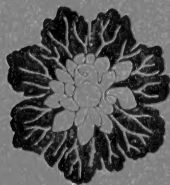


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History of the
Standard
Milk



**A STORY
OF
EFFORT
AND
ACHIEVEMENT**

Published by
**ALEX. CAMPBELL
MILK COMPANY**
802 Fulton Street
Borough of Brooklyn
New York, N. Y.

1899

With an
Introduction by
Alexander Campbell
President of the
Alex. Campbell
Milk Co.

ACKNOWLEDGMENT.

IN THE compilation of this work, liberal use has been made of the State Reports of the Department of Agriculture, the "*Farmer's Bulletins*," issued by the same department, and "*The Connection Between Milk Supply and Disease*," and "*Milk Supply and Mortality*," by Wm. M. Babbott, as also the current writings of medical authorities on the subject.

RAISING THE STANDARD.

A Story of Effort and Achievement.

WITH AN INTRODUCTION BY
ALEXANDER CAMPBELL,

PRESIDENT OF THE ALEX. CAMPBELL MILK COMPANY.



PUBLISHED BY

ALEX. CAMPBELL MILK COMPANY,

802 FULTON STREET, BOROUGH OF BROOKLYN, NEW YORK, N. Y.

1899.

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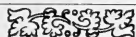
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INTRODUCTION.



BY ALEXANDER CAMPBELL,

PRESIDENT OF THE ALEX. CAMPBELL MILK COMPANY

It is not often that one is privileged to take a retrospective view covering a period of forty years devoted entirely to one branch of industry, yet at the close of the present year I shall have been connected that length of time with the milk interests of Brooklyn.

During so long a period of business activity, one observes many changes in customs, fluctuations of public opinion and revolutionary methods in the arts and sciences. Among these changes my keenest interest and sympathies have been associated with the production and delivery of a higher standard of milk to our city. To make a practical application of scientific facts, to surround with sanitary safeguards, and to raise this industry to the dignity which its importance demands, has been the prevailing idea around which these forty years have centered.

If through many obstacles this idea was planted, nourished and grew into permanency; if the evolution of public sentiment has been accomplished through much labor; and perhaps less rapid growth than the mind of an enthusiast could wish; yet it is with profound pleasure at the close of this period that I observe a general awakening of public interest, and renewed activity among scientific investigators in this line of research; all of which clothes the labors of the past with a supreme satisfaction and insures for the future still greater advance.

These pages are presented to the public with the hope that they will prove both interesting and instructive. A comparison of past and present methods, a presentation of the problem and how it has been solved by one company, may lead to a further dissemination of knowledge, and open the way for more light upon a subject of paramount importance to the public welfare.

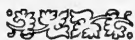
In knowledge lies security, for the public will ultimately receive what it seriously demands.

ALEX. CAMPBELL.

Brooklyn, N. Y., October 15th, 1899.

Inscribed
to those Men,
who, by precept and example
helped to correct the abuses which
existed in the City's
Milk Supply.

A PREAMBLE.



*"With foaming milk you may your thirst assuage—
Needful in infancy, 'tis good for age."*

—POPE LEO.



THAT erstwhile, piquant sylph of the meadows, the milkmaid, has strayed behind, and is lost.

Ye
Earlie
Milk-Mayde.

Was not she first cousin to Bo-Peep, who has given up tending sheep as a failure, and, with ribbons fluttering from her dainty crook, has wandered off into the nameless by-paths of history?

Both milk-maid and shepherdess are gone, and are known to us only through nursery tradition, and by yellowed prints rescued from old-time garrets.

The milk-maid, we judge, was pleasing to the eye, and gossip was wont to call her merry. She it was whose bare feet first stirred the long grass, wet with dew before the sun had scored the plain with lines of light and shade. Her short, blue gown, caught to the waist at one side, afforded a glimpse of a bright, red petticoat, her arms and bosom round and full, were warm with the lovely hues of health; in one hand swung the little three-legged milking stool, while the other held in place the shining pail, balanced on her shapely head. In truth a goodly picture on which to look.

She it was who carolled with the lark. But that was later. Probably after the cows had yielded up their creamy milk, with approving grace to so charming a coax. For by recent observation we know the lark to be a sad "lie-a-bed." But, when he did get his throat in order, it is certain that the merry milk-maid helped to swell his morning song of ecstasy; and, all in

Ye
Larke.

RAISING THE STANDARD.

all the process of milking, in times gone by, was idyllic and delightful.

But her methods must have been crude, as, witness her mode of carrying the milk-pail. Peace be to her splashes!

Bacteriologically speaking,—which is a long word concerning very little things, perhaps regret at her taking off may be modified by resignation.

Milk
not a "dry"
subject.

Although "milk" can hardly be called a dry subject, the average reader may not consider it a fascinating one. "Still," as the prosperous milkman said, "it is remarkable what can be got out of it."

"Not," replied his complaining customer, "when one considers what is first put into it."

We all
liked milk
once.

There was certainly a period in the life of every one of us, when nothing on earth, nor in the heavens above, nor in the waters under the earth was of such absorbing interest as milk. We wanted milk, and lots of it. Morning, noon and night,—particularly night, as every man's mother will tell him,—milk, milk, nothing but milk. There was no variety, unless we concede the flavor of rubber, at times a sourness, against which we rebelled, and a kind of roast-and-boiled combination, known as "scorching," at which our small souls revolted.

Yet we thrive.

Does that strike you as remarkable? Nothing seems remarkable with which we are familiar. Yet when viewed in the light of the everyday requirements of the body, it is.

Milk, the
"Perfect"
Food.

All other foods, individually, are insufficient. But if not absolutely a "perfect" food, yet there is none other, besides milk, which will supply all our wants, satisfy thirst as well as hunger; which has the qualities requisite for building up bone and fibre, keeping the body in repair, and furnishing it with the necessary animal heat, as well as that strength which is inseparable from health.

The value of
milk, and
Future of
the Cow.

The ease with which the milk of the cow can be obtained, its abundance, the variety of its uses, the dietetic importance of its products and its nutritious qualities, renders it a leading factor in the domestic economy of the world.

STATISTICS.

There are on the five million farms in this country, seventeen million cows, and forty millions on the European farms. The milk product of these fifty-seven million cows, based on an average yield of four hundred and fifty gallons per annum, equals in nutriment that of one hundred and forty million steers, each weighing one thousand pounds, or say, two and one-half times the total weight of the cows.

International
Milk
Statistics.

Prof. W. O. Atwater says: "A pound of lean beef and a quart of whole milk contain about the same amounts of actual nutritive material."

So, according to the late Sir John B. Lawes, the same food that will increase the live weight of a steer seven hundred and thirty pounds, (four hundred and two pounds dressed—fifty-five per cent. of the gross weight) will produce a yield of 4,562 quarts of milk, which has eleven hundred per cent. more nutritive material than the dressed steer, including that part of the steer which is unavailable for food. Hence the actual difference in nutritive material in favor of milk is of course much larger.

Of sheep, cattle, hogs, horses, and mules there are in Europe and America, five hundred and sixty millions to sustain.

In face of these conditions, it is not at all surprising that our foremost agricultural professor, W. A. Henry, should say, in substance: "The cow must eventually hold the first position in furnishing our food supply."

