

THE LOST TRACK.

When my hand, searching, may longer find you In any clime.

If I but dream your step by hill or hollow Has left its echo falling on the wind, will arise and gird myself and follow Though I be blind.

Or if clear sighted, I shall but discover Where, through long fields, the whistling Comes like a sigh,

And should they lead me down to Death's

Though heart and soul shall quail and body quiver, I will wade in.

O Heart! beyond the tumult of the cross Only strange winds on leagues of grasses And the wide space,

Only Eternity with worlds to wander, soul among the unknown souls What then? What then?

#### MICHIGAN AT GETTYSBURG

What part did Michigan take in the , different positions held by the differ ent organizations. The infantry regi tattle of Gettysburg, the crowning victory of the civil war, and what was her loss? Of the seventeen loyal states engaged, her loss was the third in numbers and the first in the proportion to the numbers engaged. The following Michigan organizations, numbering 4,834 men, were engaged at the battle of Gettysburg: First Michigan Infantry, Third Michigan Infantry, Fourth Michigan Infantry. Infantry, Michigan Infantry, Michigan Michigan Infantry and teenth Twenty-fourth Michigan Infantry, Companies C. I. K and B. Berdan's Sharpshooters; Battery I, First Artillery; Michigan Brigade of Cavalry under the gallant Custer, consisting of the First Michigan Cavairy, Fifth Michigan Cavalry, Sixth Michigan Cavalry and Seventh Michigan Cavalry. Michigan had killed, wounded and missing, 1,131; killed, 192. Many died afterwards from wounds receiv-

to be erected on the battlefield in the Crotty, in Detroit Free Press.

ments' monuments cost each \$1,350 the sharpshooters, \$500 each, the bat tery \$1,000 and the cavalry brigade. one monument, cost \$5,400. The First Michigan monument is located on what is known on the battlefield as "The Loup;' the Third Michigan Infantry in the Peach Orchard; 'the Fourth Michigan Infantry in the Wheatfield: the Fifth Michigan Infantry on Cemetery Ridge; the Sixteenth Michigan Infantry on Little Round Top; the Twenty-fouth Michigan Infantry in Reynolds Grove near Willowby Run; the Sharpshooters on Little Round Top: the Battery Monument on Cemetery Ridge; the monument of the Cavalry Brigade located on Runnel's Farm, about three miles east of the village of Gettysburg. The monuments were dedicated on the 12th of June, 1889. They are a credit to our noble state, and the people of Michigan can take a just pride in her volunteer soldiers who fought in this glorious battle and the grand monu-In 1887 the legislature of Michigan ments erected to their memory on appropriated \$20,000 for monuments the battlefield of Gettysburg .- D. G.

#### "A MONTANA BLUFF"

Edgar Russell, chief signal officer in reason did not hit. On and on went the Philippines during the insurrec- the quartet, disdaining cover. tion, with a story, which he tells as an example of western nerve.

"We were outside of Manila in seventy-five Filipinos jump out of some little scrap," said the captain, their trenches and take to their heels "and about seventy-five natives were in mad flight. The nerve of the Monlying in a trench ahead of us, shooting away merrily, but not hitting anybody.

"By and by I noticed a little disturbance in our front. Presently four guns. That is what the army has Montana troopers trotted out of our come to call 'a Montana bluff.' It's a pinos. Everybody looked at them jackpot on a pair of deuces."-New a chance for that. with wonder, and waited to see them | York Tribune. all killed. Bullets whistled all around them, but they never halted.

"Slowly, just at a trot, they jogged ill-manners as flattery.-Swift.

#### GIRL MADE GOOD SOLDIER

among those he received. The soldier was a young girl, and that she and | Holly Springs. her brother at the outset of the war.

had enlisted in the Eleventh Illinois. | ta, Ga. There in attempting to escape The pair were orphans and were she was shot in the leg, but even in devoted to each other. She could not her confinement to the prison hospital bear the thought of being separated her sex was not discovered. After from the brother who had been her recovering from the wound inflicted only companion from babyhood. At by the prison guard she was sent to the expiration of her enlistment for Graysville, where she was exchanged three months in this regiment she was | She was sent to her Illinois home.

A story is told that while the Union | mustered out, and next enlisted in the army was at and near Chattanooga, Third Illinois, where her sex was not Col. Burke, of the Tenth Ohio. ex- discovered. In that regiment she changed a large number of prisoners | made a most excellent record, but with the rebels. The colonel noticed | being wounded in one of the engage a particularly natty young soldier ments, she was again discharged and sent home, only to re-enlist in the gave the name "Frank Henderson, and Nineteenth Illinois. She served in all said "he" belonged to the Nineteenth | the battles of Col. O'Mara's regiment

our utter astonishment, we beheld the

tana troopers was too much for them.

