

P&O

LIGHT DRAFT PLOWS



**Your Country's Greatest
Food-Producing Ally**



LIGHT DRAFT PLOWS

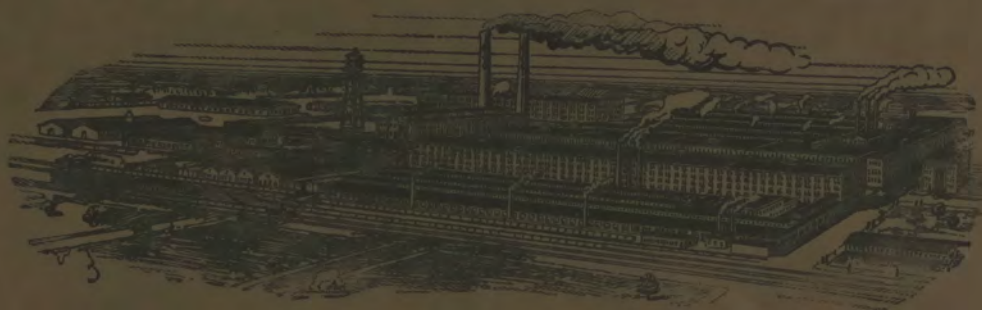
**HARROWS, CORN PLANTERS, COTTON
PLANTERS, LISTERS, DRILLS,
CULTIVATORS, POTATO
DIGGERS, STALK
CUTTERS, ETC.**

*76 Years of "Knowing How" Hammered Into Every
One of Them*



The Trademark that stands for all that is best in Farm Implements, the line that has been on the market for over three-quarters of a century and a line that has been used by three generations of American Farmers.

Everything We Make Is Backed by an Unqualified Guarantee



THE HOME OF THE P. & O. PLOW

P&O SERVICE

The Triangle of the Farmer - the Dealer and the Manufacturer

You and Your Dealer Beyond all doubt the one satisfactory way for you to buy a farm implement is through your local implement dealer. There is a personal element in the sale, a sense of responsibility on the part of your dealer which does not stop when the sale is made. His interest goes with that implement into the field and lasts as long as the implement lasts. **Your Interests are Mutual.** He wants you to be satisfied. Your future business depends upon the satisfaction you get. In other words, your implement dealer is at your service all the time. When you buy an implement he sets it up for you. He sees that the proper adjustments are made.

P&O Expert Advice He knows his business because we pay experts to visit him and show him how. It is a part of our agreement with him that he keeps in touch with every P&O implement that leaves his store. It is our interest in our goods transmitted to you through your dealer, and its name is SERVICE, and you get that service with every P&O implement you buy.

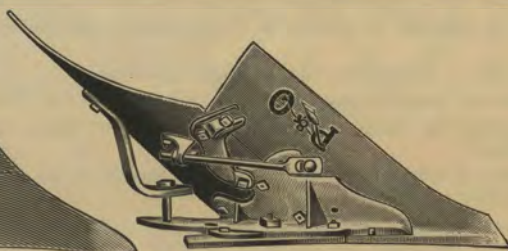
The P&O Guarantee Look this catalog over. If you don't see what you want ask your dealer or write us, for we build a complete line of up-to-date tillage implements, every one of them backed by an absolutely unqualified guarantee. And remember that when you buy an implement through your local dealer, you get it set up and ready for business.

The P&O Cornerstone The founders of the P&O Line established one precedent for us that has always been strictly adhered to, and that was to build every implement as simple and as strong as was possible. Simplicity, strength and efficiency — those are the watchwords in the P&O factory.

Old But Ever New The implements shown herein represent one of the oldest lines in the United States. And yet we may also say one of the newest, for every year of the seventy-six years that we have been building tillage implements has seen improvements made in the line. Today the P&O Implement embodies all the experience which we have gained in those 76 years.



P&O IXL Scotch Clipper Bottom
Moldboard View



Bottom view of same, showing how
quick detachable share is held

The P&O IXL Bottom represents a real achievement in the art of plow building. It is the result of the long and patient study of the mechanics involved in the turning of a furrow, of the natures of the various kinds of soil, and of the scouring qualities of the different kinds of steel. The IXL Bottom meets the demands not only of ordinary plowing conditions, but also where conditions are extremely difficult. The curve of the mold is sufficiently abrupt to turn the soil and scour perfectly, but it yet maintains the proportions necessary to insure lightness of draft.

P&O IXL Bottoms can be furnished in either the Stubble or Scotch Clipper Series, the Stubble being best adapted to use in wheat, rye or oat stubble, or any land that had been planted in small grain, and pulverizes the soil thoroughly. The Scotch Clipper is our general purpose bottom, and is adapted not only to use in old ground, in which it turns, covers and pulverizes nicely,

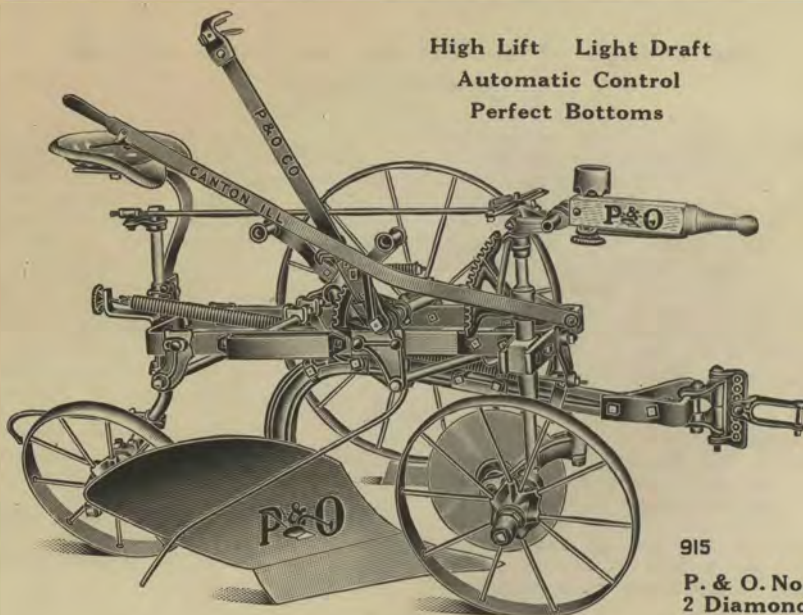
but is also successful in clover, timothy and alfalfa sod, turning the furrow slice completely over and thoroughly covering all weeds and trash.

P&O IXL Bottoms are equipped with Quick Detachable Shares which makes the matter of removing the share for sharpening an extremely simple one. Only one bolt to loosen. In the cut above and to the right, notice how the share is drawn up tightly against the mold and frog. Absolutely no chance of working loose. Notice also the broad strong frog with the ribs bracing the mold and insuring solidity in the hardest soil.