Ten years ago, (1889), it was estimated that the annual value of our dairy products exceeded \$400,000,000, and, in the same year the value of the milch cows at about \$370,000,000.

Value of
National
Dairy products.

While much of the milk produced is converted into butter and cheese, the annual consumption as milk, averages about 25 1-2 gallons per annum to each person in the United States.

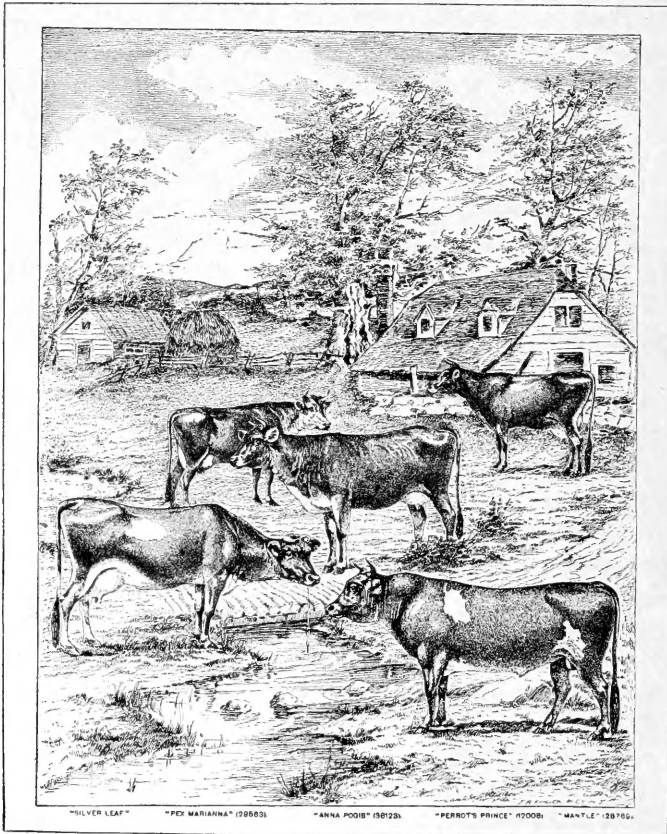
Apart from its actual value as food, milk enters largely into many of the luxuries of the table, and adds in no small degree to the pleasures of life. Not infrequently it sustains the vitality of the sick at critical periods in the fight with disease, and brings the first renewal of strength to the convalescent.

For
pleasure
and pain.

On a subject of such universal interest and importance,

THE ALDERNEY

"A higher standard of milk for the people."



SELECTIONS FROM THE HERD OF JERSEYS BELONGING TO "CAMPBELL" FARM.

REDUCED FAC-SIMILE OF THE FRONT PAGE OF "THE ALDERNEY," (NO. 1.)
 PUBLISHED BY THE ALEX. CAMPBELL MILK COMPANY.
 NOW OUT OF PRINT.

MILK.

therefore, it is certainly advisable that everyone should be well informed; the more so when it is remembered that as, while pure, milk is one of the most beneficial of blessings enjoyed by mankind, it is, nevertheless, peculiarly susceptible of contamination from external influences, and, when impure is dangerous to health and life itself.

M I L K .



Milk is whitish, or bluish as the case may be, and opaque, and, until the cream begins to separate from the liquid and rise to the surface, is apparently a perfect solution.

By aid of the microscope we find it to be in reality a transparent liquid, and that the opacity is largely given to it by innumerable, infinitesimal globules of pure fat in suspension. So numerous are these fatty globules that, if a person were to set out to count the number contained in a single drop, and were to proceed at the rate of 100 per minute for ten hours each day, six days each week, it would occupy ten years before the job was finished.

There are other solids found in milk beside fat. Of these the most abundant are sugar and casein. There are also albumen and small quantities of mineral matter. Casein and albumen may be compared to the white of an egg. The mineral matter consists of chlorides and phosphates of potash, soda and lime. The liquid is water.

It is hardly necessary to point out that the nourishment obtained from milk is not to be found in the water, but in the solids.

The Report of the State Board of Health of New York, says, "The butter properties in milk coming to New York vary 500 per cent. So it is apparent that milk coming from one source may be intrinsically dearer at three cents per quart, than that from another source is at fifteen cents."

The law usually requires that milk shall show 3 to 3 1-2 per

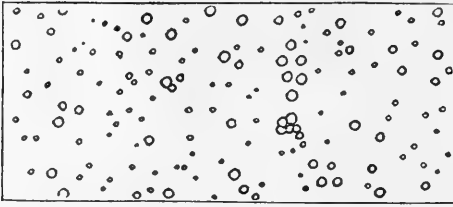
Milk contains solids

Milk under the microscope.

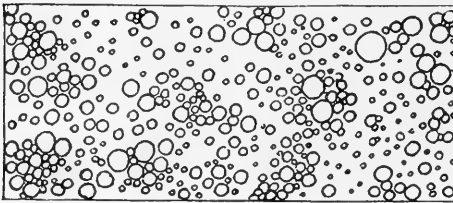
Other solids in milk.

Relative value of milk.

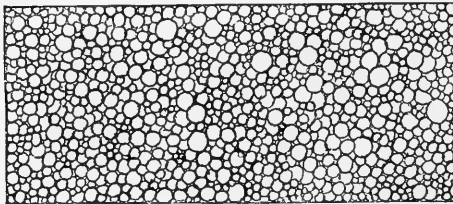
RAISING THE STANDARD.



SKIM MILK.



MILK.



CREAM.
MAGNIFIED THREE HUNDRED TIMES.

cent. of fat, and 9 to 9½ per cent. of solids other than fat.

One hundred pounds of milk, therefore, must contain according to the law, not less than 12 to 13 pounds of solid matter.

The fat largely furnishes the fuel ingredients, a function served by the sugar also; but the casein and allied compounds build up the body and restore the waste which is perpetually going on. The minerals help in forming tissue. The casein and albumen are protein compounds, and protein is the chief

flesh and muscle nutrient. Skim-milk, therefore, and butter-milk contain much valuable food!

VARIATIONS IN MILK.



Different
breeds of
cows.

The natural variations in milk are many. The milk of different breeds of cows shows marked peculiarities, chiefly in the difference in the size of the globules of fat. Thus in the milk of Jersey and Guernsey cows they are larger than in that of other breeds, separate readily from the liquid, and give the greatest percentage of cream.

VARIATIONS IN MILK.

Owing to changes in food, and other causes, the quantity of milk yielded will vary from time to time, and otherwise lack uniformity. Not long ago this very quality of uniformity was sought for by many, especially for children and invalids, in milk drawn, day by day, from the same cow. Experience however, has proved, that by judiciously mixing the product of a healthy herd, far greater uniformity is obtained.

The "one cow's" milk fallacy.

The variations in milk which come from adulteration are only too well known to buyers of cheap milk.

Adulteration.

This may be fraught with more serious results than would at first appear, for men so unscrupulous as to be guilty of the act would not be careful in the selection of the water used, and would, therefore, be likely to introduce into the milk, germs of disease, to the peril of the health of the consumer.

