

CLAUSSEN'S MODERN BAKERY OPENS DOORS TO PUBLIC TUESDAY

PLANT OPENS

Claussen's Wants Public
to See Handsome New
Bakery.

MUCH OF INTEREST
TO ALL VISITORS

Establishment Monument to Pro-
gressiveness of Enterprising
Business Men—Guests
Will Be Taken Through
Plant—Music From
Orchestra.

Confident that every person who
eats bread will find much to interest
him in a modern bakery, and eager
to give every Columbian opportunity
to look over their plant, in which
they take just pride, H. H. Claussen's
Sons has invited the public to visit
the big plant on Green street Mon-
day between the hours of 4 and 7
p. m., and 9 to 12 Tuesday night.
The Claussen concern is one of
the foremost wholesale baking
plants in the South.

The opening of this new Claussen
plant marks another milestone in
the expansion of a great and pro-
gressive industry and many Co-
lumbians will attend its house warm-
ing this week. Every citizen will be
the prouder of his city after a visit
to the Claussen plant, whose prod-
ucts are each day carrying the
name of Columbia throughout the
South.

Claussen's bakery is a monument
to faith and progressiveness and
the foresight of enterprising busi-
ness men, who ever have before them
the will to produce the very best
that can be wrought. It is a plant
of what Columbia has done and what
it can do with the great natural
advantage of bread.

Every visitor will be carried on
a tour of inspection of the building
from basement to the top floor and
the details of the baking business
will be explained by competent
guides.

Every step in the baking of bread
will be explained. It is a wonderful
story of man's progress and the
intricate part that machines with
precision and almost human intelli-
gence have come to play in the
everyday life of the baking world.

Every housewife who visits the
plant Monday, during the hours
specified will find much to interest
her.

There will also be a musical pro-
gram for the entertainment of the
guests to be provided by an 11-piece
orchestra from 4 to 7 in the after-
noon and dance music from 9 to 12
midnight. During the dance program
Tuesday night the orchestra will
furnish some unusual entertain-
ment in the way of singing and instru-
mental numbers. There will be
plenty of fun and refreshments for
all.

There will be flowers for the ladies
and, the kiddies accompanied by
their parents or adults will be pre-
sented with one of Claussen's car-
nival whistles and one of the
thousand kiddies there with one of
Claussen's Middle caps, also a sample
cake.

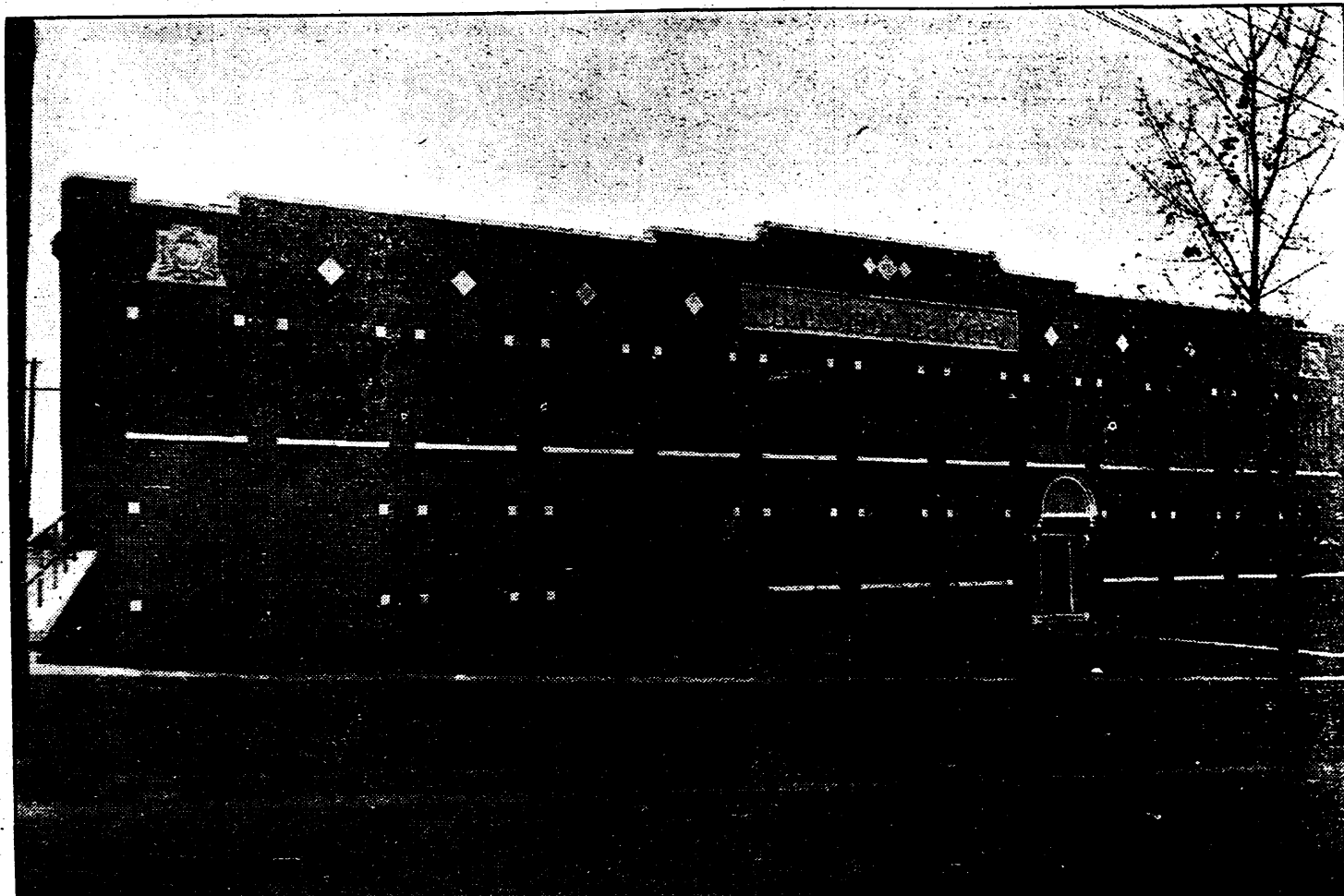
After the formal opening which
ends at 10 o'clock, the public will be
requested to withdraw to grant time
for the clearing of space for dancing
which will begin at 9 o'clock and to
which the public is cordially in-
vited. During the dancing light re-
freshments will be served to the
guests.

The bakery plant is located at
1001 Green street, Columbia, S. C.
"Remember the hours from 4 until
7 and from 9 until 12. Be our guest
at our opening party, Tuesday," says
Claussen's. LaMotte's famous 11-
piece orchestra will furnish the
music and chaperones will be in
attendance at the dance.

IMPROVED HIGHWAYS MEAN BETTER BUSINESS

Every baker ought naturally al-
ways take a keen and lively interest
in all civic improvements planned in
his community, but one of the most
important of these days seems to be
the question of good roads. When
ever a plan for the expenditure of
money for this purpose comes up in
any town or city the bakers should
be among the first of the merchants
to put themselves wholeheartedly be-
hind it, for better roads mean bet-
ter business. Just as the rails of
steel have linked the entire country
from East to West in a larger sense,
so good roads bring together out-
lying territories, and in more than one
way increase the baker's opportuni-
ties for doing business. Some mem-
bers of the trade, especially in the
smaller towns, have quite frequently
worked and voted against such plan-
ned improvements in road construc-
tion, not realizing that all money
used for improved roads means bet-
ter business, really, but an investment.

COLUMBIA HOME OF CLAUSSEN'S QUALITY PRODUCTS



Front view of the beautiful new building which houses the baking plant of Claussen's, where will be manufactured their bakery products, well known for their quality by people all over this section of the country. In the future Claussen's products will carry the name of Columbia with them wherever they go. The bakery, whose products are famous throughout six states, has a reputation of being one of the most sanitary "Public Kitchens" in the South. It will be thrown open for inspection, Monday, October 8th, from 8 to 11 p. m., and Tuesday, October 9th, from 4 to 7 p. m., and from 9 to 12 midnight. All dealers, housewives and citizens generally are urged to attend the housewarming.

COLLINS MANAGER OF PRODUCTION

Comes to Work Experi-
enced and Trained.

LONG IN BUSINESS

For Ten Years With Claussen's,
Takes Course in Bakery
School.

I. L. Collins, production manager
of Columbia plant of Claussen's
bakeries, is well qualified for this
work.

One of the most important men
about the modern bakery is the pro-
duction manager. This individual
does far more, however, than merely
seeing that so many loaves of bread
and so many cakes are produced per
day, not only does he determine the
quantity, but on his knowledge and
skill rests in large measure the
quality of the product. On his
shoulders rest the responsibility of
making the bread wholesome and ap-
petizing.

The production manager at the
Claussen plant in Columbia is I. L.
Collins and he comes to his work
well qualified both as to theory and
practice. For 13 years Mr. Collins
has been engaged in the baking busi-
ness and ten of those years have
been with Claussen's. He began his
career in Claussen's plant in Augusta
as a pan greaser, was soon promoted
to the post of assistant pan helper, and
since that time has risen steadily.
For three years he was assistant su-
perintendent of the Claussen plant in
Augusta and then, when the erec-
tion of the Columbia plant was be-
gun, Mr. Collins was sent by George
Claussen to one of the two baking
schools in the country—the William
Dunwoody institute in Minneapolis.

At the Dunwoody institute Mr. Col-
lins took a course extending over 17
weeks in scientific baking. Every
phase of the making of bread was
studied under experts. Temperature,
fermentation, humidity, the mixing
of doughs and a dozen other sub-
jects were studied. The course, more
or less scientific in its nature, was
completed last April.

After leaving Minneapolis Mr. Col-
lins went to Chicago, where he worked
in several of the larger bakeries
merely for the experience and train-
ing. From Chicago Mr. Collins came
to Columbia, arriving in this city
July 15. He brings to his work a
wealth of experience and training,
a knowledge of chemistry and of fer-
mentation, which will stand him in
good stead. He has been prepared
for the post of production manager
of the Columbia plant and already
has entered upon the performance
of his duties.

Mr. Collins is proud of the new
bakery. It is one of the finest equip-
ment plants in this part of the coun-
try, he says. He believes it will
turn out a very fine quality of
bread.

AUGUSTA CONCERN BUILT NEW PLANT

Claussen-Lawrence Construc-
tion Company Erected Structure.

The Claussen-Lawrence Construc-
tion company, builders of the Claus-
sen bakery plant, is a partnership
consisting of J. C. H. Claussen and
C. K. Lawrence, Jr. Mr. Claussen is
a graduate of the civil engineering
school of the University of Georgia.
After leaving college, he was with the
interstate commerce commission for
one year, being engaged in the en-
gineering and construction depart-
ment of the Central of Georgia rail-
road. Having made an extensive
studying of paving, Mr. Claussen is
well fitted to handle the paving end
of this company's business. He is a
member of the Exchange club of
Augusta and is also a Mason.

In 1910 Mr. Lawrence was gradu-
ated from the University of Penn-
sylvania, receiving the degree of
bachelor of science and architecture.
The school from which he was gradu-
ated is the largest architectural school
in the United States. Mr. Law-
rence's interest in going into the
construction business was first in-
spired by his father, who was a
practical construction side before he
engaged in the practice of architec-
ture. The construction end, however,
appealed to him so strongly that he
remained in it.

Going to Augusta in 1910 as esti-
mator for the McKenize Construction
company, he went into business for
himself a few years later. Charles
F. McKenize having died, the com-
pany has been affiliated with his
built many of the most substantial
buildings and has done the largest
percentage of paving in Augusta.

The operations of the Claus-
sen construction company are
scattered throughout the South. Dur-
ing the past few years this concern
has done millions of dollars worth
of construction work.

It has three paving contracts un-
der way for the South Carolina state
highway department, including the
largest single contract ever to be let
by this department.

The home office of this concern is
at 1324 Gwinnett street, Augusta, Ga.

FURNISHES BRICK FOR NEW BAKERY

Guignard Provides Mate-
rial for Structure.

Guignard Brick works furnished
brick on Claussen's new bakery in
Columbia. They supplied 310,500
brick for its construction.

EXPERTS BAKE CLAUSSEN'S BREAD

Must Be Well Schooled in
Their Profession.

IN NEW DISCOVERIES

J. P. Gagne of Claussen's Gives
Some Pointers on Making
of Bread.

In years gone by, when bread
known as "baker's bread" was only
used by the housewife in an emer-
gency when she did not have time to
bake her own bread, little was known
of the quality of the ingredients that
goes into bread, and little was known
of the art and science of baking on
a large scale for the greater per-
centage of the homes.

As the baking industry made new
discoveries in the field of quality
of ingredients, formulas and modern
machinery, they began to make great
strides in attracting the American
housewife to the point of using
baker's bread daily and as they ap-
proached a perfect formula, which
would produce a uniform loaf that
could be sold at a most reasonable
price, homemade bread was gradually
put in the discard.

Bakers have formed schools and
universities at which men may be
trained to employ the very highest
skill in the baking of bread in a
modern bakery of today.

It is a hard matter to tell the con-
tent of a package by its wrapper,
but it is possible to pick a quality
loaf of bread by its crust and this
is one of the outstanding features of
Claussen's bread—its smooth, even
brown crust uniformly baked,
which can be obtained as Claussen's
bread obtains it. Claussen's made
a loaf of bread whose texture is light,
smooth, white and even, and the rich
brown crust which gives this in-
crease comes from the quality in-
gredients and their traveling oven,
which is one of the latest marvels of
the baking industry. The operation
of this oven is timed to the second
and the temperature of heat is con-
trolled by thermostats which cause
the flavor to be baked into the bread
instead of being baked out of it.

Claussen's bakeries have in their
production department as production
manager, J. P. Gagne, who for some
time studied European baking meth-
ods in England and is a graduate of
the Hoad Industrial College of Sci-
ence Baking. In all Mr. Gagne has
spent some time in the interest of
better baking production. During
this time he has spent some time in
the service department of Fleisch-
man's Yeast company, visiting bak-
eries in 25 states and teaching them
how to make better bread. He is also
a graduate of the Dunwoody Institute
of Baking of Minneapolis, Minn., and
there is no man in the United States
better prepared than Mr. Gagne to
handle the production of Claussen's
Quality Baking.

The well known Claussen's pan-
nole is one of Mr. Gagne's creations
and to those who have enjoyed these
products in many other shops.

FOUNDED CLAUSSEN'S BAKERY



THE LATE H. H. CLAUSSEN.

It was in 1842 that J. C. H. Claussen
started a little bakery in Charleston,
S. C. This shop was no different from
scores of others there and elsewhere
at that time. The principal equipment
was an oven and a "natural" yeast
baker, who was kept sighted enough
to realize that the better products he
made the more tempting they were,
the more of them people would eat
and, of course, he was right, for it
was not long until he had the prin-
cipal trade in Charleston. His three
sons were reared in and fully inher-
ited the business which by that time
was quite an enterprise and manu-
factured not only bread and cakes, but
crackers and candy also.

