

The locomotives for the Manchurian Railway, as well as most of the rails, have been contracted for in this country instead of Europe.

The Mormons are becoming very active in New Zealand, and it is stated that eight more missionaries are on their way from Salt Lake City to this colony. They intend to work principally among the Maoris, of whom there are already four thousand members of the Mormon Church.

After a long period of suspension the ironworks of a Western city resumed operations and the black chimneys poured out dense clouds of soot over the town. Rusk would have anaesthetized it for its hideousness, and daintily clad women looked upon it with horror, but a little girl, hungry and cold, whose father had been for months without work, clapped her hands and exclaimed: "Was there ever anything so beautiful as to see the smoke in the chimneys again! That big piece is a shawl for mother, and those cunning little bits tumbling down are shoes for baby, and oh, there comes such a lot of the smoke maybe it is a really hat for me; anyway, I know it's shoe-strings."

Lieutenant Colonel Maus, U. S. A., who has had charge of the physical examination of the twelve thousand New York militiamen mustered into the service of the United States, has made a very interesting report upon the subject of this inquiry. He finds that it was necessary to examine seventeen thousand soldiers in order to obtain twelve thousand up to the required physical standard, which was placed very high; some think too high. Of this number the three up-country regiments were far superior to the city troops in physical development, a logical result of the tonic of pure air and out of door employment and recreation. Of the city soldiers Colonel Maus found the cavalry superior to the infantry—clearly a tribute to the value of exercise on horseback. Among the infantry the chief causes of rejection were a tendency to hollow chests and impaired vision, unmistakable evidence of long days at desk work and poring over ledgers. Poor feet was another frequent defect, and deafness was not uncommon.

One of the London papers sees a "romance of commerce" in the recent death of one Henry Greenwood, an inmate of the workhouse infirmary at Hampstead. It seems that Greenwood was once a rich man, and belonged to a firm of jewelers so eminent that it supplied the pearls worn by Queen Victoria at her coronation. At that time, indeed, he and his partners were the leading dealers in pearls, not only as regards England, but in the whole world. Greenwood, after his most famous transaction, led a rather adventurous life, a part of it in Australia, where he was Mayor of Ballarat. He accumulated a fairly considerable fortune, which, however, he lost in various reverses, until toward the close of his life he was in a state of abject poverty. His death took place in the workhouse from cancer when he was about eighty years of age. Curiously enough two of the members of the Hampstead Board of Guardians when Mr. Greenwood entered the workhouse were old schoolmates of his, and one of them met the expenses of the funeral in order that he should not lie in a pauper's grave, and was himself the only mourner following the coffin.

The growing cities of Europe—increasing as they are, constantly and enormously in the density of their population—present an area unfavorable to human life; and it has been estimated that unless such a city as Paris were supplied with human life from outside, everybody in it would die out in about four generations, reflects the New York Sun. The conditions of city life are unfavorable to human longevity and health; but when we come to examine in a city who they are that will survive the longest and are the best able to combat these unfavorable elements and who, therefore, must become the leaders in that city and found the most prominent families and will gain the most control and get up into the highest society by living there long and getting as much as they can from their fellow citizens it is discovered that they all have skulls of a somewhat similar type—long-skulled—somewhat below, in that respect, the medium skulls averaging throughout Europe. A man must, in other words, have a long head to get along in a great city and found a family there and continue it for a number of generations. Our word "long-headed" is, in a certain sense, a provision of scientific discovery; it is literally and absolutely true to the craniologist.

THE MUSIC OF THE MARCH.

Merrily beat the drums as the brave boys march away;
Merrily, merrily, merrily the silver bugles play;
And hot for war and victory! the brave shall win the day—
Merrily, merrily march the boys where the red flag waves the way!

Mournfully beat the drums when the brave boys march away
From the red and trampled battlefield where the dying gasp and pray;
And hot for homes left desolate and hearts that weep away—
Mournfully, mournfully beat the drums, and the drooped flags drape the day!

THE TRADER'S WIFE.