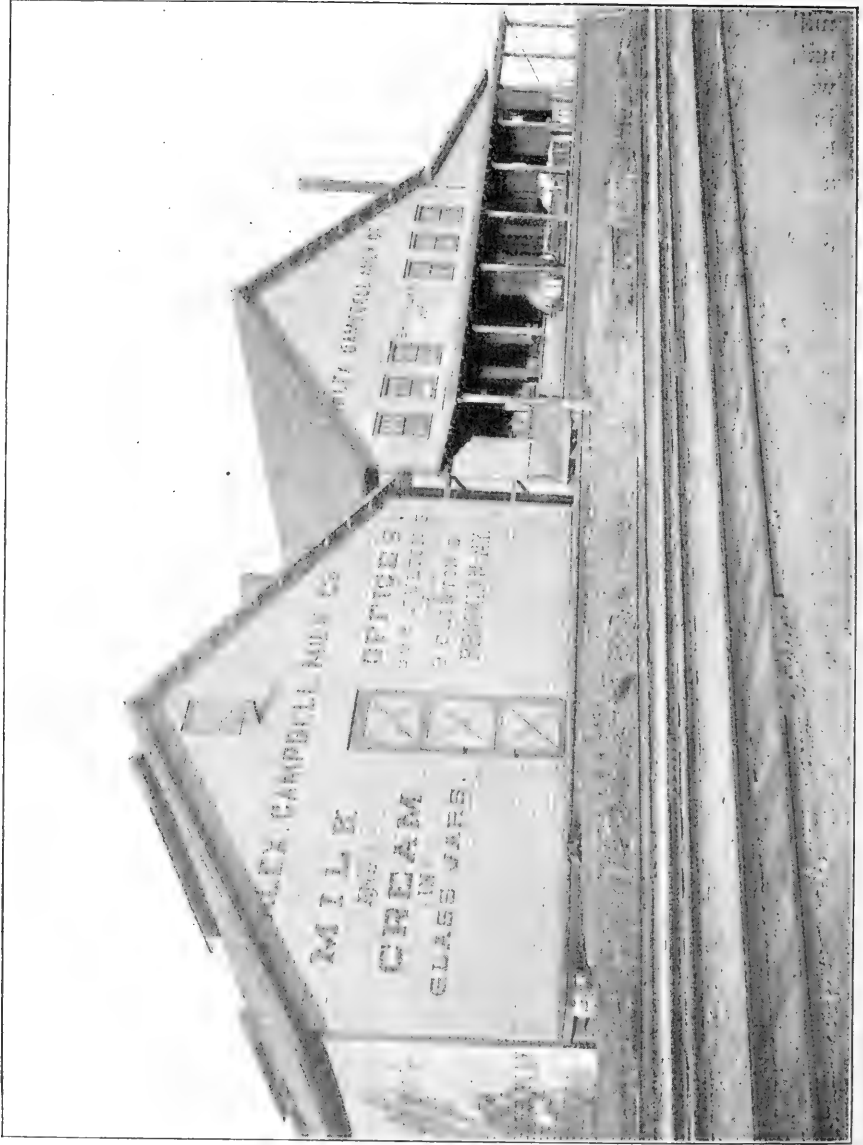
Another form of fraud is the use of preservatives. As everyone knows, milk, if exposed to the atmosphere, sours, thickens, and becomes of no further value as milk. This change takes place more quickly in warm weather than in cold. In fact, if kept at a sufficiently low temperature, the change may be almost indefinitely postponed, and the milk remain perfectly sweet and wholesome.

"Preservatives."

The use of certain chemical compounds, known as "preservatives" to prevent the souring of milk is recommended by some, especially during hot weather. To this the Alex. Campbell Milk Company is emphatically opposed, believing one and all to be pernicious.

Regarding them, R. A. Pearson, B. S., says: "The most common substances contain salicylic acid, boric acid, borax, or formaldehyde. When taken regularly in small doses in milk they may have an injurious effect on the system."

The United States Dispensary says: "Salicylic acid has been used for the preservation of various articles of food, but the employment of it should be interdicted. It will easily be seen that in the same way in which preservatives prevent the natural changes of milk they may prevent its digestion in the stomach, the process of digestion being similar in some respects to the fermentations."



GENERAL VIEW OF THE ALEX. CAMPBELL MILK COMPANY'S CREAMERY AT OXFORD DEPOT, ORANGE COUNTY, N. Y.

SOURING OF MILK.

In several instances the use of preservatives has been followed by epidemics of sickness, produced by poisoning.

Sometimes fatal.

It may be accepted as an axiom, which will appeal to the common sense of every man, woman and child who knows anything about milk, that if it does not sour in the customary way after the usual time it is sufficient proof that it is not in its normal condition. Of such milk beware!

If Milk does not sour.

SOURING OF MILK.



The souring and curdling of milk is caused by fermentation. This fermentation is due to the action of bacteria. From soured, (fermented) milk and cream, butter and cheese are produced.

Fermentation of milk.

All bacteria are not injurious, harmful or dangerous. To some we owe thanks; as, for instance, the delicious flavor which is possessed by the best butter made during the month of June, recognized and appreciated as a luxury the world over, is due to certain species of bacteria present in cream at that season of the year, and at no other time.

Prof. W. H. Conn, a recognized authority, says: "Bacteria proper, which have most to do with milk and cream, are found in immense numbers everywhere, and play an important part in nature. They are to be classed with plants rather than animals."

With the highest powers of the microscope they appear as scarcely more than simple dots and lines. While it is true that the general purity of the milk can be ascertained by the number of bacteria it contains, this is only true to a limited extent, and not infrequently the presence of large numbers of bacteria is possible even in very good quality of milk. The favorable influence of warmth on the growth of bacteria makes more evident the value of keeping milk as cool as possible from the start.

Bacteria.

RAISING THE STANDARD.

The normal souring of milk is spoken of as "lactic fermentation."

Much of the too rapid souring of milk is unquestionably due to the want of adequate precautions against it in the household. The quickness with which atmospheric conditions favorable to the growth of bacteria in milk operate should be better understood.

Household precautions.

When that happy time arrives servants will be admonished not to leave the milk jar standing around in warm kitchens when not in actual use, and even when in use it will be there only just so long as is absolutely necessary. As to the refrigerator, the door will never stand ajar, nor the lid remain open.

Thunder showers and milk.

If it were true that thunder showers caused milk to sour the dairyman's business would be a very precarious one in certain sections of the country where storms are frequent. But he does not take any extra precautions when he sees "thunderheads" in the sky. He knows that the atmospheric conditions which cause the storm would sour his milk if he gave them the opportunity, but if his bottled milk is buried in ice as usual he is unconcerned, for neither thunder nor lightning can harm it.

The trouble is that the household accommodations for keeping milk from being affected by the atmosphere are frequently far from perfect. It follows that, in the muggy, close weather which precedes a storm, milk, which if better protected would remain sweet for much longer, sours at once.

Milk submerged in water.

Milk submerged in cool water is not affected by thunder storms; that is to say, by the sultry conditions which usually precede them.

THE GOOD OLD TIMES.



There is much nonsense talked about "The Good Old Times." Undoubtedly there was good in the times of old, but

THE GOOD OLD TIMES.

they were dirty old times, and careless old times, and if, after having enjoyed the sanitary conditions in vogue to-day, we were forced to live as did our ancestors, we should have something to say with regard to their so-called "goodness."

