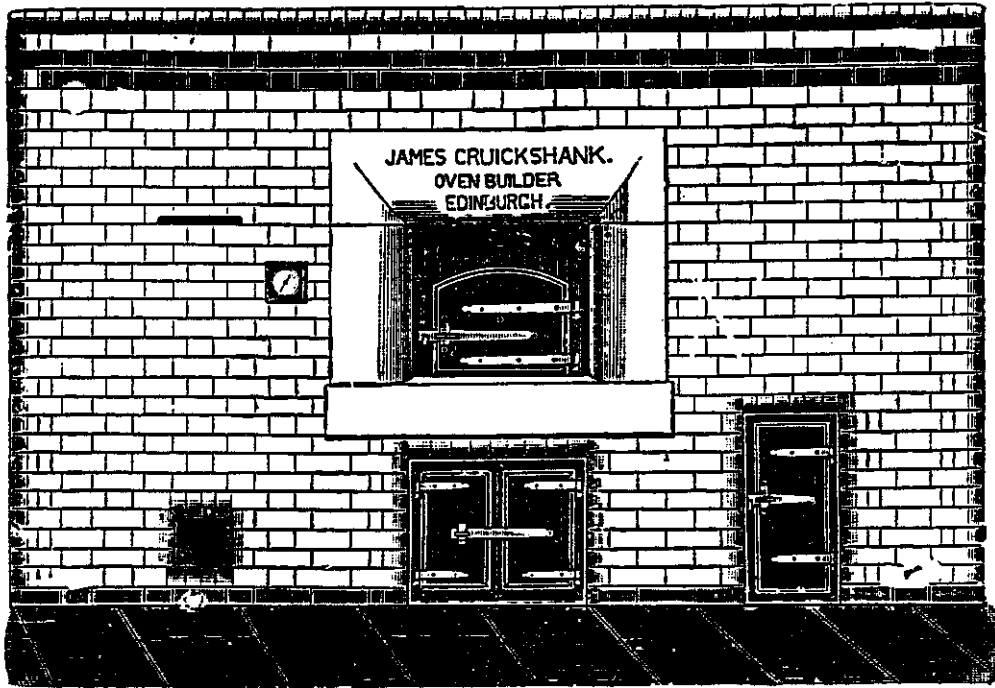


The oven was obviously the principal feature of the 19th century bakeshop. The peel oven was the standard style used by bakers with some modifications until the latter part of the century (Stewart:74). In the 1850s:

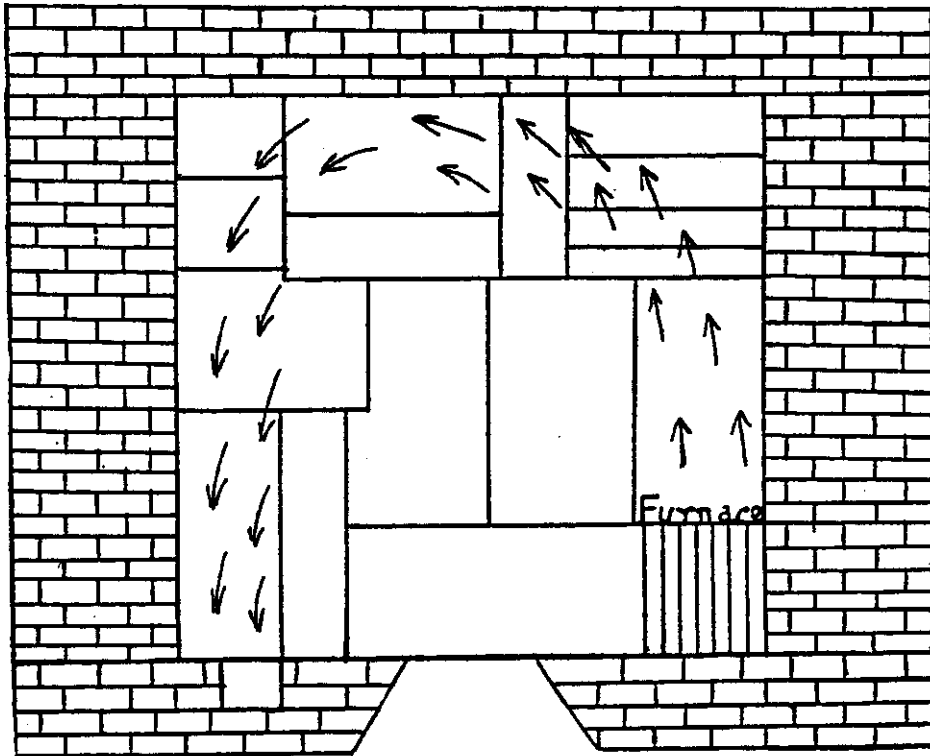
The brick oven, still fired with wood, was basically a Roman oven except for improvements in size, its thicker walls and better dampers. The oven was usually fired in the evening of the day before the products were baked. When the arch of the entire oven turned white, the fuel was brought forward to the oven door and withdrawn and the oven swabbed clean to remove all ashes and dust. Once the oven hearth was clean, the damper and oven door were shut tight, and the heat allowed to spread over the entire hearth area for about two hours. This was the "equalization period," and not until its end was the oven ready for baking. (Panschar:35-36)

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PEEL OVEN



PLAN OF PEEL OVEN



Some mid-19th century bakers modified the basic oven design by relocating the fire box to one side of the baking chamber. Rather than being gradually pushed into all parts of the oven, the fire remained stationary and greatly simplified both heating and cleaning (Panschar:56). Other changes included constructing fire boxes on both sides of the oven, which overcame the inequalities of heating experienced with left-or right-handed fire boxes (Panschar:56). The basic problem with the oven, however, remained the necessity for refiring after each baking period.

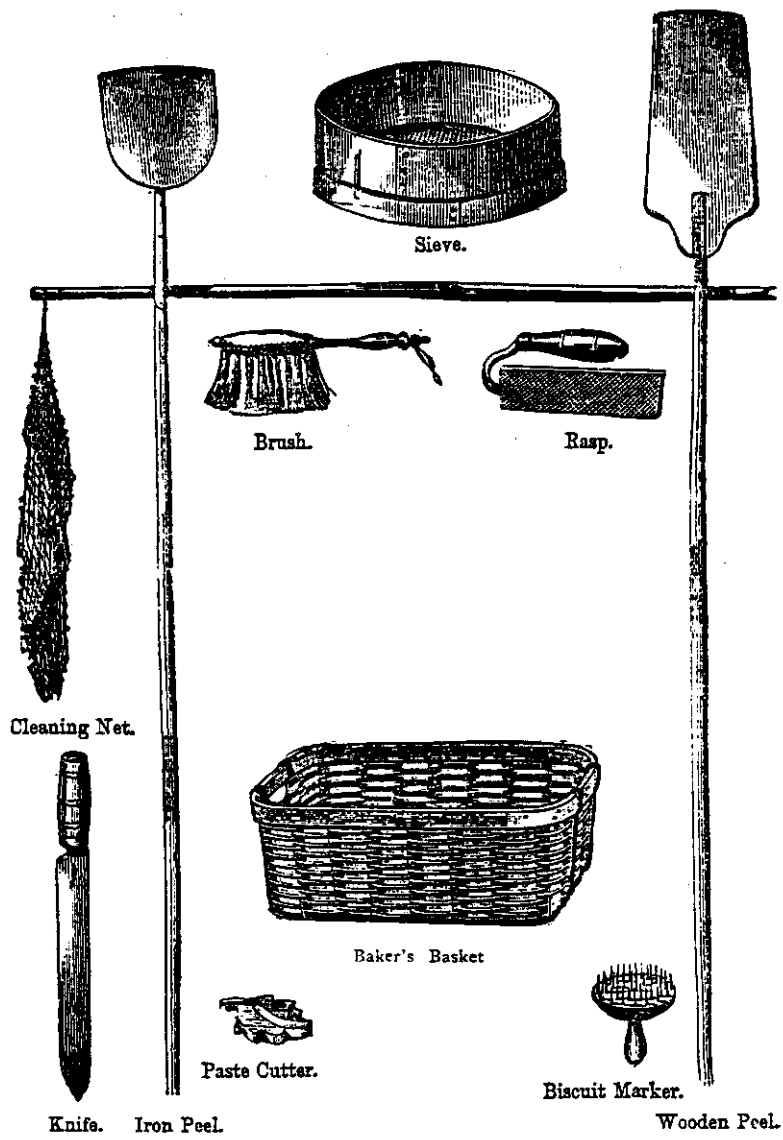
In the 'seventies, the problem was solved through the introduction of indirect continuous firing, an innovation paralleling the importance of the invention of the oven itself. The fire box was removed from the baking chamber and placed behind the oven or below it. Heat from the fire box was conducted through a series of flues running above and below the baking chamber and out through the chimney stack. A proper baking temperature could be maintained indefinitely in the oven simply by adding more fuel. More important, the fire did not have to be removed or put out while baking took place. Continuously fired, one peel oven could do the work of three of the older types with considerable savings in labor. (Panschar:56)

*tools of the
trade*

The Boys Book of Trades, published in the 1880s, describes the equipment most 19th century bakers worked with:

The tools that are used in most bakeries are, beside the *oven*, where the bread is baked, and the *kneading trough*, in which the dough is mixed: a *seasoning tub* for mixing other ingredients to be mingled with the dough, a *wire sieve* for sifting the flour, and a *seasoning sieve* made of tin pierced with small holes; a *flour basket* lined with tin, and a *flour scoop*, a *pail*, a *bowl*, a *salt-bin*, which should be near the oven, a *yeast tub*, a *dough knife*, *scales and weights* for weighing the dough before it is moulded into a loaf, a *scraper* for removing the dough from the trough and the board where the loaves are shaped, wooden and

BAKERY TOOLS





Egg Whisk.

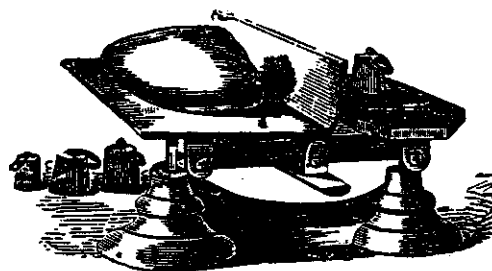


Flour Basket and Scoop.



Egg Brush.

iron *peels*, a sort of shovels with long handles, for placing the bread in the oven or removing loaves, dishes and cakes, after they are baked, a *rasp*, like a coarse broad file with a bent handle, for rasping off any portion of burnt crust; a *dusting brush* for sweeping away refuse of flour or dust from the boards where the loaves are made or placed after



Scales and Weights.

baking, an *egg whisk* for beating eggs used in pastry, and an *egg brush* for putting a glazing of egg on the outside of buns or cakes, differently shaped *tins* or *moulds* for rolls or other articles of fancy bakery,



Tin for French Rolls.



Tin for Sponge Cakes.

coarse squares of *baize* or *flannel* for covering the dough or the newly-made bread, and a *scuttle*, *swabber*, or *cleaning net*, made of a quantity of rough netting fastened on the end of a pole, and which, after being wetted, is used for the final removal of all dirt from the oven just before "setting the batch," or placing the loaves for baking. Beside these there are in bakehouses *set ups*, or oblong pieces of beech wood, to be placed in the oven for the purpose of keeping the loaves in their places.

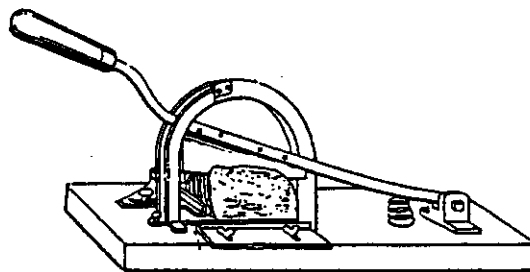
Advice for Bakers

Creating a 19th century bakery involves setting the stage with appropriate fixtures of the period. The front salesroom should contain the basic elements of a long counter and shelving running along one or more walls. Use the illustrations in this chapter as a guide for selecting the proper style of fixtures and furniture for your bakery. You might also consider displaying historic tools of the trade for your customers in the salesroom.

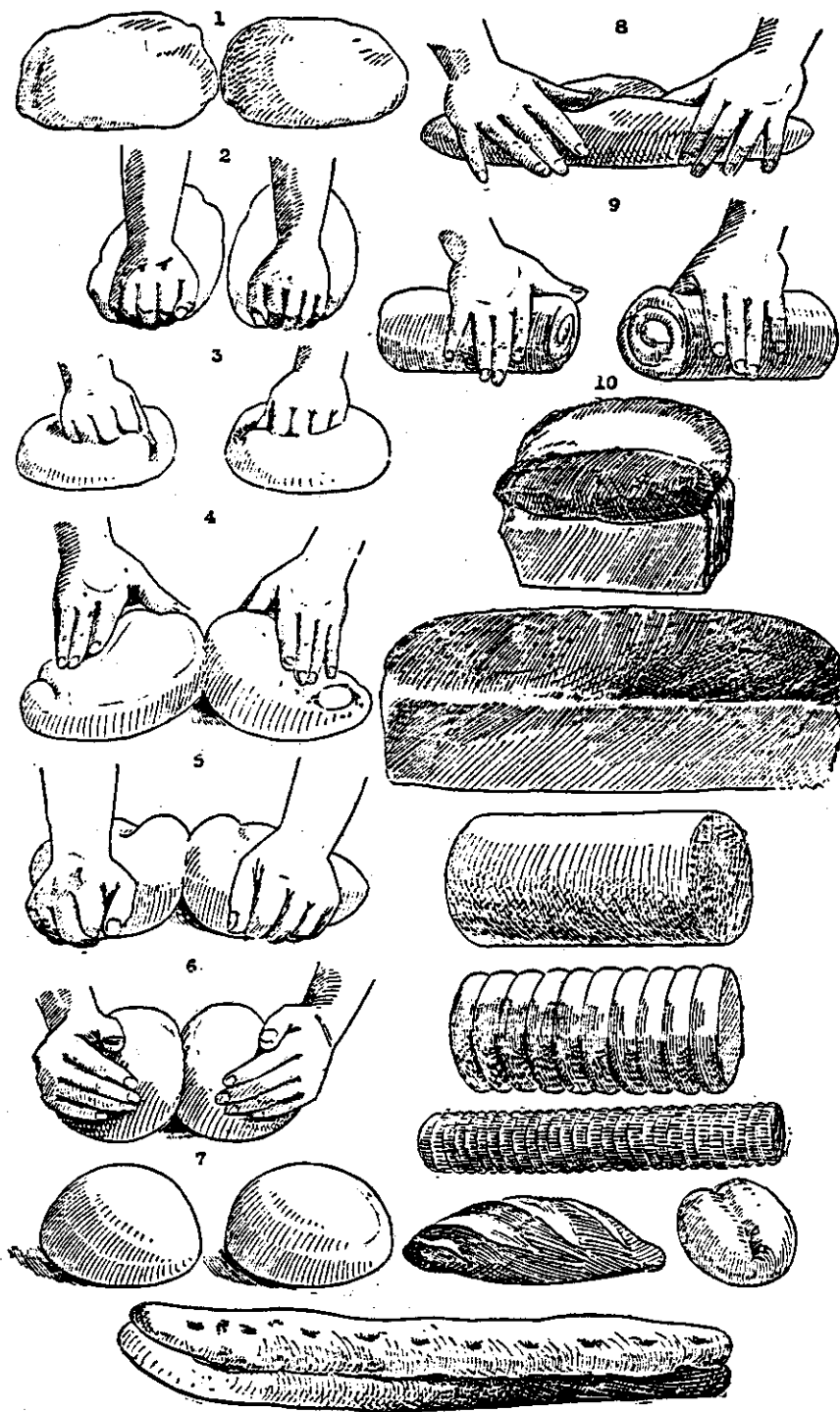
Remember not to over-light your store and to use chandeliers and fixtures that would be suitable for your business in California between the years 1850 to 1870.

Do not construct a brick, peel oven in an existing building, unless there is evidence to demonstrate that one was there historically. Brick ovens are expensive to build and may require major alterations to the building. Some years hence, it could be considered inappropriate if the structure is restored to its original use. Other ovens can be installed, which are far less damaging to the original building fabric and which may be more easily removed. (If the oven you install is out of period, do not emphasize it when talking with customers.)

What is important in your bakery operation is that you take the time to explain the traditional ovens and the technology used by 19th century bakers. Your customers will gain a respect for the hard-working bakers of the last century and a better appreciation of your portrayal of that industry.



Bread-Knife.



Bread Designs and How to Mould Dough.

(from, Ornamental Confectionery and
The Art of Baking by Herman Hueg)

OPERATING A BAKERY IN CALIFORNIA

bakery hours

The baker's day began early in the morning--long before the store opened for business--with the firing of the oven. Although store hours were rarely publicized, it is possible that Columbia's Gold Rush merchants operated on a schedule like the post office, which advertised in the Columbia Gazette and Southern Mines Advertiser, from 8 A.M. to 8 P.M. (Lang:111). Contrast this to New York stores in 1852, which according to Hunt's Merchants Magazine, generally closed at 4 o'clock in the afternoon (Jan.-Jun., 1852:522). Most early Gold Rush business hours were probably flexible, to accommodate early or late arriving customers.

Sundays

J.D. Borthwick noted that Sunday was the merchants' busiest day of the week, at least among the shopkeepers of Hangtown (Placerville):

During the week, and especially when the miners were all at work, Hangtown was comparatively quiet; but on Sundays it was a very different place. On that day the miners living within eight or ten miles all flocked in to buy provisions for the week--to spend their money in the gambling-rooms--to play cards--to get their letters from home--and to refresh themselves, after a weeks's labour and isolation in the mountains, in enjoying the excitement of the scene. . . (Borthwick:97)

The storekeepers did more business on Sundays than in all the rest of the week; and in the afternoon crowds of miners could be seen dispersing over the hills in every direction, laden with the provisions . . .(Borthwick: 98)

the baker at work

The baker labored long, hard hours. After the oven was fired, a number of complex processes had to be well-coordinated and timed:

He had to sift the flour carefully to remove any foreign material and had to blend several types or shipments of flour in order to get a mixture that would suit his particular shop conditions. These operations were not easy tasks. Flour in wooden barrels, containing 196 pounds, or in 140-pound jute bags, was dumped into one end of a wooden trough. The flour was then shoveled into the sifter placed over the other end (as well as onto the baker).

Another task before baking was the preparation of the yeast mixture or brew. The baker had to make his own yeast mixture because compressed yeast was still unknown. There were almost as many brews as there were bakers, since each had secret recipes which he thought superior to those of other bakers. . .

The last step prior to actual baking was the mixing of flour and other ingredients into dough. This could be done by the "straight dough" method, mixing all of the ingredients at one time. But it was an infrequent practice, for the baker had less control over the fermentation of the yeast. Instead, practically all yeast-raised doughs were made by the sponge method. From a half to three-quarters of the required flour and other ingredients were mixed with the yeast, and sufficient water (about 55 per cent) was added to form a moderately stiff dough called the "sponge." Mixing the ingredients in a trough by hand until the sponge reached the proper consistency was no mean task. It took a strong man to perform this job, and quite commonly the baker climbed into the trough to do the mixing. When the sponge was "set," it was allowed to ferment and rise for the proper length of time, being timed with the heating of the oven.

A variety of yeast-raised products could be made from one master sponge. The sponge was "broken" by adding a required amount of water until it was down to a semi-batter or semi-fluid condition. The baker then dipped out so much for sweet yeast

dough, so much for rye, so much for other special bread. The rest of the necessary ingredients were then added to the remaining mixture, and the dough was again tediously hand-kneaded. While the various dough batches were maturing, pie fillings and various toppings for coffee cakes and other products were made. When the dough matured, the various shapes were formed. Rye and white bread were molded into



loaves and placed in the oven. Next came the sweet rolls and coffee cakes, with doughnuts the last to be processed. Finally, after the early morning breakfast goods were well on their way to the sales room and consumers' tables, the cakes were made. They could be made last because they did not require the oven to be as hot as did the other products. In fact, jelly rolls and sponge cakes could be baked with spot fire without heating the entire baking chamber.

The entire process was a test of the skill and experience of the baker, especially on controlling the quality of his product. Estimates on timing, for example, always had to be conditioned by temperature and humidity conditions, for adverse weather conditions could ruin the entire production. (It was not uncommon, even as late as 1900, to find weather vanes in the bakeries.) For setting or breaking the sponge cold water was used in warm weather and warm water used in cold weather. Temperature and humidity were also important in determining the proper proofing periods, for if the

weather was too warm, the bread might rise and fall before it could be put in the oven, causing a "sour" product. The mixing time and the fermentation time of the sponge and dough were also affected.

*weights and
measures*

19th century bakers handled bulk ingredients from several countries. A good businessman of the period understood the peculiar practices used by the different places of origin for packaging, weighing or measuring (Johnson:15). This was a necessity to stay profitable. For example, in measuring yard goods:

. . . it was customary to mark off a section of the counter with nails or tacks, whereby a yard was divided into four squares, with each square similarly divided into sections of 2 1/4 inches. (The term "thumb" is an ancient measure of 2 1/4 inches or the length of the thumb to the second joint--hence "rule of thumb.")

"Getting down to brass tacks," Daboll [Daboll's Assistant, a merchant's reference work] gave the cloth measure thus (Johnson:15)--

4 nail (na.)	1 quarter of a yd.	qr.
4 quarters	1 yard	yd.
3 quarters	1 Ell Flemish	E.Fl.
5 quarters	1 Ell English	E.E.
6 quarters	1 Ell French	E.Fr.

According to Daboll (Johnson:15), liquids such as wines, brandies, spirits, mead, vinegar, and oil, etc. were measured as follows:

4 Gills	1 pint	pt.
2 pints	1 quart	qt.
4 quarts	1 gallon	gal.
31 1/2 gal.	1 barrel	bl.
42 gallons	1 tierce	tier
63 gallons	1 hogshead	hhd.
2 hogsheads	1 pipe	p.
2 pipes	1 tun	T.

