

FARM DEPARTMENT.

The Egg and the Chick.

Of the many millions who daily use eggs, how few know anything of their formation or structure, and yet small as it is, its mechanism is wonderful. As everyone knows says the Farmer and Dairyman, it is composed of yolk and white in a thin membrane enclosed in a shell very brittle and of various colors. The yolk is composed of blood assimilated through the working power of the hen, and a proportion of oil drawn from the grain she eats. The white is a thick mucilage derived from the green of vegetable portion of her daily diet, while the membrane or skin is made from the woody, fibrous substance of the same. The yolks, or ova grow in a cluster on the spine and pass through a tuft of soft skin between the lungs and kidneys, one being formed every twenty-four or thirty-six hours while the hen is laying which is enclosed in a very thin skin. On the maturing of the yolk this skin breaks, letting it drop into the mouth of a funnel-shaped duct, in length from fifteen to twenty inches, consisting of three divisions, the terminus of each being an elbow. The inner side of this canal is very soft and pliable, being composed of folds lapping partially over each other, the last division being very much finer in texture than the others. While passing through the first division the length of which is five inches, the yolk makes three distinct revolutions and the white is put on in the same number of layers. In the second, the same length as the first, the yolk with the white around it, gets its shape from the rotary motion of its course; and also the membrane which encloses it; while in the third division the shell is received, which is a thin fluid, in color to suit the breed. At the turning of this division the duct is globe shaped and here the egg turns and comes out big end or head first. The egg is fertilized by the influence of the male bird which passes through a small duct along the spine of the spine of the cluster of small ova. The yolk is suspended in the center by two spiral cords one end being attached to each end of the yolk, the other end passing through the white, being fastened to the membrane lining of the shell. The cords are laid "right and left handed," thus holding it with the heavy side down, no matter in what position the egg may be held or placed.

The chick is formed entirely from white, and here we see the use of the three revolutions in the first division. The first layer forms the bone and sinew, the second the flesh, the third the skin and feathers. The first part formed is the eye, appearing as two black specks, one at each side of the suspending cord at the large end, next the skull bone between, and in order the neck, spine, legs and wings, at nine days there is a complete circulation and life, and at fourteen days the white is all taken up. The chords have now made a connection in the stomach and protrude from the naval in a number of blood vessels and enclose the yolk in a network of small ones, and through these the chick draws its nourishment from the yolk, transformed to its original substance, blood. After the shell is cracked, and the chick has gained strength, these two large blood vessels draw into the belly what remains of the yolk, the naval is closed, the course is all clear, and having cracked the shell all around, the little creature gets its head against one end and its tiny feet against the other, the parts separate and out rolls the chick. Nothing more interesting can be imagined than closely observing the process of incubation in its various stages, and the mind is deeply impressed with the wisdom and power of the Great Being "Who doeth all things well."

The Calf.

We reply to inquiries of a correspondent concerning the calf by publishing the following: The calf will usually be able to stand and to secure the milk which it needs without aid, but, in case of weakness, it should be held to the cow until it gets its food. In any case the calf should be allowed to stay with the cow for three or four days and take as much milk as he wants. The remainder of the milk should be drawn by hand at least twice a day. If the calf is designed for veal, he may, at the end of the time stated, be tied with a strap around the neck. At morning and night he should have access to the cow. If she does not give all the milk the calf wants he may be taught to eat a little meal. If Indian meal is given it should be cooked. Oat meal may be fed either cooked or raw. Some live stock owners prefer oil meal. Only a small quantity should be given at first, and the increase in amount should be very gradual. If the calf is to be raised it should be taken from the cow at the end of the third or fourth day and tied in a stall which is well out of her sight. It should be taught to drink, and, for several weeks, should have new and warm milk. Then, as most farmers consider this food altogether too expensive for permanent use, the new milk may be gradually diminished and the quantity kept good by the addition of milk that has been skimmed. After awhile skimmed milk, which should always be warmed when fed, with the addition of a little oatmeal may be used

to the exclusion of new milk. If the weather is warm the calf should have a nice yard out of doors where it can stay during the daytime, and in which it can learn to eat grass and drink water. At night, and during hard storms, the calf should be tied in a clean stall in the barn. The milk and meal should be continued until the first of Winter, and in the case of late calves, still longer. If the weather is cold, so that the calf cannot be kept out of doors without discomfort, it should be tied in a warm stall in the barn, and, in addition to the milk and meal, should be supplied with warm hay. During the first year or two of its life, the calf should not be yarded with cows and large cattle. It is the best way to keep two or more calves together, and allow them a small yard of their own. In Summer, after they are two years old, they can run in the same pasture with the cows; if a shelter is provided to protect them from storms and from extreme heat.