The middle-aged American citizen of to-day, intimate with city affairs, need not go back so far as his boyhood to remember the time when the method of delivering milk was very different to what it is to-day. Once again he will hear the rattle of the cans in the milk wagon, and the cry of the milkman. He has no doubt carried out the family pitcher to receive the required measurement, and will recall the sour smell of the wagon on warm days, and see in memory the little cloud of flies which followed it and buzzed round the drippings of milk which ran down the sides of the cans, or collected in small puddles on the floor. And if a summer storm came up at the time, and whirled the dust round and about milk-wagon, milk-can and milk-pitcher, there was no help for it—the milk could not be thrown away, and the philosophical phrase of the day had it that "a man must eat his peck of dirt," so that the dust was swallowed with stoicism, as a matter of course.

But, while the delivery of milk was crude enough, something much worse lay back of it.

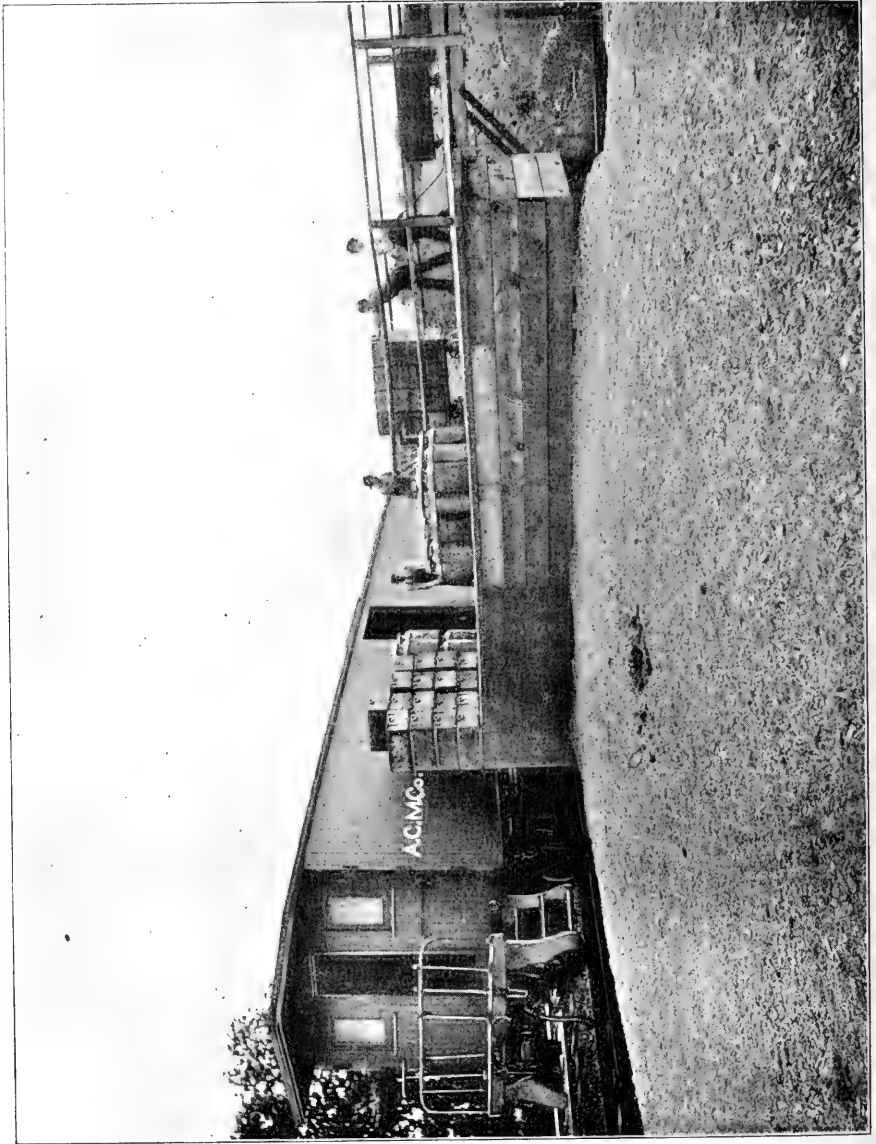
Epidemics of sickness were looked upon as "judgments" or the "dispensation of Providence," and no effort was made to trace the trouble to its material source. But science, having found out one or two things, acquired the habit of peeping and probing into anything and everything, until nothing remained the exclusive property of ignorance or was really safe from intrusion, and the discoveries, in many cases, fitted one into the other, and most heretical, alarming and altogether bewildering conclusions were drawn, which, after the indignation aroused at first had subsided, quite frequently were found to be incontrovertibly true.

When too many people at one time and in one place were down with fever, or diphtheria, or some equally distressing disease, for affairs to be considered absolutely normal, a few men with the sense of smell and some ideas in their heads fol-

Old-time
methods.

"Judgments."

"Somebody's
nose."



VIEW SHOWING THE COMPANY'S REFRIGERATOR CAR AT BLOOMING GROVE, O. C.

EXPOSURE OF THE MILK TRADE.

lowed their noses, and wherever they did this they were certain to end up by finding a stagnant pool, an open sewer, a collection of decaying matter, or something hideous and offensive, and, on removing these found that the epidemic dwindled away more rapidly than before the whole array of their drugs and nostrums.

And somebody's nose led him to where cattle, which furnished the people with their daily supply of milk, were penned in like pigs, the low shed reeking with pestilential stench, the floors too filthy for even an animal to tread, and among the poor beasts were many so diseased that the details nauseate in the reading.

Out came the trusty microscopes, and what they disclosed startled the thinkers.

A "scientific find" had been made, richer far than any gold mine, for the benefit of humanity, and to the discoverers came home with redoubled force the truism that "Cleanliness is next to Godliness," and the conviction that to ignore the warnings of the senses is to court death.

As the news spread scientific men were found in all parts of the world who made personal investigations in their different localities. While reports varied, a shocking state of affairs was revealed, and it became apparent that there was need of universal reform if in milk, by nature the best of foods, health was to be found and not disease.

There are probably many at the present day who remember the exposures made by Frank Leslie.

On May 8, 1856, he announced in the "Illustrated" paper bearing his name that a "Startling Exposure of the Milk Trade of New York and Brooklyn" would be made, adding, editorially:

"For the midnight assassin we have the rope and the gallows, for the robber the penitentiary, but for those who murder our children by thousands we have neither reprobation nor punishment."

This was brought about by the fact that during the previous year, on the petition of John T. Hildreth and others, a com-

Cleanliness
next to
Godliness.

Scientific men
everywhere
interested.

Distillery
Milk.

RAISING THE STANDARD.

mittee of eleven had been appointed to report upon the subject of cow stables, and the reports, having been published in pamphlet form, although giving damning evidence, had not resulted in the abolition of the evils.

True to his word, Frank Leslie devoted a large portion of his paper to the exposure for about three months. The illustrations were revolting, and the letter-press detailed incredibly shocking disclosures. Intense excitement was caused throughout the country, and in Brooklyn public indignation rose to fever heat.

Investigating.

An investigation was ordered, but, according to Frank Leslie, the ends of justice were defeated by political jobbery, for he says, regarding the "Analysis of the milk which failed to show the reputed impurities," that "it was drawn without a doubt from healthy cows but recently placed in the swill stables through the terror of our exposure. Thus, the great test is no test at all."