A Tale of the Philippines.



THE inference is natural but, no, she is not my wife," said the old trader, as he glanced at the pretty young Philippine woman who had just entered and greeted the strange papalagi with a graceful talote ali.

He was not at all offended at my random suggestion. It was quite excusable, for in these regions a trader without a native wife is a phenomenon. But I might, if I had used my faculties of observation, have known better. There was no trace of womanly care in the dingy, unkempt little dining room; the wooden walls were dirty and bare of adornment, the table was littered with old books and ragged, much worn newspapers, while the floor looked as if it were a stranger to the broom.

I watched the girl closely, but the trader took no notice, he seemed absorbed in his sulit, or native cigarette, which gave forth great clouds of smoke at each vigorous puff. The lithe, slender wrists, with muscles like fine drawn wire, were wringing out the fat, or strainer of bark fibre, with which the pounded kava root is separated from the water. The viselike grip on the fibre never ceased until every drop of juice had been expressed, and then, with a pretty, graceful gesture, she tossed the strainer over her shoulder to a boy standing outside, who shook the dry dust free, and threw it back.

Again and again the process was repeated. With the utmost care every grain of sediment was drawn from the bowl, and the dark brown liquid, nauseous but refreshing, was ready.

The first cup seemed to arouse the old man's dormant loquacity.

"She is a strange girl," he remarked, letting his eyes rest for a moment on the kava maiden. "Not like any of the other Malays. I can't make her out. She never goes gadding about with the other girls nor flirts with the young men. She just stays quietly at home and refuses all the suitors who ask for her hand. She might have been married a dozen times during the past year had she chosen."

"Perhaps—" and I hesitated.

He nodded. "Yes, perhaps she has an eye on this establishment."

There was no trace of unseemly levity in his tone. I waited in respectful silence, for he was one of those kindly gentlemen who wear their hearts upon their sleeves, and I knew that he would, if left to do it in his own way, tell me the tragedy of his life.

He took another bowl of kava, rolled a fresh cigarette and sighed. I smoked patiently. Then he rose, and opening a small writing desk which stood in a corner, drew from it an old and faded photograph.

"There is my wife," he said.

It was just an ordinary common picture, taken by a cheap photographer, and, thanks to the climate, rapidly fading into obscurity. One could make out the features of a Malay woman, rather stout and showily dressed, a baby in her arms and a little girl of about two years holding on by the skirts.

As a work of art it was beneath contempt, but the old man handled it reverently, and, before he spoke again, laid the picture back in its receptacle.

"It's fading quickly," he remarked sorrowfully, "though I keep it from the light all I can. It was taken by a traveling photographer in New Britain just before— But it's all I have left of her. There's only the boy and I alone now."

A smile lit up his thin face. "Here he is," he exclaimed, as a fine little fellow of about ten years, pushed into the room. "Faa-mole-mole, pa," began the youngster, in that strange mixture of Samoan and English which half-caste boys speak in this country. Then he stopped, noticing my presence.

"All right, Jacky," said the father, giving the curly head a kindly pat. "Go and say talofa to the gentleman."

And bashfully the boy, who had not seen a strange white man for months, held out his hand, and then took the first opportunity of escaping from the room to join his playmates.

"He's all I have left," continued the trader, "and I'm doing my best to bring him up as an Englishman. But what can I do here? He must play with the Samoan boys, or with no one, and I cannot afford to send him away to school. The little girl's better off; she's gone with a missionary to Sydney, and he takes good care of her.

She'll grow up into a white lady, I suppose, some day and won't know her old father."

There was a long pause, and we drank more kava and smoked in silence. Then the old gentleman became reminiscent.

"She was three years old when the old woman died, and the boy here—well, he could just toddle about, holding on to his mother's skirts. There were some who blamed me for taking her to that outlandish New Britain, where the people are real savages, and not civilized like here. But what was I to do? I'd been trading for McAlister & Co.—you've heard of them, I suppose?—when the firm broke up, and I was left stranded on the beach. I hadn't had a chance to save much, and there was the wife and child to keep. When I got the offer to go to New Britain and open up some new trading stations, I jumped at it, without thinking overmuch of the risk.

