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THE FARMER'S ADVOCATE.

less than twenty-seven and five-tenths (27.5) per cent. is milk fat.

8. Condensed skim milk is skim milk from which a considerable portion of water has been evaporated.

when butter is removed from milk or cream in the process of churning.

10. Goat's milk, ewe's milk, et cetera, are the fresh, clean, lacteal secretions, free from colostrum, obtained by the complete milking of healthy animals other than cows, properly fed and kept, and conform in name to the species of animals from which they are obtained.

#### CREAM.

1. Cream is that portion of milk, rich in milk fat, which rises to the surface of milk on standing, or is separated from it by centrifugal force, is fresh and clean, and contains not less than eighteen (18) per cent. of milk fat.

2. Evaporated cream, clotted cream, is cream from which a considerable portion of water has been evaporated.

#### MILK FAT OR BUTTER FAT.

1. Milk fat, butter fat, is the fat of milk, and has a Reichert-Meissl number of not less than twenty-four (24), and a specific gravity not less

40° C.

#### than 0.905 -40° C.

BUTTER.

1. Butter is the clean, non-rancid product made by gathering in any manner the fat of fresh or ripened milk or cream into a mass, which also contains a small portion of the other milk constituents, with or without salt, and contains not less than eighty-two and five-tenths (82.5) per cent. of milk fat. By acts of Congress, approved August 2, 1886, and May 9, 1902, butter may also contain added coloring matter.

2. Renovated butter, process butter, is the product made by melting butter and reworking, without the addition or use of chemicals or any substances except milk, cream, or salt, and contains not more than sixteen (16) per cent. of water, and at least eighty-two and five-tenths (82.5) per cent of milk fat.

#### CHEESE

1. Cheese is the sound, solid and ripened product made from milk or cream by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments and seasoning, and contains, in the water-free substance, not less than fifty (50) per cent. of milk fat. By act of Congress, approved June 6th, 1896, cheese may also contain added coloring

2. Skim-milk cheese is the sound, solid and matter. ripened product, made from skim milk by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening fer-

ments and seasoning. 3. Goat's-milk cheese, ewe's-milk cheese, et cetera, are the sound, ripened products made from the milk of the animals specified, by coagulating the casein thereof with rennet or lactic acid, with or without the addition of ripening ferments or seasoning.

ICE CREAMS

eight (28) per cent. of milk solids, of which not of fat, and from 11.5 to 13 per cent. of total solids, have been the minimum requirements. These standards, while efficient in securing honest dealing where they are rigidly enforced, nevertheless may work injustice, so far as honesty of the dealer is concerned, under various circumstances, 9. Buttermilk is the product that remains and may prevent the production and sale of a comparatively low-quality product at a reasonable price. It would seem, therefore, that the best means of regulating the traffic in milk would be, not to set up an artificial standard to which all must come, but to require each individual dealer to guarantee his own standard, and hold him responsible if his milk were found below. In this way, it would be possible to sell milk of various qualities, from strictly skimmed to heavy cream, upon a graduated scale of prices, with exact justice to everyone.-[Prof. H. H. Wing, Cornell University.

# POULTRY.

### THE WOODEN MOTHER.

Something About Artificial Brooding-Disagree able Experiences-Desirable Points in a

Brooder-What is Desirable on the Part of the Operator-The

Coming Wizard.

By A. G. Gilbert, Manager Poultry Dept., Exp. Farm, Ottawa.

The brooder is intended to brood the newlyhatched chickens, and in the great majority of cases it is successful in so doing. But there is also much in the ordinary pattern brooder for the operator to brood over. It is really an ugly quantity to look at and operate. For instance, after heavy showers of rain or days of wet weather, which frequently occur during the chicken season, there may be one or two inches of



get, Mr Gilbert." The brooder was of the flaton-the-ground type. However, I squeezed through by saying it was the incubator (which had given splendid results) I had advised her to get, and not It was a narrow escape, and I mentally tallied one more against that pattern of brooder. So we are up against one of the great drawbacks to brooders of a certain pattern, viz., inconvenience in operation.

DESIRABLE FEATURES IN A BROODER.

What should be desirable points in a brooder ?

I mention a few as follows : 1. Convenience of design, so that the lamp

may be easily reached. 2. Accessibility to all parts, so that it can be

3. Lamp so arranged that it can readily be thoroughly cleaned. lighted, even in a high wind; not easily blown

4. Well ventilated. So arranged that, while out. there is abundance of fresh air and light, there is

no chilling of the chicks. 5. On the roomy side, rather than the oppo-Chicks do best which have plenty of room. 6. Of such design as to be thoroughly rainsite.

proof.