In 1868 the son, H. H. Claussen,
withdrew his interest in the J. C. H.
Claussen business and went to Au-
gusta to open a bakery of his own,
which he did, on the corner of Tenth
and Broad streets. He equipped a
nice little shop, well stocked with
flour, sugar, salt and other ingredi-
ents, had just about gotten things
going smoothly when the death of
that year "came and washed it all
away." However, he was not the kind
of man to let a little thing like a flood
stand in his way, for he had come to
build a big business and with his
characteristic determination he rolled
up his sleeves and went at it harder
than ever.

Most Augustans and some Colum-
bians know of the growth that fol-
lowed—how, little by little the old
bakery was enlarged—modernized
and enlarged again. How the baker
of Tenth street was always foremost to
accept new equipment and new meth-
ods as the baking industry advanced,
when they seemed to be worth while,
and, how, finally, in 1917, they (for

by this time the oldest son, George,
was taking an active part in the man-
agement) completely outgrew the old
quarters and decided to build a plant
of the most modern and scientific
type. The new Augusta site was
bought and the splendid bakery was
erected. It was thought that this spa-
cious place would care for all busi-
ness that could be developed in the
Augusta territory for many years to
come and it would have had the
Claussens decided there was no use
being satisfied with business in the
Augusta territory—"Let's go beyond
that!"

At the death of the founder in 1919
the active management was taken
over by George F. and Euclid, two of
the three sons, who became owners
and now called the business H. H.
Claussen's Sons.

Up until 1921 the business had been
confined to the making of bread and
cakes for the local and immediate
shipping territory. Practically all the
commercial cakes consumed in the
South were shipped in from the larger
cake bakers of the North.

However, the Claussens could not
stand to see all that business going
away when they had a perfectly good
plant that could make perfectly good
cakes of a quality that could compete
successfully with any of the more
widely known brands and as a drive
was launched and with such success
that Claussen's cakes are being sold
over five states and are probably the
biggest selling cakes of their types
in the territory.

Claussen's Bakeries Build Reputation On Quality Service

For Over Third of Century Name of Claussen Has
Been Associated With Good Bread and Cakes.
Growth of Enterprise Due to Vision,
Business Acumen and Faith of
Owners and Officials.

The name of Claussen has been
associated in Augusta and this sec-
tion with good bread and cakes for
over one-third of a century, but it
was not until recent years that the
firm has become one of the greatest
bakeries of the South and this dis-
tinction has come largely through the
enterprise, vision, business acumen
and faith in the firm's product as
demonstrated by George F. Claussen,
eldest son of the late H. H. Claus-
sen and the senior member of H. H.
Claussen's Sons.

George Claussen, as he is known
by many hundreds of friends, has
been well grounded in the baking
business. He grew up in it and
proved to be a wise son of an able
father. He studied the baking busi-
ness in its every angle and he learn-
ed it thoroughly. He gives pains-
taking care to it and he combines
all the qualities enumerated above
with an attractive personality, hav-

ing a faculty of making friends
readily and keeping them. Interest
is always centered around a man who
has made a success and has taken
the lead in the business in which
he is engaged and especially so in
the case of a man who has achieved
so much success so rapidly and while
still a young man.

Educated at Newberry College.
After completing his education at
Newberry college, George Claussen
entered his father's bakery, which
was located for many years at the
corner of Broad and Tenth streets—
as a worker, serving in all capaci-
ties, from a bench hand to a mixer,
from a mixer to a baker, and then
to foreman. It was not as the baker's
son that he worked, but simply as
a common workman bent upon becom-
ing proficient in his business, with-
out suggestion even as to having bet-
ter working hours, better pay or any
other privilege that might come to
him.

(CONTINUED ON PAGE TWO D.)

INVITE GROCERS TO VISIT PLANT

Claussen's Bakeries Set
Aside Monday Night.

TO INSPECT PLANT

Want Heads Civic Clubs, Dieti-
cians, Doctors and Others
to Come.

All groccerymen and clerks, cafe
owners and clerks, lunch room staff
operators and employees and drug
store employees are especially in-
vited to attend Monday night at 8
o'clock the opening of Claussen's Ba-
keries.

The bakeries also extend a special
invitation for Monday night to the
president of the retail groccery asso-
ciation, residents of civic clubs,
doctors, dieticians of hospitals, chief
cooks of colleges and schools. The
Bakeries have arranged a trip
through the new plant for these par-
ticular groups and for the families
of members of these groups Monday
night.

The bakery will be opened at 8 p.
m. and Claussen's officials and em-
ployees will be the host of these spe-
cially invited guests. A trip through
the bakery from top to bottom has
been arranged so that those who are
visually interested in good breads
and how they are made may see for
themselves the quality ingredients
and the extreme care and skill em-
ployed by Claussen's in the manu-
facture of their products. Visitors
will be shown where the raw materi-
als are received in the basement,
the procedure of mixture and baking,
how the dough is placed on the trays
of the new traveling oven, which is
not only fascinating, but is the lat-
est marvel of the baking industry,
and how it comes out 22 minutes
later a rich brown uniform loaf of
Claussen's better bread. They will be
shown how it is cooled and wrapped
to protect it from the hands of those
who handle it and from the dust that
travels through the air.

After the trip through the bakery
the guests will be served with light
refreshments and enjoy music and
entertainment furnished by La-
Motte's 11-piece orchestra.

Claussen's desire to be Colum-
bia's friends and desire that Co-
lumbians be their friends is the rea-
son that these specially invited
guests meet them Monday night at
their new bakery plant to take ad-
vantage of this opportunity to be-
come better acquainted.

WANTS ALL TO REGISTER.

Claussen's desires guests
at the open house party Mon-
day and Tuesday nights to
register their names and ad-
dresses so that appreciation
to visitors may be expressed
and the number of persons
passing through the plant
may be known.

MACHINES WRAP LOAF PER SECOND

Claussen's Bakeries Have
Modern Equipment.

PAPER FROM ROLL

Machines Measure Loaf for Cir-
cumference—Have Many
Parts.

Claussen's Bakeries have spared no
expense in the equipment of their
Augusta plant. The new machinery
used in the bakery is the most mod-
ern and in as nearly every condi-
tion as is humanly and mechan-
ically possible and to that end have
purchased the famous Seivigne wrap-
ping machines, costing \$3,500.

These machines automatically mea-
sure and wrap 60 loaves per minute,
which is one loaf each second.
The bread is mechanically handled
throughout which is vastly different
from former bakery practices.

Every loaf is mechanically mea-
sured for circumference and paper is
cut from the roll to fit each individ-
ual package.

This machine will assure Claussen's
loyal customers of identification of
an individual loaf of bread in Colum-
bia's trade territory since it folds the
ends of the paper under and seals
them on the bottom of the loaf in-
stead of on the ends.

The Seivigne wrapping machine has
over 3,000 operating parts and its
operation seems more human than
mechanical.

This machine is being used in the
largest bakeries in the world, includ-
ing England, Scotland, Ireland, Ger-
many, Russia, Australia, New Zea-
land, South Africa and Canada.

We cordially invite the public to
view the operation of this wonderful
piece of mechanical equipment.

THE CLAUSSEN HOUSEWARMING

The State shares the gratification of the community over
the opening of the large, "down-to-date" plant constructed
by H. H. Claussen's Sons in Columbia, which the public is
now invited to inspect, as a model establishment for the
large-scale making of breads and cakes.

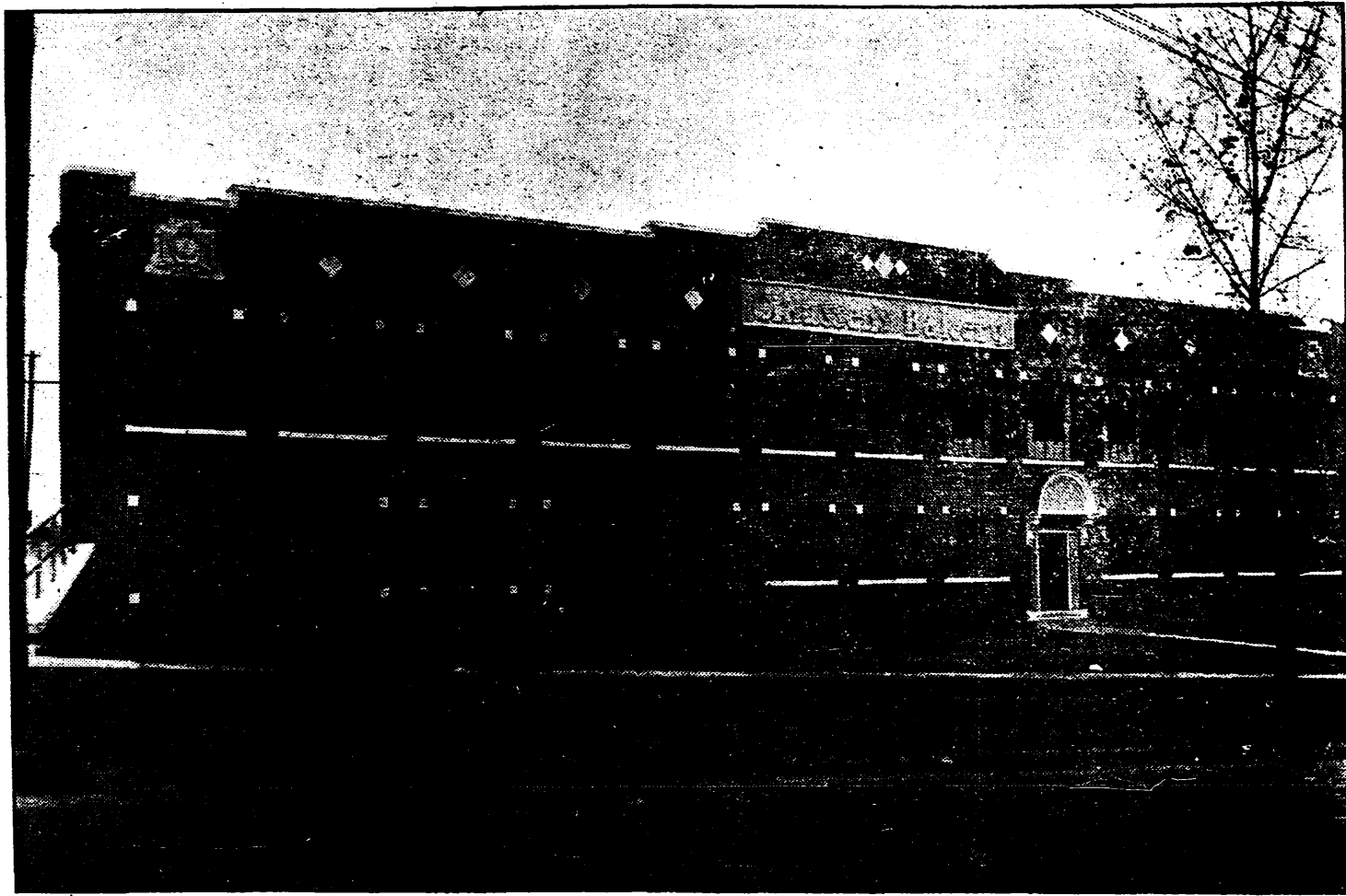
The House of Claussen was founded in Augusta many
years ago by a pioneer master baker of the Southeast, bred
to the craft from childhood; a man, as the Augusta Chron-
icle has said, "of the strictest integrity, a man of thrift
and frugality." When he entered the field, housewives
were scornful of "baker's bread," or at the most were
patronizing. The late H. H. Claussen started his business
in a small way, delivering his output daily by means of
runners. Today 20 families in 25 in the cities and towns
use regularly bread and rolls from commercial bakeries.
The founder lived to see erected and in operation a great
plant in Augusta, which lately has been doubled in capac-
ity. His eldest son, George F. Claussen, he trained both as
baker and business man, and he, with a younger brother,
Euclid Claussen, is "carrying on," the scope of the enter-
prise steadily expanding under their management. The
Columbia plant is their latest major venture in this broad-
ening program.

The Claussen "housewarming" in Columbia is an event
worth signaling. Congratulations, and best wishes!

(CONTINUED ON PAGE NINE D.)

(CONTINUED ON PAGE TWO D.)

Come to Our Opening Our Housewarming—



HAVING completed our new bakery (with a capacity of 50,000 loaves of bread each day) and installed the most modern and latest improved machinery, we feel that the public, through whose generous patronage this bakery has been made possible, will be interested in seeing where and how the good "CLAUSSEN'S" bread they use is made. Also a complete display of CLAUSSEN'S "delightfully different" cakes.

Accordingly we have decided to throw our doors open and invite the good housewives of this community to a housewarming, believing that they will find a visit to the bakery both interesting and enjoyable.

TO INSURE SAFETY TO CHILDREN—NO CHILDREN ADMITTED WITHOUT ADULT

4 Until 7 P. M.

Tomorrow, Monday, October 8th

Dancing From 9 P. M. 'Till 12 Midnight

Music
Flowers

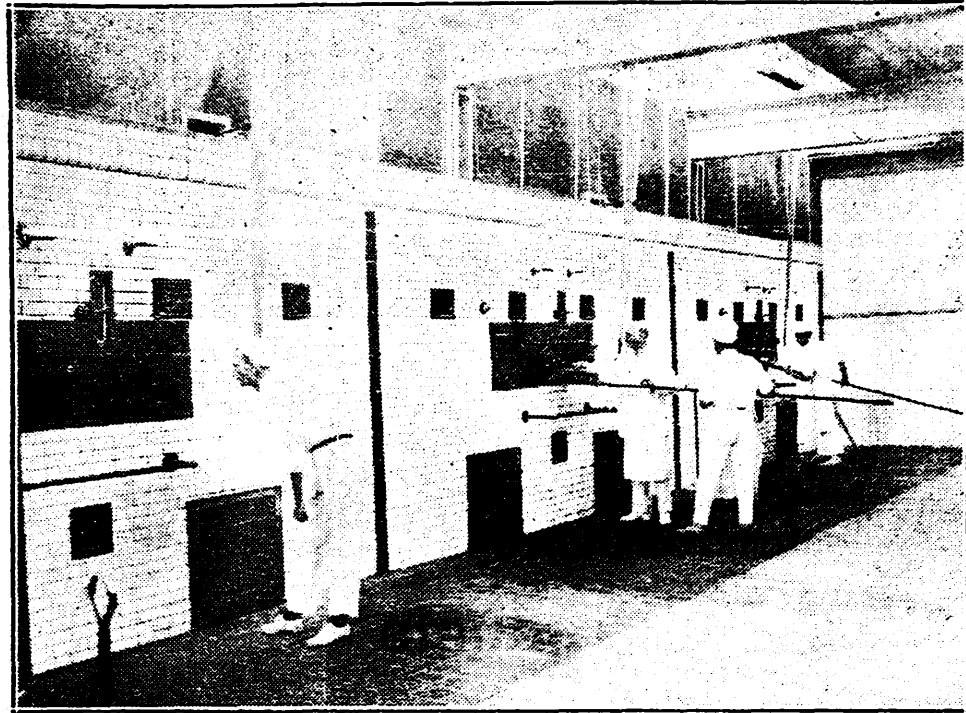
Claussen's

Souvenirs
Refreshments

SOUTH'S FAVORITES SINCE 1841

Baking Cake for Thousands, Job of Claussen's Bakery

BATTERY OF CLAUSSEN'S CAKE OVENS



Three of the Garndt Rotary Cake ovens at the Claussen plant in Augusta. Their construction is of the most modern type and the baking chamber maintains a uniform heat that is lacking in the "home oven." Ovens of this kind have a decided advantage over others and play an important part toward "baking the flavor in" the cakes.

