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1919

OLDS & WHIPPLE

SEEDS AND
FERTILIZERS
HARTFORD, CONN.





A magnificent crop of Cuban shade tobacco on the plantation of the Hartford Tobacco Corp., Hazardville, Conn.
This corporation are large users of our fertilizers.
(Photograph taken Aug. 13, '18)

Foreword.

AT the time of issuing this Catalog one great fact stares us in the face, a world shortage of foodstuffs. Mr. Hoover, food conservator for the world, states that there will be much suffering and actual starvation in Europe unless we ship this year twenty to twenty-five million tons of foodstuffs. This is very much more than we have ever shipped in one year and about four times the amount in one year before the war. It is the duty of every one who can to produce some part large or small of this very necessary food. We thank you for your patronage in the past and shall endeavor to merit same in the future.

OLDS & WHIPPLE.



SEED, FERTILIZER

AND

AGRICULTURAL IMPLEMENT CATALOG

For 1919



FERTILIZER FACTORY :

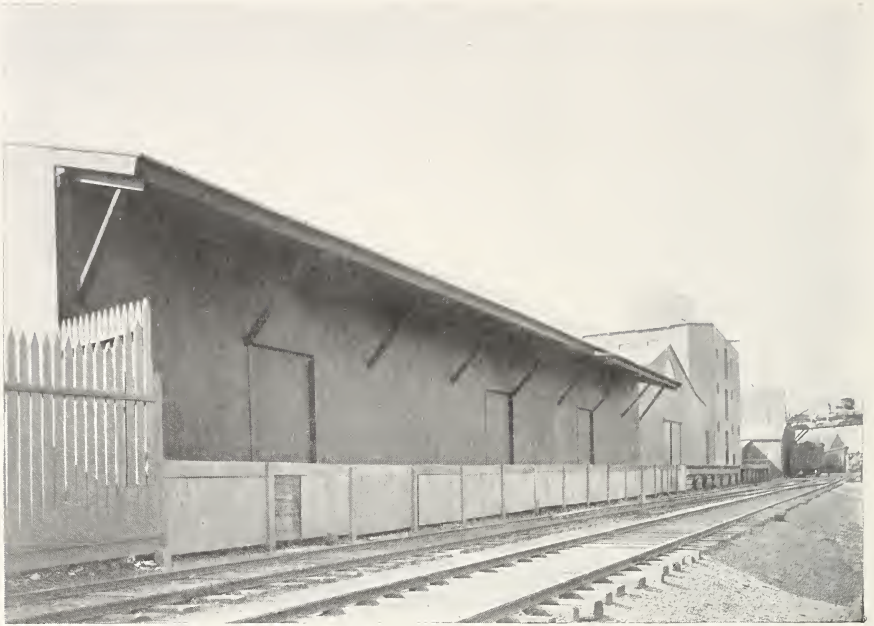
No. 96 Commerce St. cor. Grove St., Hartford, Conn.

MAIN OFFICE AND IMPLEMENT WAREHOUSE :

164-6-8 State St., Hartford, Conn.

OLDS & WHIPPLE

NOTE: Stop at State Street Office and secure a written order on Warehouse for fertilizers.



**OUR FERTILIZER FACTORY, 96 Commerce St. and on line of
Valley Div. N. Y., N. H. & H. R. R.**



**OUR NEW STORAGE WAREHOUSE, Tolland St., E. Hartford
about opposite Station 17, Burnside Ave.**

Olds & Whipple's List of Fertilizers for 1919.

O. & W.'s Special Fertilizers

O. & W's Special Phosphate.	O. & W's Dry Ground Fish, high grade.
" " Tobacco Special	" " Corn, Potato & Onion Fertilizer
" " Complete Tobacco Fertilizer	" " Special Grass Fertilizer
" " Lawn Fertilizer.	" " Special Onion, Corn and Potato
" " Own Brand of Pure Steam Bone Meal.	" " High Grade Tobacco Starter

Fertilizing Materials

Swift Sure Phosphate.	Lime for Agricultural use.
" " Bone Meal.	Fine Ground Nova Scotia Plaster.
High Grade C. S. Meal, with guaranteed analysis.	Acid Phosphate.
Castor Pomace with guaranteed analysis	High Grade Pulverized Bone and Meat.
Kentucky Stems in Bales.	Sulphate of Ammonia.
Seed " "	Nitrate of Soda.
Ground Stems, dry and fine as powder dust, put up in bags.	

We will mix any special formula to order that our Customers may desire.

Our Special Mixtures for all Crops

The following pages give you a list of the special fertilizers which we manufacture at our own factory.

These special mixtures are from tested formulae, proved out by practical growing tests. They are finely ground, and mechanically, in such condition, as to render them readily available to the growing crops.

Their use will repay you. They produce the kind of crops that pay. Used and endorsed by best growers.

O. & W. Tobacco Special

This is our war time tobacco mixture made with a cottonseed meal base. In this formula we give you the benefit of our years of experimenting and close observation on our own tobacco farms, and during these years of experimenting we have proved (at least to our own satisfaction) that the color, texture and grain of the tobacco leaf is very much effected by the fertilizer used.

GUARANTEED ANALYSIS { 5 to 6 per cent. Ammonia.
3 to 4 per cent. Available Phosp. Acid.

O. & W. Complete Tobacco Fertilizer

We are again manufacturing our O. & W. Complete Tobacco Fertilizer with Potash. It is true the amount of Potash is not large but a small amount is better than none at all especially so as several Crops have been grown with very little or none at all and in some sections some Crops are showing very evident signs of Potash hunger. Lack of body in the leaf and weight per acre, is no doubt in some cases due to lack of Potash.

The Ammonia and Available Phos. Acid are derived from the same high grade sources we have used in previous year. The fact that many of the firms buying tobacco, large growers themselves, use our fertilizer is the best kind of a recommendation

ANALYSIS { 5 to 6% Ammonia.
3 to 4% Available Phosphoric Acid
1 to 2% Actual Potash.

O. & W. Corn, Potato and Onion Fertilizer

This is one of our high grade special mixtures for use on Corn, Potato and Onion Crops

The sources of plant food are such as are exceedingly available to the plant and best suited to promoting rapid and vigorous growth. Tested at our own farms we are able to speak authoritatively as to its merits. All growers will be repaid by using this special mixture on their Crop.

Our soils are well adapted to the culture of these Crops and to make them profitable as well, is an easy matter if the culture is supplemented and promoted by the use of our special fertilizer.

GUARANTEED ANALYSIS { 4 to 5% Ammonia.
6 to 7% Available Phosphoric Acid.
1 to 2% Actual Potash

O. & W. Special Grass Fertilizer

GUARANTEED ANALYSIS } 6 to 7% Ammonia.
 } 4 to 5% Phosphoric Acid (available).

The grass crop is a valuable one, and yet the value will depend on the extent to which the soil has been cared for and the plant food present therein.

To secure the highest value the soil should be liberally fed with the best fertilizer obtainable.

Grass crops like other crops require and thrive best when certain forms of potash, phosphoric acid and nitrogen are used. We believe that in this "O. & W. Special Grass Fertilizer" we have developed the very finest mixture for grass that has ever been used. We have, by personal experiment, come to know just what forms of these different plant food elements are required and have mixed them in the proportions needed with the result that we have obtained a grass fertilizer that can well be called high grade.

Give this mixture a trial. You will be satisfied that our claims are well founded.

O. & W. SPECIAL PHOSPHATE

GUARANTEED ANALYSIS { Ammonia 5 to 6%.
 { Phosphoric Acid 4 to 5% (available).

This mixture has been made by us since 1890. It is a great favorite among market gardeners and others for general garden purposes. It contains a high ammonia percentage, and this quality makes it very desirable for forcing purposes. It is also widely used as a starter for all crops.

If you want an all around good fertilizer for garden and general use, you can't beat this mixture. For the home garden it is the ideal thing to use.

O. & W. Special Onion and Grain Fertilizer

This special fertilizer mixture is a great favorite in the big onion districts in Massachusetts and Connecticut. In its preparation, regard for the needs of the onion crop both as to growth and quality, have been considered, and the result is a mixture best suited to the plants needs.

Do not be satisfied with anything short of the best. Give this mixture of ours a trial and its use will convince you of our claims for it. Endorsed by best growers.

Guaranteed Analysis as follows:

3 to 4% Ammonia.
 8 to 9% Available Phosphoric Acid.

AGRICULTURAL LIME

Do not forget to Lime the Soil

Most of our Connecticut soil is deficient in lime. Its place in the soil is most necessary and must be supplied if good crops are to be had.

It corrects acidity. It makes available for the plants use other stored up plant foods.

We offer this **Agricultural Lime** in various forms; a pure high grade air-slaked lime, in bulk or bags, and

Ground Limestone in cloth bags.

Prices on this and all mixtures on application.

O. & W. High-Grade Tobacco Starter

This high grade starter has been used with conspicuous success by some of our best growers in the valley. We recommend that it be applied after the first time hoeing. At that critical stage of growth an abundant supply of quickly available ammonia enables the plant to get a vigorous start, overcome and grow away from any unfavorable condition that may exist.

Experience has taught us that the crop that grows quickly, vigorously and does not stop until it reaches maturity produces the best goods.

Apply about 500 lbs. per acre.

Guaranteed Analysis { 11-12% Ammonia
3-4% Available Phosphoric Acid.

DESCRIPTIVE CATALOGUE and PRICE LIST
OF
Garden and Farm Seeds,
Agricultural Implements and
Fertilizers
for 1919

SEEDS

We exercise extreme care in selection and handling of all seeds. In the first place we either have them grown for us by reliable growers, or otherwise secure them from the most reliable sources. The very nature of the business will not admit of our guaranteeing, however, either the productivity or the crop. On the other hand no one can excel us in the general care and supervision given to this end of our business. Seeds—the cost of them—is the least expense incurred by the grower, yet the most important item in farming. Get the best.

PREMIUM OFFER

On Seeds bought by the package or ounce we will allow you to select \$1.25 worth for which you may send us \$1.00.

MAIL ORDERS AND SHIPMENTS

Prompt attention to orders by mail. Mailing blank is enclosed in Catalog to render this service more convenient. Be particular in giving name and address. The new system of Parcels Post enables us to make shipment of large packages by mail.

SEEDS BY MAIL

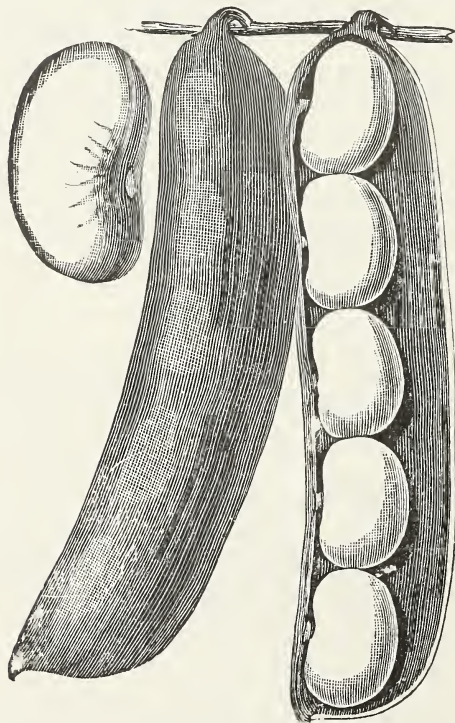
We will pay postage on seeds in packets, ounces, or by pound, with these exceptions; peas, beans, corn, onion sets, grain and grass seeds, which necessitate an extra charge of 8 cents per pint.

ASPARAGUS

An Asparagus bed may be made from one or two year old roots, planted in fall or spring. Plant the roots in rows four feet apart, leaving about twelve inches between plants in the row. Should be planted in trenches and gradually filled in as plants grow. Seeds may be sown in April in drills one foot apart and one inch deep. One ounce of seed will sow sixty feet of drill.

	Per Pkt.	Per ¼ lb.	Per lb.
Donald's Elmira.—Stalks bright green color, of mammoth size, tender and succulent,	\$0.05	\$0.20	\$0.75
The Palmetto.—Superior variety, extra large, . . . .	.05	.20	.60
Conover's Colossal.—Large and hardy, . . . .	.05	.20	.50
Donald's Elmira Roots.—Fine, large, 2 year old and fresh dug.	Per 100,	\$0.75	
Conover's Colossal Roots.—Fine, large, 2 year old and fresh dug.	Per 100,	\$0.75	
Palmetto Roots.—Fine, 2 year old.	Per 100,	\$0.75	

BEANS—Dwarf or Bush



To produce a regular succession of crops through the season, plant every two weeks, from about beginning of May to end of summer. Plant in rows 18 inches apart, two inches deep; cultivate only when soil is dry, as the scattering of earth on vines will cause them to rust. One quart will plant 100 feet of drill and one and one-half bushels for one acre.

BEANS

Owing to extremely unfavorable weather conditions, the bean crop is very short, some varieties were almost a total crop failure. Stocks are scarce and prices high.

	Per lb.	5 lb. Lot Per lb.	15 lb. Lot Per lb.
Burpee's Bush Lima.			
Burpee' Bush Lima.—A true bush form and immense cropper,	\$0.40	\$0.35	\$0.30
Burpee's Stringless.—Green pod, extra early, . . . .	.40	.35	.30

	Per lb.	5 lb. Lot Per lb.	15 lb. Lot Per lb.
Improved Rust Proof, Golden Wax.—Early, long, round, stringless pods,	\$0.45	\$0.40	\$0.35
Early Golden Eyed Wax.—Hardy and prolific, flat pods, early, . . . . .	.45	.40	.35
Black Wax, Prolific.—Very early, round thick pods, . . . . .	.45	.40	.35
Wardwell's Kidney Wax.—Early, flat long wax pods, very fine, . . . . .	.45	.40	.35
Early Valentine.—Improved, true round green pod, . . . . .	.40	.35	.30
Early Yellow Six Weeks.—Flat green pods, . . . . .	.40	.35	.30
Early China or Red Eye.—A productive variety, green pod, . . . . .	.40	.35	.30
Horticultural or Cranberry.—Green pod, a superior shell bean, medium early, . . . . .	.40	.35	.30
Low's Champion.—Large green flat stringless pods, . . . . .	.45	.40	.35
White Kidney.—An excellent shell bean and for baking, green pod, . . . . .	.35	.30	.27
White Marrow.—A fine winter bean, . . . . .	.35	.30	.27
Boston Favorite.—A large late dwarf horticultural, . . . . .	.40	.35	.30
Red Kidney.—An excellent shell bean, similar to White Kidney, . . . . .	.45	.40	.35

BEANS—Pole

Plant in hills three to four feet apart, putting four or five beans in a hill, and leaving space in the center for the pole. One quart of limas will plant 100 hills. One quart of the smaller seeded sorts will plant about 200 hills.

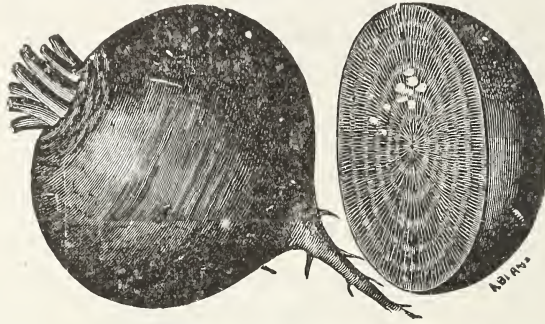
	Per lb.	5 lb. Lot Per lb.	15 lb. Lot Per lb.
Extra Early Jersey Lima.—An early and large variety,	\$0.40	\$0.38	\$0.35
Lima, Large White.—An old and choice variety, . . . . .	.40	.38	.35
Lima, King of the Garden.—Large and extremely productive, . . . . .	.40	.38	.35
Early Caseknife.—Long green and flat pods, used as shell and snap bean, . . . . .	.40	.38	.35
Horticultural Cranberry.—Excellent quality, . . . . .	.45	.40	.35
Early Golden Cluster Wax Pole.—Early golden pods, large and tender, . . . . .	.45	.40	.35

BEETS—Table Varieties

Sow from April to beginning of July, in drills about one foot apart, covering seeds about one inch. Thin the young plants when suitable size for greens to six or eight inches apart. One ounce sows 50 feet of drill, 5 to 6 pounds to one acre.

	Per pkt.	Per oz.	Per lb.
Crosby's Egyptian.—Early smooth and fine quality,	\$0.05	\$0.15	\$1.25
Edman's Extra Early.—One of the best, . . . . .	.05	.15	1.00

	Per pkt.	Per oz.	Per lb.
Early Eclipse. —Very early, dark red color,	\$0.05	\$0.15	\$1.00
Early Egyptian. —Good color, a smooth turnip beet, . . . . .	.05	0.15	1.25
Early Bassano. —Earliest of all, flesh nearly white, . . . . .	.05	0.15	1.00



Dewing's Early Blood Turnip.

Bastian's Early Blood Turnip. —A quick large growing sort, of good color, . . . . .	.05	.15	1.00
Dewing's Early Blood Turnip. —A standard variety of excellent quality, . . . . .	.05	.15	1.10
Long Smooth Blood. —An excellent late variety for winter use, . . . . .	.05	.15	1.30
Swiss Chard. —Fine for greens, cultivated solely for leaves, . . . . .	.05	.15	1.25

MANGOLD WURZEL

Sow in May or June in rows, 18 inches to 2 feet apart, and thin to 8 inches in the row. The value of these for stock feeding cannot be over estimated. Sow 6 to 8 pounds to one acre.

	Per pkt.	Per oz.	per lb.
Carter's Mammoth Long Red. —A heavy cropper, one of the best,	\$0.05	\$0.10	\$.90
Norbiton Giant Long Red. —Very productive, . . . . .	.05	.10	.90
Yellow Globe. —Large globular formed roots, good for shallow soils, . . . . .	.05	.10	.90
Long Red. —Similar to Norbiton Giant, . . . . .	.05	.10	.90
Golden Tankard. —A half-long variety of bright yellow color, . . . . .	.05	.10	.90
White Sugar, Lane's Improved. —A well known variety, . . . . .	.05	.10	.90

Mangold seed in 5 pound lots, 45 cents a pound.

BROCCOLI

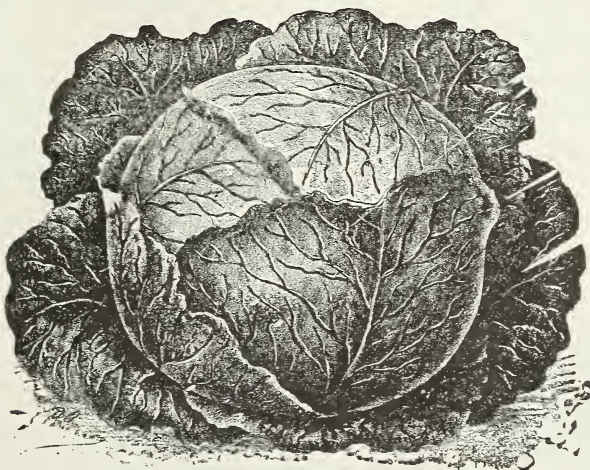
A vegetable resembling Cauliflower but much hardier. Requires the same general culture as cabbage. One ounce of seed produces about 1,500 plants.

	Per pkt.	Per oz.
Purple Cape. —Medium size heads, hardy,	\$0.20	\$0.50
White Cape. —Like Purple Cape, but of cream white color, . . . . .	.20	.50

BRUSSELS SPROUTS

A species of cabbage family and cultivated in about same manner. One ounce of seed will produce about 1,200 plants.

O. & W.'s Best	Per pkt. \$0.05	Per oz. \$0.20
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CABBAGE—Early

All Seasons.

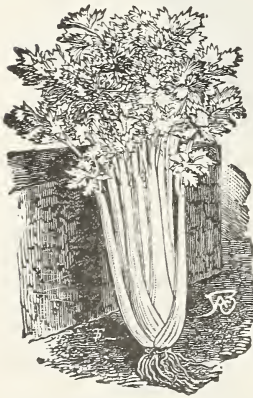
All the Cabbage family require rich, deep, well-drained soil. For the early kinds, plant in rows 30 inches apart and 16 inches between the plants. For the late varieties, three feet between the rows and two feet between the plants. For very early use, sow in January or February in hot-beds. Set out when plants are strong enough into other hot-beds or set in cold frames in March. Transplant when danger from frost is past to open ground. The late, or winter crop seed can be sown in May and the plants set out when large enough.

To destroy the green worm that attacks the cabbage plant, use a solution of one ounce of saltpetre in three gallons of water. One ounce of seed will produce about 3,000 plants, one-quarter pound for one acre.

	Per pkt.	Per oz.	Per lb.
Copenhagen Market. —Extra early round hard head	\$0.15	\$1.25	\$13.50
Early Jersey Wakefield Extra. —A fine, very early medium sized market favorite, . . . . .	.15	.90	10.00
Early Summer. —A superior, second early, heads large and solid, . . . . .	.15	.90	10.00
Early Flat Dutch. —A fine early variety for family use, . . . . .	.15	.90	10.00
Early Winningstadt. —A medium early conical shaped head, . . . . .	.15	.90	10.00
Fottler's Brunswick. —A short stemmed early drumhead, . . . . .	.15	.90	10.00
All Seasons. —Medium early, very large and sure header, . . . . .	.15	.90	10.00

CABBAGE—Late Varieties

	Per pkt.	Per oz.	Per lb.
O. & W. Premium Flat Dutch ,—An extra fine selection of the large late Flat Dutch,	\$0.15	\$0.90	\$10.00
Improved American Drumhead Savoy ,—Large, fine quality, excellent winter cabbage, . . . . .	.15	.90	10.00
Stone Mason Drumhead ,—A large round solid variety, . . . . .	.15	.90	10.00
Red Dutch Drumhead ,—Fine solid dark red heads, . . . . .	.15	.90	10.00
Hollander, or Danish ,—A superior winter variety, heads round, very hard, fine and tender, . . . . .	.15	.90	12.00
Sure Head ,—Large growing, fine heading, solid and large, . . . . .	.15	.90	10.00



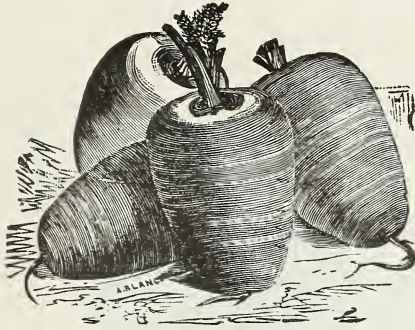
Paris Golden.

CELERY

Sow seed about the first of April in hot-bed or cold frame. Transplant four inches apart, when three inches high in rich soil; water and protect until well rooted, then transplant into rows 5 or 6 feet apart either on surface or in trenches 8 inches deep. Set the plants 10 or 12 inches apart. To blanch draw earth around the plants from time to time.

One ounce of seed will give about 4,000 plants.

	Per pkt.	Per oz.	Per lb.
Paris Golden, Self Blanching, (French) ,—An early golden variety, very popular,	\$0.20	\$.90	\$10.00
Boston Market ,—One of the best varieties in cultivation, . . . . .	.05	.25	2.50
Celeriac ,—Turnip rooted, used for salads and soups, . . . . .	.05	.25	2.50
White Plume ,—Easily bleached, usually solid and of a pleasing nutty flavor, . . . . .	.05	.30	3.00
Winter Queen ,—One of the best winter varieties, . . . . .	.05	.25	2.50



CARROT

Carrots thrive best in rather light loam; soil should be well cultivated and well fertilized. Plant in rows 14 inches apart, and thin plants to 3 to 5 inches in the rows. Plant from the middle of April to the middle of May.

One ounce will sow 100 feet of drill. 3 to 4 pounds to one acre.

	Per pkt.	Per oz.	Per lb.
Geurande, or New Ox Heart. —An intermediate variety, . . .	\$0.05	\$0.15	\$1.00
Danvers Half Long. —A most desirable variety, great keeper, . . . . .	.05	.15	1.10
Improved Long Orange. —A large long rooted variety, for stock purposes, . . . . .	.05	.15	1.00
White Belgian. —Large, white, productive, for stock, . . . . .	.05	.10	.85
Early Scarlet Horn. —An early short variety for forcing, excellent for table, color deep orange, . . . . .	.05	.15	1.10
Early Half Long Scarlet. —Stump-rooted, coreless, red color, . . . . .	.05	.15	1.10
Chantenay. —A half-long, one of the finest for table use, . . . . .	.05	.15	1.25

CAULIFLOWER

Is one of the most delicious varieties of the Cabbage family. Requires a rich deep soil, a low moist situation being desirable. Plants should be set in rows about 2 feet apart and 18 inches between the plants.

