



### EYESIGHT OF THE BOERS.

Sir Redvers Buller's statement that the ordinary Boer could see a man coming toward him two miles before the man could see the Boer excites neither surprise nor skepticism among the eye specialists.

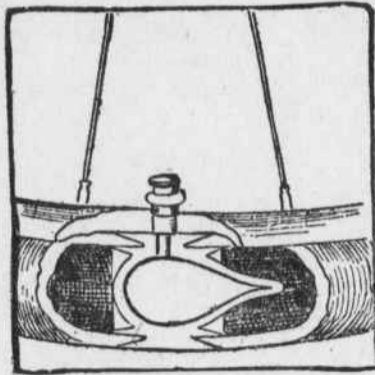
"Really," said a high authority to a London Mail representative, "if you apply your common sense to the matter you will see it must be so. The Boer is, comparatively speaking, a barbarian. At least he has few indoor occupations, and does little reading. For generations he has been training himself to see long distances, for his livelihood depends on sighting his cattle or on tracking down game. Mr. Atkins will never possess such fine vision until his conditions of life approximate to those of the Boer. Like all civilized peoples, his vision is confined to a limited range. Even at the butts he is not called upon for any very special effort of long sight, and he is not there very often."

The fact was mentioned that several officers had come home from the war with greatly improved eyesight. Some, who had worn glasses, now found their sight quite cured, and attributed the fact to the effect of the fine clear air of the veldt.

"A clear atmosphere," said the authority, "would be an important factor in sighting the enemy, of course; but the real truth is that these officers have benefited by their experience in South Africa. It is all a question of the ciliary muscle. Here is the ciliary muscle on this diagram, attached to the choroid coat of the eyeball. The ciliary is an involuntary muscle—one of the few muscles we cannot control. Its function is to adjust the vision to different distances, and it acts something like the screw of an opera glass. At long ranges there is practically no call on the ciliary muscle, but when, for example, you want to read, it screws up till the proper focus has been obtained. I have known too much study induce a sort of artificial shortsight, easily cured by months of rest. We use our ciliary muscle too much—the Boer hardly at all."

### CANADIAN TIRE PUMP.

A number of automatic tire inflators have already been patented and placed on the market, but the majority of them are somewhat clumsy affairs, which are both unsightly on the bicycle and heavy enough to increase the weight of the wheel perceptibly. The device which we show in the cut has just been patented by a Canadian. In the first place, it is entirely out of sight, the exposed portion taking the place of the ordinary valve, which latter it resembles. When the tire is formed an oval elastic shell is inserted through the spring valve, and as the valve closes against the return current of air its only means of escape, when as shown. This shell has an intake the section of tire reaches the lowest



INFLATING DEVICE.

point of its circuit and is compressed by the weight of the rider, is through the slotted tip of the oval shell. As soon as the pressure is removed from the oval it again expands, drawing a fresh supply of air through the valve. The pumping operation will continue until the tire becomes inflated to a sufficient degree to overcome the rider's weight and stop the contraction and expansion of the oval shell.

### ANIMALS WITH VOICES.

The toy shops rival the Tower of Babel in confusion of sounds just now. The baa of the lamb, the bray of the donkey, the consumptive bark of the small dog all unite to make the hours hideous for the clerks and such shoppers as are not of an experimental frame of mind, for, of course, the furry animals don't do their stunts of their own volition; they're impelled thereto by the grown-ups who anticipate purchasing them.

One poor little sheep—it was brown, by the way, but the saleswoman insisted it was a sheep—had become voiceless from too much vocal exertion and was lying, an awful example

to its family, neglected and forsaken on the floor.

The best Southdown in the flock, you know, would be nothing to Willie if it couldn't b-a-a.

One has only to invade the fascinating precincts of these shops to discover just exactly how popular is the furry animal with the squeak, says a writer in the Baltimore News.

"Some persons buy 'em who haven't any children in the house at all, just to amuse their friends," confided a small saleswoman yesterday. "Yes, it is rather hard to tell the dogs from the bears before you're used to 'em. If the dogs didn't always have on collars it would be right embarrassing for me sometimes. I'd be sure to make mistakes."

"The voice doesn't last long after a child gets hold of the animal. The mechanism is so delicate that a rough touch or two is fatal."

The latest things found for Miss Dolly are rocking-chairs of wicker-ware that are fully as attractive as the ones sold for milady herself, and swings of the sort that delight the children in Druid Hill park are plentiful. Then there's a little hammock for her dainty ladyship, so it's plain she can be made comfortable if her mistress wills.