"When they had all fled, throwing

Nothing is so great an instance of

their rifles away as they ran, the

troopers came back, their arms full of

The girl soldier was taken to Atlan-

will you have the boxes put, colonel?"

# WHEN STEEDMAN LAUGHED

"Among the Ohio Democrats who I frightened, looked over the ground were in the army early," said the cap- returned, saluted, and asked, 'Where tain, "was Gen. James B. Steedman, and he has a monument at Toledo. Steedman had been a canal contractor | the sergeant he was a blankety blank profanity. On one occasion he order- To this the imperturbable sergeant ed a sergeant on duty to remove a replied with a salute, Excuse me, quick as the Lord would let him, as I trouble you again if I took them to he had decided that his own tent must I heaven?" Steedman was amazed, but stand just where some infernal idiot | he turned his back on the sergeant to had placed the boxes.

laugh in the face of his adjutant as "The sergeant, irritated, but not | he murmured, 'Take him away.' "-THE FOURTH ARMY CORPS

One of the most famous organiza- | zation. It consisted of seventy-six

tions in Washington on the occasion regiments of infantry and nine bat-

of the Grand Army encampment was teries of artillery, who bore their

colors to the front on many a hotly the Fourth Army corps. The corps was distinctly a fighting | contested field. machine. It was born of a great The states represented in the corps battle. It obtained its name and were as follows: Illinois, Indiana, splendid birthright from the consolida- Kentucky, Ohio, Pennsylvania, Mistion of the Twentieth and Twenty- souri, Kansas and Wisconsin. The first army corps, which had been re- three divisions of the corps were comease and battle losses, after Chickamauga. No body of defenders of the

Thomas I Word of the force this week was responsible for many amusing stories based many amusing stories base duced in numbers on account of dis- manded by Major Generals Devid S. from the force this week was respons-Thomas J. Wood. General Granger Union saw and bore more of the brunt | soon gave place to Gen. O. O. Howard, of the great struggle than this organi- and Sheridan to Gen. John Newton.

# ABRAHAM LINCOLN'S WATCH

When the news reached Washing- is one of the unique figures in Ameriton in April, 1861, that Fort Sumter can history. Commander of the cavwas under fire, John Dillon, an expert alry forces of the confederacy at 26, watchmaker, then working for the welding that unequaled army of rough ing the president's watch. When the hitting where least expected, he work was done, he scratched under fought bravely, resourcefully and efthe words:

we have a president who at least will try to save the Union!" A removal of the dial, which, of

course must be done by a watchmaker, will reveal the scratched words. It is a gold hunting case watch of English make, and, as Mr. Dillon was told and believes, it was the only watch that Abraham Lincoln ever wore. No doubt it is still preserved in the Lincoln family, with the scratching, above given, under the dial.

Gen. Wheeler's Career. In speaking of the chummy attentions which Gen. Lord Roberts, commander in chief of the British army. is paying to Gen. "Joe" Wheeler, the sody north and south will be glad of arms, were undoubtedly sincere and the facts," and adds: "Joseph Wheeler | conscientious.

the dial and on the plates of the watch | fectively until fighting was at an end, and then he brought out his good com-"First gun is fired! Thank God mon sense and proceeded to become a notable figure in civil life."

Helping to Bridge the Chasm.

The appeal issued by Gen. Eli Torrance, commander in chief of the Grand Army of the Republic, asking the members of the order to contribute funds toward building the home for confederate veterans at Mission Creek, Ala., has in it the eminently practical kind of sentiment that is solid and substantial. By helping to build the home for their former foemen the union veterans will be able to show that they are in earnest in their professions of amity and in their desire to show their heartiest respect for the men, who, however mistaken Washington Times says "that every. in the cause for which they took up

## Curse Said to Rest on Possessor of Diamond.

it. The brother came to grief, and has parted with it. Some say that it that no less than sixteen of the suc- jewels at Vienna. cessive possessors of the diamond either were killed or driven out of the country. The diamond was then seen | which would not recommend it as a by white men, who set out to get it. talisman to anyone of a superstitious A party of whites attacked the natives turn of mind. It is almost as grue-

tive, were lost. gem and concealed it in a wound dent Carnot by a friend, who laughingwhich he had received in battle. Af- ly told him a legend attached to it terwards Memela was caught by the which was to the effect that its posses-Boers and set to work as a slave. Kru- sion would attain supreme power and ger, hearing his story, released him, then die by the knife. The idol had valued at \$761,261,550, and live stock and in gratitude Memela gave the belonged to the Rajahs of Khadjurao,