One ounce will sow a bed of 40 square feet and produce about 2,000 plants.

	Per pkt.	Per ¼ oz.	Per oz.
Henderson's Snowball. —This ranks extremely high among the early varieties, it is a reliable header of good size and of rich white color,			\$1.50 \$4.00
Erfurt Early Dwarf. —A good variety,			
Early Paris. —A standard early variety,			

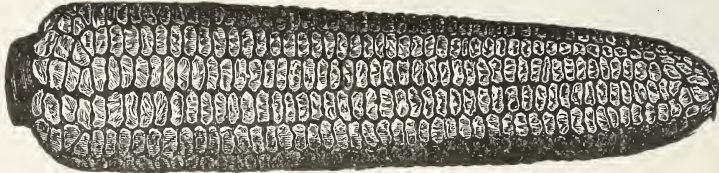
CORN—Sweet

Requires a rich warm soil. For early varieties plant when ground has become well warmed ; successive plantings may be continued until July. Plant in hills from 3 to 3½ feet apart, according to the height of variety.

One quart will plant 200 hills ; 8 quarts for one acre in hills.

	Per lb.	5 lb. Lot Per lb.	15 lb. Lot Per lb.
Early Maine. —An extra early variety,	\$0.25	\$0.22	\$0.20
Extra Early Cory. —One of the leading extra early market varieties, . . . . .	.25	.22	.20
White Cob Cory. —Similar to Early Cory ; less hardy, very satisfactory, . . . . .	.25	.22	.20
New Champion. —Fine early quality with large ears, . . . . .	.25	.22	.20
Early Minnesota. —One of the second early sorts, ears of good size, . . . . .	.25	.22	.20

	Per lb.	5 lb. Lot Per lb.	15 lb. Lot Per lb.
Shakers Early. —About as early as Minnesota, but larger ears,	\$0.25	\$0.22	\$0.20
Crosby's Early. —An old favorite, early and of excellent quality,	.25	.22	.20
Perry's Hybrid. —Large, early and of good quality,	.25	.22	.20
Country Gentleman. —A rich, sweet, deep kerneled variety, with small cob,	.30	.25	.22



Early Maine.

Squantum. —Perhaps one of the best and sweetest for main crop,	.25	.22	.20
Evergreen. —A standard late variety,	.25	.22	.20
Mammoth Sugar. —Extra large sweet variety, of good quality,	.25	.22	.20
Black Mexican. —An early, tender corn of fine flavor,	.30	.25	.22
Golden Bantam. —A yellow sweet corn, extra early and extra hardy, very tender and sweet,	.30	.25	.22

CORN—Field

(Prices subject to market changes.)

Eureka —A well known ensilage variety of White Corn. Very leafy, of extra large growth, and we believe will produce more tons of silage than any other variety. For Ensilage only,	} at market prices.
Leaming's Early Dent. —A very popular Dent Corn, grown for both grain and Ensilage. This variety will mature in this latitude,	
Mastodon Early. —Large, free growing, very productive,	
Longfellow —A yellow flint corn, a well and favorably known variety,	
Early Canada Improved. —A ninety day yellow flint corn. An old Standard variety grown for grain,	
Canada Red —A red flint corn developed at our Suffield farm. Early and productive,	

Use O. & W. Special Corn, Potato and Onion Fertilizer

CRESS

To be planted in drills and sown quite thickly, on good rich ground, in early spring.

	Per pkt.	Per oz.	Per lb.
Curled,	\$0.05	\$0.10	\$0.50

CUCUMBER

First planting should be made in May when ground is dry and warm, in hills about 4 feet apart; thin out to 3 to 4 plants to the hill when established. For pickles plant during the last two weeks in June.

One ounce will plant 50 hills; two pounds for one acre.



Improved Early White Spine.

	Per pkt.	Per. oz.	Per lb.
Early Russian.—The earliest variety, about 4 inches long,	\$0.05	\$0.10	\$0.85
Early Cluster.—Bears in clusters, early and productive,	.05	.10	.80
Early Frame.—An early medium size, good for both table and pickling,	.05	.10	.75
Nichols' Medium Green.—A desirable table sort,	.05	.10	.80
Improved Early White Spine.—A standard variety of uniform good size and color,	.05	.10	.80
Green Prolific.—The very best pickling sort,	.05	.10	.80
Boston Pickling.—Produces an abundant crop of dark green color,	.05	.10	.80
London Long Green.—A large and late variety,	.05	.10	.90

DANDELION

Sow in May in drills 12 inches apart, covering seeds about one-half inch deep. Cultivate to keep down weeds during summer and the following spring leaves will be suitable for cutting. Must be covered in winter to protect from frost.

One ounce for 100 feet of drill. One pound for one acre.

	Per pkt.	Per oz.	Per lb.
Improved Thick-Leaved.—Standard sort, very productive,	\$0.25	\$0.90	\$10.00
French Garden.	.15	.50	6.00

EGG PLANT

Plant the seed in hot beds early in spring. Transplant when two inches high into another bed, or small pots. Plant in garden when weather is settled and warm. Should be placed about 3 feet apart, and well watered for 2 or 3 days, until they show signs of being rooted.

	Per Pkt.	Per oz.
New York Improved Purple.—The leading market variety, excellent and very productive.	\$0.25	\$0.60
Black Beauty.—Early, fruit black, round and solid.	.25	.65

ENDIVE

For early use, sow as soon as ground can be worked in spring in drills fifteen inches apart; thin plants to six inches in the row. Any ordinary soil will do, but a moist place is preferred. To blanch the leaves, gather them together when dry and tie with matting or cover with ordinary flower pots inverted.

One ounce will produce about 3000 plants.

	Per pkt.	Per oz.
Green Curled. —A standard sort,	\$0.05	\$0.20
Moss Curled. —Very ornamental, . . . .	.05	.20
Batavian Escarolle— . . . .	.05	.20

KALE or German Greens

Plant the larger varieties in hills two by three feet apart and thin to one plant to the hill. Requires deep, rich soil. Set out plants in June and treat in same manner as for cabbage.

One ounce will produce 2,000 plants.

	Per pkt.	Per oz.	Per lb.
Green Curled Scotch. —Leaves of bright green, very tender and closely curled,	\$0.10	\$0.25	\$2.25
German Greens. —To be sown in fall for spring use, . . . .	.05	.15	1.25

KOHL RABI

An intermediate vegetable between the cabbage and turnip. Prepare as for cabbage. Sow in April in rows 18 inches apart and thin out to 8 inches apart.

One ounce gives 3,000 plants.

	Per pkt.	Per oz.
Early White Vienna. —A standard early,	\$0.10	\$0.25
Early Purple Vienna. —Very large and productive, . . . .	.10	.25

LEEK

Sow the seeds in April and transplant in July to rows 15 inches apart and 8 inches between plants.

One ounce will grow 1,000 plants.

	Per pkt.	Per oz.	Per lb.
American Flag. —A hardy and profitable sort, excellent for winter use,	\$0.10	\$0.40	\$4.00



Boston Market.

LETTUCE

Lettuce needs a rich and moist soil, should be sown in rows about 12 inches apart and the plants thinned to 10 inches apart for the heading varieties. When not grown for head they may be sown broadcast. The more rapid the growth, the better the quality.

One ounce for 3,000 plants.

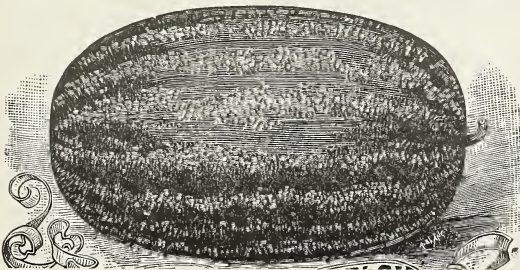
	Per pkt.	Per oz.	Per lb.
May King. —Medium size, early, good heading, a popular sort,	\$.05	\$.15	\$1.25
Early Curled Silesia. —Sweet, early, good variety . . . . .	.05	.15	1.25
Early Simpson. —Early, compact mass of tender leaves, . . . . .	.05	.15	1.25
Black-Seeded Simpson. —Large light-colored head variety, . . . . .	.05	.15	1.25
Boston Market. —Early, small heads, very hardy, . . . . .	.05	.15	1.25
Hanson. —Large, solid, crisp head, one of the best outdoor sorts, . . . . .	.05	.15	1.25
Tennis-Ball White Seeded. —Similar to Boston Market, . . . . .	.05	.15	1.25
Tennis-Ball Black Seeded. —Excellent for early large heads, . . . . .	.05	.15	1.25
Tomhannock. —One of the best varieties for broadcast cultivation, leaves slightly bronzed, . . . . .	.05	.15	1.25
Crisp as Ice. (Bronzed) a fine bronze leaf lettuce, . . . . .	.05	.15	1.25
Silver Ball. —Solid, compact head, very handsome, white and tender, . . . . .	.05	.15	1.25
Big Boston. —A head lettuce, for forcing or open culture, . . . . .	.05	.15	1.40

MUSTARD

Sow from April to June in drills one foot apart and cover seed lightly. Used principally for salads.

	Per oz.	Per ¼ lb.	Per lb.
White or English. —For salad or medicinal purposes,	\$.05	\$.15	\$.45
Brown. —More pungent than white, . . . . .	.05	.20	.75

MELON—Water

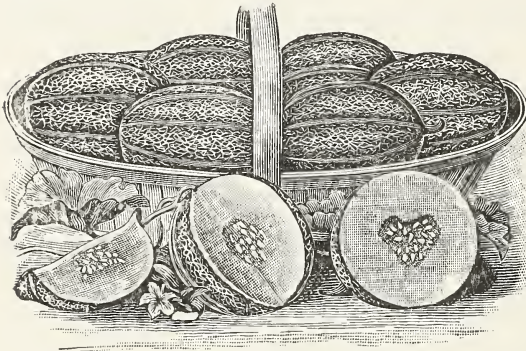


Ice Cream.

A warm light sandy loam preferred. Being tender should not be planted before middle of May. Plant in hills 5 to 6 feet apart each way for the musk varieties and 8 feet apart for the water. Cover seeds about one-half inch deep and when well started thin out to 3 plants in a hill. One ounce will plant about 15 hills; 4 pounds to the acre.

	Per pkt.	Per oz.	Per lb.
Cuban Queen. —Round, large, red meated and sweet,	\$.05	\$.10	\$.75
Dark Sweet Iceing. —Round, dark green and of a delicious flavor, good size, . . . . .	.05	.10	1.00
Gray Monarch. —Very large, of exceptional fine quality, long, red color and very sweet, . . . . .	.05	.10	0.90

	Per pkt.	Per oz.	Per lb.
Kleckley's Sweet. —Oblong in form, dark green, thin rimmed, flesh bright scarlet, white seed, sweetest of all,	\$.05	\$.10	\$1.00
Mountain Sweet. —An old standard variety, early and solid, . . . . .	.05	.10	.85
Phinney's Early. —Early, reliable, red fleshed, productive, . . . . .	.05	.10	.80
Ice Cream. —White seeds, medium size, solid fine flavor, one of the most popular varieties grown, . . . . .	.05	.10	.80
Kolb's Gem. —Flesh bright red, almost round, grows large, very choice, . . . . .	.05	.10	1.00
Citron for Preserves . . . . .	.05	.10	.80



Rocky Ford Melon

MELON—Musk

One ounce will plant 80 hills; 2 to 3 pounds for one acre.

	Per pkt.	Per oz.	Per lb.
Nutmeg. —A superb green-fleshed variety,	\$.05	\$.10	\$1.00
Hackensack. —Large, productive and good flavor, green fleshed . . . . .	.05	.10	.90
Rocky Ford. —A very popular variety, flesh light green, sweet and delicate flavor, . . . . .	.05	.10	1.00
Osage, Green Fleshed. —Very hardy and desirous, . . . . .	.05	.10	.90
Early Yellow Cantaloupe. —Early, large and showy, . . . . .	.05	.10	.90
Miller's Cream. —Thick meated and salmon colored flesh, delicious, . . . . .	.05	.10	1.25
Paul Rose. —An extra quality, salmon flesh, medium size, . . . . .	.05	.10	.95
Emerald Gem. —Small, but prolific, yellow meated, superior quality, . . . . .	.05	.10	1.20
Green Citron Netted. —Yellow meat, early and good flavor, . . . . .	.05	.10	.75
Osage, Salmon Fleshed. —A deliciously sweet melon of fine flavor, . . . . .	.05	.10	1.20

NASTURTIUM

Cultivated for both use and ornament. Young seeds may be used as capers and leaves for salad purposes. The beautiful flowers, blooming freely all summer add a charm to the garden and lawn. Plant in May.

	Per oz.	Per ¼ lb.	Per lb.
Tall. —An ornamental climber,	\$.20	\$.60	\$1.50
Dwarf. —Fine for borders and beds, . . . . .	.20	.60	1.50

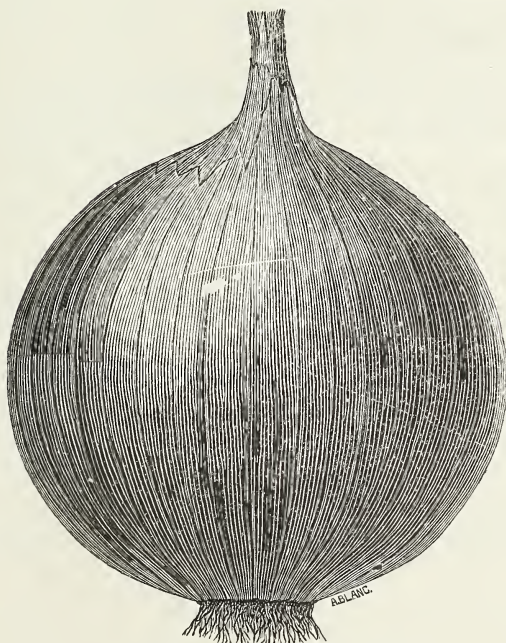
OKRA

Plant in rows 2 feet apart, thinning plants to 1 foot apart in the row.

	Per pkt.	Per oz.	Per lb.
Dwarf Green.—Early and productive,	\$0.05	\$0.10	\$0.60

ONION

(Strictly new seed—Prices subject to change.)



Southport Red Globe.

O. & W.
Complete Onion
Fertilizer.

A fertilizer that will produce remarkable crops. Used by many of the best growers in Massachusetts and Connecticut.

The onion thrives best in deep, loamy soil, well fertilized. Sow the seeds thinly in drills 1 foot apart. Cover seeds about ¼ inch, roll and tread soil down solidly. When 3 inches high, thin out to 3 inches apart. Cultivate well and keep out weeds.

One ounce seed will sow 100 feet of drill. Six pounds for one acre.

The seed we offer is HOME GROWN and calculated to give greater satisfaction than western grown seed.

	per pkt.	Per oz.	Per lb.
Extra Early Red.—Early, of flat shape, mild,	\$0.10	\$0.20	\$2.50
Wethersfield Large Red.—A large yielder, excellent to keep, . . . . .	.10	.20	2.25
Southport Red Globe.—Finest large red sort, . . . . .	.10	.25	2.85
Southport Yellow Globe.—Handsome and late variety, . . . . .	.10	.25	2.50
Yellow Globe Danvers.—One of the superior yellow globe varieties, . . . . .	.10	.20	2.25
O. & W. Yellow Globe Danvers.—A fine selected strain of the Yellow Globe Danvers, specially grown for us: very choice, . . . . .	.10	.25	2.85
Prize Taker.—Yellow skin, white flesh, good cropper, large size, . . . . .	.10	.25	3.00
Southport White Globe.—Early, mild flavored, large, not a good keeper, . . . . .	.10	.25	3.00

ONION SETS

Should be planted as early as the ground can be worked in rows 12 inches apart. Set each about 3 inches apart. When onions are grown from sets they can be used in the green state in June, or will ripen by July.

Red Top.	} at market prices.
White.—For rare-ripes,	.	.	.	.	.	.
Potato.	.	.	.	.	.	.
Yellow.	.	.	.	.	.	.

PARSLEY

Sow early in spring in drills 1 foot apart, covering lightly; thin out the plants to 3 to 4 inches apart; used for flavoring and garnishing. A single row forms a good edging for flower-beds or walks.

	Per pkt.	Per oz.	Per lb.
Moss Curled.—Very ornamental and productive,	.05	.10	1.00
Curled, or Doubled.—A most beautiful variety, moss-like leaves of handsome bright green color,	.05	.10	1.00

PARSNIP

Make the soil very fine and plant the seed very early, in rows eighteen inches apart, thinning plants to three or five inches in the rows; seeds should be covered about one-half inch deep.

Parsnips, aside from table use, have great value for stock-feeding purposes. Are improved by allowing to remain in open ground through the winter.

One ounce to 150 feet of drill; five pounds for one acre.

	Per pkt.	Per oz.	Per lb.
Abbott's Improved Hollow Crown —A great cropper, tender and sweet,	.05	.15	1.25
Long Smooth White.—One of the best for general cultivation,	.05	.15	1.25

PEAS

The wrinkled varieties, while the sweetest of all peas, are more liable to rot, being tender, and need to be planted thicker and later than the round, hard sorts. Soil needs to be well manured. Have the dwarf varieties in rows two and one-half feet apart; those kinds growing two to three feet high, in rows three feet apart, and the tallest in rows four feet apart. The smooth varieties may be sown as soon as ground can be worked; the wrinkled sorts when soil is well warmed.

One quart to 100 feet of drill: one and one-half bushels to an acre.



	Per lb.	5 lb. lots Per lb.	Lots of 15 lb. Per lb.
Carter's Premium Gem.			
East Hartford Extra Early.—True stock, 2½ feet, best early variety in the market, smooth variety,	.30	.25	.20

	Per lb.	5 lb. lot Per lb.	15 lb. lot Per lb.
Alaska. —Hard, blue pea, 2½ feet, extra early,	\$0.30	\$0.25	\$ 20
Gradus, or Prosperity. —An extra early wrinkled pea, very large pods, of magnificent quality, . . . . .	.35	.30	.28
Carter's Premium Gem. —Wrinkled pea, about 12 to 15 inches high, very productive, early, . . . . .	.35	.30	.28
Bliss's American Wonder. —Very dwarf, early wrinkled pea, . . . . .	.35	.30	.28
Nott's Excelsior. —A wrinkled dwarf, of excellent variety, early, . . . . .	.35	.30	.28
Sutton's Excelsior. —Similar to Nott's Excelsior, but producing larger and more abundant pods, . . . . .	.35	.30	.28
Daisy or Dwarf Telephone. —Dwarf habit, wrinkled, large pods, second early, . . . . .	.35	.30	.28
Bliss's Everbearing. —Very productive, peas large and wrinkled, two and one-half feet high, . . . . .	.30	.28	.25
McLean's Advancer. —An old and choice variety, two and one-half feet high, wrinkled, . . . . .	.30	.28	.25
Heroine. —Medium early, wrinkled, two to three feet high, quality perfection, . . . . .	.30	.28	.25
Yorkshire Hero. —Large, wrinkled pea, tender and fine flavored, two and one-half feet high, . . . . .	.30	.28	.25
Horsford's Market Garden. —A heavy cropper, two and one-half feet, second early, . . . . .	.30	.28	.25
Telephone. —Four feet high, large peas of rich, sugary flavor, . . . . .	.30	.28	.25
Champion of England. —An old standard variety, late, five feet high, . . . . .	.30	.28	.25
Canada Field. —For stock purposes,			

\$10.00 per 100 lbs.

PEPPER

Should be started in hot beds, and transplanted into open ground by end of May; set in rows eighteen inches apart and plants about twelve inches apart in the rows.

One ounce of seed will produce about 3,000 plants.

	Per pkt.	Per oz.
Sweet Mountain. —Largely grown for both market and home use,	\$0.10	\$0.50
Bull Nose. —This has long been the standard sweet sort, . . . . .	.10	.50
Ruby King. —Most popular large red pepper in cultivation, . . . . .	.10	.60
Large Squash. —Thick fleshed, early and mild flavored, . . . . .	.10	.50
Long Red Cayenne. —The true Cayenne, hot and pungent, . . . . .	.10	.60
Small Red Cherry. —A small smooth and round variety; productive, . . . . .	.10	.60

PUMPKIN

To be cultivated in same manner as squash.

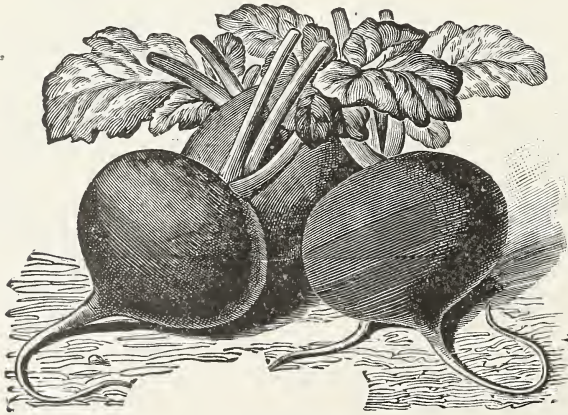
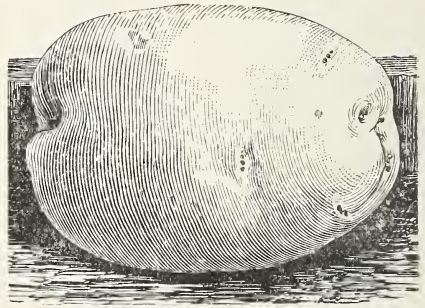
	Per oz.	Per lb.
Small Yellow Sugar.—A handsome prolific variety, good keeper, best for pies,	\$0.15	\$1.00
Large Cheese.—Very large and good keeping variety, . . . . .	.10	.90
Connecticut Yellow Field.—Grown largely for stock purposes, . . . . .	.10	.90

POTATOES—Northern Grown

From Aroostook County, Maine.

Use eleven bushels, or four barrels per acre. (See pages 30 and 31 for description of varieties,) AT LOWEST MARKET PRICES.

- Early Harvest,
- Spaulding Rose
- Irish Cobbler,
- Bovee,
- Early Rose,
- Beauty of Hebron,
- New Queen,
- The Delaware,
- Carman 3,
- Green Mountain (Improved)
- Golden Prolific,
- Gold Coin.
- Norcross



Deep Scarlet Turnip.

RADISH

For early use sow in spring as soon as ground can be worked. Sow in drills six to ten inches apart and thin out to one inch apart in the rows; as the roots are more tender and brittle when grown quickly, a rich light soil is preferred. For a succession sow every two weeks.

One ounce will sow 100 feet of drill; eight pounds for one acre.

	Per pkt.	Per oz.	Per lb.
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Early Scarlet Turnip.—Round red with white tip,05	.15	1.25
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	Per pkt.	Per oz.	Per lb.
Deep Scarlet Turnip. —An all red standard variety,	\$0.05	\$0.15	\$1.25
Early Long Scarlet, Short Top. —The standard early long variety, . . . . .	.05	.15	1.25
French Breakfast. —Most popular variety, of olive shape, red with white tip, quick growing, . . . . .	.05	.15	1.25
Scarlet Olive Shaped. —Original strain; quite early, very crisp, . . . . .	.05	.15	1.25
White Turnip. —For summer and winter use, . . . . .	.05	.15	1.50
Black Spanish Long. —Black skin, white flesh—a winter variety, . . . . .	.05	.10	1.00
Round Black Spanish. —The favorite German winter radish, . . . . .	.05	.15	1.50
Rose Color China Winter. —Grows large and tender, good for winter use, . . . . .	.05	.15	1.50

RHUBARB

Propagate from roots in richly prepared soil. Plants should be set five feet apart.

Victoria Giant \$0.25 a root

SALSIFY, or Vegetable Oyster

Sow early in spring in light rich soil in drills fourteen inches apart and thin out to three inches apart in the row. The roots will be ready for use in October. When cooked the flavor resembles the oyster.

	Per pkt.	Per oz.	Per lb.
Sandwich Island Mammoth. —This variety grows to an unusually large size, roots tender and good flavor,	\$0.10	\$0.35	\$3.50

SPINACH

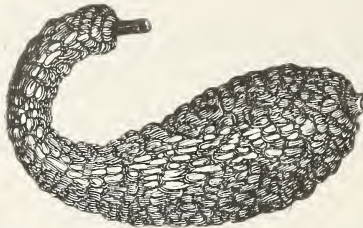
For very early spring use sow in August, for summer use sow in early spring, in drills about ten or twelve inches apart, covering the seed one inch deep. To obtain a succession sow at intervals of two weeks through the season. One ounce to 100 feet of drill, 10 pounds to one acre.