Dairy Dots.

Prof. Whiteher, of the New Hampshire Experiment Station, says the Dairy World finds that the milk from his herd costs an average of 274 cents per quart on good feed. The cow produced it at a cost of 159 cents, while the milk of the poorest cow cost 4.25. On a richer ration the cost from the best cow was reduced to 132 cents, while with the same cow fed on a poor, innutritious ration the cost went up to 5.35 cents per quart.

In speaking of dairy produce for England, the London News says: Twenty-one million of pounds sterling were paid last year to Continental countries for dairy produce alone. The butter and margarine imported weighed over 2,000,000 hundred weight and the cheese nearly 2,000,000. These immense quantities will probably continue to be imported until inland freight charges become reduced. At present it is cheaper to send packages to London from many parts of Yorkshire.

There is no vagary so wild, no folly so absurd concerning milk and butter-milk but that some crank is ready to commend it and support his commendation by the authority of science, says the Jersey Bulletin. The latest that we have met with is the statement that "most springs and wells are impregnated with enough lime and sulphur to hurt the keeping qualities of butter." At nine-tenths of the water used in butter-making in the United States is from springs or wells, and it is rather late in the century to begin talk about such water impairing the keeping qualities of the butter. The fellow who wrote the quoted words has a case of water on the brain.

Scald your hog just as soon as it is done bleeding.

A Single Butterfly.

A young man camping in the Sierras discovered and captured a butterfly of an unusual species. He sent it to the Smithsonian Institution at Washington and received a check for \$1,500, with the request to make careful search for other moths of the same kind. It was an individual of a fossil species, supposed to be extinct, and great was the excitement among scientists at the discovery that one of the race had been recently alive. Although diligent search had been made by men paid for the service no other specimen has been found.

A Magnificent Carpet.

On view at the exhibition at the Commercial Museum in Vienna is a large silk carpet, the property of the imperial court, of considerable historical and artistic interest. The carpet, a marvel of its kind, was presented to the Emperor Charles VI. by Czar Peter the Great, and is a magnificent specimen of old oriental carpet-weaving. It is unequalled for the richness and purity of its colors, and the hues and tints of its silken fleeces change kaleidoscopically according to the position in which it is exposed to the light. This remarkable piece of tapestry represents in brilliant colors a picture of the chase at the Persian court, while the border is adorned with strange representations of feathered genii and flying dragons.

Derivation of Hurrah.

One familiar English word of ours—"hurrah"—says Sarah Orne Jewett in her interesting work on the Normans, is said to date from Rolf's reign. "Rou," the Frenchman called our Rolf; and there was a law that if a man was in danger himself or caught his enemy doing any damage he could raise the cry, "Ha, Rou!" and so invoke justice in Duke Rolf's name. At the sound of the cry everybody was bound on the instant to give chase to the offender, and whoever failed to respond to the cry of "Ha Rou!" must pay a heavy fine to Rolf himself. Thus began the old English fashion of "hue and cry," as well as our custom of shouting "Hurrah!" when we are pleased and excited.

A Humane Practice.

A Boston paper says: "The proprietors of one of the biggest and best of the up-town shopping stores make it a practice to allow their counter girls to go to resting rooms especially prepared there to sit down and rest themselves for a quarter of an hour at stated intervals during each day." Imitation of this in all large cities would not be a base proceeding.

AFFAIRS OF WOMEN.

About Women.

At Lexington, Miss., Mollie Hoskins has charge of the telegraph office. Emily Wight is postmistress and Dixie Cole is the express agent.

Mr. Gladstone intends to interview Mrs. Bashkirtseff during his continental visit for the purpose of writing an article upon Marie Bashkirtseff and her diary.

It was the old Duke of Lauzan who said: "If you want to succeed at court you must treat the duchesses like ladies and the ladies' maids like duchesses."

Ellen Knox, president of the Cuyahoga Falls, O., suffrage society, has, since the death of her husband, carried on his business as editor of the Cuyahoga Falls Reporter, with marked editorial and executive ability.

Annie Jeppess-Miller, to whom was born not long ago a baby daughter, starts out this week on an extended lecture tour, beginning at Toronto and ending in the summer at Boston.