### INCREASES SWIMMER'S SPEED.

The apparatus shown in the drawing below has been designed by a California inventor, as an aid in increasing the speed of the swimmer in the water or allowing him to float in a comfortable position when desired. The ap-



ATTACHMENT FOR ARMS.

paratus consists of a light framework of bamboo or aluminum, supporting an endless web of canvass, the whole being secured to the arms of the swimmer by elastic bands or straps. The braces forming the frame are pivoted at their inner ends to a sectional base running parallel with the arm, and the swimmer adjusts the device so that this base is at the back of the arm in taking the stroke. As soon as the canvas catches the water in the backward stroke it expands and causes the framework to open out into a flat web, which affords the swimmer greatly increased leverage on the water, but as soon as the forward stroke is begun the frame again assumes a folded position and does not interfere with the action of the arms. As the frame is either of wood or light, air-tight tubes, the swimmer is enabled to place his hands in any comfortable position and the apparatus will support him in the water as long as desired.

### Rods Are Not Necessary.

A total rearrangement of the system of lightning conductors on St. Paul's cathedral, London, is now virtually complete. It is interesting to learn from Killingsworth Hedges, the electrician under whose superintendence the work has been carried out, that the old idea that the erection of a lightning rod on the highest point of a structure protected an area all round is quite illusory. The safeguarded area was supposed to be the space within a circle whose radius was equal to the height of the lightning rod. This theory, we understand, is now discredited and the cathedral has been protected by a system of conductors, perpendicular and horizontal, comprising over a mile of cables, on which at various prominent points are placed about fifty "aligrettes"—groups of solid copper spikes radiating upward, and effectually connected at the base with the cables.

### Compulsory Vaccinations.

In Holland a law making vaccination of school children compulsory went into effect in 1873. Prior to that time the average death rate from smallpox was eighty-nine in every 100,000. For the ensuing sixteen years the average was seven in 100,000.

It is easier to see through a window glass than it is to see a glass eye.

## DAIRY AND POULTRY.

### INTERESTING CHAPTERS FOR OUR RURAL READERS.

How Successful Farmers Operate This Department of the Farm—A Few Hints as to the Care of Live Stock and Poultry.

#### Dairy Notes.

Every farmer that carries on dairying, to even a limited extent should provide for an ice supply. Where such a supply is to be put in this is the time to consider it. The question of storage is not a difficult one to solve. On most farms there is some building, or part of building, easily drainable, where the ice may be stored. The packing material is cheaper for the farmer than for any other man, whether it be chaff, straw or old hay, as the professional ice-man has to purchase these of the farmers. No city family that can afford to buy ice ever thinks of being without it, and it is no more a luxury in the city than in the country. To the dairyman it is exceedingly valuable, if he is trying to make good butter; for it enables him to keep his ripening cream at a low temperature, where the best flavors are developed, and also makes it possible to keep the finished product in a condition where it will not deteriorate.

This seems to be an era of co-operation and combination even in the dairy world. In the eastern states and in New York buyers and retailers of milk in the big cities have formed, within the last few years, some pretty strong combinations for the purchasing of milk at the best terms. Naturally this has stimulated the forming of counter-associations among the milk producers. Now these have begun the work of consolidation, and out of this has grown the "Central Association of the Five States' Milk Producers' Association." This association is at present vigorously prosecuting its work, and among other things has fixed a net rate of three cents per quart that every member must receive for his milk. Their rules also throw all expense of shipment, such as station fees and freight, onto the buyers of the milk. The producers of milk have been forced into a position where they must combine for defense against the rapacity of the wholesale buyers of milk.

Tracing the evolution of breeds is always interesting. Someone has been figuring out the pedigree of the so-called "native" cow of this country and brings to the light some old facts that are worth recording. As early as 1611 dairy cows were brought to Virginia from England and 13 years later there was an importation into the Plymouth colony. This was in 1624. These cows were brought from Devonshire, England, and were doubtless of the same stock as that from which the Devon breed was developed at a later period. This probably accounts for the predominance of red color in the native New England cattle. Whether or not the Virginia cows were from the same locality we do not know for a certainty. At a little later period evidently cattle were imported into Virginia from Spain. These cattle were black. The Dutch, having settled New York, naturally brought cows from their own country. Some of these are known to have come from an island off the coast of Holland. That was before the development of fixed breeds even in Holland, but we may fairly infer that they were related to the progenitors of the Dutch belted cattle. Delaware was provided with cattle from Sweden, and it is said that from Denmark were brought the cattle that became famous in New Hampshire. Coming down to revolutionary times we find that cattle had, at that date, been previously imported from Great Britain and Ireland in considerable numbers. Some of these, we know from tradition, were white Durhams, especially white Durham bulls. The general mixup of all of these breeds, which subsequently took place, gave us the almost endless variety of form and color now seen in American cattle.