	Per oz.	Per lb.
Round Thick Leaf. —Produces dark thick leaves, somewhat crumpled,	\$0.10	\$1.00
Large Viroflay. —Grows extra large size, . . . . .	.10	1.00
Long Standing, or Evergreen. —Latest in seeding, one of the best for garden use, . . . . .	.10	1.00
Savoy Leaved. —Early, wrinkled and hardy . . . . .	.10	1.00
New Zealand. —A very productive spreading plant, . . . . .	.20	2.00

SQUASH

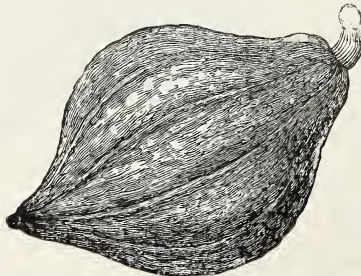
Requires rich, warm soil. Plant in hills nine to ten feet apart for running varieties, and five or six feet apart for bush sorts. Leave two or three plants to a hill. Cultivate frequently.

One ounce will sow twenty to forty hills; two to four lbs. per acre.



Summer Crookneck.

	Per pkt.	Per oz.	Per lb.
Early Summer Crookneck. —The finest bush variety,	. \$0.05	\$0.10	\$1.25
Giant Summer Crookneck. —Larger than the early summer,	.05	.10	1.50
Early White Bush Scallop. —Matures early and bears continuously,	.05	.10	.90
Early Yellow Bush Scallop. —Same as Early White, except in color,	.05	.10	.90
Hubbard. —The well known and most popular winter squash,	.05	.15	2.00
Boston Marrow. —A bright orange colored squash for autumn, very productive,	.05	.10	1.00
Fordhook. —A desirable running variety,	.05	.10	1.30
Mammoth Chili. —Extra large, grows upwards 100 pounds at times,	.05	.10	1.35
Golden Hubbard. —Similar to the standard Hubbard but smaller and earlier and of a golden red color,	.05	.10	1.40



Hubbard Squash.

TOMATO



Livingston's Beauty.

Sow the seed in March or April in hot bed. Transplant when plants are five inches high to open ground, after danger from frost has passed. Should be set four feet apart each way, on mounds of earth, to allow foliage to open and sun to reach the fruit.

	Per pkt.	Per ½ oz.	Per oz
New Dwarf Champion.—Most popular of dwarf varieties, fruit deep purplish red,	\$0.10	\$0.25	\$0.45
Livingston's Beauty.—A large round solid smooth variety, a glowing crimson color, . . . . .	.10	.25	.40
Acme.—A standard variety, round, bright pink in color, . . . . .	.10	.25	.40
Livingston's New Stone.—Large, smooth, solid, scarlet color, . . . . .	.10	.25	.40
Ponderosa.—Largest variety grown, . . . . .	.10	.30	.50
Yellow Plum.—Small, elegant, fine for preserves, . . . . .	.10	.25	.40
Chalk's Early Jewell.—About one week later than Earliana, large, solid fine quality, . . . . .	.10	.25	.45
Spark's Earliana.—The earliest large red grown, exceedingly productive, . . . . .	.10	.25	.40
Bonnie Best.—Very early, vigorous grower, smooth, brilliant, scarlet fruit, very prolific, . . . . .	.10	.25	.40

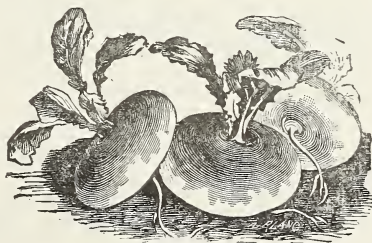
TOMATO PLANTS

True to name, and furnished in large or small quantities to suit purchasers, at prevailing market prices.

TURNIP

For early varieties sow as soon as the ground can be worked in spring.

For fall and winter use, seed should be sown from the middle of July to middle of August, seed generally sown broadcast, using one pound to the acre.



Early Flat Dutch.

	Per pkt.	Per oz.	Per lb.
Early Purple Top Milan.—Finest early,	\$0 05	\$0.15	\$1.25
Early Flat Dutch White.—A popular market variety, . . . . .	.05	.15	1.25
White Strap Leaf Flat.—Fine, handsome, extra early, . . . . .	.05	.15	1.25
Purple Top Strap Leaf.—One of the standard flat varieties, . . . . .	.05	.15	1.25
Yellow Globe.—Fine for table use, fall and winter, . . . . .	.05	.15	1.25

	Per pkt.	Per oz.	Per lb.
Golden Ball.—Very tender, fine flavored,	\$0.05	\$0.15	\$1.75
White Egg.—Handsome, oval form, thin skin, . . . . .	.05	.15	1.60
Cow Horn.—Pure white, except at top, . . . . .	.05	.15	1.60
Purple Top New Globe.—A thick, round, quick growing variety, . . . . .	.05	.15	1.50

RUTA-BAGA

Seed should be sown in drills thirty inches apart, thin out to one foot apart in the row.

	Per oz.	Per lb.
American Purple Top Swede.—Flesh deep yellow, free growing,	\$0.15	\$1.60
White Rock or Sweet German.—White and sweet, a good keeper, . . . . .	.15	1.60
Skerving's Improved.—Standard field variety, . . . . .	.15	1.60
Long Island Purple Top.—Yellow turnip of best quality, . . . . .	.15	1.60

HERBS

	Per pkt.	Per oz.
Summer Savory,	\$0.05	\$0.10
Sage, . . . . .	.05	.15
Sweet Marjoram, . . . . .	.05	.15
Thyme, . . . . .	.05	.25
Dill, . . . . .	.05	.10

TOBACCO

We are very careful in the selection of our tobacco seed, growing much of it on our own farm and saving the seed from only such plants as bear the correct type of leaf. We buy only of the most reputable growers. This seed is thoroughly blown which removes all the light seed, as we believe the heavier seed makes the strongest plants.

	Per ½ oz.	Per oz.	Per lb.
Willow Brook Broadleaf.—Specially grown and selected, . . . . .	.25	.50	7.00
John Williams' Broad Leaf, . . . . .	.25	.50	7.00
Havana, Special selected type, round point leaf, very choice, . . . . .	.25	.50	7.00
Cuban Type, shade grown, . . . . .	.40	.75	9.00

It Pays to use
OUR SPECIAL FERTILIZER
FOR THE TOBACCO CROP.

O. & W. LAWN GRASS SEED

A Perfect Lawn Mixture.

Our lawn grass mixture is composed exclusively of the best seeds of the choicest fine bladed grasses free from weeds.

It will produce a rich, velvety lawn, an enduring, elastic turf. To get the best results proper drainage and thorough preparation of the soil is necessary; this being done our seed mixture assures a beautiful lawn.

We recommend sowing about one quart to a space fifteen feet square, or four bushels to the acre.

Price, Per qt., 30c. 2 qts., 55c. ½ peck, 85c. Peck, \$1.50 Bush. \$6.00

OUR LAWN FERTILIZER

For Spring and Early Summer Treatment

To maintain a luxuriant lawn proper fertilizing is necessary. The old method of applying stable manure, so objectionable because it carries weed seeds as well as being unsightly and odorous, is no longer practiced. We manufacture a lawn dressing carrying all the essential plant foods so necessary to produce luxuriant growth and dark, rich, green color so much desired.

We recommend for lawns that it be used at rate of 100 lbs. for 10,000 sq. ft. For gardens double the quantity.

Price, \$3.75 per Cwt. City delivery.

We also have for Lawns:

Bone Meal,	Price Per 100 lbs.	\$3.75
Sheep Manure,	“ “	3.00
Hard Wood Ashes.	“ “	2.50

OUR O. & W. LAWN FERTILIZER

A SPECIAL FERTILIZER FOR LAWNS.

A Selected List of Popular Flower Seeds



The cultivation of flowers well repays all the labor and care bestowed on them. Much of the disappointment attending unsuccessful cultivation could be overcome by careful planting and observance of those conditions of soil and growth peculiar to these sensitive plants. The soil should be mellow and well enriched with compost or fertilizer. If made into beds they should be well drained. The soil also requires to be made as fine as possible, not lumpy. Seeds should be covered in strict proportion to their size. The smaller seeds need little, if any covering.

After sowing they should be well *firmed* by pressing the surface with a smooth planed board. On each package directions are given specific to that kind.

PREMIUM OFFER.—In making your selection of the following, packets to the value of \$1.25 may be selected for \$1.00 in cash.

Ageratum,	Pkt. \$0.05	Cosmos, Mixed,	Pkt. .10	Morning Glory,	Pkt. \$0.05
Sweet Alyssum,	.05	Crysanthemum,		Nasturtium, Tall,	.05
Asters, White,	.10	White,	.10	Dwarf,	.05
Mixed,	.10	Mixed,	.10	Poppy, Shirley,	.10
Bachelor's Buttons,	.10	Dahlia, Single,	.10	Mixed,	.10
Balsam, Mixed,	.05	Double,	.10	Pansy,	.10
Carnation,		Four-O-Clocks,	.05	Petunia,	.10
Marguerite,	.10	Forget-me-not,	.10	Phlox, Drummondii,	.10
Calliopsis,	.10	Gaillardia,	.10	Stocks Mixed,	.10
Canna, Mixed,	.05	Heliotrope,	.10	Sweet William,	.05
Candytuft,	.05	Hollyhock,	.10	Verbena,	.05
Castor Beans,	.05	Marigold,	.05	Zinnia,	.05
Chinese Pink,	.10	Mignonette,	.10		

SWEET PEAS

The Queen Flower of the Garden

A List of the Choicest Selected Named Varieties of the Famous Spencer Type of Sweet Peas.

For many years we have taken just pride in our sweet peas. This year we offer these separate named varieties of the Spencer sweet peas, whose wonderful coloring and form will surely prove a great delight to our customers. We shall have these separate varieties in bulk for those who desire to plant straight colors and also a mixture of these same varieties for those who wish to sow in this way. Everyone should try some of these famous Spencer Sweet Peas. You will be amazed at the beauty and showing they make.

	Pkt.	oz.	¼ lb.
Mrs. Routzhan.—Apricot, pink and straw color,	\$0.10	\$0.20	\$0.60
Apple Blossom.—Crimson and light pink,	"	"	"
Asta Ohm.—Pinkish lavender, charming soft lavender suffused with mauve,	"	"	"
Aurora.—Orange and white striped,	"	"	"
King Edward.—A deep red.	"	"	"
Dainty.—A white with pink edge. Ground color is pure white with a very distinct margin of rose pink,	"	"	"
Elfrieda Pearson.—Light, pink flowers of extra large size,	"	"	"
Florence Nightingale.—Bluish lavender, enlivened by a very faint sheen of rose pink,	"	"	"
Primrose.—The color is a clear primrose throughout. Flowers measure two inches across.	"	"	"
George Herbert.—Rose crimson, gigantic flowers, borne four to a stem,	"	"	"
Queen Victoria.—Buff with a blush tint, a most pleasing color effect.	"	"	"
Senator.—Chocolate, purple and white striped. A combination of deep claret and chocolate on a field of lilac.	"	"	"
Thomas Stevenson.—Flowers of bright, flaming orange of immense size,	"	"	"
Tennant.—A purplish mauve, the best of the heliotrope shades,	"	"	"
White Spencer.—Pure white wave flowers of large sizes,	"	"	"
Choice Spencer Mixed.—A mixture of these choice Spencer varieties,	oz.	¼ lb.	per lb.
	\$0.15	\$0.50	\$1.50
Eckfort Mixture.—A splendid mixture of some of the best of the older varieties of Sweet Peas,	0.10		.80

Sweet Peas should be planted in drills about 2 inches deep, well manured and given plenty of water.

List of Grass, Clover and Millet Seed

(At market Prices)

Timothy, or Herd's Grass. One of, if not the commonest and best known grasses. Very valuable for hay. Perennial, fibrous and often bulbous rooted. (45 lbs. to the bushel.)

Red Top. Is a fine permanent grass. Often sown with timothy and red clover, in which case the clover soon disappears to be replaced by timothy, which in turn gives way to the red top. Very valuable in mixtures for permanent pastures.

Chaff Red Top 10 lbs. to the bushel. Fancy or cleaned 35 lbs. to the bushel.

Kentucky Blue Grass. Also called June grass. Root-creeping, perennial, flowers in June. It requires about two to three years to become well set and does not arrive at perfection as a pasture grass until the third or fourth season. (14 lbs. to the bushel.)

Orchard Grass. A perennial grass, flowers from June to July. Very valuable for pastures, also in connection with timothy and clover for hay crops. When used with timothy use one bushel orchard and 8 lbs. clover. If sown alone use three bushels to the acre. (14 lbs. to the bushel.)

Rhode Island Bent. Root-creeping, perennial, flowers in July. Very valuable for lawn purposes. Sow from three to four bushels to the acre. (10 lbs. to the bushel.)

Large Red, or Mammoth Clover. Grows from four to five feet high; stocks so coarse that cattle will eat but leaves only, but by its judicious use, exhausted lands may be reclaimed. (60 lbs. to the bushel.)

Medium Red Clover. The most important of all the varieties of clover for the practical purposes of agriculture. Sown with timothy and other grasses it produces desirable hay or pastures. (60 lbs. to the bushel.)

White Clover. The value of this clover is well known; it is found in most every natural pasture. It is adapted to all soils. Being deep-rooted it withstands drought when grown on dry, sandy sections. It should form a part of all mixtures for permanent pastures. (60 lbs. to the bushel.)

Alsike, (Clover). This is one of the hardy varieties. It resists cold, extreme drought and wet, and on rich warm soils yields immense crops of hay, or pasture of good quality. (60 lbs. to the bushel.)

Alfalfa (Clover). A heavy forage crop doing well in almost all localities. Requires well limed soil and good drainage.

Hungarian (grass) Millet. Splendid forage crop for light land. On rich land two crops may be grown the same season. Withstands drought and yields abundantly. (48 lbs. to the bushel.)

Golden, or German Millet. A heavier cropper than the Hungarian, and needs a longer season and a stiffer soil, stands up well, is easily cured, makes a coarse, harsh hay, which is greedily eaten by all kinds of stock. (50 lbs. to the bushel.)

Italian Millet. Sometimes called common millet, medium early, leafy, stalk small, grows three to four feet high, heads thick and nodding, six to nine inches long, fine for soiling. (50 lbs. to the bushel.)

Use O. & W. Special Grass Fertilizer
The Fertilizer That Makes Grass Grow.

Grain and Miscellaneous Seeds for Fodder Ensilage and Soiling Crops.

(All at Prevailing Market Prices.)

Ensilage and Fodder

The productive capacity of the farm for stock purposes is greatly enhanced by the growing of silage crops.

It has become well known that by the feeding of silage there is a marked increase of profits to the dairy farmer.

We have a selected stock of seeds for silage and green fodder crops as listed below.

Eureka. The greatest of Ensilage varieties. A White Corn of extra large growth leafy and yielding immense returns for silage,

Leaming's Dent Corn. A very early and productive variety.

Mastodon Dent Corn. A strong growing, early, with large stalks and large grain.

Improved Canada Corn.—The standard yellow flint corn.

Longfellow Yellow Flint. A well known flint variety.

Canada Field Peas. Grown largely with oats as fodder crop. At market prices.

Leguminous Plants as Soiling Crops

All the leguminous plants (peas, clovers and beans, etc.,) have the power of taking up the free nitrogen in the air and converting it into available forms of ammonia so very valuable as a fertilizing ingredient to the soil.

Therefore the roots (or, as in some cases where the entire plant is turned under) provides a large supply of available ammonia for the crops which are to follow.

Cow Peas,	at lowest market prices
Soja Beans (Soy Beans),	" " "
Mammoth Clover,	" " "
Medium Clover,	" " "
Vicia Villosa, or Hairy Vetch,	" " "

GRAINS

Barley,	at lowest market prices
Japanese Buckwheat,	" " "
Silver Hull Buckwheat,	" " "
Rye,	" " "
Seed Oats,	at market price

Use "O. & W." Special Grain Fertilizer

MAINE SEED POTATOES

Grown for Seed by SEED GROWERS IN MAINE.

We have selected our seed stock from the best growing section of Aroostook County and from reliable seedsmen who have had years of experience handling seed.

We wish to again emphasize the fact that it pays, in increased yield, to plant Maine seed. We show in this Catalogue a photograph of a potato field taken July 2nd, 1918 (see insert). This field was planted with Maine seed except six rows through the center, these six rows were planted with the farmers home grown seed; the photo does not bring out the real difference in appearance of the two sections of this field as it looked on July 2nd. The owner stated at that time he had better bought Maine seed even if obliged to pay \$5.00 per bushel.

Seed brought from Maine has a vigor our home grown seed does not possess.

It Pays to Plant Maine Seed.

We speak from experience when we say it is a mistake

- To cut seed a long time before using ;
- To allow the fertilizer to touch the seed pieces ;
- To allow the seed pieces to remain in the sun uncovered ;
- To plant seed grown in any section but the far north ;
- To plant less than 4 bbls. per acre ,
- To expect a good crop from small seed pieces ;
- To plant potatoes without first thoroughly pulverizing the soil ;
- To buy your seeds from any but *reliable* seedsmen.

Spaulding Rose.—This is a Rose variety, pink skin, good table quality and an enormous yielder.

Irish Cobbler.—An excellent extra early variety, will mature in seven weeks from time of planting; in color pure white with deep eyes, usually of good cooking quality.

Early Harvest.—A white skinned variety of good quality; a vigorous grower and large cropper.

Early Bovee.—This is a seedling of Early Beauty of Hebron, is extra early, produces a fair yield and a good keeper of superfine qualities.

Early Rose.—An old standard sort, early, productive, good keeper and of excellent flavor.

Early Beauty of Hebron.—This is another old time variety, popular with our fathers, as early as the Rose and excellent for table use.

Use O. & W. Potato Fertilizer



IT PAYS TO USE MAINE SEED POTATOES!

Notice the difference in this potato field.

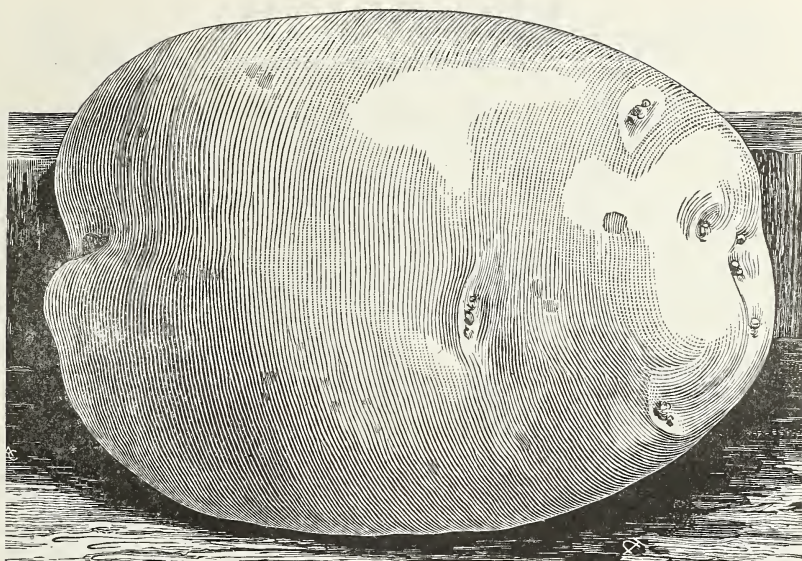
The blossoming, thrifty vines on the extreme right and left are from Maine seed. Those in the center rows were of local home grown seed. Both lots planted on same day, and given same treatment of fertilizer, etc.

(Photo taken July 2, '18)



Beautiful crop of seed leaf tobacco grown on the farm of J. W. Dunn, East Windsor.

For many years, Mr. Dunn has been an extensive user of our tobacco fertilizer.
(Photo Aug. 13, '18)



New Queen.—A seedling of the Hebron, similar in appearance, one of the best early kinds for general crop.

Delaware.—Does well in all soils, similar in appearance to Green Mountain, pure white in color, a good yielder.

Carman 3.—A late Maine crop potato; this variety will produce almost all large potatoes and but few small ones, claimed by its introducers to outyield any other variety. Good keeping qualities.

Golden Prolific.—This variety was introduced by us in 1905 and has justly become very popular; it has all the good qualities of Green Mountains and in addition produces smooth tubers.

Gold Coin.—Productive and of unsurpassed quality, very uniform in size. Skin a light golden tinge, usually having a russet appearance which indicates good table qualities; a vigorous grower not easily effected by blight.

Improved Green Mountain.—This variety is too well known to require any description; it is recognized as the standard of excellence in all New England; white skinned, oval formed, smooth and attractive and a good yielder

It Pays to use our Potato Fertilizer

BUG DEATH

NON-POISONOUS



PATENTED MARCH 16TH '97.

Pat. March 16 and Nov. 9, 1897.
Pat. in Canada, Nov. 2, 1897.

Dickey Bug Death Duster

PRICE, 50 Cents.

PRICE LIST			
1 Pound Package,	-	-	\$0.15
3 " "	-	-	.40
5 " "	-	-	.60
12 1-2 lb. "	-	-	1.25
100 lb. keg,	-	-	8.50
Dickey Duster	-	-	.50

For Applying Bug Death dry, to potato vines.

Directions for Applying Dry

For potato and other vines which require a top application, apply dry with Perfection Shaker at the rate of 12½ pounds or more per acre to an application, according to size and condition of the vines.

For house and garden plants and small shrubs use rubber atomizer or any of the bellows that are on the market for that purpose. Dust the plant thoroughly. The best results are obtained by using when the vines are damp.

Directions for Using in Water for One Acre

Add to 12½ pounds of Bug Death 80 gallons water; mix thoroughly; spray on vines with any of the various sprayers that are on the market. We prefer a barrel or knapsack sprayer that is fitted with an agitator, otherwise solution must be frequently stirred so that Bug Death is held in suspension. Spray vines thoroughly.

Bordeaux Mixture and Paris Green

It frees the plant from all insects. As it contains no arsenic it does not burn or blight the plant, and retard its growth. On potatoes it keeps the vines green from ten days to two weeks longer, thus giving the potato more chance to mature, which means a more starchy potato and one less liable to rot. Last, but not least, the extra yield of marketable potatoes more than pays the entire expense.

B. D.

Sifter

75 Cents.



Agricultural Implements

Farm and Garden Tools

Owing to unsettled market conditions, all prices on implements and tools subject to change without notice.

The following pages are devoted to a description of farm implements which we sell. Our selection of these has been made in the same careful way as governs the selection of all the goods we offer to our customers.

Our object and desire being to sell only the best and such as will be most acceptable to our trade, both in point of service, convenience, and economy.

A partial list follows of some goods we do not illustrate. Read it over carefully as it may contain something you need. Samples of all may be seen at our showrooms, 164-8 State St., and prices will be made upon application. Write us also if what you need is not listed here, as we aim to make our store the headquarters for everything needed on the farm.

Clipper Smoothing Harrow (in one, two, or three sections)

Doe Plows.

"R" Plows.

"M" Plows.

Road Plows.

Eclipse Weeders.

Field and Garden Rollers.

Mowing Machines.

Hay Rakes.

Tedders.

Prout Hoes.

Field Markers and Ridgers.

Horse and Hand Corn Planters.

Wheelbarrows.

Canal Barrows.

Grindstones.

Forks.

Hoes.

Shovels.

Farmers' Set Kettles or Cauldrons (with or without furnace) in different sizes.

Binding Twine.

Hay Carriers, Forks, etc.

Axes.

Garden Hose.

PLEASE NOTE.

We make a point of keeping on hand a line of repairs for Plows, Harrows, and all other implements we sell.

We also represent the INTERNATIONAL HARVESTER CO. on the following :

Corn Huskers and Shredders.

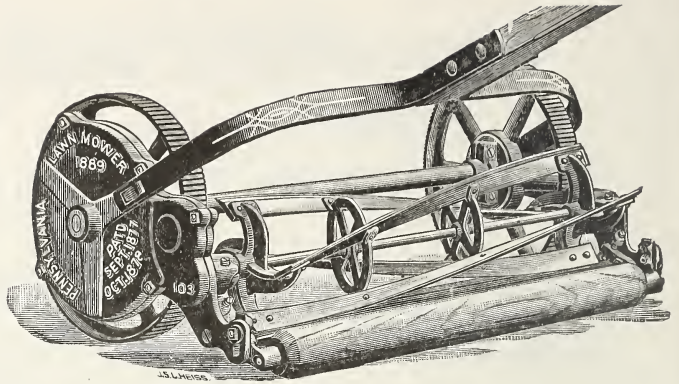
Combination Harrows,

Deering Knife Grinders.