This equipment in the H. H. Claussen bakery makes it thoroughly up-to-date in every respect and makes possible the production of more uniform products than ever before. Indeed, the great establishment, with a doubled capacity after the recent additions, is one of the most modern in the entire country and there is no bakery anywhere, regardless of size, that is superior to it from the standpoint of equipment.

The three new mammoth Garndt ovens especially built for cake baking, are of the rotary type and thus bake more uniformly than ovens of any other style. The favorable features of these ovens are that the discs on which the pans are placed revolve, thus equalizing the heat throughout the baking chamber. In large ovens, which are used in many bakeries, it is not uncommon for one part of the oven to be heated more than another. This condition really prevents uniform baking. The new and ultra modern Garndt ovens have been in operation at Claussen's for some time and are baking beautifully.

CLAUSSEN INSISTS ON CLEANLINESS

Of First Consideration at New Bakery.

USES MUCH LIGHT

Interior So Designed as to Avoid Dark Corners—Open Daily to Visitors.

No matter what you eat, the first thought you have is, "where does it come from" and the next thought "is the place it comes from clean?" Cleanliness has always been the first consideration of the Claussens in the manufacture and handling of their products. The magnificent interior is designed with a view of keeping it spotless with no hidden or dark corners for dirt or dust to collect.

The ceiling and walls are painted a light blue over brick, wood and steel and the lower walls are of light blue tile. The floor is of the very best maple. The basement, garage, loading platform and wash-room is built of cement.

In many homes they have house-cleaning twice a year—fall and spring—but in Claussen's new modern bakery they have clean house all the time, with special housecleaning Saturday. The tables, pans and machinery are cleaned daily but on Saturday morning after the last dough comes down to complete the orders for Saturday (since there is no delivery Sunday) the cleanup crew starts in and every floor is scrubbed spotless, the walls are brushed down, the tables, pans, etc. are cleaned thoroughly, the machinery is scraped, washed and oiled to be in good shape and thoroughly clean for the new week with starts in the bakery plant Sunday morning to have bakery products for Monday's sales. The floors are scraped of all scrap dough and flour and scrubbed with washing powder and a machine and on Saturday night it is impossible to find dust, dirt, flour

or dust on any machinery, table, pan, floor or wall.

It is not the policy of Claussen's to have special days for visitors or inspections, but visitors may go through this beautifully designed and clean plant at any time without fear of soiled clothes or seeing anything but cleanliness to the highest degree, since it is the purpose of each employee to keep themselves and their plant in parlor condition at all times day and night. They manufacture bakery products and it is their firm determination and intention to make them clean, in a clean building with machinery of the latest and most modern type.

Leakage around the spark plug is detected by a hissing sound and the location of the leak may be found by squirting a small quantity of oil on the suspected points. The oil will bubble at the leak.

Clogged Muffler Causes Trouble. A clogged muffler means bad pressure on the engine and this condition will cause leaks in its connection. Incidentally, it is frequently more economical to replace mufflers than to repair or clean them.

PECAN STATIONS MAY BE OPENED

Special to The State.

Florence, Oct. 5.—T. B. Young, general manager of the Carolina Co-operatives Consolidated, is planning to operate pecan receiving and grading stations at Orangeburg and Florence, provided sufficient pecans are reported to assure the operation of stations at these points without loss, it was announced here Tuesday.

Circular letters have been mailed out to the growers, with information blanks, many of which have not been returned.

Mr. Young says his organization is in a better position this year to render a real service to the pecan grower than ever before, and urges that any growers who have not already done so report their tonnage at once.

It is understood that the Carolina Co-operatives Consolidated will either buy pecans at stated prices when received, or will handle them for the growers' account to the best possible advantage, and cash prices will be published about October 15.

NAMES MISS PRINGLE CHARLESTON CHAIRMAN

Charleston, Oct. 5 (By A. P.)—Miss Washington Green Pringle, prominent in women's clubs here, was appointed chairman for organization of the Democratic women voters in Charleston county Wednesday night by Mrs. L. H. Jennings, national executive committeewoman from South Carolina. Mrs. Jennings and Miss Kate V. Wofford, state chairman of Women's Smith for President clubs, were named to select the women leaders.

Rubber Covering for Smooth Pedals. Metal tops of brake and clutch pedals are dangerous when worn smooth. There is a risk of having the foot slip off when obliged to work fast. This can be overcome by covering the metal tops with rubber pads.

The mysterious disappearance of water in the cooling system may be due to leakage at either the petcock at the rear of the engine block or the drain at the bottom of the pump.

Paniplus
TRADE MARK REGISTERED
NOT A YEAST FOOD

Paniplus
TRADE MARK REGISTERED
NOT A YEAST FOOD

Our Hearty Congratulations

—to—

The People of Columbia and Vicinity

On the fine new baking plant which is now at their service.

Our best wishes for success to the owners and management of this splendid plant of

Claussen's Bakeries

The Paniplus Company

Kansas City, Missouri

Paniplus
TRADE MARK REGISTERED
NOT A YEAST FOOD

Keeps Bread Fresh Longer
Increases Its Nutritive Value
Gives It a More Appetizing Flavor

Paniplus
TRADE MARK REGISTERED
NOT A YEAST FOOD

BREAD—"THE STAFF OF LIFE"

History of Bread, the One Food Which Rich and Poor Alike Must Have—Best Bread Comes From a Modern, Scientific Bakery—How It Is Made.

BY WILLIAM BALK.

This is a very old name for bread, and unlike many such old names, it is a very good one. The belief that bread is a very good food, which is what we mean when we call it the "staff of life" is very old indeed. It must doubtless date back to the remote ages when men first grew corn for the purpose of making bread, and our reading in the Old Testament about the famine of corn in Egypt in the time of Joseph will give us

some idea of the high honor in which bread was held a long time ago. It is truly in the last four years that men have learned how to study all kinds of food, and find out exactly how good they are, and in what way they are good for the human body. This has been done many times over and in many different ways for thousands of foods and drugs, and certain very important facts have been firmly established. We are still much in doubt as to the exact value of meat and many

other foods; but every one who has any right to suspicion is agreed as to the value of bread.

Once when the people of France had long been badly governed by selfish kings, it was reported at the court that the people were dying for want of bread.

"Dear me, how stupid of them!" said a great lady. "How very stupid of them. Why don't they eat cake?" That showed her to be as stupid as she thought the people were. If they had flour to make cake with, could they not have made bread, which is cheaper and more necessary for food?

The Need of Bread. All civilized people need bread. It is the commonest food; it is the cheapest—but it is the one food which rich and poor alike must have. We tire of almost every sort of food except bread. Many things will make bread and there are many ways of making it, but the best bread we get is that which comes from a sanitary, scientific bakery of the manner of making it properly depends entirely upon science.

Now turn your thoughts to the modern, up-to-date methods of producing a loaf of bread.

The flour—only the very highest quality—is bought in carload lots delivered right at our plant door where it is unloaded and stored in a dry, sanitary storeroom. From here it is conveyed by an automatic conveyor to the third floor where the dough mixers and proofroom are located.

Only the most modern and scientific machinery is used in the Claussen plant and you are assured of a loaf of "quality bread" delivered to your table practically untouched by the human hand.

Process of Making. After the dough is mixed and allowed to set the required time to bring out the proper flavor in the bread, it is sent down to the main floor through the dough chute into a machine that cuts the dough into the proper size for a 16-ounce loaf. It is then conveyed into a revolving cylinder where it is made into a round loaf and passed on into the class enclosed automatic revolving proofers, where the loaf is again allowed to rise. It takes eight minutes to pass through this machine and after the loaf comes out it is placed in pans ready for their reception and put into another proof box which holds four racks each containing 400 loaves of bread.

After remaining in this proof box to allow further rising it is then ready for the oven.

Claussen's plant is equipped with large white tile ovens of the very latest type, each capable of baking 500 loaves of bread at one time.

As the bread comes out of the oven it is taken out of the pans and placed on specially constructed racks and allowed to cool. From these racks it is moved on to the automatic bread slicer which slices and seals the loaves in one operation in wax paper thereby assuring their patrons of a sanitary loaf and one of uniform quality for these two words, "Quality" and "Service" is the foundation upon which the Claussen business has stood for the past 25 years and upon which the name of Claussen will continue to stand in the years to come.

Knights Hold Ceremonial. Special to The State.

Wichita, Kan., Oct. 5.—A big celebration will be staged in South Kansas City, Oct. 25, probably the largest ever by Bagdad temple, No. 1, International Order of Knights.

It was learned today that the celebration is expected to attract several hundred visiting knights. Many of them will come from North Carolina.

Choice of a place for the celebration between Spartanburg and Greenville, depending on the number of loaves and up for the celebration. Bagdad temple has a membership of 1,000.

Springs to Speak. Special to The State.

Wichita, Kan., Oct. 5.—Col. H. B. Springs of Wichita Beach has accepted an invitation to deliver an address over radio station "WJAC" at Napa Valley, Calif., Saturday night, October 13, his subject being "South Carolina's Future Outlook."

The state of South Carolina has been one hour each night of the week of October 5 for putting before the people of the whole country its opportunities and prospects.

The selling and leasing of an automobile has developed into a science, due to the various grades of tires, lights, and different parts and the tools necessary to complete the job.

RUFF
HARDWARE CO.

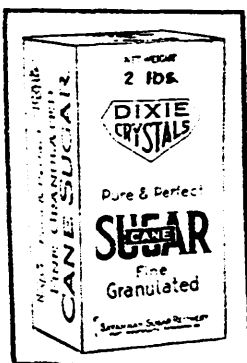
Supplied the Hardware

FOR

CLAUSSEN'S NEW BAKERY

Columbia and Claussen's Bakery are to be congratulated on this most modern plant.

Congratulations to CLAUSSEN'S BAKERIES



Assortment of Package Sugar
Standard Granulated
XXXX Powdered
Tablets, Cubes, Browns

Savannah Sugar Refinery

Port Wentworth

Savannah, Ga.

One of the Most Interesting Views in Claussen's New Bakery



The view pictured above is not only one of the most interesting but is one of the most important in the entire bakery. On the left is the "dough-break." Next is the trough suspended above the hopper of the "divider" which divides the dough into even weights for the loaf, then comes the rounder which rolls the dough into a ball and a conveyor takes it into the overhead proofer for nine minutes, at the end of which is the moulder, which moulds the dough into the shape of a loaf of bread. It is then placed in the pans for the final proofing and baking.

Art of Baking Dates Back to Earliest Age of Civilization

In Prehistoric Age Man's First Step in Crushing Grain Or Making Flour Seems to Have Been by Rounded Stones—Grain Was Placed in Slightly Hollowed Stones and Cracked or Coarsely Pounded.

By WERNER S. ALLISON,
Advertising Manager Quality Bakers of America.

Baking is one of the oldest human arts. It is older than history, older than civilization, its origin being lost in the twilight of fable. It would seem from various evidences of prehistoric days that baking was carried on in the Stone Age, the earliest age in civilization when man had gained no knowledge of metals and his weapons and utensils were formed of stone, horn or bone. In certain places, as in the lake dwellings of Switzerland, have been found the remains of roasted grain which would suggest that it might have been eaten in this form even before bread itself was known.

The first step in crushing grain or really in what might be said to be flour making seems to have been by means of rounded stones, which have come down from the Stone Age in many parts of the world. The grain was placed in slightly hollowed stones, and merely cracked or coarsely pounded by these so-called millers.

The influence of this simple act was, nevertheless, epoch-making. As long as the grain was only parched, it was probably gathered wild, and man remained a wanderer, existing chiefly on fish and game. Caesar wrote of the Germans that the greatest part of their diet consisted of milk, cheese and flesh, and that they kept moving about lest they should be forced to give up the hardships of war for tillage of the soil.

Thus it is not too big a stretch of the imagination to hazard that baking gave rise to agriculture itself and all the results which that implies.

First Bread Baked in Ashes.

But there is plenty of evidence to show that at least 6,000 years ago baking was well known. Probably the first bread was baked in the ashes, since this seems to be the most primitive of all forms of baking—and is perhaps the oldest. The first mention of bread proper in the Bible is where Abraham told Sarah, his wife, to prepare three measures of fine meal, knead it and bake it upon the hearth, which in all probability means in the ashes. The Negroes knew of this method before they were brought to America as

slaves and imported it with them into the country.

In early Egypt there were two principal methods of making meal. One was with a pebble and mortar—the other by saddle stones. There was an under stone more or less hollow and sloping. The upper stone was somewhat the shape of a cylinder and was rolled and pushed back and forth over the lower one with the grain between them. This was a true method of grinding and produced finer flour than did the pebble and mortar. In sifting the meal the Egyptians used a bolter made from split papyrus or rushes. But it was impossible to exclude grit, which came from the sandstone or limestone. The mummies offer mute evidence of this, as in the case of older persons the teeth are worn down to the very gums.

Baker's Lot Not Happy One.

In this connection it will be remembered that in the Bible the baker, whose dream was interpreted by Joseph, was thrown in jail and eventually forfeited his life because he left stones in Pharaoh's bread. Thus, even in those days a baker's lot was not a happy one.

Apocryphal of this, an old papyrus from a later Egyptian period states: "Think of the baker who must make his dough and expose his cakes to the fire. He must hang with his head inside the oven, and with his son holding him back by his legs. If he slips from the grasp of his son, he falls into the flames."

Gradually there developed the use of a slab for baking, then a kind of a griddle or gridiron and finally an oven with the bread placed on the outside. The earliest view of an oven where the baking was done on the inside dates from about 500 B. C., and shows the first use of a shovel or peel for putting the bread or cakes into the oven.

Oven development was the slowest of all baking fundamentals. As to grinding grain there came one after another the hand mill, the mill utilizing animal power, then one turned by the wind and eventually that turned by water power. And last came electrically operated mills. But oven development remained

practically stationary for centuries after the coming of the stone or brick oven in which the fire was made inside the oven, then raked out and the bread baked by the retained heat.

Peculiar Laws Enacted.

In passing, it is worthy of comment that during the Middle Ages some curious though very arbitrary laws were enacted, which eventually resulted in the separation of milling and baking for the first time in the history of these industries. Henceforth, they were destined to develop separately.

A new economic policy, known as the mercantile system, developed in Europe at the close of the Middle Ages. This period was marked by the formation of great cities with powerful governments at their head. These governments required the expenditure of money on a greater scale than ever before in the history of the world—and this meant increased taxation. Statesmen saw therefore that for their own political ends industry must flourish. Manufacturers make possible a denser population and higher total value of exports than agriculture and hence manufacturing became the object of special government favor. With the growth of manufacture the importance of commerce was increased and so communication and transport by land and sea were rapidly developed.

