

The Commercial Appeal

VOL. XVIII—NO. 50. COLUMBUS, NEB., WEDNESDAY, APRIL 4, 1888. WHOLE NO. 934.

COLUMBUS STATE BANK.

COLUMBUS, NEB.

Cash Capital - \$75,000.

DIRECTORS:
LEANDER GERRARD, Pres.
GEO. W. HULST, Vice Pres.
JULIUS A. REED,
R. H. HENRY,
J. E. TANKER, Cashier.

Bank of Deposit, Discount and Exchange.

Collections Promptly Made on all Points.

Pay Interest on Time Deposits.

COMMERCIAL BANK.

COLUMBUS, NEB.

CAPITAL STOCK, \$50,000.

OFFICERS:
C. H. SHELTON, Pres.
W. A. McALLISTER, Vice Pres.
ROBERT T. LINCOLN, Cashier.
DANIEL S. HIRAM, Asst. Cash.

DIRECTORS:
J. P. BECKER, H. P. H. OHLRICH,
JOHN WELCH, CHAR. REINKER,
H. M. WINNLOW.

This Bank transacts a regular banking business, will allow interest on time deposits, make collections, buy or sell exchange on United States and Europe, and buy and sell available securities.

We shall be pleased to receive your business. We solicit your patronage. We guarantee satisfaction in all business intrusted to our care.

FOR THE WESTERN COTTAGE ORGAN.

CALL ON
A. & M. TURNER
Or G. W. KILMER,
Traveling Salesman.

These organs are first-class in every particular, and so guaranteed.

SCHAFFROTH & PLATH,

DEALERS IN

WIND MILLS, AND PUMPS.

Buckeye Mower, combined, Self Binder, wire or twine.

Pumps Repaired on short notice.

One door west of Heintz's Drug Store, 11th street, Columbus, Neb. 1109-617.

HENRY GASS, UNDERTAKER!

Repairs of all kinds of Upholstery Goods.

COLUMBUS, NEBRASKA.

PATENTS.

Copyrights and Trade Marks obtained, and all Patent business conducted for MODERATE FEES. OUR OFFICE IS OPPOSITE U. S. PATENT OFFICE. We have two subdivisions, all business direct, hence we can transact patent business in less time and at LESS COST than those remote from Washington.

Send model, drawing, or photo, with description. We advise if patentable or not, free of charge. Our fee does not run till patent is secured. A book, "How to Obtain Patents," with references to actual cases in your state, county or town, sent free.

C. A. SNOW & CO.
Opposite Patent Office, Washington, D. C.

POSSIBLE PRESIDENTS.

SOME OF THE MEN UPON WHOM THE HONOR MAY FALL.

All Good Men and True—Which Will It Be?—Harrison, Allison, Blaine, Hawley, Sherman, Depew, Graham, Lincoln, Sheridan, Hilscock, Foraker or Evans.

All the talk at present is of the possibilities of the coming Republican national convention to be held in Chicago. Who will be the nominee is the great question. Every state, every newspaper and every intelligent voter has a choice. With its death knell rung on the Republican party of the present, and its place in the Democratic party, and has been for a long time, a foregone conclusion. But it is the great question of the Republican party in material that makes the choice of the delegates uncertain. From present appearances nearly all the states will send unattached delegates. The objects of the following sketches have already emphatically declined to be considered as presidential aspirants.

Joseph H. Hawley, of Connecticut, junior senator from that state, was born at Stewartsville, Richmond county, N. C., Oct. 21, 1830; graduated from Hamilton college, New York, 1857; admitted to the bar at Hartford, Conn., where he has since resided. He practiced law six years and then entered journalism as editor of The Hartford Evening Press, which position he held until 1867, when he was elected to the Hartford Convention. He is still the controlling genius in the Union army as a lieutenant in 1862, became brigadier and brevet major general and was mustered out in 1863; elected governor same year; was president of the Republican party in 1867 and re-elected at expiration of term; elected senator in 1881 and re-elected in 1887.

