

# THE FARM.

## Stacking Hay.

In stacking hay, as with everything else, it is important to begin right. The old way was to build the stack directly on the ground, and afterward with a hay knife to cut under the edges so that they should not be frozen down in the snow. This involved considerable labor, and was also open to the objection that the hay would absorb moisture from the ground, and usually at least half a ton of it would become moldy and spoiled before it was used. With twenty-five rails a stack bottom can be built that will save the hay from waste, and also save the labor of cutting out the stack.

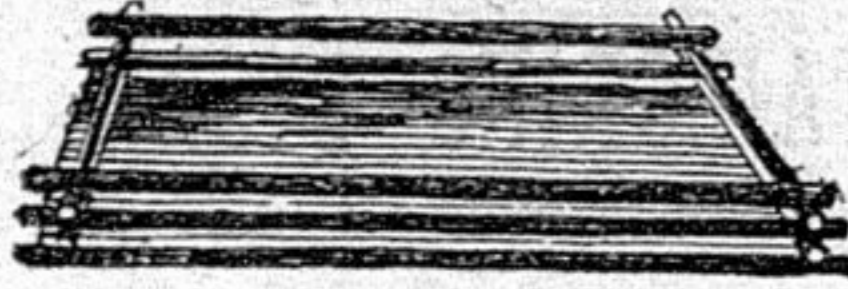


FIG. 1. RAIL FLOOR FOR HAYSTACK.

Begin by putting down a flooring of rails laid close together. On this floor build a crib, "cob-house fashion," two rails high, as shown in the illustration, Fig. 1, placing the best and heaviest rails on top. This bottom makes a firm foundation, that not only preserves the stack from the damp ground, but also holds up the outer edges so that they shall not be snowed under. In beginning the stack on this rail bottom, care must be taken not to enlarge too rapidly as it is built up. Such a mistake is frequently made by beginners, who fail to keep in mind that while the stack is being built, it is constantly settling. This is shown in Fig. 2. The lines a, a, show the gradual increase of diameter while the stack is

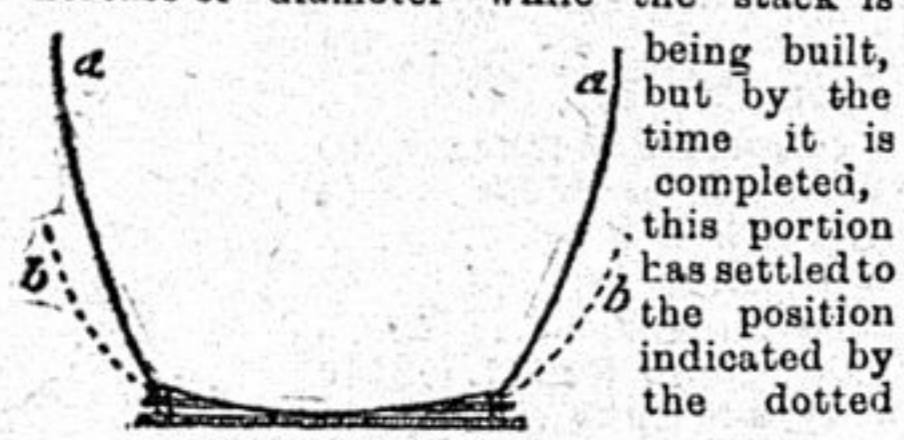


FIG. 2. BUILDING THE STACK.

being built, but by the time it is completed, this portion has settled to the position indicated by the dotted lines, b, b. The stack should enlarge gradually in building, as indicated, until at eight feet from the ground a width of twenty feet is reached, while the square form of the bottom should be modified to the round form. When this size is reached, it is large enough, and should then be continued nearly of the same size for a short distance more, and then be gradually drawn in. Inexperienced persons are often troubled by the stack leaning to one side. A stack has been known to tip over before it was finished. This trouble is always caused by uneven treading of the hay. A beginner frequently stands in the middle and places the hay around him, but exactly the opposite course should be pursued. The stacker should walk slowly round the