[Daboll noted] . . . that 231 solid, or cubic, inches make a wine gallon, but a beer gallon contains 282 solid inches. A bushel contains 2150 4/10 inches.

In long measure, he gave "3 barley-corns (b.c.) make 1 inch; 1728 solid inches in 1 solid foot; 40 feet of round timber or 50 feet of hewn timber to 1 ton or load; and 128 solid feet, or 8 feet long by 4 wide and 4 high, to a cord of wood." (Johnson:15)

Other definitions with which the baker had to be familiar, included the following:

Gross Weight, which is the whole weight of any sort of goods, together with the box, cask, or bag, & c, which contains them.

Tare, which is an allowance, made to the buyer, for the weight of the box, cask, or bag, & c, which contains the goods bought, and is either at so much per box, & c, or at so much per cut, or at so much in the whole gross weight.


Trett, which is an allowance of 4 lb. in every 104 lbs. for waste, dust, & c.

Suttle, is what remains after one or two allowances have been deducted.
(Johnson:15)

book-keeping

Merchants kept track of their accounts by entering the information in a set of books. Blotters or day books, cash books and stock books were essential for keeping accounts organized and accurate (Atherton:44; Robinson: 207). Both single entry and double entry ledger systems were used (Robinson:207). Having a "correct set of books" was often a point of advertisement, which merchants would use when offering credit to customers over a period of time.

Always Bring This Book



Ben Pownall
IN ACCOUNT WITH
Neath & Davis

DRY GOODS
AND
Groceries,
HARDWARE, CROCKERY,
Hats & Caps, Boots & Shoes,
CLOTHING,
Fancy Goods, Notions, &c.

<i>Wash</i>	
<i>Wash</i>	<i>1</i>
<i>Wash</i>	<i>20</i>
<i>Wash</i>	<i>1</i>
<i>Wash</i>	<i>50</i>
<i>Wash</i>	<i>75</i>
<i>Wash</i>	<i>50</i>
<i>Wash</i>	<i>50</i>
<i>Wash</i>	<i>90</i>
<i>Wash</i>	<i>40</i>
<i>Wash</i>	<i>50</i>
<i>Wash</i>	<i>75</i>
<i>Wash</i>	<i>80</i>
<i>Wash</i>	<i>40</i>
<i>Wash</i>	<i>25</i>
<i>Wash</i>	<i>112</i>
<i>Wash</i>	<i>20</i>
	<hr/>
	<i>987</i>

995

An example of a customer's account book from Columbia State Historic Park.

Small account books were sometimes given to customers to help them keep track of their running "tab." Two examples in Columbia had the warning: "Always Bring this Book" on their covers. Some storekeepers devised their own secret code system to give them greater freedom when bartering with their customers (Johnson:15; Carson:94). Code phrases might have read:

. . . BLACK HORSE, MISFORTUNE, FISH TACKLE, CASH PROFIT, SO FRIENDLY, WHITE SUGAR, GAINFUL JOB, NOW BE SHARP, or other ten letter combinations in which no letter was repeated. The new and as NOW BE SHARP (123 45 67890) and know that \$3.35 would be written WWE, and \$4.57, BEH. The two together on an article, WWE/BEH would indicate quickly the cost and asking price. Sometimes to avoid the repetition of a letter or figure, which tended to make the code too easily broken down by curious competitors, the letter "O" would be used as a repeater, so that \$3.35 instead of appearing as WWE, would be WOE. Particularly cautious merchants devised more complicated codings. (Johnson:15)

Account books often were stored inside a readily accessible slant-top desk, that sat on the counter (an example of this is illustrated in the previous chapter) or in a tall, free-standing, slant-top desk.

19th century invoices were relatively simple in design. Many were handwritten on light blue ledger paper. A number of them were also printed on that same style of paper. Like signs of the period, each invoice's line of text was usually a different style of lettering. The format generally included: the city name, date, a line for the purchaser, "Bought of" and the name of the company, street address, the merchandise of the business, and ruled lines for entering sales information.

Some merchants kept invoices for goods received by running them on a piece of twine or spearing them on a wire "file" (Carson:95).

J. W. LEHMAN.

GEO. SCHROTH.

German Milk Bread,
German Rye Bread,
Graham Bread,
And every other kind of

BREAD,

**CAKES, PIES,
AND CRACKERS,**

Constantly on hand, sold at the Lowest
Rates, and delivered to any
part of the city.

Crocker's print.

Sacramento, June 5, 1869.

C. P. R. R. Co.



LEHMAN & SCHROTH,

PIONEER BAKERY,

22 and 24 J Street, bet. Front and Second.

30 Lo Bread 12 Rolls

48 " " 36 " 12 Pies

42 " " — " 12 "

60 " " " 12 "

March 9

April 15

" 26

May 5

1 70

5 40

4 50

11 60

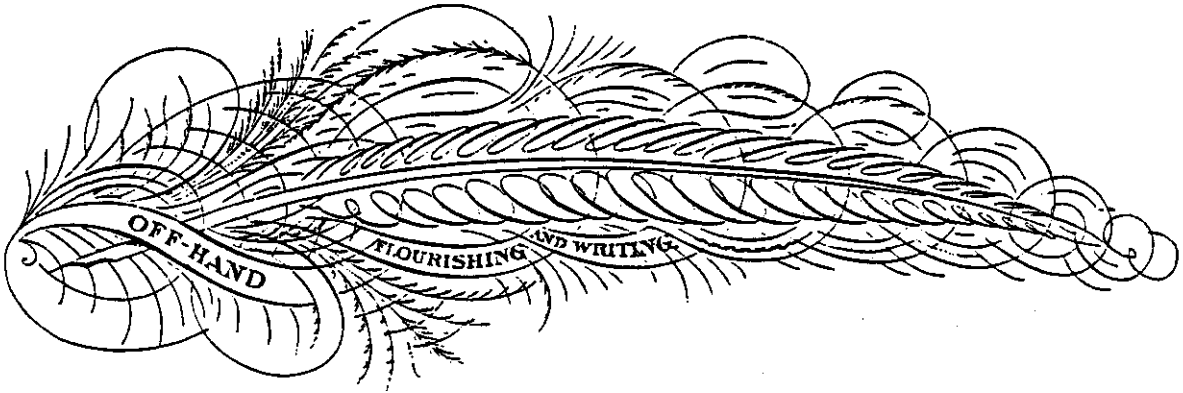
6 00

14 60

Geo. Schroth

Correct
E. C. Edwards
Receipt

This 1869 invoice from the Pioneer Bakery of Sacramento represents a typical layout for the period. Notice how nearly every line of text is a different type style. (courtesy, California State Railroad Museum)



Whole Arm Capitals.



Ledger Hand.

Merchandise Commission

Medium Hand.

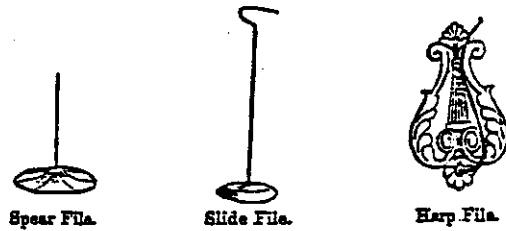
Good writing is a passport to success in life.

Corresponding Hand.

Everyone should write an easy, rapid and graceful hand.

Examples of "proper" handwriting styles from Collier's Cyclopedia of Commercial and Social Information, published in 1883.

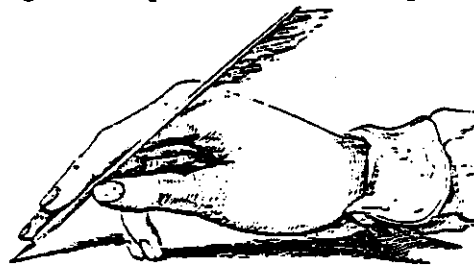
BILL FILES.



Through the years, the collected invoices could sometimes festoon a store. There were no cash registers or adding machines in the mid-19th century; the cash register did not become standard equipment in stores until the 1880s.

writing implements

Before 1845, merchants generally made their own quill pens and prepared their own recipes for ink (Johnson: 16). Most became adept at the cutting, slitting and pointing of goose quills (Carson:91). These pens continued in use during the Gold Rush, although fine steel pens, manufactured to resemble quills, were beginning to be marketed and used by merchants (Johnson: 16). Most merchants kept near at hand a supply of sand to blot their ink, along with a pen knife for sharpening quills.



Handmade and machine manufactured lead pencils were also used in the mid-19th century (Johnson:16). In this period, many individuals learned to write with the "proper" running mercantile hand or ledger hand, as was illustrated in books (Carson:101).

in-store signs

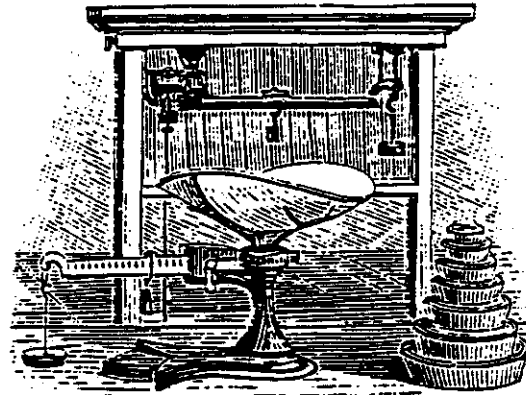
While information is sketchy about in-store signs, from later photographs it appears that many were either hand-lettered, stenciled or specially painted by sign artists. Stencils allowed merchants to quickly produce neat, formal signs in their own stores. In later years, rubber stamps were employed for the same purpose. Most stores of the mid-19th century posted very few signs or promotional advertisements. This practice occurred

later in the century, when pricing merchandise gained popularity and brand name identification grew in importance.

scales

Along the counter in stores that carried bulk commodities, scales and spring balances held an important place for weighing goods. Merchants of the period would often promote themselves as using "honest weight" or being purveyors of "honest goods." A Sacramento merchant on J Street placed the following advertisement for scales in the Sacramento Union on April 12, 1851:

GOLD SCALES, of all kinds, at low prices; sets brass weights, magnets; counter scales; steelyards; scale beams; spring balances, 21 to 50 lbs; butchers dial balances, 30 to 60 lbs; sets of zinc and iron weights & c. all at reduced rates.



Gold scales were a necessity for California merchants in the mid-19th century, but honesty was not every merchant's policy. According to William Grimshaw (25):

In trading with Indians it was considered legitimate (even in the stores of the fort [Sutter's Fort]) to have two sets of weights. The Indian ounce weight was equal to two ounces standard and so on up.

*higgling and
barter*

Merchants advertised goods as being "cheap" or "at the lowest prices," but they rarely publicized amounts. Prices were commonly negotiated between parties. The "one price" tradition did not become well established until after the Civil War

(Atherton:43). In this way, merchants could make adjustments for the quantity of goods purchased for cash, compensate for risks involving credit, reduce prices for damaged merchandise, as well as change prices based upon availability. Merchants could also accept other merchandise, farm products, raw materials or services in payment. Historian Lewis Atherton (122) noted:

It is probable that storekeepers feared to announce prices, lest some other merchants should undertake to undersell them. As long as others refrained from the practice there was no need for any one individual to pursue such a course. More than likely such activity was regarded as slightly unethical--unfair competition contrary to the rules of the game.

credit

Credit practices varied, but most California merchants not only received credit for their own purchases from wholesalers, but also extended it to their customers in anticipation of large profits--ninety days to individuals buying on time (Atherton:62). In the early days of the Gold Rush, Luzana Wilson noted: "There was no credit in '49 for men, but I was a woman with two children, and I might have bought out the town with no security other than my word." By the time William Kelly arrived in Sacramento, merchant practices had changed considerably:

There was an active business doing in every shop with emigrants fitting out for the mines; and so anxious were shopkeepers to secure a trade at their large scale of profits, that they never exhibited any hesitation about giving credit to large amounts to parties they were wholly unacquainted with, and this without any introduction whatever. I saw several instances of this, and heard emigrants express their astonishment at the wonderful liberality of the traders, who, however, took care in all the cases to palm off a second-rate article, or one that had suffered damage in its long transit, knowing that customers accommodated with long credits would not be over-scrutinous in their examinations; while their

knowledge of the richness of the mines afforded them a guarantee that their customers would have the means of easy repayment within their reach. (Kelly:32)

*after-sale
packaging*

Most bread was sold unwrapped across the counter (Panschar:39). Some purchases, however, were tied with paper and string. The techniques of bread wrapping shown on the next two pages are from The Baker's Book published in 1903.

Paper bags were not commonly used before machinery was patented to cut, fold, and paste paper into that shape (Johnson:33). The first of these machines was developed in 1852, but it was not until after 1869, when the Union Company of Pennsylvania improved the machinery, that the paper bag industry developed (Johnson:33).

*prices and
profits*

Factors such as the rapid influx of miners, weather conditions, transportation, availability of merchandise, rents, and gold strikes affected prices and the California baker's profits. Prices were volatile. They shifted with nearly every shipload of cargo. One miner reported:

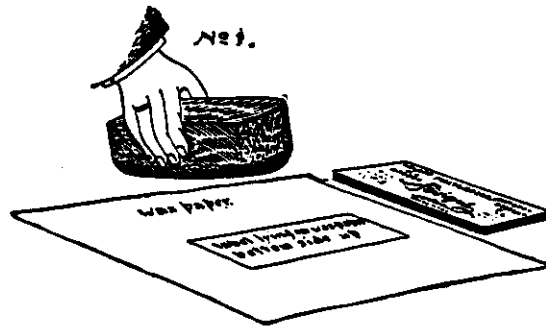
. . . the markets are so changeable that if you were to ship around the Horn goods that are now paying five and six hundred percent profit, perhaps by the time they arrived there, they might have to be sold for less than their cost and freight . . . (Holliday:337)

Hinton Helper in his book, The Land of Gold (140-141), observed:

The price of any article does not remain the same two weeks at a time. There is almost always a superfluity of merchandise in the market; the supply is generally double the demand, and many things are sold at less than prime cost.

Yet, by the time this merchandise falls into the hand of the actual consumer, it usually costs him from one to four hundred per cent. more than he would have

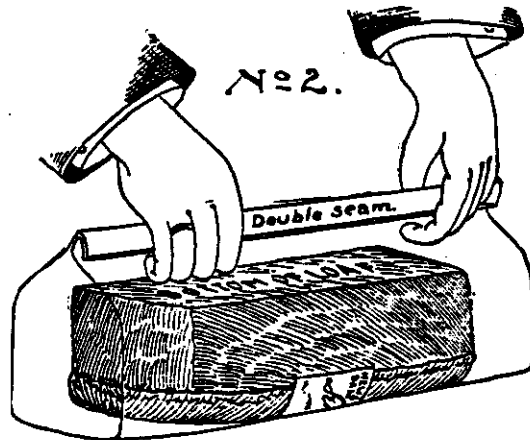
HOW AND WHEN TO WRAP BAKERS' BREAD.



First, purchase the best Wax Wrappers, which are made expressly for bread and therefore the best adapted for the work.

Ordinary waxed paper is not so suitable to do the work properly.

Then place a Wrapper on a smooth surface (putting on a label), placing a loaf on the paper, bottom side up (if printed paper is used, leave



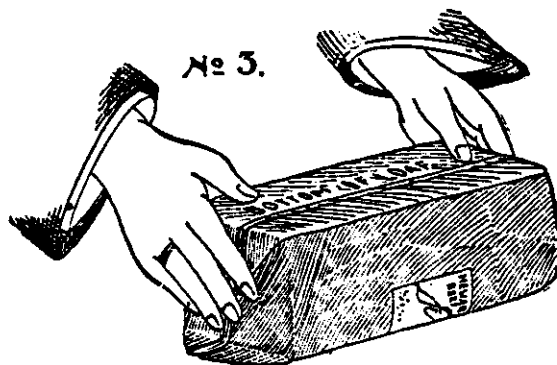
out the label), as in Fig. 1. The loaf is then enveloped as in Fig. 2, folding the edges in a double seam (as shown in cut), which draws the wrapper around tightly and makes a practically air tight covering.

NOTE.—The loaf is bottom side up during this time.

After having folded in one end, as in Fig. 3, the loaf is turned up as in Fig. 4, and the last folds turned down; then the twine is tied around lengthwise, *once*, as shown in Fig. 4.

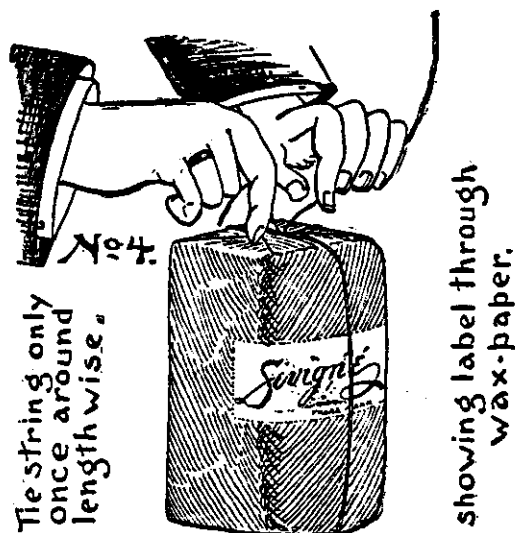
Bread should *never* be wrapped while *hot*, for it will steam; rendering

THE BAKER'S BOOK.



it unfit for food. To determine the proper heat at which it should be wrapped, place the *back* of your hand on the *top* of the loaf, and if it can be borne without pain, the bread is sufficiently cool to wrap without danger of steaming. This rule applies to 99 cases out of a 100.

If a little care is exercised when learning, a person soon becomes able to wrap very rapidly. Avoid the practice of holding the loaf against you and tying the twine lengthwise and crosswise, for that is an unnecessary process and waste of one-half the twine.



Tie string only
once around
lengthwise.

showing label through
wax-paper.

Unless bread is properly wrapped, a baker has wasted time and money. "What is worth doing at all, is worth doing well." *An attractive package appeals to the average buyer of anything, especially bread.*

to pay for it in the Atlantic States. The consignee will probably sell it to a speculator--the speculator to a wholesale merchant--the wholesale merchant to a jobber--the jobber to a retailer--the retailer to a muleteer, and the muleteer to the final purchaser or consumer. Or the importer may sell it to the city grocer, whose onerous rent makes it necessary for him to resell at an extraordinary advance on invoice rates to defray expenses. Thus the charges accrue on it, after its arrival, render it very costly.

Heavy rains and flooding periodically impacted the shipment of goods and consequently their prices. During the winter months, roads became impassible at times and freight wagons could not make deliveries. In some instances, "the ground was so soft that it mired teams down so deep it was impossible to get them out, and they had to be left to die or to be shot" (Holliday:315). At such times, miners in communities like Columbia had difficulty meeting the prices set by the merchants.

