1849.

EMPIRE DRILL CO.

1898.

Shortsville,
N.Y.
U.
S.
A.

GIES & CO., BUFFALO, N.Y.

1849. 1898.

GIES & CO.,
PRINTERS AND ENGRAVERS, BUFFALO, N. Y

FORTY-NINTH YEAR.

DON'T FORGET:

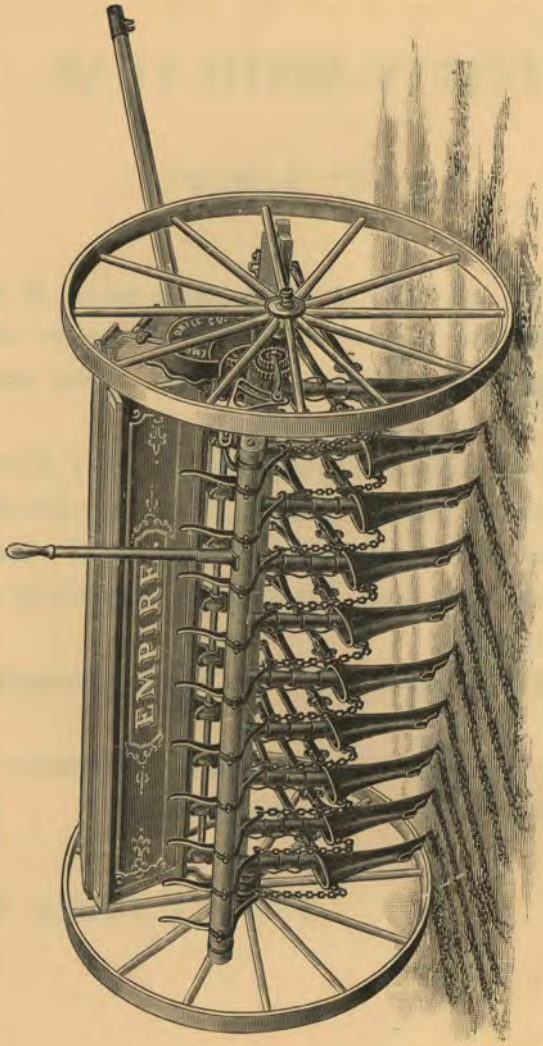
E DO NOT advertise cheap tools. If a machine is wanted merely to scatter seed—no matter how—regrets will come soon, and last long.

White oak cannot be bought for the price of hemlock, nor silk for the price of cotton. Tools that are simple to understand, easy to operate, accurate in work, durable in construction, and well finished, are not found on the bargain counter.

They cost more to begin with, but are cheaper in the long run.

We make that kind only, and a half century of successful business proves it a correct policy.

EMPIRE DRILL CO.



THE EMPIRE PLAIN DRILL.

THE EMPIRE DRILL

has no need of superlative adjectives to describe its merits, or tell of its accuracy and reliability. Its record is written in fields of waving grain the world over, and thousands of satisfied farmers are its best advertisement. We can add nothing to this record, and shall not try, but confine ourselves to a statement of the merits it possesses, asking only that what we say be read and considered in candor and frankness, granting us the intention of being sincere.

It must be understood and comprehended that the Empire does not sow by weight. A bushel of wheat and a bushel of oats vary in this respect, but they occupy the same space, or are alike in bulk, and it is a peculiar feature of the Empire that it handles the two grains exactly alike. It is this peculiarity which distinguishes it from all other drills and makes it a

FORCE FEED.

Every other drill requires a change for each kind of grain, as well as for different quantities, but the Empire *feeds the same quantity of wheat, oats, barley or rye with the same combination of gear.*

FEED RUN.

This cut shows the Empire feed, with a portion cut away so that its construction can be seen. The round saucer-shaped part, with ribs on its inner circumference, is made to rotate by a square shaft running through the hole in its center. The grain, as it enters the top, is taken hold of by the ribbed flange, steadily carried forward and discharged.

This flange is the bottom upon which the grain rests, and as it is steadily moving, a solid, compact mass of grain must be carried—not pushed, nor rolled, but carried—into the conductors.

Quantities. At each rotation the disc empties as much grain as it holds when detached, .28 of a quart (a trifle over half a pint), with two revolutions, twice as much, and so on. Knowing this, and the number of square feet covered by the drill with one revolution of the ground wheels, it is easy to determine the speed of the square shaft to sow a given quantity per acre.

Each drill is rigged to sow from 24 quarts to 128 quarts per acre, with 18 variations.

Each feed run has but three pieces, easily taken apart for repairs if necessary.

It is reliable, because there is no guess-work about it.

It is as positive as a sealed half-bushel, because it controls and measures the grain.

Position does not affect it; it sows the same going up hill or down.

Its motion is slow, .wear light and repair cost small.