The P&O IXL Soft Center Steel Bottoms are made of the finest grade of steel, and the outer surface tempered to the hardness of glass, while the inner "layer" binds them together and gives them the necessary elasticity. We can furnish IXL Bottoms for any of our Riding, Wheeled Walking and Tractor Plows.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 2 DIAMOND SULKY AND GANG PLOWS



High Lift Light Draft
Automatic Control
Perfect Bottoms

915

P. & O. No.
2 Diamond
Sulky

Levers all on one side, convenient to driver, and leaving other side free of obstruction, giving easy access to seat. Bails are held in bearings by means of wedge shaped blocks, throwing strain at right angles to bolts instead of on the threads.

Powerful foot lift. A ten-year-old boy can operate it.

The beam spreader braces extend clear around the curve of the beam, giving great strength at the point of strain.

Bails are supported by hangers in such a manner as to throw weight of plow, dirt and driver all on the wheels, insuring lightness of draft.

Double bails rest on adjustable bail stops. By means of set screws on foot lift, bottom may be set to float when working in stony ground.

Only truly automatic control ever put on a plow. Holds rear wheel rigid regardless of ordinary weaving of the team, but allows it to caster naturally on the turn, making a square turn possible.

Hitch easily adjusted without removing any bolts or pins. Evener clevis will not allow evener to drop down on heels of horses.

IXL Stubble and Scotch Clipper (General Purpose) bottoms equipped with quick detachable shares.

Coulters are made of high grade tempered steel with chilled cone bearings for taking up wear. Coulter clamps are quickly adjustable.

Bottoms built on double ribbed malleable frogs, the strongest made. Strong in the bend, where steel frogs are weak.

Perfect bottoms. Soft center steel molds and shares. Different types of bottoms interchangeable. A bottom built for every soil.

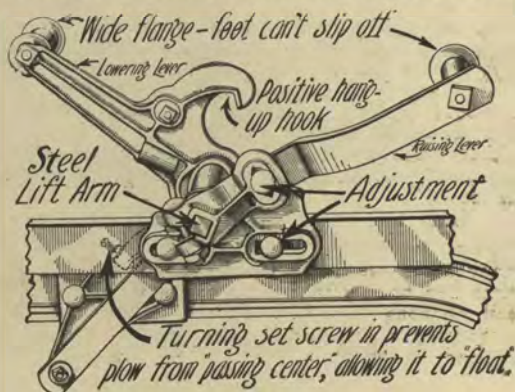
High lift—ample clearance.

Rear wheel has an easy and simple set screw adjustment for relieving friction on landside.

Land wheel axle extends across frame, adding strength and eliminating strain on frame. Cushion spring on land axle absorbs all shock from plow or driver when land wheel passes over rough or uneven ground, and insures an even furrow bottom. Also has lifting spring attached to axle which assists cushion spring and takes all strain off ratchet and lever.

Spring washers are used wherever the nuts would otherwise have a tendency to work loose.

High wheels, with removable dust-proof boxes with



The Diamond Foot Lift

P&O Plows, Harrows, Planters and Cultivators

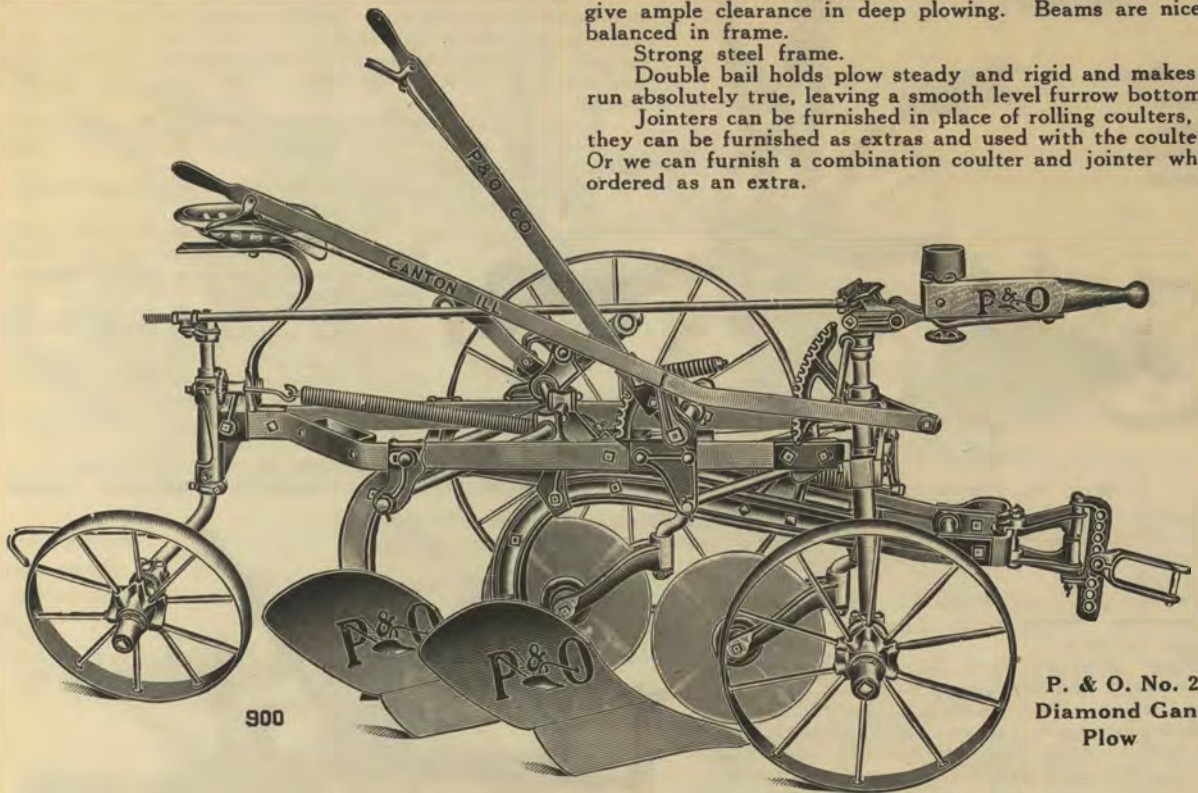
screw caps for using hard oil, and with linch pins inside screw caps. Strongest wheels ever put on a plow.

The beams are made with the bend high in throat to give ample clearance in deep plowing. Beams are nicely balanced in frame.

Strong steel frame.

Double bail holds plow steady and rigid and makes it run absolutely true, leaving a smooth level furrow bottom.

Jointers can be furnished in place of rolling coulters, or they can be furnished as extras and used with the coulters. Or we can furnish a combination coulter and jointer when ordered as an extra.