Thus began the great period of industrial development which today has reached its greatest heights in this country.

Baking for the most part had been principally a family matter, in charge of the housewife or her servants, just as the preparation of food has been largely a family affair. For countless years women prepared food with their own hands, over a fire and served it to the household.

Operations Studied.

But with the approach of the modern era men began to invade the kitchens and study the operations. And the result was that men invented machines to do on a great scale what women did on a miniature scale in the kitchen.

Kneading machines and other labor-saving devices were applied to a small extent to baking in the 18th century, but in the 19th century wonderful advances were made.

This country particularly has been most ingenious in the invention of machinery—but it was very largely a question of necessity since the great countries abroad were thickly populated and labor was plentiful and cheap. But in this country labor was scarce. The population was widely scattered and machine power had to be devised to make up for the shortage in man power.

Yet the greatest advances in the baking business from handcraft to machine produced bread have come within the lifetime of many of the present generation.

Ripe for service came lads trained in bread baking from abroad to make their way in this wonderful country. All the baker did was to give them

room when he needed an extra "hand."

As for the baker himself, he was a cottage, often living above his bakery or behind it. His break making bench was surrounded by himself and his family, if he had sons and daughters big enough to work, and the hired hand ranked with the hired hand on the farm.

The family unit bakery scattered 30,000 such plants across America, yet, they only baked 30 per cent. of the people's bread. For a while it was a contest of arm against arm, cleanliness of hand against hand—and the housewife preferred her own hands in the dough to those of a baker she did not trust because she did not know his methods, and because of stories there were circulated reflecting against baker's methods.

Invention of Machinery.

And then came the remarkable period of the invention of baking machinery. Machines were invented to mix and knead the dough, to mould and divide it, to bake it in mechanically operated ovens and to wrap it fresh and clean for protection against contamination and contact against dirt and dust, against atmosphere and moisture, from ovens to table.

Consumption of commercially baked bread began to go up. More housewives gave up home baking. Today ovens turn out thousands of

loaves an hour. The most recent invention is a four-decked traveling oven that bakes 6,000 loaves of bread an hour in its central compartment, proofs 6,000 loaf-sized pieces of dough an hour in its upper compartment and cools 6,000 loaves of bread an hour in its lower compartment before delivering them to the wrapping machines.

In the olden days mother used to say she had "bad luck" on days when her bread was flat, sour or soggy. Control over these conditions in the modern bakery came with the discovery that yeast worked best at 80 degrees and that it was essential that a bakery be more than a shelter for workmen. It was clear that a bakery plant was necessary that could make its own weather. This has meant fermentation rooms, refrigeration for hot days, steam heat for cold days and humidifying machines for dry days. Science has invaded the bakery. Nothing is left to guess work. Automatic thermostatic control makes possible uniform quality of bread, day in and day out.

Thirty Thousand Bakeries.

Today, the 40,000 bakeries produce over 75 per cent. of America's baked goods. And yet there are only 10,000 more bakers to bake for all America than there are bakers to bake for the city of Paris alone.

Invention aided by science and by the marvelous development in the use and application of electrical

power have revolutionized the baking business of the present decade.

The housewife has bowed to the modern baker. She knows she cannot, in her kitchen, match these marvelous developments. She can buy better bread than she can bake with none of the bother, and this is why, since 1914, baking has forged ahead from 17th place to seventh among the great industries of the greatest country on the globe.

In the olden days the slogan was, "A pound of flour should cost the same as a pound of bread," since the water the baker used added enough weight to make this slogan fair. But in the modern loaf white flour is only one of the ingredients. There is much more than the cost of the flour represented for there is the cost of the quality insurance and enriching ingredients, such as milk and shortening, that makes the modern loaf so delightfully appetizing, so wholesomely nutritious.

Competition for Quality.

Today, bread competition is principally on quality and not on price, on the modern theory that "the collection of quality remains long after the price is forgotten."

Even 15 years ago the organization I represent, the Quality Bakers of America (of which H. H. Claussen's Sons and Claussen's Bakeries are members, by invitation)—a non-profit, co-operative association of many of the leading non-competitive bakers of the country,

would not have been possible. But today the ideals of quality and service and the realization and appreciation of the value of co-operation have so impressed themselves in the hearts and mind, yes the very souls of progressive men, that co-operative organizations such as the Quality Bakers of America, which stands for better bread and better merchandising with the best interests at heart of all concerned—employees, distributors, the industry, and last but not least, the great consuming public—I say these have so taken the imagination of forward-looking men, that such organizations are welcomed by manufacturers, appreciated by the public and encouraged by the government at Washington. Secretary of State Hughes is paying his respects to the genius of Owen D. Young, one of the prime developers of the Dawes plan and administrator of it for two months, said—"The door of hope for industrious people has been opened. People are thinking in terms of co-operation instead of enmity and strife."

Columbia Is Fortunate.

Columbia is fortunate indeed in having such a firm as Claussen's Bakeries as the bakers of its bread. They have given a quality loaf of bread, because first and foremost they are quality men through and through, and they have co-operated wholeheartedly with dealers in giving them the kind of service that has permitted

them to take full advantage of their bread-selling possibilities.

That they have given the community the kind of bread it wants would seem to be obvious because their Augusta plant proved inadequate in capacity to keep up with the demand. And so they have given to Columbia a new and modern bakery plant to take care of their local business.

They are naturally co-operators and they were heartily invited and welcomed into membership in the Quality Bakers of America, because they are the type that creates and co-operates for great constructive ends.

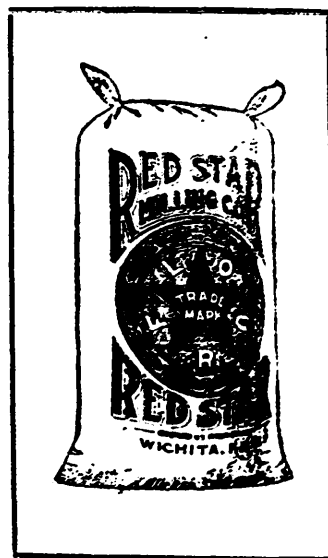
There is a model bakery in a modern community. And the definition of modern baking plants, as given in this article, applies to theirs.

But why take up your time describing this plant, when it is in your very midst. I suggest if you haven't already done so that you go and see for yourself just how your bread is baked, the quality ingredients that go into it, the temperature and humidity control, the modern methods and machinery which mix the dough, mould and divide it, the ovens that bake it, the machines that wrap the bread—where science, sanitation, quality and character meet in a great public service. Because baking today is a great public service—and a great public responsibility as well.

Perfect Flour!
Perfect Bread!

Congratulations To Claussen's Bakeries

Offering our sincere congratulations to Claussen's Bakeries, we are mindful of the fact that this well known baking company has grown to large proportions because of the quality of its products. Every ingredient in Claussen's Bread is of the best quality, particularly RED STAR FLOUR. RED STAR, unconditionally guaranteed, is the cream of the best Kansas wheat, milled in a mill that is especially adapted to bakers' flour.



Eight "Red Star" Chemists constantly guard Red Star's baking quality.

"Red Star" Flour is produced in a mill kept as clean as your own kitchen.



"A Richness That's Genuine"

Contributing to the Goodness of

CLAUSSEN'S

PRODUCTS

CAN ONLY BE OBTAINED BY THE USE OF
BUTTER AND EGGS

A Good Portion of These Articles is Furnished By Swift & Co.

BREAD WITH THAT BETTER FLAVOR AND PLENTY OF FOOD VALUE.

CAKES DELIGHTFULLY DIFFERENT—FULL OF DELICIOUS GOODNESS.

Ask For It By Name

Claussen's

BAKERIES

The Red Star Milling Company

Wichita, Kansas

J. C. H. CLAUSSEN, JR.,

Second Vice President, Claussen's Bakeries.



J. C. H. Claussen, or Henry Claussen as he is familiarly known by his numerous friends, is the third and youngest son of the late H. H. Claussen. Henry Claussen, although he is a third partner in the firm of H. H. Claussen's Sons and second vice president of Claussen's Bakeries of Columbia, is not actively engaged in the bakery business, he having decided during his school years to enter another line of endeavor that would permit him to enjoy out of doors life and work.

Mr. Claussen is a partner in the firm of Claussen-Lawrence Construction company, builders of the handsome new home of Claussen's Bakeries and builders of many other large structures which stand out as some of the remarkable achievements of this very enterprising firm. The

firm also specializes in concrete road building and has built hundreds of miles of hard surfaced roads in some of the Southern states. The firm right now is engaged on a concrete road building contract out of Greenville. Mr. Claussen is a graduate of the civil engineering school of the University of Georgia. After leaving college he was with the interstate commerce commission for one year, being engaged in the engineering and construction department of the Central of Georgia railroad. Having made an extensive study of paving, Mr. Claussen is well fitted to handle the paving end of this company's business. He is a charter member of the Exchange club and is also a high degree Mason. He is a man of quiet manner, is of pleasant disposition and has numerous friends throughout the Southern states.

Head of the Bread Production Department**J. P. GAGNE.**

Mr. Gagne, production manager of Augusta and Columbia, master baker, has 20 odd years of experience and service to his credit in the interest of better bakery products.

**European Bread-Makers Cling
To the Ancient Way; Americans
Have Improved Their Methods**

BY JOHN C. SUMMERS.
In The Northwestern Miller.

Although the Europeans introduced bread making into America, the methods used, the methods employed and the types of bread made in these two countries at this time differ very widely. The Europeans have stubbornly clung to the old methods while the Americans have improved upon these and are still making much more rapid progress in this important industry. The European is more conservative and more inclined to be satisfied with things like his forefathers did them than is the American.

A description of bread making as done today in some of the representative eastern countries will serve to illustrate the marked contrasts that we find existing in the art and science of bread manufacture among these closely related peoples, as well as furnish a comparison between bread and its method of manufacture here and in the East.

Bread Making in England.
Thirty per cent, or more of the flour used by English bakers is made from local wheat. This is a soft wheat, and the flour made therefrom is very weak. About 70 per cent of the flour used is imported from the United States or Canada, or milled from wheat imported from these two countries. Most of the English milled flour is treated with persulfate or chlorine, or both. As a result of such drastic treatment the gluten of the flour is greatly broken down and a weak, poor quality remains.

The American imported flours are usually untreated, strong and of good quality. There is more general use of the popular brands produced by Minneapolis or other spring wheat millers. The larger bread manufacturers use 50 to 75 per cent of this good grade imported flour.

Although the English bakers operate their bread making on a small scale and the best of other materials in the making of bread. This is usually

good in quality, often better than that made by English bakers. Straight doughs are in general use in England. Four to five hour doughs are run in the larger factories, while in the smaller shops eight to ten hour doughs are most generally practiced. An average formula for the larger shops is as follows:

Flour, 250 pounds (one sack).
Water, 140 pounds (14 10-pound gallons).
Yeast, 1 1/2 pounds (best compressed).
Sugar, none.
Milk, 3 to 4 pounds (dry).
Shortening, none to 1 pound.
Salt, 3 1/2 pounds.
Yeast food, 12 ounces to 1 pound.
Temperature, 80 degrees.
Time, 4 to 6 hours.

The doughs are seldom punched before they are taken. Whenever punched, this is done only once. The two popular types are in tin or pan bread, and bottom (French or milk) bread. The pan bread might be either the plain top or the split top.

Cottage bread is made from a large round piece of dough of sufficient size to make a two-pound loaf. Just before being introduced into the oven it is cut twice across the top, the cuts forming a plus.

Cottage bread is a popular type. This weighs two pounds and is made of two round, flattened pieces of dough, one placed on top of the other. When ready to bake a hole is made through the center with one's thumb or a spike. The top part weighs about three-quarters of a pound and the bottom about a pound and a quarter. This is a rough appearing loaf, but one that is in considerable demand.

The Cottage and cottage bread might be baked either on the sole of the oven or in shallow pans.

The ordinary sandwich bread, made in square, covered tins, is also much in vogue.

While some Belgian or French style yeast is used, the Dutch pre-

Section of Cake Wrapping Department**H. H. Claussen's Sons**

Two of the tables where young women in white uniforms wrap and pack the thousands of "Delightfully Different" Claussen's cakes every day that are shipped from the bakery to various distributors and cities over the South. No imperfect cake "gets by" and the smallest variation in baking or quality is quickly detected and reported to the proper authority, for every Claussen's cake is guaranteed to be pure, wholesome, of the finest eating quality and full of delicious goodness.

The cake wrapping and packing department is in charge of Miss Josie Verdery who is a very capable and efficient young woman. She has been with Claussen's several years.

dominates. This is much the best and strongest yeast available. It sells for about 20 cents per pound, American money.

Malt, milk and yeast food are not used together. The bakers do not have a clear conception as to the dissimilarity of these products. They seem to think that they all serve the same purpose in bread making. They fail to realize their individual values, and that the best loaf might contain all three in the right proportions. Many British bakers pride themselves in that they use neither of these, claiming that they only use "pure" ingredients. They are entirely ignorant of the fact that these substances might be, and usually are, just as pure, wholesome and valuable as the flour, yeast, salt, etc., commonly used.

English bakers make up, proof, and make bread in a manner very similar to that of the American bakers. Bread made in England has considerable color and crust on the sides and bottom because of the small amount of sugars contained therein or because of the old doughs from which it is made.

In England the two-pound loaf is the best seller. The average price in American currency is eight cents for a two-pound loaf, or four cents per pound. When considering this low price, however, one must realize that the purchase value of money in England is nearly twice that in America. Considering this and the lower ingredient cost of English bread, because of the poorer formula used, one will readily see that the real money value of American and English bread is not greatly different.

Scotch Bread.
The Scotch bakers use about the same flours as to the bakers in England. Their bread is made from long sponge doughs. The time of fermentation of the sponge is 14 to 16 hours. An additional fermentation of a few hours is given to the dough. Some Parisian barm is used, but usually fermentation is produced with yeast. The following is a typical formula:

Flour, 250 pounds.
Yeast, 4 to 10 ounces.
Sugar, none.
Malt, three-fourths to one pound.
Milk, none.
Shortening, five to seven pounds.
Temperature, sponge 75 degrees, dough 80.

Milk is only used in fancy bread. Two per cent, or more salt is used. The Scotch bakers usually bake hatch bread. This is made by placing the pieces of dough very close together when introduced into the oven. As a result, the sides and ends, which during making and are somewhat broken apart when removed from the oven. The bakers of Scotland are so strongly prejudiced against the use of thermometers that it is unusual to find one in use.

French Bread.
French bakers use mostly local flour in the making of bread. This is very poor color and quality. It is

small, weak and contains only a small percentage of gluten, poor in quality.

Fermentation is produced by a quick ferment and a short dough such as the following:

Flour, 35 kilograms.
Water, 20 liters.
Yeast, 1 liter.
Temperature, 60 degrees.
Time, two hours.

Dough.
Flour, 105 kilograms.
Water, 60 liters.
Yeast, 250 grams.
Salt, 2 1/2 kilos.
Milk (dry), 2 kilos.
Malt (extract), 2 kilos.
Temperature, 75 to 80 degrees.
Time, 1 hour.