The large diamond which Mr. Kru- | which had overtaken all the former ger took with him when he left South possessors of the diamond who had Africa has a very curious history. It not been killed—he was driven from originally belonged to Meshhesh, a power and forced to leave his native Basuto chief, from whom it was ex- country. Where the fatal diamond is torted by T'Chaka, the Zulu king. now is not certain, though it is known T'Chaka's brother killed him and stole | that the ex-president of the Transvaal the gem passed into the possession of is in the coffers of the Vatican, and a Zulu chief, who soon afterwards some that it was sold to the Emperor was assassinated. The natives say of Austria, and is among the crown

It is said to be 200 carats in weight but is not perfect. Its history is one who had the stone and a fierce fight some a possession as that hideous litensued, in which 300 lives, mostly na- the Indian idol, the destruction of which Mme. Carnot ordered in her Memela, a native chief, took the will. This idol was given to Presistone to his liberator. Some years of whom five certainly-perhaps more passed and then Krugershared the fate | -died by the knife of the assassin.

## **Accident on Gallows** Looked On as an Omen.

"Although I never saw but one we saw was a man getting up from said A. A. Albrechton of Columbus, Miss. "It was at my home. A young Mississippian named Purdy had been convicted of murder in the first degree and sentenced to hang. The evidence was wholly circumstantial, and before he was accused of that crime the young man had borne an excellent reputation. He was also connected by marriage with some of the best people in the state.

"Nevertheless, he was sentenced to hang and the governor would not reprieve him. There were two factions in the community, one believing him but it was all talk.

"The scaffold was not inclosed and when young Purdy ascended the gallows he walked erect and fearless. He What is regarded as one of the tall- on toward the enemy. The natives denied his guilt, and all who saw him she saw him alive at the time she ex est "bluffs" on record furnished Capt. fired and fired, but for some unknown | were compelled to admit his bearing | pected his corpse to be brought home was that of an innocent man. The To say Purdy is guilty is now almost "At last, there was a shout, and, to sheriff pulled a lever, and the next there."

hanging, I witnessed a sight that even the ground, snatching the black car farm products for 1899 exceeds that professional hangmen have not seen," from his head and declaring dramat ically: 'God has proved my inno | 92.6 per cent. This large increase is cence.

> enough. Former enemies turned into 1890. adherents, and before the sheriff could again take his prisoner to the gallows and get another rope he was in the center of a crowd of thousands of people, all of whom were swearing there were not sheriffs enough in Mississippi to hang an innocent man.

"Purdy was taken home, and an escort of 250 armed and determined men went with him and remained until there was no danger of any further guilty, and the other considering him proceedings being taken. Without any innocent. The latter talked of rescue, legal formalities the matter was allowed to drop and Purdy is living eighteen miles from Columbia, respected and happy. "Joy almost killed his wife when

## Circus Giant the Cause of Destructive Flood.

"The greatest of all giants," said the joverflowed all around, and started the old circus man, "was a great feller for grist mill off its foundations and car lines and started straight for the Fill- sort of nerve that lets a man open a goin' in bathing; he never neglected ried away the old wheel-it was like

> But at the same time he had to use some sort of gumption, or we had to \$750 damages. use it for him, about where he went in, on account of the danger there was know; to the necessity of using some from overflows caused by his displace | sort of caution about where to let the ment of the water. I well remember giant go in swimmin'. Obviously, it how we first came to realize this.

little pond formed by damming a cost us too much money. brook that ran through our place. fashioned overshot water wheeis.

Illinois. It developed that this soldier and finally was taken prisoner at thinking for a minute of what must coast." happen if he jumped into a small body of water like that suddenly and plunged in. "Snakes and alligators! The pond husband.

a flood you know, of course, down there at that end-and done about "Well! That opened our eyes you

wouldn't do for us to let him jump in "About twenty rods or so below the anywhere, into any little bit of a pond show's winter quarters there was a that we might come across; it would "And so he and the cld man had an

There was a small grist mill on this understanding that he wouldn't go in ish flowers, and slender pods about an pond, turned by one of those old- any where without the old man's per- inch long. mission; and we used to keep him out "The giant walked down to this lit- of the water all we could after that, tle pond one warm spring day just be- except when we showed at towns on fore we took the road that year, never | the Great Lakes, or at places on the

Many a woman who makes a man a mighty poor wife makes him a rich

FIREPLACE AS A MONUMENT.