P. & O. No. 2
Diamond Gang
Plow

P. & O. TWO-WAY SUCCESS SULKY

The P. & O. Two-Way Success does away with dead and back furrows, leaving the plowed ground in a solid body.

The ideal plow for hillside work, or in irrigated sections, where dead furrows would interfere with proper distribution of water.

Has right and left hand bottom—plowman works on same side the plowed strip or "land" both going and coming.

Can be turned in its tracks—just like a racing sulky.

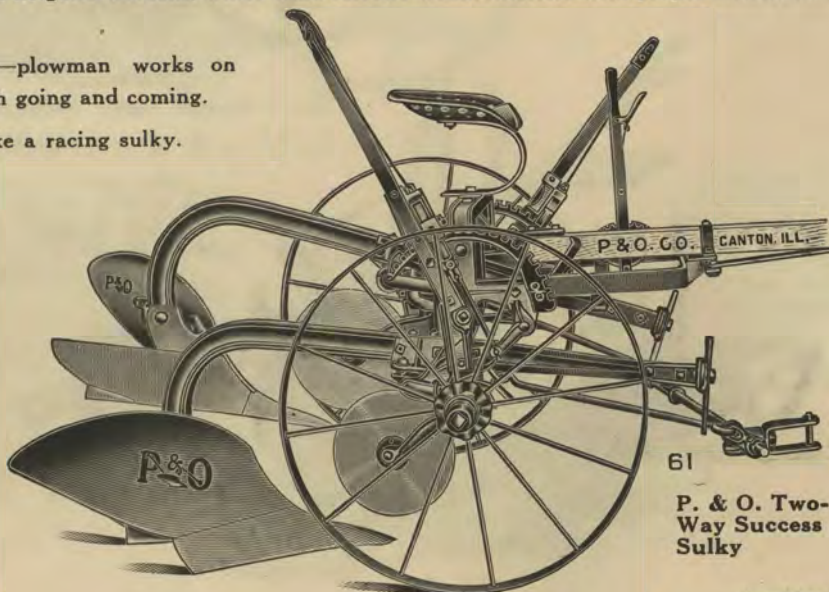
Horses walk in furrow alternately—the change rests them.

Plow can be backed into corners where an ordinary plow could not be used.

Can be used with two or three horses.

Draft of horses raises the bottom, when foot trip throws dogs into engagement with ratchets in wheel hubs.

Furnished with regular clevis or dial hitch, as ordered.

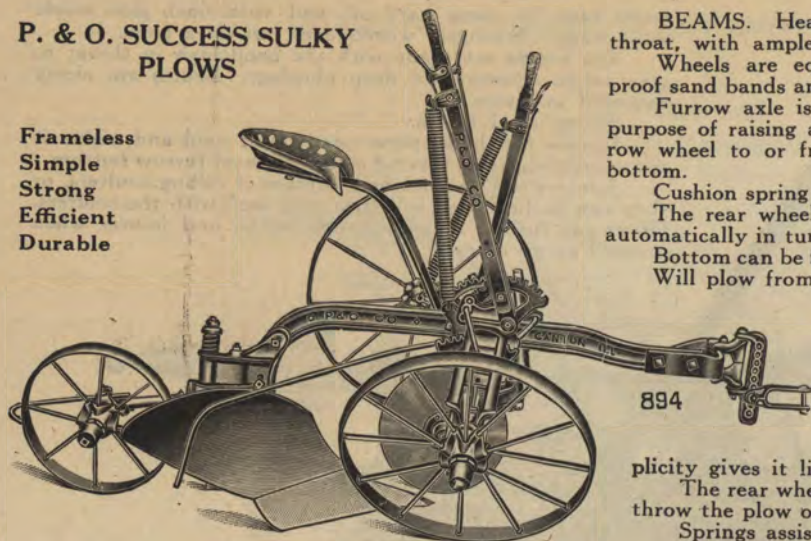


P. & O. Two-Way
Success
Sulky

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. SUCCESS SULKY PLOWS

Frameless
Simple
Strong
Efficient
Durable



P. & O. No. 6 Success Sulky Plow

The No. 5 can be furnished with either Hand or Automatic Control. On the hand control a lever is provided by means of which the operator can set the plow to right or left instantly. It also enables him to make a square turn to right or left.

The hand control device is very efficient on side hill work. When the hand control is used, no tongue is necessary.

When equipped with automatic control a tongue is used, and the team controls the action of the rear wheel. When making a turn the control automatically releases the rear wheel, allowing it to caster freely. After turn is completed rear wheel again becomes rigid, and is unaffected by the ordinary weaving of the team.

BEAMS. Heavy high carbon I-beam steel, high in the throat, with ample clearance.

Wheels are equipped with removable boxes with dust-proof sand bands and screw caps for using hard oil.

Furrow axle is equipped with a lever serving the double purpose of raising and lowering the plow and landing the furrow wheel to or from the bank. The land lever levels the bottom.

Cushion spring on land axle absorbs all jolts and vibration.

The rear wheel follows rigidly when plowing, but casters automatically in turning.

Bottom can be furnished in 10 to 18 inch, any standard type. Will plow from 2 to 8 inches deep.

A landing or swinging hitch can be furnished as an extra for use on hillsides, where it is necessary to change the line of draft while in motion.

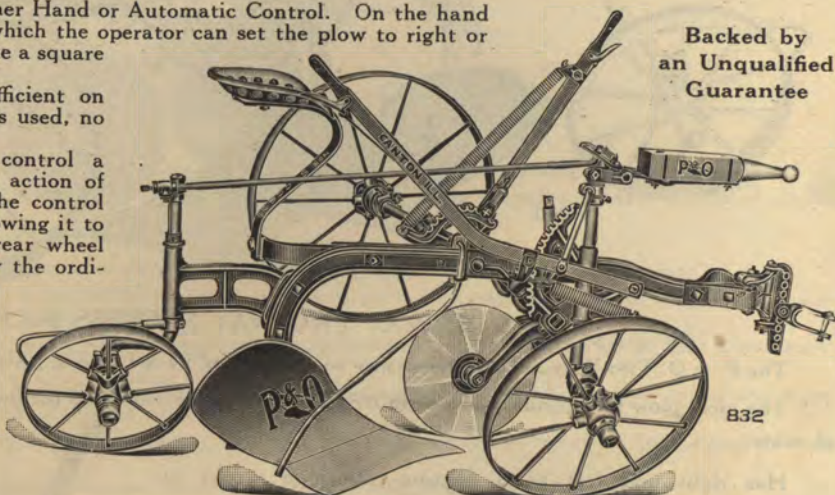
14 and 16 inch alfalfa shares interchangeable with regular shares.

