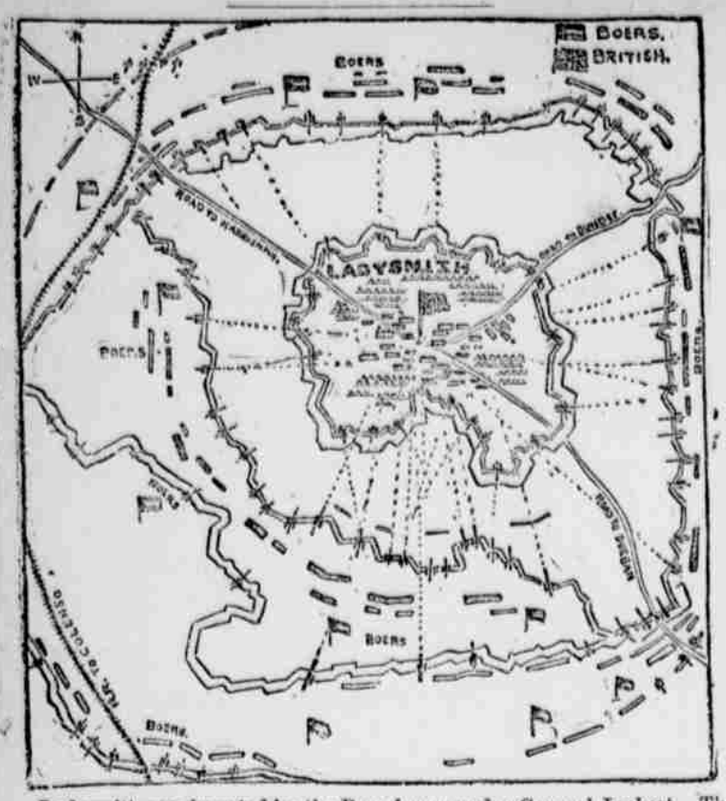
FORTS AND SIEGE TRENCHES AT LADYSMITH.



Ladysmith was invested by the Boer forces under General Joubert. The besiegers completely surrounded the position. The town lies in a bowl-shaped depression. On every side but one there are hills or kopjes, very convenient for the placing of artillery, and from these eminences the enemy shelled the city from time to time. The Boers constructed two lines of trenches—one facing the town from all sides, the other facing from the town in order to repel attacks from the outside. The plans shown in the chart are drawn after rules of Vauban, the greatest of French engineers.

THE KLONDIKE OUTDONE.

Marvelous Richness of the Cape Nome District, Alaska.

ALL WITHIN THE UNITED STATES

"There seems good reason to infer that substantially the entire southern half of this large peninsula (on which Cape Nome is situated), covering more than 8000 or 10,000 square miles, is gold-bearing, and much of it rich. It lies in the Yukon gold belt, extending from the Klondike westward, and probably continues across Bering Sea into Siberia." So writes F. C. Schrader of the United States Geological Survey, one of two experts sent out by the Government last fall to report upon the Cape Nome gold district, of whose wonders rumor had been heard

in Washington. Mr. Schrader gives a brief account of his trip in the latest number of the National Geographic Magazine, and has also addressed the National Geological Society on the same subject. The reports brought back by him and other explorers, like Lieutenant Jarvis of the revenue cutter Bear, indicate that this newly opened district, over the national ownership of which there is no dispute, far exceeds the Klondike in importance as a source of the world's gold supply. This is partly on account of the distribution of the gold in area and richness, and partly because of the better means of getting people and supplies in and the product out.

The Cape Nome district is situated on the northwest coast of Alaska, the southern promontory of a peninsula extending westward toward Siberia, between Kotzebue and Norton Sounds, and largely separating Bering Sea from the Arctic Ocean. From Cape Nome westward for thirty miles or more the shore-line is comparatively straight and smooth, but between this line and the base of the mountains covers the well-known tundra—a strip of treeless, moss-covered marine gravels, forming a coastal shelf. Along the beach this is about thirty feet above sea level, but it slopes gently upward till at the base of the mountains, four or five miles back, it reaches an elevation of 150 to 200 feet. Quartz veins and veinlets, traversing the rocks in the mountains, are supposed to be the source of the gold in the marine gravels.

LANDING FREIGHT AT NOME CITY.