Doughs made by the formula above are considered very rich and are used in making rolls (petits pains).

It is the usual custom for French bakers to use a piece of old sour dough as a starter for fermentation. This is a representative formula by which most of the bread of France is made:

Sour dough, 8 kilograms.
Flour, 17 1/2 grams.
Temperature, 60 degrees.
Time, one-half hour.

The dough is then divided into smaller pieces and placed in baskets for 15 minutes, after which it is made up and proofed on cloth covered boards for about an hour and 20 minutes. As one will readily see, most of the fermentation takes place after the dough has been made into small loaves. The total time to the oven is only about two hours.

French bakers use possibly the crudest, most unsanitary methods of bread making in all Europe. Rolls of all sizes are in great demand. Their bread is the typical French bread of all sizes. Some loaves are as much as two feet six inches in length. Bread is even cheaper in France than in England.

Dutch Bread.
The best bread made in Europe is that produced in Holland. It being very similar to that made in America. In Holland every ingredient used in the making of bread is tested. Close government supervision is given this industry and bread making materials must meet the specifications laid down.

Holland being a dairy country much milk is used in the making of bread. Bread containing this ingredient is labeled "M. R." The value of bread is not based upon the size or weight of the loaf but (rightly) upon its composition. The government has established specifications as to the chemical composition of bread. These include maximum moisture, ash, protein, fat and carbohydrates.

This is a matter well worth the serious consideration of our own government. It is not fair that the public should pay the same price for bread low in nutritional value as for bread high in nutrition. The raw material cost of bread made from rich formulas is much greater than

that made from poor ones. Some bread is really worth twice as much, pound for pound, as others.

The best bread is not made from flour, water, yeast and salt alone, but from these ingredients and liberal amounts of sugar, shortening, milk and a small quantity of mineral salts of the right kinds.

Government supervision of bakery sanitation is a thing also much needed everywhere. There are many bakeries in this and other countries that should be cleaned up or closed. In fairness to the public, rigid government inspection of bakeries should be made by honest, capable inspectors. This is being done locally in some cities, but federal inspection should exist.

In Holland, milk bread must contain at least 90 per cent of the liquid used, as fresh whole milk, or its equivalent in dry milk. If one's bread is found to be below the standard, he is heavily fined.

Holland bakers make slack doughs. They use from 60 to 65 per cent, liquid. They use 2 per cent, salt and 2 per cent, yeast, but very little sugar, and about 1 per cent, malt.

Shortening is seldom used, but as much as 90 per cent of the liquid is whole milk. The fat of this proves sufficient, and is the best available. The fermenting time of their doughs is about two and one-half hours. Much of the yeast used in Europe is manufactured in Holland. This is strong, good in quality, and compares favorably with the best yeast made

in America. The price is about 11 cents per pound, American currency.

Twin Loaves Popular.
Seventy-five per cent, or more of the bread is pan bread, weighing 400 to 800 grains—usually the latter. The twin loaves are very popular. The Dutch loaf is large, which would be expected from a slack dough, made from strong flour and containing a liberal quantity of yeast.

The usual types of Vienna and sandwich breads are made. Rye bread contains no yeast, and its keeping qualities are excellent. Brown and Jewish breads are also baked. The large manufacturers make 90 per cent, milk bread. Bread in Holland sells for about 5 cents per pound, American currency.

While considerable advancement has been made in the baking industry of Europe during recent years, still there is great need of a much fuller appreciation of the advantages of modern ovens and machinery, better raw materials and a more liberal use of milk shortening and yeast food.

In Europe, where bread is the staple food and a much greater quantity is consumed per capita than in the United States, liquid value is of the utmost importance. For bread to contain the correct amounts of proteins, fats, carbohydrates and mineral salts of the right kinds, and sufficient quantities of the three vitamins, it must be made from a rich, well balanced formula composed of flour, yeast, sugars,

milk, shortening, salt and yeast food. The following is a good average formula:

Flour, 200 pounds.
Water, 115 to 120 pounds.
Yeast, 2 1/2 pounds.
Sugar, 5 pounds.
Malt, 1 to 2 pounds.
Milk (dry) 5 pounds.
Shortening, 5 pounds.
Salt, 3 1/2 pounds.
Yeast food, 1-2 pound.
Temperature, 80 degrees.
Time, 2 1/2 to 3 1/2 hours.

Almost Gets Quota.

Walterboro, Oct. 5.—Walterboro Red Cross chapter, Mrs. B. George Price, chairman, is within sight of its quota for the hurricane relief fund. The chairman began activities at once when the call came and the response has been generous. With just a little more effort the amount asked for will be reached.

Keep Spark Plugs Dry.
If an automobile has been standing out in a heavy rain or a cloudburst or has just been washed, examine the spark plugs and blow away any water which may have accumulated around them.

Before starting the car away from the curb, always back up a little as a precaution against running up on the pavement if the front wheels happen to be turned in toward the curb.

When buying spark plugs, be sure to mention the make of the car and its particular model.

**YORK COUNTY NEGROES
MAKE PLANS FOR FAIR**

Special to The State.
York, Oct. 5.—The Negroes of York county are formulating plans to make their annual fair here October 23-27 the biggest and best fair they have ever held. For the first time in its history the fair has a field representative, H. W. Thompson, for on the faculty of Harbison college, who is canvassing the county in the interests of the fair. H. reports wide spread interest in the event, and a willingness on the part of the white people to lend a hand toward making the fair a success.

The fair will be held at the usual place, the Friendly Aid hall in the southern part of the town. A carnival company will help furnish amusement for the visitors. The exhibits, which promise to be unusually numerous and varied, will help show that the Negroes of York county are accomplishing in agricultural and other lines.

York is one of the few South Carolina counties which has for years held an annual Negro fair. The one scheduled for this month bids fair to eclipse all that have yet been held and to rank among the best of its kind in the South.

Keeping Car in Straight-Ahead Position.

A tiny notch cut under the steering wheel is a handy guide by which to know when the wheels are set in the straight-ahead position.

We Furnished

The

**Architectural
Mill Work**

For

**Claussen's
Bakeries**

We wish to congratulate this progressive firm upon the opening of their Columbia plant.

COLUMBIA LUMBER & MFG. CO.

Phone 4733

INGREDIENTS

or

Bakers' Supplies

Into the manufacture of bakery products goes numerous articles known as ingredients or bakers' supplies such as

Baking Powder, Cinnamon, Extracts, Crystallized Fruits, Etc.

C. M. Pitt & Sons Co., Baltimore, Md.

Supply

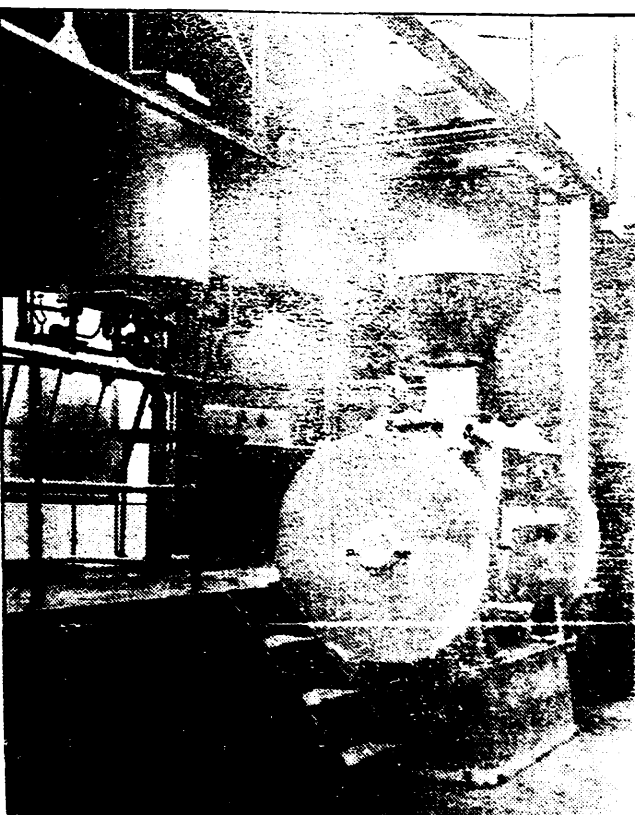
Claussen's

With

The majority of these articles and they are of the best quality the market affords.

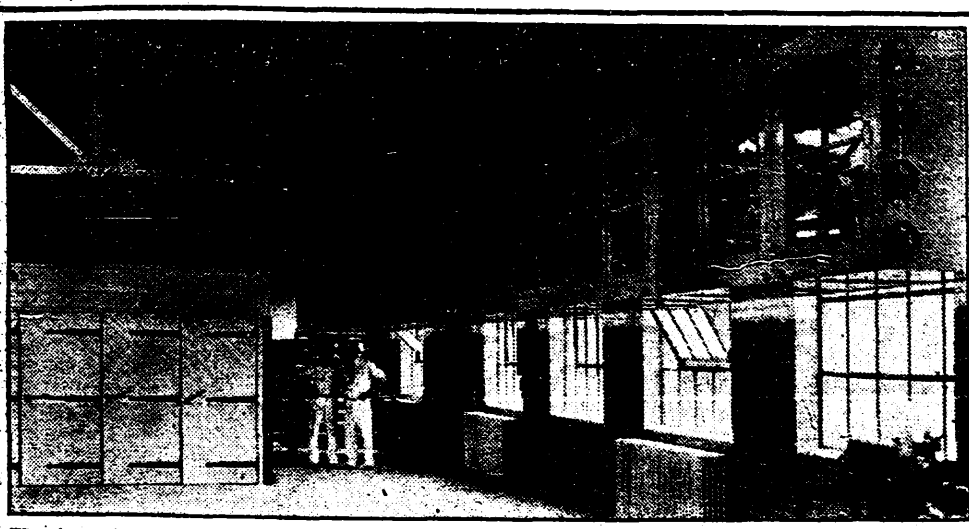
SOUTH'S FAVORITES

SINCE 1841

Claussen's**Bakeries****BAKERY PRODUCTS OF MERIT****Giant Mixer in the New Plant of Claussen's Bakeries**

The mixer shown above is a giant of its kind, being used in the plant for the mixing of the "sponge" and the "doughs" and is one of the first steps in the production of Claussen's Quality Bread. It is of white enamel and automatically operated and cooled in maintain a uniform temperature while mixing. It will be very interesting to visitors to see this machine in operation. Above the mixer is the hopper into which the ingredients are dumped and from which they go into the main bowl of the mixer.

VIEW OF ONE CORNER IN CLAUSSEN'S NEW BAKERY



The above photograph shows one small corner of the handsome new bakery plant of Claussen's, just completed in Columbia. On the left is the proof box into which the racks containing the pans of dough are placed just before going into the oven for their final "raise" or "proofing." Just in front of the racks stand J. P. Gagne (on right), production manager of Augusta and Columbia, and Irvin Collins, assistant production manager of the Columbia plant. On the right is suspended the overhead proofer. One of the many sanitary steps necessary in the production of Claussen's Quality Bread. The equipment is of white and the bread is practically untouched by human hands.

EXPERTS BAKE
CLAUSSEN'S BREAD

(CONTINUED FROM PAGE ONE D.)
delicious rolls, they will know that they came from the efforts of a master baker.

The following composition is from the mind and pen of J. P. Gagne, master baker and production manager of Claussen's bakeries:

Competition in the baking industry as in any other industry where quantity production is essential, has necessitated the elimination of expensive hand labor and the introduction of machinery. When all of the operations were done by hand the housewife was unable to bake her own. Today the industry is one of machinery and the housewife rarely does her own bread baking. This great increase in the consumption of bakers' bread was mostly due to the greater development of the scientific technology of baking which the introduction of machinery made necessary.

This item will give you an idea of the different machines in a modern bakery plant and the important part they play in making a quality loaf of bread.

The mixer—The size of the mixer is an important item in producing good loaf of bread. Maximum gluten content development in most cases is obtained at approximately the full load and should be so operated for best results. At present the ratio of capacity of a mixer is very misleading—a machine rated at five barrels will at a maximum only handle about 700 pounds of flour. It would be best if mixers were rated according to the maximum amount of flour which could be handled.

A good mixer should have the following qualifications: Mechanical perfection, economical operation and quality bread production. The mixer of today is constructed according to sound engineering principles. Numerous improvements have been made. The machines are sturdy built, the lubricating system has been improved, but mechanical improvement does not necessarily mean better mixing action.

Design Important.
The design of the agitator is of utmost importance and should be chosen to do a particular kind of work. One mixer cannot mix both rye and white doughs and make the best loaf from each. A dough used for white pan bread requires a type of agitation which will develop its gluten to the utmost, the agitator pulls and stretches the dough. The gluten in a rye dough is weak and the agitation therefore should be more gentle. The dough should be given more of a rolling action, stretching one and the speed of the machine reduced to 10-15 revolutions per minute.

Power consumption is an important item in economical operation. It has direct bearing on the heating action of the mixer on the dough. The baker knows that during mixing the dough heats up and that some means of cooling must be employed. This, of course, is an undesirable feature and a mixer should be checked closely to determine this factor. All other factors being the same, the mixer which heats up the least is to be recommended. The power consumption in such a mixer is comparatively low and the minimum amount of refrigeration required.

Above all, the dough mixer should produce the type of loaf desired. The design of the various parts and the mechanical construction can be studied, but the mixing action and the friction of the machine can only be determined by making an actual run under shop conditions. In going through the plant you will see that we have one of the new type mixers.

From the mixer to the dough room—the dough room should be kept at a definite temperature and humidity since the dough comes out of the mixer at 80 degrees—it is advisable to keep the room at about this temperature. The relative humidity should be between 70 and 75 per cent. This percentage can be determined by the use of a wet and dry bulb hygrometer. The cost of this instrument is so small that there is no reason why every dough room should not be equipped with one. Recording hygrometers are also manufactured. At this humidity the doughs will not crust. Crusting is due to the evaporation of water from the surface of the dough, which otherwise would have remained in it. The yield per barrel of flour is decreased and the bread produced poorer.

As to Air Conditioning.
Air conditioning is the ideal means of keeping the dough room under control. The desired temperature and humidity can be maintained throughout the day. In plants not thus equipped other means must be employed. The refrigeration unit used in cooling the mixer and so forth can be made large enough so that the dough room can be cooled in the summer time. During the winter months a series of radiators can be used to bring the temperature up to the desired point. A humidifier which will spray a mist of water into the room serves very satisfactorily in supplying the required humidity. In a large dough room two can be used. In plants not equipped with a refrigeration system, the problem of keeping the dough room under control is a serious one. In summer the opening of windows may help slightly but the evaporation loss becomes excessive. Placing a cake of ice in front of a fan or the humidifier is used successfully by some bakers in reducing the temperature.