We will gladly make prices and send special reading matter on any of the above.

"PENNSYLVANIA" Hand and Horse Lawn Mowers

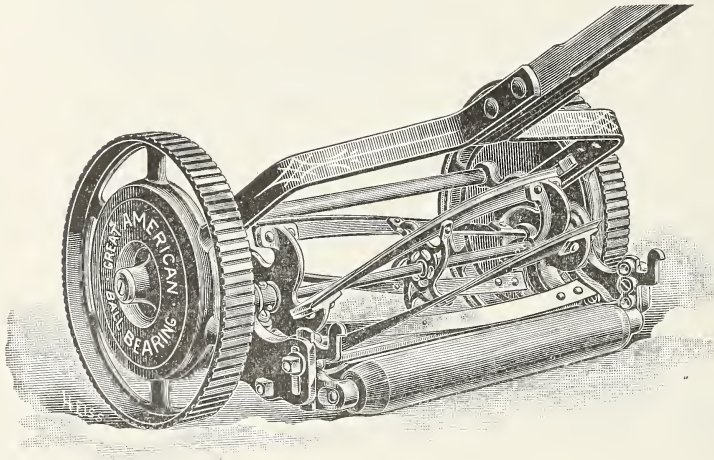
Sizes 12, 14, 16, and 18 inch Low Wheel. Sizes 15, 17, 19, and 21 inch, High Wheel. The "Pennsylvania" has been recognized for many years as the standard among Lawn Mowers. Cuts longer grass, requires less repairs than any other mower made. Used on the State Capitol grounds and by all first class gardeners everywhere.



GREAT AMERICAN Lawn Mower

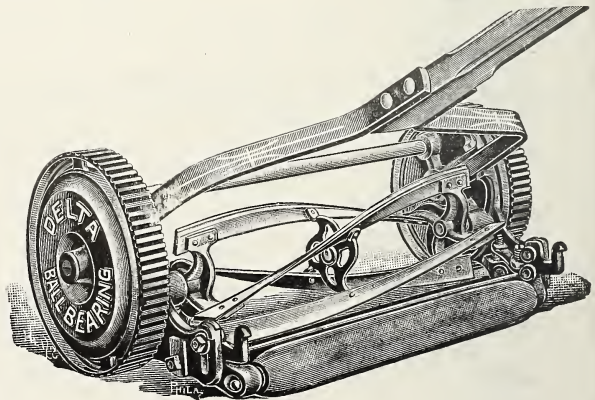
Sizes 15, 17, 19 and 21 inch., High Wheel.

This Mower is of the same manufacture as the "Pennsylvania," and is a high grade machine throughout. Has ball-bearing equipment which insures less friction and wear. It has been sold by us for eleven years and given highest satisfaction.



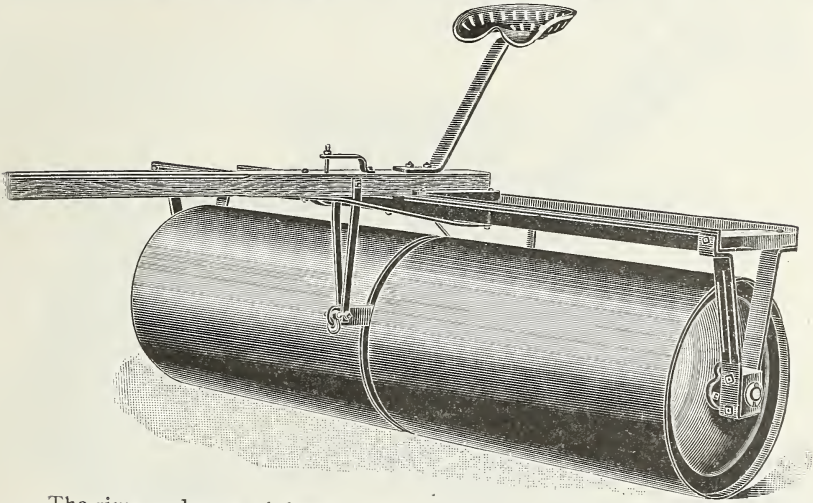
The "DELTA" Ball-Bearing Lawn Mower

This is another of the famous Pennsylvania family of high grade mowers. It is ball-bearing. Thoroughly well made and of medium price, made in 14, 16, and 18 inch cutting sizes.



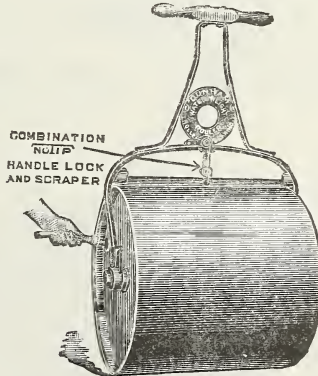
STEEL FIELD ROLLERS

The Land Roller which never wears out.



The rims or drums of these rollers are of best material of heavy gauge and are firmly riveted to heads. There is nothing about these to break and with reasonable care should last a lifetime.

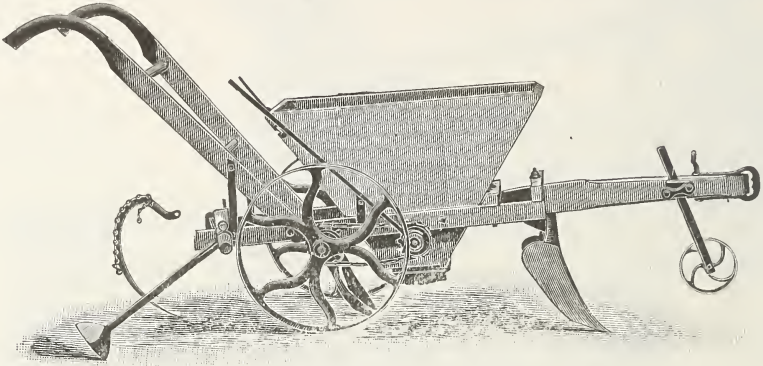
- No. 2 24 in. (2 section) 8 ft. long
 - No. 4 26 in. (2 section) 8 "
 - No. 5 26 in. (3 section) 8 "
- (Prices on application.)



HAND LAWN ROLLERS

STYLE	DIAM.	LENGTH	SECTION	WEIGHT	SELLS FOR
L. R. 401	15	16	2	150	\$11.00
L. R. 402	15	24	3	200	14.50
L. R. 403	20	16	2	225	16.00
L. R. 404	20	20	2	250	18.00
L. R. 406	20	24	3	300	21.00
L. R. 408	20	30	3	350	24.75
W. B. 5	18	24		300 (filled)	15.00
W. B. 7	24	24		500 "	19.50

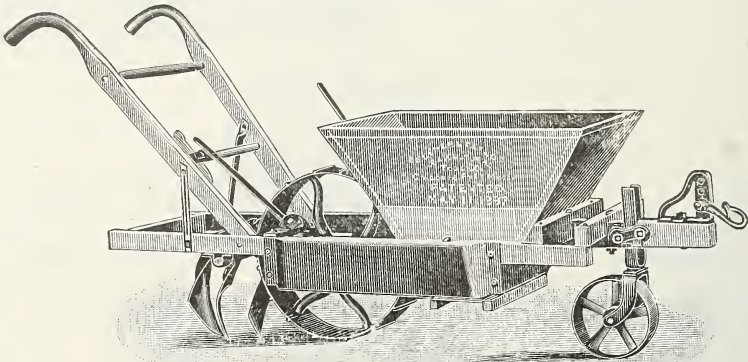
PERFECTION DRILL AND FERTILIZER SOWER



THIS machine will form a drill from 3 to 10 inches deep and will drop into the drill any fertilizer at the rate of 100 to 1,200 lbs. to the acre. The scrapers shown between the wheels are attached to the axle by sockets and are adjustable to any width and height needed to take the soil from the sides of drill and cover the fertilizer as desired.

In turning, the operator, by pressing down the handles, can easily raise the front end of machine from the ground and the horse will swing it into position. The row spacing attachment is simple, strong and leaves a plain mark for horse to follow. In turning, it can be swung up and held against the handle. The lever on right side throws the agitating cylinder into gear. The lever in rear of hopper shifts the bottom plate to give desired quantity of fertilizer to the acre. The adjustable stop on end of hopper will hold the lever where wanted. Price, \$23.00. **Net Cash Price \$22.00.**

BETWEEN THE ROW SOWER



For sowing fertilizers between rows or for doing other surface work, as some tobacco growers claim that a part of the fertilizing should be done after the first hoeing. The machine is made with wheel inside the frame, and covers a space of 12 inches wide with fertilizer. It has three cultivator teeth, adjustably attached to back end of machine for covering. Price, \$23.00.

Net Cash Price \$22.00.

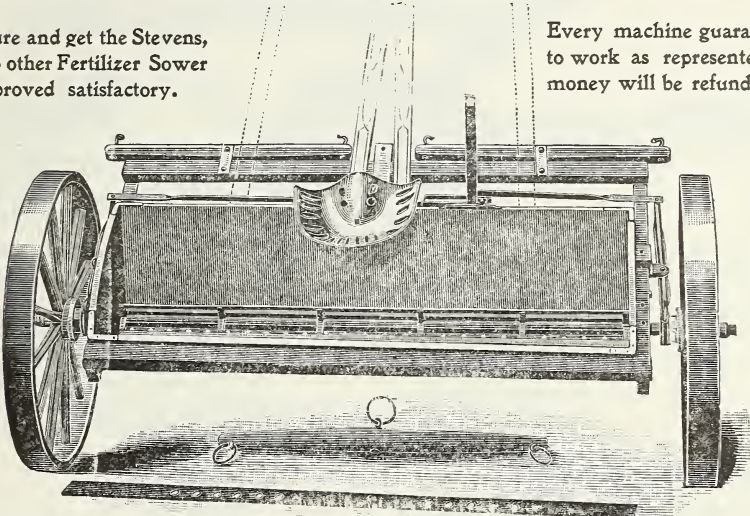
Stevens Fertilizer Sower

Combining Simplicity, Strength, and Durability.

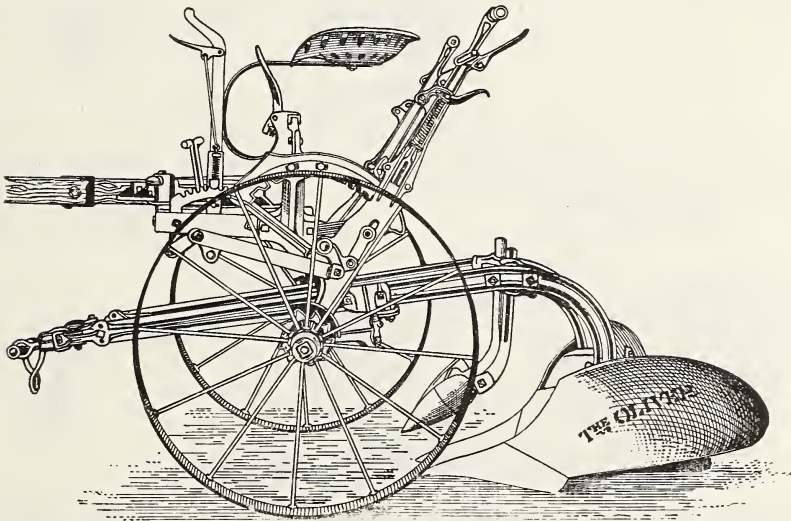
Made in Two Sizes: 5 feet, 10 inch, \$55.00 8 feet, 3 inch, \$60.00
 Net Cash 52.00 Net Cash 57.00

Be sure and get the Stevens,
 as no other Fertilizer Sower
 has proved satisfactory.

Every machine guaranteed
 to work as represented or
 money will be refunded.



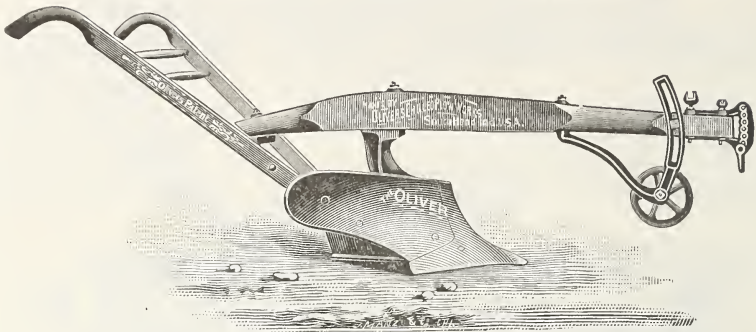
The Oliver Sulky Plow



Complete with 2 and 3 horse hitch, \$105.00. 5% Discount for Cash.

The Oliver Sulky Plow has come to be the most popular reversible two-way sulky sold in this section. During the past few years we have put into the hands of our best farmers several carloads of these plows. It has been one of the most satisfactory implements we have ever sold. You will make no mistake if you buy an "Oliver." The aim of the Manufacturer has been to produce a reversible sulky plow which should be more easy to manipulate than any thing else on the market.

The Genuine OLIVER Chilled Plow.

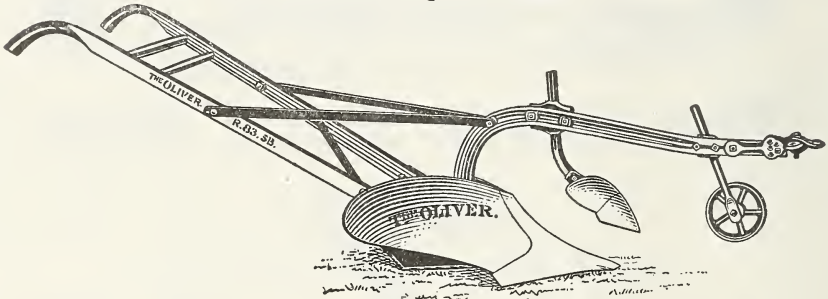


We are factory agents. The genuine Oliver plow and repairs are for sale in this section of Conn. only by ourselves, all others are spurious and cannot be relied upon to fit well or do good work.

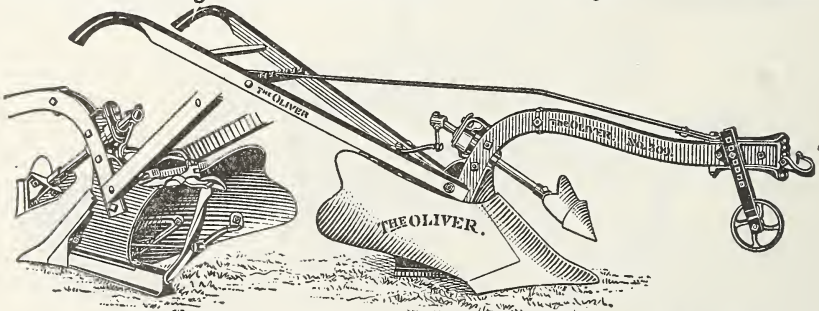
The reputation of the Oliver plow is so well established that comment is unnecessary.

Price, No. 20, full trim,	-	-	\$23.50	Net Cash \$22.00
Price, No. E, full trim,	-	-	26.00	" 24.50
Price, No. 40, full trim,	-	-	27.00	" 25.50

A New OLIVER Chilled Plow.



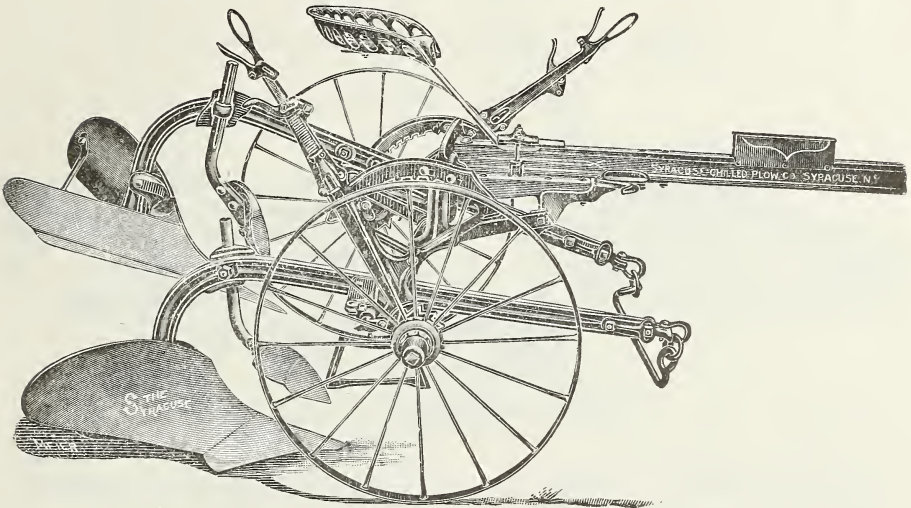
No. 83. A Medium 2 Horse Plow,	-	-	\$24.50	Net Cash \$23.00
No. 84. A Large Size 2 Horse Plow,	-	-	25.50	" 24.00



A New Reversible plow made especially for the Connecticut Valley trade. Our trade has long demanded a light weight reversible plow. This weighs but 140 lbs. Made both with chilled and soft cutter steel board.

No. 508. With chilled M board full trim,	-	\$27.00	Net Cash \$25.50
No. 509. " " " " " "	-	28.00	" 26.50
No. 508. " Steel (Soft Center) " " " "	-	29.00	" 27.50
No. 509. " " " " " "	-	30.00	" 28.50

Syracuse Reversible Sulky Plow

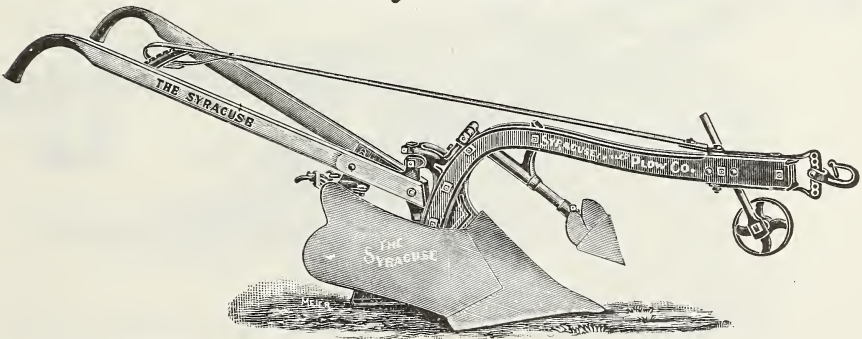


Composed of one right and one left hand plow, with steel beams, steel mouldboards and steel landsides. Will plow on sidehill or level land—leaves no dead furrows. Easily operated. Specially designed for New England farmers. Has given the greatest satisfaction of any Sulky Plow sold in the past 10 years.

Price, \$105.00.

5% discount for cash.

No. 821 Syracuse Plow



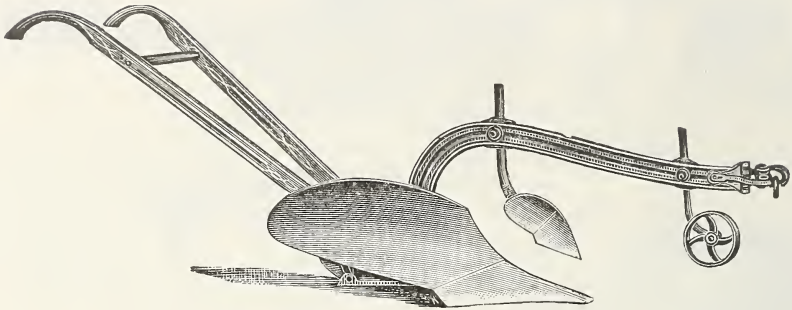
Price No.	821 Chilled full trim	.	.	\$28.00	Net Cash	26.50
"	" 821 Steel Board	.	.	30.00	"	28.50
"	" 822 Chilled full trim	.	.	27.00	"	25.50
"	" 822 Steel Board	.	.	29.00	"	27.50

This is a truss beam plow combining lightness with strength.

No. 32 Syracuse Plow

With Steel Beam and Steel Mouldboard.

HAS NO SUPERIOR.



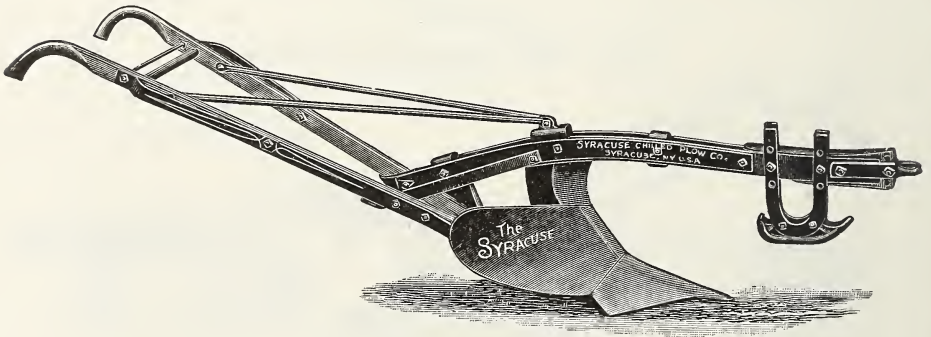
Workmanship and material of the very best grade and quality obtainable. Light, yet strong and durable, with superior turning qualities. Every plow fully warranted. Price, \$26.50.

No. 31 " 27.50.

Net Cash \$25.00

" 26.00

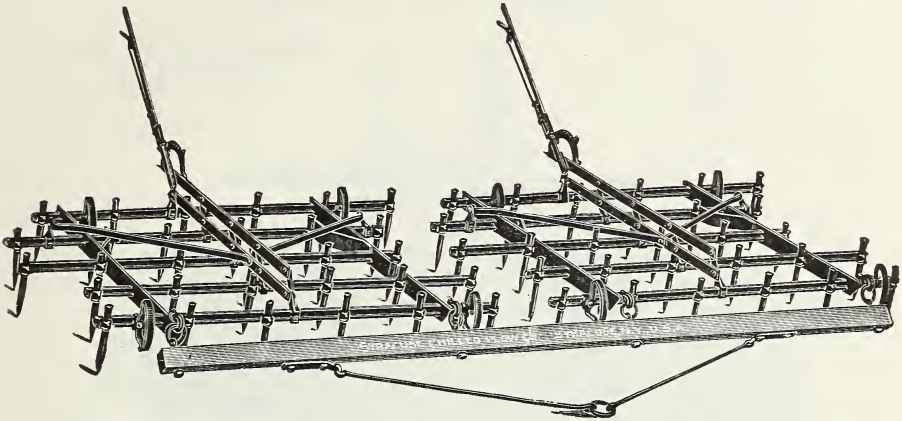
No. 99 SYRACUSE CONTRACTOR'S PLOW



This has steel truss beam, steel mouldboard and landside, separate shin piece, heavy overlaid wrought steel share, adjustable shoe in place of wheel, loop handle wear irons, very strongly built, slight turning capacity. Suitable for severe grading purposes in shale or hard pan.

Four to eight horses. Weight 310 lbs. Price \$60.00 Net Cash

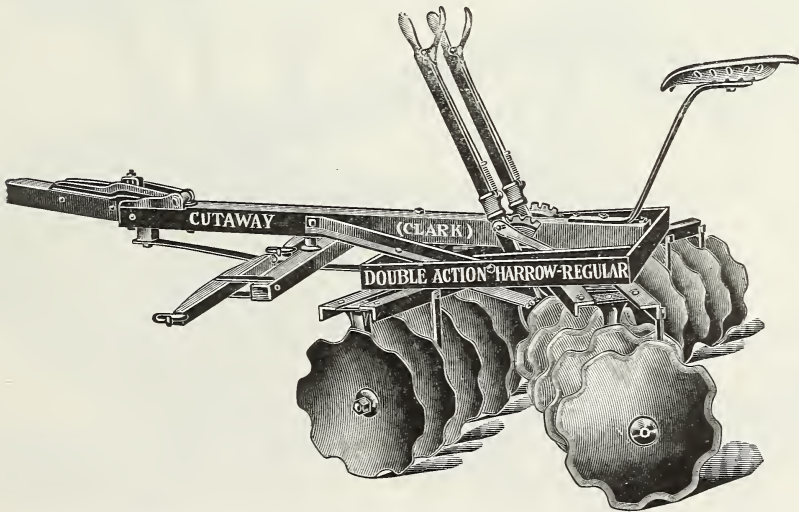
PEG-TOOTH LEVER HARROW



The teeth are $\frac{1}{2}$ inch extra heavy. Bars have malleable clips. Adjustable teeth.