That Frank Leslie's efforts to bring about a reform were appreciated was proved by the presentation made to him at the Metropolitan Hotel, Tuesday evening, February 8, 1859, of a handsome watch and chain, "In behalf of the Mothers and Children of New York, as a grateful testimonial of his manly and fearless exposure of the Swill Milk Traffic."

Reform not effected.

That no real or sweeping reform was effected is certain, for in his speech in making the presentation the "venerable and venerated" Dr. Francis said: "The token which you now possess, the offspring of a noble impulse is, indeed, an inadequate memorial of our gratitude and of your services, but we trust it will serve to remind you that *however apparently unsuccessful* your efforts may have been, a real and vast good has resulted, and that although *not killed*, the hydra is baffled."

The people in the city were aroused as never before, and the intelligent dealers realized that something had to be done at once. Even with them the facilities for conducting business were of the crudest character. Indeed, it was not until the introduction of the glass jar (originated by Alexander Campbell)

THE BOTTLING SYSTEM.



MILK BOTTLE AND "TRADE MARK SEAL" OF THE
ALEX. CAMPBELL MILK COMPANY.
"A GUARANTEE OF EXCELLENCE."

and the establishment of bottling creameries that any radical changes took place.

The bottling system had been in force for several years when, on December 22, 1880, a memorable meeting was held at the Cosmopolitan Hotel, Chambers Street, New York, for considering the question of forming a company for furnishing the city with a pure milk supply.

A number of influential men known to be deeply interested

in the subject were present, and the well-known physician of New York, Dr. Cornelius R. Agnew, acted as chairman.

The following extract from the "Plan of Organization," passed at the second meeting, held at the same place on January 19, 1881, and presented by Mr. Alex. Campbell, shows the broad lines upon which the movement was conceived:

"The time is ripe for such a movement as we propose, that is, to offer the citizens of New York and Brooklyn the opportunity of obtaining milk and cream not only strictly and absolutely

Beginning of
the movement.

"Plan of
Organization."

RAISING THE STANDARD.

pure, but drawn from healthy and properly fed cows, kept in clean stables and in pastures free from objectionable vegetation, and having only pure water to drink. The milk being so handled from first to last as to be absolutely free from contamination of every kind, and being sealed up in glass in the country under circumstances of the greatest cleanliness, not to be opened until it is in the possession of the consumer."

The meeting was brought to a close by Mr. Henry E. Pellew moving that it be accepted, and that a committee be formed to carry out at once the recommendations therein expressed.

The New and
Greater
Reform begun.

Thus the reform enterprise, under the title of "The New York Dairy Company, Limited (afterwards changed to that of the "Alex. Campbell Milk Company") was established. The directors were Henry E. Pellew, Cornelius R. Agnew, M.D., John P. Haynes (president of the New York Society for the Prevention of Cruelty to Animals), J. W. Drexel, Timothy F. Allen, M. D., and Mason C. Weld.

Introduction
of "Bottled
Milk."

Mr. Alexander Campbell was placed in management. For many years he had given his entire time to a study of the question, and realized the necessity of a thorough change being made both in the production and delivery of the article. His system of bottling milk, which was adopted by the company, had at first been declared "impracticable." He was laughed at by the "trade," and the idea ridiculed. A hundred objections were raised against it, including that of cost, which alone was considered prohibitive. Men in the business warned him that to persist in the attempt to popularize the delivery of milk in bottles, would mean ruin. His reply was: "Gentlemen, the bottle has come to *stay*, and it will not be long before you will be obliged to adopt it, and the sooner you do so the better for your interests."

Those who were loudest in opposition to the system were among the first to appropriate it. To-day, milk for family use is universally supplied in bottles, and milk sold from the can

ADVANTAGES OF BOTTLING MILK.

is regarded by intelligent men with the suspicion it deserves, and by physicians with dread.

Of course, in the bottling of milk the objection of the cost remains, and the loss to the dairyman by breakage, theft and the non-return of bottles is very great, but the gain to the consumer is incalculable.

Full measure is assured, and the cream belonging to the milk is delivered in strict proportion. By the old system, when "loose" milk was dipped out of the can by measure, he who was served first received more than his due share of cream, and he who came last less than his share.

If the cap of the bottle is closed the milk cannot contract poisonous germs from the atmosphere or the flavor of highly seasoned delicacies with which it has been on close terms of intimacy in the refrigerator—the persistent breath of the too fragrant onion, and that of fish which have taken up their abode on dry land, or the other wandering, etherealized essences of food, which may be admirable if "taken alone," but are undesirable in connection with milk.

Flies have to commit suicide elsewhere.

If milk is bottled, household utensils, such as pitchers, do not have to be temporarily incapacitated for active service, and the tendency of a pitcher, set in an ice-box, to flop over and flood things with its contents is well known and goes to prove "the perversity of inanimate objects."

If it is desired to remove the cream from milk the bottle system saves time, as, when delivered, much will be found to have risen to the top. There is the reverse side to this advantage, which includes the small boy or somebody else with a weakness for cream, and a spoon. It is strange, but true, that the milkman sometimes gets a scolding he does not deserve, and his "lot is not a happy one."

Then, also, with no reflection on the careful housewife who "does her own work" (Heaven bless her!) or that *rara avis*, the paragon of a servant who is "worth her weight in gold," not all pitchers are absolutely clean—the kind, at least, that "you can't get your hand into"—and a reception of that sort

Benefits of
bottling
milk.

A bold,
bad
libel.



ONE OF OUR LARGE TRUCKS USED TO CONVEY THE MILK FROM JERSEY CITY TO BROOKLYN.
WEIGHT WHEN LOADED 8 TONS. STORE IN BACKGROUND, 63 LAFAYETTE AVENUE.

THE FIRST BOTTLING CREAMERY.

sours the disposition of the very best of milk; whereas, treated by the present system, the glass milk jar is not only cleaned and scalded, but sterilized, so that its contents are protected from contamination at all points.

The Alex. Campbell Milk Company erected the first creamery in the United States for bottling milk. Now that the method has become general, similar buildings are to be found in all parts of the country.

At the time of the retirement of the Rev. Dr. Lyman Abbott from the pastorate of the Plymouth Church, the Alex. Campbell Milk Company, which had served his family with dairy produce for eight years, received a characteristically graceful letter, in which he said: "Mrs. Abbott desires me to add an expression for herself and all our household of your service to us, which has been eminently satisfactory—so much so that we are inclined to think that the place to get good cream is the city rather than the country."

Before science came to the aid of the dairyman, in the transportation of milk to a distance, one of the bright visions of hope held forth to the convalescent when setting out to seek for new life in the country was the charm, which would work wonders, of being able to get "milk fresh from the cow." Nowadays one is apt to experience disappointment on tasting that same milk "fresh from the cow," and to develop a distinct preference for that which is "fresh from the glass jar."

The explanation is very simple, but the point is important.

When milk is freshly drawn from the cow it possesses two characteristics which it were better without. The one is animal warmth; the other, an animal odor, and therefore flavor, for the senses of taste and smell are so closely allied as to be almost one. Warmth is favorable to the growth and increase of bacteria, and no time is so critical in the life of milk as immediately after it has been drawn from the cow and before it cools. Common sense would, therefore, dictate the wisdom of shortening the cooling period as much as possible by artificial means.