Of course, I refer to outside brooders. Inside brooders of the present-day type are in some cases improvements on previous patterns. Old-style inside brooders have caused more fires and roasted more chicks than their originators would care to have put on record. It is a matter of congratulation that the colony-house method of keeping poultry also promises us a better system of rearing chicks, and that improved method cannot

### WHAT IS DESIRABLE ON THE PART OF THE OPERATOR.

I have noted some desirable points in an up-todate brooder. Now, it is desirable that the owner 'should have correct appreciation of what his duties are, in order that his brooder should be operated to the best pos-

sible advantage. Directions usually accompany the brooders, and it is all-important that they should be closely ob-served. These instructions, as a rule, refer more particularly to the setting up and working of the wooden mother than they do to what is expected of the individual who is behind the gun. And his, or her, responsibilities are such as cannot be neglected without risk of disaster. What are some of them ? 1. It is necessary

that the brooder be regularly cleaned and thoroughly disinfected. The latter before the chicks are put into it, and at aftercertain times wards.

2. That the earth or sand, usually put into the brooder (and the former is preferable), should be dry, kept dry,

The House of the Pioneer

1. Ice cream is a frozen product, made from cream and sugar, with or without a natural flavoring, and contains not less than fourteen (14) per cent. of milk fat.

2. Fruit ice cream is a frozen product, made from cream, sugar, and sound, clean, mature fruits, and contains not less than twelve (12) per

3. Nut ice cream is a frozen product, made cent. of milk fat. from cream, sugar, and sound, non-rancid nuts, and contains not less than twelve (12) per cent.

#### MISCELLANEOUS MILK PRODUCTS. of milk fat.

1. Whey is the product remaining after the removal of fat and casein from milk in the process

2. Kumiss is the product made by the alcoof cheesemaking. holic fermentation of mare's or cow's milk.

## CONTROL OF MILK SUPPLY.

Since milk is so extremely variable in quality, and is so easily adulterated ; since often considerable variations are not readily detected; above all, because the amount of milk used by any given person or family is comparatively small, the consumer of milk is almost wholly at the mercy of the producer and dealer, and must rely for a good product very largely upon their honor. The State has recognized this, and to prevent imposition by unscrupulous people, has in various ways sought to regulate the sale of milk and like products. The chief means used has been to establish arbitrary standards of quality, and to subject to fine those dealers whose goods should be found to be below the required standard. The standards established by various States and municipalities have varied widely. From 2.5 to 3.7 per cent.

# (By courtesy London, Ont., Concrete Machinery Co.)

flat on the ground, and to reach the lamp, which must be regularly attended to, the operator has to lie on his side. Some few years ago I had a lively experience of what I am writing about. It was on a Dominion Day afternoon, when a violent thunderstorm began, and was followed by others in quick succession, until nine o'clock in the even-The rainfall was phenomenal. It was as dark as only a dark night in July can be. I had four or five brooders full of chicks on a grass lawn adjoining the poultry buildings. The chicks were in peril, and it was imperative that they should be looked after. When I came to the grass field-on which the brooders lay-there was fully two inches of water on the ground. Down I went, first on my knees, but,I could not reach the lamp that way. So over I had to go on my side, and then I was able to reach the lamp, which the rain-water would certainly have reached had the water would tertainly have reached had the brooders not been very slightly raised on blocks. Wet, were you? You bet! However, the chicks were all right. After that I had the brooders placed on legs. Just fancy a woman—and many are poultry-keepers-having such a comfortable experience !

And Yet Another Experience.-It was at a meeting in Winnipeg, when a lady from Moosomin told us that, during the previous spring, her outside brooder, full of early chicks, had, by an untimely blizzard, been literally covered with sleet and snow, the lamp put out, and the chickens smoth-ered or frozen to death. And then she turned to me and said, "It was one you advised me to and regularly renewed 3. That the brooder

be placed on dry ground,

or on the grass. The chicks should be allowed to run on the grass as soon as they possibly can, but not when it is wet with rain or dew.

4. That the lamp be filled and the wick trimmed regularly. This is important, if a regular temperature is to be kept up and a smoky lamp prevented.

5. That a brooder which is the cheapest is not always-like a cheap incubator-the best. Appreciation of this fact on the part of the purchaser will be to his advantage.

6. If your incubator is a good hatcher, you should certainly have the best brooder wherein to rear the chicks. You should keenly realize the folly of hatching chickens to die in the brooder.

### A GOOD HEAD, AS WELL AS A GOOD BROOD-ER, NECESSARY.

Much more could be said as to brooders, but the above features, which are requisite on part of both brooder and operator, may be helpful. As in the case of artificial hatching, so it is in artificial rearing, the strong germ will make the robust youngster, which will make satisfactory growth in brooder designed and operated as out-The weakling chick, the legacy of the weak germ, will peep itself to death-it may be lined. in a few hours, perhaps days-from, well, no matter whether green or blue diarrhea, non-absorption of yolk, or pneumonia. It dies, and it is well that it should do so; for he, or she, who rears weakling stock is an enemy to the best poultry interests of the country. To be successful in the artificial rearing of chicks, requires, as

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