Benjamin Harrison, of Indiana, is grandson of the famous William Henry Harrison. Born at North Bend, O., Aug. 20, 1833; studied law in Cincinnati, and in 1854 removed to Indianapolis, which has since been his home; elected clerk of the supreme court in 1860; enlisted as second lieutenant in 1862, and after honorable discharge organized a company of the Seventh Indiana regiment and was commissioned as colonel; served through the war, and became brigadier general. Appointed by President Hayes on Mississippi river commission in 1878. Elected United States senator in 1880.

Robert Todd Lincoln, of Illinois, the son of Abraham Lincoln, was born in Springfield, Ills., Aug. 1, 1843. Graduated from Harvard college in 1864; commissioned captain by Gen. Grant in 1862, and again in 1867, when he was admitted to the bar in Illinois; declined many offers of public position and honor until 1870, when he was appointed by President Garfield, entering his cabinet as secretary of war. Mr. Lincoln was the only member of the Garfield cabinet not retained by President Arthur. He was widely distinguished as a personal and professional possibility in 1885, but positively refused to compete for the honor with his friend and chief, Chester A. Arthur, who was an aspirant; returned to his law practice in 1887, when William B. Allison, of Iowa, was elected Perry, O., in March, 1889, born at Statesboro, Ga., in 1827, and re-elected in 1875 and 1882.

Laurelton, a day 10, 1837; academic education; admitted to the bar in 1854. Delegate to national Whig conventions in 1852 and 1854, presided over the first Republican convention in this city in 1857. Elected to Thirty-fourth congress and re-elected to the thirty-fifth.

John Sherman, of Ohio, was born at Lancaster, O., in 1823, and re-elected in 1875 and 1882. Appointed secretary of the treasury in 1862, in which he served three years; elected to the United States senate in 1873, and re-elected in 1879. He was born at West Point, N. Y., in 1811. William Maxwell Evans, of New York, was born in Boston, Feb. 6, 1818; graduated at Yale, 1839; was one of the founders of the Yale Literary Magazine; admitted to the bar in New York in 1841; assistant district attorney of New York from 1842 to 1853; was counsel for the state in a number of great lawsuits; chairman of the Republican party before the electoral commission of 1877; secretary of state during the Hayes administration; represented United States in international monetary conference of 1881; took a seat in the United States senate in 1885.

Nothing Cut and Dried.

The situation now insures one of the most interesting conventions in the history of the party. There will be nothing cut and dried about it. There will be "instructions," and no need of controversy over the "unit rule."

Just to be Consistent, You Know.

David A. Wells and Parson Moore, who pose as exemplary free traders, both favor the duty on sugar, and both have written in favor of its retention. If the tariff creates trusts, why are not these gentlemen in favor of the abolition of the duty on sugar?—New York Press.

Just to be Consistent, You Know.

David A. Wells and Parson Moore, who pose as exemplary free traders, both favor the duty on sugar, and both have written in favor of its retention. If the tariff creates trusts, why are not these gentlemen in favor of the abolition of the duty on sugar?—New York Press.

Benjamin Harrison, of Indiana, is grandson of the famous William Henry Harrison. Born at North Bend, O., Aug. 20, 1833; studied law in Cincinnati, and in 1854 removed to Indianapolis, which has since been his home; elected clerk of the supreme court in 1860; enlisted as second lieutenant in 1862, and after honorable discharge organized a company of the Seventh Indiana regiment and was commissioned as colonel; served through the war, and became brigadier general. Appointed by President Hayes on Mississippi river commission in 1878. Elected United States senator in 1880.

Robert Todd Lincoln, of Illinois, the son of Abraham Lincoln, was born in Springfield, Ills., Aug. 1, 1843. Graduated from Harvard college in 1864; commissioned captain by Gen. Grant in 1862, and again in 1867, when he was admitted to the bar in Illinois; declined many offers of public position and honor until 1870, when he was appointed by President Garfield, entering his cabinet as secretary of war. Mr. Lincoln was the only member of the Garfield cabinet not retained by President Arthur. He was widely distinguished as a personal and professional possibility in 1885, but positively refused to compete for the honor with his friend and chief, Chester A. Arthur, who was an aspirant; returned to his law practice in 1887, when William B. Allison, of Iowa, was elected Perry, O., in March, 1889, born at Statesboro, Ga., in 1827, and re-elected in 1875 and 1882.