When the dough has been properly fermented, the gluten, though elastic, resists the "pressure" of the hand. However, as this pressure is increased the cells break and the gases escape with a characteristic squeak. It is, therefore, said that a squeaky dough has the correct fermentation. All doughs should be weighed. The importance of this operation will be discussed later. The dough chute should be well greased and if built with a slight bend will break the fall of the dough as it is thrown down. The time required for scaling 1,200 pounds of dough is between 15 and 25 minutes, depending on the capacity of the divider. During this period the dough ages, much more rapidly if the temperature of the make-up room is high. The progressive baker will make it a point to keep this room at a temperature not to exceed 50 degrees. At present even those plants which are equipped with conditioned air seem to overlook this department. A dough hopper near the ceiling becomes very warm during the summer months. Some bakers have installed fans at this point to keep the air in circulation and thus cool it.

From the dough room to divider—The dough room goes through the make-up unit, the first being the divider. As the plunger moves back a vacuum is created which pulls the dough into the compression cham-

ber. The copper top plate then moves forward and cuts off a further supply into the chamber. The plunger in its forward stroke forces the dough into the scaling pockets. During this operation most of the gases are expelled and the air cells compressed. The dough is further punched on the cut off. The scaled piece of dough feels dead, because of this punishment. Such operation invariably affects the quality of a finished product. The divider man must so operate his machine that this effect is minimized. New types will in time be offered the industry which will punish the dough but slightly.

Allows Dough to Rest.

In sounding the dough is again punished. To offset the action of the divider and the sounder the dough is allowed to rest for ten minutes to 15 minutes in its passage through the automatic proofer. During this period as well as in the divider and the sounder, fermentation proceeds with the resulting formation of carbon dioxide gas. The gases in expanding again stretch the gluten and if enough time is given overcomes largely the punishment the dough receives in the machines. The length of time necessary to properly condition the dough is variable. As in the case of the divider, its age, its consistency, the amount of yeast used on the dough and the temperature of the make-up room all affects this factor. An average time would be about 12 minutes. In the belt type proofer the dough is turned over several times thus giving a more uniform proof. Whether there is any advantage in this is problematical. In most plants no attention is paid to the humidity of the proofer, as a result the dough frequently crusts.

After receiving sufficient proof the dough is ready for the moulder. As in the case of the divider, the moulder man should adjust the machine to obtain best results. The manner in which the piece of dough props into the moulder is of importance. The angle at which the chute from the proofer to the moulder is placed determines this. The first chute is preferred to the second since it enables the dough to slip into the rolls instead of rolling into them. This point may seem unimportant but a marked improvement in the loaf has been noticed when a change was made. The dough as it passes through the first or sheeting rolls is rolled into a thin sheet and in so doing the gases are mostly expelled. The width of this sheet is proportional to the width of the roll, which should be of such size that the piece of dough as it enters the compression chamber need not be stretched too much. In plants where the pullman as well as the shore pan loaf are made a separate moulder for each is preferred when using the ordinary moulder for pullman bread, the piece of dough as it enters the extension must be stretched to over twice its length. The compression required is too great to produce the best loaf. The machine should be kept clean and should be adjusted for each dough. A periodic inspection and overhauling is advisable to maintain efficient operation.

From the moulder to the pan is an operation requiring more effort than is usually given it. The moulded loaf should be placed squarely in the pan with seams down. This can be done quickly and efficiently by extruding the panning operation. A table slightly wider than the

length of a strip of pans is placed at the discharge plate of the moulder. Its length may be parallel or perpendicular to the length of the moulder depending on the space given over to this operation. The height of the table is convenient to panning, usually slight incline so that the pans slide easily. The stack of pans at the rear of the table can be greased and placed on it by the pan greaser. As each pan is filled it is taken away from the front of the table and placed on racks. If the rack is loaded starting with the top shelf and working down any dirt adhering to the bottom of the pans will drop to the floor instead of on the pan below as is the case when the rack is loaded from the bottom shelf up. The racks are then placed on the proof box.

Fermentation Completed.

The Final Proof: Here the fermentation process, which began when the yeast was added to the rest of the ingredients in the mixer, is completed. A temperature of 92 degrees in the proof box speeds up the action of the yeast. Higher temperatures, however, are not recommended. Although the proofing time is reduced the loaf produced is inferior. If the formula is well balanced, the carbon dioxide gas formed will raise the loaf boldly from the pan and accomplish this in from 30 to 40 minutes. The age of the dough, the amount of yeast used and the handling it has received in the machines all affect this time.

In a young dough the gluten is not fully developed, the cell walls are thick and not pliable so that the gas retention is very good. This is undesirable since it yields a loaf of small volume and poor interior. During proofing such a loaf flattens out in the pan. To obtain a uniform proof the temperature should be kept constant. The humidity should be high enough to keep the loaf from rusting yet not so high that the dough and the crust become sticky and the handling it has received in the machines all affect this time.

A crusty dough produces a loaf having a thick brittle crust, while the produced loaf from a wet dough has a tough and rubbery crust. Neither are desirable. The loaves should be proofed to a uniform height which is determined by the volume of the loaf required. To obtain a close compact loaf the proof should be a little lower than the top of the pan while a large spongy loaf can be given the maximum proof. The type of pan used, of course, is considered. The volume of the pan should be proportional to the weight of the dough put into it, so that the proof will be on indication of the type of loaf which will be produced. It is advisable to make one man responsible for the proof box, usually the oven foreman.

Shall at Oven.

In loading a feel oven care must be taken not to knock the loaves down. This requires skill on the part of the oven man. This phase is practically eliminated in the traveling and rack ovens. The temperature for bread baking is from 475 to 500 degrees. This is best determined by means of a pyrometer with loads at different points in the oven. The temperature of the sides rear and front of the ovens can be thus obtained. In the traveling oven the temperature of the different sections should be determined. At the loading end it can be reduced to 425 degrees to allow for maximum expansion then increased to 500 degrees in the center section to obtain solid bake and again reduced at the unloading end.

The principle upon which the pyrometer operates is very simple. It consists of two wires made of different metals and joined together, called thermo-couple. One end is placed in the oven and the other is attached to a panel outside of the oven. The difference in temperature between these two ends sets up a current of electricity which is measured by an instrument mounted on this panel. This device is called a galvanometer, and is calibrated to read temperatures directly.

In the oven the gases in the interior of the loaf expand and in so doing stretch the gluten and thus give volume to the loaf. If the gluten is well developed and the dough correctly handled this expansion will be uniformly a loaf of good grain and texture. If the dough is young and the gluten is tenacious so that it offers greater resistance to the expanding gases. The volume is, therefore, small and the cell walls thick. In old doughs the gluten is over developed. It stretched very easily so that the expansion is large. Due to the excess stretching the cell walls are thin and merge into each other. The grain of such a loaf is open and the texture rough on cooling the sides of the loaf have a tendency to pull in. The moisture on top of the loaf evaporates, forming a crust. To prevent the crust from setting before the desired volume is obtained it is advisable to introduce a little steam when loading. The steam to be effective should have a pressure exceeding 15 pounds. In the presence of moisture the starch, sugar

and proteins are caramelized, giving the crust the characteristic color. If the formula is deficient in sugar or when a large quantity is consumed as in an old dough the color of the crust is pale.

During the expansion and while the crust is forming the top pulls away from the pan, resulting in a break and shred on the side of the loaf. The temperatures of the top and bottom of the oven may vary. If maximum expansion is desired the bottom should be hotter than the top. When the dough is old or when the loaf is overproofed it is necessary to keep the volume down. The top should therefore be the hottest. In the interior of the loaf some of the moisture is driven out and the yeast is killed. As long as moisture is present the temperature of the inside of the loaf cannot be much over the boiling point of water. The average is about 207 degrees. The starch is to a large extent gelatinized. The bread should be thoroughly baked. Some bakers have the mistaken idea that to obtain a soft loaf, it must be underbaked. The public demands and appreciates a well baked loaf.

Cooling of Bread.

The bread after it leaves the oven must be cooled before it can be wrapped. It has been found that the temperature of the interior of loaf should not be over 95 degrees. A higher temperature organisms such as molds can grow readily. In the majority of the plants the loaves are discharged from the oven and placed by hand on racks. Usually no attention is paid to the manner in which these loaves are placed on the shelves. Tests made show that it is best to load the racks from the top shelf down, arranging the racks in some definite order so that the cooling is more uniform. The difference between the temperatures of the loaf and that of the cooling room will determine the time necessary to cool the bread to the desired point. When sacks are used the average time to cool the bread to the desired point. When sacks are used the average time is two hours. In large

plants time is an important factor and the cooling period must be as short as is practical. During the cooling period some of the moisture in the loaf evaporates. When bread is underbaked the evaporation loss is greater which is also found true of bread made from a slack dough. The temperature of the air has a marked effect on the rate of evaporation. A test on a commercial scale showed that 44.3 degrees it took the bread 49 minutes to cool to 95.4 degrees and the per cent. loss due to evaporation was 1.74. In the same shop bread cooled at 83.2 degrees for 128 minutes showed a loss of 3.48 per cent. These figures speak for themselves and the progressive baker would do well to investigate this phase of the subject in his plant. The bread which was cooled at a lower temperature was scored in comparison with bread cooled in the ordinary way. It was found to possess a better flavor and appeared fresher after 24 to 36 hours; it was not soggy but felt much softer through the wrapper. After proper cooling, the bread is wrapped and is then ready for delivery or shipment.

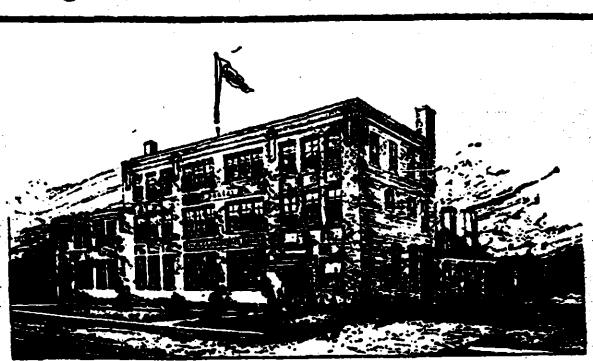
NOW MAKE BAKERIES
PLEASING TO EYEEstablishments Making Man's
Most Important Food of
Good Appearance.

From Bakers Weekly.

In all sections of the country bakeries are being, and have been erected of late, which are not only the last word in efficiency so far as layout is concerned, but are also structurally credits to the industry. They have always contended that establishments in which man's most important food is produced should be pleasing to the eye exteriorly, plainly indicating the fact that within the building no mere everyday factory activities are going on but that sheltered by its walls men skilled in the science of modern baking, amid sunshine and plenty of air, are turning out that great standby of the people—the staff of life. It is therefore quite pleasing to note how well our bakery architects have succeeded in designing buildings which even on the outside indicate the high purpose to which they are dedicated. As a matter of fact, there seems to be developing in the baking industry an architecture of its own, for in almost every community from coast to coast we now find baking establishments that are veritable jewels in exterior design and execution.

Just as the housewife is liable to judge the business of a baker by his delivery vehicles, so a great many of our people will surely be influenced by the artistic and inviting appearance of the bakery building. It is a long and commendable step from the often inadequate and gloomy places where baking was done in days of old to the modern temples of the building no mere everyday factory activities are going on but that sheltered by its walls men skilled in the science of modern baking, amid sunshine and plenty of air, are turning out that great standby of the people—the staff of life. It is therefore quite pleasing to note how well our bakery architects have succeeded in designing buildings which even on the outside indicate the high purpose to which they are dedicated. As a matter of fact, there seems to be developing in the baking industry an architecture of its own, for in almost every community from coast to coast we now find baking establishments that are veritable jewels in exterior design and execution.

Augusta Plant of H. H. Claussen's Sons



States Prohibit Stickers.
The practice of plastering stickers and posters on windshields of automobiles is prohibited by law in 13 states and the District of Columbia. Cars having windshields covered with posters, thereby preventing the driver from having a clear vision ahead, are said to be a great menace to safety on the highways. The 13 states prohibiting this practice are Arizona, Connecticut, Idaho, Michigan, Minnesota, New York, North Carolina, North Dakota, Pennsylvania, Vermont, Virginia, Washington and Wisconsin.

Odd Names for Great Invention.

"Horseless carriage" was the most popular name given to the first automobile. Among the other names for the new invention were: "Car-leck, electromobile, gasmobile, auto carriage, autovic, locomotive, cabine, victorine, ipsomotor, sineque, autogo, kinter and autokinet."

If nobody is called a liar or charged with stealing, the meeting of the senate committee is called a "colorless session."

Congratulations From

CERELOSE

A Pure White, Improved Corn Sugar

Manufactured By
Corn Products Refining Company
17 Battery Place
New York, N. Y.

We Most Heartily
Congratulate

Claussen's Bakeries

And Also

The City of Columbia

Upon the opening of Claussen's new plant in Columbia costing thousands of dollars, and also upon the great success of the Claussens in having produced QUALITY PRODUCTS for such a long number of years.

The William Kelly Milling Co.

Hutchinson, Kansas

Manufacturers of

"Kelly's Famous"

and

"Craftsman" Flours

Quality

THE MOTTO of CLAUSSEN'S

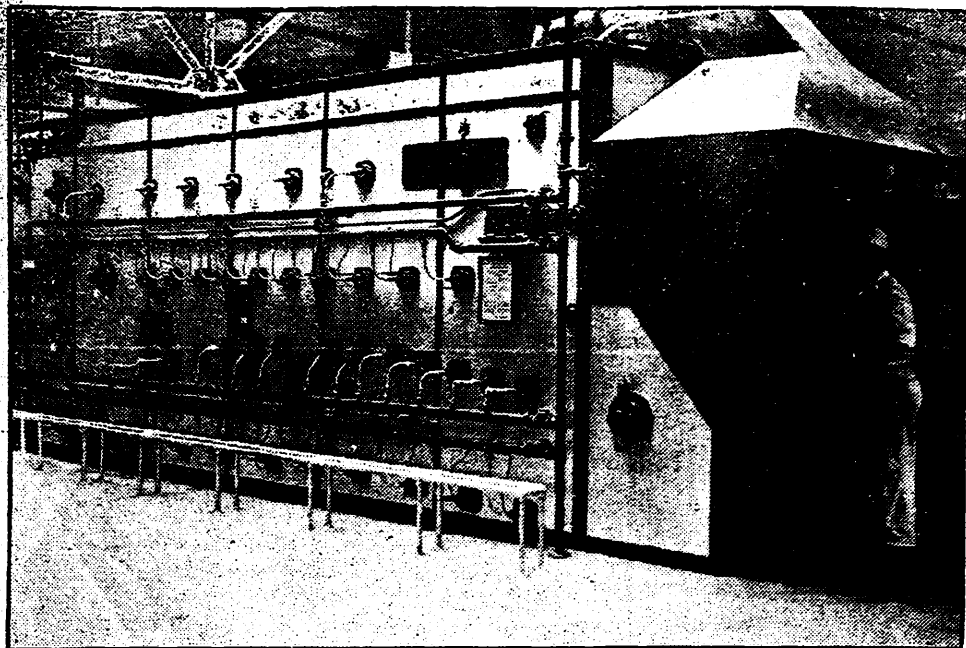
The quality of the PRODUCT is obtained from the quality of the INGREDIENTS and skill.

Two of the principal ingredients—RICH MILK and PURE CREAMERY BUTTER—most of which are furnished by Armour & Co.