First bottling
Creamery in
the U. S.

"City
rather than
the country."

Milk,—
fresh from
the bottle.

Taste and
smell allied.

RAISING THE STANDARD.

CREAMERY METHODS.



Alex. Campbell
Milk Co.'s
Creameries.

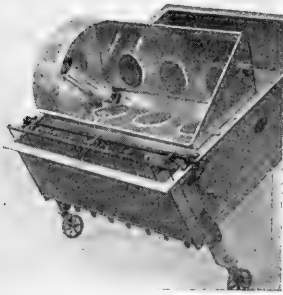
At the various creameries of the Alex. Campbell Milk Company, which are large buildings erected on the lines of railroads and adapted to all the requirements for bottling and shipping milk, the methods and rules for insuring its absolute purity are admirable, simple, and rigidly enforced.

As soon as the milk has been drawn it is carefully strained by the latest and most effectual method. It is then aerated.



VIEW OF MILK AERATOR IN OPERATION.

CREAMERY METHODS.



ERIK, LAGERQUIST'S MILK STRAINER.
INTRODUCED AND USED BY THE
ALEX. CAMPBELL MILK CO.

There is some misconception as to what is precisely meant by the "aeration" of milk; some people supposing that it is subjected to an artificial treatment and that, like carbonated water, it is charged with gas.

What
"aeration" of
milk means.

Aerating milk is literally "airing" it, just as one airs linen to remove odor, or to use another familiar household illustration, as canned goods are exposed to the air some little time before using, by which means the odor and

flavor of the metal is eliminated.

The milk, still warm, is poured into the hopper of the aerating apparatus, from which it escapes in small streams and trickles in thin sheets over a series of coiled pipes, through which runs a stream of ice water.

This has the effect of rapidly reducing the temperature of the liquid, and at the same time the animal gases are liberated and pass off into the atmosphere. How great an improvement is effected by this simple process can only be appreciated by one who has inhaled these gases, which are natural to all freshly drawn milk.

The richness of the milk is then determined by the Babcock test, generally conceded to be the most accurate.

Testing the
milk.

The simplest test for domestic use is the lactometer, more or less familiar to most persons.

It only gives accurate results when the thermometer stands at 60 degrees F. The Quevenne lactometer has a thermometer enclosed in it and gives both the specific gravity and temperature of the milk.

Having been strained, cooled and "aired," the milk is in perfect condition.

Bottling the
milk.

The thorough cleanliness of the glass jars used by this company is frequently remarked by customers, and undoubtedly

RAISING THE STANDARD.

does much in keeping the milk in an absolutely pure and wholesome condition.

Sealing.

When the bottles have been filled the paper seals are placed over the wire which holds the cap in place, and they are at once set in compartment boxes, to prevent breakage, and are completely surrounded and covered with ice.

Creamery R. R.
platforms.

The creameries, being connected with the railroads by loop lines, and having their own platforms, the work of loading the refrigerator cars with these ice-smothered boxes of milk is easily performed, and the objection of unnecessary disturbance avoided.

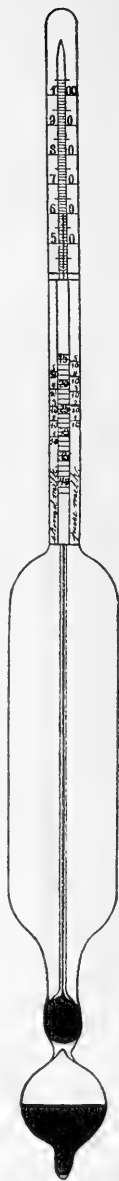
The refrigerator cars maintain an even temperature, and are among the wonders of modern transportation.

It may be mentioned that the compartment box, with its cleverly designed "interior handle," originated with this company.

Night
workers.

The times of shipment are so regulated that the day's milking can be delivered in the city early the next morning. This requires that scores of men shall turn night into day. A strange inversion of the ordinary, when two o'clock in the morning represents high noon, and when habit causes a man to turn in bed because it is growing "too dark" for him to be able to sleep.

The huge three-horse trucks of the Alex. Campbell Milk Company, each weighing, when loaded, eight tons, are familiar to the night watchers at the Jersey City and Hoboken ferries, but are seldom seen by the general public. Yet they are well



LACTOMETER.

DELIVERY OF MILK.

worth seeing, and give a slight idea of the immensity of the daily work involved in provisioning a great city.

Arrived at the company's distributing station, the boxes of milk jars, still smothered in ice, are transferred to the delivery wagons, which at once scatter to the four quarters of the Borough, to supply the still sleeping customers with milk for breakfast.



THE RETAIL MILK DELIVERY WAGON OF THE ALEX. CAMPBELL MILK CO.
IN FRONT OF THE DAIRY LUNCH ROOMS, 4-6 BOND STREET.

These delivery wagons, which are universally admired, were introduced by this company and finally adopted by all milk concerns.

The new and
the old
milk wagon.

The old-time wagon was an awkward affair, no doubt remembered by many. It was without hood or cover. The driver sat on a seat at the back. In front of him were two large milk cans, out of which he ladled the milk. The measure was at one end of a long, straight handle, which was curved at the

RAISING THE STANDARD.



THE SPECIAL DELIVERY WAGON OF THE ALEX. CAMPBELL MILK CO.
IN FRONT OF THE DAIRY LUNCH ROOMS, 4-6 BOND STREET.

other, so that it might hang on the edge of the can when not in use. The reins ran over the top of the cans and an iron support in front. As the cans were unsheltered, the milk during a storm literally became "adulterated, by heaven!"

PASTEURIZED MILK.



Benefits of
Pasteurized
Milk.

Pasteurized milk (M. Pasteur's method), first introduced into New York by this company, is prepared at the creameries fresh daily. The demand for it is steadily on the increase. It is particularly recommended for the use of very young children and invalids, as it has the advantage of being somewhat less constipating than crude milk, is freed from bacteria (supposing any to have been present), and has a deliciously "clean" flavor, with no suggestion of "boiling," so objectionable to

PASTEURIZED MILK.

many. It can frequently be assimilated when the stomach will retain no other form of food, and has undoubtedly been the means of saving the lives of thousands.

Its preparation is no mystery, and it can be done by any careful housewife, although not with the uniformity and certainty obtainable with specially constructed apparatus. Moreover, the advantage the creamery has over the home is, that the milk can be treated immediately after being drawn, and, as rapid cooling is essential to thorough success, it can be accomplished with greater celerity where there are ample facilities for the purpose.

Too frequently when pasteurization is attempted at home the temperature is not evenly maintained, and the milk becomes sterilized. Sterilized milk is generally considered far less digestible, and, in fact, has undergone such chemical changes as to be declared by some scientists to be "no longer milk." Sterilized milk will keep almost indefinitely under favorable conditions, but it has the boiled flavor, is more difficult of digestion, and is less nutritious than crude milk; whereas Pasteurized milk retains the full nutritive qualities and is a most valuable dietetic.

A recent writer says respecting the "scalding" or "sterilization" of milk: "Now these are unfortunately only measures for assuring persons against disease, measures which have to be paid for by a corresponding loss to the health-giving things of this life.