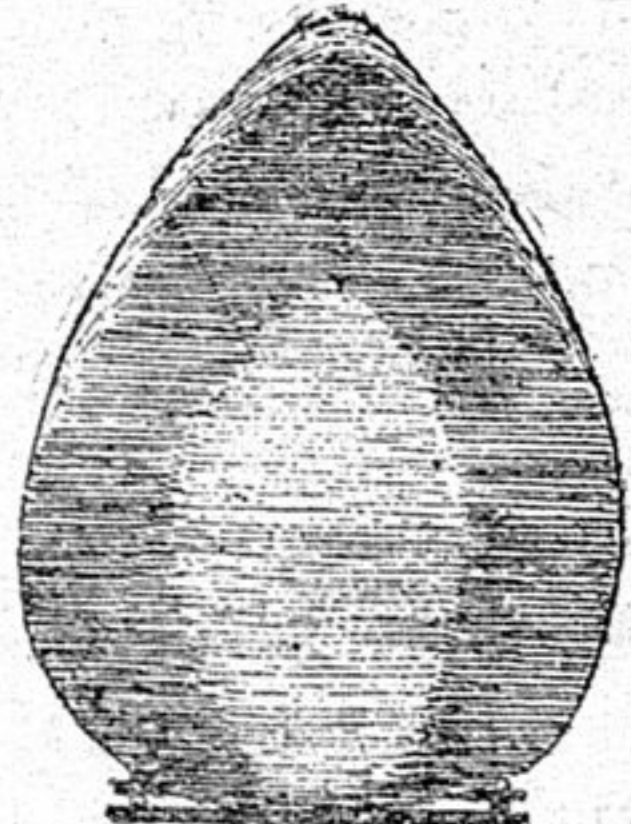


FIG. 3. SECTION OF WELL-BUILT STACK.

outer edge of the stack, laying the hay in courses, until it is well above the shoulder, after which he should remain nearer the middle. Fig. 3 shows a section of a stack built in this way, the shaded portions indicating where it was trampled more compactly in building. In the upper portion the hay on the outside droops a little, and thus sheds water more perfectly. A stack built in this way will never tip over or settle to one side. It is an excellent method to leave a small piece of swale or lowland grass. After haying, cut this, and, without waiting for it to cure, put it on the wagon while yet green, and proceed to "top" the stacks; that is, repair and build up their tops wherever they have settled. A stack, when completed, should approach in form very nearly to that of a hen's egg standing on its large end. When this is finished, secure it against high winds by putting on "hangers." These are readily made by connecting the ends of two light rails with a piece of No. 10 annealed wire about six feet long. Hang one pair of these across the stack from north to south, and one pair from east to west, and the top will not be likely to blow off. A great convenience in haying is a stack cover. I had an excellent one made in a sail loft. It is of light sail cloth or cotton duck, eighteen feet square, with a rope in the edge to keep it from tearing, and a hole worked in each corner. Selecting four stones of convenient size, I fastened a hook to each one with a piece of wire, and use them for weights. Whenever it becomes necessary to leave a stack unfinished over night, or longer, I round it up and put on this cover, which gives perfect security from storms.

## Cheese Making on the Farm.

Before the days of the modern cheese factory the dairy product was made on a small scale on the farm. Not much attention, however, is given to the subject of late. A dairyman writes telling how to make cheese at home in which he says: "Have a tinman solder a faucet near the bottom at one end of an ordinary tin wash boiler, which will hold five or six pails. Fit a movable tin screen inside about three inches from the faucet and extending about the same distance above it, which shall hold the curd away from the faucet. This, with a long, wooden paddle, is all you need order especially for the work,

except cheese cloth, rennet and a cheese press. Six pails of sweet milk with the cream all in it will make about fifteen pounds of cheese. It need not be of one milking if it is perfectly sweet. Put the milk in the boiler on the stove and heat it to eighty degrees. Remove from the stove and add the rennet. The tablets are easier to use and the directions accompany them.

"When the milk has coagulated, which will take place in ten minutes or less, it must be cut to the bottom of the boiler each way, making about two inch squares. They will begin to start almost at once. Sink a small dipper into it slowly and the whey may be removed gradually until two quarts or more have been collected. Heat over the curd, stirring it carefully. When at 100 degrees open the faucet and allow the whey to drain out, dipping it out from the top as before described. When drained, sprinkle half a teaspoonful of fine dairy salt on the curd and crumble and mix in thoroughly with the hands. Have a square of strong loosely woven cloth wet and placed in the cheese hoop, which should be the size of a peck measure. Press the curd into the hoop, adjust the cover after the cloth has been folded on top of the curd, and submit the cheese to gentle pressure. Prepare a bandage of cheese cloth large enough to go around the cheese and wide enough to nearly cover the ends. Lay it on the ends of another piece and sew it to the piece around the cheese. Keep at seventy degrees in a dry room. Too much salt or too much scalding when heating the curd hardens the cheese, while careless stirring starts the 'white whey' and allows much of the butter fats to escape."