The simplest wheel plow made, yet strong, efficient and durable. Its simplicity gives it lightness without sacrificing strength.

The rear wheel is adjustable up or down, so that you can throw the plow on the point.

Springs assist the operator in using the levers.

A tongue attachment can be furnished when wanted.



Backed by
an Unqualified
Guarantee

No. 5 Success Sulky, Automatic Control, Moldboard View

P. & O. SUCCESS GANG PLOWS

The beams are made of the very best high carbon I-beam steel, high in the throat to give great clearance for trash.

When equipped with automatic control a tongue is used, and the team controls the action of the rear wheel.

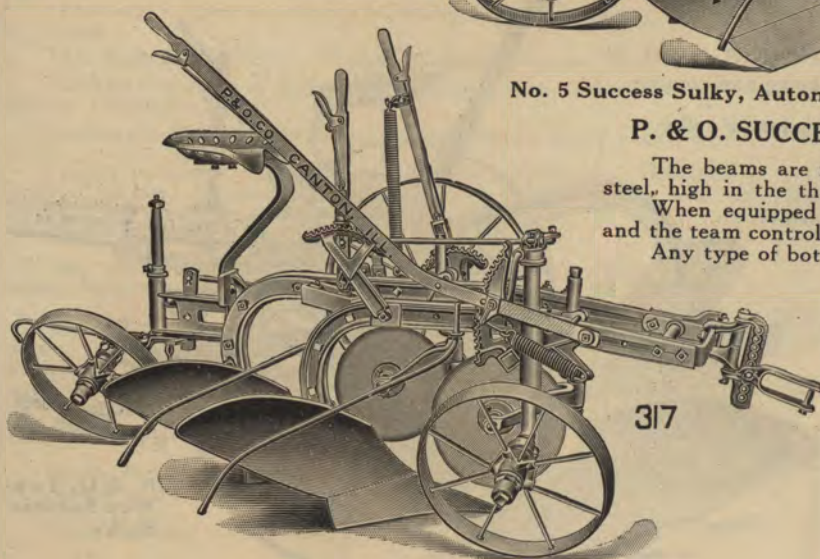
Any type of bottoms can be furnished.

Mold boards and shares are made from the finest quality of soft center steel.

The levers give perfect control of the plow, are within easy reach, and are assisted by springs, making them very easy to handle.

Wheels equipped with removable boxes, with dust-proof sand bands and screw caps for using hard oil.

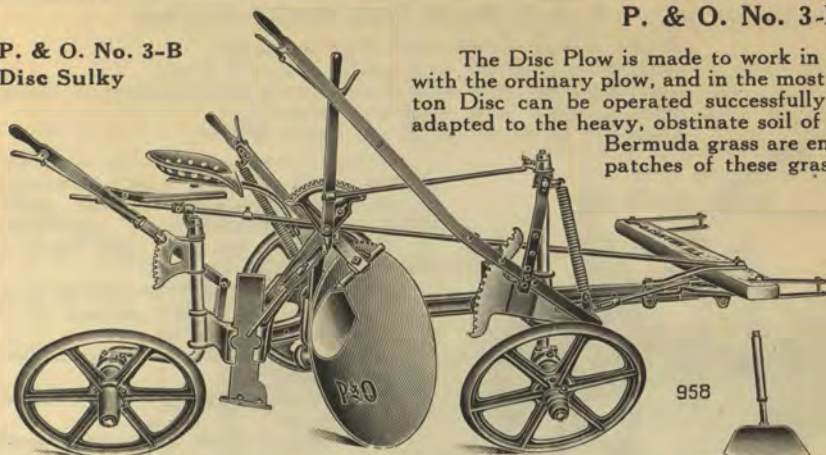
Equipped with 15-inch rolling coulters set in chilled bearings, which permit taking up all wear. The coulters are adjustable to any position.



P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 3-B DISC PLOWS

P. & O. No. 3-B
Disc Sulky



The Disc Plow is made to work in ground that cannot be successfully broken with the ordinary plow, and in the most difficult soils of this kind the No. 3-B Canton Disc can be operated successfully where other plows fail. It is especially adapted to the heavy, obstinate soil of Texas, where large fields of Johnston or Bermuda grass are encountered. It will cut through the worst patches of these grasses without jumping or running out from the land.

Discs are of finest steel obtainable and are carefully ground and polished.

Discs are held in place by plow bolts, the heads of which are ground to conform to the faces of the discs, offering no obstruction whatever to trash and allowing the scrapers to clean from center to edge of discs.

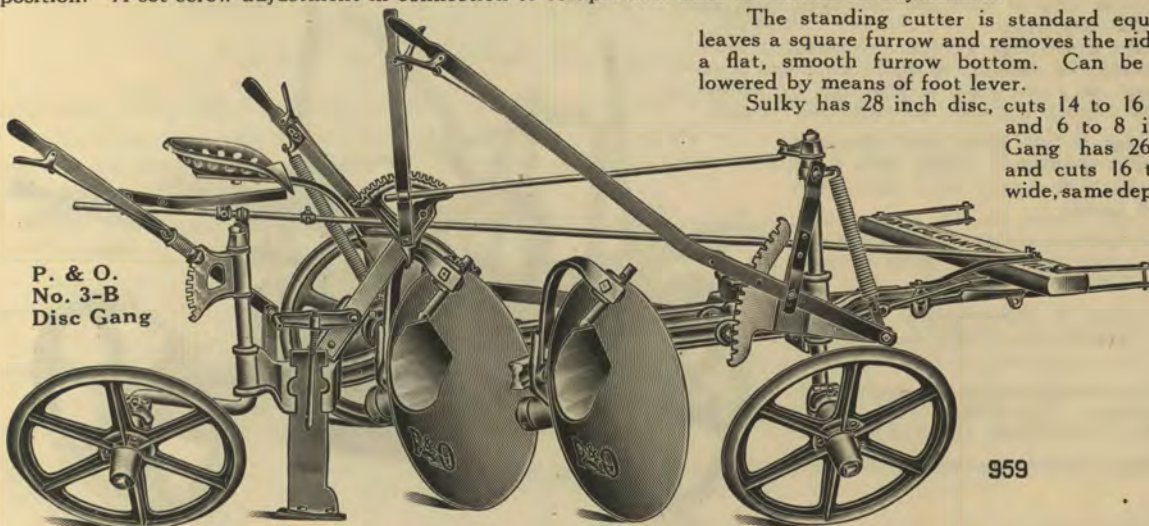
Ball bearing disc bearings. Hard oil lubrication.