2 Section (50 Teeth) with Spanner,	-	\$25.50	Net Cash Price \$24.00
2 Section (60 Teeth) with Spanner,	-	\$27.50	" 26.00

CLARK'S CUTAWAY DOUBLE ACTION HARROW.



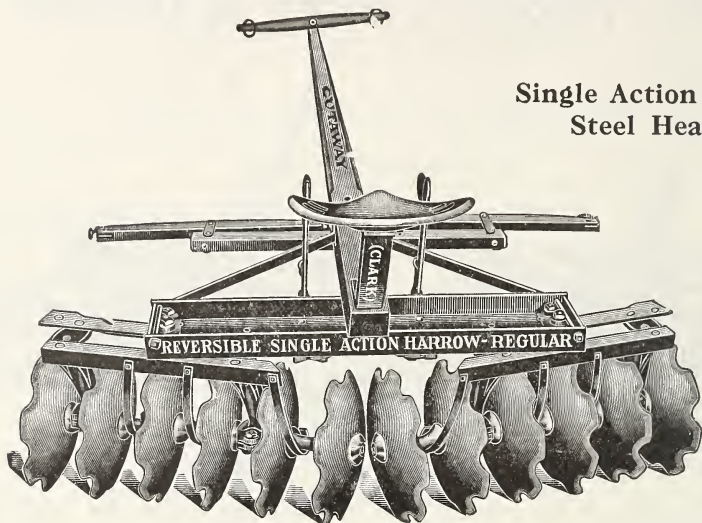
The Cutaway Double Action possesses every feature that adds efficiency, convenience or adaptability and economy to a disc harrow.

16—Sixteen inch discs,	. . . . .	Price \$67.00
		Net Cash Price 65.00

This harrow is made in a variety of sizes. Special catalog and prices on application.

CLARK'S CUTAWAY HARROW.

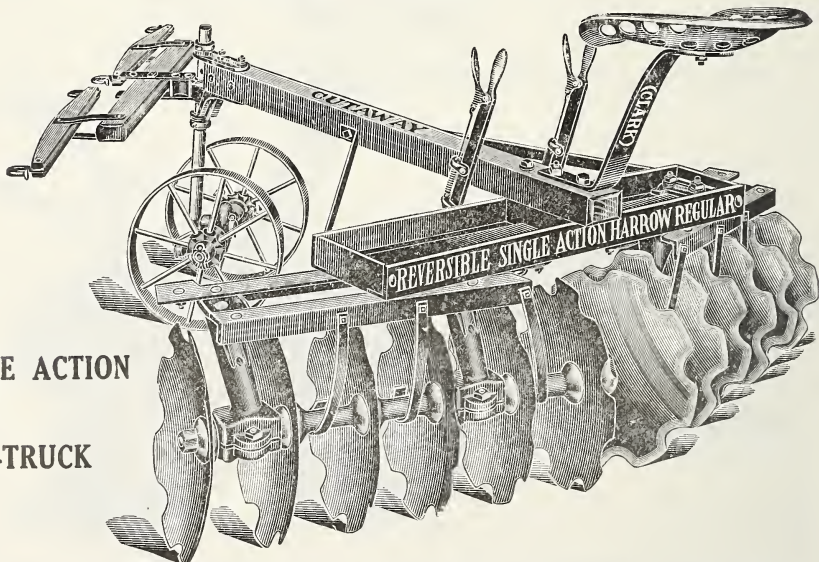
Single Action with
Steel Head



This is a standard harrow, thoroughly well made, equipped with the justly celebrated Clark hard-wood journals. These journals outwear metal, give less friction and are cheaper to replace.

Either solid or cut out discs

12—Sixteen inch cut-out discs, complete with neck yoke and eveners, \$48.00
Net Cash price \$46.00 Solid discs \$1.00 less

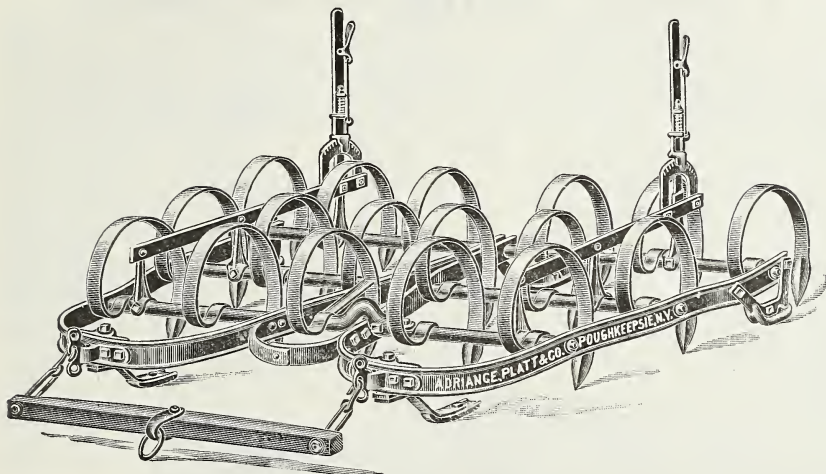


**SINGLE ACTION
WITH
FORE-TRUCK**

The above cut shows the Clark cutaway Harrow equipped with tongue truck or fore carriage. This truck is all steel, durable and strong yet light; it has first the adjustable hitch to meet the height of any team, second adjustable tongue attachment to suit the height of any harrow; third, axle joint so that either wheel may run over clods, stones and other obstructions without affecting the even regular line of draft of the harrow.

Price complete, - - - \$56.00
 Fore truck only \$10.00 **Net Cash Price \$9.00** **Net Cash price \$54.00**

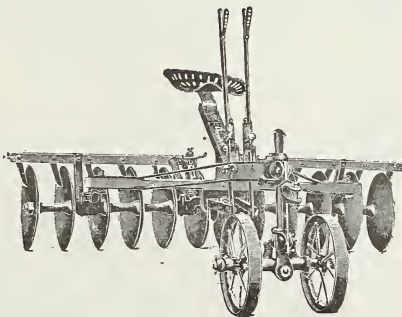
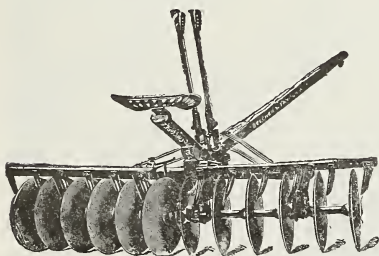
Spring Tooth Harrow.



This is not a cheap tool, either in construction or price. It is for the man who wants the best and most satisfactory. The frames are of heavy channel steel, two inches wide. As the frames are carried high above the ground, they will last a lifetime.

			Net Cash Price
Price for 9 Tooth, with Handles,	- - -	\$20.00	\$19.00
“ 15 “	- - -	30.00	28.50
“ 17 “	- - -	32.00	30.50
Price of 17 tooth Riding Harrow with wheels and seat		37.00	35.50

Chicopee Double-lever Disc Harrow



(Showing fore-truck attachment)

No. 4—6½ ft. cut—12 disc—16 inch diameter, complete with scrapers, eveners and neck yoke \$47.00 **Net Cash price \$45.00**
 Complete with Fore-truck \$55.00 “ “ “ **53.00**

ACME Pulverizing Harrows.

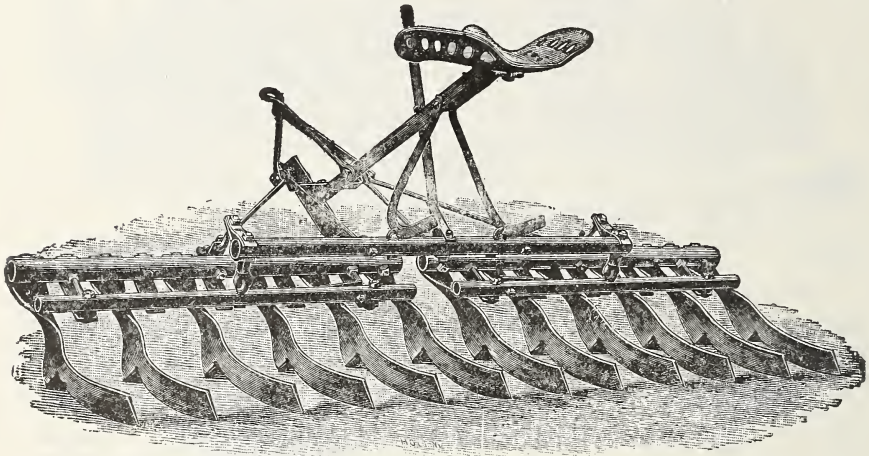
Warranty. I hereby warrant each and every part of each and every "Acme" Pulverizing Harrow against breakage for the term of one season after it leaves the manufactory or any of my storehouses, and I hereby authorize Agents and Dealers to FURNISH FREE NEW PARTS TO REPLACE BROKEN PARTS; the only stipulation being, that the farmer demanding such parts shall sign a statement that the breakage occurred in fair usage, which statement shall be countersigned by the Agent or Dealer from whom the Harrow was purchased.

DUANE H. NASH, Manufacturer.

No. 23.

*Two-Horse Size.
Works 6½ ft. Wide.*

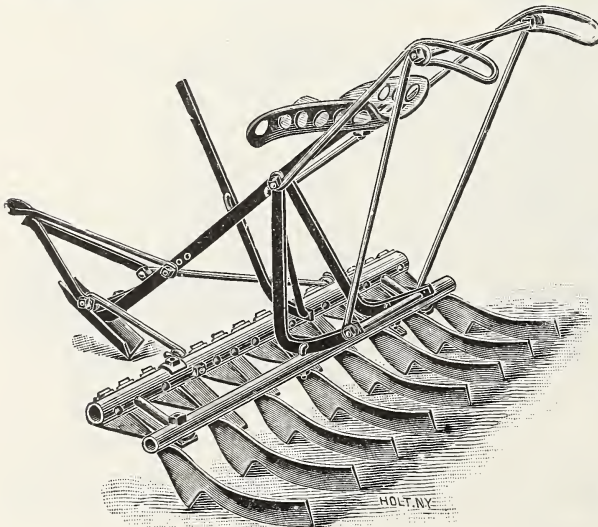
*Riding Harrow.
Flexible Style.*



The gang bars may be made rigid, when desired by means of braces provided for that purpose.

Price of No. 23, (two-horse style), \$29.00

NET CASH PRICE \$27.00.



Size H.

For One Horse

Size H is built on the same plan as No. 23. Has eight Colters, also Crushing Spurs. Works about 4 feet, 4 inches wide, weighs about 90 lbs.

Price, \$23.00,

Net Cash Price \$21.00



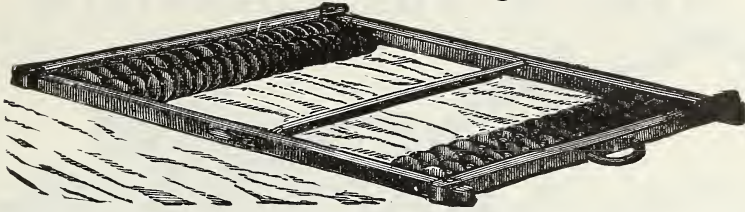
The plantation of the Hartman Bros., Hazardville, Ct.
A tent of high-grade shade tobacco grown on our tobacco fertilizer.
(Photo Aug. 13, '18)



One of the finest crops in the Connecticut Valley!
Grown on the farm of Willard Thrall & Sons, Poquonock, Ct. on O. & W. tobacco fertilizer.
(Photo Aug. 13, '18)



The Meeker Smoothing Harrow.

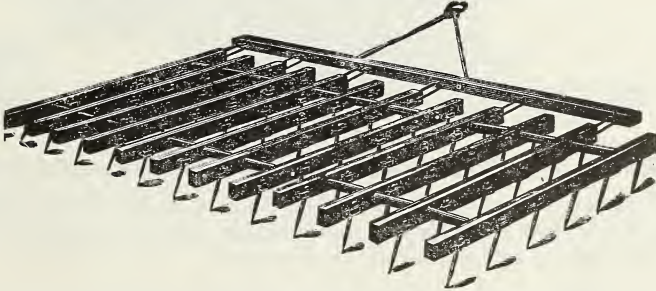


A perfect harrow and land roller combined. This harrow has become a great favorite among all classes of farmers and market gardeners.

It has four (4) sets of rollers containing 58 steel discs. These discs grind all lumps and save the work of raking and also mash small stones below the surface better than any field roller, leaving the land smooth and level.

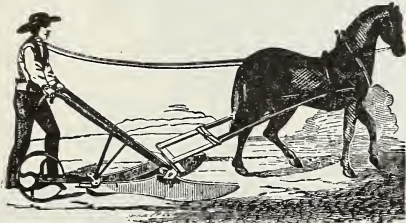
8 in. disc Harrow \$35.00 Net Cash 33.00 10 in. disc Harrow \$39.00 Net Cash \$37.00

Clipper Smoothing Harrow



The teeth are $\frac{9}{16}$ in. round, and are attached to bars by malleable clasp, and are so arranged that by hitching to one end of harrow the teeth pull slanting as shown in cut, by hitching to other end the teeth pull straight. Wood frame.

Price 1 section	\$ 9.00	\$ 8.50 Net Cash
" 2 "	16.00 (including spanner)	15.25 "
" 3 "	24.00 " "	23.00 "



Goslee's Potato Ridger and Tobacco Coverer

Price, Plain \$14.00

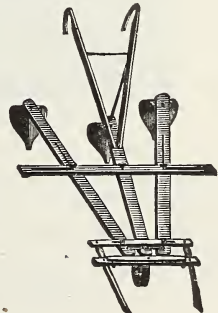
Net Cash \$13.00

Goslee Improved Field Marker

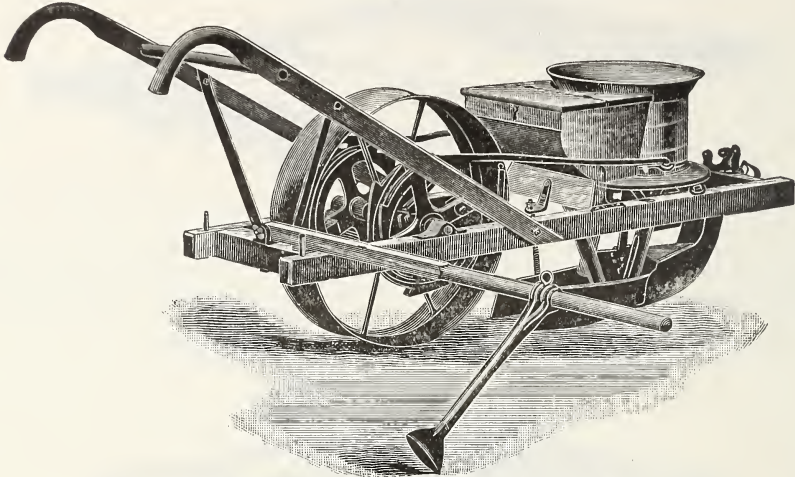
(Spread 2 to 4 feet)

This machine is designed to mark out rows any width for any crops grown in rows. Teeth are adjustable to any size and depth drill.

Price, \$12.00 **\$11.50 Net Cash Price**



"KING OF THE CORNFIELD"



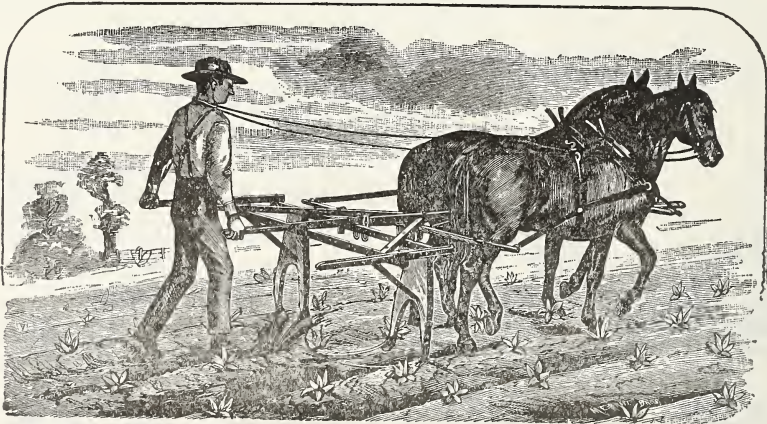
Price \$32.00

Net Cash Price \$30.00

Corn, Bean and Pea Planter and Fertilizer Distributor

Every machine is warranted to be well made of good material, and guaranteed to do its work perfectly and satisfactorily with the different kinds of seeds, as we claim, if used according to directions.

Prout's Hoeing Machine



Unlike the Cultivators and Horse Hoes now in common use the whole surface or distance of 2 ft. more or less, on each side of plant is cut over with this machine, all the weeds are removed. The hoe steels being made tapering permit of cutting close up to plant without injury to the roots.

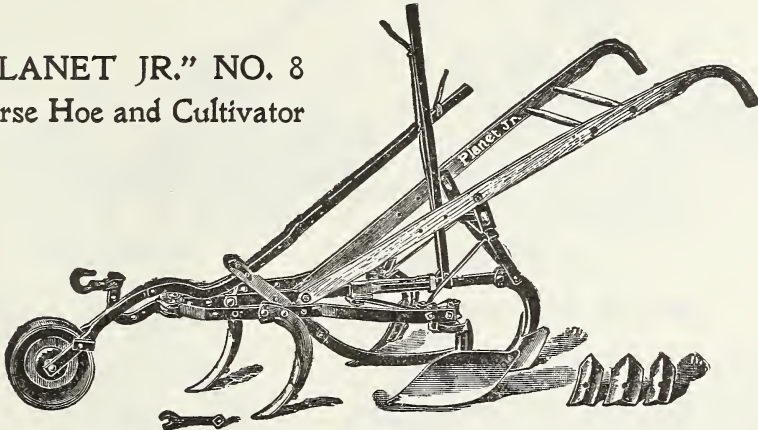
Price, plain \$26.00
Net cash price 25.00

Price, with wheels \$29.00
Net cash price 28.00

THE "PLANET JR" HORSE TOOLS

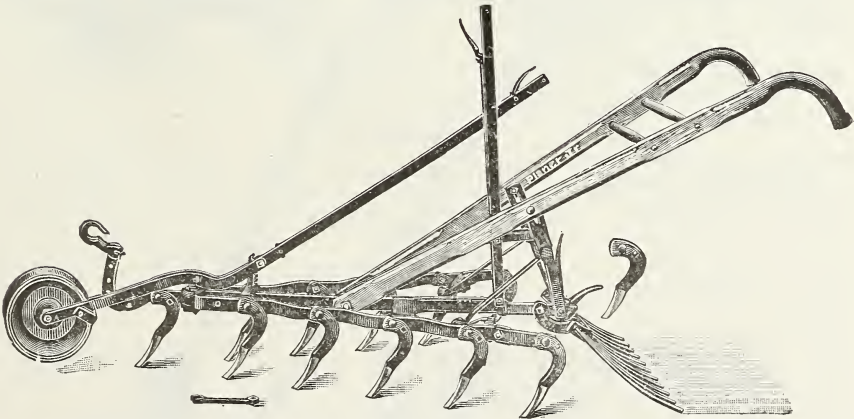
Complete Descriptive Catalogue Sent on Application

"PLANET JR." NO. 8 Horse Hoe and Cultivator



- No. 8—With Depth Regulator, Lever, Steel Wheel and Lever Expander, - Price, \$19.50
 No. 7—Same as No. 8, except it has no Depth Regulator, - - - - - Price, 18.50
 No. 9—This tool is identical with the No. 7 Horse Hoe, but it has a plain wheel instead of one operating by a convenient lever, - - - - - Price, 16.75

The "PLANET JR." Twelve Tooth Harrow, Cultivator and Pulverizer



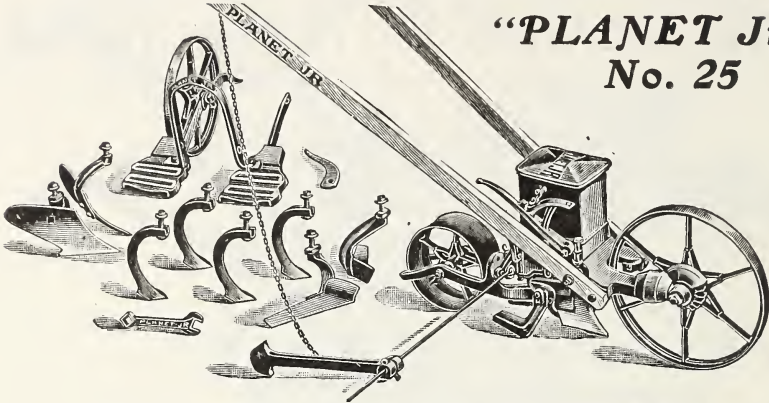
The above is a great labor saving tool. Try one and be convinced of its superior qualities. No farmer should be without one.

Price, plain, \$12.50 With Wheel, \$16.25 Complete, \$19.50

We sell as an extra an eighteen and twenty-four inch Sweep, with special standard which is used in place of the pulverizer for leveling and weed cutting. It is adjustable in height. Furnished in place of pulverizer if desired.

"Planet Jr." Farm and Garden Tools

"PLANET Jr." No. 25



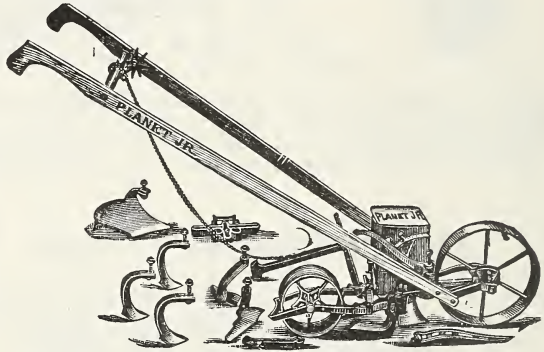
Hill and Drill Seeder and Double Wheel Hoe.
Price, \$22.50

"PLANET JR." No. 4

Combined Hill and Drill
Seeder, Wheel Hoe, Culti-
vator and Plow.

PRICE, complete, - - \$19.00
" as a drill only, - 15.00

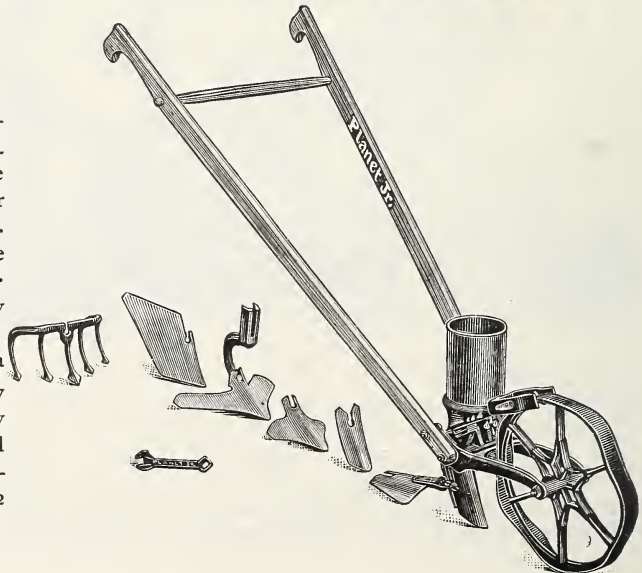
This is a prime favorite with all gardeners, especially those who while not having a large acreage, derive a lot of pleasure in using a Combined Seeder and Cultivator of this kind in caring for the home garden.