Structure Recently Erected in an

Eastern Gravevard. In the old Smith graveyard, in the town of Windham, Me.-which con-H. Hunnewell has set up an extraordinary monument. In the middle of a large iron open fireplace, with the long crane hanging in the upper part. The colonel rose in his wrath and told and a '49er, and was given to rough fool. The sergeant saluted again still occupied by Mr. Hunnewell and American. usage of men, and when his regiment, and said: 'But where will you have his family" says the Kennebec Jourthe Fourteenth Ohio, was organized, the boxes put, colonel?' Steedman nal. "The old bricks in front of the parishioner of another as they forecolonel's rough language and ready don't care where; take them to hell.' in the house, as are the andirons are yau gaun to vote for?" which impart to this strange monupile of cracker boxes from a particu- colonel, but wouldn't they be more sible in this connection-hospitable an' it'll be the safest plan," was Marlar spot in camp and to do it as out of your way and less likely to look. The frame which is inserted in get's sagacious reply. this great open fireplace contains a printed record of eight generations vote wi' me." of Hunnewells, or from 1654 to Nov. 1, 1901, a period of 247 years. In addipictures of some of the oxen, sows, hurry." hogs and poultry owned by Mr. Hunnewell and which drew prizes at the fairs. There is also a large picture representing a farm scene in winter. The frame contains pictures of seven

A New York Police Captain. A police captain who was dismissed the New York Evening Post. Once he asserted that he "never paid any attention to unanimous letters." On another occasion he is said to have re- who had been sent inside for flowers. ferred to his possession of a "veraclous" appetite. Third avenue, he by. told a man one day, "runs paralyzed to Lexington avenue." At another time, one story goes, he was reading to an outgoing platoon a list of some firm of M. W. Galt & Bro., was repair riders into a weapon that was always clothing that had been reported stolen. One item was a kersey coat. "Next on the list, men," he announced, in his rich brogue, "is a kerosene coat." It was this captain who directed a patrolman to open a win-

ture of various domestic animals.

the air." It was not this captain, but a sergeant now dead, who, while testifying in a trial at police headquarters, asked permission of the commissioner to correct his testimony, saying: "Mr. Commissioner, I wish to retract the veracity of my former state-

dow in the station house and "putrefy

"'Tis Folly to be Wise." I hold it to be a fact that if all per sons knew what they said of each other, there would not be four friends in the world.-Pascal.

mert."

Children in Scuthern Mills. It is said that the Southern textile mills employ 50,000 children under sixtean years of age.

MAKING A WISE CHOICE. Minister Wanted Was One With the

Soundest Lungs. The parish kirk of Driechton had been rather unfortunate in its ministains eighteen graveyards-Charles ters, two of them having gone off in the lot he has set up on a brick case | number of candidates for the vacancy. the members were looking forward with keen interest to the meeting at

"Weel, Marget," asked one female

"I'm just thinkin' I'll vote for none ment such a-if the word is permis- o' them. I'm no' muckle o' a judge, "Toots, woman, if that's the way o't,

"An' hoo are you gaun to vote?" "I'm gaun to vote for the man that tion, the frame contains-surrounding I think has the soundest lungs an' 'Il

Latest Bernhardt Joke. A. H. Canby, the well known theatrical manager, was a Philadelphis newspaper man when Sarah Bernhens, two hogs, four cows, six oxen hardt first visited this city. Nothing in seven pictures, and one group pic- amazed theatergoers more than the great actress' extreme slimness of fig ure; and the newspapers were given to the printing of comic paragraphs the opportunity to see her perform of public control. When a multitude growth. The raising of leguminous carried. one afternoon, and was told that Bern edge of a great forest, there is no cheapest way of securing a supply. hardt was sitting in a carriage that was then standing in front of a florist's, awaiting the return of her maid. "I should like to see her." said Can

> "Well, walk down the street past the carriage and turn and look through the glass part of the door." he was advised. He sauntered away, but returned looking very disappointed.

"Well?" asked his friend. "I looked in, but saw nothing," an wered Canby. "That's she." he was then informed -Philadelphia Ledger.

Old-Time Chess Player. Carl August Walbrodt, whose death is reported from Berlin, was one of the well-known masters of modern chess and among the Germans was

ranked second only to Tarrasch. He was only 30 years old, yet had been a when he was beaten by Tarrasch

some cover it with a coat of paint. | grown in the same latitude. The are-



Census bulletin No. 237 treats arms, acres, crops and values.

A farm, as defined by the twelfth ensus, includes all the land under one nanagement used for raising crops and pasturing live stock, with the wood lots, swamps, meadows, etc., consected therewith. It also includes the louse in which the farmer resides, and all other buildings used by him n connection with his farming opera-

The farms of the United States, 1, 1960, numbered 5,739,657. farm: occupied 841,201,546 These icres, 414,703,191 acres being improved and 426,408,355 acres unimproved. They were valued at \$16,674,690,247. Machinery and farm implements were at \$3,078,050,041. 'hese values, added to that of the farms, gives \$20.514.001,-338 as the amount of capital invested in farms in this country. The total value of farm products for the year 1899 was \$4,739,118,752, of

which amount \$1,718,990,221, or 36.3 per cent, represents the value of animal products and \$3,020,128,531, or 63.7 per cent, the value of crops, including forest products cut or produced on farms. The total value of reported for 1889 by \$2,279,011,298, or partly due to a more complete and "The rope had broken. That was detailed enumeration in 1909 than in

Dakota Vetch.