Laurelton, a day 10, 1837; academic education; admitted to the bar in 1854. Delegate to national Whig conventions in 1852 and 1854, presided over the first Republican convention in this city in 1857. Elected to Thirty-fourth congress and re-elected to the thirty-fifth.

John Sherman, of Ohio, was born at Lancaster, O., in 1823, and re-elected in 1875 and 1882. Appointed secretary of the treasury in 1862, in which he served three years; elected to the United States senate in 1873, and re-elected in 1879. He was born at West Point, N. Y., in 1811. William Maxwell Evans, of New York, was born in Boston, Feb. 6, 1818; graduated at Yale, 1839; was one of the founders of the Yale Literary Magazine; admitted to the bar in New York in 1841; assistant district attorney of New York from 1842 to 1853; was counsel for the state in a number of great lawsuits; chairman of the Republican party before the electoral commission of 1877; secretary of state during the Hayes administration; represented United States in international monetary conference of 1881; took a seat in the United States senate in 1885.

Philip Henry Sheridan, of Ohio, was born at Somerset, Perry county, March 6, 1831. Graduated from United States Military academy at West Point, 1853, and assigned to the First infantry as brevet second lieutenant, July 1, 1853; ordered to Texas and thence transferred to the Pacific coast in 1855; reassigned in 1861 and assigned to the army of south-western Missouri as chief quartermaster, May 25, 1862; appointed colonel of the Second Michigan cavalry, and later, in same year, transferred to the regular army as brigadier general and transferred to the army of Ohio. After some notable service was commissioned major general, April 1, 1863, and promoted to lieutenant general. He assumed command on the retirement of Sherman, Nov. 1, 1863. William Maxwell Evans, of New York, was born in Boston, Feb. 6, 1818; graduated at Yale, 1839; was one of the founders of the Yale Literary Magazine; admitted to the bar in New York in 1841; assistant district attorney of New York from 1842 to 1853; was counsel for the state in a number of great lawsuits; chairman of the Republican party before the electoral commission of 1877; secretary of state during the Hayes administration; represented United States in international monetary conference of 1881; took a seat in the United States senate in 1885.

Nothing Cut and Dried.

The situation now insures one of the most interesting conventions in the history of the party. There will be nothing cut and dried about it. There will be "instructions," and no need of controversy over the "unit rule."

Just to be Consistent, You Know.

David A. Wells and Parson Moore, who pose as exemplary free traders, both favor the duty on sugar, and both have written in favor of its retention. If the tariff creates trusts, why are not these gentlemen in favor of the abolition of the duty on sugar?—New York Press.

Just to be Consistent, You Know.

David A. Wells and Parson Moore, who pose as exemplary free traders, both favor the duty on sugar, and both have written in favor of its retention. If the tariff creates trusts, why are not these gentlemen in favor of the abolition of the duty on sugar?—New York Press.

Nothing Cut and Dried.

The situation now insures one of the most interesting conventions in the history of the party. There will be nothing cut and dried about it. There will be "instructions," and no need of controversy over the "unit rule."

Just to be Consistent, You Know.

David A. Wells and Parson Moore, who pose as exemplary free traders, both favor the duty on sugar, and both have written in favor of its retention. If the tariff creates trusts, why are not these gentlemen in favor of the abolition of the duty on sugar?—New York Press.

Just to be Consistent, You Know.

David A. Wells and Parson Moore, who pose as exemplary free traders, both favor the duty on sugar, and both have written in favor of its retention. If the tariff creates trusts, why are not these gentlemen in favor of the abolition of the duty on sugar?—New York Press.

life saved Gen. Sheridan's Life.

L. N. Wade, of Jamestown, D. T., the owner of a fine stock ranch a few miles west of the youngest soldiers in the service, and once had the good fortune to save the life of Gen. Sheridan. Wade had dismounted on a march and gone down to a deep spring off the road to get a drink of water. While bending over the spring he heard some one call to him. Looking up he saw an officer on horseback, who was beckoning to him and telling him to come there. Wade didn't relish being ordered about so peremptorily, and proceeded to fill his canteen, when the officer, noticing the delay, called again, saying: "Come here. I am Gen. Sheridan, and I am very sick. I want you to help me right away."