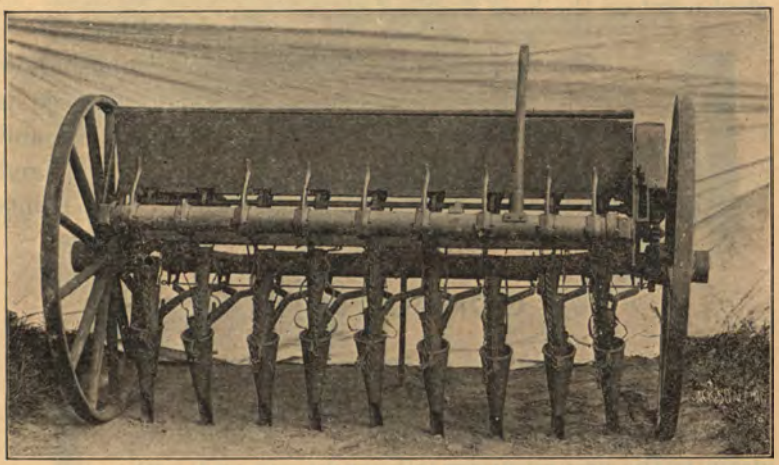
It sows wheat, rye, barley, oats, peas, beans, corn, pumpkin seeds and beets, or any other seed ever sown with a grain drill.

There is no gate, nor adjustable feed having as few pieces.

Do not buy a complicated drill when a simple one works better.

WHEELS.

Wheels are attached to grain drills in various ways, some correctly and others incorrectly. Opposite wheels, hung properly, are always nearer each other at bottom and front than at top and back.



AFTER 30 YEARS' USE.

This cut illustrates the idea. It is made from a photograph of one of our old drills, sold over 30 years ago, and in use ever since. The wheels stand as straight as when new, showing perfection of wear on the axles.

THE WHEELS ON THE EMPIRE ARE HUNG CORRECTLY.

This principle applies to a grain drill with as much force as to a wagon, and this feature, in connection with our short drag bars, our steel points of such shape as only to engage the

surface enough to cover the seed, and the perfect balance of the machine, has won for the Empire a reputation as the

LIGHTEST DRAFT DRILL IN THE MARKET.

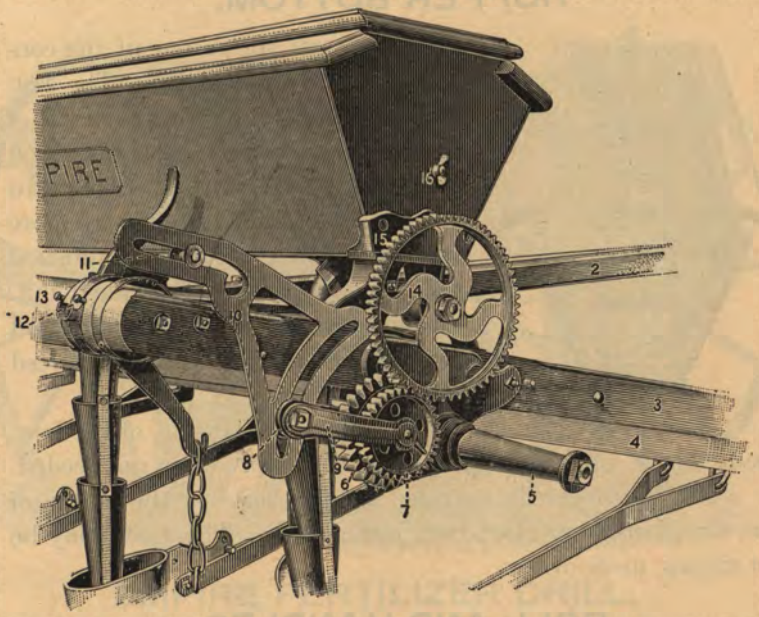
Scientific experiments have shown that the proper depth to plant any seed is five times its diameter. In a grain drill the depth is in a large measure regulated by the shape of the steel point on the hoe.

Our points are of such shape as to open a shallow furrow, with a broad bottom, in which the seed is scattered, giving to each kernel room for life and growth. They scour in all varieties of soil, and cover seed where others fail. We furnish sharp points when ordered, but do not recommend their use.

CONDUCTORS.

Our conductors are galvanized sheet steel, in four sections, riveted upon strips of leather, so that they telescope into each other, and conduct the grain to the ground under all conditions, and with ordinary care will last for years. If they break, the damage is easily repaired at home.

We furnish rubber conductors to such as want them, but they are not so good as the metal. They will, on an average, wear out in from one to three years. They are liable, when the hoe drops into a low place and rises again, to double up and retain the seed, or when the hoe goes over a ridge or knoll to project through, the ground turning the lower end backward, discharging the seed on the surface, or hold it to be put out in a bunch.

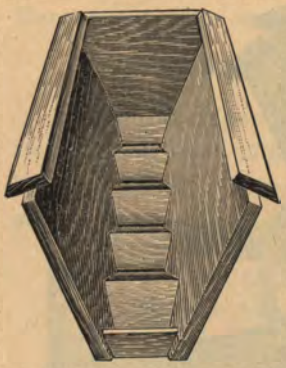


GEARING FOR GRAIN.

This cut shows the manner of regulating the quantity of seed, with every gear necessary, except the ground wheel.

The smallest gear (7) has 32 cogs, and sows two bushels of any small grain per acre. If this quantity of wheat, oats and barley is sown per acre, as is often the case, no other wheel is needed; the drill is always ready, as no change is necessary. If any other quantity is wanted, loosen the nut (8) so that clamp No. 274 (9) will slip off the bearing upon which the wheels run; remove (7) and replace by a wheel which will give the desired quantity. The change is quickly made; any one can do it in five minutes, we can do it in a minute or less.

HOPPER BOTTOM.