Gold discoveries fueled inflation. One Argonaut remarked: "The merchant, when told that men find from \$16 to \$100 a day, very readily concludes they can easily pay \$1 for a pound of potatoes, or \$2 for a pound of dried apples, as in the state of New York they can pay half a cent for the former or four cents for the latter" (Holliday:331). This had a ripple effect on Eastern markets noted by Hunt's Merchants Magazine in 1851 (Jul.-Dec., 1851:394). A number of Sacramento newspapers regularly published listings of current prices for goods, perhaps as a means of stabilizing them. The lists may have actually encouraged individuals to import goods, after seeing the inflated prices of California.

legal currency

Merchants accepted American currency, gold dust, nuggets, privately minted pieces issued by banks or assay offices, and foreign coins in exchange for goods and services. Foreign coins were considered legal currency until a law was passed in 1857 which demonitized or prevented their use in the United States (Farris:23,26). The coin shortage was acutely felt in California, although its cosmopolitan population greatly eased the situation

by accepting foreign coins in payment (Farris:25). One 49er described his experiences:

Mr. Hudson had paid us off every Saturday night, and it was laughable to see the kinds of currency tendered and accepted as a matter of course. He would come with a bag filled with roleaus [rouleaux] of silver coin, foreign coins of every description, simple slugs of gold stamped with their weight and value, Miner's Bank coins, etc. Everything went in those days, and in whatever shape wages came, there was no grumbling, as there was not sufficient coin in circulation to supply the demand. (Gardiner:71)

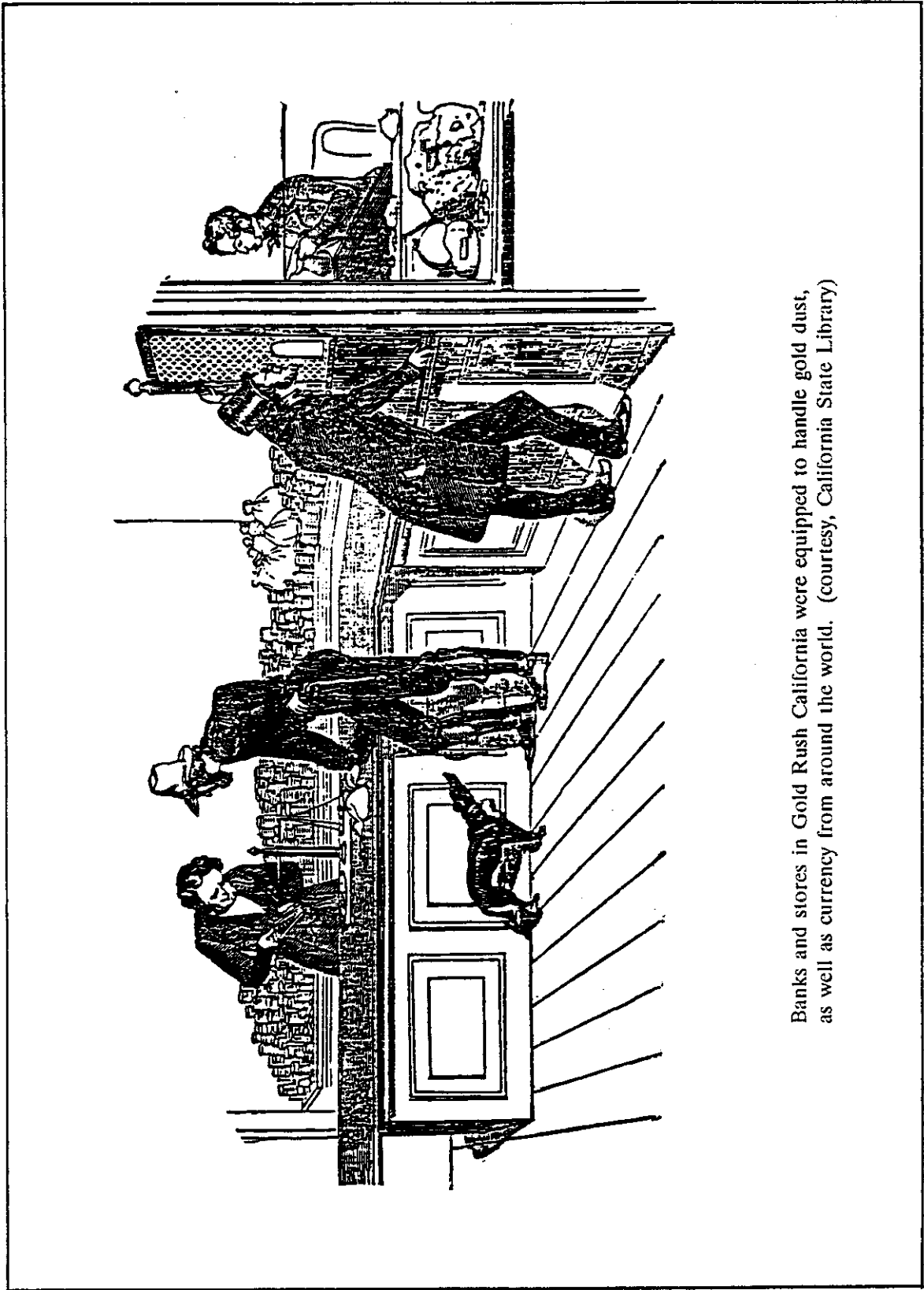
At the time of the Gold Rush, Latin American countries and Spain issued 1/2 reals, reals and 2 reals. Archeological excavations in Old Sacramento have recovered examples from Mexico, Spain, Chile, Peru, and Argentina (Farris:26). Valued at 8 reals to the Spanish "dollar" or 6 1/4 cents for a 1/2 real and 12 1/2 cents for a real, they significantly influenced the asking prices of merchandise in California. The real was also referred to as a "bit" by miners, thus "two bits" became synonymous with a quarter or 2 reals. Menus and diaries of the period indicate their typical usage as the lowest common denominator in transactions (Farris: 26,31). J.D. Borthwick (43), an Englishman, wrote:

A "bit" is twelve and a half cents, or an English six-pence, and for all one could buy with it, was but little useless than an English farthing.

gold dust

Most businessmen had to adjust to handling gold dust in their everyday transactions. In fact, it became a necessity, as there was not enough currency in circulation (Taylor, V.1:220). Those merchants without scales often guessed at the value of the gold dust:

. . . an amount of gold as could be held between the thumb and finger was called a dollar's worth, while a teaspoonful passed for an ounce; a wine-glassful was one hundred dollars, and a tumblerful was called a thousand dollars. Much gold was dropped in



Banks and stores in Gold Rush California were equipped to handle gold dust, as well as currency from around the world. (courtesy, California State Library)

handling, and to obviate this loss, blankets were stretched upon the counters and gambling tables, which received the falling particles. (Lang:12)

Shocked by the careless manner demonstrated by some merchants toward the miners' hard-earned wealth, one miner in Sacramento wrote:

I was struck all aback when I saw the merchants receiving and handling gold. To examine the quality, they go through much the same maneuvers as the wheat buyers of Chicago when inspecting a sample of wheat. If the gold dust looks clean and fair, it is poured into the scales and weighed. If it looks dirty and had rock and sand in it, they take some in the palm, and stir it carelessly around with a forefinger and determine its value. Very seldom, however, except in exchanging for coin, is any deduction made. Every time it is weighed something is lost, and the business streets of Sacramento will, in a few years, be worth digging up and washing for gold. It is poured out and weighed almost carelessly as rice or pepper in the States; and very few ever pick up any scattering flake, unless larger than a pinhead, and some pay no attention whatever to so small matters. In the larger establishments the dust is dipped about in pint tin cups. In a word, it is an article of produce, as easily got as wheat or corn in the States, and handled with much the same feeling and comparatively with the same waste. (Holliday:323-324)

Advice for Bakers

Look for both large and small opportunities to convey the impression of an operating 19th century business:

Have goods set aside on a special table, exclusively for higgling or bartering with your customers. Some of the items, like those of the Gold Rush period, may be imperfect. Keep a ledger book with your secret codes handy for this table. This could be fun, as well as educational for customers.

Price your merchandise using increments of 25 cents. In this way, you can refer to "bits" ("That will be two bits," or "Four bits, please" etc.) and you will be able to explain the influence that the Spanish real had on early California history.

Use spear files for retaining invoices of certain types of goods received (you may wish to keep an additional copy elsewhere). As their numbers grow, string them up behind the counter.

Develop your business' letterhead and invoices in the manner described in this handbook. Use historic examples from the period 1850 to 1870 as your model.

Customers may wish to try their hand at signing their checks "properly," so keep a quill pen, ink and sand available for their use.

Keep your in-store signs to a minimum and either handwrite them or use stencils. Avoid plastic decals and signs and modern pre-printed placards.

If possible, locate period or reproduction scales to be displayed on your bakery counter. Discuss the use of scales in the 19th century with your customers.

Wrap purchases carefully in sheets of paper and string, as described and illustrated. Have the name of your business printed on the wrapping sheets to advertise your store.

In conversation with customers, describe the cycles of inflation and depression experienced by Columbia merchants during the Gold Rush and discuss the various currencies considered legal tender during those years.

ADVERTISING OF THE ERA

"booming"

Businesses relied on a variety of methods for promotion long before the development of television, radio and telephones. During the mid-19th century, merchants commonly "boomed" their products and services. Loud voices and bells, heard above the din of the miners' traffic in Columbia, cried out for attention from the passing crowd. This traditional form of advertising was very useful for communicating with the miners, many of whom could not read or write English. Merchants also utilized signs, displays and symbols, in addition to printed advertisements.

Sacramento resident Luzana Wilson (156) recalled the forgotten town crier of this city's past:

One of the institutions of '49 . . . was the "Town Crier." Every pioneer must remember his gaunt form, unshaven face, and long, unkempt hair, and his thin bobtailed sorrel Mexican pony, and the clang of his bell as he rode through the streets and cried his news. Sometimes he announced a "preaching," or a "show," "mail in," and "auction," or a "stray."

Stephen Massett (126-127) once "boomed" a night auction in Sacramento:

In the course of time, the goods arrived, and having painted "Night Auction" on a piece of calico, tacked it on a frame in the shape of a cocked hat, and stuck a candle inside. I stood at the door, and rang a bell, at the same time informing the "outsiders" that I was just "going to begin" to "open" the rarest and richest stock of goods fresh arrived from S.F., and begged them to walk in.

The chaotic, competitive business environment of San Francisco in 1851, as described by J.D. Borthwick (42), was probably not too different from Columbia's in the Gold Rush:

Two or three auctioneers might be heard at once, "crying" their goods with characteristic California vehemence, while some of their neighbours in the same line of business were ringing bells to collect an audience--and at the same time one's ears were dinned with the discord of half-a-dozen brass bands, braying out different popular airs from as many different gambling saloons. In the midst of it all, the runners, or tooters, for the opposition river steamboats, would be cracking up the superiority of their respective boats at top of their lungs . . .

There were also newsboys with their shrill voices, crying their various papers with the latest intelligence from all parts of the world, and boys with boxes of cigars, offering "the best Havana cigars for a bit a-piece, as good as you can get in the stores for a quarter."

"Sandwich men" ("boomers" carrying portable displays or signs) made their appearance in the United States as early as the 1820s (Hornung:xxx). It is very likely that this form of promotion was also used in Columbia's early years.

newspapers

News in any form was particularly welcomed by miners far from home. Borthwick (137-138) noted the popularity of newspapers, even when they were old editions:

In the mines one was apt to get sadly behind in modern history. The Express men in the towns made a business of selling editions of the leading papers in the United States, containing the news of the fortnight, and expressly got up for circulation in California. Of these the most popular with the northern men was the New York Herald, and with the southerners the New Orleans Delta. The



"The Auctioneer" as drawn by Charles Nahl for the 1853 publication, Pen Knife Sketches by Alonzo Delano. (courtesy, California State Library)

Illustrated News [of London] was also a great favourite, being usually sold at a dollar, while other papers only fetched half that price. But unless one happened to be in some town or village when the mail from the States arrived, there was little chance of ever seeing a paper, as they were all bought up immediately.

One miner revealed:

We are shut out, as it were from the world and have little that is new to attract our attention. And so when we get hold of a newspaper, it is read again and again, and every little incident forms the topic of conversation. (Holliday:330)

Editors were quick to establish newspapers in California to meet the news-hungry needs of the miners. Many merchants took advantage of their widespread circulation to advertise their goods and services.

Californians had to deal with a shortage of paper in the Gold Rush that restricted publication formats. According to newspaperman Samuel Upham (261):

Printing paper was very scarce in California, but the market was overstocked with unrulled foolscap, which was substituted for the former. The size of the [Pacific] News was a foolscap sheet, and as enlargement was a matter of impossibility, supplementary sheets were added to accommodate advertisers . . . Steamer editions . . . [were] printed on wrapping paper of various colors and qualities . . .

The Placer Times published in Sacramento for a time was also produced on foolscap. Bayard Taylor (222) noted the little paper had a page of about twelve by eighteen inches.

Like the Pacific News, the Placer Times sold for 12 1/2 cents (Upham:261; Taylor:222). It had a circulation of five hundred copies and the revenues it received weekly for various printing

torls; and their preparations for the accommodation and feed of animals, by the erection of a new stable and commodious stalls, are unsurpassed by any in California.

Thankful for the patronage heretofore extended, they are determined to merit it in future, by holding out to the public such inducements as will insure its continuance.

McCARTHY & COOPER.
Sonora, Nov. 6, 1852 3tf

**COLUMBIA CHEAP CASH
STORE!**
[CORNER OF BROADWAY & STATE ST.]
SMALL PROFITS

—AND—
QUICK SALES.

THE undersigned most respectfully informs the mining community and the citizens of Columbia generally, that he is in daily receipt of seasonable goods direct from San Francisco, of every grade generally kept in a Grocery & Provision Store, on the most reasonable terms.

—ALSO:—

Boots, Shoes, Dry Goods, and Clothing at reduced prices. The public are requested to call and examine for themselves. Wm. J. DENSLow.
Oct. 30. 2f

WINN'S Fountain Head.—Steam Candy Manufactory, Fancy Confectionary, pie and cake Bakery, and refreshment Saloon, Long Wharf, between Sansome and Battery streets.

I will just say to my patrons, for their especial benefit, some of whom have been frequently decoyed by the imitation of tables, chairs, &c. (as well as my system of tickets,) of a house in close proximity to the Fountain Head (and been as often taken in.) that with a little more attention they can avoid a like occurrence for the future, by just noticing the numbers on the candy windows, 47, 49, and 78, 80 on the doors.

The Fountain Head was first established on Jackson street, and destroyed by fire in September, 1850; reopened in Clay street the same month; then again

PRODUCE MERCHANTS.

THE undersigned having settled in Columbia at an early day, and having been engaged in the Wholesale and Retail Provision business, flatter themselves that they can supply the town and vicinity—especially the Miners—with such articles, and of such a quality as is demanded by this market. We are constantly receiving fresh supplies from the San Francisco markets, and are prepared to sell them on as reasonable terms as any other house in Columbia. Our stock consists in part of the following articles:

Brandies, Wines, Cigars, Tobacco, Coffee, Tea, Sugar, Pickles, Whiskey, Lard, Butter, Pork, Sauces, Syrups, Hardware, Nails, Powder, Shot, Lead, Picks, Shovels, Axes, Flour, Crackers, Currents, Meal, &c. &c. Together with a large supply of Mechanic's tools.

All we ask of those who wish to supply themselves with the above, or any other articles in our line, is to call and try us.

C. GISHEL.

A. FURGER

Boston Bakery and German COFFEE HOUSE.

Messrs G. & F. return their thanks for the liberal patronage they have received from the citizens of Columbia and vicinity, and will endeavor to merit a continuance of the same, by supplying them with the very best Wheat and Rye Bread, Pies, Cakes, and Hot Coffee, at all hours of the day—also the best Wines and Liquors that can be found in California.

January 15, 1853—11—tf.

NOTICE.

THE copartnership heretofore existing between the subscribers, under the name of Brainard & Co. is this day dissolved by mutual consent.

All persons indebted to the above firm, by note or account, are requested to make immediate payment to B. F.

wards. I hereby will sell at public title and interest in and to the abo 17th day of Feb: premises at I o'cl he above judgment Columbia the 27th Terms Cash.

SHERIFF

IN the County of Griffin vs Tho: Charles Wessel. Execution to me directed said court in the upon a judgment upon the foreclosure Lien on the 6th of 1853, for the sum cost of suit, which \$110; and in part I therefore seize the right, title at N Cazneau and C to the following viz: All that cert ground, and the h ted, situated in th and known as the I shall expose the tion, in front of tl the city of S no 19th day of Febru est bidder, betwe by law. Terms H. K. SW Dated at Sonora 1853.

SHERIFF

State of California Columbia: Conn Jackson & Stone vs. Patterson & Daws. Execution issued in the above en Judgment rendered the 15th day of D for the sum of fifty dollars and costs—I therefore

Part of a page from the February 12, 1853 Columbia Gazette. Notice the Boston Bakery and German Coffee House advertisement.

jobs and advertising, ranged from \$1,000 to \$2,000 (Taylor:222). Typical newspaper advertising space cost from \$4 to \$5 a square for each insertion (Upham:261,276).

*newspaper
advertising*

As today, merchants employed newspaper advertising to announce store openings, merchandise received for sale, dissolution or changes of partnerships, and the closing of businesses (Atherton:119). They also used it as a means to dun delinquent customers (Atherton:113).

Because shipments of goods were irregular, most advertisements were written in terms that would cover merchandise for sale for several weeks or months (Atherton:124). Merchants frequently announced the origin of the goods or the vessel that transported them, especially if the merchandise was rare or unusual. Descriptions of the goods were almost always written in superlatives in the advertising.

Illustrations appeared very infrequently in Gold Rush newspapers. Like type fonts, most were the standard selection of line cuts, made available to each printer by type foundaries. These were generally symbols for the business advertised and the images were inserted over and over again for many different printing jobs. Elaborate, ornamental typestyles and borders were rarely used by early Gold Rush printers. The equipment of the printshop was crude and the assortment of typestyles and graphics limited (Hornung:xix).

Although 19th century advertisements did not contain prices, many newspapers regularly published a tabulation of goods and their costs, compiled by commission merchants. Most businesses did not want to be held to fixed prices when newspapers circulated for long periods of time and prices fluctuated rapidly.

Advertisements ranged from short listings of names and addresses, that simply drew attention to a business, to more elaborate descriptions of merchandise and services offered. For example, the Columbia Gazette and the Southern Miners' Advertisers of November 17, 1855 included:

COLUMBIA BAKERY

Main, near Washington Street.... Columbia

Gauze and Auer, Proprietors

Beg leave to announce to the citizens
Columbia and vicinity, that they have engaged
in the Bakery business, and are fully
prepared to furnish all kinds of
BREAD, PIES, CAKES, & C.

We ask the public to give us a trial, and if we
render satisfaction, we hope to receive their
patronage.

On page 87 are advertisements copied from the February 12, 1853 edition of the Columbia Gazette. Represented are several typical layouts for newspaper promotions of the period. Notice the Boston Bakery and German Coffee House. None of the advertisements exceed one column in width.

Most Gold Rush newspapers printed other types of advertising and business forms, as well. They included: trade cards, billheads, bills of lading, posters, broadsides, tickets, public notices, wrapping paper and handbills (Hornung:xix; Atherton:121).

*handbills and
posters*

Handbills and posters were often employed for advertising in 19th century California. In his book Drifting About, Stephen Massett (127-128) described his use of them in Sacramento while in the auction business:

We had "billed" the city pretty well, for several days previous to the "sale," I and my partner going from one end of the town to the other, I with "tacks and hammer" with the bills--which had been written by me in "very large letters," telling the public in general, that on the first of October, a large sale would take place in the above locality.

Like newspapers, these notices were limited by the available paper stock, which was generally foolscap. Surviving examples of Gold Rush handbills and posters demonstrate the prevalence of this paper form. They are usually found in sizes which reflect

VALUABLE GOODS!

The subscribers have taken the new and spacious store,
Corner of J street,
(THE SECOND STORE IN THE NEW BLOCK,)

Where they intend to keep the very best and most select stock of

Staple Goods,

Suitable for the Mines;

ALSO, FOR FAMILY USE.

Having the very best facilities for receiving Goods direct from the States, we are enabled
to offer Goods at the VERY LOWEST PRICES.

We are now opening a large stock of Goods, just received by the late arrivals, among them are

**FLOUR, SUGAR, PROVISIONS, CLOTHING,
FRUITS, AND MANY CHOICE GOODS.**

Also, a very Extra lot of

Cigars, and many Mining Tools, &c.

Our Purchasers are respectfully invited to call and examine the samples, now ready for
exhibition at the store.

WARREN & CO.

Sacramento City, Jan. 21, 1850.

A handbill for Warren & Co. advertising the opening of a new store in the Tehama Block in Sacramento. (courtesy, Sacramento Museum and History Division)

the original paper size (@ 17" x 13" or 18" x 14") either halved, quartered or left whole. The scarcity and value of paper during this period can be measured in the number of surviving posters which are "off center," miscut or have misspelled words.

Large, boldfaced, eye-catching type typically headed the handbills, followed by a line which separated it from the smaller type below. Type styles were bold, but rarely elaborate or ornamental. More decorative printing was reserved for smaller format menus, books and billheads.

Merchants used handbills to promote special events, recently received goods, sales, auctions, announcements, etc. Tacked up on walls, posts, barrels, boxes, trees, and wagons, handbills and posters were considered temporary in nature; a quick means to attract attention.

On page 90 is an example of a handbill from a Sacramento business in the Tehama Block, dated January 21, 1850. Notice how nearly every line of type is a different style. This was typical for many handbills of the period.

city directory

Another avenue through which merchants reached their customers was city directories. Long before telephones, directories were published which listed names and addresses of city inhabitants along with businesses. Merchants seized the opportunity presented with this form of communication by placing advertisements in them.

Before Columbia's population stabilized, directories were published often to accommodate the growing and changing population. The early directories scattered brief advertisements, like business cards, throughout the listing. Later, directories expanded and followed the pattern described below:

The order of the city directory pages followed a simple pattern: an historical sketch of the community from its founding with some very rosy promise as to its future growth, a description of important buildings and places of interest, a listing of town officers and councilmen, police and fire departments, schools,

Senators of Tuolumne County.

In the first organization of the State, Tuolumne County was a portion of the San Joaquin Senatorial District, which embraced San Joaquin and the entire Southern mines. This district elected four Senators, to-wit: David S. Douglass, Benjamin S. Lippincott, Nelson Taylor, and T. A. Vermule, none of them hailing from Tuolumne County. Alferd W. Lockett, of Sonora, was chosen Enrolling clerk of the Senate. The Legislature of 1851 constituted Tuolumne county a distinct Senatorial district, entitled to two Senators; and Gen. Alex. Anderson, and Col. Paul K. Hubbs were elected. Stanislaus county was then a portion of Tuolumne. Gen. Anderson's was the short term, expiring that year; and Jas. W. Coffroth was elected his successor in in the Fall of 1852. In the Fall of 1853, Dr. Thomas Kendall was elected successor to Col. Hubbs, and J. W. Mandeville, in 1854, as successor to Mr. Coffroth. In 1855, Mr. Coffroth was again chosen successor to Dr. Kendall. The Senatorial district was not changed when Stanislaus county was cut off from Tuolumne in 1854, embracing still the two counties as heretofore.

Assemblymen.

THERE being no division into counties in 1849, the first Assemblymen were elected by districts, and the San Joaquin Senatorial district, as above described, elected nine members, to-wit: Benjamin F. Moore, Drury P. Baldwin, Malcolm M. Stewart, R. M. Heath, Charles M. Creaner, J. S. K. Ogier, James C. Morehead, J. F. Stephens, and J. W. Van Benschoten. Of these Messrs. Moore and Stewart were from Sonora, Baldwin from Sullivan's creek, and Van Benschoten, from Jamestown. The last did not take his seat till February 14th, 1850, and he resigned on the 18th, occupied his seat only four days. R. M. Heath resigned on the same day. Dr. Wm. M. Shepherd, of Sonora, and John Cave, of Jamestown, were chosen to fill the vacancies, and took their seats on the 26th of March. Mr. Cave's circumstances were such at that time, that he could not go to the Seat of Government, until a few friends had furnished a suit of clothes, and made up a small purse to pay travelling expenses. After the adjournment of the Legislature Mr. Cave engaged in the practice of law at Sonora.