The first considerable discovery of gold in the Cape Nome district was made in September, 1898, by a party of Swedes, who found it in the creeks and gulches. They were sent out and told where to look by a Swedish missionary, N. O. Hultberg, who had persisted, in spite of every discouragement, in believing that there was gold along the edge of Golofnin Bay. Not till last summer was the beach gold discovered. In the gulches along the edge of the mountains the diggings are coarse gold, nuggets valued at $350 being found there six or eight feet under the creek gravels. Along the beach the gold is as fine as bird shot or finer. Its occurrence is mostly under two or three feet of gravel and sand, on the bottom layer of clay or argillaceous sand, called by the miners "bedrock." Thin layers of ruby sand interstratified with the gravel near the "bedrock" are often found to be rich. The production of the region for the season just past is estimated at $2,000,000, of which the beach contributed one-half. Two claims alone are credited with $225,000 between them, while one gulch is said to have yielded more than $200,000.

In the gulches mining is carried on by stripping, sluicing, and to some extent, by rocking, but on the beach almost exclusively by rocking. In the latter process the sea water is used, the gold being caught in blankets, and to some extent on copper-plates coated with mercury. Where copper-plate was lacking, the bottom of the rocker has been covered with silver coin, coated with mercury. The 2000 men working along the beach in the late summer and fall took out an average of $20 each daily.

CRADLING GOLD ON THE BEACH AT NOME.

The tundra has not infrequently yielded from ten to thirty cents to the pan. Capital will doubtless be required to develop the tundra deposits, and those of high quality which have been found in the benches in the lower mountain region. Only a comparatively small strip of coast has been prospected thus far, but there is no reason to suppose that the gold discovered is more than a fraction of what will show itself later in response to systematic search. All signs point to the placer mining of the Nome district as surpassing that of any other part of the world.

This country is cheerless, and not naturally adapted as to climate, soil, vegetation or animal life, for the abode of white men, but it is at least readily accessible, which is more than can be said for the Klondike district. In the Klondike there is growing timber for building houses, constructing sluiceworks, furnishing a part of the necessary fuel, etc.; at Cape Nome there is none, and every board, beam and post must be brought from elsewhere. The sea is open, however, from some time in June till about the first of November, and steamships and sailing vessels can ply to and fro freely. The temperature never falls so low as in the Klondike, but the fierceness of the winds which sweep the coast makes the cold harder to bear. There is not game enough to speak of, and no natural food for horses and mules, so that provisions for man and beast, coal for heating and industrial purposes, as well as building materials, must be brought up from the south.

A Self-Stirring Cooker.

An automatic self-stirring cooking-pot is the latest development in the kitchen utensil line. This, it is asserted, does away with the necessity of constantly stirring while cooking the porridge or oatmeal that forms such an important adjunct of the average breakfast. The pot, as shown in the sectional drawing, is double, and consists of an inner receptacle, to contain the oatmeal to be cooked, and an outer, or water, jacket, with a spout opening. This jacket is first filled with water, and the cap on the spout then screwed on. Leading from this water jacket is a tube extending along one side of the inner receptacle, the bottom of the tube communicating with the bottom of the receptacle by means of perforations. The steam

SELF-STIRRING BOILER.

that is generated in the jacket has no other avenue of escape except through this tube. Naturally, then, as the water begins to boil, the steam in seeking to escape passes through the tube and up through the food. It is asserted that the agitation thus produced by the steam is sufficient to prevent burning, even though the usual stirring is neglected.

THE OPERATION OF THE SELF-STIRRING COOKER.

FACTS ABOUT AGUINALDO.

His Origin, Training and Characteristic Oriental Methods.

Aguinaldo was born at Cavite Viejo thirty years ago. His father, Don Carlos, was a truck farmer of the native class, but rose to some importance among his fellows, and was thrice elected Mayor of Cavite. Aguinaldo's education was of the most limited

AGUINALDO'S WIFE.
(She was recently captured by General Otis's force.)

kind. For a year or two he attended the school of Santo Tomas, in Manila, but the death of his father called him to Cavite, where he took up the work of the farm. Here he soon made himself prominent and troublesome by his connection with the Katipunan League, organized by Rizal against the friars. The Governor-General, to win his sympathies, appointed him captain municipal of Cavite in 1895.

Aguinaldo's mentor and tutor in the art of revolutions was Andres Bonifacio, a schoolmaster of Cavite, and the original conspirator in the revolution against the Spanish. Bonifacio influenced Aguinaldo to join the revolution of '96, acquainting him of the intention of the Spaniards to secretly murder all the members of the Katipunan. Thereupon Aguinaldo, grasping the opportunity of leadership, had Bonifacio secretly killed, and placed himself at the head of the movement against the Spanish. The Spanish drove Aguinaldo to the mountains, but ultimately compromised with him. His career from then till now is current news. Aguinaldo is not a pure Tagalog. His maternal grandfather was a Chinaman.

AGUINALDO'S FATHER-IN-LAW.