The Duchesse Bologuine of Milan has realized a large sum of money by the sale of her jewels, fans and laces, and is devoting the proceeds to the erection of a children's hospital in the suburbs of Milan.

The New York women's progress club has ninety-five members, each engaged in literary occupation. Its object is to gain for women the advantages arising from unity, fellowship and co-operation with those engaged in similar pursuits.

Notes of Fashion.

New and pretty bangle bracelets are in the shape of fragile vines with leaves and berries made of gems. These twist around the arm after the style of the ugly Cleopatra Bracelets and serpent bangles.

Gold and silver appear as part of decorative effects in both dress and millinery. Real gold threads are introduced into colored embroideries designed for elegant costumes and handsome evening wraps of white and gray cloth, velvet and satin de Lyon.

Narrow black silk ruches made to resemble black feather trimming are used on spring and summer silks, both dark and light, also pointed de Gene laces of every width, and on pretty toilets of pompadour muslin, the flounces, yoke and sleeves are of this lace, with a Watteau bow of ribbon about three inches wide, set at the point of the slightly open neck in the back, the loops long, and the ends reaching to the skirt hem.

Triangular pieces of chiffon, China crepe, or silk net, edged all around with a three or four inch double ruffle of point de Gene or cream silk lace and sometimes embroidered in each corner with a small spray of flowers make simple yet very dressy fichus for evening wear. These pointed neckerchiefs, trimmed with but a single ruffle, particularly becoming to stout women, the two declined points in front being brought down a little below the line of the belt lengthen considerably the appearance of a short waist.

One woman in every sixty in London is a gin drinker, and one in every twenty is a pauper, while one in every thirteen is illiterate.

Robert Louis Stevenson's mother is living with him in the South Sea Islands and is astonishing the natives with her prim widow's cap and black silk dress.

The Girls' Friendly Society of England is a union of over 170,000 women and girls of all classes, provides homes of rest and training, lodges, libraries, etc.

Mrs. Jessie Russell of Bay Lodge, is 106 years old and has never had any serious sickness. She waits upon herself and is a daily reader of the newspapers. Five generations of the family are now living.

In only five states has the mother absolute legal right to the custody of her own children. These are Iowa, Nebraska, Kansas, Oregon and Washington. In all other states the right of fatherhood is paramount.

The countless of Aberdeen has opened in Glasgow a hospital for women, where they will be attended by women physicians and nurses. The experiment is being watched with much anxiety to see whether the patients will manifest confidence in their sisters as doctors.

Mlle Sarmisa, the first woman admitted to the bar in France, is said to have taken the highest rank in a class of 500 men at the Ecole du Droit Paris, where she studied after receiving the degree of Bachelor of Letters and Science in Bucharest. She began to practice law in the latter city, where her father law is a banker.

The Philadelphia New Century club is one of the most successful and active of women's societies. The membership of the club which was at first limited to 50, has been doubled and a long list of applicants are waiting for the admission.

Parents tell others a great deal about themselves by the names they give their children.

ONE DAY OF DUTY.

"No more railroading in mine," said the hungry reporter as he tilted his chair back and elevated his heels on desk that the city editor called his when he was there. "There are some things in this world I'm not adapted for. That's one."

You see, I once applied to a division superintendent for a job and was assured my application would be considered the very first vacancy that occurred. Then I waited. The suspense was not especially trying to me, but I could see I was wearing on the friends with whom I was boarding considerably.

One day, however, the "caller," the man that rounds up the trainmen when they are wanted to go out on a special, came around with a note requesting me to call at the superintendent's office. Of course I complied with the request, and was told they wanted me to act as assistant agent for a day or two at a place called Beaufort, or something like that.

I wanted to know if I would have time to go and pack my grip, but they seemed to think such a delay would materially prejudice the prospects of the road, so I grabbed the pass and made for the train, which I managed to catch after a brief but exciting chase. Then my "grip," as the railroad men call it, began.

"This train don't stop at Beaufort, young fellow," said the conductor, as he poked me calmly on his rounds. I would have liked to have asked him what I was expected to do about it but his countenance was so stern and forbidding I did not dare.

We were rapidly nearing my destination, and something had to be done so I formed a breakman of my predicament and he very kindly volunteered to ask "Fatty Duff" to slow down a little at Beaufort and let me off. I presume he did so, yet if there was any reduction in the speed of the train it was too slight for my unpracticed eye to detect. The breakman encouraged me, however, and as there appeared to be no other alternative, when we were nearly abreast of the platform, I let go and dropped.