Wade didn't need any more, but started to the general on a run. Sheridan had by this time dismounted and lain down on the ground. He told the young soldier that he was mortally wounded and had faintly mounted and rode back to a surgeon as fast as he could, and hurrying his staff up, who must have been beside him, he rode where to go to find Sheridan he set out in search of the staff. He found a number of them and conducted them hurriedly to the general, who was lying on the ground. The surgeon had just arrived, and by this time Sheridan was unconscious. By the use of restoratives and antidotes he was brought to his senses, and he was a narrow escape, however. I have forgotten what occasioned the poisoning, but it came about accidentally, and it is a pity that it was not the result of design on the part of any one.—St. Paul Pioneer Press.

It is Human Nature.

"I'd like to know," he began as he entered police headquarters, "if we have a police force?"

"Then want it to protect me! I am a taxpayer."

"You shall be protected, sir. What is the case?"

"Why, I got some point on my overcoat last night and left it out doors to dry. It's gone, and I don't know where it is."

"Well, we'll try and find it for you."

The wretched man had scarcely departed when a second stranger entered and demanded to know where his horse was.

"I have no police or have we not?"

"We have," replied the sergeant.

"Well, here's an overcoat I found in my yard last night, and I don't know where the horse probably left it. Just smell the chloroform, will you?"

A messenger was sent to overtake the first man, and he returned and identified the coat, which had blown over the fence.

"Yes, sir, it's mine," he said, as he started off, "and hope the police will be more vigilant with my horse."

"And it was in my yard, sir," said number two, as he went out, "and if any more burglars come here, my horse will bear from me."—Detroit Free Press.

Can They Answer These?

A reader of The Boston Journal proposes a few questions in that paper, over which will find some of our readers a few pleasant evenings in preparing satisfactory answers. Among them are:

Who is that free trader who is so good for England, that he wishes to have all other countries free traders, that every Englishman should be a free trader?

Who is that free trader who is so good for farmers, and protection an injury, that the farmers of England are, as English papers state, "the very best of the best" in the world, and that every farmer in the United States growing richer and more prosperous every year?

Why is it that workingmen in the United States are so poor, and that "purchasing wages" ever earned under any government during the history of the world; and from the largest manufacturing centers in the world, and that brings news of riots for bread by the starving mechanics of those places—not for more wages, but for enough to keep from starving?

Why is it that thousands upon thousands of her best mechanics have left their native England for the United States in the last few years, and that free trade is better for the workman than protection?

Who buys the most clothes, who has the best management of his money, and who has the largest savings bank deposits, who gets the best average education, who has the best opportunities for advancement, and who has the best opportunity to own their own homes—the protected workman in the United States or the unprotected workman in free trade England?

Cold Facts and Figures.

"For the benefit of those who are carried away by the decision that the cost of living is less than formerly, a few figures ought to serve to dispel such delusion. From reliable published tables of prices in the Boston market for forty years, under different classes of tariff, we have prepared the following table of prices of the present day. Any buyer of the above named articles will only pay about 60 per cent. of the price of the above named articles, possibly more than half retail price, for the nearest approach to equality are the prices of molasses and coffee, the one taxed and the other free, while sugar, so oppressively taxed, sells for the better grade, at about half the former price of the most common quality."—Extract from letters of R. A. Atwell, of Cambridgeport, in New York Press.

Every Voter Should Read Them.

The American Protective Tariff League is publishing an interesting list of literature, and will be glad to furnish the following pamphlets to any one who will send ten cents for postage for the entire list, or a two cent stamp for any single document. Recent issues include:

"The Farmer and the Tariff." Col. Theodore Tilton.

"The Wool Interest." Judge William Lawrence.

"Workingsmen and the Tariff." W. M. Everts.

"The Free Trade and the Free Trade Message." R. P. Porter.

"Some Views on the Tariff by an Old Business Man." George Draper.

"Tariff Talks to Workmen." Isaac E. Smith.

"Pallaces of Free Trade." E. P. Mearns.

"Which is Best for the Farmer—Protection or Free Trade?" Thomas H. Dudley.

"Wages, Living and Tariff." E. A. Hartshorn.

"Protection." Address by E. H. Amidown.

Where the Surplus Would Go.