The Assemblymen elected by Tuolumne county in the Fall of 1850, were B. F. Moore, D. P. Baldwin, and William Wilkins. In 1851, D. L. Blanchard, Wm. B. Dameron, Jesse Brush, Jas. W. Coffroth, and Dr. Thos. Jeff. Ingersoll. In 1852, James W. Mandeville, Jesse Brush, John J. Hoff, William M. Meredith, and James M. Wilson. In 1853, T. J. Hoyt, H. B. Godard, J. J. Hoff, B. D. Horst, and J. W. Mandeville. In 1854, Fleming Amvz, Samuel McCurdy, Dr. T. J. Oxley, and J. M. Quinn. In 1855, Dr. T. J. Van Dusen, Thos. C. Brunton, M. McGhee, and Dr. T. J. Oxley. The Apportionment Bill of 1851 gave us five members; but, when Stanislaus county was cut off, our number was reduced to four.

Of the above named gentlemen, B. F. Moore was a member of the Convention which framed the Constitution. He was also a candidate of the

Whig party for United States Representative in 1851; and D. P. Baldwin was the candidate of the same party, the same year, for Lieutenant Governor.

UNITED STATES BAKERY.

Main street,
COLUMBIA.

M. HILDENBRAND, Proprietor.

Respectfully announces that he is fully prepared to furnish any amount of the first quality of **BREAD, PIES, CAKES,**

CONFECTIONERY

Is also prepared to furnish every **DESCRIPTION OF CAKES**

For Balls, Weddings and Private Parties.

Having permanently located in Columbia, and in the midst of the Business Community, he flatters himself that by strict attention to business, and a desire to render satisfaction, he will receive a liberal patronage.

BROADWAY TEMPERANCE HOUSE,

AND

BAKERY.

Washington, Fronting Broadway,
COLUMBIA.

GILBERT BEACH, - - - Proprietor.

ANNOUNCES to the public that, having recently made many improvements to his Hotel and Bakery, he is now fully prepared to receive and accommodate sixty persons with

BOARD AND LODGING.

Connected with the establishment is a Bakery,

where can at all times be found the best

Bread, Pies, Cakes, &c.

The public are assured that nothing shall be wanting on the part of the Proprietor to make his guests comfortable in every respect.

ABBEYS FERRY;

Stanislaus River.

Is the main highway from the Southern to the Northern Mines, passing through Vallecito, Douglas's Flat, Murphey's, Mokelumne Hill &c., &c.,

to the extreme North. The Ferry Boats and Roads on either side of the River is at all times in good order for Teams and Carriages.

hospitals and institutions, an alphabetical index of all inhabitants with their occupation (often with a separate appendix listing "inhabitants of color"), followed by a section either in the rear or (sometimes) the front of the book containing the ads of the more progressive merchants and tradesmen. (Hornung:xxxiii)

directory ads

In the Sacramento City Directory of 1851 were the following examples from bakeries:

WINKLE'S BAKERY, of Pickwick Memory.

A DAILY supply of Fresh Bred [sic], Pies, and Cakes, for Hotels and Families. Fancy and Iced Cakes and Confectionery, always on hand. ALSO--Hot Coffee and Tea, Oysters, Ducks, Hams, & C., furnished at short notice. Call and judge for yourselves, at No. 16, K Street, between Front and 2d. (Culver:94)

The Bee Hive Bakery.

Griffiths & Hughs.

FANCY BAKERY, CONFECTIONERY AND LEMON SYRUP

MANUFACTORY

No. 148 J Street, between 5th and 6th

Notice--At the Hive Bakery, 148 J Street, Merchants and Miners can be supplied with the best Lemon Syrup and Candies at short notice. Also--all kinds of Iced and Ornamental Cakes and Confectioneries for Wedding parties.

A variety of small fancy cakes, Rusks, Tea Biscuit, Pies, & c., fresh every day.

N.B. All kinds of crackers manufactured here. Culver:68)

(Note: The earliest bakery businesses sold more than bakery products, but this practice changed as communities matured and businesses became more specialized.)

exterior signs

Signs made a definite impression on most visitors to California towns in the 1850s. They competed with one another to grab the attention of potential customers. Frank Marryat (203) described Sacramento upon his arrival:

It is an American town at the first glance. An immense quantity of sign-boards stare at you in every direction; and if any thing would induce a man to purchase "Hay and Grain," "Gallego Flour," "Goshen Butter," or any other article for which he has no want, it would be the astounding size of the capital letters in which these good things are forced upon his notice.

Most merchants depended upon artists to produce hand-painted signs on wood, canvas, glass or fabric. These artists could be hired to do a variety of ornamental painting. Fifield & Hoyt advertised in the January 15, 1851 edition of Sacramento's The Daily Index (3):

House and sign painting, gilding, graining, imitations of wood and marble, and every variety of business in their line executed with dispatch, and in the very best manner.

The firm stocked paints, oils and glass, which included: white, red, and black lead, chrome green, Paris green, chrome yellow, umber, venetian red, ultramarine blue, Prussian blue, terra de sienna, Vandyke brown, lampblack, French, English and Chinese vermilion, gold and yellow bronzes; English, French and American window glass; varnishes; paint and varnish brushes; boiled linseed oil and turpentine.

sign texts

While the signs were bold, the messages communicated by them were brief and to the point. Most large exterior signs were limited to either product, service or ownership information (Helmich:11). Graphics were not common and company logos, a more modern design feature, were never used (Helmich:11,19).

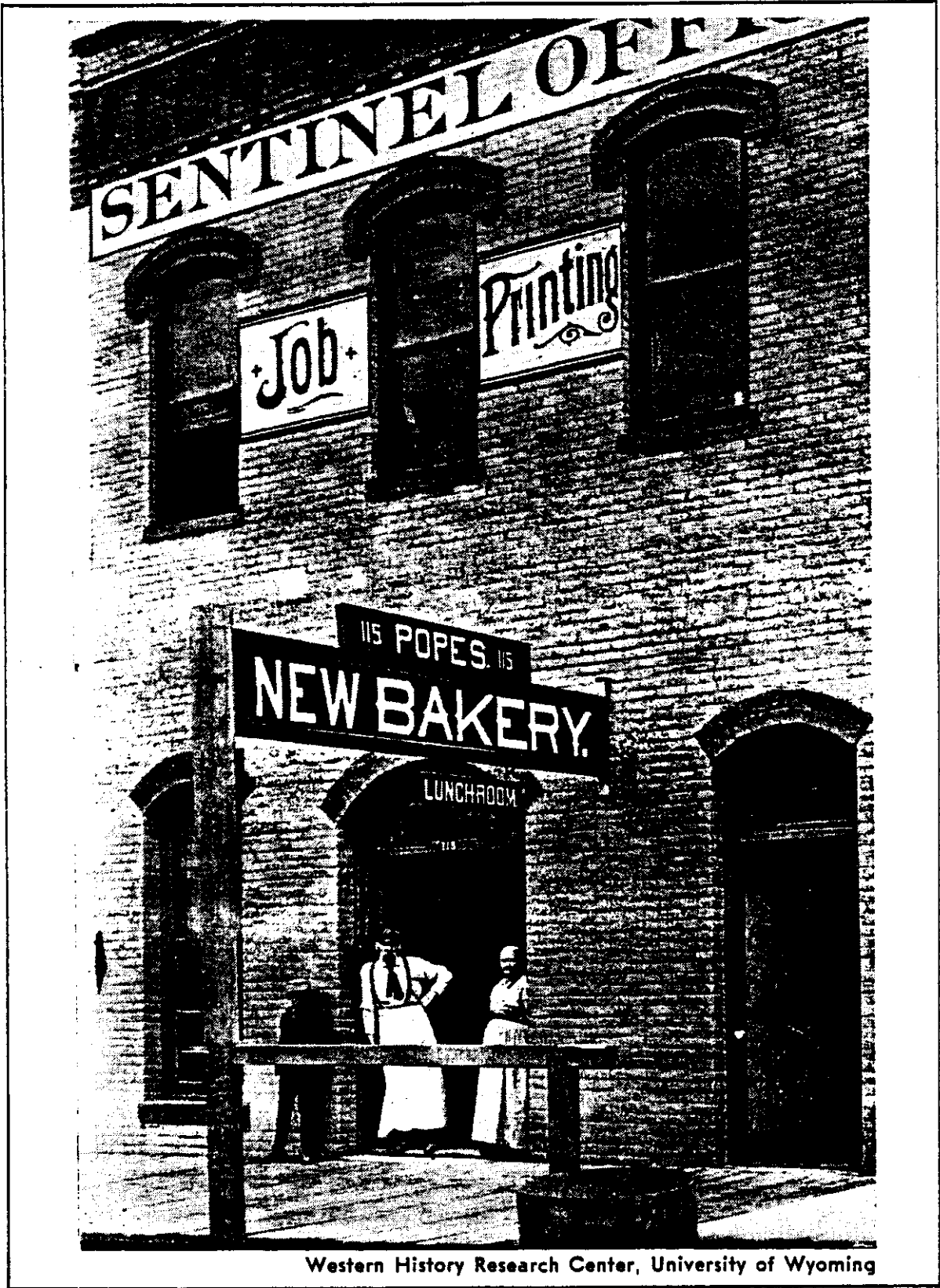
Descriptive words or phrases that indicated the quality of merchandise or service, sometimes accompanied wall-mounted signs (Helmich:13). They included:

FANCY . . .
FINE . . .
LOW PRICES . . .
CELEBRATED . . .
SUCCESSORS TO . . .
ONE PRICE ONLY.
AT THE LOWEST RATES (OR PRICES).
MADE AT THE SHORTEST NOTICE.
PARTICULAR ATTENTION PAID (GIVEN TO).
WILL BE ATTENDED TO AT THE SHORTEST NOTICE.
ALL ORDERS PROMPTLY EXECUTED.
EXCELS ALL OTHERS.
UNEQUALED IN THE WORLD.
GUARANTEED OR MONEY RETURNED.
FOR SALE HERE ONLY.
CONSTANTLY ON HAND.
A FULL ASSORTMENT.
MADE TO ORDER.

sign design

Most signs were located to draw customers from the street, rather than appeal to sidewalk foot traffic (Helmich:22). Large, horizontal, rectangular signs were very common in this period; square formats were not, neither were circular shapes. Signs typically were composed of upper case lettering, with nearly every line of text a different type style or size. Sign copy generally filled all the available space on the signboard (Helmich:27). In contrast to large signs, composed of few words, small signboards included several messages. These were developed to catch the attention of pedestrians and were mounted on walls, pilasters, on roll-up shades, window glass, iron shutter panels, or projected from the face of a building (Helmich:146-165). Some were attached to a column or post, or leaned against a building (Helmich: 1660-169).

Information on exterior signs for the period 1849 to 1875, including details on lettering styles and sign shapes, as well as their arrangement on signboards, is contained in A Guideline for Signs: Old Sacramento Historic District written by Stephen G. Helmich.



Western History Research Center, University of Wyoming

*product
displays*

Some merchants chose to advertise their wares by actually displaying their products outdoors on the sidewalks. Most displays served as unwritten invitations by merchants to step inside. While commonly done in California during the Gold Rush, this practice was not looked upon with favor by more established "upper class" merchants of the East. Hunt's Merchants' Magazine (July-Dec., 1849:362-363) admonished shop owners not to display their goods in this way. The magazine condemned the practice because it caused irreparable damage to the goods and placed unnecessary temptation before the poor and needy.

Heavy, durable goods, like agricultural implements and hardware, were most often displayed on the boardwalks as was light weight, low-valued merchandise (e.g. tinware and brooms), which could be easily tied or wired together (S. Helmich:23). It is not known if bakers displayed their products out-of-doors in the 19th century. However, a typical practice of the period was to open the doors of the business to encourage customers inside. Undoubtedly the aroma of baking bread and cakes lured many customers inside.

**Advice for
Bakers**

The image you project through advertising can affect how your customers relate to your 19th century-style bakery business. Accurate use of period advertising techniques will support your portrayal and appeal to customers, who will appreciate your efforts to more closely identify with this historic era.

Study the preceding examples of advertising; look at the formats and choose those methods that would be appropriate to your business. "Booming" is a relatively inexpensive form of advertising, but is rarely used today except on television and radio. It can be extremely effective; why not experiment with it?

Try to pattern the messages you would like to convey after historic examples. Keep your advertising simple and to the point. You may need to look at additional newspaper advertising of the era. Use lettering or type styles for printed announcements that resemble, as closely as possible, the preceding examples or other period examples. Consult the California Department of Parks and Recreation's A Gold Rush

Merchant's Manual Appendix B for additional samples of 19th century posters, invoices and type styles.

Refer to A Guideline for Signs: Old Sacramento Historic District for more information on developing 19th century signs for your bakery. (Plastic signs and decals would not be appropriate for businesses of this era.)

Remember that as partners with the Department of Parks and Recreation, you have the opportunity as well as the obligation to properly interpret the past to the public. You are in effect the voice for California bakers of the last century. They would probably appreciate your efforts at explaining how they made a lot of dough.



Baking Oven and Keading Trough

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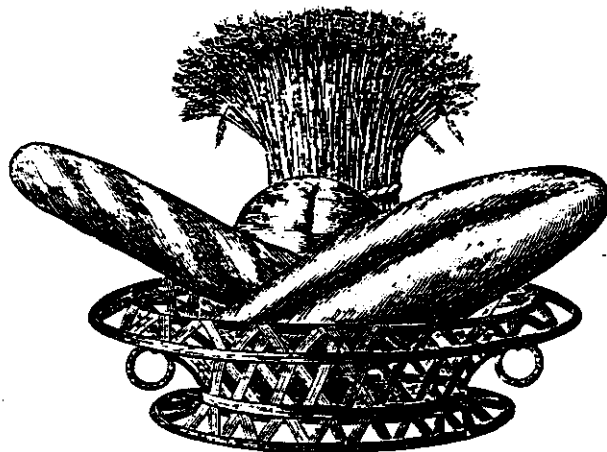
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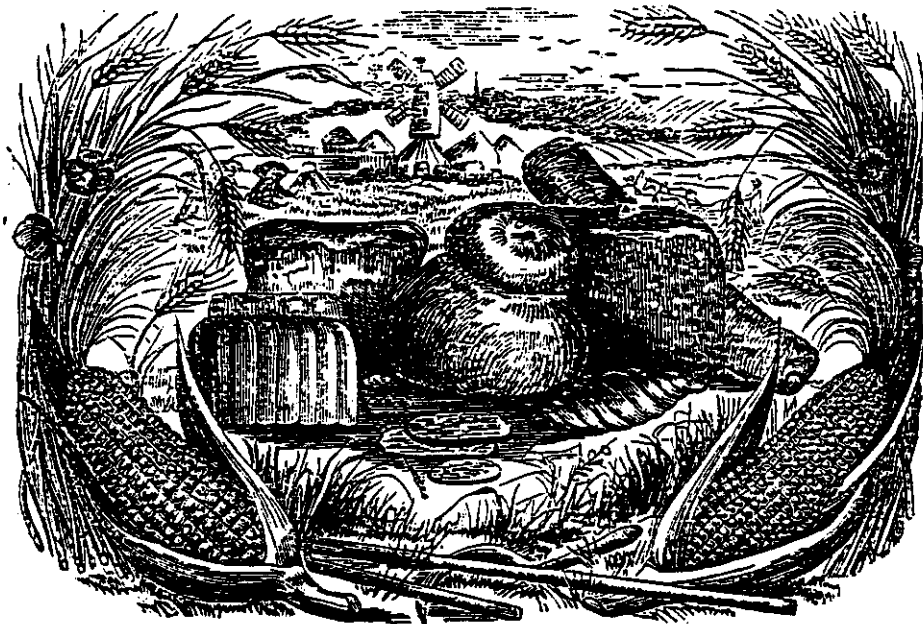
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APPENDICES



APPENDIX A:

BAKERY RECIPES
from Volume II of
THE BAKER'S BOOK
by Emil Braun
(1903)

Bread Baking in America.

PREPARED FOR THE BAKER'S BOOK BY EMIL BRAUN.

The fundamental principles for bread making are: Good healthy yeast and good, sound flour. I will not say good, strong flour, because in some kinds of bread too strong a flour is detrimental to good results.

Yeast, however, is the very first consideration. The proportion of the quantity of yeast used is so small compared with the other materials used in a bread dough that the cost of the yeast is really of secondary consideration, and a baker can ill afford to run much risk tinkering with his yeast. There is often no reserve stock or supply of yeast on hand in a bakery, to fall back on in case of trouble, and dough requiring a certain length of time to ripen, the baker wants to be sure that his yeast is all right when he sets his sponge or dough.

Cleanliness is another fundamental point to be observed in bread making. The chemical analysis, age and ripeness of dough and fermentation generally have been treated very thoroughly in Volume I. While I have devoted much space to government experiments, etc., in the first volume, I will now give a number of practical, reliable formulas for all kinds of bread, rolls and buns, as they are made in this country. We may take up the home made or pan bread first. If sponge is set the dough is seldom given more than $1\frac{1}{2}$ to 2 hours to rest. It should not be allowed to fall. As soon as it shows signs of breaking on the top it should be pushed down or cut over and may rest awhile longer.

For straight or off-hand doughs about the same may be said; doughs should always be kept young. Usual time is 4 to 5 hours.

Dough set with a ferment as a rule can stand much longer; it takes from 9 to 12 hours as a rule to ripen; but never should dough be allowed to drop and come up again, because the strength is then exhausted. It must be cut down or taken before it drops.

Of course with sponge it is different. Sponge is usually allowed to drop once, but then it must be watched so it does not drop the second time after it came up.

Prof. Wm. Jago, in his valuable work, "The Science and Art of Bread Making," writes about proper time of fermentation: "It has been already explained that for the production of the best bread, fermentation should be allowed to proceed sufficiently far to soften and mellow the gluten, but no further. At stages either earlier or later than this,

the bread will lack both in appearance and flavor. It is therefore necessary to so regulate fermentation as to stop precisely at this point. Unfortunately no exact means are at present known whereby it can be determined with precision. The more stable a flour is the longer it requires to be fermented before this point is reached, since where flours of different qualities are being used the more stable should be used for fermentation earlier than the others. For in this lies the reason for using some flours at the sponge and others at the dough stage.

"The raising or leavening of bread is usually brought about by letting yeast develop in it. These minute plants feed upon sugar in the dough and in their growth give off alcohol and carbon dioxide gas, which latter, expanding with the heat, forces its way through the dough and thus lightens it. In order to give the yeast a better chance to work, the dough is usually 'set to rise' for some hours before it is put into the oven. There are many methods of growing yeast at home or in the bakery, but the compressed yeasts now in the market seem to give equally good results with so much less labor that their use, in the United States at least, is becoming almost universal.

The lightness and sweetness of bread depends as much on the way in which it is made as on the materials used. The greatest care should be used in preparing and baking the dough and in cooling and keeping the finished bread. Heavy, badly raised bread is a very dangerous food, and unfortunately very common, and probably more indigestion has been caused by it than by all other badly cooked foods."

As compared with most meats and vegetables, bread has practically no waste and is very completely digested. It is too poor in protein to be fittingly used alone, but when used with due quantities of other foods it is invaluable, and well deserves its title of "the staff of life."

Thus it is not white bread which causes the indigestion so common in America, but poor bread. Bakers' bread, prepared, as it is, by expert bakers, and under the most favoring circumstances, should therefore, and as a matter of fact is, much better than the general run of home made bread. It is the bread made in the kitchens that causes the most indigestion, not the bread made in the bakeries. Some of the output of the latter is indeed poor stuff, but taking the bakeries as a whole, they are turning out a high quality of bread. Moreover this quality is constantly improving, and we believe that bakers do well to put more emphasis on the quality of their bread than on its cheapness. Keep up prices and quality—that's the best rule. Educate the consumers to associate good price with a good article.

A few pointers from Christian Huppmann, foreman in the Boston Baking Company, Washington, D. C., who is recognized as one of our best breadbakers in the country. He says: "For bread-baking I recommend the best Minnesota Spring Patents, which I mix with Dakota Hard wheat and with winter wheat; 2-3 soft or Minnesota spring patent and 1-3 Hard wheat, Kansas or Dakota flour and one part winter wheat. For instance:

- 10 sacks of Gold Medal (Minnesota Patent).
- 5 sacks of Garland (hard Dakota Wheat).
- 2 sacks of Peerless Patent (best Ohio Winter Wheat).

"All these flours are thoroughly blended and sifted, and make a beautiful loaf of bread. I never set any dough very warm, and do not believe in forcing doughs in hot proving room. It should be allowed to ferment and work by its own strength and the room where the dough is raised should not be over 70 to 75 degrees.

"Lard being so very high, Cotton Seed Oil is now used very extensively as a substitute."

On the last colored plate (No. 19) in this volume we show the leading American bread varieties. They are:

1. Twist Loaf.
2. Jersey Cream Malt Bread.
3. Vienna.
4. Small White Mountain.
5. Tea Biscuits.
6. Soda Biscuits.
7. Queen Loaf.
8. Boston Brown Bread.
9. Lunch Bread.
10. Corn Muffins.
11. Cottage.
12. Old Grist Mill Health Bread.
13. Milk Rolls.
14. Mothers' Best.
15. Split Loaf.
16. Sugar Buns.

Of course a good many of these bread varieties are known under different names in different localities.

Although there is considerable "*Hearth*" bread (such as Vienna and Rye) baked in the larger cities the characteristic American loaf is

the "Homemade" baked in tins. "Homemade" or "Pan" bread I judge figures up to about 65 to 70 per cent. in larger cities, and 85 to 90 per cent in smaller cities and towns.

Straight Dough Bread.

NEW ENGLAND OR COTTAGE LOAF.



Fig. 106—New England or Cottage Loaf Pan.

(Straight Dough.)

11 quarts water.

3 quarts milk.

7 ounces compressed yeast.

10 ounces sugar.

1½ lb. shortening (good lard preferred).

14 ounces salt.

10 lbs. mush (boiled Indian or corn meal).

About 60 lbs. flour, which is based on a mixture of 3 parts spring patent and 1 part rich winter wheat.