"I was a fool, I know, and now, if I could only take it all back." He took another cup of kava to hide his emotion.

I could think of nothing appropriate to say, so I sat and waited, while the girl, squatting on the floor, looked up in her master's face and thoughtfully began to prepare a second bowl of kava.

At last he resumed the broken narrative: "We got on all right as long as we were at the head station, where there were several whites, and the natives had, in a way, learned some manners. But when I went away to distant parts of the island to open up new trading stations I began to feel sorry that I'd brought the missus with me. But she would not hear of going back, not she; she swore she'd stick to me through thick and thin, and so she did till the end.

"But to cut a long story short. We opened up three or four trading stations safely enough. We used to go, just ourselves, in a boat with our box of trade and a crew of four boys from the Duke of York's isle. They were more afraid of being eaten than we were, so they stuck to us pretty close.

"It was the cheek of the thing that did it, and I wonder now, when I look back, that we were not killed and cooked a dozen times over. The natives simply could not understand a white man coming among them like that all alone, and they were so astonished that they forgot to attack us.

"They were a poor lot of savages, and if you gave one of them a piece of print he would hang it around his neck and walk away as proud as Punch. They were always fighting among themselves, and thought no more of killing a man than we would of shooting a pigeon. Why, I've seen a young fellow executed there just for stealing a cocconut off a chief's tree, and if they had dared they would have killed me just as readily for the sake of my trade.

"They hadn't much to buy goods with, either, a little copra and some beche-de-mer and pearl shells. They wanted axes and tomahawks and knives, but most of all they wanted tobacco pipes, common clay pipes. What they did with them I don't know, for they did not buy any tobacco. Kept them as a sort of idol or fetish, I suppose. They would sell everything they had to get a pipe, and especially a black one, and it was because of those cursed pipes that I lost my wife and nearly lost my own life, too. Perhaps it might have been as well," he added, despondently.

"Nonsense, man," I interposed, as cheerfully as I could, "but how did it happen; tell me about it."

"It was the fourth place I was at, I think, a wild part, where no missionary had ever dared to set his foot. We were a long way from the main station, and I had to depend upon myself entirely. It was up at the head of a deep bay, and there were a lot of mangroves. I remember, growing along the beach, and then you went up a steep bank ten or twelve feet high, on top of which was the village.

"Well, the chief was very glad to see me; he said they wanted a white trader badly, and invited me to stop. So I pitched on a likely spot in the middle of a grove of palms, close to the beach, you may be sure. We soon ran up a rough bamboo house, and I got the wife and children, for there were two by this time, into it. Then we carried the goods ashore, hauled up the boat and I sat down to wait for my customers.

"I might have been waiting till this day, for all the business I did. The chief was very pleasant and fair spoken and took all the presents I gave him with the greatest condescension. But when it came to trading I found the people were so poor that they'd nothing to trade with. I got about a hundred pounds of copra and a little pearl shell in a week, that was all. I soon made up my mind that the place was not good enough for my business, and besides, from one or two little things I'd noticed, I came to the conclusion that it would be healthier to leave as soon as possible.

"It would not do, I knew, to appear in a hurry to get away, so I took nat-

ters easily, and gradually packed up the trade and got everything ready for starting. But, quiet as I was about it, the natives were too smart for me. They saw what I was up to, and the word went round the village that the white man was not to be allowed to go away and to take all that lovely trade with him. I was in a tight place, and I knew it, and the boat's crew just sat shivering in their naked feet, for they felt that their fate would be the same as mine.