Claussen's

BAKERIES

MAMMOTH TRAVELING OVEN USED IN BAKING



The above photograph shows the latest type of traveling oven. It is a marvel in the baking industry, and it is very fascinating to see this oven in operation. It is automatically controlled and is fired with gas. Visitors will have the privilege of seeing bread baked in 27 minutes.

We Want You to See How We Do It. This is the latest type traveling tray oven. It will bake a ton of bread every hour. It has 65 constantly moving trays which carry the bread pans. The bread is in the oven but 24 minutes, and in that time travels 60 feet over four decks, to emerge at the point where it entered and be removed for cooling and wrapping.

Traveling Over Assures Loaf of Uniform Quality

New Machinery for Bakeries Enables Maker of Bread to Remove All Guess Work From Manufacturing Process—Gauge Result Scientifically.

When mother was a girl, bread of the other—then somebody sat back breathless, awaiting the result from the oven. Sometimes it was sad, sometimes fair and sometimes good. Few were those who obtained anything like uniformity.

But times have changed. Nowadays, the modern bakery removes all of the guesswork, the result is gauged with scientific precision, much time and effort is expended in obtaining the maximum amount of nutrition in each loaf and the element of chance is removed by modern machinery and skilled workmen.

In yesterday's "baking day" was a day, usually, when the family ate the "leftovers" and cold lunches, while awaiting the new batch of mother's bread but today great traveling ovens, like the new mechanical marvel at Claussen's Bakery, daily turn out many thousands of golden brown, crispy loaves as like as peas in a pod. Drudgery has vanished and dear old mother is now assured of an adequate supply of the wholesome Claussen loaf, which is a combination of the very best of ingredients and skill without spending hours in a hot kitchen.

licious, appetizing aroma surrounding it all. In short we want to make you just as enthusiastic about this new oven and its bread as we are.

So come and see with your own eyes, this wonderful example of mechanical efficiency, this ingenious product of the world's greatest oven builders, at work.

SOCIALISTS DEFER ELECTORAL TICKET

Charleston, Oct. 5 (By A. P.)—The Socialist state convention, meeting here last night, deferred selection of the state electoral ticket until after the address of the party's chief Norman Thomas, here tomorrow night.

It had been expected that the state ticket would be named at the meeting, but the caucus decided to await further developments expected to break later. Thomas, it is announced, will denounce both the major political parties and will drag into the open facts about the so-called hydr power trust.

The electors are to be picked at a meeting Sunday afternoon. C. H. Taylor, national organizer of the party, announced here tonight.

Taxes Show Decrease.

Special to The State.

Walterboro, Oct. 5.—County Auditor D. T. Strickland has completed his books for the county treasurer's use in collecting taxes for the year 1928. Treasurer R. R. Miley has also nearly completed his system of filled in receipts and is ready to begin taking taxes for this year. Study of the abstract shows that in only eight of the school districts have there been increases in taxable values. In the county as a whole, the returns show at present a decrease of \$110,040. The total for the county is \$4,536,810, with some adjustments to be made by the state tax commission. The total taxes to be collected from Colleton's taxpayers this year is as follows: State, \$23,925.23; county, \$112,781.05; school, \$128,453.66; totaling \$265,159.94.

BUY MUCH MATERIAL OF LOCAL DEALERS

In building the new Claussen plant, the owners instructed the Claussen-Lawrence Construction company to make all possible purchases in Columbia.

Dealers in materials in Columbia, listed herewith, supplied materials for the work and did so in a manner highly satisfactory to the owners and to the contractors:

Guignard Bricks Works, common brick; Richland Shale Products company, "Richtex" face brick; George Wells, cement and sand; Ruff Hardware company, lime and hardware; Shand Engineering company, miscellaneous steel and iron; W. C. Sumner, steel sash; C. W. Turner, steel doors; Columbia Paint company, glass and paints; DeLay Roofing company, skylights and metal work; O. Miller, elevator, contractor; C. C. Weir, electrical contractor; W. B. Guimarin and company, plumbing and heating; A. A. Bradford, scenery, Columbia Lumber & Manufacturing company, mill work and lumber.

The superintendent for the contractor, O. K. Jones, says he never gave more thorough and competent inspection of the plumbing, electrical and other construction work than that performed by the Columbia building inspectors' department.

The laying of the brick was well taken care of by H. E. Beachum.

C. B. McGrady applied the paint, most of which was sprayed on instead of the old method of brushing.

BARRY MILLER VISITS BARNWELL

Lieutenant Governor of Texas Visits Home of His Nativity This Week.

Special to The State.

Barnwell, Oct. 4.—Among the distinguished visitors in Barnwell this week was Lieut. Gov. Barry Miller of Dallas, Texas, who was the guest of Col. J. E. Harley for a few hours Wednesday. Of added interest is the fact that the lieutenant governor of the Lone Star state is a native of Barnwell, having first seen the light of day 63 years ago on the old Aldrich plantation, a few miles from this city, where J. P. Harley now lives.

Governor Miller is a son of the late Dr. Thomas J. Miller, a native of Charleston, who was graduated from the Medical college just prior to the Confederate war. When war was declared Doctor Miller moved his family to Barnwell, where the present lieutenant governor of Texas was born. When Barry Miller was only seven his parents moved away from this county and after the death of his father a few years later the family moved to Texas, where they have resided ever since.

While a boy Mr. Miller was the printer's devil on the Washington (D. C.) Post, forsaking his first love for the more lucrative practice of law. He has been singularly successful in Texas politics, having served the people of that state in various capacities. He is finishing his second term as lieutenant governor and was nominated in the primaries this summer by a plurality of 110,000 votes. One of his opponents was a man named Love, who ran as an anti-Smith candidate. The lieutenant governor was persuaded by his friends to seek the nomination for the third time. As above, he led the field by 110,000 votes and Love, realizing that he could not overcome such a lead, withdrew from the race. Love is the same man who recently headed a

Texas delegation to Washington for the purpose of informing Herbert Hoover that one speech in the Lone Star state would insure its electoral vote for the Republican candidate. Texas, he said, would probably give Governor Smith the largest majority ever given a presidential candidate in that state.

IMPROVEMENT SOCIETY MEETS IN FORT MILL

Special to The State.

Fort Mill, Oct. 4.—At the monthly meeting of the Social Improvement society, held in the auditorium Wednesday afternoon, plans were made for a free clinic to be given at the central school for the benefit of the children of the community under school age, looking to the correction of physical defects. County and state officers will co-operate with the society in promoting the work. The high school athletic association was reorganized at a session of the pupils, included in the grades from the eighth up Wednesday evening, with the election of James Massey, president; Maxwell Potts, vice president; and Miss Tillie Mills, secretary. Miss Effie McKenzie was elected cheer leader, and Alfred Jones and Miss Susie Caldwell, members of the faculty, will serve as advisers. The association will put on a campaign to sell season tickets for the football and basketball games to be played this season.

Encircling the entire airplane from propeller to tail, a large metal band, from the eighth up Wednesday evening, with the election of James Massey, president; Maxwell Potts, vice president; and Miss Tillie Mills, secretary. Miss Effie McKenzie was elected cheer leader, and Alfred Jones and Miss Susie Caldwell, members of the faculty, will serve as advisers. The association will put on a campaign to sell season tickets for the football and basketball games to be played this season.

GROUP OF CLAUSSEN'S COLUMBIA SALESMEN



The picture shows seven of the ten salesmen employed by Claussen's Bakeries to distribute their bakery products in Columbia and the surrounding territory. The salesmen are in Claussen's uniforms, with their route foreman on the left, standing, and their salesmanager on the right, standing. Reading from left to right, standing: A. E. McLendon, Route Foreman; Peter Greter, H. E. Williams, Frank Seigler, C. C. Brotherton, Salesmanager. Seated: H. C. Shealy, Cordele Bragg, George Romanstine and Hugh Howell. T. A. Salters, E. E. Amick and Happy Lindsey not present.

DEFUNCT ANDERSON BANK PAYS NINTH DIVIDEND

Special to The State.

Anderson, Oct. 4.—Another dividend was paid this week by the Bank of Anderson, being a 3 per cent payment. It was the sixth that has been

paid since the liquidation, besides three out of stock assessments, making nine in all. This amounts to about \$440,000. More than \$900,000 was on deposit when the bank closed. This, however, had some offsets which were allowed. The amount paid this week will be \$24,000.

Brake Warning in Squeaks. Squeaky brakes are caused by a scored drum, or drum out of round, bands or shoe improperly adjusted to the drum, rivet, heads dragging on the drum, grit or other foreign matter imbedded in the lining, loose anchor bolts or brake rods and rusted parts.

Our Heartiest Congratulations To Claussen's Bakeries

Upon the opening of their magnificent new plant costing thousands of dollars in this city. A GOOD city and a GOOD organization have joined hands for mutual service.

Warner Outdoor Advertising Co.

1329 Main St., Columbia, S. C.

Build With Guignard Brick

As The

Claussen's Did

The business house or the home that is properly constructed of Guignard Brick has nothing to fear from winds or floods. Brick construction carries with it that comfortable feeling of security from the elements that cannot possibly be obtained with any kind of frame material.

The quality of our product has been tested through many long years of service. We do a state-wide business and we are prepared to ship in any quantity desired on very short notice.

When Interested in Brick Construction of Any Kind Write, Wire or Phone

GUIGNARD BRICK WORKS

Columbia, S. C.

Phone 5261.

Our Congratulations

to

Claussen's Bakeries

On the Completion of Their Fine New Plant

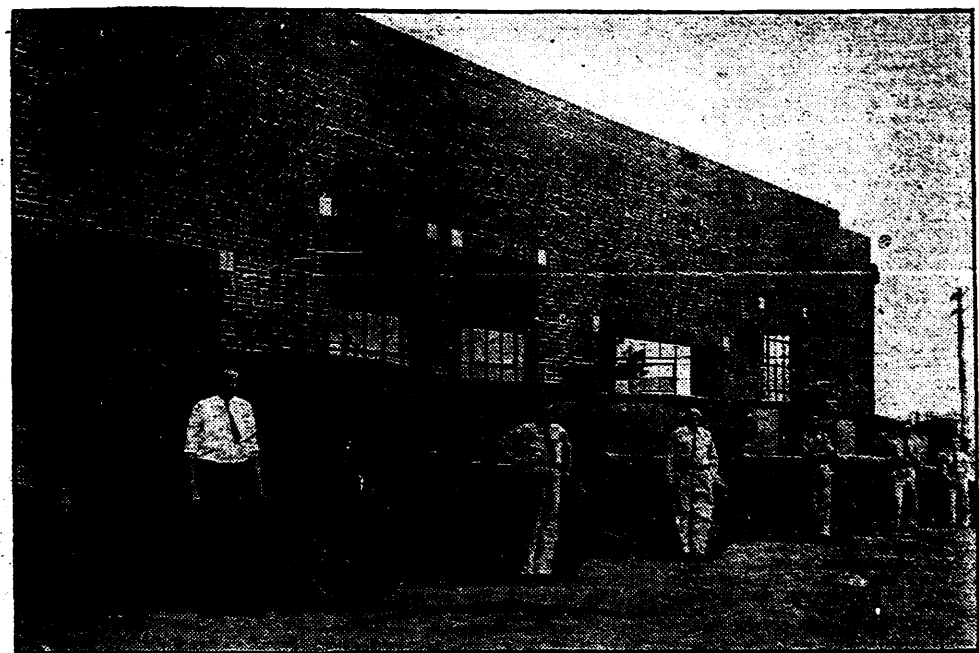
Joe Lowe Corporation

Bush Terminal Bldg. No. 8
Brooklyn, New York

Cabell Division, Baltimore, Maryland

Claussen's Employees Always Work in Perfect Harmony

DELIVERY EQUIPMENT USED FOR DISTRIBUTION



Six of the ten Dodge Bros. trucks used by Claussen's Bakeries in Columbia and the surrounding territory for the distribution of Claussen's Quality Bread and Cakes. A shop and mechanic are attached to the company to keep their delivery trucks in first class condition and insure the customers of efficient service. The designs used were created especially for Claussen's.

BAKER DRIVES FOR NEW MARKETS

Refuses to Compete on Price Cutting Basis.

DEVELOPS NEW FIELD

Michigan Citizen Establishes Himself in Sweet Goods Line.

From Bakers Weekly.

The recent activities of a wholesale baker in a small Michigan city built a substantial business in sweet dough products. Realizing the large profit in sweet goods, he set out to establish himself in that line. But he refused to compete with other local bakers on a price cutting basis. Instead he adopted a high quality formula, and adhered to it. Then he began to go after the business, on the theory that people on a holiday like plenty of rich sweet things to eat. Like most small cities, his city has a good baseball team. Sometimes they played in the local stadium, and sometimes they went to neighboring cities, this aggressive baker or one of his representatives was on the spot. To see the game? Not exactly. He had watched the crowd buy soda water, candy and peanuts in large quantities. Therefore, he decided that if the baseball fans liked sweets

so well, he might as well come in for some of the shakels.

In Coffee Rings. So this is what he did. He made up a batch of small but very rich coffee rings, just large enough for one person and slipped each one into an attractive glassine bag. Then he arranged them neatly in his basket. You can guess the rest of the story. They sold easily, cutting materially into the candy man's sales. The baker, discovering this ready market, played it steadily, never missing a game during the entire season.

He charged 10 cents apiece for these sweet coffee rings, though in his bakeries and grocery stores he sold them for five cents. This extra nickel more than paid for the wrapping and the salary of his representative. And of course, as the name of his bakery was printed on each wrapper, he gave himself some sound advertising in the bargain.

But he did not stop with the baseball games. Fifteen miles away there is a beach resort, popular with people in his city. Families go to this beach regularly during the summer months, most of them taking along picnic lunches. So this baker decided to put up a special "picnic assortment" for 25 cents. He selected as a variety the best sweet dough products he could for the money and still make a good profit. These he packed neatly in a cardboard box on which he printed "Rankin's Quality Picnic Sweets."

Two trains left the station for the beach every day. This baker never failed to have a representative walk up and down the platform with a tray of these picnic boxes. He soon learned that someone always forgot to include sweet goods or else would decide that an extra supply might be a wise insurance for a success-

ful picnic. Gradually, this train business grew to substantial sales. In order to stimulate business, the baker advertised every Friday in an evening paper, informing the public that "Rankin's Quality Picnic Sweets" could be bought at every train leaving for the beach.

Boxes at Train. He never failed to have someone with his boxes at each train, for he determined to build up the idea of service along with that of quality.

The success of his picnic special led him into further adventures. He watched the newspapers carefully for announcements of lodge, Sunday school or local society annual picnics. Whenever there was to be an outing, this baker would call on the women of the supper committee and offer them his services. His services would guarantee their lodge or society or Sunday school a special picnic box of his rich sweet goods, freshly made and wrapped carefully in wax paper. Furthermore, without extra charge, he would agree to enhance this assortment by printing the colors or insignia of the lodge etc on the covers of the box.

He reports that the idea of printing their colors free, sold these boxes to the women. It was something just a little different, and it costs them nothing.