DIRECTIONS.—The liquid in which yeast is dissolved should have a temperature of from 75 to 80 degrees Fahrenheit. Make dough not too stiff and let rest for 4 hours; push down well and let rest for ¾ hour, when it is ready to mould up. Don't let the dough get too ripe the first time, so that it falls by simply pushing your hand into it. It must have sufficient resistance yet, that is, has to be cut down. Some bakers cut 18 to 20 oz. of this dough in 6 or 7 pieces, mould them up like buns, set in round pans, and call it Cottage Loaf.

P. S.—A half pint good Malt Extract can be used in place of the sugar.

QUAKER BREAD.



Fig. 107—Quaker or Malt Bread Double Pan.

15 gallons water (75 to 80 degrees).

16 to 18 ounces compressed yeast.

2¼ to 2½ lbs. salt.

1½ lb. lard.

1 to 1¼ pounds good malt extract.

Mix into slack dough; use rather strong mixture of flour, say 3 parts spring patent, one part winter patent; part Kansas wheat may be added. Let dough rest first for 3 to 3½ hours. Push down once, let

come up again. Don't give too much proof after moulding up. Bake in double loaves in tins; square tins.

VIENNA BREAD (Straight Dough).



Fig. 108—Vienna Loaf.

8 gallons of water.
 1¾ lbs. of salt.
 3 lbs. of sugar.
 4 lbs. of lard.
 112 lbs. of spring wheat flour (the best).
 ¾ lbs. of yeast.

Have your dough from 80 to 84 degrees Fahrenheit, let lay 4 hours, when it is ready to press down, and cut over. Knock down 3 times yet, when it will be ready to work up into loaves. This dough lays as a rule 8 to 8½ hours. 1-3 or ¼ milk can be used. Give medium proof and bake in Vienna Oven.

RYE BREAD (Straight Dough).

4 gallons of water.
 1¾ lbs. of salt.
 1 lb. of potato flour (which should be boiled to a mush in 2 quarts of the above amount of water).
 64 lbs. of your mixed Rye flour.
 6 ounces of yeast. Temperature, 80 to 84 degrees Fahrenheit after made. Let lay 4 hours, knock down for first time, and then 3 more times, so it is 8 to 8½ hours old. Make up as usual and bake in hot oven.

How to mix your flour for above:

One sack of pure New York or Wisconsin Rye; one sack of Straight Patent (dark spring wheat); one half sack of best spring wheat patent, mix and sift together.

CREAM BREAD.

Take as much milk to the mixture as possible. To 18 gallons liquid at 85 to 90 degrees add:

1½ lbs. yeast.
 3 lbs. 10 oz. to 3 lbs. 12 oz. salt.

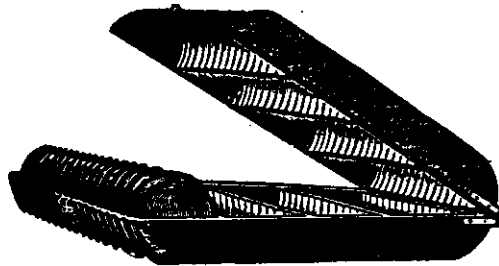


Fig. 109—Cream or Crimp Crust Bread.

- 6½ to 6¾ lbs. of lard.
- 3 pints good malt extract.
- 10 lbs. corn flour (dry or mush).
- 228 lbs. best Minnesota spring patent flour.

This dough may be kept somewhat warmer than common pan bread. Let dough rise once, until nearly ready to drop, then knock it down and let it come once more. Mould up in crimped pans at once and be careful not giving it full proof.

QUAKER OR MOTHER'S BREAD (Straight Dough).

A very reliable formula from a bakery where 5,000 to 6,000 loaves of it are baked every day.

- 8 gallons of water.
- 1¾ lb. of salt.
- 3 lbs. of sugar.
- 4 lbs. of lard.
- 98 lbs. of spring wheat flour.
- ¾ lb. of yeast.

Temperature, 80 to 82 Fahrenheit. Let lay 4 hours, knock down, work over, let it come up again and take immediately. In this dough I highly recommend a good Malt Extract, which will give the bread a better flavor and better color. Cut part of sugar out when Extract is used. Give medium proof, bake in not too hot an oven.

20th CENTURY OR GRANDMA BREAD (Straight Dough).

- 16 gallons of water.
- 4 lbs. of salt.
- 8 lbs. of sugar.
- 16 lbs. of lard.

256 lbs. of best spring wheat flour.
 1½ lb. of yeast.
 2 lbs. of malt extract.

Temperature, 78 to 80 degrees Fahrenheit. This will make a stiff and cold dough. Let lay 6 hours then knock down when it will be ready the first time; let come up 3 times more. Then roll through brake about 8 to 10 times, form into long loaves (box shaped) give medium proof (even moulds) and bake in a medium oven. This dough stands 10 hours and will never fail if made after these directions and you can make any kind of shape.

SPECIAL MALT BREAD.

The following formula is about the basis or standard for the special bread varieties baked by the large wholesale bakeries and extensively advertised and pushed under many different names, such as Mother's Best, Malt Pepto, Malt Cream, Grandma's Loaf, etc., etc.

15 gallons of water (at 90 degrees).
 5¾ lbs. corn flour (dry).
 (In some bakeries corn flour is scalded—mush.)
 2¼ lbs. good malt extract.
 3 lbs. salt.
 2¼ lbs. lard.
 22 ounces compressed yeast.
 180 lbs. blended flour.

A very good mixture for this kind of bread is obtained from 3 parts Minnesota hard spring patent, 1 part Kansas patent and 1 part winter wheat patent.

As a rule this particular kind of dough is rushed along and expected to be ready for the oven in about 4 to 4½ hours from time when dough is mixed.

Observe the following rules: Do not add yeast until half the flour is mixed in; add lard when dough is at least half mixed. Work dough thoroughly and dry. When well mixed, let the dough mixer run ten minutes longer. Now put dough into the trough to raise. Allow the dough comparatively little space at first in the trough, pushing the board back gradually. In about 3 hours it is generally ready to work over. But it wants to be good and ripe, say, if you press on it with your fingers it must break around that place. In ¾ hour more it is ready to mould up into loaves. Give only light proof in tins and bake in medium heat with steam in oven.

A very good mixture for this kind of bread is obtained from 3 parts Minnesota hard spring patent, 1 part Kansas patent and 1 part winter wheat patent.

The following formulas have been prepared by the author of this book for the Malt Diastase Company, and are reliable:

MALT BREAD.

(For large bakeries.)

This kind of bread is made under many different names: Mother's Bread, Malt Pepto, Malt Cream, Mother's Best, etc.:

- 20 gallons water (90 degrees).
- 7½ lbs. corn flour (dry).
- 3 lbs. Standard Malt Extract.
- 4 lbs. salt.
- 3 lbs. lard.
- 30 ounces compressed yeast (Fleischmann's is used as standard yeast in the above mixture).
- 240 lbs. flour.

Observe the following rules: Do not add yeast until half the flour is mixed in; add lard when dough is at least half mixed. Work dough thoroughly and dry. When well mixed, let the dough mixer run ten minutes longer. Now put dough into the trough to raise. Allow the dough comparatively little space at first in the trough, pushing the board back gradually. In about 3 hours it is generally ready to work over. But it wants to be good and ripe, say, if you press on it with your fingers it must break around that place. In ¾ hour more it is ready to mould up into loaves. Give only light proof in the tins and bake in medium heat with steam in oven.

VIENNA BREAD.

Figure to each gallon liquid (1-3 milk, 2-3 water):

- 1½ ounces compressed yeast.
- 3 ounces salt.

1 to 1½ ounces Standard Malt Extract, according to strength of flour; don't add extract to sponge. This is just enough to give this bread a nice crust and good flavor and does not interfere with regular fermentation. Set large sponge, say for a 20-gallon batch, use 11 gallons of water to sponge, 9 gallons water and milk to dough; work sponge very good.

For Kaiser Semmel and Water Rolls you may use about the same as for Vienna bread.

NEW ENGLAND BREAD.

3 gallons water. (Straight Dough.)
 1 gallon milk.
 9 or 10 oz. compressed yeast.
 ½ pint Standard Malt Extract.
 1½ lb. shortening (good lard preferred).
 14 ounces salt.
 10 lbs. mush (boiled Indian or corn meal).

About 60 lbs. flour, which is based on a mixture of 3 parts spring patent and 1 part rich winter wheat.

DIRECTIONS.—Mix the Malt Extract with the other liquids, which should then have a temperature of from 75 to 80 degrees Fahrenheit. Make dough not too stiff and let rest for 4 hours; push down well and let rest again for ¾ hour, when it is ready to mould up. Don't let the dough get too ripe the first time, so that it falls by simply pushing your hand into it. It must have sufficient resistance yet, that is, has to be cut down. Never use water too hot; rather warm your flour in winter and chill the liquid used by running through a colander with broken ice in hot weather. Malt Extract always helps the yeast along, therefore the temperature of water and dough may be kept down a few degrees below the usual heat.

Bread Baked with Ferment or Sponge.

The first factor to be looked after in baking fermented bread is yeast. Fermentation has been freely explained in Volume I., but a few formulas and suggestions relating to its preparation and use are still in place here. The preparation of home-made yeast and ferment varies greatly, and almost every baker using such has his own peculiar way of preparing it. To make it of any use to anybody else, the whole process of preparing the dough and baking the loaves has to be explained. However, compressed yeast is so reliable nowadays and the system of delivery so perfect, that it can be had fresh and be depended on in most any part of the country. To bake with ferment or home-made stock yeast requires considerable more skill and much more care than if compressed yeast is used.

DRY STOCK YEAST.

(From "Perfection in Baking," by Author of this book.)

Over two ounces of sweet fresh hops pour seven quarts of boiling water. Let it stand a while, then add one more quart of water until all the strength seems boiled out of the hops, at which point they commence to settle down below the surface. Mix enough of this liquid with eighteen ounces of bread flour and one-fourth of a pound of corn meal, one-fourth of a pound of rice flour, two ounces of crushed malt, into a smooth paste. Then add the rest of the liquid, and set aside. When partly cooled off add three or four handfuls of white sugar and one ounce of compressed yeast, or one pint of fresh, ready fermented yeast to start it. Set aside, where it will not be disturbed for at least twenty hours. Then strain and mix with sufficient flour into a stiff sponge. When well ripened throw out on a bench dusted with corn meal and roll or press out and cut in small, thick cakes, which are then dried in the fresh air, in a shady place. When thoroughly dry, pack away for future use. Keep away from heat and dampness. This is now used as mother yeast to start fresh ferment or new stock. One ounce to each gallon is sufficient in warm weather; in winter one and one-half ounces may be needed.

FERMENT.

To one peck of washed potatoes (with skin) add sufficient water to cover well. When soft put in wooden yeast tub, and mash with three pounds flour; gradually add the water left on the potatoes and then sufficient more clear water to make five gallons. When cooled to 80 degrees add three-fourth pint of old stock yeast or three ounces of compressed yeast. Set away and let rest undisturbed for about 10 or 12 hours, until it has fallen again. This ferment having the potatoes and peels in it you can notice a rim on the side of the tub after the ferment has risen and then fallen again. Before using it, strain. If the ferment works too lively add less stock yeast or less compressed yeast in making the ferment.

STOCK YEAST.

Boil 5 ounces of hops in 20 quarts of water for about 20 minutes. Have 5 pounds of bread-flour in the yeast tub; pour about 3 quarts of the hop liquor on the flour to scald it and stir it up well; after 5 minutes strain the rest of the liquid in the tub and when blood warm add 1 quart

old yeast or one-quarter pound compressed yeast and set it away in medium warm place, where it must rest undisturbed for 24 hours. In summer a little salt may be added. After the above liquid has cooled down to about 160 degrees, before adding the yeast, you may add 2 pounds crushed malt.

MALT YEAST RECIPES.

Some time ago Mr. David Chidlow, Director of the Chidlow Institute of Baking and Milling Technology, Chicago, engaged his students in a series of culture of bacteria and yeasts. Some yeasts were made up according to methods in use by bakers and the results were published in the leading bakers' journals. A few of the best of these experiments will surely interest the bakers and are therefore republished here.

	No. 1	No. 2	No. 3
Water	7 gallons.	7 gallons.	7 gallons.
Hops	10 ounces.	6 ounces.	5 ounces.
Malt	20 pounds.	12 pounds.	5 pounds.
Salt	8 ounces.	6 ounces.	4 ounces.
Bran	0 ounces.	..0 ounces.	3 ounces.

The instructions with No. 1 are to boil the hops with 7 gallons of water 20 minutes, cool down the liquid to 165 degrees Fahrenheit, and then add the 20 pounds of crushed malt, to be covered up and remain covered for three hours; the malt liquid to be then strained and some cold water added to the malt to wash it, and then strained into the already strained extract. The 8 ounces of salt is then added and the whole made up to 7 gallons; cooled down to 80 degrees Fahrenheit; then stored away with two quarts of previous stock.

No. 2 recipe had practically the same directions, except that the malt liquid was to be cooled down to 156. No. 3, which has bran in its composition, gave instructions to boil the hops and bran, with the water; strain and cool down to 165; add the malt; cover up for two hours and strain; add one gallon of hot water to the malt to wash it; then add the salt and make up the total to 7 gallons.

These instructions have been followed and the yeasts made from them have been determined by our regular methods. One of them which determines the activity of the yeast is to find the amount of gas given off in a certain time of a certain amount of sugar.

No. 1 has been, on all occasions of test, the best of the three yeasts. No. 2 had too low a temperature for properly mashing the malt,

and using a temperature of 166 degrees was much more serviceable. The yeast at the higher temperature for mashing being fairly equal to that of No. 1.

The tests for activity of Nos. 1, 2 and 3 showed that under certain conditions No. 1 gave 450, No. 2, 380, and No. 3, 320. All three yeasts exercise a radical influence in ripening dough rapidly, and either small amounts of this yeast should be used or a ferment used for making up the doughs. A flour that, with an equal strength in compressed yeast, could be raised like a sponge to 820 c. c. could only be fermented on an average of 560 c. c. by these rich malt yeasts, this effect being due to the amount of yeast required to be used.

SWEET, NUTTY FLAVOR IN BREAD.

The loss of or rather lacking of the old-time sweet nutty flavor is an endless topic of discussion among American bakers and millers. The competition is becoming keener from year to year among the wholesale bakers in our larger cities. Each one is trying to improve the flavor of his bread or create a special characteristic flavor of his own by the addition of malt extract and blending manipulations of different brands of flour. The growing popularity of straight doughs with short fermentation is really phenomenal. It seems to be the principal aim in making the bread from straight dough to preserve the flavor of the flour as much as possible. For that reason fermentation is carried on as rapidly as possible by using a large proportion of yeast. Malt extract is added to stimulate fermentation and give flavor, and soft doughs are used. But on the other hand it appears to the writer that our American bakers, while experimenting to improve the flavor of their bread, they are at the same time continually at work to reduce the cost of manufacture and some substitute cheaper material in the production of bread. To make a larger loaf for less money than competitors is the aim of many bakers. How to combine this aim with the fine nutty flavor is a hard problem to solve. The man who solves it will make a large fortune.

It is no secret that the bread consumed in this country is not as large per capita as it is in other countries. The writer has pointed out time and again before, that in his opinion the increase of the bread consumed rests with the bakers. We still hold to the opinion that people, rich or poor, are willing to pay a cent more for a loaf of bread any time if they get a loaf of particularly good flavor. A good, sweet, solid loaf, we venture to say, will be appreciated more by the consumers than a heap of wind, a large crumbly blown up loaf. Such offers as the "3 loaves for

5 cents" sort are only a temporary advertisement and a bait to draw customers for other goods to the grocery store selling this bread. It is certainly a detriment to the bakers' trade at large, wholesaler and retailer. But let the bargain bread go on, it must die out sooner or later.

We only advise the retailer and the wholesale baker to produce the best loaf they possibly can. Use the best of everything. If the yeast costs you 5 or 10 cents more a pound if you are convinced you have the best. Let us see into how many loaves are the 5 or 10 cents to be divided? Probably 150 to 200 loaves. If you can get the best of yeast for less money it is well and good, but experimenting to reduce cost of material does not pay, unless it is done on a small scale outside of your regular batches intended for your regular trade. Don't let them pay for the product of your experimenting. If your customers are used to your bread and rolls, they like to have it every day alike. If you have succeeded in improving the quality and are sure of the results, then only venture to introduce such improvement into your regular batch.

Another question:

"Do you use any butter in your bread?"

No doubt many will laugh at the question. But never mind them, just try it once. Put a piece of butter, good butter, into your bread dough and compare the flavor with a loaf from the other batch. "We can't afford to use butter in our bread," you may say; "why we would go bankrupt." No such thing. Suppose a retail baker bakes as many as five hundred loaves a day, and he uses $1\frac{1}{2}$ to $2\frac{1}{2}$ pounds of good butter in these five hundred loaves, will he hazard his business? We say no. The $2\frac{1}{2}$ pounds of butter will cost him at the most 45 cents, and he saves the same quantity of lard which would cost at present price 30 cents. This leaves an increase of cost of butter over lard of 15 cents. Will that break any baker—15 cents increase of cost on 500 loaves? Will the 15 cents extra cost for butter improve five hundred loaves of bread? Well, try it and you will be able to judge for yourself. The more the quality of the bread is improved the more bread will be consumed, and with the increase of demand for the better bread the bakers are baking, the better bread trade will prosper.

SALT RISING BREAD.

In the evening scald 1 pound corn meal with 1 quart fresh milk, add 1 ounce salt, 3 ounces sugar and let it stand over night. It should be a batter like for buckwheat cakes, if too stiff add some cold milk or water. Next morning add $\frac{1}{2}$ pound lard, 1 quart warm water, 1 quart milk,

1 ounce saleratus and about 12 pounds strong wheat flour to make a medium stiff dough. First add only 1 pound flour at a time and keep beating the dough well. The dough must be kept somewhat softer than regular wheat bread dough. After it has been completely mixed, let rest only about fifteen minutes, then mould into loaves, set to proof in greased tins and bake for about 40 minutes. This dough must be kept warm at all stages, and is baked in a hot oven.

SALT BREAD (Without Yeast).

1½ pounds washed potatoes are boiled with 3 to 4 quarts water, peel and mash them fine, add 3 pints of the potato water, 3 ounces brown sugar, 2½ ounces salt and ½ pound white corn flour or fine corn meal and let this stand for about 20 minutes. The temperature of this mixture should be about 85 degrees Fahrenheit. After it has rested the time mentioned above, add 1 quart fresh water at 80 degrees Fahrenheit and mix with sufficient strong Minnesota patent flour into a very soft dough. Let this rest in a warm place for 4 to 5 hours, then work it over with more flour until smooth and spongy. Let prove for one hour more, when it should be ready to mould into loaves. Large round tins are best adapted for this kind of bread, and loaves pressed flat so they cover the pan only about 1½ to 2 inches deep. Let them raise for about 40 minutes in a warm place and bake in medium heat.

SELF RAISING BREAD (With Baking Powder).

5 pounds Minnesota spring patent flour, 5 pounds rich winter wheat flour, 8 ounces good baking powder, 3 ounces sugar and 2 ounces salt sifted together two or three times. Rub into this ½ pound rich lard and four ounces butter, softened. Mix all with 4½ to 5 quarts cold milk to a medium stiff dough. Mix only light and form into loaves at once, place them in greased tins, press even, wash tops with milk and put at once into hot oven. When raised and tops commence to take color, shut off the heat.

HOMEMADE BREAD.

For homemade or New England bread with sponge take: 10 quarts water at 80 degrees Fahrenheit for sponge with 4 to 5 ounces compressed yeast and sufficient flour. Sponge must be kept soft; let it raise the second time, which should not take more than 3 to 3½ hours. Then

brake the sponge up well with 5 quarts warm water or part milk, 8 to 9 ounces salt, $\frac{3}{4}$ pound lard, 1 pound sugar or 6 ounces good malt extract and finally mix into a medium stiff dough with the necessary flour. Let dough raise well; in summer it should take about one and a half hours; in winter it may stand two hours; push the dough down once and let stand about 20 minutes longer, before moulding. A mixture of 2 barrels of strong Minnesota spring patent flour and 1 barrel good rich winter wheat flour is preferable for this bread.

Keep plenty of soft lard on hand to grease the bench, your hands when moulding the loaves and if made in mixer, grease the mixer before taking out the dough.

A GOOD HOMEMADE BREAD.

Set soft sponge with 6 to 7 ounces compressed yeast, 3 gallons water at 85 degrees Fahrenheit and sufficient strong spring patent flour. Let the sponge drop once and come up again which should take about 3 to $3\frac{1}{2}$ hours. For dough add one gallon milk and 3 quarts water (80 degrees Fahrenheit), 14 to 16 ounces salt, 1 pound lard, $1\frac{1}{4}$ pounds sugar, or 10 ounces good malt extract. Make slack dough which should stand about one hour and a half; then push down or cut over and let stand about half hour longer. A mixture of 2 barrels of strong spring patent and 1 barrel rich winter wheat flour is the best mixture. Some bakers add one barrel "straight" spring or Kansas flour. Mould up and give good proof in tins, before baking.



Fig. 110—Homemade Bread Pan.

For sponge take $\frac{1}{2}$ pound compressed yeast, 10 quarts water (76 degrees Fahrenheit) and the necessary flour. Let it drop once and come up again. For dough add 10 quarts milk, 4 quarts water at 78 to 80 degrees, 10 to 12 ounces salt, $\frac{3}{4}$ pound lard, 4 to 6 ounces butter, $1\frac{1}{2}$ pounds sugar and sufficient flour. A mixture of 2 barrels strong Minnesota spring patent flour and 1 barrel rich winter patent gives good results, but 1 barrel sound Kansas patent may be added to good advantage.



Fig. 111—Milk Bread Pan.

If malt extract is used, take 6 to 8 ounces to above batch and only $\frac{1}{2}$ pound sugar, or sugar may be left out altogether.

DOMESTIC BREAD.

(With ferment.)