#### Money in Hogs.

A Michigan farmer has this to say on the question of making money out of hogs:

I have always believed it best to raise the most improved breeds, believing that high-bred animals are the most profitable, but think there is a great deal of truth in the old adage that the breed is in the mouth; in other words, there is more gain in good care and management than in the breed. I have always had the best success with March or April pigs. Early pigs are best for two reasons: 1st. If designed for fattening the first year, they will have acquired a reasonable growth before winter, and can be turned off before very cold weather. 2d. Early pigs stand the winter far better and make faster growth during the cold weather, if wintered over, and are larger in the spring in proportion to their age, than shoats two or three months younger, and when turned into clover pasture have larger frame and eat more, making a greater growth through to the end. I think it a good

plan to sort out, give away, kill and destroy the scrubby looking pigs while running with the mother, as I have noticed that the scrubs continue to be scrubs in most cases to the end. It is always best to get the pigs to eating well before weaning, and feed well until they are ten or twelve weeks old, on ground feed and milk well soured in a barrel before feeding. Well kept pigs at that age will have acquired sufficient size to run in a pasture, being large enough so they will not get through a good fence and into mischief. Clover pasture is as good for young pigs, with a reasonable amount of swill, as twice or three times the amount of feed, when fed to them while shut up on a floor or in a small yard. The pigs should be kept in the pasture until the grass has done growing in the fall, and without having been crowded at all should weigh over one hundred pounds each. Then if the price of pork seems to justify, the farmer may shut up as many as convenient in a warm pen and fatten for market, as they will then be in splendid condition for fattening and will grow and take on flesh very rapidly.

Care should be taken not to over-feed, feeding only as much as will be taken up readily, keeping the appetite sharp, for if allowed to become cloyed, they will not do well afterwards. Pens for feeding should be open toward the south. Have tried feeding hogs with pen open toward the south, and also, at the same time, had hogs shut up for fattening in a pen open to the north, and without sunshine. Those having the sunshine and light thrived splendidly, while those in the pen with the northern front scarcely made any progress at all, with the same feed and care. Some might think this idea to be a blue grass theory, but the practice is not. I think that thinking and observing farmers will bear me out in this assertion. The pigs taken in the fall and fattened, should weigh, when nine months old, two hundred and fifty pounds live weight, without having been crowded on expensive feed but a short time, comparatively. I have not found it profitable as a rule to fatten and sell pigs the first year, preferring to winter and sell them early the next fall. In wintering shoats, I find that they do best to have plenty of room to run about, a large yard with a field adjoining being very good. Care should be taken that they have a sheltered place, with plenty of reasonably clean straw for bedding. I think it pays best to feed them sufficiently well in winter to keep them growing well. I have found that hogs will eat clover hay in winter with as good relish as cattle or sheep, and will pick up the hay cleaner than cattle. This winter I have made a practice of feeding clover to the shoats every day at noon, and think it profitable, saving thereby one-third of the corn which would otherwise have to be used.

I see no reason why clover when cut a little green for hay, and saved bright, should not be as nutritious, and do as much good, as when eaten in the pasture, it making a very good change once a day from corn, and being cheap feed.

#### Heredity and Fecundity.

A. A. Brigham, in a report of the Rhode Island Experiment Station, says: Fecundity, which in fowls is indicated by great prolificness in the laying of eggs, is a quality which has been greatly increased in domestic animals by domestication. To-day some breeders are striving to bring their flocks up to an average egg production of 200 eggs annually per female fowl. Food, shelter, care, management and functional exercise all affect the fowls' egg production, but first of all the poultryman must seek for his flock a parentage and an ancestry prolific in egg production. By means of recording nests and personal study of his fowls he is able to select females which are large producers of eggs. With those fowls he mates a male bird selected from the progeny of a prolific mother. The progeny of such a pen will certainly show the quality of prolific egg production, but not all in the same degree. The pullets obtained will, under like environment and with apparently equal opportunities, show considerable difference in their egg-laying capacity. Some of the female parents will have transmitted to their offspring more strongly than others the desired quality of prolific egg production; in other words, some great layers among hens have stronger power of heredity than other equally great layers in transmitting the quality of prolific laying.