A trip lever prevents rear axle from turning to right, but leaves it free to turn to left, responsive to controlling rod. When turning around the rear axle may be released by throwing trip lever out of lock. Scrapers are broad and effective and provided with ball and socket joint, making it possible to set them in correct position. A set screw adjustment in connection to scraper arm adds to fineness of adjustment.

The standing cutter is standard equipment. It leaves a square furrow and removes the ridges, leaving a flat, smooth furrow bottom. Can be raised and lowered by means of foot lever.

Sulky has 28 inch disc, cuts 14 to 16 inches wide and 6 to 8 inches deep. Gang has 26 inch discs and cuts 16 to 22 inches wide, same depth as sulky.

P. & O.
No. 3-B
Disc Gang



P. & O. No. 4 DISC SULKY PLOW

Built along simple lines, the No. 4 is one of the simplest and most efficient disc plows on the market.

Lever within easy reach of operator.

Hand or automatic control, as ordered.

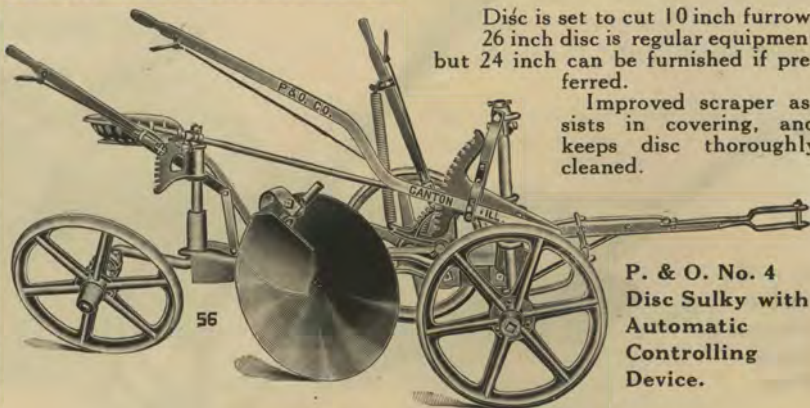
Automatic control insures straight even furrows without attention from operator.

Hand control enables operator to guide plow to or from the land, more quickly.

Hand control makes it easy to get into ground quickly with disc cutting full width, after turning at end of field.

On the automatic control rear wheel is controlled by furrow wheel. On hand control the rear wheel is self casting.

Disc set in chilled bearings supplied with oil by compression grease cup.



Disc is set to cut 10 inch furrow. 26 inch disc is regular equipment but 24 inch can be furnished if preferred.

Improved scraper assists in covering, and keeps disc thoroughly cleaned.

P. & O. No. 4
Disc Sulky with
Automatic
Controlling
Device.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 4½ DISC GANG PLOWS

Beams of high carbon steel, rigidly braced.
Conveniently placed and easily operated levers.
Land lever equipped with heavy spring which assists in raising the plow. Furrow lever long and powerful.
Discs can be set to cut 10 or 11-inch furrows.

Scrapers are large, of an improved pattern, with scraping edge conforming to concavity of discs. Ball and socket joints permit adjustment to any angle.

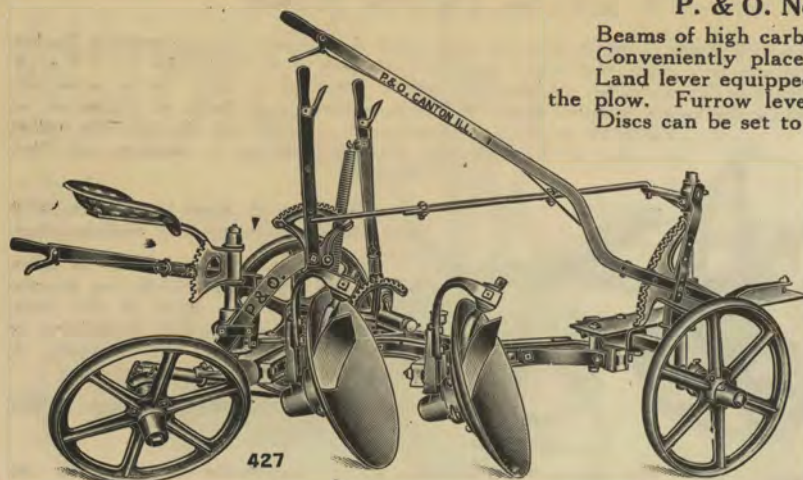
Chilled disc bearings with hard oil lubrication.

Dust is prevented from entering bearings by removable collars ground to fit the flange of each bearing.

Ample trash clearance between discs and under beams.

Furrow axle adjustable for width of cut.

Cushion spring on land axle absorbs shock.



P. & O. No. 4½ Disc Gang Plow

Loose bands back of discs prevent trash from winding around disc bearings.

Rear lever gives high lift for transporting plow.

Furrows may be opened full depth first time around.

Discs can be given more or less suck by means of wedge-shaped blocks between bearings and beams.

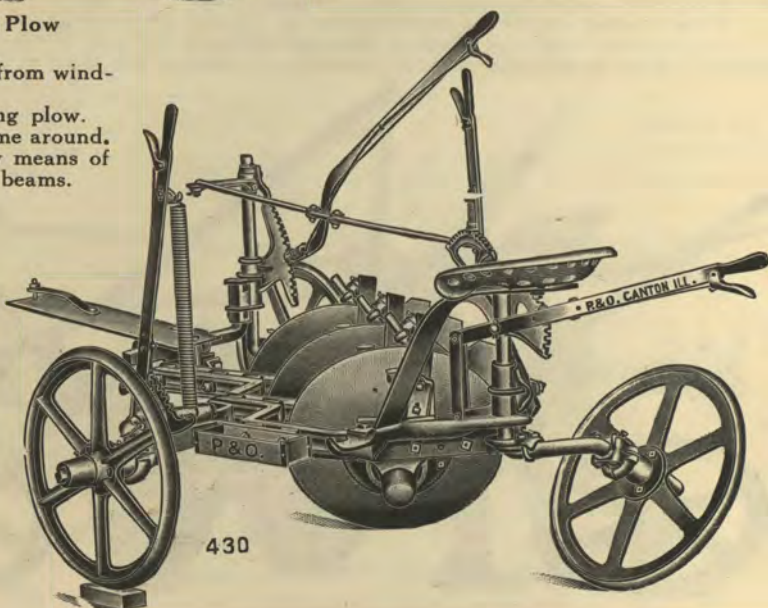
Wheels cast in one piece, and equipped with removable dust-proof boxes with hard oil screw caps, collars and linch pins, and perfect sand bands.

Suction adjustment, and resistance screw on rear axle, adapt this plow to work in hardest or softest land.

Made in two or three-furrow, with 26-inch discs. 24-inch discs furnished if preferred.

Extra disc attachment for converting two-furrow to a three. Three-furrow can be reduced to two if conditions so require.