Make sponge with 5 gallons ferment, $\frac{1}{4}$ pound salt and sufficient flour.

When it falls the first time add 10 quarts water, 1 pound salt, $\frac{1}{2}$ pound good malt extract, or $1\frac{1}{4}$ pounds sugar, $1\frac{1}{4}$ pounds lard.

Take ferment for sponge at 85 degrees; for the dough at 80 degrees. Let dough only come once.

This dough can stand a strong flour.

CHEAP HOMEMADE BREAD.

Set a soft sponge with 2 pails (20 quarts) ferment, $\frac{1}{4}$ pound salt, $\frac{1}{2}$ pound sugar and sufficient flour. When it drops (in about 3 hours) add 1 pail water, 1 pound salt, $1\frac{1}{4}$ to $1\frac{1}{2}$ pounds sugar (or $\frac{1}{2}$ pound malt extract), $1\frac{1}{4}$ to $1\frac{1}{2}$ pounds lard. Mix with flour to a medium stiff dough. Let prove for one and a half hours. Push it down and give it about a half hour more time to prove. Heat the water (ferment) for sponge to 85 degrees, for dough at 80 degrees. To make it still cheaper, add to the dough 5 pounds scalded rice flour (mush) or corn flour mush. 6 to 7 ounces compressed yeast with 20 quarts water may be used in place of the ferment.

For the ferment take 5 pounds potatoes boiled soft with a gallon water; mash them in the ferment tub with 3 pounds flour and some of the potato water, add sufficient water to make 20 quarts in all. When cooled to bloodheat add $\frac{1}{2}$ pint stock yeast or 2 ounces compressed yeast and stir up well. Set away undisturbed for about 10 hours. When it falls, it is ready.

FOR MILK ROLLS AND BUNS.

Take to the dough some milk, more sugar and lard or a piece of butter.

POTATO BREAD.

Twelve pounds of potatoes with skins left on (but washed very clean), boil with about 7 quarts of water. There should be about 1 gallon of water left when the potatoes are soft. Peel them and mash

very fine, rubbing through collander. Add the potato-water. When cooled off to about 80 or 85 degrees Fahrenheit (according to temperature of the shop and flour), add $2\frac{1}{2}$ to 3 ounces compressed yeast, which has been dissolved in one pint of tepid water. Pour all into trough and set to medium soft sponge with sufficient strong spring patent flour. Beat this sponge up well to get plenty of air into it. It should be ready in 2 to $2\frac{1}{2}$ hours. Take it young, don't let it fall the second time. Now add 1 gallon more water (at 76 to 78 degrees) 6 to 7 ounces salt, one-half pound sugar, 5 or 6 ounces lard, and sufficient strong spring patent flour to make into medium stiff dough. Do not add all the flour at once, beat up well to get the air into it and add more flour gradually. Work dough well through when stiff enough. Then cover over and let raise. Push down once and let it come up again for a half hour. Mould up and scaling it and let prove for awhile before remoulding into round or square loaves ready to put into the pans. Don't give too much proof.

YANKEE RYE.

Take 5 quarts from white bread sponge, add 3 quarts water, (90 degrees Fahrenheit) 1 pint dark molasses, 3 ounces of salt, about 1-3 pint good malt extract, about 8 pounds of rye flour and enough soft spring wheat flour to make a soft dough. If you have a piece of "sour" left from day before (say $\frac{1}{2}$ to $\frac{3}{4}$ pound), add this to the sponge and a few pounds of flour and let stand a short time, before you make the dough. Mould up in long loaves, and set in long narrow deep tins, 3 inches wide on bottom and a little wider on top, and about 4 inches high, which will give a loaf to slice just the right size for sandwiches; grease tins thoroughly. If your trade likes the flavor of caraway, you may add a handful of caraway seeds to dough.

COLUMBIA BREAD.

(Without Yeast.)

12 pounds patent flour, $1\frac{1}{4}$ pounds powdered sugar, 3 ounces salt, $6\frac{1}{4}$ ounces cream tartar, 3 ounces soda, 5 quarts milk, 12 ounces lard. Dissolve the soda and salt in the milk; rub the lard well into the flour, jumble altogether and beat to smoothness, put into box shaped covered pans about $3\frac{1}{2}$ x 6 inches, $3\frac{1}{2}$ high and bake in solid oven.

A RELIABLE GUIDE.

The following table was prepared by C. J. Tillford & Son, bakers, for the use and convenience of the members of the New York Retail Bakers' Association, and shows the number of loaves of bread a barrel of flour will make, taking as a basis two hundred and eighty pounds of dough to a barrel.

No. Whole Loaves per Bbl.	Weight of Dough in a Loaf.		Left Over.	
	Pounds.	Ounces.	Pounds.	Ounces
373.....	—	12	—	4
344.....	—	13	—	8
320.....	—	14	—	—
292.....	—	15	—	—
280.....	1	0	—	—
263.....	1	1	—	9
248.....	1	2	1	0
235.....	1	3	—	15
224.....	1	4	—	—
213.....	1	5	—	7
203.....	1	6	—	14
194.....	1	7	1	2
186.....	1	8	1	0
179.....	1	9	—	5
172.....	1	10	—	8
165.....	1	11	1	9
160.....	1	12	—	—
154.....	1	13	—	14
149.....	1	14	—	10
144.....	1	15	1	—
140.....	2	—	—	—
135.....	2	1	1	9
131.....	2	2	1	10
128.....	2	3	—	—
124.....	2	4	1	—
112.....	2	8	—	—
101.....	2	12	2	4
93.....	3	—	1	—
86.....	3	4	—	8
80.....	3	8	—	—
74.....	3	12	2	8
70.....	4	—	—	—

VIENNA BREAD.

For Vienna bread always set a large sponge and beat it well; for instance, if you want to make a batch of 20 gallons liquid, use 11 gallons of the sponge and pour the remaining 9 gallons for the dough. Use at least half milk. Figure for each gallon liquid $1\frac{1}{2}$ ounces compressed yeast, 3 to $3\frac{1}{2}$ ounces salt. 1 to $1\frac{1}{2}$ ounces good malt extract may be added for each gallon to the dough, just enough to help giving this bread a nice crust and better flavor. The sponge is not allowed to drop; it is taken when it breaks.

Dough is kept young. Push it down, after it is near ready the first time, let stand again.

FRENCH BREAD (Sticks).

To 200 pounds flour take about 64 quarts water (or water and some milk). Set sponge with 40 quarts water, $1\frac{1}{4}$ pounds yeast, 110 pounds flour. The sponge must be watched so it can be taken as soon as it shows signs of drop.

For the dough take the remaining 24 quarts water, 3 pounds salt, about 90 pounds flour; the dough must be worked thoroughly. Let it come up twice. Water for sponge 80 degrees Fahrenheit; for dough, 78 degrees.

Take good Minnesota spring patent flour, or mix 2-3 of this flour with 1-3 softer flour.

This bread is moulded into long sticks, set between cloth and baked on the hearth in steam oven. In hotels it is often baked in long tins.

SNOWFLAKE BREAD.

You have to set a large sponge and let it get very old. Take say three-fifths of all the liquid given in formula for sponge and only add two-fifths to dough. Let sponge stand six to seven hours and set it about the same temperature as the heat in the shop.

To each gallon of water take two ounces of compressed yeast, three ounces of salt, four ounces of lard, three ounces of sugar. Dough very stiff. As soon as dough is taken from mixer, pass it through rollers, and then mould up at once.

The dough for Snowflake bread must be mixed very stiff and mixed well, and a dough-mixer for doing this is almost a necessity. Also the sponge must be very old, as old as possible, almost on the point of getting

bad. Dough very stiff and run through the rollers 12 to 15 times, getting most of the life out of it is one of the rules.

RIPENESS OF DOUGH.

Ripe, overripe, unripe, are all intermingling terms. A dough that would be overripe for two pound loaves is only ripe for rolls or one that would be just ripe enough for very crusty bread, baked in a hot oven, would be overripe for very crumbly bread; but if this crumbly bread happened to be put in a cool oven, it would probably develop a bad flavor. Therefore, heat of oven and size of loaf are very important items to consider in the day's baking. Heat decomposes acids, and the acid of a ripe loaf is increased or decreased accordingly by different temperatures of oven, and the crust will always be sweeter than the crumb of a ripe loaf for that reason.

AERO BREAD.

In Melrose, Mass., a bread is made which depends for its distinctive character on a patented distilled water. Mr. A. J. Chase, the patentee, says concerning it: "Aero bread is made without milk, shortening or anything except Aero Distilled Water, a little salt and somewhat less yeast than is generally used. With good flour the best bread ever tasted can be made with this pure soft oxygenated water. Bakers here are using it in their homes instead of their own. The method of procuring the Aero Water is patented, and the bread is protected by Trade Mark. I have been some years in perfecting all the details for making this bread, and have got it perfect. The Aero Toast is something delicious and appetizing, so too are the Croutons for soups, beef tea and other uses. Then to use up every crumb so that nothing is wasted we dessicate the fragments and granulate them for puddings or to be eaten with milk as a cereal or for dressing for meats or fish. The yeast element is entirely eliminated from these three articles. In this state of sweetness they will keep in any climate for any length of time."

BRUNSWICK LOAF.

(From Jas. Y. Watkins & Son, New York.)

This makes a nice loaf for lunch or for sandwiches. A rather close and rich dough is required. Pans are from 12 to 24 inches long.

- 2 gallons water (85 degrees Fahrenheit).
- 8 ounces salt.
- 12 ounces sugar.
- 1½ to 2 pounds lard.
- 26 pounds mixed flour (half winter wheat, half spring wheat).
- 3 to 4 ounces yeast.

Four ounces malt extract may be added; all made into smooth dough, which must be worked well and thoroughly. Let rest 3½ to 4 hours, work over, let come up again and knock down once more; in all, dough should have about 5½ hours, then scale and mould into loaves, give only medium proof and bake in medium heat.

FRUIT BREAD.

To each 16-quart pail water use 8 ounces yeast, 1½ quart molasses, 8 pounds raisins, 4 pounds currants, ¾ pound salt, 1 pound sugar, 1½ pound lard, ½ ounce spices, some egg color. Set large sponge with two-thirds of the water, the yeast and some strong spring patent flour. To the dough you can take softer flour; do not make dough very stiff and let come up twice. Bake in tins.

DOMESTIC BREAD.

With Glucose or Glycerine.

The following formula is given in the M. B. Book of New Orleans:

- 1 barrel spring wheat patent flour.
- 41 quarts liquid.
- 12½ pounds cottolene.
- 2¾ pounds compressed yeast.
- 1½ pounds sugar (granulated).
- 5½ pounds glucose.
- 1¼ pounds salt.
- 6 quarts potato yeast, made without hops.

Sift the flour into the trough, make a bay in one end. To the glucose add 2 quarts of hot water to dissolve it, add some milk and heat all to 80 degrees Fahrenheit (in winter higher), dissolve in it the yeast and sugar and salt. Pour in trough with the potato yeast and set with enough of the flour to soft sponge. Let stand ¼ hour, then add more water and milk to make in all 41 quarts, mix with the rest of flour and the cottolene

to dough. Mix in trough or in kneading machine thoroughly—passing it through the brake two or three times is a great improvement. If you have no brake it wants thorough kneading.

It is best to try small batches first, to learn about proving it right, as this must be learned by observation. In place of glucose 1 pound melted glycerine can be added slowly, during mixing of dough.

SNOW FLAKE BREAD.

You have to set a large sponge and let it get very old. Take say three-fifths of all the liquid given in formula for sponge and only add two-fifths to dough. Let sponge stand six to seven hours and set it about the same temperature as the heat in the shop.

To each gallon of water take two ounces of compressed yeast, three ounces of salt, four ounces of lard, three ounces of sugar. Dough very stiff. As soon as dough is taken from mixer, pass it twelve to fourteen times through rollers, and then mould up at once.

QUICK LOAF.

Dissolve $2\frac{1}{2}$ pounds yeast in 2 gallons of water at 90 degrees Fahrenheit, add about $2\frac{1}{2}$ pounds of flour and $\frac{1}{2}$ pound of sugar. Leave stand about 15 minutes just for yeast to get a start. Take 12 gallons of water of about 105 to 110 degrees Fahrenheit (according to temperature of flour), when dough is finished it should be 87 degrees Fahrenheit. Salt 4 pounds, let stand only 1 hour, then cut back, giving another half hour rest; also give good proof after moulding. The whole process, from the setting yeast to the baking, is done in about 4 hours.

GLUTEN OR WHOLE WHEAT BREAD.

Twelve quarts water (warm), 5 ounces compressed yeast, 1 ounce salt, 1 quart molasses; mix with sufficient gluten or entire wheat flour to soft dough and give not so much proof as for white bread.

BOSTON BROWN BREAD (Straight Dough).

Mix 2 pounds cornmeal, one pound ryemeal, one pound graham flour, one pound wheat flour $\frac{1}{2}$ ounce salt. Dissolve one ounce compressed yeast in two quarts of water or milk and mix all. If too stiff, add

little water, a half to one pint molasses. make dough about the consistency of corn-muffins. Put in well greased, deep tins with cover; do not fill much over half full. Set into a pan containing water to a depth of one and a half inches so they will steam from bottom. Bake three or four hours in medium heat, when the water should be all evaporated. You can take yeast a little short and use buttermilk or sour milk instead of fresh milk or water for mixing and add a heaping teaspoonful of good baking soda to it. (See Figure 8, Colored Plate 19.)

BOSTON BROWN BREAD (Sponge).

Fourteen quarts water (lukewarm) $1\frac{1}{2}$ quarts of stock yeast or 3 to 4 ounces compressed yeast set to medium stiff sponge with sufficient rye and yellow cornmeal. When it cracks on top add $\frac{1}{2}$ gallon water (90 degrees Fahrenheit), 3 quarts molasses, 5 ounces soda and 5 ounces salt. Use 4 pounds cornmeal, 4 pounds graham flour, 2 pounds coarse rye and sufficient wheat flour to make soft dough. Scale off at once into the greased tins. Let stand about $\frac{1}{2}$ hour and bake in cool oven.

Boston Bread can also be made from prepared flour, already mixed with baking powder, using water or buttermilk and molasses to taste. I prefer to take very little, but the best, molasses and add some burnt sugar color to darken.

BOSTON BROWN BREAD.

1 pound graham flour, 2 pounds rye flour, 3 pounds yellow corn meal, 3 pints light colored molasses, 5 pints water, 2-3 ounces soda, 1 ounce cream tartar, 1 ounce compressed yeast, salt. Will make about 12 small loaves. Bake about 1 hour in medium oven.

GRAHAM BREAD (Without Sponge).

$\frac{3}{4}$ pound yeast, 7 gallons lukewarm water, 6 pints dark molasses, 10 ounces salt, 15 pounds graham flour and sufficient wheat flour to make medium soft dough. Let stand over night (6 to 8 hours). Scale off into loaves in the morning without working the dough much, and mould into loaves. Have tins greased well. Give not too much proof, bake in medium heat.

GRAHAM BREAD.

- 3 quarts water.
- 1½ pints molasses.
- 3½ ounces yeast.
- 2 ounces salt.
- 4 pounds graham flour.
- 6 pounds bread flour.

Rub the yeast with 1 pound of the flour and 1 quart of the warm water together in a small bowl and let rest for 15 or 20 minutes. Then add all the water, a small scoop full of the flour and let it raise in warm place for one hour, add salt and molasses and mix with the rest of flour to soft dough, which should stand 5 to 6 hours.

GRAHAM BREAD (With Sponge).

To 2 quarts of sponge from white bread add 1 quart warm water, ½ pint dark molasses, 2½ ounces salt and sufficient wheat flour to make soft dough. Let stand about 2 hours. Mould up and bake as above.

VIENNA BREAD FOR SMALL BAKERS' TRADE (England).

Two ounces yeast, 1 quart water, 1 quart milk, 1 ounce sugar, 1 ounce salt, and 9 pounds finest Hungarian flour. Put in a sponge, with the milk and water at 90 degrees Fahrenheit; yeast, sugar and flour to make a batter sponge. Let this rise and fall, and then make the dough. Powder the salt on to the sponge, and mix with enough flour to make a slight dough. It will be ready for molding in an hour. When the loaves or rolls are molded, put them away out of the draught. Make the oven hot, but not rash or scorching, as that will not only color the rolls too freely, but probably destroy more steam than there is to spare; nor must the oven be a cold dead heat, because then there will not be enough disengaged heat to catch and rapidly set fast the wet surface with which the steam has covered the dough. While the rolls are proving, and the oven is heating, the steam also must be "getting up" in the boiler. Arrange to have the oven, steam, and rolls all ready at the same time; then wash the rolls over with a thin paste or wash by scalding a little flour with boiling water; turn about 15 to 20 pounds of the steam into the oven, and then, with the steam still going into the oven, cut the rolls and put them quickly in, and shut the oven-door, closing every

aperture that would let the steam out. The rolls must be put into the steam, because, if the surface be allowed to get dry in the oven, it will be next to impossible for any amount of steam to cause a polish. There may be plenty of steam available, in which case shut it off after the bread has been in the oven a few minutes.—*Bakers' Times*.

A GOOD NEW ENGLAND LOAF (Straight Dough).

The following reliable formula is used daily in a large retail bakery with good success.

- 11 quarts water.
- 3 quarts milk.
- 7 ounces Fleischmann's yeast.
- 1½ pounds lard.
- 1 pound salt.
- 12 pounds mush (scalded Indian meal).
- 52 pounds flour.

For mixture they use 3 parts Minnesota spring patent flour and 1 part winter wheat flour.

When all the materials but flour are mixed they should have a temperature of 75 degrees Fahrenheit. Of course, if the flour is very cold a higher temperature is necessary. This dough should make 80 loaves to be scaled at 1 pound and 2½ ounces each.

The same baker gives the following points to be observed:

Set all doughs cool, but use plenty of yeast. Keep dough young, push down once or twice before it is ready. Keep to an even temperature of about 85 degrees in the doughing room. Dough should never be so ripe that it falls when you push your hand into it. My parole is: Cool water means health for dough; warm or hot water, poison and destruction for dough.

BRAN WATER IMPROVES BREAD.

An experienced baker made the following statement:

"If you soak a quantity of bran in the water to be used for the bread dough you will realize from 7 to 8 per cent. more bread from each batch of dough. The bran contains some gluten, which is dissolved during the soaking and is introduced into the dough with the water.

Although the loaves may not be quite as white as the regular bread it is more wholesome and has a better flavor.

TO GIVE VIENNA AND RYE BREAD A GLOSS.

Cracknel biscuits are dipped in boiling water before baking which gives them a gloss. If dumplings would be put into a bakeoven, after being boiled, they would also be glazed, i. e., have a fine, rich, glossy crust. Lye or salt pretzels are also boiled in a lye solution before they go into the oven, because a rich, glossy crust is desired. The boiling water, acting upon the surface of the dough, converts the starchy matter at the surface of the loaf first into "dextrine," a gummy substance. Dextrine is produced by the action of heat upon the starch. But first a hot water or steam bath is necessary to moisten or soften the surface. The heat of the oven will then dry or bake it, and leave a gloss on the loaf as well. It is even customary to wash the loaves first before peeling in the oven.

Mr. John Blandy, of London, explains the process thoroughly. He writes:

"When the loaves or rolls are moulded, put them away out of the draught. Make the oven hot, but not rash or scorching, as that will not only color the rolls too freely, but probably destroy more steam than there is to spare; nor must the oven be a cold dead heat, because then there will not be enough disengaged heat to catch and rapidly set fast the wet surface with which the steam has covered the dough. While the rolls are proving, and the oven is heating, the steam also must be "getting up" in the boiler. Any quantity will do; as a rule the more the better—from 40 pounds; not dry steam, or hot vapor, but wet steam newly generated from a good body of water, the boiler being half or two-thirds full. Arrange to have the oven, steam, and rolls, all ready at the same time; then wash the rolls over with a thin paste or wash, by scalding a little flour with boiling water; turn about 15 to 20 pounds of the steam into the oven, and then, with the steam still going into the oven, cut the rolls and put them quickly in, and shut the oven-door, closing every aperture that would let the steam out. Note particularly.—The rolls must be put into the steam, because, if the surface be allowed to get dry in the oven, it will be next to impossible for any amount of steam to cause a polish. There may be plenty of steam available, in which case shut it off after the bread has been in the oven a few minutes."

WHOLE MEAL BREAD.

Bread made from meal with addition of the bran and germ of the wheat in place of using white flour has been extensively advertised in late years. However, its consumption is rather limited. The greatest objection to whole meal arises from its being more liable to getting heated and becoming musty on account of the presence of the germ. The germ is principally composed of soluble albuminoides, which act on the starch in the flour. Although the whole meal contains all the nutrition of the wheat kernel it must not be allowed to get old after being ground. The cereal in contained in both bran and germ acts upon and converts the starch in the flour into dextrine during the process of breadmaking, and the albuminoides are softened to a great extent, which causes this kind of bread to become soggy and heavy very easily. As a rule it requires a longer time to bake it thoroughly. A larger percentage of yeast is necessary, as fermentation must be carried on at a lower temperature than usual and the loaves should not be raised too much before baking.

BREAD FROM BANANAS.