## Dogs In War.

A very interesting history might be written of the part played by living creatures, other than human beings, in war. As far as we are aware, no convention or conference has pronounced either for or against this means of injuring an enemy. Where dogs are used as sentinels, or pigeons in carrying despatches, the injury done by the dumb creatures is not direct. The service rendered to their own side may be no less great than that of the geese which saved the capital of the dog which foiled Aungmye in his siege of Golconda and was rewarded with a golden collar; but in neither of these cases is the attack confined to bird or animal.

But dogs have been used, and by ourselves to attack an enemy. The Celts used them; the Gauls used them, Columbus used them; Queen Elizabeth is said to have given Essex 600 fighting dogs for purposes of war, and late in the eighteenth century a hundred bloodhounds were landed in Jamaica by our Government to attack the Maroons. Fortunately it was destined that the disgrace of using them should be spared; for the enemy, hearing of the dogs surrendered without a blow.

## PROTECTION OF CHILDREN.

The English Society for the Prevention of Cruelty to Children Has Done Admirable Work.

The discussion on the bill now before the British Parliament for the amending and improving of the law with regard to the prevention of cruelty to children is in some respects gruesome reading, and such as to make any humane person determine to do what he can to help societies such as we have among us here, and which have for their object the protection of the weak and helpless from those who, instead of being their refuge in distress, too often act a wicked and cruel part. It appears to be far too easy for parents to forget that they are responsible for the existence of their children, and that there is every reason why they should be towards them long-suffering, patient, and wise. In every class of life cruel parents are to be found who seem to think that they not only do well to be angry, but who, on the most trivial provocation, go to lengths of retaliatory vengeance which are

HORRIBLE TO CONTEMPLATE.

Such unreasoning wrath and such forgetfulness of responsibility for the existence of its wretched objects have a tendency to grow and become habitual. There is, perhaps, on the part of the public too much disinclination to interfere in such cases. When cruelty to children is witnessed people are apt to say that it is none of their business, and to turn away in a cowardly manner from distresses which they are too inert or too fearful of inconvenience to attempt to alleviate. The record in England shows that the Society for the Prevention of Cruelty to Children has done admirable work, and the new Act of Parliament will give such organizations more extended powers. During the last ten years it is said to find that the services of the society have been given in the cases of no fewer than 109,364 poor children. Of the total 25,000 were

## SUFFERERS FROM VIOLENCE

"from boots, crockery, shovels, straps, rope-thongs, pokers, fire, boiling water, any weapon which came to the reckless and vengeful hands which owned them." Following these came 62,889 sufferers from neglect and starvation, and in 710 cases the ill treatment ended fatally. The report says that the poor children thus maltreated by their so-called parents and guardians would make a procession that would take a day to pass a given point. The experience of the society is that bringing the cowardly assaulters to justice prevents in a great measure the recurrence of the wrong, and the lesson of the cases is that humane persons should not be afraid to interfere in cases of cruel oppression of defenceless children.

There are eight women colonels in the German army. They draw their swords but seldom, it is true, but they make up for this by drawing their salaries with unflinching regularity. They are the Empress of Germany, the Dowager Empress, the Princess Frederick Charles of Prussia, the Queen Regent Sophia, Queen Wilhelmina of the Netherlands, the Duchess of Connaught, the Duchess of Edinburgh, and Queen Victoria of England.

# TUBERCULOSIS IN CATTLE.

## ITS PREVALENCE, INDICATIONS, PREVENTIVES AND EXTINCTION.

In Reality It Is Consumption, Not Highly Contagious, But Liable to Spread Under Certain Conditions.

So much has been said in the newspapers of late about this disease that public curiosity has been greatly aroused in regard to its nature, prevalence, indications, preventives and extinction, says a writer in the Montreal Witness. To give some information in a popular form on these points is the object of this article. The fact that there are practical matters in connection with cattle management which have to do with causing and spreading the disease is justification enough for drawing attention to the subject.

Tuberculosis is in reality consumption. It is not highly contagious, but is liable to spread under certain conditions. When once established it is incurable. The best authorities advise the immediate slaughter and burial of all animals proved to be affected by it. The milk from a cow afflicted with this disease is wholly UNFIT FOR HUMAN FOOD.