Flexibility of hitch prevents plow from jumping.



P. & O. No. 4½ Triple Disc Gang Plow

P. & O. SUNSET VINEYARD WALKING GANG

The Sunset Vineyard Gang is a three-furrow plow, for use in orchards and vineyards.

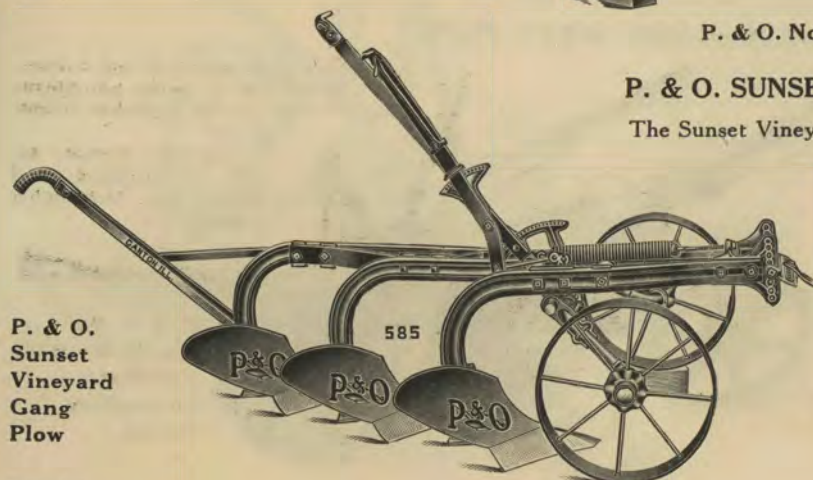
Has three 8-inch bottoms, or a total width of 24-inches.

High carbon steel beams—high throat, ample clearance.

18-inch wheels with 3-inch tires, dust-proof boxes and hard oil screw caps.

Levers placed to be convenient to operator. Raising and lowering of bottoms made easy by spring tension.

Hitch has wide range of adjustment.



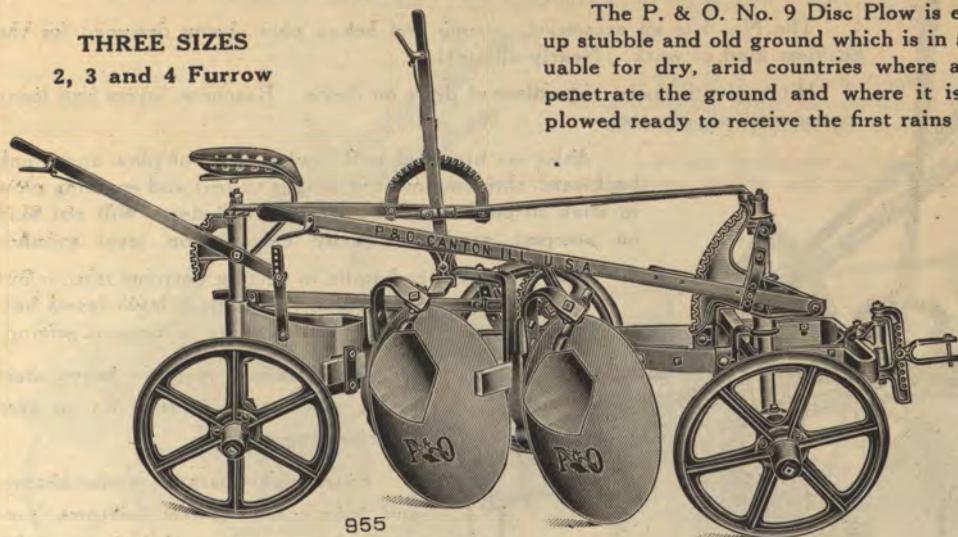
P. & O.
Sunset
Vineyard
Gang
Plow

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 9 DISC PLOWS

THREE SIZES

2, 3 and 4 Furrow



P. & O. No. 9 Disc Plow, Two-Furrow.

subjected. The front furrow axle is adjustable to set the wheel in or out to regulate the cut of the front disc.

The controlling rod connects the front and rear furrow wheels and the lever operating it is located within convenient reach of the driver so that the plow can be steered quickly in either direction or held rigidly at work. The front furrow lever can be adjusted in or out to suit the operator.

The wheels have V-shaped tires and removable dust-proof boxes with screw caps. Wheels with 3-inch flat tires can be furnished on special orders.

The discs are set in chilled bearings supplied with oil by compression grease cups. The discs are 26 inches in diameter, though 24-inch discs will be furnished when preferred.

The bearings are short, to give plenty of clearance between them and the ground. The bearings can be adjusted on the beams to secure the various widths of cut desired. It is unnecessary to remove any bolts to make this adjustment.

These scrapers are provided with a ball and socket joint that makes them absolutely adjustable to any desired position. On account of the shape of the scraper blades, they assist in covering like the mold on a moldboard plow.

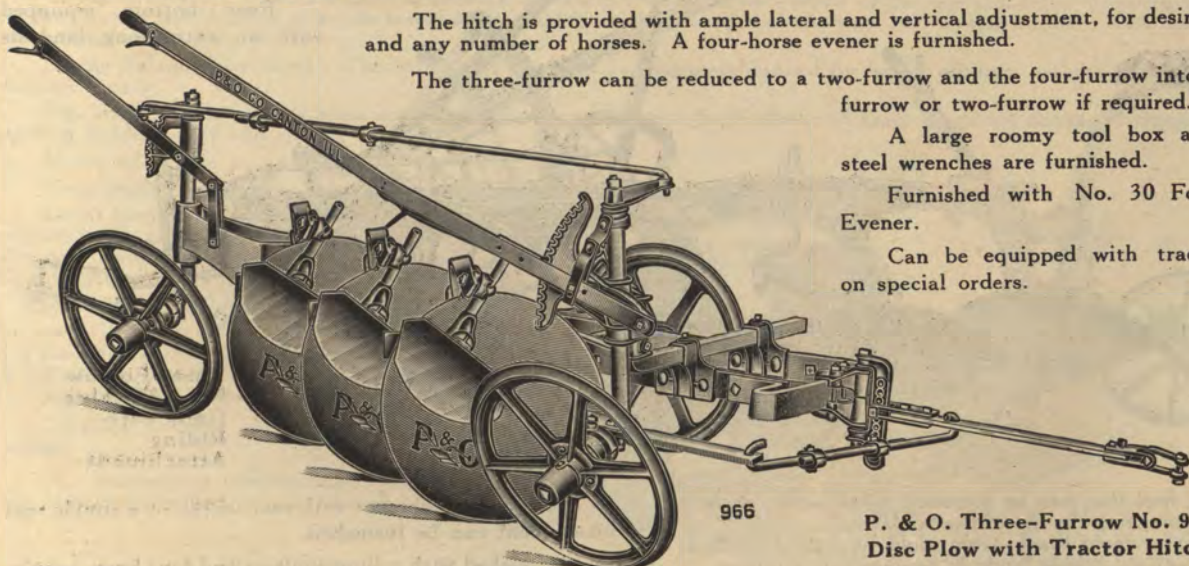
The hitch is provided with ample lateral and vertical adjustment, for desired depth and any number of horses. A four-horse evener is furnished.