Democrats want to reduce the surplus by reducing home manufactures. This will do it. This will send our surplus to

foreign countries to pay for imported goods and to pay foreign labor. What do demagogues mean by declaring in favor of taking the wages now being paid to American workmen to pay foreign labor? And yet this is precisely what they are advocating. The surplus "will go," but it will go to enrich the foreign manufacturer and pay his workmen, and not to enrich our own free trade in this country.—Detroit Tribune.

Free Trade Trade.

This is the kind of twaddle with which free trade newspapers are in the habit of seeking to delude simple minded readers. The Philadelphia Record is responsible for it:

When a sewing machine slips on her thumb (taxed 25 per cent.) and throws her needle (taxed 25 per cent.) with thread (taxed 35 per cent.), and slips it off with scissors (taxed 35 per cent.), and sews a button (taxed 25 per cent.) on her hand, she is compelled to take down or she is quite unconscious in her effort to get on in the world how the blessed tariff bears down upon her. But it is high time she should think of it, and make her husband, who is clothed with Wade's wisdom, use up his high taxation in the right of labor.

The truth is that every one of these articles, from the iron pipe to the cotton States today for less money than the same would cost if the supply were dependent upon foreign importation under a free trade system.—Troy Times.

The Result Foretold.

The tariff on pig iron is \$6.75 per ton. Take this tariff off and our furnaces will be able to produce the iron at a lower cost and reduce wages to the European standard. The cost of production of a ton of pig iron in Great Britain is \$7.45, while the cost in this country during the past six months has been about \$18. Taking into consideration the low cost of manufacture in England, the low ocean freights, it is not to be seen that by the removal of the tariff on pig iron, England would soon drive our manufacturers out of the business. Why, pray tell us, should the United States today be making a choice to peel the iron duty and ruin the pig iron industry? Are the English manufacturers worthy of our care and consideration? Why take the bread out of the mouths of American workmen and their families to help the English iron manufacturers?—Wilkes-Barre Record.

George Alfred Townsend recently called on the Hon. Sherman at the E. H. Avenue hotel in this city, and in the course of his call remarked: "General, the Republicans ought to nominate you for president next year. There are two things in your favor, and one of them is that I am a very good one, and in order to live out my life in the labor of keeping from being elected by any ambition or career. I am now older than Gen. Washington was when he died; older than Gen. Jackson was when he died; older than Gen. Grant was when he died; older than Gen. Sherman was when he died; older than Gen. Sherman was when he died; older than Gen. Sherman was when he died."—Frank G. Carpenter's Washington Letter.

George Alfred Townsend recently called on the Hon. Sherman at the E. H. Avenue hotel in this city, and in the course of his call remarked: "General, the Republicans ought to nominate you for president next year. There are two things in your favor, and one of them is that I am a very good one, and in order to live out my life in the labor of keeping from being elected by any ambition or career. I am now older than Gen. Washington was when he died; older than Gen. Jackson was when he died; older than Gen. Grant was when he died; older than Gen. Sherman was when he died; older than Gen. Sherman was when he died."—Frank G. Carpenter's Washington Letter.

Neither a free trade president nor a free trade congress can pull free trade wool over the eyes of American farmers and stock raisers. The other side of the coin and think for themselves. Democrats are thicker in the alleys and saloons of the great cities, and they are between the ears of the plow and in the workshops. This is fully illustrated in New York city, where the voice of the slums silences the voice of the great state.—Chicago Inter Ocean.

Roger's Chills Anticipations.

Mr. Roger Q. Mills—we insist on the Q—says he believes the Democrats will make gains in Pennsylvania, New Jersey and the northeast. This is very vague indeed, and shows that Mr. Roger Q. Mills' belief is of the nature of a sponge, which contracts or expands according to the amount of moisture there is in the air.—Atlanta Constitution.

What the Nominee Must Be.

The candidate to be chosen next June will be one of the most important of his times—one identified with his history and struggles, one who kept the faith in 1844, and who has not abated a jot or tittle of his Republicanism, and who has held at any time or for any purpose.—Indianapolis Journal.

Democratic Economy.

If Public Printer Benedict keeps on melting up the plates of valuable government publications, and in binding the illustrations of one book with the pages of another, he will soon produce a very picturesque confusion in the congressional printing office.—New York Mail and Express.