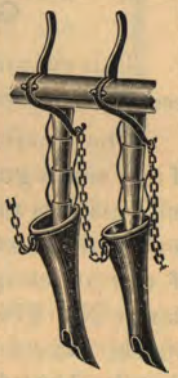


This cut shows one of the conveniences on the Empire. The bottom of the grain box is made of triangular blocks placed between each of the feed runs. It helps in sowing, but its benefit is more apparent when seeding is finished and the drill has to be cleaned out. Raise the wheel off the ground, and turn it until every kernel is forced out.

Cut-off valves for each run are placed inside of the box, ready for use when wanted, and out of the way when not needed.

The hoe shifter is operated by a lever near the center of the drill, easily reached from either end. The hoes may be set zig-zag more or less.

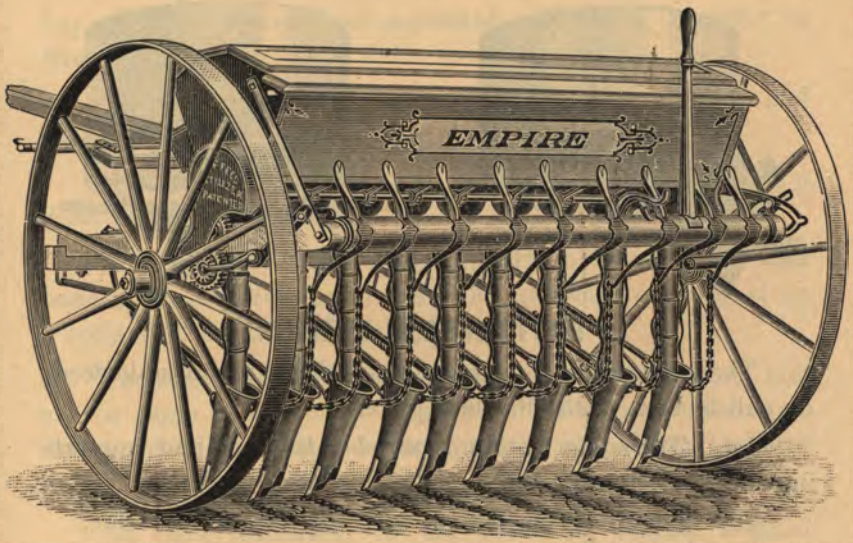
ROLL AND HANDLES.



This arrangement is different from all others, and is peculiar to the Empire. It is operated by a lever near the center of the drill, giving a back rolling action, taking up the slack of the chains and lifting the hoes. Each hoe may be raised independently if desired.

The space between the outside hoes and the center of the wheel is the same as between hoes. This is done to avoid skips in drilling; let the wheel follow the last drill mark, and the outside hoe will be in the wheel track.

Hitch the team on as carefully as to a wagon, drive straight and the result will be satisfactory.

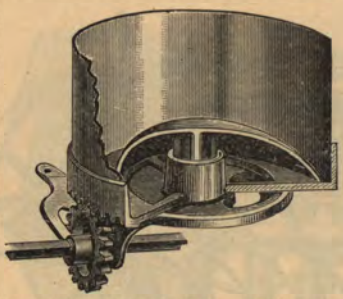


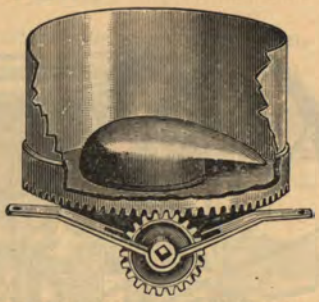
EMPIRE FERTILIZER DRILL.

This machine distributes fertilizer at the same time, if desired, that grain is sown. The feeding device is the

"MARKS" FORCE FEED.

It is not new and untried, but has been on the market for years, and thousands of farmers are pleased with its work. We believe that 75 per cent. of the combined drills annually made in the United States are fitted with it, and while we do not claim to make them all, yet we do make a good share of them, and are confident that every farmer who uses an Empire with this attachment is satisfied that it is the best in the world. We were the first to make and introduce this feed, and the improvements we have added are the best evidences that we have spent time and money on it.





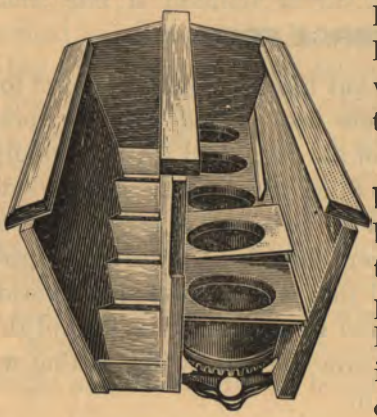
FERTILIZER FEED.

These cuts show the construction of this remarkable feed. As will be seen, it has but four pieces.

1st. The spider bottom screwed to the box, and supporting the whole mechanism.

2d. The revolving bottom with cogs on its underside.

3d. The oval topped feeding cap with eccentric scroll lip extending to the inner circumference of the galvanized cup, fitting closely down upon the upper surface of the revolving bottom, having an opening under the scroll lip large enough to cover the space left outside of its circumference, which space is filled with fertilizer when at work.



4th. The galvanized iron band, riveted to the revolving bottom, forming a cup, over the top of which is placed an iron plate forming the bottom of the large box, with a hole through it of such size as to fill the circumference of the cup.

These parts are strong, bound together without a nut, key, bolt or spring, yet separated without a hammer or wrench.

The feeding cap can be set in four different positions, and adapted to sow any fertilizer on the market.

A ring encircles the post of the feeding cap, and forms a dam, preventing leakage.