"But the old woman was not afraid at all. It was wonderful the way she kept up, with the two babies to look after and all cooking and work of the house to do. As for me, I was pretty well worn out with watching, and did not get a wink of sleep for three nights. The natives would come around friendly enough during the daytime and look at our goods, and we had to treat them pleasant, for it would never do to let them see that we were afraid. But at night we had to be all on guard, for we never knew at what moment a rush might be made. I had raised a kind of rough stockade of bamboo about the house, and within this I posted the four men of the crew, each with a Snider, I had a Winchester myself, but what good would these arms be if the natives should make a rush in a body on us? I didn't dare sleep, I can tell you. I was up and around every few minutes to see that the guards were awake and keeping a bright lookout. At last, on the third night, we had everything packed and I made up my mind to start at once. The boys got the whaleboat out from the shed under which she had been lying, and together we pushed her down the steep bank into the bay. But we had no sooner launched her than she filled, the water was up to her thwart, and there was nothing for it but to haul her ashore again.

"I could not make it out at all, for a week she had been a perfectly sound and seaworthy boat, and I knew she could not have dried up so much in the time. Still there was no doubt about her leaking, and I soon found out the reason. Those devils of natives had been at her, and some time, it must have been during the previous night, had managed to knock a lot of holes in her bottom. They were quiet over the work, too, for, though the boat was close by, we never heard a sound. They had staved in the planks with the heads of their stone axes. It was a good job I had not stowed any iron tomahawks, or else the boat would have been out to pieces beyond repair. It was bad enough, but, as the wrecked craft lay there in the mangrove swamp, I saw a glimmer of hope. If we could patch her up we might still get away. If we couldn't—well, I knew none of us would see another dawn. It was touch and go, but there was just a chance. I posted the men on guard all around the palisade, with strict injunctions to fire at every native they saw approaching. Then the wife and I, and she was a brave little woman, set to work. We collected all the old metal tins we could find about the place, and, as we had been living on nothing but tinned stuff for the past week, there were plenty. I made a fire and melted the solder out of the tins, so that I had a number of strips of clean metal to use as patches.

"It was hard work, I can tell you, lying on my back in the mud amid the prickly mangrove stumps, nailing little bits of tin on each broken place. We put the children to sleep in the bottom of the boat, while my wife held the candle for me. How many hours I toiled I don't know, but I thought I would never have finished. Now and again an alligator—and they are plenty in those parts—would crawl out of the water to see what was going on, or perhaps in search of his supper, but the wife would dash the light in his face, and he would go back quicker than he came.

"The first flush of dawn was in the sky by the time I had finished. I was stiff and sore and worn out, but there was no time to think about these things. We launched the boat, and she seemed pretty tight, so I bade the men bundle the trade boxes into her and make ready to shove off, while the wife and I went up to the house to get a few little personal effects we had not yet carried down to the beach.

"I remember, just as well as if I could see it now, scrambling up the slippery bank and making our way to the little house. We were careless, perhaps, but we did not anticipate any attack. I walked straight up to the hut. The door was closed, and I was going to push it open when my wife, who was just behind, caught me round the waist and threw me backward with all her force. She was a strong woman, and I was weak and tired, and I rolled over like a baby.

"At the same instant she fell, a dozen spears through her body, the door burst open and a crowd of naked savages dashed out and made a rush for the boat. They thought me dead, or badly wounded. I suppose, but at any rate they did not stop to look, they were in such a hurry to get the goods, and the oversight saved my life. I yelled out to the boat's crew to shove off, and then I crawled up to where my wife was lying. It was all over with her, I could see at a glance, and all she could whisper was 'Wave, wave, run quick and save yourself!'

"Perhaps I should have stayed. I do not know, but at any rate I had no time to reason over the matter. There were the savages coming back from beach full of rage and disappointment at finding the boat out of their reach. I crawled to the right and made a circle round to gain the shore, and luckily I got away unobserved. The boat was lying a hundred yards off. Fortunately the men had had the sense to wait and see if we escaped. I swam off to them and found the children all well, and the native boys shivering with fear. But a kick or two soon

roused them, and I had the boat pulled as close in shore as I dared.