Edmunds Hit 'Em Hard.

One of the boldest arguments in support of the protective tariff is that of United States Senator George F. Edmunds, published in Harper's Monthly for February. The Vermont statesman deals in cold logic; and it will be impossible for the industrial life of the nation to be strangled by his manly and logical strong points he makes.—Chicago Journal.

Placed Where It Belongs.

The attack on the principle of protection embodied in the existing tariff is not an attack on monopolies, as the Democrats so constantly represent, but it is an attack on the laboring masses.—San Francisco Bulletin.

Two Eyes for One in This Case.

Mr. Thobes has gone back to his shop, but for every blow struck by Speaker Carlisle at the industrial life of the nation he promises to strike two at the political life of Mr. Carlisle.—Ogdenian Journal.

Syrup of Figs.

In Nature's own true laxative. It is the most easily taken, and the most effective remedy known to cleanse the System when Bilious or Costive; to dispel Headaches, Colds and Fevers; to cure Habitual Constipation, Indigestion, Piles, etc. Manufactured only by the California Fig Syrup Company, San Francisco, Cal. For sale only by Dwyer & Becher. 27-y

FARM AND GARDEN.

A CONVENIENT AND SAFE DEVICE FOR HOLDING A BULL.

Southwestern Exposure and Sunshine for Bees. Live Stock Statistics—The Market Gardener's Edition—All About Methods. Safe Device for Handling a Bull.

In this progressive age most farmers grow some of their plants under glass, and in this manner keep space with the regular market gardener. The construction and management of hotbeds is a comparatively simple matter after one has had some practical experience in this direction. Manure beds are the sort oftenest used, and horse droppings is the preferred material. There are two methods in use now by gardeners in forming the manure bed, one digging a pit and sinking the manure into it, and others building the manure up into a square bed and setting the frame on it. The first method requires the most labor and the second the most manure, hence in making a choice of methods one must labor versus manure decide the matter. The first plan is the one generally employed, and therefore is familiar, having been often explained. The cut here given shows a perspective view of a bed constructed on the second method, and is described by Isaac F. Tillingham, in his "Plant Manual," along with other instructive matter of general and wide-spread interest.

Mr. Tillingham advises that the spot selected for the bed be as sheltered as possible, and that the manure be of the building or high board fence. The sash should slope gently to the south or east. If the manure is fine and contains little or no long straw it will be necessary to put a plank frame around it to keep it in position. After leveling the manure there ought to be three or four narrow boards forming a frame, and the manure should be piled to the top of the frame and the weight of the frame and sash will force down into the manure, and in the center of the bed will appear to raise and displace the plants.

When ready to begin operations the manure ought to be forked over, shaken out finely and thrown into a high conical heap to heat; if dry it should be watered and covered with a sack or tarpaulin. If allowed to stand in this heap about a week it will heat and begin to smoke like a small volcano. A vital point to be observed in making a hot bed is to spread the manure down while hot; if then continues to heat, but if spread down cold it will heat slowly and unevenly. Early in the morning, when the temperature of the weather is still anticipated, it is advised to use a common wagon box full of manure to each sash, but later in the season, when the weather is such that transplant seedlings, one-half that quantity will suffice. The soil used should be prepared in advance; it must be light, loose and rich. This soil should be placed on the manure to a depth of from four to six inches and the glasses properly adjusted. The most common sashes are 5 by 4 feet, the frame, therefore, should be made 6 feet wide and as long as is necessary to accommodate the number of sashes to be used. The sashes should be placed on the manure so that they will be about four inches apart and scatter them quite thickly in the rows. Mr. Tillingham advises against sowing seeds in the rows, but in the case of plants are about three inches high he transplants into rows 3 by 6 inches, and as soon as these require more space he transplants again. In transplanting tomato plants it is advised to get the stem well into the soil. The object sought is plenty of fibrous roots on a short, stocky stem. Carefully watch the temperature of the beds, which ought to be kept as near 65 degs. as possible for tomatoes, peppers, etc. Cabbage and cauliflower require less heat and ought not to be placed in the same bed with tomatoes. Mr. Tillingham thinks that better cabbage plants are produced without bottom heat, and employs for these a frame fitted the same as for a hotbed, except that the manure is omitted for the bottom heat. He covers this frame with sash and sows the seed in February or early March.