There is a feed for each hoe, driven by a square shaft passing through the bevel gear, the motion being varied by wheels of different sizes.

The size of the discharge opening is never changed, and as the same combination of gear will always give the same motion, it follows that the same quantity will always be distributed by the same combination.

At each revolution of the revolving bottom a fixed quantity (.095 of a quart) is discharged. Two revolutions will double the quantity, and 100 revolutions will discharge 100 times as much. This gives us a basis from which to figure the quantity sown.

Ordinarily the drill will distribute from 46 quarts to 185 quarts (1 quart is about 2 pounds), with 18 intermediate quantities. More or less can be sown, but anything different must be ordered specially and at extra cost.

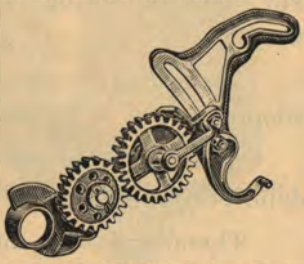
The motion being uniform, a smooth, even stream is always discharged, and

FIFTEEN PER CENT. OF PHOSPHATE SAVED,

as the largest results are obtained from amount used.

There is no clogging when sowing a small quantity, as the discharge is the same size as for a large quantity.

Position does not affect its work, as the material cannot escape control by the feed cap. There can be no sliding of fertilizer to the end of the box, as the cups hold enough to go across any field.



A small lever (see cut) enables the operator to put the attachment out of or into gear without stopping the team. Let this lever remain down, and the drill can be used without running the fertilizer part.

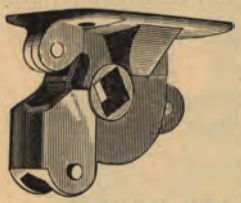
Raising and lowering the hoes throws the attachment into or out of gear.

If there is fertilizer left in the box when seeding is finished, raise the wheel off the ground, turn it, and it will be discharged.

WE RECOMMEND,

when this is done, that the light strip, inside the box, be taken off, top plates removed, and the whole mechanism taken out, thoroughly cleaned, and oiled with kerosene (coal oil).

GRASS SEEDER.



This feed is the same in principle as our grain feed. The quantity is regulated by different motions produced by different sizes of gear wheels.

It will distribute in front or rear of hoes, as desired.

LAND MEASURE.

Simple and compact, marking the acres up to ten and parts of an acre by tenths.

STEEL FRAME.

In designing this frame, we have kept in sight the fact that we must secure the greatest strength with the least material, and yet produce one upon which repairs, if ever necessary, could be made with ordinary mechanical skill.

It is not made of a solid piece, without joints. The end pieces and front piece are cut the proper length for each size of drill, joined at the front corners and held firmly by malleable iron clips; at the proper distance back they are tied together by the wood axle, from the ends of which, to each end piece, a brace is bolted, making a solid, substantial frame which can be repaired, if necessary, by any one. If a member is strained or bent, remove it and put in a duplicate. This could not be done if the frame was made solid, without joints.

The roll is pipe, hung in malleable iron brackets.

The roll handles are malleable iron, light and strong.

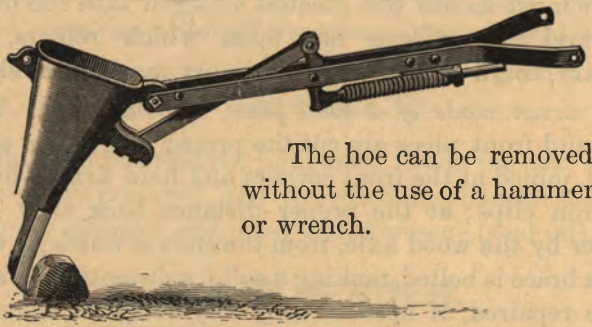
The lever for operating the roll is also malleable iron.

In fact, lightness and strength have been combined in a practical manner, and we believe that our steel frame has no equal among those on the market.

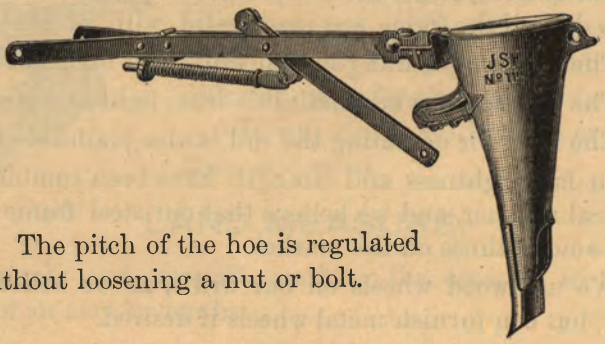
We use wood wheels on our drills, as we believe them better, but can furnish metal wheels if desired.

THE FINEST SPRING HOE MADE.

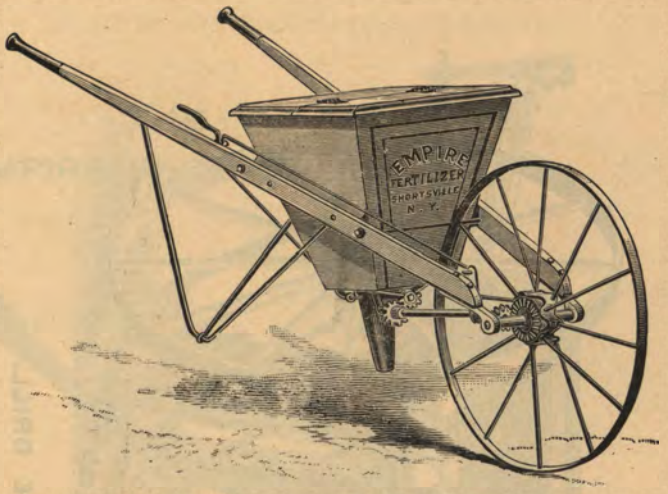
It is simple, durable and effective in its action.