"The savages were rushing about and shouting and making a tremendous row. Evidently they were searching for me, and they had lit great torches of dry cocconut leaves, which showed them up as bright as day. This was just what I wanted, for I emptied my rifle into the midst of them, and the boys gave them a volley with theirs. They scattered like magic in every direction. I made a rush up the shore and carried the wife down, for I was beginning by this time to feel a bit ashamed of myself for having left her so quickly. But what could I do? My gun was in the boat, and if I had stepped I should only have been killed, too, and the children would have been left without a father. I found her lying in the same spot, but she was dead, and the wretches had even tied her up ready to carry her away.

"By the time I had lain her in the boat it was nearly daylight, and I thought I would wait a bit and see it through. My blood was up, and I felt ready for any devilment. I took a big drink of schnapps and gave the boys a strong dose, too. This, as they were not used to liquor, made them quite mad, and they wanted to land at once and wipe out the whole settlement. But I thought it wise to rest awhile, and, with my rifle on my knee, I sat still and looked at the dead woman as she lay on the bottom boards of the boat, and at the little children sleeping so peacefully by her side. We pulled the boat off just out of range of their spears. By and by, when the sun was up, a great big savage stole down to the beach to have a look around and I potted him as neatly as I would have done a wild pig.

"Then another and another, until they begin to see that the business was a dangerous one, and gave it up. Having scared them sufficiently, we anchored the boat close in and waded ashore. It took me half a day to do it, but I cleaned that town out thoroughly. Their houses were little bits of huts—not like our fine dwellings—raised off the ground on poles, and each fenced in as if they were always afraid of attacks. Most of the people had cleared out into the bush, but any that I found I shot, and I burned every hut in the place. I don't think they will forget me there in a hurry. Next day I buried my wife at the head station, and resigned my billet. I had had enough of New Britain."

The old man stopped suddenly.

"Pass the kava sile," he said to the girl, who was still squatting patiently on the floor. "And now you will understand, young man, why I do not wish to marry again."—Denver Republican.

The Uses of Scrap Iron.

Scrap iron commands a relatively higher price than borings and turnings, for foundries fitted up to use pig iron can very conveniently make use of large pieces of scrap iron for melting, and thus its market is less restricted. Borings and turnings labor under another disadvantage, however, for, in comparison with the larger pieces of waste iron, the former are impure. Stored on the floor under the machines they are exposed to the accumulation of dust from the floor, dirty waste used by the workmen to wipe oil from their hands, tools carelessly thrown down and forgotten in the rush of work, rubbish of every sort, and brass or lead filings from the finishing departments. This accumulation of impurity entails a loss in iron of from ten to twenty per cent. in weight to the purchaser, hence their low price.

There are a round dozen of large scrap iron dealers in New York, who employ from ten to twelve workmen and drivers each, and in addition to those many smaller firms, who, with their own horse and truck, and perhaps a poorly paid helper, keep soul and body together, and sometimes make enough to feed their horses, by buying in the cheapest and selling in the dearest markets the small lots of borings and scrap iron they are able to haul.—New York Times.

Spaniards in the United States.

The number of persons of Spanish birth in the United States is placed by the late census at 5185. Contrary to a popular belief, fostered by the alarming stories of Spanish spies and sympathizers, there are no considerable bodies of Spanish population anywhere in the United States, and our present adversary has a smaller proportion of citizens here than Turkey.

All the other Latin nations are very much more numerous represented. Thus Italy has sent to this country 182,580 immigrants; France, 113,174, and even Portugal, Spain's nearest neighbor, with only a fourth of her population, has nearly three times as many natives, here or 15,996.—St. Louis Globe-Democrat.

Cows That Wear Goggles.

The poet who won a fleeting fame by the announcement that he "never saw a purple cow and never hoped to see one," probably thought his fancy had reached the limit of the grotesque. Spectacled cows is an idea which would probably have utterly overcome him. Yet spectacled cows exist.

They are the gentle kind of the Russian steppes. The steppes are covered with snow for six months in the year, and the cows graze on tufts of grass that crop above the snow. The effect of the sun's rays falling upon the glittering white waste on the eyes of the cattle was, of course, blinding until it occurred to a cattle owner to put smoked glasses on his goggles. Over 40,000 cows now wear the goggles.