Herewith we illustrate Dakota Vetch (Lotus Americanus). This is a plant native to Dakota, Kansas and other states of the Northwest. It is one of the valuable forage plants of the ranges. The United States Department of Agriculture has made a thorough investigation of this plant and recommends it for cultivation. In



vast quantities, and the seed could be easily gathered and a start made in its cultivation. It is bushy-branched, about a foot high, with small, yellow-\$1.17 an acre.

How to Prevent Forest Fires. The above is the question that is engaging the attention of a good many people, especially those that are interested in forestry. Minnesota has made more experiments in this line than probably any other state. Her great forests have been so many times fireswept that the legislature has taken a very keen interest in how to save them. One plan, now being tried, is have the whole population organized as a fire brigade. The supervisors in | 98 acres. any town can call on all males over 18 years of age, whenever fire breaks out. The idea is that such a fire must decline within a twelvemonth of their be checked promptly, even if it takes appointment, and now, after hearing a the whole population to do it. It is said that no great forest fire has ever been stopped while abundant material remained to feed it. Against a great "This fireplace did duty for years in which the election of the new minister forest fire the efforts of man are puny. the old Hunnewell house, which is was to take place, says the Scottish The unbearable heat prevents men from getting near enough to throw water on the flames. If the trees in its path be drenched with water, the the boys did not take kindly to their roared: 'Take them away, man, I fireplace are the ones originally used gathered on the road one day, "wha water is almost instantly evaporated by the terrific heat of the in-coming fire-wave. It is therefore seen that all the efforts must be made to prevent such disasters. And disasters they are, affecting every person in the nation. Had there been no great forest fires during the last fifty years it is altegether probable that the price of air, but the leaves of plants though lumber would not be more than half | constantly bathed in nitrogen cannot what it is at the present time. More- drink in a particle. It is only nitrogen the family record on all sides— no' bother us wi' deein' again in a over, the sources of the streams be in combination that can be appropri ing covered where they are now bare ated by the plant, and this enters the would have gaved numerous destruc- plant by the roots and comes through tive floods and washouts. When it is the soil. A small amount is brought remembered that single forest fires de | to the soil by the rain, washing out stroy more timber than is used for the ammonia and nitrates of the air. commerce during a year's time, and | but the amount is not large and en when we remember that the number | tirely inadequate to supply a crop. A | have to be run to elevate skim mitk

> we can see trat the results of the conflagrations are far-reaching. can be prevented without more or less of this costliest element of plant used where high pressure steam is reventing the owners from starting fires on their premises, which later get beyond control. In Germany of soda, and organic nitrogen in the place in the stroke. For heating it properly washed, but day after day the Government long ago assumed the form of dried blood, fish scraps, cot- is often possible to use exhaust carry old milk ferments into the new ownership of both public and private ton seed meal, etc.—Bulletin 202, Mich. steam, which will effect a considerforests. Forest fires are especially guarded against, in some cases by what might be called fire-lanes through the woods. The wood after having been cut over must be so handled that the brush and dead trees will not remain on the ground to form kindling wood for destructive conflagrations.

Some Potato Experiments. At the Missouri Experiment Station experiments have been carried on to determine the relative value of seed potatoes raised in that locality and of seed potatoes brought from the North. which most German chess players de ever, prove that with seed potatoes as ordinarily handled the Northern potatoes are far more valuable for plant-Some women show their age and ing in the South than are potatoes the property, especially in wet sea-

fessor says that possibly the Northerngrown potato possesses more vitality than does the Southern-grown potato even when the latter is produced and kept in the most ideal manner, but this remains to be demonstrated. He suggests that other factors than the vitality of the seed may be at the bottom of the wide difference in results. The Northern-grown seed has been matured more slowly and is kept in lower temperature than is the Southern-grown seed. When spring comes it is taken out of its cold storage, of whatever kind, and is crisp and fresh. All its vigor has been kept over from the previous season, and it goes to work to send up stalks and form new tubers. On the other hand

the Southern potato grows quickly and matures early in the season. It is taken out of the ground while the weather is still warm and is not put into cold storage. It begins to evaporate moisture and to lose vigor. By mid-winter it is sprouting, and when planted in the spring generally has had a number of sprouts removed. Missouri is too far north to permit of using the "second crop" potatoes, which are used for seed further south. It is suggested that by planting potatoes in Missouri much later than they do at present the crop might be brought to maturity just before frost, and these potatoes might be kept over in good condition till spring. At the present time the preponderance of testimony seems to be in favor of the Northern-grown seed. It would be an interesting experiment to have potato crops grown from both Northerngrown seed and seed from the "second crop" at the South. The South has never been able to grow white potatoes in large quantities. It may yet be found that the fault is in the condition of the seed. If either from better-kept Southern seed or from seed brought from the North, the South can double the yield per acre of its white potatoes, it may greatly stimulate the growing of this crop there .-Farmers' Review.