The hoe can be removed without the use of a hammer or wrench.



The pitch of the hoe is regulated without loosening a nut or bolt.



GARDEN FERTILIZER DISTRIBUTOR.

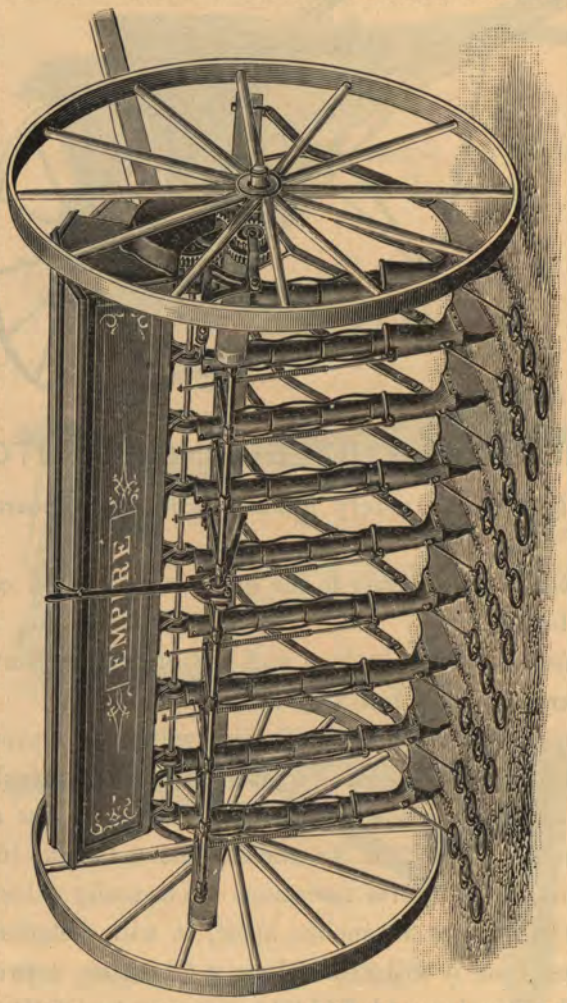
It is light, strong, nicely finished and its appearance is pleasing.

The box is bolted firmly to the handles, and has a capacity of half a bushel.

The lever for throwing into and out of gear is convenient to the operator's right hand, and is easily worked.

The feed is the "Marks," with our valuable improvement for adjusting it to sow fine, dry phosphate, without leakage.

It is arranged to sow 75, 150 and 300 quarts per acre in rows 32 inches apart; 150, 300 and 600 quarts in rows 16 inches apart, from which figures variations can be easily determined; for instance, in rows 40 inches apart, it will distribute one-quarter less than it will where there is 32 inches between the rows, as the 8 inches added to 32 is one-quarter of that number, there will be one-quarter less number of rows per acre.



THE EMPIRE SHOE DRILL.

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EMPIRE SHOE DRILL.

SHOE WITH CHAIN COVERER.

For those who prefer a shoe drill we manufacture the style shown in these cuts. It has given satisfaction to those who have used it, and we believe a better one is not made.

The shoe is fine steel, nicely proportioned, and scours every time.

The depth of sowing is regulated by a lever placed near the center of the drill.

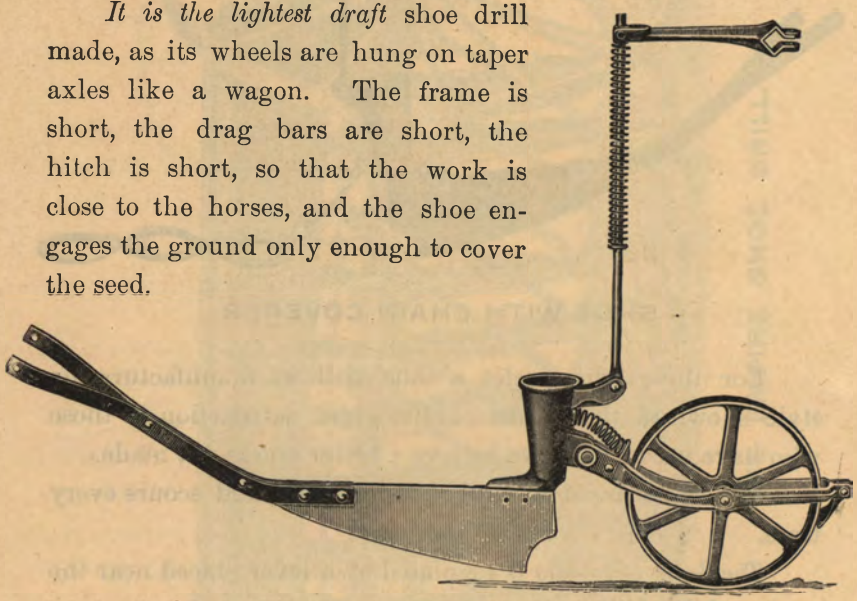
This lever also raises and lowers the shoes, throwing the drill into or out of gear.