Aguinaldo's wife is a Chinese Mestiza, and made herself conspicuous in the revolutionary army by organizing a "Red Cross" hospital corps, and placing herself at the head of it. She was captured by American troops recently and is now a prisoner in Manila.

As London Learns Things.

New York policemen have been served with a new kind of club. It has a swivel handle, which prevents it from being twisted from the grasp of its holder.

The novel feature of the club is the arrangement by which sixteen saw teeth, each half an inch in length, pop out of sixteen holes, dig into the hand which grasps it and give one strong pull.

The teeth remain concealed until an attempt is made to wrench the club from the policeman. The united pulls in oppositte directions lacerate the evil-doer's hand in a jiffy.—London Weekly Telegraph.

The finest red coral is obtained from the Mediterranean; the large pieces of a pale color are said to be often worth twenty times their weight in gold.

FIGHT AROUND LADYSMITH—COLLECTING THE WOUNDED ENGLISH SOLDIERS AT THE CLOSE OF THE DAY.

FOR FARM AND GARDEN.

Removing Rubbish From Orchards.

During the summer a good deal of rubbish is apt to accumulate in orchards from the breaking down of limbs of trees from overloading or from storms. In such cases those limbs lying on the ground prevent the snow from lying closely on the surface and offer the most convenient harbors for mice. It is a good plan before heavy snow comes to remove all the rubbish from around fruit trees, and also the grass that often grows near the tree trunk while the tree is small.

The Moulting Period.

Hens do not moult at the same period every year. They begin a little earlier each season. A hen that moults in July of this year may moult in June next year, and the older they get the sooner they begin to moult. It is not desirable to have them begin before July, as the summer is the best time in the year for securing eggs. August is late enough if the hens are to get through by winter. The object should be to assist them with nutritious food and protect them from the weather. Separate the hens that begin to moult from the others, so as to be able to feed them in the best way. Tonics in the drinking water are unnecessary, but fresh bone pounded up will be found always beneficial.

The Pod-Spot.

The yellow or wax varieties of beans are subject to a disease that is called pod-spot or anthracnose. It begins by the appearance of small spots that are of a reddish brown color and are slightly depressed. As the pods grow, the centres of these spots assume a dark color and they may run together. It shrinks the pod and dwarfs and shrivels the beans. It is not usually prominent except in rainy seasons. It lies over the winter in diseased beans. If such beans are mixed with sound beans, when sending them to market, the fungus will spread rapidly. The same rust attacks melons, and hence melons should not follow beans that have had the disease, for the spores, like the spores of corn smut, are in the ground. If beans that have been pod-spotted are used for seed, the disease will appear upon the leaves as soon as the seed leaves appear and may kill the plant, and sometimes the largest proportion of the crop is killed.

One of the best preventives is to plant on high, light, well drained soil. In selecting seed beans, all that show signs of the disease should be rejected. When the plants are two weeks old, they will be benefited by being sprayed with a weak Bordeaux mixture, to which enough soap has been added to make a little suds. Repeat the spraying three or four times at intervals of ten days. If the pods are to be eaten the spraying should not be repeated more than once. Whenever the disease appears upon a pod or leaf, that pod or leaf becomes a centre of infection, and ought to be removed and destroyed. Burning is the best means of destruction.—Agricultural Epitomist.

Winter Care of Bees.

The latest method of locating the hives on the ground, each hive sitting on its own bottom board, is a much better way of wintering bees than the way of setting the hives on high fences, and perhaps a number of hives on the same platform. These benches set up thus on stilts are greatly affected by the storms, and the shaking thus produced is detrimental to the bees. The hives should be in such position that they may be kept free of any motion or jar, and when set close to trees the limbs of the same should not come in contact with the hives, but any limb that may be driven against the hives by wind should be removed. Windbreaks in winter are very beneficial to the bees and should in all cases be placed around the hives. High board fences are the best, but anything that will answer the purpose is better than none, and may be used but temporarily.

Evergreens are the most complete windbreak and should be largely used for not only bees but general windbreaks. They are both very useful and ornamental. Posts set in the ground with railings attached and corn fodder set up against this makes a good winter break for temporary purposes, but must be well excluded from stock of any kind.

No stock of any kind should have the run of the apiary. Poultry will do no harm in summer, but should not be attracted about the bee hives in winter by the use of straw or anything of that nature about the hives. It is always best to have hives to face the south or east in winter, or rather to have the backs of the hives toward the storm. Heavy snows do no injury to the bees and should not be shoveled away from the hives. This is often done, and more damage than good results from it. Hives may be entirely covered with snow, and during a very severe spell of cold weather this is very beneficial protection to the hives.—A. H. Duff, in Farm, Field and Fireside.