Irrigating With Steam Pumps.

Some very important experiments n irrigating by means of pumps have been recently made at the Arizona station. The water was pumped from a well six inches in diameter and 48 feet deep. A communication from the station savs:

One six-inch well 48 feet deep, with slotted strainer located in a 12-foot gravel stratum, furnished over 800 gallons of water per minute, or something over 6,400 cubic feet per hour. During this run 63-10 acres of alfalfa were irrigated in 23 hours and 45 acre for fuel. Since at this season of the year alfalfa is usually irrigated once in from fourteen to twenty-one days, it is quite probable that twice the quantity of water was required. for this irrigation that would have been required under normal conditions. Taking this as probably true, the cost of irrigating alfalfa would amount to about 65 cents per acre under normal conditions of dryness and frequency. The following figures are based on a cost

of about \$2.25 a cord for weed. Computations from the data obtained from the tests that have been made will no doubt be of interest, though incomplete, and are given be-

Cost of fuel for irrigating alfalfa, covering the surface of the ground: One inch deep, 19 1-2c per acre; 2 inches deep, 39c per acre; 3 inches deep, 58 1-2c per acre; 6 inches deep,

Area that could be irrigated in 24 hours, covering the surface of the

One inch deep, 42 acres; 2 inches deep, 21 acres; 3 inches deep, 14 acres; 6 inches deep, 7 acres. Size of farm that could be irrigated by running 24 hours each day if an irrigation be given to the successive fields every fourteen days, covering the surface of the ground:

Two inches deep, 294 acres; 3 inches deep, 196 acres; 6 inches deep, Size of farm that could be irrigated

by running 10 hours each day if an irrigation be given to the successive fields every 14 days, covering the surface of the ground:

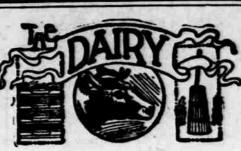
Two inches deep, 122 1-2 acres; 3 inches deep, 812-3 acres; 6 inches

deep, 40 4-5 acres.-J. J. Vernon. Nitrogen Compounds. Nitrogen is the bottled wine of the vegetable feast. If the term stimulant can be applied to any organization destitute of a nervous system, then nitrogen is the stimulant of plant life. In any of its combined forms it gives depth of color and exuberance of growth to vegetable life, and when in abundant supply it causes the plant to break forth into riotous growth. The great reservoir of nitrogen is the of such fires in fifty years is legion, large amount of active nitrogen in the from the separator. Leaking unions form of nitrates is yearly formed in and valves waste steam, and should every well cultivated field, and this is be attended to. Common valves, that It is difficult to see how forest fires | the cheapest way of securing a supply | cannot be kept tight, should not be igan Station.

> Good Advice A Minnesota paper has this to of the engine. Besides the indirect say in regard to a proposed waste of fuels that has been indicat-

creamery: "There is considerable ed, there are more direct wastes on talk about a creamery at Fish account of beilers not being properly Lake. It won't pay at that point. bricked in, and by having boilers im-It needs more cows, more set properly set; by allowing them to tlers, better roads, and is too far from get scaly and dirty, also through primstation." . . If what the paper ing. says is true, then its advice is good. There is only one case in which a creamery should be started before enough milk is secured to make it a success, and that is when a creamery In the agricultural museum, in tall has enough capital to enable it to run glass fars, are shown the results. for some years at a loss, in which case They represent three distinct sets of it can afford to wait some years for a experiments with three varieties of crop of calves to develop into cows. notatoes. The results are quite uni- It takes time even for a creamery to conspicuous player for about a dozen form. In each case the yield from the revolutionize a community of farmers. years. His early successes were re Northern-grown tubers was double Men do not readily get down to milk markable and unbroken until 1894 that of the yield from Southern-grown ing cows. But if the people themselves tubers. This seems to prove the case, are lacking, the case becomes still He was a player of the intuitive sort but Prof. Waters thinks that it does more doubtful as to success. It cerand could never be induced to take up not prove it, but that more experitainly has proven in the past a misthe profound theoretical studies in ments are necessary. It does, how take to locate under such conditions.