The swell of the shoe is gradual, and cleans as nicely as a plow. The lower back corner is notched, so that the seed drops into the furrow, and prevents clogging of the fertilizer, or filling up with dirt.

Each is independent and so attached to the frame as to prevent side motion, but free to adapt itself to uneven surfaces or obstructions.

The pressure upon the horses' necks is reduced to the minimum, as the shoes engage the surface in advance of the tread of the wheels, and can be still further lessened by placing the doubletrees under the pole.

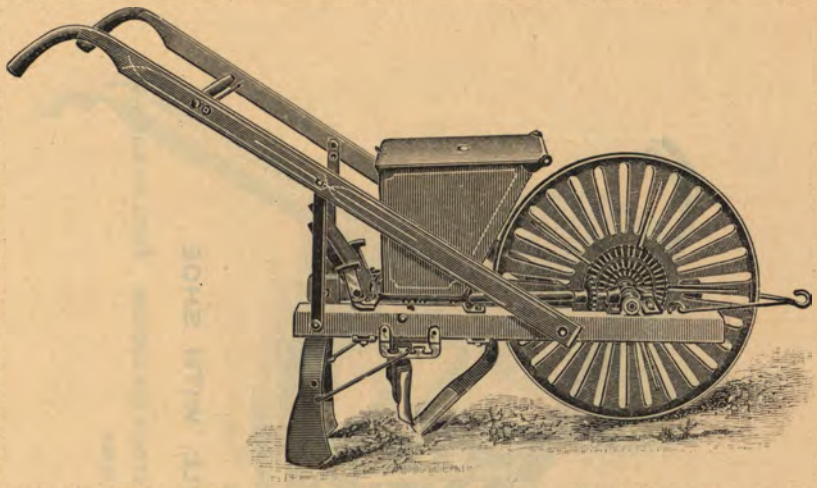
It is the lightest draft shoe drill made, as its wheels are hung on taper axles like a wagon. The frame is short, the drag bars are short, the hitch is short, so that the work is close to the horses, and the shoe engages the ground only enough to cover the seed.



Chain coverers are attached to the rear, and c over the seed by smoothing the surface.

Press wheels can be put on in place of chains, making as fine a press drill as there is on the market. They cost extra, and are never sent out unless specially ordered.

The Empire is made either front or rear lift, as desired.



EMPIRE COMBINED CORN DRILL.

Corn drills that suit everybody. Short, compact, simple, nicely finished and easily operated. This cut is a good picture of it.

The web drive wheel is light, graceful and strong.

The box, of galvanized steel, adjusts and equalizes the weight of the load.

It drops corn from 8 to 30 inches apart, and sows from 23 to 120 quarts of fertilizer per acre, both being plainly seen as they are discharged.

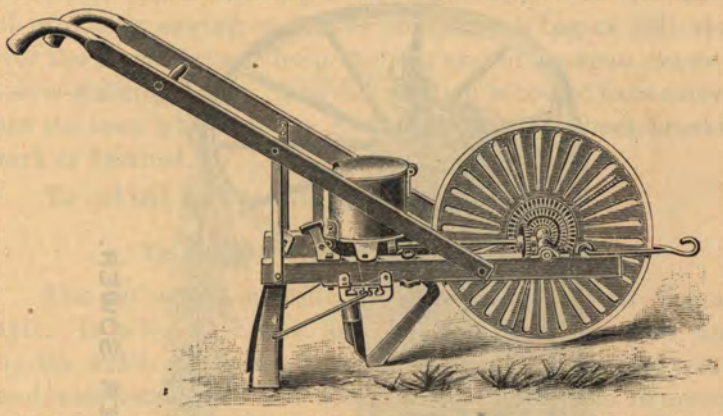
A brush cut-off is used, and two plates go with each drill.

The "Marks" fertilizer feed is used, and everybody knows it is the best made.

There are independent levers to throw the corn and fertilizer into and out of gear. Blade coverers are adjusted to any pitch without hammer or wrench. Blade or wheel coverers are furnished, but if both are wanted there is extra cost.

EMPIRE PLAIN CORN DRILL, WITH SHOE.

Frame is well braced, rigid and strong. All metal except the handles. Built for business and satisfies every time.



THE EMPIRE PLAIN CORN DRILL

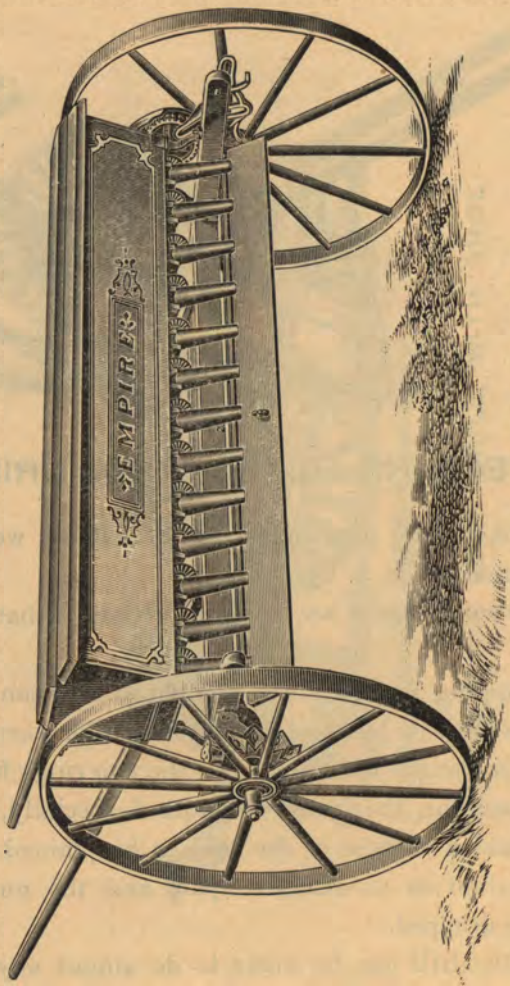
is neat, light, strong and durable, with as fine a web drive wheel as there is made.