A Good English for Market Gardeners.

Among novelties in vegetables catalogued for the first time is the Philadelphia white "box" radish, which is illustrated in the present issue of the Gardener's Guide for 1888, and shown in the accompanying cut. The points of superiority claimed for it are, a short top, rapid growth, perfect turnip shape, extra fine quality and showing no disposition to become pithy with age.

Philadelphia Box Radish.

Vick has found it especially adapted for growing in boxes or frames, hence its name, as its early sowing on squares or borders in the open ground, and its thick short leaves, can be sown very thickly in the row without causing the leaves to "draw." It has been estimated that one-half more radishes can be grown in the same space of this sort than most other varieties, hence its value to those engaged in forcing early vegetables under glass.

Care of Cows During the Spring and Summer—A Novelty in Peppers—Value of Safe and Gentle Horses—How to Fertilize Crops.

Incorporated in the report of the transactions of the Massachusetts Horticultural society in an essay by Dr. C. A. Goeman on "The Rational Fertilization of Garden Crops and Fruits." Following are some useful extracts from the same. One of the first requirements for a healthy condition and a subsequent successful propagation of any plant consists in adopting a well devised system of fertilization. An indifferent system of manuring is at the root of a great many failures. A system of manuring is rational when it is based upon the results of a

careful examination into the composition of the plant under cultivation and on a due consideration of its natural qualifications for availing itself of the needed plant food, both from the atmosphere and the soil. Plants with well developed and extensive root system may prosper where those with a compact one will fail, and the same statement applies with equal force to the character of their leaf system. (See illustrations in which "a" represents rye, "b," turnip, "c," sugar beet, "d," corn, "e," lucerne and "f," potato.) To determine with certainty the composition of a plant, especially with reference to its soil constituents, requires repeated examinations in different stages of its growth and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

Mr. Tillingham advises that the spot selected for the bed be as sheltered as possible, and that the manure be of the building or high board fence. The sash should slope gently to the south or east. If the manure is fine and contains little or no long straw it will be necessary to put a plank frame around it to keep it in position. After leveling the manure there ought to be three or four narrow boards forming a frame, and the manure should be piled to the top of the frame and the weight of the frame and sash will force down into the manure, and in the center of the bed will appear to raise and displace the plants.

When ready to begin operations the manure ought to be forked over, shaken out finely and thrown into a high conical heap to heat; if dry it should be watered and covered with a sack or tarpaulin. If allowed to stand in this heap about a week it will heat and begin to smoke like a small volcano. A vital point to be observed in making a hot bed is to spread the manure down while hot; if then continues to heat, but if spread down cold it will heat slowly and unevenly. Early in the morning, when the temperature of the weather is still anticipated, it is advised to use a common wagon box full of manure to each sash, but later in the season, when the weather is such that transplant seedlings, one-half that quantity will suffice. The soil used should be prepared in advance; it must be light, loose and rich. This soil should be placed on the manure to a depth of from four to six inches and the glasses properly adjusted. The most common sashes are 5 by 4 feet, the frame, therefore, should be made 6 feet wide and as long as is necessary to accommodate the number of sashes to be used. The sashes should be placed on the manure so that they will be about four inches apart and scatter them quite thickly in the rows. Mr. Tillingham advises against sowing seeds in the rows, but in the case of plants are about three inches high he transplants into rows 3 by 6 inches, and as soon as these require more space he transplants again. In transplanting tomato plants it is advised to get the stem well into the soil. The object sought is plenty of fibrous roots on a short, stocky stem. Carefully watch the temperature of the beds, which ought to be kept as near 65 degs. as possible for tomatoes, peppers, etc. Cabbage and cauliflower require less heat and ought not to be placed in the same bed with tomatoes. Mr. Tillingham thinks that better cabbage plants are produced without bottom heat, and employs for these a frame fitted the same as for a hotbed, except that the manure is omitted for the bottom heat. He covers this frame with sash and sows the seed in February or early March.

A Good English for Market Gardeners.