A drain here and there on the farm will immensely increase the value of of the milk is adultreated on the rail-



reameries, and it is nothing unusual

writer in the Irish Homestead. The

engine room has also been used for

storing sait, and we have heard of a

creamery equipped with a special

an ordinary oil lamp being placed on

top of one of the sacks of salt. Some

much neglected articles in the dairy

are the copper lids of heaters, and the

various brass cocks and valves in use.

These are never polished and in

time become quite dark and discol-

ored. What a contrast to those in

is polished and shining! The new

milk strainer and milk delivery pipe

from the tank to the heater are very

often neglected-the latter especially

can be found coated inside with de-

composing milk. The lubrication of

machines should receive more atten-

tion. We have often seen lubricators

on shafting quite empty, and the

grease cups on bearings of churns,

cream lifters, milk heaters, etc., in

the same condition. In a future ar-

ticle we hope to deal in detail with

the question of proper care in the

working of the various machines

found in a perfectly equipped dairy.

Now, as regards the "organization of

work" in the creamery, the successful

working of which so much depends

on the application of the various

forces necessary. In all business con-

cerns there must be a certain degree

of discipline and attention to detail

in order to insure success, and no-

where is the lack of these so apparent

as in creameries. Managers should

fix on certain hours on which em-

ployes are to commence work, stop for

dinner, etc. The writer has seen the

entire work of a dairy dislocated be-

cause an engine driver happened to

be an hour late in the morning. The

employes should be trained to take

each other's places, if necessary, and

the manager should qualify himself to

do any work in the dairy, from the

care of an engine, separators, etc., to

the churning and working of butter.

It is the lack of this knowledge on

the part of some managers which is

A Splendid Apple Butter.

which method we have used for many

years: Take good, ripe, sweet apples

for making the cider, cook cider as

soon as convenient in a well-cleaned

copper kettle holding a barrel or more.

latter making the finest butter, as they

cook better. As soon as your cider is

well skimmed put in your apples and

boil rapidly. Put in lump of butter

to keep from going over in the fire.

Cook down to about 15 gallons, being

very careful not to let it burn. Keep

it stirred with long-handled stirrer,

when done put in from 45 to 50 pounds

granulated sugar. If sour apples are

used it will take more, but each one

can sweeten to taste; then boil 15 min-

utes longer until sugar is well dis-

solved, pour in gallon crocks, and store

in a cool room and it will keep very

well. A good sign to tell when it is

cooked enough is when it is poured in

From Farmers' Review: A modern

o find salt and parchment piled up

Kansas City Star: "The time oming when Kansas City, like Paris, will live on goat's milk. The harassing early cry of the morning milk in the main dairy quite damp, says a man will give way to the joyous bleating of the goat as she is driven up to the back door. Our babies and our grown people will be healthy, and here will be an end to consumption." These predictions were made the other day by Dr. E. R. Allen, the first government meat inspector in Kansas City, now a goat fancier in charge of the model goat farm at Electric Park. You needn't turn up your nose as my wife did when I brought home my first milk goat. You'll get over it as she did, and you'll drink goat's milk Danish creameries, where everything as she did, and you'll enjoy it. There are more people drinking goat's milk in Kansas City to-day than you have any idea of, and there will be more of them right along. Every morning you will find carriages driving up to Electric Park bearing women with their babies: and if you could see them relish the goat milk when they drink it, babies and mothers alike, you would not smile at my prediction. why, we have 120 goats on the farm here and we milk about seventy of them. The goats average from one to three quarts a day each, and yet we cannot supply all our trade. I have sent to W. T. McIntyre, who owns these goats, to send two hundred more milkers from his ranch. "We established the government in

spection here in '91," said Mr. Allen, "and during my time at the stock yards and packing houses we inspected thousands upon thousands of goats that were slaughtered. After several years my attention was brought to the fact that in all those thousands of goats that had been inspected not one diseased goat had been found. We gave them three inspections, an antimortem, a post-mortem, and a microscopic inspection. It seemed remarkable to me that there was not at least one diseased goat in all these numbers, for we found many unhealthy cattle, and this fact first made me interested in the little milkers.