The covering blades are adjusted without a hammer or wrench.

The dropping rings are easily changed, and can be supplied to drop more or less seed, larger or smaller kernels; but if anything is wanted different from the two rings furnished with each machine, they must be ordered specially, at additional cost, and a sample of the seed to be planted sent us, with information as to distance apart and the number of kernels to be dropped.

This little drill can be made to do almost any kind of planting, and suits everybody every time.

None can be better, and we doubt if any are equal.



THE EMPIRE PLASTER SOWER.

A plaster sower which would do good work without trouble or bother has long been sought after. A satisfactory job of plaster sowing cannot be done from a bag or pail slung over the shoulder, nor from the rear end of a wagon drawn by a slow-walking horse. The distribution is bound to be uneven, and the man who does it is glad when the dirty, back-breaking work is finished.

To get the best results, and keep clean, use

THE EMPIRE PLASTER SOWER.

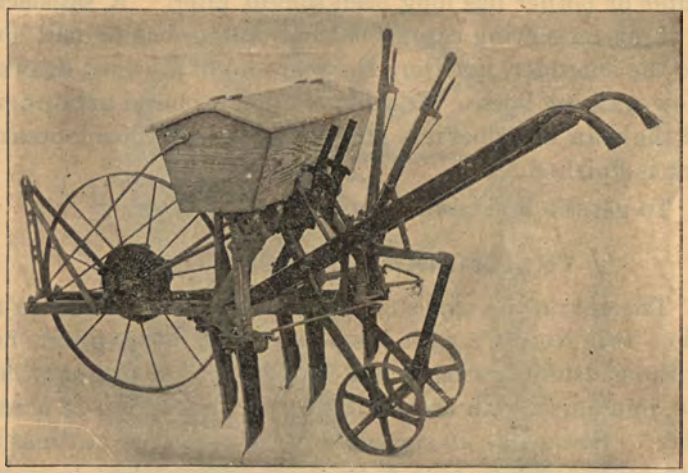
The cut on the opposite page shows the regular size and style. It is No. 13, i. e., it has 13 spouts 7 inches apart, making the width of sowing 7 feet 7 inches. On ordinary farm land, one horse, with this width, will get over 15 to 18 acres in a day. Some like it rigged for two horses, as at times it is more convenient to take a team off from a plow, harrow or wagon, than it is to hitch up a single horse. When mentioned in the order, we fit it with a pole instead of thills, although so far as the power to run it, one horse will handle it all day easily.

Its ordinary capacity is from 60 to 200 quarts per acre, with six intermediate quantities, but at a small extra expense it can be arranged to sow 600 quarts.

It is the "Marks" Force Feed, which is as good a thing as can be said of it. That is well known as the most reliable feed for fertilizer ever made. There is no guess-work about it. The quantity sown is regulated by change of speed, as the size of the discharge aperture is never altered.

There is no gumming nor clogging, the quantity, large or small, being discharged in 13 even continuous streams upon the vibrating scatter-board, sending it to the ground in a thin sheet, and giving to each blade of grass, and putting on each square inch of surface, the proper amount of fertilizing material.

For detail description of feed, see page 12.



EMPIRE FIVE-HOE DRILL.

This drill is doing fine service and giving satisfaction to all who use it. It is made plain or combined, as ordered.

There is no wood about it except box and handles.

The frame and circular guide are angle steel; the wings, levers, braces and draw-post are malleable iron.

The adjustment to different widths is made by a lever, to which force is applied in the direction of the forward motion of the drill, not sidewise, as most of such drills are made.

It has two gauge or carrying wheels, the adjustment of which in either capacity is controlled by a lever convenient to the operator.

The hoes are pin-break, arranged in such position as to clear themselves of trash.

There are independent levers for throwing grain and fertilizer feeds into and out of gear.

A description of the feeds is not necessary, as they are the same as on our two-horse drill, and have a reputation for accurate and satisfactory work.

Everything is regulated positively, admitting of no chance nor guess-work. It does not pay to take any chances in so important a part of farming as seeding.

THERE IS NO DOUBT WHEN THE EMPIRE IS USED.

It is made to do the right thing, and will not do more and cannot do less.

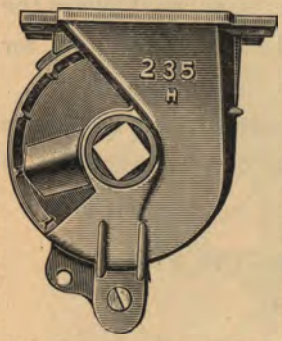
Ordinarily this drill will sow from 28 to 93 quarts of grain per acre, and from 38 to 126 quarts of fertilizer, with 9 intermediate quantities of each.

Guard rods extend from front end of frame to box, preventing corn that leans from catching.