"Such caution is only a negative caution. It is, in fact, as though we should refuse to sail in ships for fear of being drowned. The real art of living is scientifically to increase our advantages while minimizing our risks, and the real art of

Sterilized
milk "no
longer *milk*."

A pure
Milk supply
the
safeguard.



A PATRON OF PASTEURIZED MILK.

RAISING THE STANDARD.

eating—by eating we mean nourishing, building up and sustaining the system—can never be acquired by shirking the risks of milk drinking, but by setting to work to reduce those risks by every means in our power, for milk in its fresh state beats all that can be done by chemist and doctor for the young and invalided of our race. It is composed of a multitude of cells, some of which are living, and these continue to retain their vitality for a considerable time after the milk is drawn. For this reason, when freshly ingested, these living cells become readily absorbed without much process of digestion and, entering the blood stream, are utilized in building up the tissues; hence comes it that by boiling milk we waste its most valuable features. The chemical result of boiling is to kill the living cells and coagulate all the albumenoid constituents, thus making milk more difficult of digestion.”

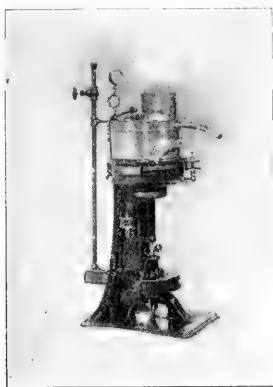
The glass jars in which the Pasteurized milk is supplied are so constructed that no metal cap or fixture is used. The mouth of the bottle is closed with a pure wood-pulp disc, which fits tightly in a groove on the inside of the neck, and is used once only.

Space will not permit a detailed description of many other creamery methods, but mention should be made of that for producing “Cream,” for which this firm is justly noted.

The old-fashioned plan of allowing milk to stand in flat pans for the cream to rise to the surface, then to be skimmed by hand, has long since been discarded. The objections to that practice were many, including the prolonged exposure to the air, souring, the amount of milk removed along with the cream, etc.

The DeLaval Separator is used, which is a machine that by centrifugal force rapidly effects a com-

Famous
“Cream.”



Separator
Cream.

DE LAVAL SEPARATOR
USED BY THE
ALEX. CAMPBELL MILK COMPANY.

DURING THE BLIZZARD.

plete separation of milk and cream while yet the former is perfectly fresh. The result is seen in the cream supplied by this company, which for richness, sweetness and delicacy of flavor is unsurpassed.

Butter making is also conducted at the creameries, every process being performed by the latest and best machinery, so that there is literally no handling of the product from first to last. The "A. C." brand is famous throughout Brooklyn for its superior qualities and uniformity. It is supplied both "Fresh" and "Salted." Since travel to Europe has developed to such surprising proportions, the demand for "Fresh," "Sweet," or "Unsalted" butter has increased. The taste for this delicacy is frequently acquired abroad, where it is highly esteemed, and thus its growing popularity is natural.

Butter.

The Creameries of the Alex. Campbell Milk Company are situated at Oxford and Blooming Grove, Orange County, New York; Gulf Summit, Broome County, New York; Great Bend, New York, and Hobart, Delaware County, New York.

As at the Creameries, so, from the sanitary regulation of the farms, stables, utensils, health, feed and watering of cattle, to the final delivery of the milk to customers, the methods of the Alex. Campbell Milk Company are strict, efficient and conducive to the absolute purity of the milk, and the comfort and convenience of its customers.

In delivery the company is notably prompt and obliging. During the blizzard of last winter it was the only milk concern in Brooklyn successful in supplying all of its customers. Letters of congratulation upon what may well be termed an unprecedented achievement were received from scores of gratified customers, of which the following may be taken as representative of the tenor of the whole:

A blizzard
victory.

BROOKLYN LIFE PUBLISHING CO.,

BROOKLYN, N. Y., February 23, 1899.

MR. ALEX. CAMPBELL,

Dear Sir:—I want to congratulate you upon the fine service you gave me at 83d Street and 12th Avenue, Dyker Heights, during the recent severe storm. Despite the tremendous drifts, which rendered the roads almost impassable, your man did not fail for one day in delivering milk to my family. Please regard this as an unsolicited and grateful testimony from one who has three small children in his family, and believe me to be,

Yours very truly,

FRED'K M. MUNROE, Editor.

RAISING THE STANDARD.

A word of
warning.

Enough has been said in the foregoing pages to indicate the important part played by the Alex. Campbell Milk Company in the work of Milk Reform, but lest the reader should be led to believe that because it has solved the problem of a pure milk supply for the city that therefore the reform is universal and that milk may be bought indiscriminately with safety, a serious word of warning is necessary.

Sickness
prevented by
pure milk.

E. O. Shakespeare, M. D., Port Physician, Philadelphia, in his report to the Board of Health, says: "There are few reputable physicians, if, indeed, there are any, who will deny that milk of poor or unwholesome quality is originally and directly responsible for thousands of deaths annually in this city—not to speak of illness of this origin which is not fatal. To this category certainly belong most deaths from cholera infantum, inanition, infantile tuberculosis in its many forms; many of the deaths from acute diarrhoea, from typhoid fever; some of the deaths from diphtheria and from scarlet fever. *All of these diseases, when they originate in faulty milk, are unquestionably preventable by the consumption of milk, wholesome, nutritious and pure.*

"Ten years ago the editor of the British Medical Journal showed that, up to the date of writing, 71 epidemics in England had been traced to milk; 50 were of enteric (typhoid) fever, 15 of scarlet fever, and 6 of diphtheria."

It has been conclusively proved that if proper care is exercised milk need never be impure; it has also been shown that this care is not always taken. Of course it is difficult to believe in a danger that cannot be seen, and to all appearance there is no difference between pure and contaminated milk, but this very difficulty of detection should put every customer more keenly on his guard.

Unnatural
death.

In the course of a recently delivered lecture on "Unnatural Death," Dr. Alexander Hill, master of Downing College, England, and Vice-Chancellor of Cambridge University, said that it was not the dangers of railway traveling nor the few murders that occurred which brought down the average longevity of human life from 100 years to 50. They must seek for more

UNNATURAL DEATH.

subtle murderers than that. Every year 900,000 babies were born in England and Wales. If they took 1,000,000 and saw what was likely to be the end of them they would find that 30,000 died a violent death by accident, about the same number would succumb to the mysterious diseases which they knew now to be absolutely preventable, because due to germs (tuberculosis in its many forms), about 120,000 would die from absolutely preventable causes, such as smallpox, measles and scarlet fever; only 45,000 would be allowed to live out their natural lives, and only one in twenty might expect to die because the machine was worn out.

One-quarter of all the diseases which destroyed life were absolutely preventable. If the practice of hygiene were only on a level with its theory the average longevity would be raised at once from fifty to sixty-five. The greater number of diseases over which the individual had control were due to mistakes in eating and drinking. He divided diseases into three classes, and said they would never succeed in preventing them *until they had the co-operation of the public*. Every citizen should have the same exact knowledge of the causes and properties of preventable diseases that the medical officer himself had. The infectious nature of consumption was hardly realized twenty years ago. *About one-third of the cows in the country were tuberculous* and half the milk distributed the bacillus of *tuberculosis*. The only natural form of death was the gentle falling asleep when the body was tired.