"At that time the packing company was slaughtering goats by the thousands, but the prejudice was so strong against the goat that their meat was placed on the market as "prime mut- responsible for the partial failure ton" and was very popular. Since the banquet at the stock yards a year ago, work properly done by his assistants when nothing but goat meat was a manager must be a judge of good served, the prejudice has gradually work, and the best judgment is that disappeared and you will now find which is founded on practical experi-'Angora venison' in almost every mar- ence, gained while engaged in that ket. These goats we have here are particular work. Mexican milk goats, but most of them

are crossed with Angora. "It has been several years since I have drank or used in any way cow's way of cooking apple butter with less milk. During our meat inspection at | work and a great deal better than the the stockyards we frequently came old-fashioned way is the following. across cows that were sent down by dairymen to be slaughtered because they had ceased to be valuable as dairy cows. The dairymen said they had 'bad udders' and when we came to kill them we found the udder was For 30 gallons of cider peel and core hard and caked. A microscopic exam- 15 gallons of sweet or sour apples, the ination showed that the 'bad udder' was full of tuberculosis germs, and we were horrified to find that these germs were in a position to mingle with every bit of milk given by the cow. That startled me and I never used cow's milk again. I went before the council to urge not only a rigid inspection of milk sold by all dairies, but also a rigid inspection of the cows in these dairies. The matter was taken up, but it got lost in the maze of politics. Goat's milk has all the properties of cow's milk, with the added value of absolute purity. The cream in the milk does not separate as it does in the cow's milk, but it is very rich in butter fat, and when butter is made the milk is churned without skimming. Excellent cheese can

be made from the goat's milk."

Machinery in Creameries.

able saving. In using exhaust steam

a back pressure valve should be

placed on the direct exhaust pipe

Milk Adulteration Abroad.

ated milk, as the sellers will not dis-

cose of anything but the pure article

to strangers. In some of the English

he cities and towns.

crocks it will cook out several little yellow bubbles in different places. A handy little article in making apple butter is a stick marked to tell how many gallons are in the kettle. To do this put in your kettle 5 gallons An expert in creamery management and mark, then make a notch for 10 says: Refrigerators are often too gailons and so on. It is quite handy large and not well built, causing the when you want to know when it is

waste ! large quantities of ice. cooked enough.-M. A. Graber. Damp, moldy refrigerators are a commen source of loss. In covering ice in Danger in Unwashed Milk Cans. the icehouse, wet sawdust, or an in-There is danger in unwashed milk sufficient quantity is often used, recans. In both Philadelphia and West sulting in rapid melting of the ice. Point scarlet fever has in the past mproper lining of shafting, light been spread by means of milk bottles, shafting or too few hangers cause inwhich, after being emptied, were percrease in friction and loss of power. mitted to stand unwashed in houses The same results follow where the where the disease was. But dirty cans belts are not run at the proper tenare more likely to prove carriers of the sions. The overloading of machindisease for several reasons. One is ery results in increased wear and that large cans in which are seams tear, if nothing more serious happens. and perhaps corrosions are more likely Sufficient oil, and no more than will to harbor germs than are bottles. The eep the bearings properly lubricated, acid of milk affects metal, but not should be used. The experienced glass. Cans left unwashed for days at reamery man should have his ear a time quickly get into a state in so attuned to the ordinary noise of which they cannot be successfully the machinery that he will quickly washed. Recently a milk inspector in detect any unusual sound, so that he Buffalo turned his attention to the may find out the cause in time to pregreat depots where milk is delivered. vent an expensive and annoying To his surprise he found that very breakdown. Very frequently machinmany of the cans that had been used in peddling milk from wagons were deal of power in doing little work, as returned to the farmers without washwhere an engine, shafting and pump ing. In some cases there would be a car load of these unwashed cans. It is probable that cities will pass laws compelling the washing of milk cans before they are sent back to the farmers. A daily washing of such cans in some city establishments where steam could be used would doubtless three forms; salts of ammonia, nitrate should be set to cut off at the proper or the cans in question never are

Potash Manure.

The best and cheapest is that neglected home product-wood ashes. These contain an average of five per cent of potash, besides a sensible amount of phosphate, and a very large amount of carbonates of lime and magnesia; they are an all-round plant manure so far as mineral matter is concerned, supplying each ash element. Unless the farmer can bring into active form the great store of Doubtless wherever milk is sold it potash in his soil, he will then have adulterated to a considerable extent. to buy the German potash salts, the muriate or sulphate. These salts are It has been commonly supposed that vearly coming into greater prominence adulterations of all kinds were less common than in other countries. If as potash fertilizers, but their sale in this is so, it seems not to apply to Michigan in separate form has not milk. The English authorities, how- been large. The influence of potash ever, keep after the men that are prac- on plant life is masterful; no plant eing the adulterations and seem to can grow without it, and its influence catch a good many of the culprits. The in developing the carbohydrates, and ficials have ever reported that it is maturing fruits, is marked and apparno easy matter to get hold of adulter- ently controlling.

It pays to keep the barns in good condition. A farm can be kept up lowns the percentage of adulterated only by constant attention. A little nilk runs as high as 16 per cent. Much | work must be done year by year.

Better mak' mistak's