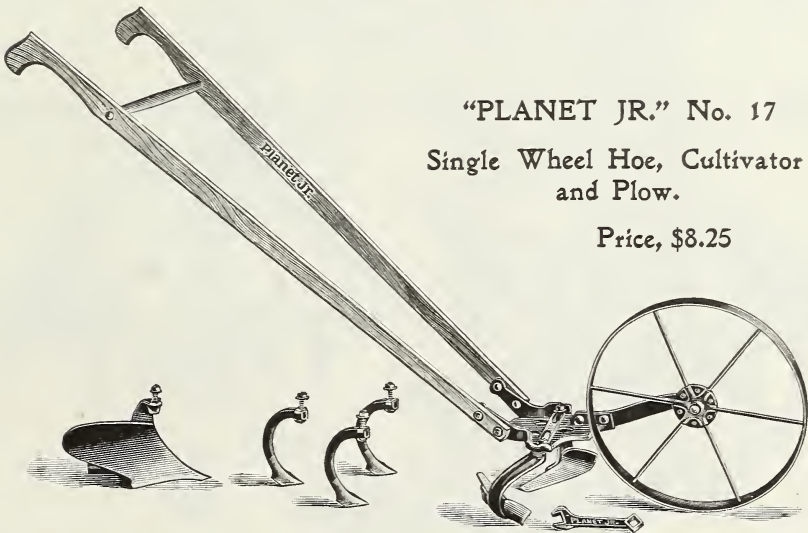
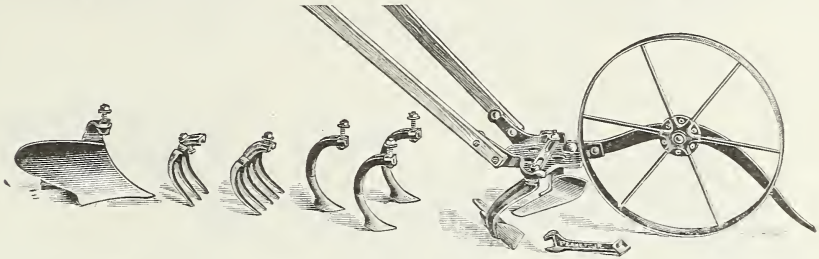
"PLANET JR." No. 31

Combined Drill Seed-
er and Wheel Hoe.
Price \$12.50 complete
Price as a Drill Seeder
only, \$10.00 (No. 31D).
Price as a Wheel Hoe
only \$6.00 (No. 33).

This is a thoroughly well made machine and will sow even a small packet of any garden seed at any thickness desired with the greatest precision from $\frac{1}{4}$ to 2 nches deep.



"PLANET JR." NO. 16 Single Wheel Hoe, Cultivator,
Rake and Plow Price \$10.00



"PLANET JR." No. 17
Single Wheel Hoe, Cultivator
and Plow.
Price, \$8.25

No. 17½ "PLANET JR." Single Wheel Hoe
(Same as No. 17 less Plow)

Equipment:

- | | | |
|---|---|--------------------|
| <ul style="list-style-type: none"> 1 pair six-inch hoes 3 steel cultivator teeth 1 leaf lifter | } | all steel tempered |
|---|---|--------------------|

PRICE, \$7.10

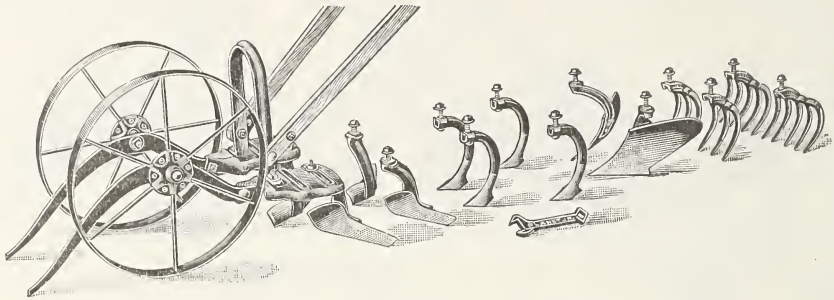
No. 18 "PLANET JR." Single Wheel Hoe

Equipment:

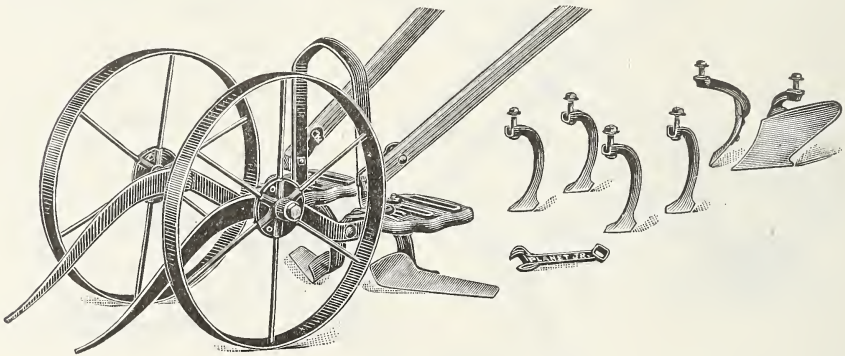
One pair six-inch hoes, oil tempered

PRICE, \$5.75

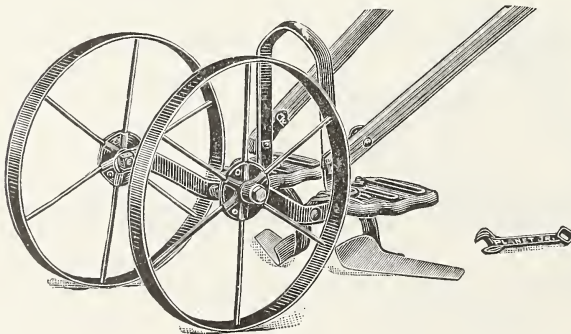
**THE "PLANET JR." No. 11 Double Wheel Hoe, Cultivator,
Rake and Plow. Price \$15.50**



**THE "PLANET JR." No. 12 Double Wheel Hoe, Cultivator
and Plow. Price \$12.00**

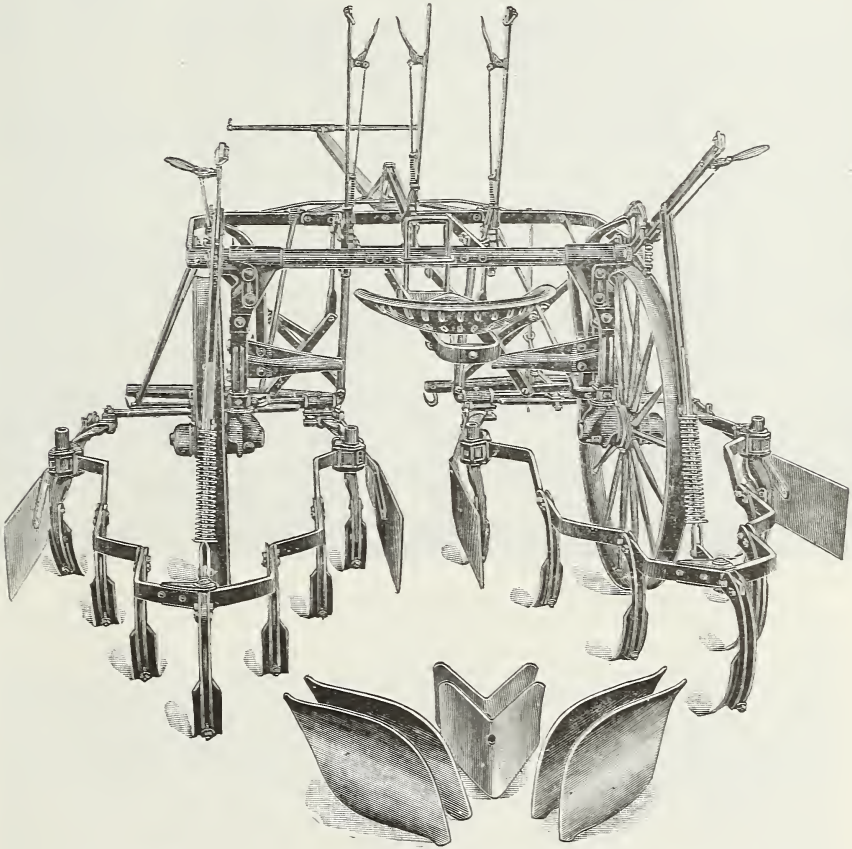


The "PLANET JR." No. 13 Double Wheel Hoe. Price \$8.50



Send for
Special Catalog
"Planet Jr." Tools.

"PLANET Jr." No. 72
TWO ROW PIVOT WHEEL RIDING CULTIVATOR,
PLOW, FURROWER and RIDGER



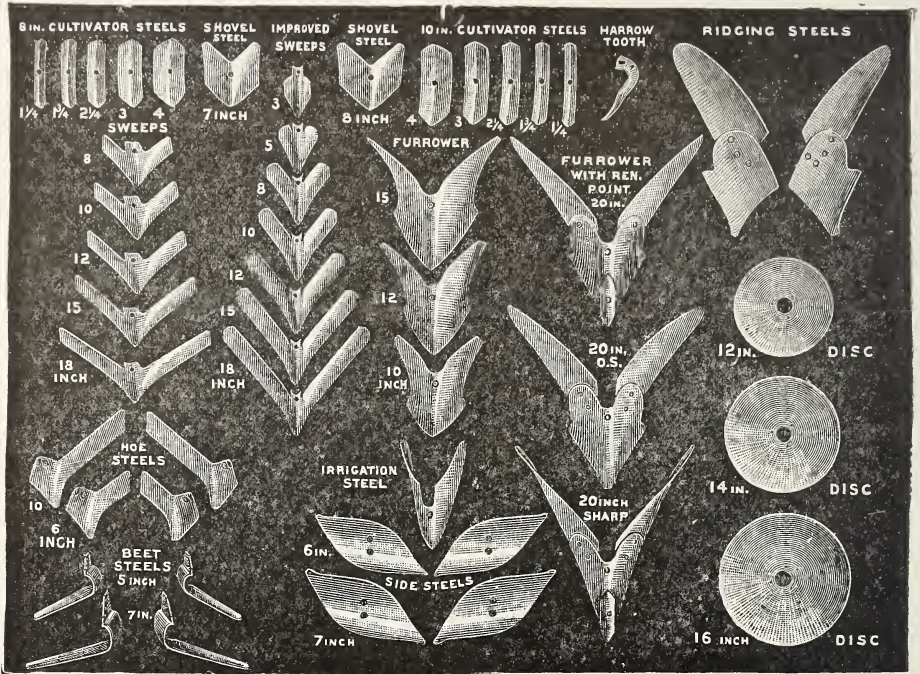
EQUIPMENT:—	14 Cultivator Teeth	2 8 inch Shovels
	4 Reversible Plows	4 Plant Guards

Price, \$120.00

The No. 72 "Planet Jr." Two-row is the highest type of two horse cultivator.

It completes two rows at one passage, all widths from 28 inches to 44, inclusive, and is specially built to do this when the rows are irregular, for the operator can change the width apart of gangs while in motion to suit varying rows, by means of convenient levers. Important improvements have been made recently.

"PLANET JR."



Varieties of Steel Plates made for the "Planet Jr." Horse Hoe.

The 1 1/4 inch steels throw almost no furrow, and run very deep, yet work beautifully as cultivating teeth and subsoilers, very desirable where the soil is to be broken up thoroughly without hilling, as where the ground is clean, but beaten down by rains, or baked by the sun. The next two sizes, 1 3/4 and 2 1/4 inch, are desirable for general cultivation, and do superior work in hard lands. The next is 3 inch; this is the size, with one 4 inch for the rear standard, which is sent out with the Horse Hoe, unless otherwise ordered, being best adapted to general work in all kinds of soil.

1 1/4 inch Steels,	\$0 22	12 inch Improved Sweeps, . . . . .	.84
1 3/4 " " " " . . . . .	.25	15 " " " " " . . . . .	.96
2 1/4 " " " " . . . . .	.27	18 " " " " "	1.20
3 " " " " " . . . . .	.31	24 " " " " "	2.35
4 " " " " " . . . . .	.36	Fingered Sweep and Bolt,	1.25
7 " " Shovel Steel, . . . . .	.50	6 inch Side Steels, each, . . . . .	.88
8 " " " " " . . . . .	.55	6 " Hoe Steels, . . . . .	.85
Bolts, . . . . .	.05	10 " " " " "	1.00
8 inch Sweep (regular) . . . . .	.58	10 " Furrower,	1.50
10 " " " " " . . . . .	.64	12 " " " " "	1.90
12 " " " " " . . . . .	.70	15 " " " " "	2.30
15 " " " " " . . . . .	.80	20 " Furrower, old Style, with wings	3.75
18 " " " " "	1.05	20 " Furrower, new style	4.00
24 " " " " "	2.00	Ridging Steels, each,	2.25
8 inch Improved Sweeps, . . . . .	.65	Pulverizer for Harrow Special,	3.50
10 " " " " " . . . . .	.75		

Improved Sweeps do not fit Horse Hoe Side Standards.



"Broadway", a roadway through the 25 acre tent of shade tobacco on the plantation of the New England Tobacco Plantation at Hayden Station, Ct. grown on our special tobacco fertilizer.

(Photo Aug. 13, '18)



Harvesting an excellent crop of Broad Leaf tobacco on the farm of Troy Bros., So. Windsor, Ct.

Consistent users of our tobacco fertilizers for many years.

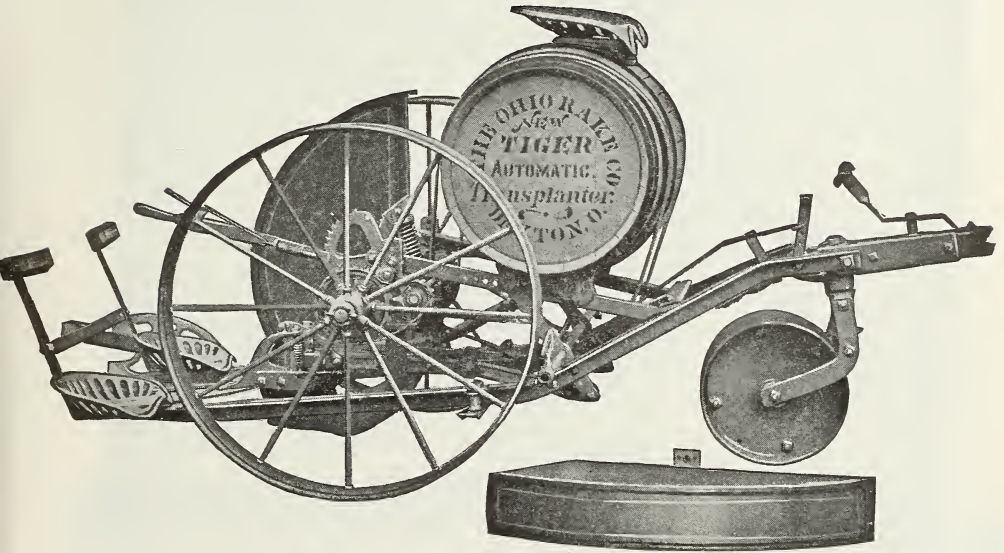
(Photo Aug. 13, '18)



The Tiger Transplanter

No. 2 Improved

FOR SETTING AND WATERING IN ONE OPERATION
TOBACCO, TOMATO, CABBAGE AND OTHER PLANTS



SPECIAL FOR 1919.

The Tiger Transplanter has been the most popular transplanter for years and was made formerly by The Stoddard Mfg. Co.

It is a combination of strength and simplicity, made to transplant tobacco, cabbage and other plants.

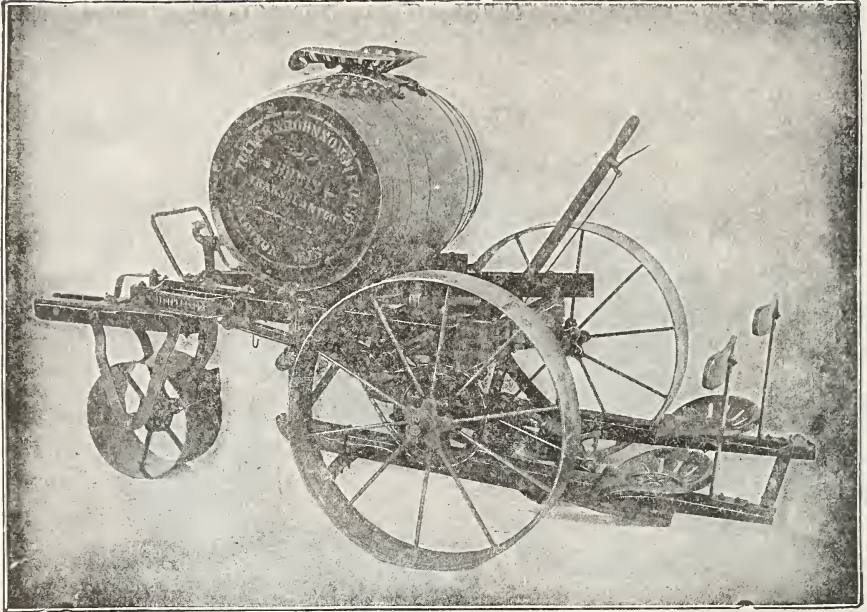
In this 1919 machine we are able to furnish two styles of valves. The stationary valve such as formerly used, but enlarged; or a swing valve similar to that used some years ago that was so deservedly popular.

Price \$88.00

Net cash price \$85.00

It Pays to Use Our Special Tobacco Fertilizer.

The Bemis Transplanter.



For Setting Tobacco and Other Plants

The above is the well known Bemis Transplanter made by Madison Plow Co. of Madison, Wis., with all improvements to date.

This machine is too well known to need any endorsement from us. Nearly every tobacco farm in the Connecticut valley is equipped with one of these implements.

Price, \$98.00.

Net Cash Price \$95.00

Use O. & W.'s Special Tobacco Fertilizer.



The Iron Age (Improved Robbins) Potato Planter

Price \$145.00

No. 400R. with regular
Fertilizer Distributor
and Shield Plow

Discount per Cash 5%

A Planter that does not injure the seed as it is all handled automatically.

A Planter that places every seed piece exactly as you want it. A Planter that sows fertilizers at the same time, but none of it where it touches the seed.

The IRON AGE Four Row Sprayer



You cannot raise Potatoes successfully unless you Spray

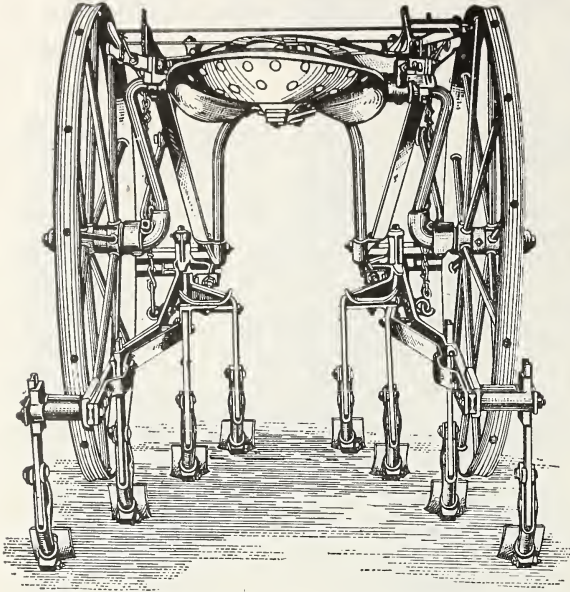
Price \$160.00

Discount for Cash 5%

No. 354S 4 Row 55 gal. tank

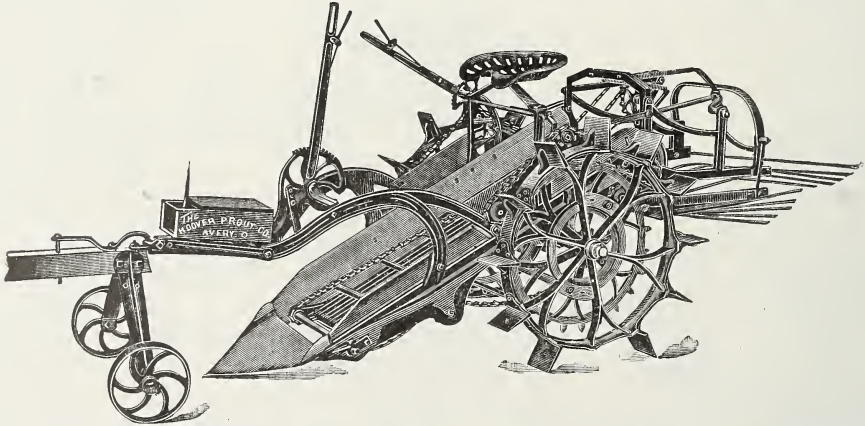
Shafts—Duplex pump—Wind Shift—Nozzle Strainer

The Oliver Riding Cultivator



This new Implement made by the Oliver Co., has assumed a most commanding position in the Cultivator trade because it embraces new ideas and improvements which make it easy to handle and capable of doing finer work than any other machine offered to the public.

THE HOOVER-PROUT POTATO DIGGER



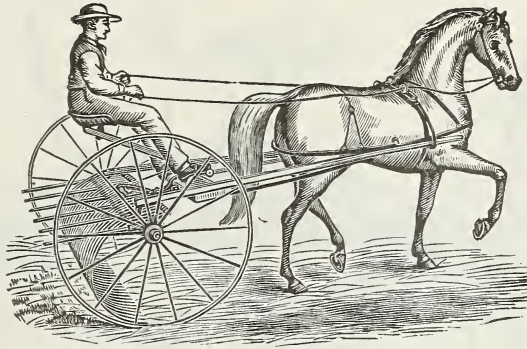
This Potato Digger has become the standard of excellence everywhere. It is now used more largely in the potato growing section of Maine than any other make.

It separates the potatoes from the vines and weeds leaving them in a clean narrow row. Two horses will handle the machine under ordinary conditions. It is a great labor saver. We are Hartford County agents.

Price \$142.50

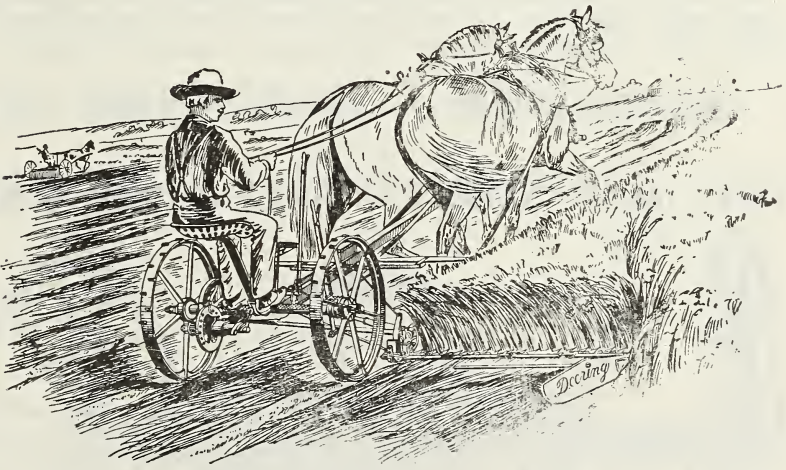
Net Cash Price 137.50

HAY RAKES



The Yankee Rake (wood)	\$44.00	\$42.00 Net Cash
The Deering Rake (steel)	45.00	43.00 " "

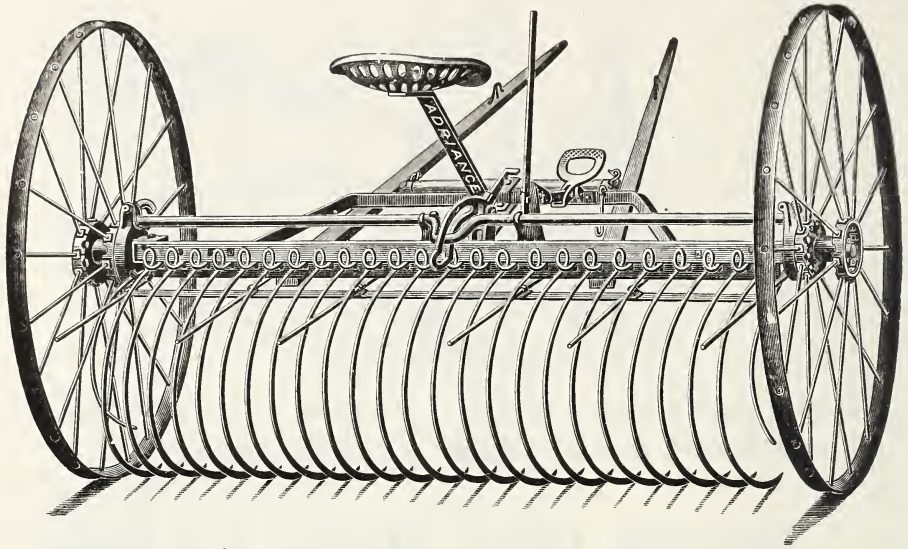
Deering Ideal Mower for 1919



Ideal 5 ft.	Price . . .	\$82.00	\$79.00 Net Cash
" 4 " (1 Horse)	. . .	79.00	76.00 " "

On both the main axle and gear-shaft, where strain occurs, we place roller bearings. At the end of the gear-shaft, in order to overcome end-thrust, we place bicycle ball bearings. There is in reality but 13 inches of wearing surface to the entire mechanism, and that is covered by the most modern and reliable device for overcoming friction.