Electric Lamps For Policemen.

The police authorities at Scotland Yard have recently been testing a new electric lamp, designed to supersede the "bull's eye." It is said to be the invention of a police constable.



Gooseberry and Currant Cuttings.

It is very easy to make cuttings of either currant or gooseberry bushes. A foot length of last year's growth, with the end smoothed off and fixed standing in the soil, will put out roots from its smoothed surface. It is best to only leave one bud above ground. This will make the stem for the future plant.

To Domesticate Wild Flowers.

Most wild flowers may be made to grow in gardens if provided with an environment sufficiently like their natural one. Select a shady place, fertilize it with leaf mould, water freely and protect the plants from the sun for about a week. In removing them from the woods be careful to get all the roots and to leave as much soil around them as possible.

Gestation in Summer.

All the domestic animals vary from one to two weeks in the time they bear their young. If the latter part of gestation is in warm weather, and when there is plenty of succulent feed, the parturition usually occurs a little sooner than it is expected. If during cold, freezing weather the reverse is the case. It is probable that the more succulent food obtainable during warm weather has something to do with it, by keeping the bowels open and the general system relaxed.—American Cultivator.

Begonia Culture.

Begonias of all kinds grow best in a soil that is quite rich, somewhat sandy and porous. A soil that is heavy, soggy and apt to become sour cannot be used with good results. The matter of drainage is also an item in the culture of begonias not to be overlooked. In potting the plants provide ample drainage by placing broken pottery, cinders or some such matter in the bottom of the pots.

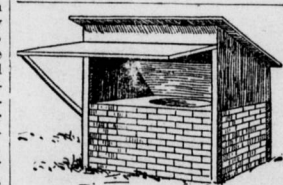
Flowering begonias can be bedded out in the summer with success, if plenty of water is given and a fairly sunny, warm location selected for the bed. Those of the Rex type will do best if plunged in a partially shaded location. Both classes should be protected from hot, drying winds, and should never be allowed to suffer for want of water.—Woman's Home Companion.

Small Size of Jersey Cows.

It is quite possible that Jersey cows and others giving large masses of milk are undersized because in calfhood, for a time, at least, they are apt to be fed on their own dam's milk. If their stomachs are cloyed then, the effect remains until they may be half grown. Jersey and Guernsey milk, because it is extra rich, is often preferred by doting parents for their very young children, who have to be brought up on the bottle. Yet no cow's milk is a complete substitute to a child for that of its mother. All require some dilution, and the milk that is richest in butter fats needs something added to it worst of all. This is not, however, to excuse the city milk dealers, who may dilute the milk to the legal standard. One-half the mortality in cities of babies brought up on the bottle would be obviated if they were fed properly.

A Farm Boiler.

Portable farm boilers for cooking vegetables for hogs and other animals are now made in many styles, but on many farms the question of expense will lead to the using still of the old-fashioned "set" kettle. It is a common practice to set such a kettle in brick, and leave it exposed to the weather. The kettle is thus constantly being filled with rain, and the top bricks loosened. The accompanying



COOKING APPARATUS FOR ANIMAL FOOD.

out shows an excellent plan for covering the kettle when it is constructed out of doors. This keeps everything snug and dry and presents a much better appearance than does the kettle that is exposed to the weather. Such a kettle can be located convenient to the various farm buildings, to economize labor in feeding out the cooked food. Whatever may be the relative chemical value of cooked and uncooked food for farm animals, it is safe to say that the digestibility of vegetables is greatly aided by cooking, which is a most important point in the case of feeding young animals.—New York Tribune.

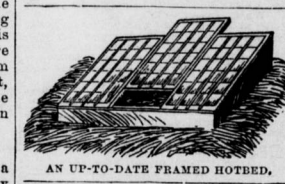
Sewage Farming.