The cause of tuberculosis is exposure to unwholesome influences, and it might soon be stamped out if dairymen and stock-breeders could be made to obey sanitary laws. The Country Gentleman says:—"This disease appears in herds kept at extremes, one being the herd kept by the 'skinflint,' the low-bred, stingy wretch who, having milked his cows all summer, seeks to get them through the winter without cost either for food or care, thus literally starving and freezing them to death. They become so run down and emaciated that they are an easy prey to the disease. They contract colds from exposure to inclement weather and storms, just as a human being does, and these lead to consumption. The other extreme is that fallen into by the greedy man who seeks to squeeze every drop of milk from his herd he can possibly get. What he is after is money, and he cares for nothing else. He stops every crack and crevice in his barns and stables, thus shutting out every breath of pure air and forcing the cows to breathe over and over again the vitiated atmosphere till it becomes charged with carbonic acid gas, thus developing the disease."

## TOO HIGH BREEDING

and in-breeding are predisposing causes of this disease. It has been very prevalent among the aristocratic herds in England, and animals that are pampered for exhibition purposes are particularly liable to it. The points just noticed suggest their own lessons. Warm stabling should be provided for dairy cows. They need plenty of light, bountiful supplies of pure air, and room to be comfortable. When the weather is unpleasant and stormy the cow should be kept housed, whether it be in January or July. In winter, when the weather is sunny and pleasant, she should be given an hour in the open air each day. Clearly this is a preventable disease, and the means of prevention are put in operation when the laws of health are observed, the results being the same in relation both to human beings and the lower animals.

During the year 1893 the State of New York became notorious for the prevalence of this disease among its dairy herds, and also for the vigorous efforts made by the State Board of Health to stamp it out. The report of this body, recently issued, shows that on investigation it was found that the disease prevailed to a greater or less extent

## IN NINETEEN COUNTIES.

About 20,500 animals were examined by three inspectors, and 959 were found to be tuberculous. The diseased animals were slaughtered at an expense to the state of \$18,300. The inspection was carried on by means of the tuberculin test, which has proved a most conclusive one for the purpose. As much has been said in the newspapers about the use of this test at the model and experimental farms, it may be as well to give some account of it, so that it may be understood by the intelligent reader.

In 1882, Professor Koch, of Germany, announced the discovery of the germ of tuberculosis in the form of a tiny animalcule, one-thousandth of an inch in length. This germ passes from the diseased animal in its sputum (the expectoration from its lungs) or its milk, and may be inhaled by another from the air or in cropping the grass. In this way, and to this extent only, the disease is contagious. When one of these micro organisms obtains a lodgment it multiplies with great rapidity. Sometimes the disease attacks

## A SINGLE ORGAN,

as the lung, affecting only the adjacent parts. Its progress is then slow, and the symptoms are obscure; but if introduced into the blood, the bacilli multiply fast, are distributed over the whole body, and produce acute tuberculosis, or "quick consumption," ending fatally in a short time. In the light of this explanation of the nature of the disease, it is comparatively easy to understand the action and the value of tuberculin. This test is prepared by making an artificial culture of the disease germ, and allowing it to stand until highly charged with bacilli. Glycerine and carbolic acid are added, the fluid filtered through porous porcelain, to separate the germs, and then heated to 158 F., to destroy any remaining germs. The sterilized fluid is evaporated at a low temperature in a vacuum, and when sufficiently concentrated is put up in bottles. In use it is greatly diluted, and a small quantity is injected with a hypodermic syringe under the skin of the animal.

## NEAR THE SHOULDER.

The temperature of the animal is then taken at intervals of several hours, and any serious rise above the normal temperature is regarded as indicating the presence of the disease. Tuberculin will not produce the disease in healthy animals, but it increases the activity of the germs wherever the dis-

ease is present, and hence is of the highest value as a test of tuberculosis in animals.

In Europe much attention has been given to the subject, especially in Great Britain where tuberculosis is very prevalent. Of cows slaughtered in London in 1892, 25 per cent. were tuberculous, in Midlothian 20 per cent., in Yorkshire 22.8 per cent. in Durham 18.7 per cent. The use of tuberculin has been successful as a test in 90 per cent. of the cases treated. Leading breeders are aiding in the work of exterminating the disease by all means in their power, and it is hoped that ere long it will be very much a thing of the past all over the civilized world.

## IN HER MAJESTY'S SERVICE.

Canadians Who Serve Their Queen With Distinction and Honor.