Among novelties in vegetables catalogued for the first time is the Philadelphia white "box" radish, which is illustrated in the present issue of the Gardener's Guide for 1888, and shown in the accompanying cut. The points of superiority claimed for it are, a short top, rapid growth, perfect turnip shape, extra fine quality and showing no disposition to become pithy with age.

Philadelphia Box Radish.

Vick has found it especially adapted for growing in boxes or frames, hence its name, as its early sowing on squares or borders in the open ground, and its thick short leaves, can be sown very thickly in the row without causing the leaves to "draw." It has been estimated that one-half more radishes can be grown in the same space of this sort than most other varieties, hence its value to those engaged in forcing early vegetables under glass.

Care of Cows During the Spring and Summer—A Novelty in Peppers—Value of Safe and Gentle Horses—How to Fertilize Crops.

Incorporated in the report of the transactions of the Massachusetts Horticultural society in an essay by Dr. C. A. Goeman on "The Rational Fertilization of Garden Crops and Fruits." Following are some useful extracts from the same. One of the first requirements for a healthy condition and a subsequent successful propagation of any plant consists in adopting a well devised system of fertilization. An indifferent system of manuring is at the root of a great many failures. A system of manuring is rational when it is based upon the results of a

careful examination into the composition of the plant under cultivation and on a due consideration of its natural qualifications for availing itself of the needed plant food, both from the atmosphere and the soil. Plants with well developed and extensive root system may prosper where those with a compact one will fail, and the same statement applies with equal force to the character of their leaf system. (See illustrations in which "a" represents rye, "b," turnip, "c," sugar beet, "d," corn, "e," lucerne and "f," potato.) To determine with certainty the composition of a plant, especially with reference to its soil constituents, requires repeated examinations in different stages of its growth and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

careful examination into the composition of the plant under cultivation and on a due consideration of its natural qualifications for availing itself of the needed plant food, both from the atmosphere and the soil. Plants with well developed and extensive root system may prosper where those with a compact one will fail, and the same statement applies with equal force to the character of their leaf system. (See illustrations in which "a" represents rye, "b," turnip, "c," sugar beet, "d," corn, "e," lucerne and "f," potato.) To determine with certainty the composition of a plant, especially with reference to its soil constituents, requires repeated examinations in different stages of its growth and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

careful examination into the composition of the plant under cultivation and on a due consideration of its natural qualifications for availing itself of the needed plant food, both from the atmosphere and the soil. Plants with well developed and extensive root system may prosper where those with a compact one will fail, and the same statement applies with equal force to the character of their leaf system. (See illustrations in which "a" represents rye, "b," turnip, "c," sugar beet, "d," corn, "e," lucerne and "f," potato.) To determine with certainty the composition of a plant, especially with reference to its soil constituents, requires repeated examinations in different stages of its growth and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

careful examination into the composition of the plant under cultivation and on a due consideration of its natural qualifications for availing itself of the needed plant food, both from the atmosphere and the soil. Plants with well developed and extensive root system may prosper where those with a compact one will fail, and the same statement applies with equal force to the character of their leaf system. (See illustrations in which "a" represents rye, "b," turnip, "c," sugar beet, "d," corn, "e," lucerne and "f," potato.) To determine with certainty the composition of a plant, especially with reference to its soil constituents, requires repeated examinations in different stages of its growth and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

careful examination into the composition of the plant under cultivation and on a due consideration of its natural qualifications for availing itself of the needed plant food, both from the atmosphere and the soil. Plants with well developed and extensive root system may prosper where those with a compact one will fail, and the same statement applies with equal force to the character of their leaf system. (See illustrations in which "a" represents rye, "b," turnip, "c," sugar beet, "d," corn, "e," lucerne and "f," potato.) To determine with certainty the composition of a plant, especially with reference to its soil constituents, requires repeated examinations in different stages of its growth and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their complex character and on their influence over various physical and chemical qualities of the soil. Experience proves that barnyard manure is most efficient when used for the reproduction of those crops which have contributed materially to its manufacture; and the same proposition applies to wood ashes, which are the mineral value of vegetable compost and ashes.

To feed plants rationally implies information of two kinds:—the nature of the special wants of the plant as regards the absolute amounts and relative proportions of the various plant foods, and a familiarity with the various successive stages of growth, and when raised upon different kinds of soil. The good effects of barnyard manure and wood ashes rest on their