By the end of the season this baker will have established himself as the leading sweet goods baker in the city. His reputation will be based on a permanent foundation because every box and every individual cake or ring is made as good as he can make it. His prices are fair, too, and in most cases just a little higher than his competitors. But he used his imagination and went after business in novel ways.

For Winter Season.

As a result of a summer campaign, he is in position to go after winter sweet goods business. He plans a special school lunch box for 10 cents which mothers can order the day before and he sure that the contents will be fresh and wholesome. He plans, also, to sell his individual glassine wrapped coffee rings at the municipal skating rink lunch counter. His quality will be so well advertised by his summer business, that he can easily place his 10 cents packages with the lunch counter company.

CAKE IS THE MOST WHOLESOME SWEET

If you ask a housekeeper what is the most popular dessert, she probably will tell you she doesn't know or will mention something other than cake. But, if you sift the question down to the fine points and really make a canvass, you will find that cake is the most used, and the most universally liked of all desserts. Cake occupies the same place in the "dessert world" that bread occupies in the "nutritious food world." In the daily diet of man, cake is one of the most wholesome of foods.

Very naturally there is a reason for the unusual popularity of cake. A reason, that makes anything popular, viz. it is good. Upon analyzing it, it is found that each and every ingredient is wholesome and contributes toward building up the human system. Flour, eggs, sugar, fruit, butter, what could be more nourishing? Where could we find ingredients of which we could make a food that would contribute more directly to the upbuilding of one's health?

Probably you will contend that the ingredients are not proportioned in such a way as to make cake a well-balanced food. Granted, but what dessert is? Of all desserts, one is more worthy to be classed as a staple food, as a necessity rather than as a luxury. The body requires sweets and there is no more agreeable way of meeting this requirement than by eating cake. When one eats cake, he takes into his system in addition to sugar, eggs, flour and butter—fish and bone builders.

Today the consumption of cake is greater than ever before and this is due largely because of the excellent quality and low price at which it can be had from reliable bakers through the retail grocers. Most housewives have learned long since how foolish it is to bake, when such good cake is available at such a low price. There is the actual cost of baking the same quality of cake in the home. It is estimated that ten years ago not five housewives out of 100 used commercial cake, whereas now at least 60 out of 100 use commercial cake more or less regularly and fully 90 per cent. of 100 never bake.

Thousands Fall in Auto Tests. Of a total of 185,207 persons examined in Pennsylvania for automobile drivers' licenses during the first eight months of the year, 45,247 failed to pass the tests.

A 10-foot vault isn't the final limit. Let's see what four more generations of pedestrianism can produce.

American reaction to a story of official corruption: "Well, it won't be long now before the first game."

EMPLOYEES ALWAYS WORK IN HARMONY

Wonderful Loyalty Contributes to Growth.

STRESS COOPERATION

"One Hundred Per Cent. Efficiency and Loyalty" Motto of Employees.

One of the main factors in the remarkable success of Claussen's bakery has been the splendid cooperation and loyalty of the employees. It is with pride that the management tells that Claussen's employees work in perfect harmony for a common purpose, to make the very best possible products and to serve their customers to the very finest detail.

The entire bread production is under the direct supervision of J. P. Gagne, one of the country's most capable authorities of formulas for bread, having had years of experience in this business.

He is ably assisted in Augusta by H. F. Grover, assistant production manager and with 14 years' service to his credit with Claussen's. James H. Smith is second assistant production manager of the Augusta plant with several years to his credit as a baker and three years' service with Claussen's.

Irvin Collins is assistant production manager of the Columbia plant and has just completed a three month course in the Dunwoody Institute of Baking in Minneapolis, Minn.

Proud of Record. With this class of skill and with this type of men in Claussen's production department, Columbians may well assured that they will be supplied with the very best loaf of bread it is possible to have.

The men are very proud of their record since it has been through their efforts and the skill employed by them that has given Claussen's five honorable mentions, and the winning of the silver cup for 1927. This cup was awarded by the Quality Bakers of America in the Better Bread contest, and was competed for by the leading bakers in the United States.

The following is a list of names of the employees in the bread department of Claussen's bakeries in Columbia: W. R. Mitchell, Bert Burroughs, M. Glanton, J. H. Walker, Smith, Shorty Buff, R. Henry, Espie Collins, E. R. Mason and O. B. Bragg.

In Cake Department.

The cake department of H. H. Claussen's Sons is in the very efficient hand of George Paul, who is the highest type expert on cake in the United States, he having been at one time in charge of the cake production for 16 of Chicago's largest bakeries. Mr. Paul in addition to being the best authority on cake formulas is possessed of a personality, which causes his employees to put forth their very best efforts at all times for the efficient operation of their department.

Mr. Paul is ably assisted in the cake department by Joe Ferber, veteran and superintendent. Mr. Ferber was brought up in the baking business, having started in this field many years ago with his uncle, Casper Ferber. Assisting Mr. Paul and Mr. Ferber is Charlie Burgess, who is a very capable and efficient young man and deserves much credit for the work he has done in making the cake department a big success.

This department has done much credit for the excellent work they accomplished years ago in the old Claussen shop, when through their loyalty and efficient efforts the splendid quality of Claussen's cakes became very popular and as a result they have today one of the best and most modern equipped cake shops in the Southeast.

Other employees of the cake department including the clean-up crew are as follows: Stephen, Will Barnes, Ike Jones, Sadie Smith, Ruth Jones, Pearl Brown, Gertrude Tankley, Mary Belle Houston, Willie May Brown, Lennie Lee, Lula May Brown, Sarah Houston.

Supply and Shipping.

The supply and shipping department is ably managed. George Romanstine has been with the company eight months. He was first a salesman, but being partial to inside work he requested to be transferred to the shipping department and since he was very familiar with all of the items carried in Claussen's quality line of bakery products, he is making the company an A-1 shipping manager. He will be assisted by M. T. Rank and three others who have already been engaged.

Sales and Delivery. The sales and delivery department is under the supervision of C. C. Brotherton who is ably assisted by A. E. McLendon, who has associated with him seven high type salesmen well schooled in the profession they follow. They are local to their work, their plant, their products and their employer and are listed as follows: H. C. Sheals, C. L. Bragg, Peter Greese, E. E. Amick, Hugh Howell, H. E. Williams, Frank Seigler, M. C. Courtney and H. H. Kinney.

Office Force. The office employees are under the direct supervision of George F. Claussen, president of the Claussen's bakeries, who is assisted by Lenna Chavel, secretary-treasurer and office manager. Mr. Chavel has in his department the following employees: S. B. Rhodes, cashier; Miss Frances Thorne, stenographer and several other employees who have been engaged.

The garage and repair shop is in charge of George F. Claussen. He had several years' experience in this line and the condition of the delivery equipment stands out for the very efficient way in which Mr. O'Connor handles this department. He is assisted by Mike Moore.

Last but not least, consideration must be given to the clean-up crew, who are responsible at all times for the cleanliness of the plant, and its equipment and as stressed in other columns of this paper it is impossible to put too much importance on these employees and their work. They are listed as follows: Agnes Jackson, Frank McKinnis, V. K. McKinnis, Smeener Taylor, Willie Lawrence and Henry McKinnis.

TRAIN SALESMEN FOR THEIR WORK

Claussen's Bakeries Employ Men of High Type.

IN NEW METHODS

Competition Brings About Changes in Methods of Selling.

Claussen's bakeries only employ men of the highest type since it is necessary to train them in the latest methods of merchandizing bread and cakes and to adhere strictly to the policies of this progressive bakery.

In the past 15 years the selling end of the bakery business has undergone drastic changes. The old type bread delivery has passed into the discard with its mule and wagon and the driver with his untidy appearance.

In years gone by the man who delivered the bread to stores came to work at a stated time, and in most cases had no regular route, but would start out some time during the morning with his wagon to deliver bread. No effort was made to increase his sales by definite poli-

cies or by educating the consumer to the advantages of baker's bread. Makes Rapid Strides.

As competition in the bakery business increased and improvements were made in bakery machinery, the aggressive bakeries began to realize the possibilities of their business. As time went on the production end of the bakery business made rapid strides and within a few years the perfected loaf of baker's bread made its appearance on the market. Then came the problem of disposing of this improved quality of baker's bread, and the aggressive bakeries began to solve this problem by going into scientific merchandizing of their products. They realized the value and importance of a clean delivery equipment and the bread truck of today is as clean, both inside and out, as are the pleasure cars. They are washed daily and kept in good mechanical condition, and they are repainted at regular intervals to improve their appearance.

The bread salesman of today must first make application to the route foreman, after which his application is passed on by the sales manager. He must fulfill certain requirements as to age, height, education, appearance and some references. After he is accepted as an employee, he is required to wear uniforms and to keep these uniforms clean. He is required to attend regular salesmen's meetings weekly and to study a salesmen's course, especially prepared for bakery salesmen.

Cultivate Personality. It is desirable that they cultivate a pleasing personality and have

backbone to face all kinds of difficult situations. They do not have a whistle to start nor one to quit, but he must be willing to put in as many hours as is necessary to give his customers satisfactory service. He must be a man who thinks for himself, keeping in mind at all times that he is a servant of the public serving them with the most important food they require.

The human element is one of the biggest problems in the bakery industry of today and Claussen's policy is not to hire and fire salesmen but to hire and train them.

For Efficient Engine Operation. The operating efficiency of an engine depends on the condition of the interior of the radiator. Make it a regular practice of flushing out the cooling system with water or an alkaline solution, so as to keep the inside surfaces clean and allow the hot water to deliver its heat readily to the metal of the core.

Cleaning Cores of the Radiator. Never poke the delicate cores of a radiator with a wire or tool to remove mud or dirt which is plastered in the tiny chambers. The best way to remove these accumulations is to wash them out by raising the hood and applying a hose stream of moderate force from the hood space outwardly through the core.

A hot engine is caused by a loose fan belt, defective pump, rubber connections interfering with the water flow, clogged radiator, inferior engine oil, incorrect ignition timing and dragging brakes.

Safety Equipment for the Car. Many serious accidents are caused by wet pavements, congested traffic, muddy roads and obscured vision, and because of these conditions trouble can be avoided if the car is fully equipped with such safety items as chains, bumpers, windshield wipers, proper lights, etc.

Locking of wheels is not only extremely damaging to tire tread, but it is dangerous, because locked wheels have no power to keep a car in its intended path and thus conduce to skidding.

Position of Spark Plugs. The proper spark plug to use in an engine is one that fits so that the bottom of the plug is flush with the inside wall of the cylinder head, and the spark gap extends a little beyond into the combustion chamber. The gap should not extend more than three-sixteenths of an inch from the bottom of the plug. A spark plug that is too short, with the ignition points set so far back in the cylinder head, will allow some of the unburned gases to stay behind in the little pocket during the exhaust stroke, with the result that the plug will become fouled and ineffective. The engine becomes sluggish and inefficient. A plug that is too long is exposed to the full heat of the explosion. The explosive temperature causes the electrode to become red hot, resulting in pre-ignition and all its familiar difficulties—knocking, loss of power, missing and backfiring.

The proper spark plug to use in an engine is one that fits so that the bottom of the plug is flush with the inside wall of the cylinder head, and the spark gap extends a little beyond into the combustion chamber. The gap should not extend more than three-sixteenths of an inch from the bottom of the plug. A spark plug that is too short, with the ignition points set so far back in the cylinder head, will allow some of the unburned gases to stay behind in the little pocket during the exhaust stroke, with the result that the plug will become fouled and ineffective. The engine becomes sluggish and inefficient. A plug that is too long is exposed to the full heat of the explosion. The explosive temperature causes the electrode to become red hot, resulting in pre-ignition and all its familiar difficulties—knocking, loss of power, missing and backfiring.

The proper spark plug to use in an engine is one that fits so that the bottom of the plug is flush with the inside wall of the cylinder head, and the spark gap extends a little beyond into the combustion chamber. The gap should not extend more than three-sixteenths of an inch from the bottom of the plug. A spark plug that is too short, with the ignition points set so far back in the cylinder head, will allow some of the unburned gases to stay behind in the little pocket during the exhaust stroke, with the result that the plug will become fouled and ineffective. The engine becomes sluggish and inefficient. A plug that is too long is exposed to the full heat of the explosion. The explosive temperature causes the electrode to become red hot, resulting in pre-ignition and all its familiar difficulties—knocking, loss of power, missing and backfiring.

The proper spark plug to use in an engine is one that fits so that the bottom of the plug is flush with the inside wall of the cylinder head, and the spark gap extends a little beyond into the combustion chamber. The gap should not extend more than three-sixteenths of an inch from the bottom of the plug. A spark plug that is too short, with the ignition points set so far back in the cylinder head, will allow some of the unburned gases to stay behind in the little pocket during the exhaust stroke, with the result that the plug will become fouled and ineffective. The engine becomes sluggish and inefficient. A plug that is too long is exposed to the full heat of the explosion. The explosive temperature causes the electrode to become red hot, resulting in pre-ignition and all its familiar difficulties—knocking, loss of power, missing and backfiring.

The proper spark plug to use in an engine is one that fits so that the bottom of the plug is flush with the inside wall of the cylinder head, and the spark gap extends a little beyond into the combustion chamber. The gap should not extend more than three-sixteenths of an inch from the bottom of the plug. A spark plug that is too short, with the ignition points set so far back in the cylinder head, will allow some of the unburned gases to stay behind in the little pocket during the exhaust stroke, with the result that the plug will become fouled and ineffective. The engine becomes sluggish and inefficient. A plug that is too long is exposed to the full heat of the explosion. The explosive temperature causes the electrode to become red hot, resulting in pre-ignition and all its familiar difficulties—knocking, loss of power, missing and backfiring.

The proper spark plug to use in an engine is one that fits so that the bottom of the plug is flush with the inside wall of the cylinder head, and the spark gap extends a little beyond into the combustion chamber. The gap should not extend more than three-sixteenths of an inch from the bottom of the plug. A spark plug that is too short, with the ignition points set so far back in the cylinder head, will allow some of the unburned gases to stay behind in the little pocket during the exhaust stroke, with the result that the plug will become fouled and ineffective. The engine becomes sluggish and inefficient. A plug that is too long is exposed to the full heat of the explosion. The explosive temperature causes the electrode to become red hot, resulting in pre-ignition and all its familiar difficulties—knocking, loss of power, missing and backfiring.

We Wish to Congratulate Claussen's Bakeries

Upon the completion of their new plant in our city. We welcome this well established and successful industry and bespeak the hearty co-operation of our people.

The National Loan and Exchange Bank

Columbia, S. C.

We Congratulate Claussen's Bakeries

On Their New Plant

and

Wish Them Much Success

Atlanta Container Corporation

Atlanta, Ga.

The City Ice Co.

1721 Main St., Phone 3156

We Congratulate Claussen's

upon the opening of their splendid new baking plant in this city.

Such an industry as this is a fine asset for any city and we feel sure that Claussen's will never regret coming into Columbia.

We Wish to Congratulate

Both Claussen's and the city of Columbia upon the opening of this fine new industry.

We Install All Kinds of Glass

Columbia Paint Company, Inc.

Phone 6274

1218 Main St.