The MOLINE (All Steel) Self-Dump Rake

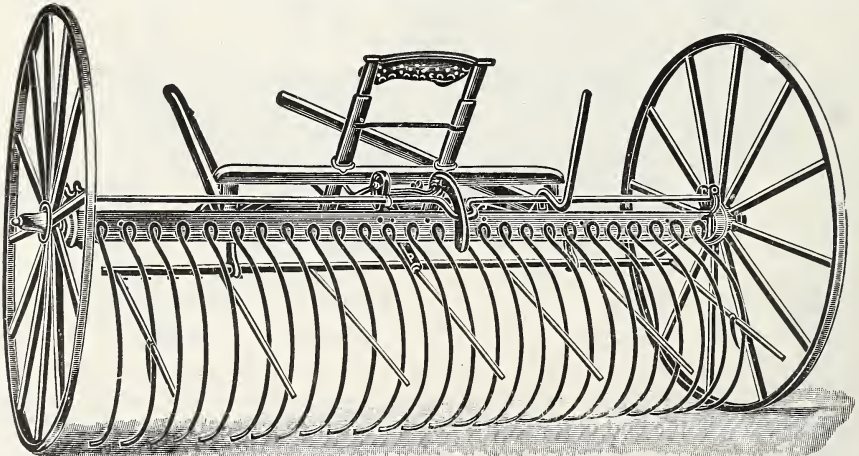


DO NOT BE MISLED. There is but little difference in the general appearance of Rakes, yet one may be very superior, both in utility and durability than another. This is a superior rake and we can give you reasons why it is so.

Price \$45.00

\$43.00 Net Cash

THE NEW YORKER SELF-DUMP RAKE

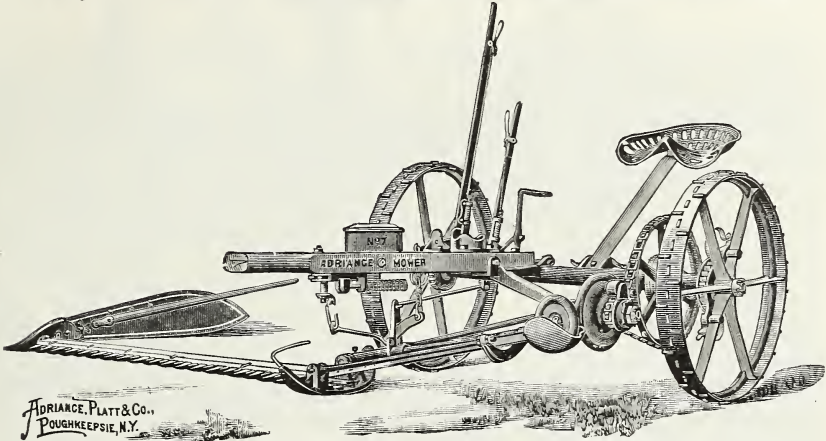


A Reliable Wooden Rake

\$44.00

\$42.00 Net Cash

Try A New York Moline Buckeye Mover



ADRIANCE, PLATT & Co.,
POUGHKEEPSIE, N.Y.

The best method of draft for a mower ever invented is the Moline "Spring Draft."

In all work it produces more uniform and *lighter* average draft, and secures other even more important advantages.

We have them from 4 ft. to 6 ft. size.

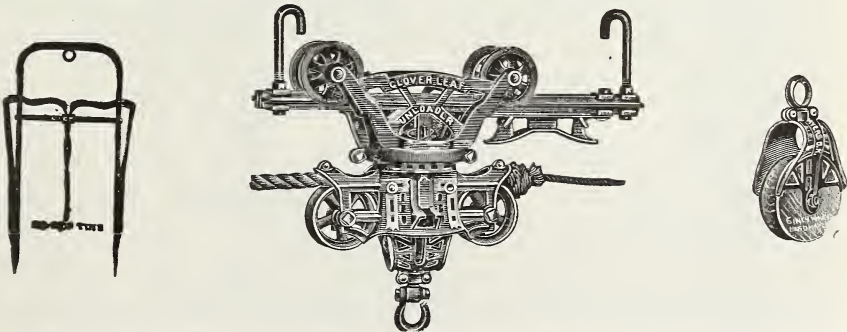
Get Special Circular on these.

5 ft. size	Price	\$82.00	\$79.00	Net Cash
4 ft. " (10)	"	79.00	76.00	" "

The Myers Clover-Leaf Unloader

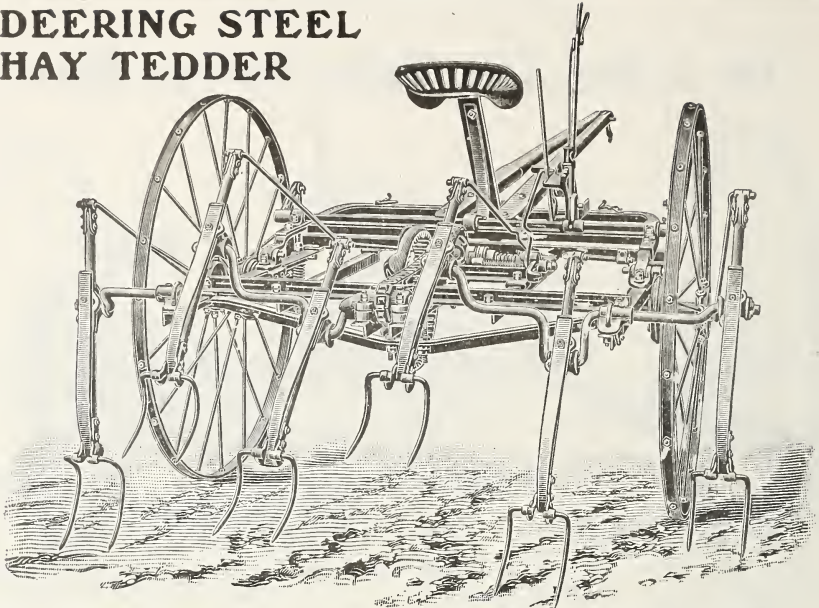
PRICES

Clover Leaf Hay Unloader	-	\$9.00	
Double Steel Track	-		25c per ft.
Hanging Hooks	-		15c each
Rafter Brackets	-		10c "
3/4" Floor Hooks	-		15c "
Wood, Knot passing, pulley	-		50c "
Double Harpoon fork	-	\$ 3.00	
Four tine Grapple fork	-	\$11.00	



The advantage of a hay carrier as a means of storing away Hay or Grain are so well known that it is not necessary to go into details. They save the time and expense of from one to three men at harvest time — a large item.

DEERING STEEL HAY TEDDER



6 Fork	Price		\$65.00	\$62.50	Net Cash
8 "	"		71.00	68.50	" "

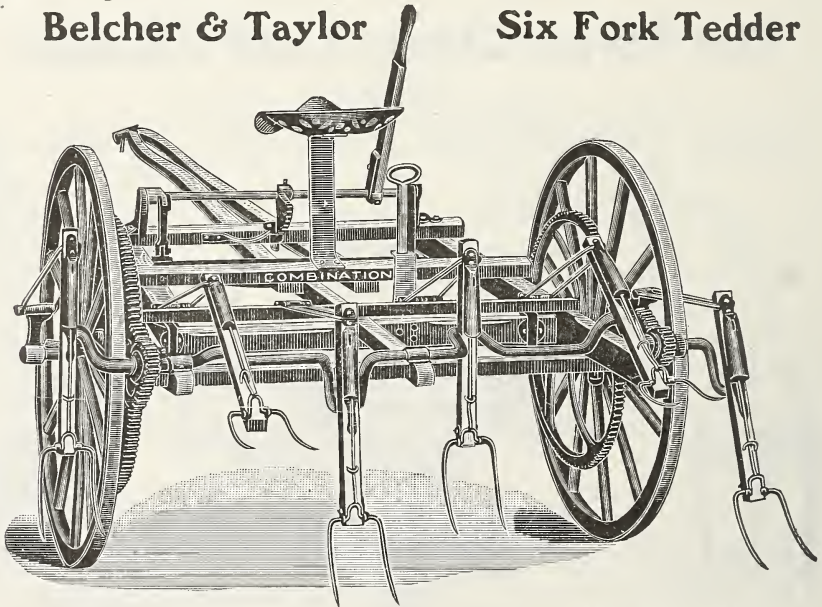
The main Frame is of heavy Angle Steel solidly riveted.

Forks are of best Spring Steel, attached with coil Springs. End Forks are outside of wheels.

Extremely light draft and easy of operation, whether used in light hay or heaviest crops of Clover.

Belcher & Taylor

Six Fork Tedder



Price		\$62.00	\$59.50	Net Cash
-------	--	---------	---------	----------

In the construction of this machine all the improved features of the Bullard and Mudgett Tedders are used with further valuable improvements of the makers. Their aim has been to make a tedder that would be more durable and hence cost the user less for repairs than any machine now on the market.

We believe this has been accomplished.



One of South Windsor's big growers.
A beautiful crop of seed leaf on the farm of John Helm.
Grown on our tobacco fertilizer.

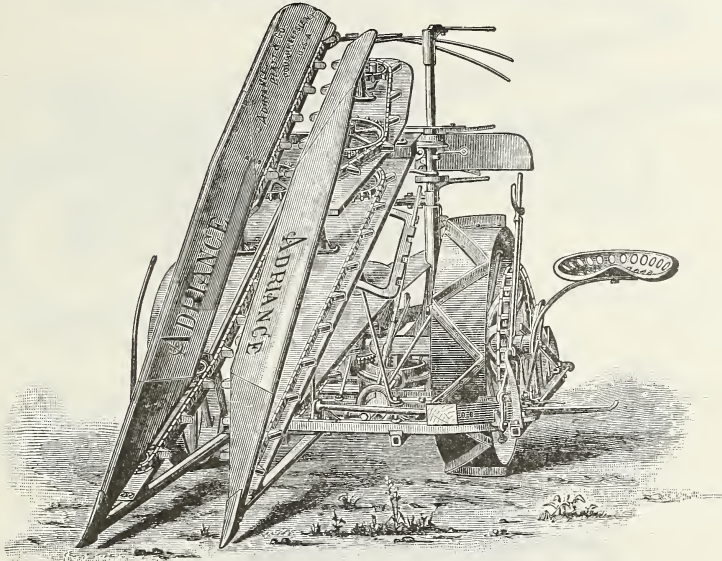
(Photo Aug. 12, '18)



A fine field of seed leaf tobacco on the farm of
George W. Bancroft at East Windsor Hill, Ct.
Grown on our tobacco fertilizer.

(Photo Aug. 13, '18)

THE MOLINE CORN BINDER

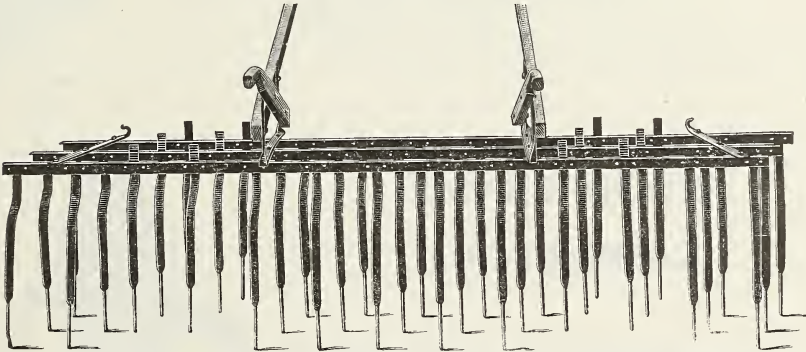


This machine cuts the standing corn, binds it and delivers it in bundles ready for shocking. In the construction of the Adriance Binder no expense is spared to make it the lightest draft and the most durable of any of its class on the market.

Price \$215.00 Less 5% for Cash

THE ECLIPSE WEEDER

Price \$15.00 Net Cash Price \$14.00



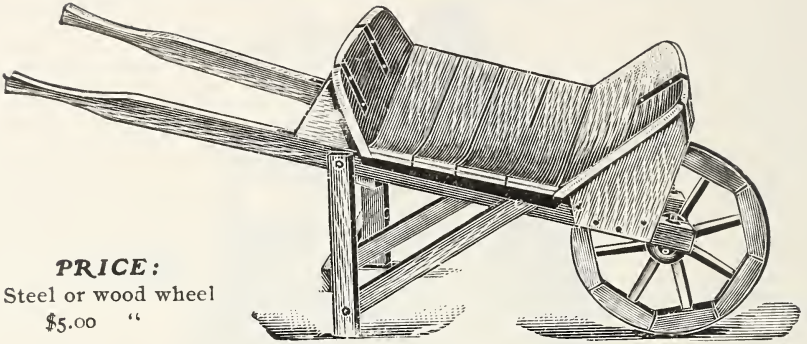
The teeth are round and each one can be raised to different heights. Does most thorough and perfect work. May be adjusted for either hard scratching or for light work. Suitable for all soil conditions.

HALLOCK WEEDER

Price \$16.00 Net Cash \$15.00

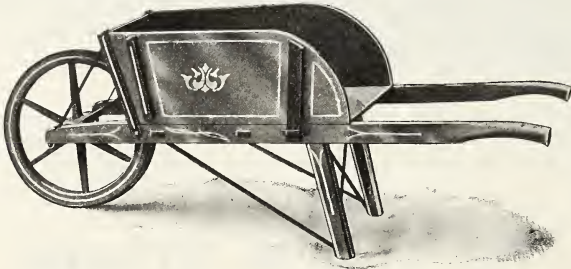
A standard weeder having curved teeth.

CANAL BARROW



PRICE:
Steel or wood wheel
\$5.00 "

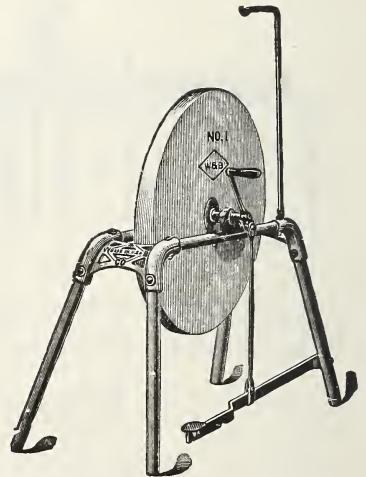
GARDEN BARROW



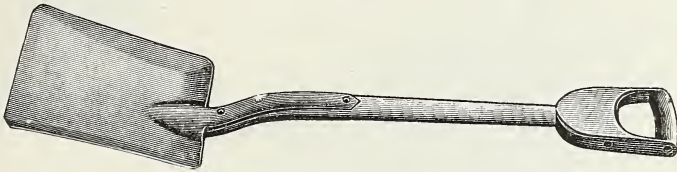
PRICES:
No. 2, \$7.50 each.
" 3, 7.00 "

WOOD FRAME GRINDSTONE

No. 1 Wood Frame	- -	\$7.50
No. 100 " Bi-Pedal	- -	\$8.25



Square and Round Point D. or Long Handled Shovels.



Price \$1.60

D. or Long Handled Spades



Price, \$1.60

TOBACCO HOES

These Hoes are specially adapted to Connecticut Valley Trade.



Size	Price
3 x 8 inches . . . . .	.85 each
3 x 8½ " . . . . .	.85 "
3 x 9 inches . . . . .	.85 "
3 x 9½ " . . . . .	.95 "
3 x 10 " . . . . .	.95 "
3 x 11 "	1.00 "

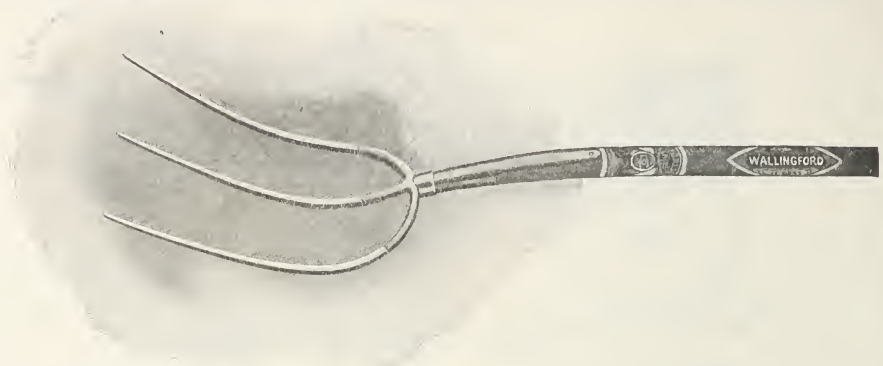
Special Hoes for Shade Grown Cultivation

Blade 7 x 2½ inches.	\$.85 each
" 7½ x 2½ " . . . . .	.85 "

GARDEN OR FIELD HOES

Assorted sizes \$.85 each

Oval Three-Tine Ferrule Hay Forks



4	ft. Straight handle	Price, \$.90 each
4	ft. Bent " "	" .90 "
4	½ ft. " " "	" .90 "
5	ft. " " "	" 1.00 "
5	½ ft. " " "	" 1.00 "

MANURE FORKS



	Price Common ferrule Mall. D. Handle	Price Common ferrule Wood D. Handle	Price Strap ferrule Mall. D. Handle	Price Strap ferrule Wood D. Handle
4 Tine	\$1.05	\$1.25	\$1.20	\$1.40
5 "	1.35	1.55	1.45	1.65
6 "	1.55	1.75	1.65	1.85

Large 4 Tine Fork for handling light manure \$1.90

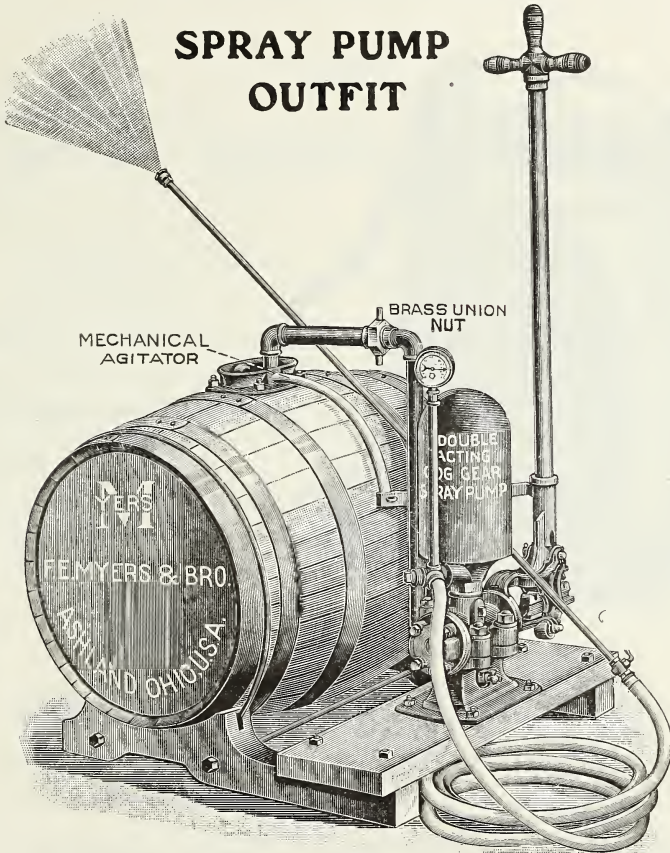
SPADING FORKS

L. H. 4 Tine Strap ferrule	Price, \$1.15 each
Mall. D 4 " " "	" 1.40 "
Wood D. 5 Tine " " "	" 1.65 "
4 Tine Manure Hook	" 1.05 "
5 " " "	" 1.20 "

POTATO HOOKS

4 Tine Flat Head, Solid Steel	Price, \$.95 each
5 " Bent " " "	" 1.00 "
6 " " " " "	" 1.10 "

SPRAY PUMP OUTFIT



R316C. 50 gal. barrel on skids with pressure gauge, two 15 ft. Leads of 1/2" hose two Fembro nozzles, two 8 ft. pipe extensions, with shut off and mechanical agitator. Price \$55.00 Net.

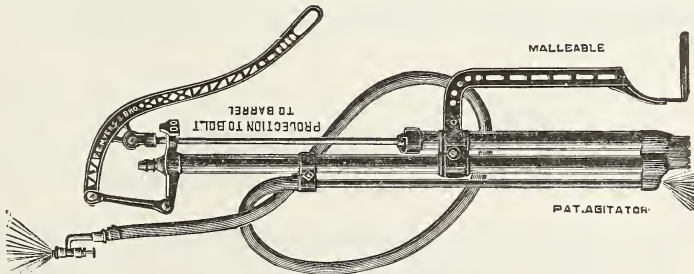


Fig. 1726-R324. Represents the Meyers Lever Bucket Spray Pump made of brass and fitted with brass ball valves and patent agitators. The cylinder is 1 1/2 inches in diameter with solid plunger. The air chamber is fifty per cent larger than the ordinary bucket pump, has malleable iron foot rest and malleable lever Price \$7.50

This pump can be operated with one-half the power required by the ordinary spray pump owing to the advantage of the lever handle.

No. 327 1/2

\$5.50

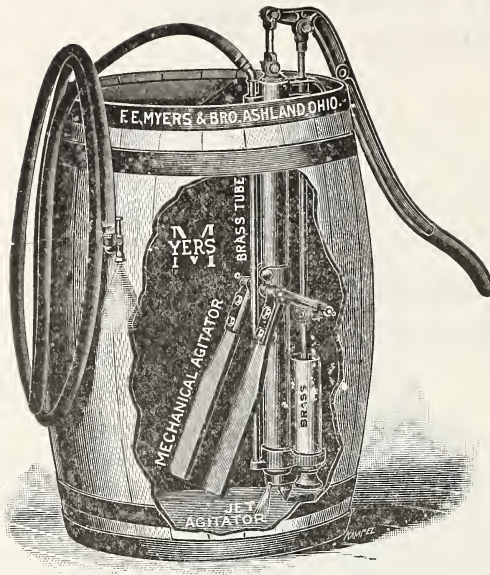


Fig. 1456. Represents the Myers Improved Barrel Spray Pump. This is a thoroughly serviceable pump well made and simple in construction.

It has one lead of 15 feet of $\frac{1}{2}$ in. 5 ply discharge hose graduating vermored nozzle and both jet and mechanical agitators.

305B - \$16.00

R318B Myers' Cogged Gear
Barrel Spray Pump
Price \$17.00

Impervite. (For water-proofing cement.)

Impervite is a water-proofing material, which when mixed with ordinary Cement makes absolutely water tight walls and flooring.

Splendid thing for cellar walls or wherever it is desired to have absolutely dry surfaces.

In 25 lb. package	15 cents per lb.
“ 100 “ “	13 “ “

Plastic Roofing.

(For Sheds, Barns and other buildings.)

This material comes in 300 lb. barrels all ready to apply. It is laid on with a trowel and can be applied over any old roof or surface of any kind.

The roof is therefore of *one piece*, without joints.

Makes the ideal roof.

See us about it.

Price, 10c per lb.

OUR

O. & W. Asphalt Fibre Roofing

A Ready-to-lay roofing for Tobacco Sheds, Barns and all Similar Buildings.

Not the ordinary kind made of paper and tar, but a roofing of long felt wool fibre saturated with pure Asphalt, Fire resisting. Water proof. Comes in rolls of 100 sq. ft. and each roll contains nails and cement. Easy to lay. Cheaper than shingles.

Price	1 ply	2.50	Per Roll
	2 "	3.00	"
	3 "	3.50	"

Write us for free samples.

Special Price on Quantity Lot.

Asbestos Cement and Paper.

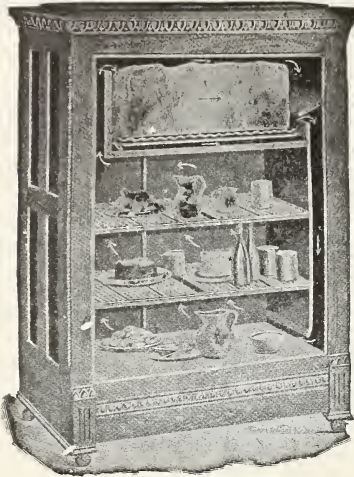
Cement. We offer a high grade asbestos cement in 100 lb. bags at \$3.00 a bag. Used in covering boilers or heaters or for general insulating purposes.