The conductors are iron, made in one section, and will not jam nor break from contact with cornstalks, and admit of free and even delivery of grain and phosphate, adapting themselves automatically to the adjustment of the wings to varying widths.

IT PAYS TO PLANT BEANS WITH THE

EMPIRE DRILL.



It handles any kind, large or small, in any quantity, without injury. It distributes them evenly, as the wedge in the mouth of the feed run prevents them from piling up, and dropping off in bunches. It puts them down into the damp earth, where they sprout and grow quickly. The stand is better, the growth larger, and more are raised to the acre. The soil is more fully used than when planted in hills, and each plant has room, with plenty of sun and light, to grow to perfection.

Time and labor are saved, as three rows are planted at a time, using the wheel tracks as guides for driving, and 13 to 15 acres a day is average work.

No device ever gave the satisfaction this one does. It adds nothing to the weight of the drill, and the beauty of it is, you never have to hunt for it. It is always in place and ready for work, and out of the way when not wanted.

SOME SOILS NEED FERTILIZER,

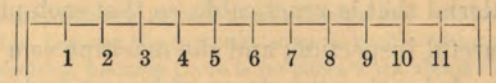
and when that is the case there is no better way of applying it than by using an Empire Drill with the "Marks" Force Feed Fertilizer Attachment. It does the work evenly and economically, sowing the quantity wanted without doubt or guess-work.

IT PAYS

to make one tool do all the work possible; saves expense of investment, and last, not least, you have fewer machines to care for and store.

CORN PLANTING.

Corn may be planted with any of our drills, but our *eleven-hoe, seven-inch,* is most convenient, as its spaces are right, so that the wheel tracks are used as guides for driving. See diagram.



When all of the hoes are used for fodder corn, follow the directions on the box cover.

If more room is wanted between rows, shut off 2, 4, 6, 8 and 10, and you have six rows 14 inches apart.

If you want to cultivate fodder corn, make the rows 28 inches apart, by shutting off 1, 3, 4, 5, 7, 8, 9, 11, and you have three rows.

In planting corn for crop, shut off all the feed runs but 3 and 9, and you will have two rows, 3 feet 6 inches apart.

In sowing phosphate with corn, use three rows to one of corn, *i. e.,* use the hoes each side of the row, besides the one in the row.

A large quantity can be put on in this way without injury to the seed.

BEARDED OR RUST-PROOF OATS.

We can furnish with our drills the finest device ever invented for distributing this grain. It cannot be attached to drills already out, but must be built with the drill at the factory.

It is never sent out except it is specially ordered.

GENERAL REMARKS.

The quality of material used in the construction of our goods is the best for the purpose we can buy.

It is manufactured and put together by workmen, most of whom have been in our employ for years and have become skilled in our particular work. We make everything from the raw material that is practicable, so that each piece receives close and careful inspection, and the machine as a whole goes from our hands bearing the stamp of honest endeavor, and is sold on the following broad and liberal

WARRANTY.

We warrant our machines to be made of good material, and well finished; to do the work for which they are intended in a good and workmanlike manner.

If they fail thus to perform, the agent of whom the purchase is made, or ourselves, must be notified within 10 days therefrom, and if, upon a second trial, under the supervision of the agent, it fails thus to perform, it may be returned, and the purchase money, if any, will be refunded; but if notice of difficulty is not received as above stated, it shall be conclusive evidence that the machine is accepted.

PLEASE READ.

To prevent any misunderstanding in regard to the above warranty, and avoid any dispute as to the price and terms of sale, all purchasers should demand of the agent a duplicate of the order in writing, properly signed by each, upon the back of which will be found our warranty.

THE EMPIRE GRAIN DRILL IS THE BEST, BECAUSE—

It is what we claim it to be—a *Positive Force Feed.*
It sows, with the same gear, the same quantity of wheat or oats.
It is the only drill in the world that will do this.
It will not break the grain.
It is not complicated, as it sows all kinds of grain with one run.
It plants corn for a field crop satisfactorily.
It is the only drill that does not require a special device for planting corn.
It is guaranteed to sow as well as any double feed run ever made.
It is reliable, because the quantity sown is regulated by gear.
It is satisfactory, because there is no guess-work about it.
It is the lightest draft drill made.
It rests lightly on the horses' necks, because it is evenly balanced.
Its wheels are hung on taper axles, like a wagon.

THE FORCE-FEED FERTILIZER ATTACHMENT USED ON THE EMPIRE DRILL IS FAST SUPERSEDING ALL OTHERS, BECAUSE—

It is the only one made that is a *Force Feed.*
It does not paste nor clog up.
It distributes an even, continuous stream.
It regulates the quantity sown positively by gear.
It avoids all guess-work.
It is simple, durable and reliable.
It is taken apart without loosening a nut, spring, bolt or key.
It feeds out all the phosphate in the box.
It sows as well at the close of the day as in the morning.
It sows equally as well, whether the day is dry or damp.
It is guaranteed to sow all kinds of phosphate that are on the market.
Fifteen per cent. of phosphate saved by using this device.

THE FORCE-FEED GRASS SEEDER.

The action is accurate and positive.
The range of quantity is from one quart to half a bushel.
The seed is distributed in front or rear, as desired.
The seed box is compact and easy of access.
It is thrown in and out of gear by raising or lowering the teeth.
It is giving perfect satisfaction to all who use it.
It is the best device for sowing grass seed there is made.