A common food article in the West Indies is a flour made from the bread fruit. The fruit is cut into "pegs," or strips, and dried in the sun, then ground to powder in a mortar and sifted. This flour makes a very convenient and highly nutritious addition to the hamper of provisions the negro usually takes with him when traveling far from his home, and he well knows the art of making it into a variety of appetizing dishes. The plantain is sometimes treated in the same way, as well as the banana, which gives a sweeter and richer flour than either the plantain or bread fruit. It is estimated that the banana has forty-four time more nutritive value than the potato, and is twenty-five times more nutritious than good white bread. This fact has induced the French Government to send a commission to the United States and Central America with a view of investigating the adaptability of the banana plant for extensive agricultural operations in the Congo in the production of cheap food for the working classes in Belgium. Should this commission report favorably on the subject of their investigation, a new and vast industry will be established, which interests the United States very closely, from the fact of Porto Rico and Cuba possessing hundreds of thousands of acres on which the finest varieties of the banana can be successfully grown. It is highly probable that another industry will grow up from the association

of this country with the West Indies. The banana in its candied form is a delicious sweetmeat. Many people prefer it infinitely to dried figs. It is simply made. The ripe banana is cut into thin slices and laid in the tropical sun until it becomes a sweet, semi-gelatinous mass. The slices are packed in boxes with a dusting of fine sugar between each layer, and are ready for shipment. The process, though not elaborate, requires care and watchfulness, without which the product may be inferior and unattractive. But if the curing and packing are properly done, and the cured fruit is put on the American market, it is not improbable that it will soon take the place of the fig for dessert purposes.—*Fruitman's Guide.*

PARKER HOUSE ROLLS.

1½ gallons milk,
 2 quarts water.
 12 ounces compressed yeast.
 20 eggs. 3 to 4 oz. salt.
 1½ pounds butter.
 ¾ pound lard.
 1 pound sugar.
 3 ounces malt extract may be used and only half the sugar.
 Little egg coloring.
 Set dough warm. This dough can also be used for buns.

PARKER HOUSE ROLLS (Quick Dough).

Five quirts milk, 3 quarts water (about 85 degrees Fahrenheit), 10 to 12 ounces compressed yeast, 1 quart eggs, 1 pound butter, 1¼ pounds lard; ¾ to 1 pound sugar, 2 ounces salt, egg color. Some bakers make Parkerhouse rolls considerably cheaper by omitting butter and eggs and using more egg-coloring. Give them some-shape-as in above mentioned formula.

If you want to take bread sponge for roll dough, use to 10 pounds of the sponge, when ready, 2 to 3 quarts of milk or part water and allow ¾ pound sugar, 1 pound lard (or part butter), 2 to 2½ ounces salt, break up sponge well and let dough not get too old.

Currant buns, cinnamon buns and different kinds of buns may be made of this dough by giving different shapes and adding different spices.

SPONGE FOR BREAD, BUNS AND RUSKS.

Set a stiff sponge of 1 pound compressed yeast and 9 gallons of warm water (85 degrees Fahrenheit), let stand 3 to 5 hours; until it falls the first time. If all the sponge is to be used for small stuff, part milk can be used.

For bread dough add 10 quarts more water (85 to 90 degrees), 1½ pounds salt, 1½ to 2 pounds sugar, shortening to suit taste and sufficient strong flour. Let dough come twice.

BUNS AND RUSKS.

Take for each 10 pounds of the above sponge when ready 1 pound sugar, 14 ounces shortening, salt and flour. Work dough well; some warm milk may be added.

ALBANY ROLLS.

To each 20 pounds of above sponge take 1 pound sugar, 1 pound lard, salt and mix with flour enough to make smooth dough.

GERMAN BUTTER ROLLS

See page 276, Volume I.

LUNCH BUNS.

To 10 pounds of bread sponge, add 3 pints of milk, 1 pound sugar, 1 pound lard (or part butter) or other shortening, 1¼ ounces salt, some egg-coloring may be added. These buns are either washed with egg-wash or with butter and dipped in coarse sugar, after they are molded up and then set on large tins to raise, or they are glazed with water-icing as soon as baked.

SUGAR BUNS.

Set soft sponge with one gallon water (80 degrees Fahrenheit) or part milk, 6 ounces compressed yeast and sufficient flour; flour should be blended, using one-half strong spring patent and one or two kinds of cake flour (winter wheat). Beat sponge well. For dough add 3 to

4 pints more milk, $\frac{3}{4}$ pound butter and lard, $1\frac{1}{2}$ pounds sugar, lemon, color, mace, 2 ounces salt. Work dough well, with part of the flour, before you add all the shortening. Hold dough soft and push back twice. Proceed in usual way.

MILK ROLLS (Without Sponge).

Set stiff dough late in the evening of 4 ounces compressed yeast with 4 quarts milk and 5 quarts water (65 to 70 degrees), 3 to 4 ounces salt, 5 ounces sugar, $\frac{3}{4}$ pound butter and lard mixed (or all lard), and sufficient flour. In the morning cut out the dough, break off in pieces, mould up same as for buns, let spring a little; then press down in centre with thin rolling pin, wash with melted butter or lard and turn one-half over, same as for Parkerhouse rolls. Set on greased tins and raise in proofbox. They may be washed with milk wash, before going into the oven. Oven must be hot, so they do not bake too slow. If malt extract is used, take for above quantity 3 ounces and omit sugar.

NEWPORT ROLLS.

Some people like baking powder biscuits, but would like more crust on them. The following recipe will prove a good seller for such trade: Three and a quarter pounds of blended flour and three ounces of baking powder sifted together; rub dry into the flour half a pound of butter (or good hard lard), one ounce of salt; mix with one quart of milk into a smooth dough; if too stiff add a little more milk. Then roll out one-half inch thick, cut with large scalloped cookie cutters, wash with melted butter on the edge, double over like turnovers, press slightly together, wash with egg wash and bake to golden brown in good heat (400 degrees, Fahrenheit thermometer).

GRAHAM GEMS.

Bake like biscuits from either formulas given above for Graham Bread. Roll up like biscuits, set to raise in gem tins and do not bake too hot.

FINGER ROLLS OR LADY WASHINGTON ROLLS.

Dissolve 4 ounces yeast in 2 quarts of warm milk; add $\frac{1}{2}$ pound lard and butter, 6 ounces sugar, $1\frac{1}{2}$ ounces salt, 1 more quart milk, 1 quart water, and mix all into a smooth, medium, stiff dough. Take a blended flour, half Minnesota spring patent and winter wheat flour. Work the dough well and set to raise about $2\frac{1}{2}$ hours. Break off in small pieces, mould up round and cover with cloth; let them stand for about 15 minutes. Then mould in finger-shape and set close together on greased tins. Before baking wash with egg.

COFFEE CRESCENTS (Fluerbe Hoernchen).

To 20 pounds of roll or bread dough take 2 pounds butter, 1 pound lard, 10 eggs, $\frac{3}{4}$ pound sugar; mix well and make into crescents. Also see Vienna Baking, page 334.

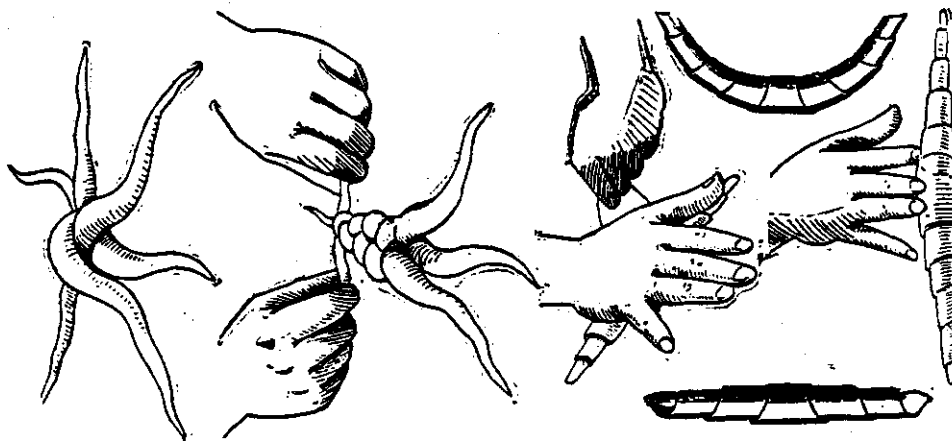


Fig. 113.—Moulding Crescents.

TEA BISCUITS. I.

$6\frac{1}{2}$ pounds flour, 6 ounces baking powder, $1\frac{1}{2}$ ounces salt all sifted together. Rub 12 ounces lard dry into the flour and mix all into a light dough with $2\frac{1}{2}$ quarts of cold milk. Roll out $1\frac{1}{2}$ inches thick, set close together and wash with milk; prick with a fork or docker and bake in solid heat.

SODA BISCUITS. II.

15 pounds flour, 2 pounds lard, 6 ounces cream of tartar, 3 ounces soda, $4\frac{1}{2}$ quarts cold milk, $\frac{1}{2}$ pound sugar, 1 pennyweight ammonia, 2 ounces salt; mix cream tartar and soda with flour. Mix dough more thoroughly than for mixture No. I. and let the biscuits stand for 8 to 10 minutes before they go into oven.

MARYLAND BISCUITS.

Take 4 pounds of old dough from day before and break up with 1 quart warm water, add $1\frac{1}{2}$ ounces salt, $1\frac{1}{2}$ ounces sugar, 1 pound lard and 6 pounds winter wheat flour. Mix into a stiff dough, roll 15 to 18 times through rollers or beat with rolling pin until smooth and close. Make up into round biscuits and set on tins. Dock them with fork or docker and bake in hot oven. This same dough makes a good biscuit for sandwiches. Roll out a sheet $\frac{1}{2}$ inch thick, dock and cut with large biscuit cutter.

MARYLAND BEATEN BISCUIT.

Into one pound cake flour rub 3 ounces of lard and $\frac{1}{2}$ teaspoonful of salt and one tablespoonful of sugar. Mix with a half pint cold water into a stiff dough. Knead for about 10 minutes, then take the rolling pin and beat the dough hard, turning over and over, until it is light and puffy. When you break a little piece off it must be snappy like cracker dough. Brake off small pieces now and mould up into round biscuits. Cut a little off on top in the centre and turn the biscuit over. Set them on slightly greased pans, two inches apart each way and let rest a few minutes, then press a dent in centre of each with your thumb. Prick with fork and bake in a quick heat. It should take about twenty minutes. The edges will crack like crackers and the biscuits should be light and smooth.

CORN MUFFINS. I.

Mix together $\frac{1}{2}$ pound sugar, 6 ounces corn meal, 6 ounces butter and lard mixed, 4 to 6 eggs, 1 pint cold milk, last 18 ounces wheat flour with one ounce good baking powder, pinch of salt. Have deep gem tins well greased and heated.

CORN MUFFINS. II.

3 pounds sugar, 18 ounces shortening (butter preferred), 1½ pint eggs, 1¼ ounces baking soda, 2½ ounces cream of tartar, 2 quarts milk 2 pounds corn meal, 3½ to 4 pounds pastry flour. Follow instructions given above.

CORN BREAD OR JOHNNIE CAKE.

Same mixture as above, only add about 3 ounces more sugar and bake in long, flat tins. Dough should be a trifle softer than for muffins.

RAISED DOUGHNUTS.

To each 6 pounds of bread sponge (same as used for buns) add 14 ounces shortening, ½ pound sugar, salt, mace for flavor and egg color to make a soft, smooth dough. 3 to 4 eggs can be added. When raised fry in lard or oil.

BISMARCKS OR JELLY DOUGHNUTS.

See Volume I., page 276.

DOUGHNUTS OR CRULLERS.

Mix 1 pint of eggs or yolks, 2½ pounds sugar, 10 ounces shortening, salt, mace and vanilla flavor; add 2½ quarts milk and 8 pounds of pastry flour sifted with 4 ounces good baking powder.

A piece of bread or roll dough, broken fine with the milk, may be added to good advantage. Roll out, not too thick, cut out with cruller cutter and twist them. Let stand just a few minutes before putting into the hot grease. When cold, roll in a mixture of powdered sugar, corn-starch and vanilla powder or cinnamon. If you want to use sour milk, use double quantity of baking soda to above formula, and no cream of tartar.

FRIED CAKES.

Mix 8 eggs, 1½ pounds sugar, ¼ pound butter, 1 quart milk, salt, mace or vanilla powder and 4½ pounds pastry flour into which 2 ounces

of good baking powder has been sifted. Mix only light so dough will not get tough. Roll out in a sheet $\frac{1}{2}$ inch thick and cut out with round cutter which has a hole in the middle.

COFFEE CAKE DOUGH. I.

Set soft sponge with 14 ounces yeast, 7 to 8 quarts warm milk and water mixed and sufficient flour. Beat sponge well and keep warm. When it breaks add: $1\frac{1}{2}$ to 2 pounds of butter and lard, 3 pounds sugar, 2 to 3 pints of eggs or yolks, lemon and mace, salt, and 3 quarts more warm milk. Beat together well and set to raise in warm place for 2 to 4 hours.

This is what we call a Stock dough, from which any kind of buns or coffee cakes can be made.

COFFEE CAKE DOUGH. II.

Set sponge with 5 pints warm milk and 3 pints water, $\frac{1}{2}$ pound yeast, $\frac{1}{2}$ pound sugar and sufficient flour (about 10 pounds). When it breaks add 2 more quarts milk, 1 pound butter, $\frac{1}{2}$ pound lard, $1\frac{1}{2}$ pound sugar, $1\frac{1}{2}$ pint eggs, 2 ounces salt, flavor and sufficient flour. Dough should be worked up young.

COFFEE CAKE DOUGH. III. (Straight Dough).

6 quarts milk and 3 quarts water at 85 or 90 degrees Fahrenheit, 9 ounces yeast, 2 ounces salt, $3\frac{1}{2}$ pounds sugar, $3\frac{1}{2}$ pound butter or part lard, lemon, vanilla, 1 quart eggs. Mixed flour sufficient to make medium soft dough. Beat dough well and keep young.

CINNAMON KUCHEN.

Roll out pieces of above dough $\frac{1}{2}$ to $\frac{3}{4}$ inch thick, to fit in large cookie pans, set to raise, prick with docker, wash with melted butter and sprinkle thick with sugar and cinnamon. Bake in medium heat and cut in squares.

STREUSEL KUCHEN.

Same as above, only sprinkle with the following Streusel: One pound of cake flour, a half ounce cinnamon, a half pound powdered sugar; add five ounces good butter, melted, rub all together well and press through coarse sieve.

BUTTER KUCHEN.

Same as Cinnamon Kuchen only before going into oven spread small pieces of butter over whole top of cake about 2 inches apart.

TURKHEADS.

Cream 10 ounces butter and 12 ounces sugar together; add 8 to 10 eggs, $\frac{1}{2}$ pint milk and mix well with 12 pounds of stock dough No. III.

COFFEE WREATHS (Plain).

From Stock dough No. II. or No. III. cut even pieces, roll them in long strips, braid three together and form into wreaths. Set on large greased tins or each separate in round tin, wash with eggwash, bake in hot oven and ice while hot with vanilla water icing. You can also sprinkle them before baking with coarse sugar and blanched, sliced almonds.

VIENNA COFFEE CAKE.

Fermented Puffpaste.

Roll out a piece of Stock dough No. III., weighing 20 pounds, about one inch thick, spread with pieces of washed butter, same as for puffpaste, fold over and roll out same as puffpaste, folding it again. Let rest awhile and repeat rolling and folding twice. Then cut up in narrow strips and braid, forming into wreaths, pretzels, etc.

Before folding the last time you may sprinkle with sugar, cinnamon, raisins, citron and currents. Keep in cold room.

CINNAMON BUNS.

A piece of coffee-cake dough I, II, or III, roll out nearly one half inch thickness into a strip 10 to 12 inches wide, wash with melted butter,

sprinkle with cinnamon sugar and washed currants; roll up, press down and cut with scraper into slices $\frac{3}{4}$ inch wide. Set them cut side up, on greased pans, give light proof and bake in medium heat. While hot, wash with water icing.

SNAILS, PRETZELS,

Same as above, only form into different shapes. For finer trade you can use the Vienna coffee-cake dough (puff paste).

BREAD AND BISCUITS.

Made with Sour Milk.

The following formulas were prepared by the author of the "Baker's Book" for the Church & Dwight Co., for the use of Arm and Hammer and Cow Brand Baking Soda with Sour Milk.

Sour milk with baking soda or saleratus produces about the same results as cream of tartar and soda or baking powder.

EXCELLENT CORN BREAD.

Beat two eggs, the whites and yolks separately; take one pint of sour milk or buttermilk, two tablespoonfuls of sugar, one tablespoonful of butter, warmed so it will mix readily with the other ingredients, and a little salt. Mix these well together with the exception of the whites of the eggs. Put two-thirds of a teaspoonful of Arm and Hammer Soda (or Saleratus), absolutely free from lumps, into a pint of corn meal and sift and stir them into the milk, etc., then after beating the whites of the eggs, add them also. Butter a pan thoroughly, and bake in a moderate oven.

DOUGHNUTS (Sour Milk).

One cup sugar, two eggs, four tablespoonfuls of soft butter. Beat up light. Add one teaspoonful Arm and Hammer soda (or saleratus) dissolved in a little cold water, one large cup sour milk, one-half teaspoonful salt. Then add two cups flour sifted with one teaspoonful cream tartar. More flour may be required. Let the dough rest a while, then roll out half an inch thick and cut with doughnut cutter. Fry in hot fat and sprinkle with sugar.

RYE AND MEAL BREAD.

Sift together two cups rye meal, one and a half cups Indian meal and one teaspoonful salt. In one cup water and a half cup buttermilk dissolve one even teaspoonful Arm and Hammer soda (or saleratus), add a small cup New Orleans molasses. Stir in the meal a little at a time; beat all up lightly and add two tablespoonfuls melted butter. Pour at once into greased large tin, set into steamer and steam for three hours, then bake for about thirty minutes longer in oven to give it a good crust.

POP OVERS.

Rub together a cup and a half of sifted flour, a pinch of salt, a tablespoonful of sugar and a tablespoonful of butter. Add three eggs, beaten light, a cup and a half of milk and a pinch of Cowbrand soda. Bake in deep gem-pans well greased.

JOHNNY CAKE.

Sift together one cup and a quarter wheat flour, two cups Indian meal, two tablespoonfuls of sugar, one teaspoonful salt. Mix together with two cups of sour milk and one teaspoonful best baking soda (or saleratus), dissolved in a little cold water. Add now to the batter three tablespoonfuls of soft butter and one to three eggs. Pour into well buttered tins and bake thirty minutes in a brisk oven.

GOLDEN CORN MUFFINS (Mrs. J. Braun).

Three ounces yellow corn meal, two ounces sugar, two ounces lard or butter, two eggs, all mixed and beaten. Add half a pint of milk with a quarter teaspoonful Arm and Hammer soda (or saleratus), half a pound of flour sifted with a half teaspoonful of pure cream of tartar and a pinch of salt. Have the deep gem-tins well greased and heated, then fill them half full with the batter.

If you want to use sour milk, take a half teaspoonful Arm and Hammer soda (or saleratus) more and omit the cream of tartar.

APPENDIX B:

BAKERS' DICTIONARY

from

THE BAKERS' MANUAL FOR QUANTITY BAKING AND PASTRY MAKING

By Joseph Amendola

(1956)

BAKERS' DICTIONARY

ASH	The powdery, incombustible residue left after burning matter.
AVERAGE FLOUR VALUE	Values composed of four factors, color of flour, loaves per barrel, size of loaf, and quality of bread as applied to any given shipment of flour.
BABA AU RHUM	French sweet dough cake soaked with rum.
BACTERIA	Numerous microscopic organisms, various species of which are concerned in fermentation and spoilage.
BAIN MARIE	A double boiler, or open vessel which has a loose bottom for the reception of hot water, and is used to keep sauces at a boiling point.
BAKE	To cook by dry heat in a closed place, as an oven.
BAKED ALASKA	Cake layer topped with firm ice cream, completely covered with meringue, then delicately browned in a very hot oven.
BAKERY	Baker's shop or place where goods are made and/or sold.
BAKING POWDER	A chemical leavening agent composed of soda, dry acid, and, usually, cornstarch to absorb air moisture; when wet, carbon dioxide (a gas) is given off to raise the batter.
BAKING OR BICARBONATE OF SODA	A sodium salt of carbonic acid having the ability to combine with acid to produce carbon dioxide. It is alkaline in nature.
BARREL	A flat ended, wooden, somewhat cylindrical container with bulging sides: The measure of what a standard size barrel contains, as 31½ gal. of liquid or 196 lbs. of flour.
BARS	Cookies made in oblong shapes.
BATTER	A pourable mixture of combined ingredients such as flour, sugar, eggs, shortening, milk, etc.
BISCUIT	Small roll made with yeast dough: Small round bread stuff made of dough raised with baking powder: Kind of crisp or hard bread, thin and flat, made without leavening.
BISCUIT TORTONI	Mousse, containing and sprinkled with macaroon crumbs, frozen in individual paper cases.
BLANCH	To remove the skins from various nuts, etc., by scalding.
BLANC MANGE	Molded white pudding of milk, sugar, and cornstarch, or gelatin.
BLEEDING	Term applied to dough that has been cut and left unsealed at the cut, thus permitting the escape of air and gas.
BLEND	A mixture of two or more flavorings or grades of flour.
BOIL	To bubble, emitting vapor, when heat is applied. Boiling temperature for water is considered as 212°F. at ordinary altitudes, but varies with other liquids.