Feeding for Milk, Butter and Flesh.

Selected milch cows at the Maine experiment station were fed two rations which differed widely in the amount of protein contained. W. H. Jordan reports that in both the timothy hay was the same and the weights of the grain were equal, but in one ration the grain consisted of equal weights of corn meal, gluten and cottonseed meals, while in the others it was all corn meal. The digestible material furnished was practically the same in both rations, though the proportion of digestible protein was nearly twice as great in the mixed grain ration as in the corn meal ration.

The general appearance of the cows showed less thrift while being fed the corn meal ration, though the body weight did not vary greatly. The nitrogenous ration produced from one-fifth to one-third more milk than the corn meal, and this milk was generally the richer in solids by 30 to 40 per cent. The ration fed seemed to have little effect upon the composition of the milk solids.

Throughout the experiment the proportion of fat steadily increased without regard to what the cows were fed, and no evidence was furnished in support of the claim that by changing the food of cows, more butter fat will be produced without an accompanying increased production of the other milk solids. Hence the most profitable food for butter production will also be the most profitable for the cheese maker or the milk farmer. The chemical tests did not show any appreciable difference in the butter made from the two rations. Corn meal needs the addition of more nitrogenous material to make it a useful food for dairy cows.

Pruning in the Fruit Orchard.

While the winter season is one of some leisure to the orchardist, it ought not to be one of entire inactivity, for their is pruning to be done, and its proper performance is a matter of much importance, says Joseph Meehan in the Country Gentleman. The young orchard may need but little hard work, but it will need much head work, for on its proper treatment now will depend whether or not it is to afford pleasure and profit in after years.

The young apple orchard needs little more than the thinning out of branches where they are too thick, and the shortening in of others that may need it to give good shape to the future tree. It is by judicious work in this way in the early years of an orchard that well-formed, beautiful trees are developed. There is no gain in having branches too low. Prune them up to five or six feet, that getting about under them is practicable. Large bearing trees often need no pruning. Sometimes, where a branch is unthrifty, it is better to cut it out, to induce a new, healthy one to take its place. And where such large trees have not been well pruned when young, there may be large limbs which need cutting out that others may be benefited. When such is the case, saw off close to the trunk, and paint the scar to prevent decay.

Much the same rules apply to pruning the pear as to the apple, but as it makes more branches when young, it needs closer attention at that time. Very often good-sized trees are seen with far too many branches on them. The tendency of almost all pruners is to leave too many branches. Do not let them interlace each other. The time to cut them out when they show a tendency to do this is when they are quite small. Cut them off close to the limb they start from, that no buds will be left to start afresh. The large, round buds of winter are the ones that bear the flowers. Sometimes in pruning it is well to observe them, as it sometimes occurs that it is desirable a certain kind should flower the coming season. Bearing trees will often have their branches brought out of shape by the weight of fruit. Prune such crooked branches in such a way that a good outline will be kept up.

Peaches and apricots are little pruned, as usually seen, and yet few fruit trees are more benefited by it. Should there be no young wood there will be no fruit. Left to grow as they will, which is the usual way, what little young growth is made is at the extremity of long branches. Pruned a little every year, there is young wood over all the tree, from near the ground to the top. Do not let strong shoots go unpruned. Not only is a little pruning good; that of summer, performed while growth is still going on, is perhaps better. In regard to the plum, what has been said of the pear applies to it very well. Keep the branches from getting too thick. Fewer branches, permitting of more air and light to the remainder, would bring better fruit to many a tree. Watch the plum, to cut out diseased branches as soon as seen, be it winter or summer.

In the small fruit line a shortening in of the canes of raspberries and blackberries should be made, the former to about four feet and the latter to five feet. All old canes should be cut. Currants and gooseberries need little pruning except to prevent them carrying too many shoots, and to keep up a supply of young wood. The fruit is the best on strong two-year shoots, and the aim must be to keep up a supply of these. The English type of gooseberry does not produce as much wood as our native sorts; hence needs less pruning. I have known old bushes of currants and gooseberries to be the better for being cut down completely to the ground to give them an entirely new start. Grapes must be pruned in a way to have an abundance of young wood. There are those who prefer to have little else besides young canes from the ground each year. At the same time, if the last year's fruiting cane be well provided with side shoots, it will prove satisfactory for another crop. Prune the side shoots back to within two or three eyes of the main stem. This cutting back decreases the number of bunches, but adds to the size of what are produced.

To enable a person to float in the water in an upright position a Massachusetts man has designed an apparatus composed of a belt to be inflated and placed around the waist, with a weighted rod attached to each leg to keep the floater vertical.