I did not light right away, but when I did land the concussion was something awful, and as I rolled over and over it seemed to me I must have gathered up about all the splinters there were in the platform in different portions of my anatomy. I was still gorging when the last car whizzed by, but I heard the "hind man's" timely warning:

"Look out, young man, you'll tear your clothes!"

It was a reckless old station, the wall frescoed with mashed tomatoes. Empty chicken coops, fruit boxes, berry chests and watermelon rinds scattered about the platform exhaled a faded and depressing odor, and the only visible indication of life or death were the swarms of flies buzzing drowsily in the hot sunshine. I picked my way to the office and presented my credentials to the agent, a tall lank man with a long neck, careworn features, and a stiff hat that looked out of place in the midst of such rural surroundings. He was absorbed in a newspaper, and it was some time before he noticed me. At length, however, he threw down the paper, read my letter, and invited me to make myself at home. Then he unbosomed himself.

"I'm sick and tired of this business," the work's enough to kill a mule, but it's the injustice and lack of appreciation that makes me hot. You can't pick up a paper without seeing a lot of 'rot' about the heroism of locomotive engineers and the terrible responsibility that makes train dispatchers hump-shouldered before their time, but never a single solitary word about station agents. Why, to read the paper a person would think an engineer went through life with his eye glued to the rail and a death-grip on the reversing lever, and that the dispatcher had to put in all his spare time sopping his head with hair vigor to keep from turning gray in a single night. But look at the facts.

"Any track walker can tell you that an engineer is asleep more than half the time when out on the line, and that the only way to call his attention to a slow flag or a stop signal is to heave a rock through the cab window, while as for the train dispatcher, we all know what he is—a petty tyrant with an eight-hour trick whose most arduous duties consist in rawhiding us poor wretches out on the line, bulldozing us into sending him a regular tribute of fruit, fresh eggs and butter. Heroism! Responsibility! Well, if it ain't enough to give a person a distaste for strong drink!" And he disappeared in the direction of a saloon about half a mile down the road.

When he returned he gave me an idea of my duties as assistant agent. "You're familiar with the interstate tariffs and the transcendent classification, isuppose?" he said. "I was obliged to confess my ignorance."

"That's tad," he replied. "You better sit right down and familiarize yourself with them. You'll find 'em all in those files. Besides the tariffs there's 724 supplements and 1,647 amendments. In addition to 2,267,

circulars that you should post up on. Then there's the special commodity rates and the modified rulings as applied to the different tariffs and new rulings—there's 849 of 'em that have appeared since the last classification was issued. After you get all those down pat, it would be well to devote a little time to the local classification and tariffs—learn the terminal points and get the routing instructions committed to memory. Hello! there's that freight coming at last. Tell 'em there's nothing for 'em. I've got to go across the street and collect some bills—you can check out my freight they've got." And he again withdrew.

The conductor walked in and said: "Ask 'em if he's got anything for No. 23."

I put the question to the train dispatcher over the wire, and he answered "No," very plainly and distinctly. After a while the train pulled out, and I was looking for the "soup ticket" to report them when the train dispatcher began calling the office.

I answered and he said: "Get No. 23." "They're gone." "Stop 'em." "I say they've gone." "Fetch 'em back." "They're gone, is—"

"Shot that key and go and bring that train back for orders!" I closed the key and wandered aimlessly out on the platform in the vague hope of seeing the agent or that something might happen. To my surprise I saw that the freight had stopped at the other end of the yard, about three-quarters of a mile away. I could still hear the dispatcher calling, and knew by the vicious sound of the instruments that he was mad. Thoughts of collisions and the possibility of being responsible for a terrible accident flashed across my mind, and I started for that train on a run. The distance was greater than I had imagined, and I was completely blown when I came up with it. The conductor was lying on his back under a car fixing something about the air-brake. I managed to gasp out that the train dispatcher wanted him for orders.

"Tell him to go plump to h—!" shouted the conductor, and then calmly continued his labor. As there seemed nothing else to be done I started back to the station to deliver the message, and had gone but a short distance when the engine passed me backing up to the office. It was going too fast for me to board it, so the conductor and engineer had been waiting ten minutes or more when I eventually reached the station.

"If it's all the same to you, partner," said the conductor, with freezing politeness, "we'd just as soon get out of here. We've got families at the other end of the run, and 'ud like to get there before they grow out of our remembrance."

I walked into the office and told the dispatcher I had stopped the train.