The sewage farm at Acheres, France, which is fertilized by the sewage of Paris, has been successful both for the purification of the sewage and the production of various crops. The sewage, which amounts to 17,600,000 cubic feet per diem, flows as far as Clichy by gravity, and is there raised one hundred and eighteen feet and distributed over the farm. At present the pumping-station is of 1200 horsepower capacity, but it is to be increased to 6000, and to deal with the output of the Paris sewers would require a farm of 11,120 acres instead of

the 2471 acres now under cultivation. The land is worth five times as much as previously, and many of the land-owners are eager to have the sewage supplied to their properties. When the sewage leaves the farm so great is the degree of purification attained that a bacterial examination reveals fewer bacteria in the cubic centimeter than is the case of most streams—supposed to be uncontaminated.—New York Post.

Making a Hotbed.

The ordinary hotbed consists of a pile of fermenting stable manure, covered with a frame and glazed sashes, in which is a layer of fertile soil. The bed should be located where it will be easy of access, but it should be or dry ground, and not where water could flow over the ground and about its base, even in wet weather. It should also be sheltered from heavy winds, and with a full exposure to the sun. In preparation for a bed the fresh manure and long litter are collected from stables and drawn together to the location of the bed, where they



are placed in a conical pile. As the manure is thus thrown together it is packed down by treading on it, the treading being repeated as the bed is raised a few inches at a time, until the pile is finished off to a point at the top. After a few days it may be noticed that the pile is heating by seeing steam rise from it. It is then customary to handle over the manure, shaking it out and again making it into a pile and tramping it down as before. In two or three days the signs of heating will again be evident, and it is then ready to be made into a bed.

The bed should be made large enough to extend at least a foot outside of the frame at sides and ends. In throwing the manure into shape, as the pile rises in height every few inches, it should be beaten down with the back of the fork so that the material will be of uniform density. The bed should be two feet or two and a half feet in depth; the deeper it is the steadier and longer continued will be the heat. When the bed is finished evenly on top the frame can be set on and covered with the sashes. In a few days a strong heat will rise, and when this abates somewhat, so that the thermometer thrust into the manure indicates only eighty-five or ninety degrees, a layer of rich mellow soil that has been previously prepared should be placed in the frame and spread evenly over the bed, to a depth of about six inches. The bed is now ready for use, and seed sowing in it can commence. In the management of a hotbed constant reference must be made to a shaded thermometer kept inside, and air must be given sufficiently to keep the temperature down to about seventy degrees, and there should be mats provided for sheltering the bed on cold nights and in severe storms.—Vick's Magazine.

Feeding Without Profit.

The chief object of feeding should be profit from the conversion of field crops into more concentrated forms for market. When stock can be kept with profit, there is a double profit from the farm—one from producing the crops and one from converting them into meat, milk, wool, etc. But a considerable number of farmers that do not have profitable stock farms, feel obliged to keep stock for the sake of the manure, skinning all grass and clover fields, and growing other forage for the maintenance of the stock. We want to bear in mind that stock add nothing to the quantity of plant food in the forage, were it given directly to the soil, but that the feeding robs the average farm of more than half its strength. The stock takes part of its own use, and most farmers do not have perfect appliances for saving and applying the remainder. There is continual loss, the distribution is bad, usually, and if the cultivated field that grew a second crop of clover or a heavy aftermath of timothy could retain it as a mulch to be plowed under at the right time it would get far more fertility out of it than it ever would from the manure made by feeding it, and the distribution over the surface would be far more even. Nine times out of ten the fields need vegetable matter far more than anything else, and the idea that all growth should be passed through the stables means in actual practice the robbing of the field in respect to the very thing it most needs. If the feed is needed for stock that is going to bring a nice profit over all cost, that is another matter entirely; but where soil fertility is the main consideration, and cultivated crops are the farmer's source of income, he is on the wrong track when he puts labor on the harvesting of all manure crops, only to have half the fertility lost by passing through the stables. Soils may be fed as directly by plowing a growth under as by applying the manure gotten by feeding the growth, and the amount of plant food secured by the first method is much greater.