The three-furrow can be reduced to a two-furrow and the four-furrow into a three-furrow or two-furrow if required.

A large roomy tool box and three steel wrenches are furnished.

Furnished with No. 30 Four-Horse Evener.

Can be equipped with tractor-hitch on special orders.



P. & O. Three-Furrow No. 9.
Disc Plow with Tractor Hitch.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 5 WHEELED WALKING GANG PLOWS

The No. 5 is an excessively strong and heavy plow, being designed for the heaviest kind of work. Nearly all steel.

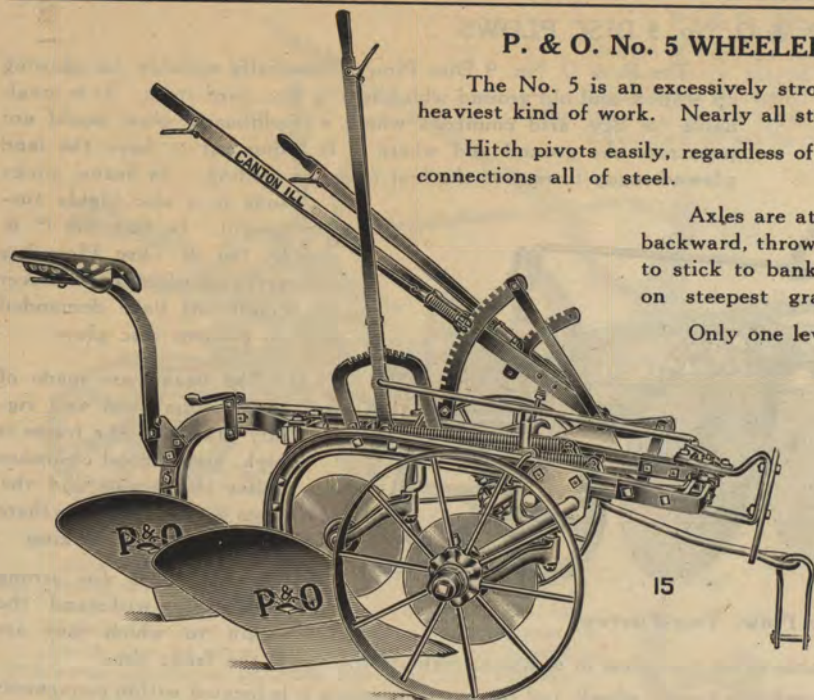
Hitch pivots easily, regardless of draft on clevis. Ratchets, levers and lever connections all of steel.

Axles are attached well toward front of plow and crank backward, throwing most of weight to rear and enabling plow to stick to bank when working on hillsides. Will not skid on steepest grades. Equally efficient on level ground.

Only one lever to handle in getting bottoms into or out of ground. Secondary lever levels bottoms when working in uneven ground.

Axle bearings made of heavy steel plate, with bosses swaged on to give wide bearing on axles.

Extra high clearance under beams, and wide space between bottoms, prevents clogging when working in trashy ground. Ample clearance under points when bottoms are raised for transporting.



Two Furrow No. 5 Walking Gang with Seat Attachment

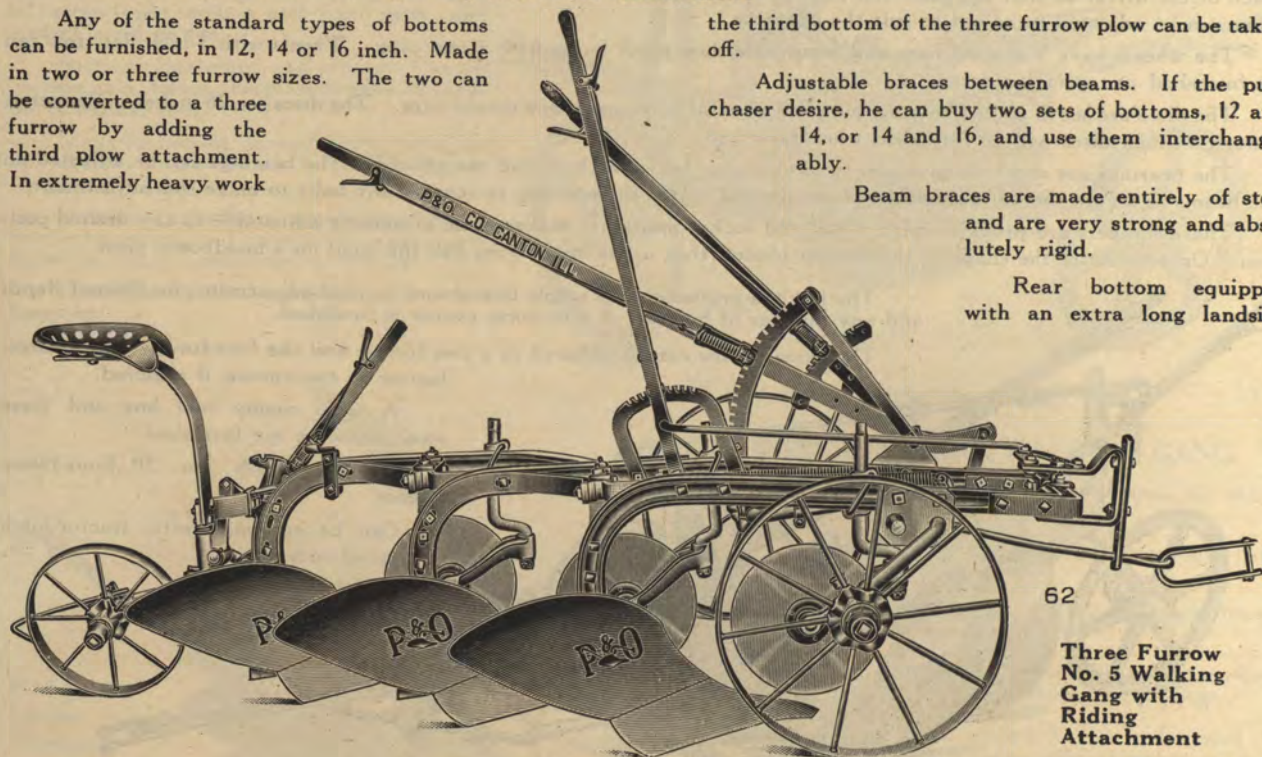
Any of the standard types of bottoms can be furnished, in 12, 14 or 16 inch. Made in two or three furrow sizes. The two can be converted to a three furrow by adding the third plow attachment. In extremely heavy work

the third bottom of the three furrow plow can be taken off.