"Why don't you be all day about it?" he answered. "There's nothing for them—it's too late to help 'em any now." I was afraid of the conductor when I told him this. His jaw fell, and for fully a minute he gazed at me in round-eyed horror, then rushed from the office and yelled to the engineer: "Get a move on yourself! Git out of here before he has another fit!"

After that it was comparatively quiet for a while. I made a feeble effort to understand something of the classifications, but soon gave up the attempt as hopeless. One or two lots of freight and express came in, and a couple of trains passed without accident. I was beginning to think I was getting on to the business, when the agent returned. He looked more careworn than ever as he sank wearily into the one chair the office afforded.

"Well, how you makin' it?" he asked, and I stated so far the progress seemed satisfactory.

Next he looked at the way-bills, and wanted to know if I had unloaded that cow yet.

"No," I answered; "not yet." "Not yet! he shrieked. Great Scott, man, what does Sections 4,389, 87 and 88 of the Revised Statutes of the United States, and Section 2, Chapter 3, of the Act of April 3, 1878, say?"

I was about to confess my ignorance, but he stopped me. "Don't waste any more precious time; get that critter unloaded before anyone sees her. She's been in the car over thirty-six hours, and we're liable to \$500 fine."

The cow was unloaded immediately. When I returned to the office he called my attention to a bill of 98 cents I had collected on a washing-machine.

"You corrected that bill before you collected it, I hope?"

"Corrected it? No. What's wrong?"

"Oh, a mere trifle; that comes under the Interstate Commerce law, and by overcharging 13 cents you're laid up liable to a fine of \$5,000, or two years in the Penitentiary, or both—that's all. See what circular 2,201 says: 'Agents who violate any of the provisions of the Interstate Commerce Law will themselves be personally liable to the penalties imposed thereby. Ignorance of the law is no excuse for its violation.' That's soothing, ain't it? And here's a case of brandy you have forwarded to Iowa, a Prohibition State. That's another misdemeanor, but thank God, we can probably escape to the hills before the authorities get on to it."

He sprang from his chair and began

padding the floor, muttering: "Oh, no; there's no horses run a station—no horses attached to the position. I'm up for you, jais and jawn for you; but that's not merely the every-day routine. He caught sight of the and stopped short."

"Those quails" he faltered at me imploringly. "The each bird as the law directed it had not been captured pound, wear a trap? To 86 says agents must accustom themselves with and be game laws of their state. I could not speak but answer in my downcast tended his hand to me as sublime exaltation: homey countenance."

"As the agent," he voice had the terrible despair, "I am responsible—I am forever undone. no malice, it was fate pens, remember, I forgot and he jammed his hat ears and his eyes glazed will never take me alive! Then he strode out of disappeared."

Then the sun sank horizon and twilight invaded the melancholy. Presently a freight train halted for water. In that an empty box-car opposite the office, and a the hospitably open domesticity and yanked me. For a moment I heard a scream of mortal anguish ears from the direction of and decided me.

Softly closing the office into the untenanted car, an engineer had "taken up" pulled out of Beaufort, an assistant agent was at a francisco Examiner.

Left On A Descent.

Thomas Rowan, who of illness, has been some condition of immaturity at the Kings county case that is peculiar. He presents it in the

"In 1877 I shipped the bark Roman out of London for the Atlantic Ocean for Capt. Hunter, of New York owners, and Capt. master. We took the capacity of many tons of oil. The practice ashore at some spot leopard, seals and other animals, and to leave them lions for one or two years this occasion ours was shift. Several of us were on Heard's Island, the Desolation Island, the Atkinson and Portuguese ball chose to be left on a small island about where the main body lay."

"Provisions for two for about 1,000 barrels for the two men. Just before returned in the second snow-fall set in, and we ate time getting out of our oil aboard. The place on the island and home calling at Morgan two men there. The overwhelmed them, but reached by digging found alive, but we were before reaching the boat. "Snowball was dead many days. Atkinson fellow, the son of a London. Both were in returning to the sized and eleven of that manned her were Williams, the mate, Portuguese, were picked tempt was made to taken by Atkinson and am sure that later on have been found and on the lay or on shore 1,000 barrels is mine to have a lawyer look claim for me. It's

A French

A French which will through distance of, say, 500 miles, it to the who would use such an any enemy are the against whom it when they left it.

Rhode Island's

The smallest of all the Island, has the largest square mile, or 31.84 figures of the last the whole union were related it would contain inhabitants.

Addenda,

The wife of a West presented him little daughter, but such a late hour that get the birth notice the next day. He has "Ad" delayed.—Klapp