By the closest study and watchfulness the poultry breeder is enabled to gradually select on both the female and the male sides birds which in the highest degree have the power of transmitting the quality of prolific egg laying to their offspring. Continuing this process of selection from generation to generation, there may be developed a long line of breeders possessing the predominant power of hereditary fecundity. In the same way a brown-egg laying family of Wyandottes or Plymouth Rocks may be developed. Likewise there may be obtained as hereditary characteristics plump breasts, early maturity, fine feathers and almost any desired color of plumage or shape or size of body.

#### Of Interest to Horsemen.

A southern exchange reports that the British government has apparently reconsidered its decision not to purchase any more mules in this country. The New Orleans purchasing office was reopened a few days ago and a contract let for the purchase of 1,500 mules, the order being apportioned among the stations at St. Louis, Kansas City and Bonham. It is supposed that the purchase of mules in the United States will continue indefinitely until the transportation department of the British army is fully equipped, not only in South Africa, but in all of the colonies.

"Zebroids"—that is to say, a hybrid between the zebra and horse—are the subject of a report by the United States minister to Brazil, says a press report. These animals are already in use on a small scale in the Transvaal, and they are suitable for Africa, because the Tsetse fly does not injure them. They have been tried successfully in Brazil, and are found very strong, lively and docile. The hybrids take after the female horse, and are black, brown, grey, etc., in color. The best horses for strong hybrids are the Clydesdale, Suffolks and "Percherons" of France. Arab horses give excellent zebroids, very swift and active.

English exchanges announce that the Argentine republic has recently been buying British horses. Clydesdales appear to be favorites in these importations, and it is thought the introduction of that breed will have a very beneficial effect. Its great activity, excellent bone, feet and pasterns are merits which will be valuable attributes when transmitted to their progeny, while the increased weight and substance that they will also impart are bound to be such as, crossed how they be, will result in the production of a far more useful and valuable horse for export than those which are at present being exported from that republic, whose falling is to a large extent want of substance, weight and bone.

Guy Wilkes, son of the far-famed trotting sire, George Wilkes, has just died at the age of 20. He was put in training when five years old and won nine times his first season, closing it with a record of 2:20. Two years after he made his mark of 2:15 1/4 as the fastest son of a great sire. He commanded a service fee of \$1,000. Three of his get got into the 2:10 list. Then the boom on trotters burst and his owner, Mr. Corbett, a California fancier, came to grief. The horse was so much neglected that he nearly died, but still brought \$5,000 in New York in 1897. But for this period of neglect this great horse might have lived several years longer.

It was generally thought that English jockeys could give pointers to all the world in the matter of horse racing. But Tod Sloan went over and showed them a new style, by means of which he beat the best jockeys in England. He sat much further forward than the English riders, and it has been found by actual test that a rider so perched, besides being easier on the horse's wind, enables the horse to make from four to seven inches longer stride than if he rode in the good old English style. The result of this is that Yankee jockeys have had a great run of engagements and the English are training their younger jockeys to ride American fashion.

#### Pekin Ducks.

This breed of ducks was imported into this country from China in 1873.



Imperial Pekin Duck

They are a great acquisition to our water fowls, being hardy, easily reared, excellent table fowls, good layers, while their yield of feathers is nearly as great as of any ordinary goose. They are creamy white in plumage, with a medium-sized deep yellow bill, and legs of a reddish orange color. They are large in size, and their fluffy feathers make them look still larger. While swimming no other duck shows so much body above the water as the Pekin. The eggs hatch well, the ducklings are easily raised and mature rapidly. They are excellent foragers, and can be easily raised where there is only sufficient water for them to drink.

The one-time champion stallion Ax-tell, 2:12, was sold in New York recently to close the partnership which has existed since 1889, when a syndicate of wealthy horsemen purchased the horse for \$105,000, after he had acquired a 3-year-old record of 2:12 to a high-wheel sulky. For several seasons he stood at a fee of \$1,000 and his earnings in the stud approximated \$240,000. Frederick T. Moran of the syndicate became the individual owner at the end of a sharp contest for \$14,700.