Canadians are at all times glad to hear of the promotion or advancement of their fellow countrymen in the Imperial service; says the Ottawa Citizen. The Dominion has many representatives serving the Queen in various capacities, in the army, navy and diplomatic corps. They are to be found not only at headquarters, but in all portions of the Empire, and it is satisfactory to know that as a rule they are doing well, not only for themselves, but indirectly, by the excellence of their example and reputation, for the land which gave them birth.

While Sir Arthur Haliburton, a Nova Scotian by birth and a member of the provincial bar, has risen through the various grades of the civil service to his present position of Under Secretary of State for War, a native of the sister province of Quebec, Major-General Edward Andrew Stuart, has by ability, energy and peculiar qualification been advanced to the lieutenant-governorship of Chelsea hospital. Again, no able man can be found in his profession than Surgeon-General John By Cole Reade, C.B., V.C., a native of Perth, Ontario, who is almost at the top in the Army Medical department; and the same may be said of Commander John Denison, a scion of the well known loyalist family of that name, who has been placed in command of the Queen's yacht, Victoria and Albert.

There are also Colonel Edward Lee Street, of New Brunswick, who has lately been appointed Assistant Adjutant-General of her Majesty's forces in Scotland; Lieut. Girouard, R.E., the clever son of the honorable member for Jacques Cartier, who has been given a prominent post at Woolwich Arsenal; Lieut. Reginald Macdonald, R.A., son of the well-known Senator from British Columbia, who has been earning experience and fame at Sheffield as her Majesty's inspector of steel, and a host of others whose names will readily occur to the reader.

Not long since we were especially gratified to notice the marked compliment paid to another Canadian, Captain Archibald Lucius Douglas, R.N., a son of the late Dr. G. M. Douglas, of Quebec, and a native of that city, by his appointment to a naval aid-de-campship to the Queen. Captain Douglas commanded H. M. S. Edinburgh under the late Sir George Tryon in the Mediterranean, and since then has been in command of H. M. S. Cambridge, training ship at Devonport. We now learn that he has been appointed to the command of H. M. S. Excellent, training school at Portsmouth, assuming charge and control in July. To be deemed worthy of such important trusts, augurs the possession on the part of Captain Douglas of more than ordinary ability and experience in his profession; for no one but an officer of the highest qualifications has ever been put in charge of a training ship. We shall probably hear a good deal more in the future of this excellent officer, and will watch his career with interest and expectation.

## THE MIKADO'S PARLIAMENT.

### A Move for Tolerance to Foreigners.

The Mikado has dissolved the Diet. The Imperial Diet consists of two houses much in the style of the British Parliament—peers and popular representatives. Every law requires the consent of the Imperial Diet. It is a prerogative of the Mikado to convoke the Diet, to open, close and prorogue it, and to dissolve the House of Representatives. In this instance the telegram from Yokohama undoubtedly refers to the Lower House. The preemptory action of the Emperor is believed to have been forced upon him by the fanatical nativism of the parliament. The hatred of foreigners exists strongly among the lower classes of the Japanese, and it is with difficulty the Mikado upholds the treaties with foreign powers. With this anti foreign feeling, bitter in its intensity, the Emperor has no sympathy. He is quick to perceive the benefits accruing to his people through civil intercourse with other nationalities and to utilize the ideas of other peoples. In short, it appears from the facts that the tolerance and broadmindedness of the Mikado regarding foreigners and innovations of civilization puts him entirely at variance with the majority of his people, represented by the Lower House. The Emperor is only forty-one years of age. At seventeen he married the daughter of Prince Ichijo, a lady of great beauty and intellect.

### Surprised by the Enemy.

The servant girl had brought her soldier lover into the kitchen, when suddenly she heard the approaching footsteps of her mistress coming down stairs.

"Quick, Tommy," she whispered hurriedly, "take the children into your arms."

"What's this that I see, Mary?" said the mistress, looking at our hero of the red coat.

"Oh, ma'am," replied Mary, coolly, "the children are so fond of soldiers, that I brought a real live one home with me for them to play with."

Figures published in Fire and Water show the fire losses during the first four months of the present year to be less by over \$16,000,000 than during the like period last year.

## HOW SAVAGES CAPTURE GAME.

Master of the Art of Deception—Skill in the Use of Arms and Implements.