COFFEE CAKE	Sweet bread in various shapes, with filling and topping.
COLORS	Shades produced by use of vegetable dyes; flour colors.
COMPOTE	Fruit stewed in syrup, or a mixture of different stewed fruits.
COMPOUNDS	In the baking industry, certain mixtures of fats and oils.
CONGEALING POINT	Temperature at which a liquid becomes solid.
CORN FLOUR	Coarse flour ground from corn; finer than meal.
CORNMEAL	Granular form of corn somewhat coarser than corn flour.
CORN MUFFIN	Sweet muffin containing corn flour or meal.
CORNET	A cornucopia shaped (horn shaped) container of paper or cloth used for tubing soft doughs, frostings, etc.
COTTAGE CHEESE	The drained curd of soured cows milk.
COUPE	A dessert served in a champagne glass, and usually made of fresh fruit and ice cream.
CREAM CHEESE	The drained curd of soured cream, pressed.
CREAM	The fat part of cows milk; a thickened, cooked mass of sugar, egg, milk, and a thickener; used for pies and fillings.
CREAMING	The process of beating sugar and shortening.
CREAM PIES	One crust pies having cream filling, topped with whipped cream or meringue.
CREAM PUFFS	Baked puffs of cream puff dough (choux paste) which are hollow; usually filled with whipped cream or a cream filling.
CREAM ROLLS	Puff paste rolled and baked in spiral shape, then filled with whipped cream or marshmallow.
CREME	Cream. CHANTILLY. Cream whipped with vanilla and sugar.
CREME DE MENTHE	A green flavoring of light mint taste.
CREPES	Very thin pancakes. SUZETTE. Pancakes served in butter sauce flavored with orange, lemon, curacao; flamed in brandy.
CRESCENT ROLLS	Hard crusted rolls shaped into crescents, often with seeds on top.
CROISSANT	Rich crescent shaped French roll usually served for breakfast.
CRULLERS	Long twisted baking powder doughnuts.
CULINARY	This word is applied to anything connected with the art of cooking or baking.
CUP CAKES	Small cakes of layer cake batter baked in muffin pans.
CURRENT	The acidulous berry of a shrub; usually used dried.
CUSTARD	A sweetened mixture of eggs and milk which is baked or cooked over hot water.
DANISH PASTRY	A flaky yeast dough having butter rolled into it. May have almond, cheese, jam, or other filling.
DATES	The fruit of a species of palm; very sweet.
DATE FILLING	A cooked blend of dates, water, and sugar.
DECORATION	Trimming with fancy designs or ornamentation.

DETECTION OF FLOUR	The manner in which poor flour is contrasted with a good flour to show the former has been bleached.
DETERMINATION OF ASH	The finding of the ash content of flour.
DETERMINATION OF FLOUR COLOR	Comparison of flour samples to show how they approach color standards.
DEXTROSE	Sugar of vegetables (except beet) less sweet than cane or beet sugar and more simple in structure, chemically speaking.
DEXTRIN	A soluble, gummy substance formed from starch by the action of heat, ferments, etc., having characteristic properties.
DIASTASE	An enzyme possessing the power to convert starches into Dextrin and Maltose (a simple sugar).
DISSOLVE	To liquefy or carry in suspension in liquid.
DIVIDER	A machine used to cut dough automatically into a required size.
DOUGH	The thick uncooked mass of combined ingredients for bread, rolls, cookies, etc., usually applied to bread.
DOUGH ROOM	Special room in which bread doughs are mixed.
DOUGH ROOM RECORD	A sheet of paper showing the time and losses of dough going through different stages. (bread dough).
DOUGH SHEET	A paper showing the formulas for a days doughs.
DOUGH TEMPERATURE	Temperature of dough at different stages.
DOUGH TIME CARDS	Cards usually punched with a time clock at different stages of dough processing.
DOUGHNUT	A round cake, usually with center hole, made of yeast or baking powder dough and cooked in hot deep fat.
DOUGHNUT KETTLE	A large kettle used for frying doughnuts.
DOUGHNUT STICKS	Wooden sticks for turning doughnuts while cooking.
DOUGHNUT SCREENS	Screens used to lift doughnuts from fat or for keeping them under the fat surface during cooking.
DRY MILK	Milk from which water has been removed by drying.
DROPS	Small globules of liquid that will drip instead of flow from spoon or container; a form of cookie.
DRY FRUIT	Fruit from which moisture has been removed by drying.
DRY YEAST	A dehydrated form of yeast.
DUSTING	Distributing a film of flour on pans or work bench.
DUSTING FLOUR	Flour spread on work bench to prevent sticking.
ECLAIR	A long thin shell of same paste as cream puffs.
EMULSIFY	To combine ingredients together such as water and fat.
ENGLISH BRANDY SNAPS	Spicy cookies, very small and flat.
ENRICHED BREAD	Bread made from enriched flour or containing Federally prescribed amounts of thiamin, riboflavin, iron, and niacin.

ENZYME	A minute substance produced by living organisms which has the power to bring about changes in organic materials.
EVAPORATED MILK	Unsweetened canned milk from which water has been removed before canning.
EXPANSION OF DOUGH	The stage of dough production where the most air has been assimilated.
EXTRACT	Essence of fruits or spices used as flavoring.
FERMENT	A substance such as yeast, producing fermentation.
FERMENTATION	The chemical changes of an organic compound due to action of living organisms, as yeast, producing the formation of the leavening gas, carbon dioxide.
FIG	A pear shaped fruit of the fig tree.
FILBERTS	Cultivated hazel nuts.
FILBERT ROLLS	Jelly roll type cake with roasted filberts in filling and batter.
FILLINGS	Sweet creams, jams, etc., baked between baked layers, in cake rolls, or shaped into yeast raised goods.
FINGER ROLL	A bun about three inches long and one inch wide.
FIRING	Process of heating an oven with fuel.
FLAMBE	Dessert over which spirits are poured and lighted.
FLAVOR	An extract, emulsion, or spice used to produce a pleasant taste: The taste of a finished product.
FLEURONS	Garnitures made from light puff paste cut into oval, diamond, or crescent shapes, and served with meat, fish, or soup.
FLOUR	Finely ground meal of grain (wheat, rye, etc.).
FLOUR SCALES	Large platform scales used to show weight of flour when delivered and when used, to detect losses by shrinkage.
FLUFF	A mass of beaten egg white and crushed fruit.
FOAM	Mass of beaten egg and sugar as in sponge cake, before adding flour.
FOLD	The method of lapping dough over on itself after it reaches right fermentation, as in making yeast raised sweet goods.
FONDANT	An icing of boiled sugar and water, without egg white.
FONDANT SLAB	Marble slab on which fondant is worked until creamy.
FORMULA	In baking, a recipe giving ingredients, amounts to be used, and method of combining them.
FOUNDATION	The reinforced base on which an oven or machine rests.
FRENCH BREAD	An unsweetened crusty bread baked in a narrow strip and containing very little shortening.
FRENCH DOUGHNUTS	Doughnuts made of chou paste.
FRENCH KNIFE	A long knife with pointed blade used in cutting cakes, doughs and nuts.
FRITTERS	Doughnuts made from cream puff paste and fried in hot deep fat: Fruit filled drops of heavy cake batter fried in deep fat.
FRUIT CAKE	A cake containing large amounts of dried fruits and nuts with only enough batter to bind the fruit together.

FRYING	In the baking industry, cooking in hot deep fat.
FUEL	Anything which is burned to give heat.
FUSE	A plug with a piece of metal of low melting point which is placed in an electric circuit to break the current when the load is too heavy, thus preventing fires from hot wire.
GARNISHING BAG	Similar to a cornet and equipped with fancy tips.
GATEAU	French term for Torte.
GELATINIZATION OF STARCH	Formation of jelly like substance when moistened starch is cooked.
GERM	That part of seed (such as in grain) from which the new plant grows: Micro-organism.
GINGER	The spicy root of a tropical plant used for flavoring.
GLACE	Sugar so treated as to look like ice.
GLIADIN	The part of gluten that gives it elasticity.
GLUCOSE	A simple sugar made by action of acid on starch (corn syrup).
GLUTEN	The protein part of flour which gives structure to bakery products by enabling flour to expand around air or gas and to hold the texture so formed: The determining quality factor.
GLUTENIN	The part of gluten which gives it strength.
GOURMET	A connoisseur in fine foods, an epicure.
GRADING	Separating middlings of wheat according to size.
GRAHAM FLOUR	Unbolted wheat meal.
GRAHAM MUFFIN	Sweet muffin with graham flour as main ingredient.
GREASING	Spreading a film of fat on a surface.
GUM ARABIC	A gum obtained from species of acacia trees.
GUM PASTE	A white modeling substance of gum tragacanth or gelatin, water and sugar.
GUM TRAGACANTH	A gum used to give firmness.
HAMBURGER ROLL	A soft round bun about four inches in diameter.
HARDNESS OF WATER	An indication of mineral salts in greater amount than is found in soft water.
HAZEL NUT	Nut of a wild American shrub, smaller than the filbert.
HEARTH	The heated baking surface of floor of an oven.
HOLLAND RUSK	Toast of yeast biscuits rich in milk, eggs, etc.
HOME MADE BREAD	Plain topped bread rolled in flour before panning or that baked in household type bread pans.
HONEY	A sweet syrup substance made by bees from flower nectar.
HORN OF PLENTY	Cornucopia shaped cooky made with gum paste, butter cream trimming, or bread dough.
HORSESHOES	Danish or puff pastry shaped like horseshoes.
HOT CROSS BUNS	Sweet, yeast raised buns with raisins added, marked on top with a cross in dough or a frosted cross; Lenten favorite.
HUMIDITY	Amount of moisture in the air.
HYDROGENATED OIL	Oil treated with hydrogen to give a type of shortening.
HYGROMETER	An instrument to determine the degree of humidity.
ICE	To frost or put on an icing or frosting; frozen water.

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ICING	A frosting or coating of sugar for pies, cakes, etc., made by mixing four x sugar with water, whites of eggs, etc.
INFECTIO INGREDIENTS	The presence of injurious micro organisms. Food materials blended to give palatable products.
INVENTORY	Itemized list of goods and equipment on hand, together with the estimated worth or cost.
INVERT SUGAR	A simple sugar; combination of dextrose and levulose.
JELLY	A stiffened combination of fruit juice and sugar, stiffened by the action of the sugar on the pectin in the fruit.
JELLY WREATH	A rolled ring of basic sweet dough containing jelly.
KERNEL PASTE KISSES	A mass of ground apricot kernels and sugar. A meringue confection of egg white and sugar baked slowly.
LACTOSE	The sugar of cows milk.
LADY BALTIMORE CAKE	Rich white layer cake with fruit and nut filling and white icing.
LARD	Rendered hog fat.
LEAVENING	Raising or lightening by air, steam, or gas, (carbon dioxide).
LEAVENING AGENT	An ingredient (or more) used to introduce carbon dioxide as yeast, baking powder, or soda plus sour milk.
LEIPZIGER STOLLEN	Very rich coffee cake with a great deal of fruit.
LEVULOSE LINE	A simple sugar found in honey and fruits. To line is to place paste, pie crust, lady fingers, etc., around the inside edge or bottom of moulds, rings, plates etc.
LINZER TORTE	A heavy cake of macaroon paste and jelly.
LOAF BREAD	Bread baked in pans.
LOAF CAKE	Cake baked in bread pan or similar deep container.
MACARON PASTE MACAROONS	A combination of almond and kernel paste. Small cookies of nut paste (as almond) sugar, and egg white.
MAKE UP	Method of mixing ingredients or handling of dough.
MALT EXTRACT	A syrupy liquid obtained from malt mash.
MAPLE FLAVORING	An extract of maple sugar or a syrup so flavored.
MARASCHINO MARASCHINO CHERRIES	Cordial distilled from Maraca cherry juice. Artificially colored white cherries in maraschino.
MARBLE CAKE	Cake of two or three colored batters partially mixed.
MARRONS	Chestnuts. GLACES. Chestnuts preserved in syrup or candied. Used in making fancy deserts etc.
MARSHMALLOW MARZIPAN	A white confection of meringue like consistency. Almond paste used for modeling, masking, and torten.
MASKING MEAL	Act of covering with icing or frosting or such. Coarsely ground grain; unbolted wheat flour.

MEASURING	Apportioning ingredients by volume or weight; ascertaining dimensions, capacities or weight.
MEASURING CUP	A standardized cup marked with fractions of a cup, used for accurate measure.
MEASURING SPOONS	Sets of standardized spoons (tablespoon, teaspoon, half and quarter) insuring accurate measurement.
MELBA SAUCE	Raspberry and currant jelly made into a sauce.
MELBA TOAST	Thin slices of bread baked to a pleasing crispness and golden color.
MELTING POINT	The temperature at which a solid becomes liquid.
MERINGUE	A white frothy mass of beaten egg white and sugar.
METRIC SYSTEM	A system of weights and measures based on multiple units of ten; used in the baking industry chiefly for flour analysis.
MIDLINGS	Coarse particles of ground wheat made during rolling of the grain in flour mills.
MILK BREAD	White bread in which all liquid is milk or which contains not less than 8.3 parts (by weight) of milk solids for each 100 parts of flour (by weight). This is a Federal standard that is rigidly enforced.
MILK SOLIDS	All of cows milk except the water.
MINCE MEAT	Combination filling of fruit, spices, beef, and suet.
MIX	The combined ingredients of a batter or dough.
MIXING	The blending of ingredients.
MIXING BOWL	A concave, hemispherical container for mixing.
MOCHA	A flavor combination of coffee or cocoa.
MOISTURE	Water held in or appearing on a substance.
MOLASSES	Light to dark brown syrup obtained in making cane sugar.
MOLD INFECTION	Casual introduction of foreign, deleterious, microscopic organisms of vegetable nature.
MOULDER	Machine that shapes dough pieces for various shapes.
MOUSSE	A light frozen dessert consisting of whipped cream, pate-a-bombe, and flavoring.
MUFFINS	Small light quickbread baked in muffin pans.
MUSHROOMS	Schaum torte confections in mushroom shapes.
NAPOLEONS	Delicate french pastry made with puff paste in layers with a cream filling between and thin frosting or powdered sugar on top.
NEAPOLITAN ICE CREAM	Layered brick ice cream in different flavors.
NESSSELRODE	Describes dish containing chestnuts.
NESSSELRODE PIE	Rum flavored Bavarian cream pie filling with mixed preserved fruits added, in flaky pie shell; topped with shaved chocolate.
NOUGAT	A confection made from almonds, pistachio, nuts and sugar.
OATMEAL	Meal made by grinding oats.
ONE MIX	A cake mixing method where all ingredients are combined and beaten at one time.

PANDOWDY	Sweetened, sliced, spiced apples covered with a rich baking powder biscuit dough, then baked. Served hot with pour cream.
PANS (tins)	Variously shaped metal containers for cooking and baking.
PARKER HOUSE ROLLS	Folded buns of fairly rich dough.
PASTILLAGE	A gum paste used in making candies, fancy pieces, flowers etc.
PATENT FLOUR	The fine meal of ground spring wheat.
PECTIN	A natural fruit substance which when in right balance with sugar and acid, forms fruit juice into a jelly.
PETITS FOURS	Small cakes of various shapes and flavors.
PFEFFERNUSSE	Christmas cooky, spicy and hard.
PHILADELPHIA CINNAMON BUN	Raisin filled cinnamon bun with luscious sticky topping.
PIE	Dessert with pastry bottom, fruit or cream filling, and meringue, whipped cream, or pastry top.
PIGNOLI	Pine nuts.
PINE NUTS	Small sweet seeds contained in cones of certain pine trees, usually roasted or salted.
PLAIN TUBE	Decorations made with plain round tube.
DECORATING	
POPPY SEEDS	Fragrant seeds from Holland, used in breads, rolls, noodles etc.
PROFITEROLLES	Small cream puffs filled with cream, and covered with a sauce. They are sometimes made very small and served with soup.
PROOF BOX	Box or cabinet equipped with shelves; it also permits the introduction of heat and steam; used for fermenting dough.
PROOFING PERIOD	The time during which dough rises.
PUFF PASTE	Rich pastry with rolled butter and special shortening for added flakiness.
PUNCH	See FOLD.
PUMPERNICKEL	Coarse somewhat acid rye bread.
PUMPERNICKEL MEAL	Coarse rye flour.
QUICHE LORRAINE	Open faced cheese pie with chopped ham or bacon added.
QUICK BREAD	Dough for bread or rolls raised by baking powder.
RAISINS	Dried sweet grapes, either dark or bleached.
ROCKS	Small rough surfaced cookies resembling stone shapes.
ROCK SUGAR	A candy preparation used in the construction of fancy pieces.
ROLLING PIN	Smooth surfaced wooden piece for rolling dough.
ROLLS	Soft breads sometimes called buns; hard crusted pieces of lean dough.
ROPE	A spoiling bacterial growth in bread formed during production.
ROUNDING	Shaping of dough pieces to seal ends and prevent bleeding.
ROYAL ICING	Decorative frosting of cooked sugar and egg white.

SABAYON	pudding sauce, made in double boiler, of eggs, sugar and wine. Served hot.
SALLY LUNN	Southern bread sometimes yeast leavened and baked in tube pan. Or it may be made with baking powder and baked in round cake or pie pans.
SALT	Sodium chloride; used for flavor and dough control.
SATURATION	Absorption to the limit of capacity.
SCALE	An instrument for weighing.
SCALING	Apportioning batter or dough according to unit weight.
SCHEDULE	Shop form designating amount and types of goods to be made and hour when needed.
SCONES	Typical Scotch hot bread or cake baked on a griddle or in the oven.
SCORE	To score is to make incisions forming a pattern on cakes or pies etc.
SCORING	Judging finished goods according to points of favor.
SESAME SEED	Seed imported from Asia. Creamy white, tiny, somewhat slippery to touch, with faint nutty odor and nutlike flavor. Nice in breads, cookies etc.
SHOO FLY PIE	Brown sugar and molasses flavored cake, baked in a pie shell.
SHORTBREAD	Crisp cooky, rich in butter or other shortening, of Scotch origin.
SHORTENING	Fat or oil used to tenderize flour products.
SHRINK	To shrink is to roll out paste and allow it to rest before baking, in order to prevent shrinking.
SIFTING	Passing through fine sieve for perfect blending and to remove foreign or over size particles.
SNAPS	Small cookies that run flat during baking.
SOLIDIFYING POINT	Temperature at which a fluid changes to a solid.
SOUFFLE	Baked dish made basically of milk and eggs, to which the beaten egg whites, folded in last, give a high puffed up airy lightness; may be main dish or dessert.
SPICES	Aromatic vegetable substances (dry) for flavoring.
SPOON BREAD	Southern corn bread made in a casserole, so delicate it must be served with a spoon.
SPRINGERLE	Traditional German cooky, anise flavored, with a raised design on top.
STOLLEN	Raisin filled rich yeast bread.
STRAWBERRIES ROMANOFF	Fine, ripe strawberries marinated in Cointreau, or kirsch, with whipped cream folded in or used as topping.
STRAIGHT FLOUR	Flour containing all of the wheat berry except the bran and feeds; termed 100% extraction flour.
STRUDEL	Rich pastry filled with apples, cherries, plums etc.
TARTS	Pastries with heavy fruit filling or cream.
TEA ROLLS	Small sweet buns.

TEMPERATURE	Degree of heat or cold.
TEMPERING	Adjusting temperature of ingredients to a certain degree.
TESTING	Trying a cake or bread at the oven for doneness; checking product or ingredients for quality, according to a set method.
TEXTURE	Interior grain or structure of a baked product as shown by a cut surface; the feeling of a substance under the fingers.
THERMOMETER	An instrument for measuring heat and cold.
TORTEN	Large fancy cakes enriched with creams, marzipan etc.
TRIFLE	Dessert of English origin made of layers of wine sprinkled spongecake slices, custard sauce or whipped cream, and preserves or jelly.
TROUGHS	Large rather shallow containers, usually on wheels, used for holding large masses of rising dough.
TUBING	Pressing a substance through a decorating or other tube.
TURN	To give a turn means when puff paste is mixed, to roll it out to a length of four feet, then fold over one third, and fold the other third over this, which operation is called giving one turn.
TUTTI FRUTTI	A confection or filling made of a fruit mixture.
VEGETABLE COLORS	Liquids or paste of vegetable nature, used for coloring.
VANILLA BEAN	Dried bean of a tropical orchid, used for flavoring. Extract is delightful in desserts, cakes, cookies etc.
VIENNA BREAD	A hearth bread with heavy crisp crust, sometimes finished with a seed topping.
VOL AU VENT	A light puff paste, cut either round or oval, and usually filled with meat or fish.
WASH	A liquid brushed on the surface of an unbaked product (may be water, milk, starch, solution, thin syrup or egg).
WASHINGTON PIE	Spongecake layers filled with jelly, sprinkled on top with confectioners sugar.
WHIP	To beat to a froth; an instrument consisting of strong wires held together by a handle and used for whipping.
WHOLE WHEAT YEAST	Unbolted wheat meal. A microscopic fungus (plant) which reproduces by budding and causes fermentation and the giving off of carbon dioxide.
ZWIEBACK	A toast made of rich coffee cake.

APPENDIX C:

ORDINARY BREAD FAULTS AND THEIR CAUSES
from
THE BAKERS' MANUAL FOR QUANTITY BAKING AND PASTRY MAKING
By Joseph Amendola
(1956)

ORDINARY BREAD FAULTS AND THEIR CAUSES

CAUSES	FAULTS																						
	IMPROPER MIXING	INSUFFICIENT SALT	TOO MUCH SALT	DOUGH WEIGHT TOO HIGH FOR PAN	DOUGH WEIGHT TOO LOW FOR PAN	DOUGH UNDER PROOFED	DOUGH TEMPERATURE TOO HIGH	DOUGH TEMPERATURE TOO LOW	DOUGH TOO STIFF	DOUGH TOO SLACK	ROOM BOX TOO HOT	GREEN FLOUR	DOUGH CHILLED	TOO MUCH SUGAR	INSUFFICIENT SUGAR	DOUGH TOO YOUNG	DOUGH TOO OLD	IMPROPER HOLDING	INSUFFICIENT SHORTENING	OVEN TEMPERATURE TOO HIGH	OVEN TEMPERATURE TOO LOW	OVER BAKED	
LACK OF VOLUME	X																						
TOO MUCH VOLUME		X																					
CRUST COLOR TOO PALE											X												
CRUST COLOR TOO DARK														X							X		
CRUST BLISTERS																		X					
SHELLING OF TOP CRUST									X														
POOR KEEPING QUALITIES									X											X			
POOR TEXTURE, CRUMBLY											X												
CRUST TOO THICK																							
STREAKY CRUMB																							
GRAY CRUMB																							
LACK OF SHRED																							
COARSE GRAIN																							
POOR TASTE & FLAVOR		X																					