Preventable.

The lesson taught by the foregoing pages is that *pure milk is the best of food*.—satisfying, life-giving and wholesome; that no one food is more bountifully supplied by Nature, and certainly *no other form of food* possesses as remarkable nutritive qualities; but that, as through the lack of sufficient care in its production and distribution, especially in cities, much that is impure is sold, safety is to be secured only by purchasing from those concerns, or dairymen, who are known to exercise unceasing care from first to last.

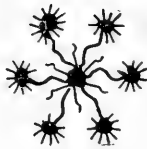
Some idea has been given of the effective work done by the Alex. Campbell Milk Company during the past thirty-

The assurance of "Absolutely Pure" milk.

RAISING THE STANDARD.

eight years in supplying the city with absolutely pure milk, Its efforts have been of benefit to the health of the community and have received the support of thousands, and the warm endorsement of our physicians. Its achievements in the past are sufficient warrant for the future. The familiar six-pointed star (trade-mark) is not only a "guarantee of excellence," but an assurance of *absolute purity*.

If this publication has indicated the danger which is ever present in our midst, it has also pointed out the road to safety and perfect immunity from risk.



APPENDIX.

HOW TO ORDER.

Order by Postal Card or Telephone.

Telephone Number, 44 Main.

Or, if in the neighborhood, leave your order

At any of the following offices of the Company :

HEAD OFFICE, 802 FULTON STREET

BRANCH OFFICE, (Retail) 861 FULTON STREET

BRANCH OFFICE AND ICE CREAM FACTORY,
63 LAFAYETTE AVENUE

BRANCH OFFICE, (Park Slope Division)
104 SEVENTH AVENUE

DAIRY LUNCH ROOMS, 4-6 BOND STREET

BRANCH OFFICE AND DAIRY LUNCH ROOM
9 CLINTON STREET

Or, if more convenient, hand your order to any of our drivers.

Immediate attention will be given, and satisfaction, real and lasting.

PRICES.

"Absolutely Pure" Milk, (in glass quart jars,) 8 cents.

"Absolutely Pure" Cream, (in glass half-pint jars,) 10c.

Pasteurized Milk, (in glass, 24-ounce jars,) 10 cents.

Celebrated A. C. Brand Creamery Butter, in half-pound prints. Price varies with season.

Celebrated A. C. Brand Fresh (unsalted) Butter, in half-pound prints. Price varies with season.

Fresh Country Eggs, daily. Price varies.

Pot Cheese (prepared with pure cream), half-pound, 5 cents.

Buttermilk in season.

RAISING THE STANDARD—APPENDIX.

ICE CREAM.



Purest and richest. Natural fruit flavoring only.
The distinct advantages of our ice cream are its richness,
smoothness of texture, and delicacy of flavor.
It is "Absolutely Pure."

FLAVORS.

VANILLA

STRAWBERRY

CHOCOLATE

COFFEE

PEACH (in season)

Per Quart, fifty cents.

PISTACHIO

NEAPOLITAN

TUTTI FRUTTI (to order)

Per Quart, sixty cents.

ICES.



ORANGE ICE

PINEAPPLE ICE

RASPBERRY ICE

Per Quart, fifty cents.

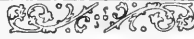
CHARLOTTE RUSSE

Per Dozen, sixty cents.

WHIPPED CREAM, (to order)

Per Quart, fifty cents.

NEW ACCOMMODATIONS.
NEW PARK SLOPE DIVISION.



140 SEVENTH AVENUE.



PARK SLOPE DIVISION, ALEX. CAMPBELL MILK COMPANY,
140 SEVENTH AVENUE.

This Division, recently opened, was a necessity. It is for the accommodation of our increasingly numerous customers in that section, who, by their extended patronage, have already proved their appreciation of the additional facilities at their command.

Orders to be served in the neighborhood should be sent to that office and will be at once attended to. Telephone communication with headquarters.

RAISING THE STANDARD—APPENDIX.

LUNCH ROOMS.



COSEY CORNER IN OUR DAIRY LUNCH ROOMS,
4-6 BOND STREET.

Of the Dairy Lunch Rooms at 4-6 Bond street it is almost superfluous to speak. Their popularity with ladies when shopping is well known.

Of the Lunch Room at 9 Clinton street we recently said:

“Probably you are one of the many who do not want a heavy meal in the middle of the day, dislike the smell of cooking, eating in a turmoil to the crash of dishes,—perhaps you equally object to the humid atmosphere of a bakery, and would give anything for a really, *really* good cup of coffee,—coffee as they serve it in Paris, but without the vanilla,—if with cream, rich, fresh, genuine cream, so much the better. And the true Vienna roll, with butter such as finds its way only to the table of the connoisseur! One more wish, for wishing costs nothing, you would like, occasionally, a daintily cut sandwich, a plate of ham or tongue, some pie, “such as mother used to make,” (if she was the wonderful cook that

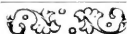
INTERESTING READING.

most mothers are believed to be,) heaped high with whipped cream,—and a variety of tempting dainties from which to choose. And last, but not least, to have everything clean nicely served, and the prices moderate.”

“The place is quiet, unpretending, but *just what you want.*”

“If you lunch with us you will do well to try our Ice Cream. Even if you know Philadelphia cream you will not be disappointed. If you would like to have it served at home, leave an order and it will be attended to.”

ADVERTISING.



Always alive and pushing, we believe in a certain amount of advertising. What we do in that line has attracted wide attention because of its originality, quality, and, what is still more important, its reliability.

What we say we will do, we do, and we believe in saying it as well and attractively as possible.

Of our various publications we have still on hand copies of

No. 1, Vol. IV. THE ALDERNEY. A paper devoted to “a higher standard of milk for the people” Contents: Early History of the Alex. Campbell Milk Company. Our Methods. Startling Facts. A Receipt to Cure a Sick Boy. Pasteurized Milk. Our Late Prize Contest, and the Book. Milk and Health. Infants' and Invalids' Food. Nervous Children. The Art of Leaving. Interesting Facts About Butter. A Talk to the Ladies. Success. Fac-simile of Farmers' Agreement. Poems, etc.

Also our popular and useful brochure:

HINTS TO MOTHERS. Subjects treated: The Baby's Dress. The Baby's Bath. Exercise. How to Feed the Baby. Feeding Bottles. Cleansing the Bottles. Nipples. How Much Food and How Often. General Rules of Feeding. How to Hold the Baby. Barley Water. Beef Tea for Infants. Sterilization. Condensed Milk. Pasteurized Milk. Infant Food. Food for a Child, etc.

The above will be sent free on application.

RAISING THE STANDARD—APPENDIX.

IMPORTANT NOTICE.

FOR THE protection of our patrons we particularly request that they see that every jar of milk bears the following

TRADE MARK.



IT IS

A GUARANTEE OF EXCELLENCE.

WE HEREBY give notice that we will vigorously prosecute any firm or individual in any way copying our registered trade mark with intention to deceive.

Our most recent suit for its infringement was brought against Charles Stork. The case was tried before Judge G. Garretson, in the Supreme Court, June 7th, 1899, the judgment against the defendant being

“PERPETUAL INJUNCTION, WITH COSTS.”

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