Paper. Asbestos paper for covering tin heater pipes and protecting wood work against fire; comes in rolls one yard wide and costs 20c lb.

Asbestos Stove Clay. An asbestos fireclay for lining stoves and ranges. Cheaper and better than brick. Comes in 10 lb. packages at 40c each.

BALDWIN

DRY AIR REFRIGERATORS



The **only** Refrigerator which has a positive continuous circulation of **pure, cold, dry air**, and without which there can be no complete preservation of perishable foods.

Built of ash and oak and lined with galvanized sheet steel, porcelain and opalite. Fitted with bronze lever locks. All doors are faced with rubber packing, thus securing air-tight chambers. No packing used — a dead-air space

between outer and inner walls serves as nonconductor of heat and cold.

MADE IN A LARGE VARIETY OF SIZES

Write us for Special Catalog and Price List

Florence Automatic Oil Stoves.

Perfect Cooking and Baking done on these Oil Stoves. Absolutely safe, clean and odorless.

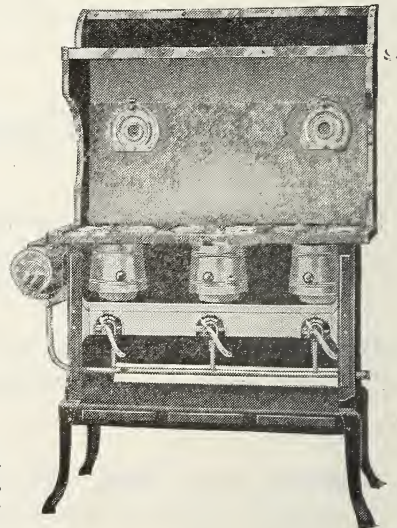
Prices and Sizes

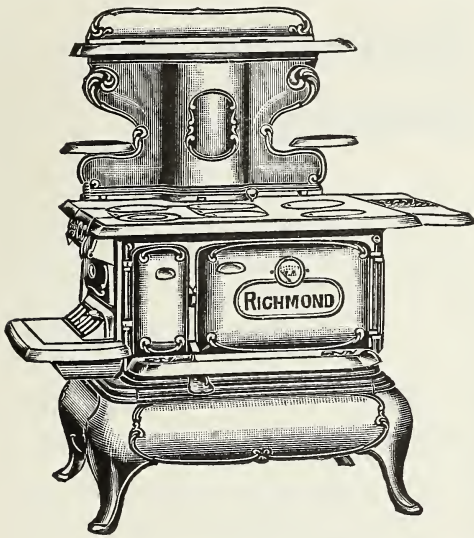
2 Burner	-	\$15.00
3 "	-	17.50

OVENS

Single	-	5.00
Double	-	6.00

These Oil Heaters do perfect baking and cooking. Fitted with oven, any kind of baking may be done. They are absolutely safe as the oil reservoir is outside the stove and the supply is conducted through pipes **only** as required.





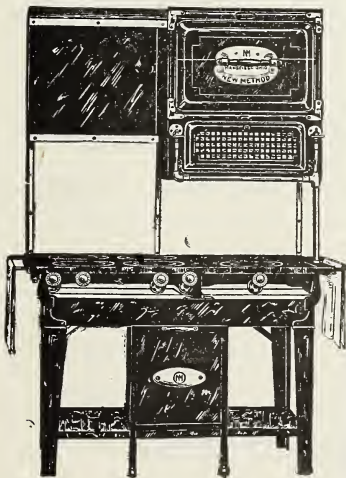
*The
New
Richmond
Ranges*

We have over twenty different patterns of the "Richmond". Beautiful in design and finish.

Every improvement found on these up-to-date ranges, features that are exclusive and found nowhere else.

**THE RICHMOND
RESERVOIR RANGE**

For the country home where there is no available hot water supply. These tank ranges are ideal water heaters as well as good cookers.



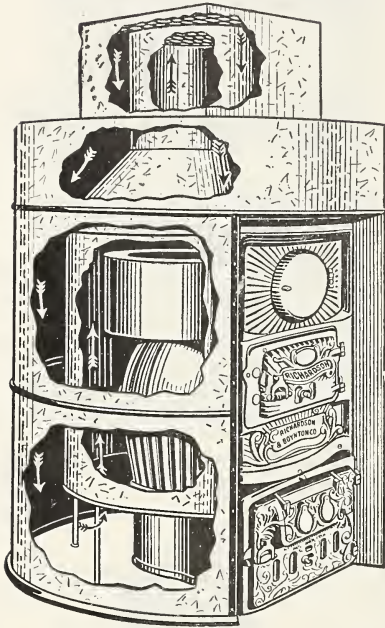
GAS RANGES

We have a beautiful line of gas ranges in many sizes and patterns.

These ranges are guaranteed to use little gas and do perfect work.

Circular and prices on request.

Make the Entire House Warm & Comfortable.



Think of every room in your home made warm as summer. No stoves to care for. No dust. No ashes.

Only one fire to tend to.

This is a highly satisfactory furnace that is easily installed, most scientifically made, that saves fuel while it furnishes wonderful heat. The Cellar is cold and all vegetables will keep readily.

This is our PIPELESS FURNACE. There are no pipes in cellar, just the heater with one large register directly over it.

Gives heat in every Room

Get our price and descriptive circular.

FOR TOBACCO SHEDS AND WAREHOUSES

In connection with our other business we have a large sheet-metal department wherein we make all kinds of tin and sheet iron work and also do tin-roofing, gutter and conductor work, etc. We call the attention of tobacco growers to the following specialties which we make for sheds and warehouses.

STOVES FOR CURING

We make to order small sheet-iron stoves with deflector tops for drying out tobacco, also plain galvanized iron deflectors to place over fires on the ground to throw out heat over a wide area. These are inexpensive and yet very practical. ASK US ABOUT THE PRICE.

VENTILATORS

We make ventilators of galvanized iron for roofs of tobacco sheds in any size required. Strong and well made.

STERILIZING PANS FOR SEED BEDS

We make these pans of extra heavy galvanized iron, reinforced with angle iron on sides and top, in any size, and fitted with pipe connections to connect to boiler. These pans are placed over seed beds and live steam turned into them which will destroy all germ life. Have proven very beneficial and insure growth of good sturdy plants. PRICE ON APPLICATION.

PIPE FOR SHEDS

It has been found that where sufficient heat is applied to sheds all danger of sweat tobacco is removed. Many growers have adopted the method (with good success) of running galvanized iron pipes from cement stoves set in floor around the base of shed. We make up the pipe in any size to suit. Will be glad to furnish estimates and give information about it.

VAPOR PANS FOR WAREHOUSES

Galvanized iron vaporizing pans in any size made to order. We have a special iron that will not rust, costing but little more than regular iron, which makes a very desirable pan.

Farmer's Caldron Furnace

A necessity on every farm, for heating water and cooking stock feed.



THESE Furnaces may be had fitted to burn either Coal or Wood. The Kettle may be bought separately and set in brick work if desired.

Sizes	Prices fitted as Wood Burning	Extra for Coal Fixtures	Kettles only
15 gal.	\$20.00	\$ 6.00	\$ 7.50
22 "	24.00	7.50	10.00
30 "	32.00	10.00	12.00
45 "	38.00	11.50	15.00
60 "	45.00	13.00	18.00

Inoculate Your Alfalfa, Clovers, Cow Peas, Soy Beans
Vetches and all other legume crops with

Mulford Cultures

FOR LEGUMES

Small Cost Large Returns Easy to Use No Labor Expense



Alfalfa plant on left not inoculated. Plant on right inoculated with Mulford Culture for Alfalfa. All other conditions identical. This contrast speaks for itself.

Mulford Cultures contain pure, tested strains of active, vigorous nitrogen-fixing bacteria, for inoculating seeds of legumes or soil. Enormous numbers of these very valuable and desirable bacteria are thus available to you in every package of Mulford Culture and may readily be applied to your seed. The sealed bottle insures purity.

Increase Your Crops Improve Your Soil

Legumes offer the best-known means of maintaining soil fertility and rejuvenating over-cropped and worn-out fields. They add both humus and nitrogen to your soil and thus increase your yield of wheat, cotton, corn and other non-legume crops.

The U. S. Department of Agriculture and many State Agricultural Experiment Stations

recommend inoculation of legumes with nitrogen-fixing bacteria to induce a prompt "catch" and increase your yield.

Mulford Cultures are scientifically prepared and tested by experts, in the biological laboratories of H. K. Mulford Co., Philadelphia, U. S. A., with the same degree of care as Mulford Antitoxins, Serums, Vaccines, etc., which are standard all over the world.

Always specify on your order what crop you want to inoculate, as there is a different strain of bacteria for each legume.

ALFALFA	BURR CLOVER	VETCH	LIMA BEANS
CRIMSON CLOVER	Yellow Clover	Horse Beans	Lupins
SWEET CLOVER	Berseem Clover	VELVET BEANS	Sainfoin
WHITE CLOVER	COW PEAS	Perennial Peas	Lespedeza
RED CLOVER	SOY BEANS	SWEET PEAS	Beggar Weed
ALSIKE CLOVER	Canada Field Peas	GARDEN PEAS	Kudzu
Mammoth Clover	PEANUTS	GARDEN BEANS	and others

Those printed in CAPITAL LETTERS can be shipped immediately from stock. The others will be prepared to order and can be supplied in a few days.

PRICES

MULFORD CULTURES are supplied for the varieties of legumes listed, at the following prices:

5-Acre Size, \$5.00 ("A Dollar per Acre")	
1-Acre Size	\$1.50
1-4 Acre Size . . . . .	.50
Small Size (Supplied only in 4 varieties for Garden Peas, Garden Beans, Lima Beans and Sweet Peas) . . . . .	.25
(These prices include delivery on freight shipments)	

Why buy expensive commercial nitrates when you can grow legume crops and thus increase your yield and at the same time increase the nitrates and enrich and renovate your soil, by Nature's own method?

FREE DESCRIPTIVE FOLDER SENT UPON REQUEST

Our Paint Department

O. & W. HOUSE PAINTS

24 shades

The best that can be produced in prepared paints.

O. & W. VALLEY BRAND

A pure linseed oil product, fully guaranteed.

IRONITE BARN & ROOF PAINT

6 shades

Moderate in price, durable and satisfactory.

WAGON PAINT

Red, Yellow, Green, Blue and Black.

CARRIAGE PAINT

Red, Yellow, Black, Green, Vermillion, Wine and Carmine.

FLOOR PAINT

Lead, Green, Red, Yellow, Grey and Dust.

INTERIOR FINISH

Flat White, Egg Shell Gloss and Enamel.

O. & W. WHITE LEAD

Pure White color with great covering capacity.

We call your attention to the **guarantee** which appears on **every can** of our paint. You paint at our risk.

Consult us as to the quantity required, preparation of surface, etc. Color Card on request.

We Claim for Our Paints

They are mixed from well tested formulae.

They are made under factory conditions conducive to the production of the best.

Our Paints are ground with respect to the special purpose for which they are required.

We offer you a paint that will go further, last longer and look better than anything you can buy for the same money.

You buy the O. & W. Quality. It will pay you to see us about your paint needs.

USEFUL CHEMICAL MEMORANDA

(Partly from the first annual report of the Connecticut Agricultural Experiment Station. 1876)

Animal and vegetable substances, such as flesh, bone, wood, grain, manure, and the like, contain three classes of materials: Water, Organic Matters and Mineral Matter or Ash. If we heat a piece of wood, a whisp of hay, a bone, or a portion of manure or soil, in an oven, the water will be dried out. If we put the dried material in the fire, the *Organic Matter*, which consists mostly of the chemical elements, carbon, oxygen, hydrogen, and nitrogen will be burned away, and there will remain the *Mineral Matter* or *Ash*. The ash of these different materials generally contains more or less potash, soda, lime, magnesia, iron, alumina, silica, phosphoric acid, sulphuric acid, chlorine, or other ingredients. The proportions of these vary widely in different substances, from the large quantities to the merest traces.

Moisture.—All fertilizers contain more or less water, which, of course has no commercial value, and serves to make them heavier and relatively poorer in valuable ingredients. In the analysis that which is removed by heating to 212° Fahrenheit (or in some cases to a somewhat higher temperature), is designated as moisture. By subjecting the dried material to a higher temperature, the organic and volatile matters are driven off, and the ash remains. By treating this ash with strong acids, all that is of any value is dissolved.

Sand and Insoluble Matters.—The residue, which resists the action of both fire and strong acids, consists of silica and other mineral matters. These possess no fertilizing value, and are classified as sand, etc.

Nitrogen, Ammonia.—In our ordinary fertilizers, much or all of the nitrogen exists in unavailable forms. By more or less rapid alterations, by decay or otherwise which take place in the soil, these are changed to other compounds, which the plant can readily use as food. Of these latter nitric acid, which contains nitrogen combined with oxygen, is one; ammonia which consists of nitrogen and hydrogen and is represented by the chemical formula N. H. is another. 14 parts by weight of nitrogen unite with 3 parts of hydrogen to form 17 parts of ammonia. Accordingly 14 parts of nitrogen are said to be equivalent to 17 of ammonia, or what is the same thing 100 parts of nitrogen are reckoned as equivalent to 121 parts of ammonia. In pure sulphate of ammonia, all the nitrogen is in the form of ammonia. In Peruvian guano, some of the nitrogen exists as ammonia also. In our ordinary fertilizers there is little or no ammonia. The very common practice of reckoning nitrogen as ammonia in fertilizers which do not contain it in this form is incorrect, misleading and therefore wrong, and ought to be abolished. Ammonia combined with sulphuric acid, forms sulphate of ammonia; nitric acid combined with soda, forms nitrate of soda.

Phosphoric Acid: SOLUBLE, REVERTED AND INSOLUBLE.—By phosphoric acid is understood the compound of phosphorus and oxygen, which is represented by the chemical formula, P_2O_5 . This combined with lime, forms phosphate of lime. The phosphate of lime which occurs in bone, and in South Carolina and other fossil and mineral phosphates, contains three parts of lime to one of phosphoric acid. This is often called bone phosphate, and is insoluble in water. When the bone phosphate is treated with sulphuric acid, the latter takes part of the lime to itself, forming sulphate of lime, and leaves the phosphoric acid in the form of a *Superphosphate*. This last is soluble in water, and when used as a fertilizer can be taken up by the plant at once, while the bone phosphate is slowly available as plant food. Phosphoric acid which has been rendered soluble, often enters into other forms of combination with lime, alumina, etc., which, though insoluble in water, are soluble in citrate of ammonia. The terms, reverted, reduced and precipitated, are applied to it when in this form.

The reverted phosphoric acid ranks in solubility, and consequently in value, between the soluble and insoluble. The soluble and reverted are sometimes classed together as *Available* phosphoric acid.

In some analyses the percentage of phosphoric acid is not stated separately, that of "bone phosphate of lime" being given in its stead. Sometimes the expression "soluble bone phosphate of lime" is met with, which is certainly a misnomer. 142 parts by weight of phosphoric acid P_2O_5 unite with about 168 parts of lime CaO to form 310 parts of bone phosphate $Ca_3(PO_4)_2$; 100 parts or pounds of phosphoric acid are said, therefore, to be equivalent to 218 parts of bone phosphate. Special stress is laid on this point, because those not familiar with chemistry are apt to be deceived in comparing analyses, in some of which the term phosphoric acid, and in others the term bone phosphate, is used. It would be more accurate and clear, and in every way better to discard the term bone phosphate of lime in analyses of fertilizers, and speak only of phosphoric acid.

Potash, or potassa, is the compound of the metal potassium with oxygen, which is represented by the chemical formula K_2O or KO . This combined with sulphuric acid forms sulphate of potash. Potassium and chlorine together form chloride of potassium, or "muriate of potash," as it is called by dealers.

100 pounds of pure sulphate of potash contains about 54 pounds of "actual potash." 100 pounds of sulphate of potash are therefore said to be equivalent to 54 pounds of actual potash, and vice versa, 54 pounds of potash, in the sulphates are reckoned as equivalent to 100 pounds of sulphate of potash. In the "muriates" 100 pounds of chloride of potassium are reckoned equivalent to about 63 pounds of potash, and vice versa.

Carbonate of Potash, K_2CO_3 — This fertilizer chemical is the ingredient which gives to wood ashes and cotton hull ashes their value as tobacco fertilizers, and it is practically free from magnesia. It was formerly prepared by extraction from wood ashes, and formed the "pearl ash" of commerce. It has been used with good effect as a tobacco fertilizer in the Poquonock experiments.

The following figures will be found useful in calculations of the composition of fertilizers.

NITROGEN COMPOUNDS

14.	parts of Nitrogen	are contained in	17.	parts of Ammonia.
100.	"	"	121.43	"
82.35	"	"	100.	"
17.	Ammonia	"	66.	Sulphate of Ammonia.
100.	"	"	388.2	"
25.8	"	"	100.	"
14.	Nitrogen	"	66.	"
100.	"	"	471.4	"
21.2	"	"	100.	"
14.	"	"	54.	Nitric Acid.
100.	"	"	385.7	"
25.9	"	"	100.	"
14.	"	"	85.	Nitrate Soda.
100.	"	"	607.1	"
16.47	"	"	100.	"
54.	Nitric Acid	"	85.	"
100.	"	"	157.4	"
63.5	"	"	100.	"
85.	Nitrate of Soda	correspond to	17.	Ammonia.
100.	"	"	20.	"
500.	"	"	100.	"

PHOSPHORIC ACID

100.	parts of Phosphoric Acid	correspond to	218.3	parts of Bone Phosphate.
45.8	"	"	100.	"

POTASH (Potassa)

100.	parts of Sulphate of Potash	contains	54.08	parts of Potassa.
184.9	"	"	100.	"
100.	Chloride of Potassium	correspond to	63.17	parts of Potassa.
158.3	"	"	100.	"

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SEED AND PLANT TABLES.

	WEIGHT—LBS.	QUANTITY USUALLY SOWN	PER ACRE.
Timothy,	per bushel, 45.		¼ bushel
Clover,	60.		10 to 15 lbs.
Red Top, (chaff)	per sack, 50.		3 bushels
Red Top,	per bushel, 10.		3 bushels
White Clover,	60.		10 to 15 lbs.
Alsike	60.		8 to 10 lbs.
Hungarian,	48.		½ to 1 bushel
Millet,	50.		½ to 1 bushel
German Millet,	50.		½ to 1 bushel
Rhode Island Bent,	10.		2 to 3 bushels
Orchard Grass,	14.		2 to 3 bushels
Blue Grass,	14.		2 to 3 bushels
Fowl Meadow	11.		1 to 2 bushels
Barley,	48.	2 to 3 bushels, broadcast	
Seed Wheat,	60.	1½	
Rye,	56.	¾ to 1	
Oats,	32.	2 to 3	
Buckwheat,	48.	½ to 1	
Potatoes,	60.		
Clover,			8 pounds
Timothy, } together, for one acre,			¼ bushel
Red Top, }			1 bushel
Peas in drills are sown 1½ to 1½ bushels to the acre,			
Carrots,		usually sown to the acre, 2½	to 3 lbs
Beets,		“ “ “	4 to 6 lbs.
Parsnips,		“ “ “	3 to 6 lbs.
Onions,		“ “ “	4 to 6 lbs.
Ruta Bagas,		“ “ “	1 lb.
Turnips,		“ “ “	1 to 1½ lbs.
Beans,		“ “ “	1½ to 2 bu.

Quantity of Corn Required to Plant an Acre, Five Grains in a Hill.

3 ft. x 2	18 qts.	3 ft. x 3	14 qts.
3½ ft. x 3	10 qts.	3¾ ft. x 3	8 qts.
3 ft. x 4	7 qts.	4 ft. x 4	6 qts.

Number of Plants per Acre at Given Distances.

1 ft. x 1 ft.	43,560	9 ft. x 9 ft.	537
1½ ft. x 1½ ft.	19,360	12 ft. x 12 ft.	362
2 ft. x 2 ft.	10,890	15 ft. x 15 ft.	163
2½ ft. x 2½ ft.	6,969	18 ft. x 18 ft.	134
3 ft. x 3 ft.	4,840	20 ft. x 20 ft.	100
4 ft. x 4 ft.	2,722	25 ft. x 25 ft.	73
5 ft. x 5 ft.	1,742	0 ft. x 30 ft.	47
6 ft. x 6 ft.	1,210	40 ft. x 40 ft.	20

Quantity of Seed Required for a Given Number of Plants, or Number of Hills, or Length of Drill.

Asparagus,	1 oz. to 65 ft. of drill	Musk Melon,	1 oz. to 60 hills
Beets,	1 oz. to 50 ft. of drill	Okra,	1 oz. to 40 ft. of drill
Beans, Dwarf,	1 qt. to 100 ft. of drill	Onion,	1 oz. to 100 ft. of drill
Beans, Pole,	1 pt. to 150 hills	Onion Sets, small,	1 qt. to 4 ft. of drill
Carrot,	1 oz. to 150 ft. of drill	Parsley,	1 oz. to 150 ft. of drill
Cabbage,	1 oz. to 3,000 plants	Parsnip,	1 oz. to 200 ft. of drill
Cauliflower,	1 oz. to 3,000 plants	Peas,	1 qt. to 100 ft. of drill
Celery,	1 oz. to 4,000 plants	Pumpkin,	1 oz. to 40 hills
Cucumbers,	1 oz. to 50 hills	Pepper,	1 oz. to 2,000 plants
Corn,	1 qt. to 400 hills	Radish,	1 oz. to 100 ft. of drill
Dandelion,	1 oz. to 200 ft. of drill	Salsify,	1 oz. to 70 ft. of drill
Endive,	1 oz. to 150 ft. of drill	Spinach,	1 oz. to 100 ft. of drill
Egg Plant,	1 oz. to 2,000 plants	Squash, early,	1 oz. to 50 hills
Lettuce,	1 oz. to 4,000 plants	Squash, marrow,	1 oz. to 16 hills
Leek,	1 oz. to 100 ft. of drill	Tomato,	1 oz. to 3,000 plants
Watermelon,	1 oz. to 80 hills	Turnip,	1 oz. to 150 ft. of drill

One Gallon, by the U. S. Standard Unit of Liquid Measure contains 231 cubic inches.
 The U. S. Bushel contains 2,150.42 cubic inches.
 An Acre contains 43,560 square feet.



ORDER SHEETS FOR FARM AND GARDEN SEEDS

FROM

OLDS & WHIPPLE,

164-6-8 STATE STREET,

HARTFORD, CONN.

Name

P. O. Address

Ship by

Ship to

Date 191

Quantity.

NAME OF ARTICLES WANTED.

Price.

OLDS & WHIPPLE

164-6-8 State Street

HARTFORD

Seed Department

CONN.

About Seed Potatoes.

WE bring down from Northern Maine each year only a limited number of certain varieties, particularly of the earlier kinds. Of course, of the Green Mountain, and other later stocks, we have large supplies.

THE ONLY WAY, therefore to be sure to get the special variety you want is to order **NOW**.

Stock is due to arrive here about April 5th to 10th. If you will let us have your order now, on this form (checking the number wanted against the name of the variety) we shall hold them for you, or, ship as desired.

PRICE is \$7.50 per bbl. sack, for all varieties. F. O. B. Hartford.

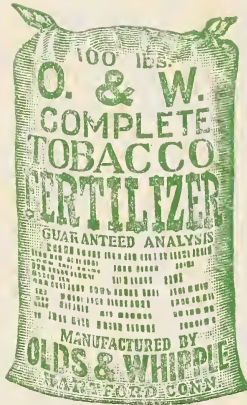
Olds & Whipple you may have my order for the following:—

Early Harvest	The Delaware
Spaulding Rose	Carman 3
Irish Cobbler	Green Mountain
Bovee	Golden Prolific
Early Rose	Ex. Early White Pearl
Beauty of Hebron	Gold Coin
New Queen	Norcross

(Name)

(P. O. Address)

(If to be shipped, say how)



100 LBS.

O. & W. COMPLETE TOBACCO FERTILIZER

GUARANTEED ANALYSIS

AMMONIACAL NITROGEN	10.00 PER CENT
PHOSPHORIC ACID	10.00 PER CENT
POTASSIUM	10.00 PER CENT
IRON	0.10 PER CENT
ZINC	0.10 PER CENT
COPPER	0.01 PER CENT
SOIL	50.00 PER CENT
WATER	10.00 PER CENT
ORGANIC MATTER	10.00 PER CENT
OTHER	0.00 PER CENT

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STAMFORD CONN.