In the pursuit of game the savage is a master of the art of deception. Deer-stalking among certain tribes of Indians is managed by a skillful counterfeit of the animal. Two hunters walk together, the man behind with bent body, the one in front carrying a stag's head. The legs of the men serve very well for the fore and hind legs of the animal. In this way the hunters get almost in the midst of a herd of deer before these are aware of dangers.

The ostrich is hunted in a similar way by the bushmen of South Africa; and the Eskimo, sometimes come to close quarters with seals by dressing themselves in seal-skins and dexterously mimicking the style of swimming and "flopping" so characteristic of the animal. The Indians get among a herd of bison by covering their bodies with the skin of the prairie-wolf; while by the Hottentots, the buffalo has himself been trained to hunt, being guided by a string attached to his horn, the hunter meanwhile crouching behind him.

In Australia the natives bring the young kangaroo within the range of the spear by suspending a small bird's skin and feathers from the end of a long rod and imitating the bird's cry. The artfulness of the Australian is also shown by his method of taking waterfowl. The coast-people are usually excellent swimmers, and they will get among a flock of ducks by swimming long distances under water and breathing through a reed; or they will merely cover the head with weed and swim, without causing a ripple, until they are within reach of the birds, which they quietly pull under one by one without giving alarm to the rest of the flock. This latter is perhaps the simplest form of duck-hunting, and seems to have been successfully practised in other parts of the world.

In the use of arms and implements, the uncivilized man shows equal skill. Among the American Indians the bow and arrow attained its highest development, and it is said on excellent authority that such is the force employed, the arrow may be sent right through a horse, or even a buffalo. The Australian will frequently kill a pigeon with his spear at a distance of thirty paces; and on the Murray it is a favorite feat to dive into the river, spear in hand, and come up with a fish upon it. The Hottentot, again, seldom fails to kill a hare with his ruckum stick at thirty or forty yards; and the Zulus bring down birds on the wing with a throw of their round-headed club or "knobkerry."

In Brazil, in addition to the bow and arrow, the natives—even the children—everywhere use the "gravatana," or blow-pipe, with great dexterity. This may be said to be the characteristic weapon of the South American tropics. It consists of a perfectly straight palm-stem, in which a small arrow is placed and forcibly expelled by the breath. The tubes vary in length from a few inches to twelve feet, and internally are carefully cleaned and polished. The arrows are made to fit the bore by a slight binding of tree-cotton round the lower extremity, and the points are made extremely sharp and tipped with curari poison. From the facts that the blow-pipe is absolutely silent, that, owing to the care bestowed on its manufacture, it is exceedingly accurate, and that the slightest puncture by the poisoned arrow generally proves fatal, the weapon is formidable; and it is used with great effect against small animals and birds, and occasionally in war.

## COMMON DANGERS TO THE EYES.

Reading in the Train is one of the Worst of Them.

An eminent oculist declares that type writing has an injurious effect on the eyes.

The operator is obliged to glance incessantly back and forth from the keyboard to the shorthand notes, and this is a muscular exercise of the most fatiguing sort. For this reason, the oculist urges, it is desirable for typewriters to cultivate a familiarity with the keyboard similar to that possessed by the accomplished pianist with the keyboard of his instrument, so that it will be necessary to look at the keys as little as possible.

While the injury that may result to the eyes of a hard-working typewriter who is not sure of her figures and her keys is not to be regarded too lightly it is not likely to be near as serious as that resulting from the practice indulged in by so many in these days of railroad travel of persistent reading on trains. This practice is most trying on those delicate muscles that regulate the shape of the eyes' lenses and so affect the focalization of the organ. The danger is greatest, of course, on those railroads whose ballasting is imperfect and whose rails are roughly laid, producing much jarring and consequent rapid changing of the distance between the eyes and the paper.

In some cases the eyes of a victim of the railroad reading habit are so affected as to focus at different distances, and then his sufferings are most acute, and though much relief may be afforded by the treatment of a skilled practitioner, nothing but a discontinuance of the habit will afford a perfect cure.

In the case of a person who suffered tortures for two or three years from eye disorder due to train reading, neither rest nor professional skill availed until by accident the yellow window shades in the office in which he was employed were removed, when he was able at once to work with greatly increased ease and comfort, and in a few months was entirely cured.

Albert Grimaldi, Prince of Monaco, got \$1,500,000 as his last year's share of the profits of the notorious gambling establishment in his dominions, not to speak of his dividends on the gambling company's stock, which, notwithstanding it was a "bad year," exceeded 40 per cent. These profits represent an awful deal.