Adjustable braces between beams. If the purchaser desire, he can buy two sets of bottoms, 12 and 14, or 14 and 16, and use them interchangeably.

Beam braces are made entirely of steel and are very strong and absolutely rigid.

Rear bottom equipped with an extra long landside



Three Furrow No. 5 Walking Gang with Riding Attachment

with cast heel that can be removed, when worn, thereby greatly prolonging the life of the landside.

An extra mold brace, from mold to rear of landside on rear bottom, braces landside against side strain.

A riding attachment with rear wheel, or a simple seat attachment can be furnished.

Furnished with rolling coulters and four horse eveners.

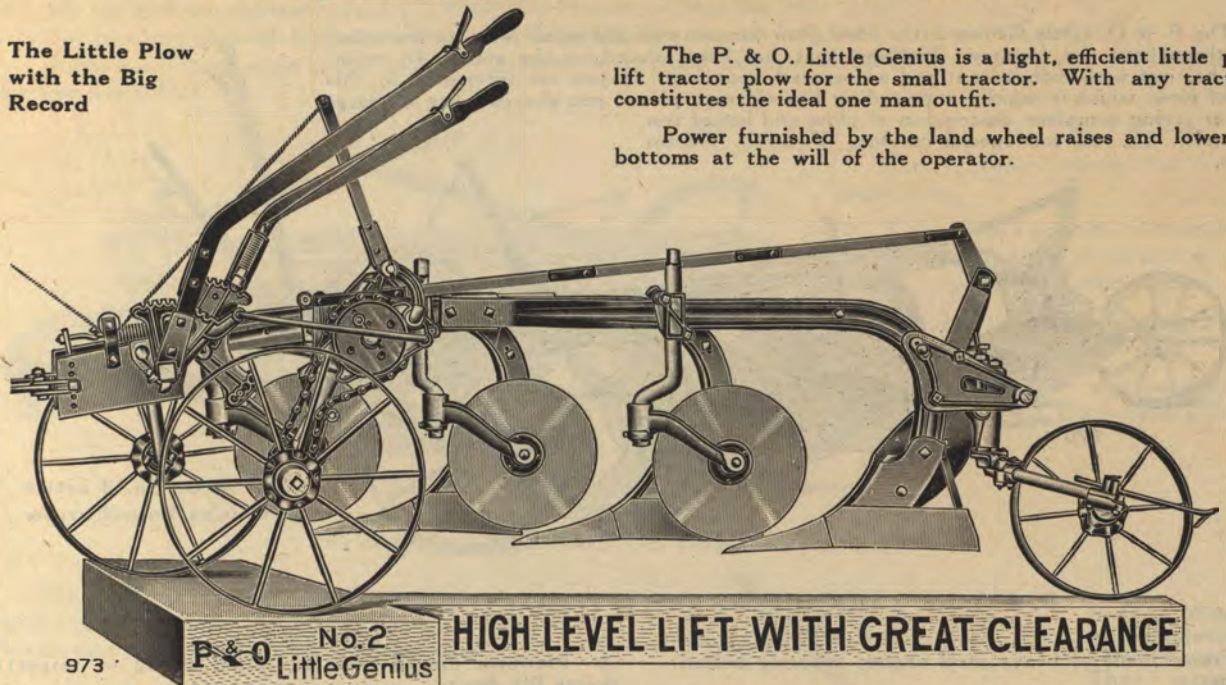
P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 2 LITTLE GENIUS POWER LIFT TRACTOR PLOW

The Little Plow
with the Big
Record

The P. & O. Little Genius is a light, efficient little power lift tractor plow for the small tractor. With any tractor it constitutes the ideal one man outfit.

Power furnished by the land wheel raises and lowers the bottoms at the will of the operator.



P. & O. No. 2 Three-Furrow Little Genius

High level lift on all three wheels gives ample clearance for trash in turning or transporting. Only one trip rope is required.

Rear wheel lift responds instantly to action of power lift device. No sliding parts. No strain on lifting parts while plow is at work.

Bottoms are forced—not merely dropped—into the ground by the whole weight of the plow.

One-half as much power required to raise the bottoms of the P. & O. Little Genius as is required on any similar plow. Note the absence of spuds on power wheel.

Swinging levers. When the plow is at work the levers are within easy reach of the operator from his position on the tractor, but as the bottoms raise the levers swing back over the plow out of the way, and do not interfere with the tractor in turning.

Spring balanced bottoms. The levers and bottoms are counterbalanced by heavy springs, making their operation extremely easy.

Pin break hitch. Better than an insurance policy—protects both plow and tractor against danger of damage from striking hidden roots and stones.

Hitch adaptable to any tractor.

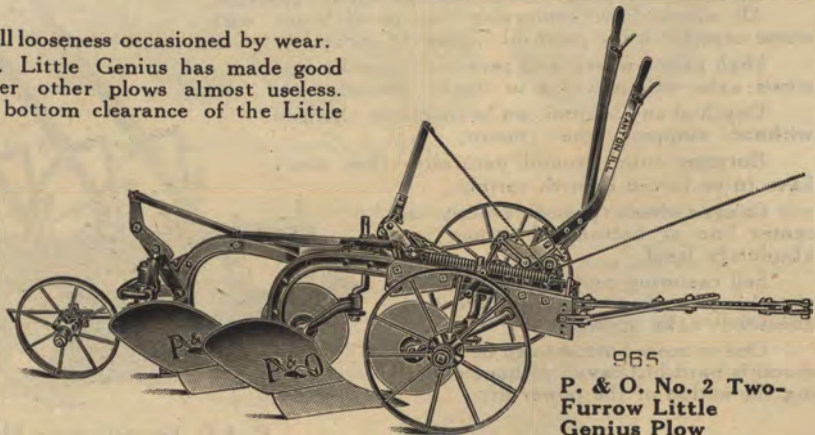
Cone couler bearings permit taking up all looseness occasioned by wear.

Great bottom clearance. The P. & O. Little Genius has made good repeatedly in ground so trashy as to render other plows almost useless. If you get a chance, compare the 19 inches bottom clearance of the Little Genius with that of any other plow.

Three sizes. No. 2 is made in 2 or 3 furrow, with 12 or 14 inch bottoms. No. 3 is made in 4 furrow, with 14 inch bottoms. A third plow attachment can be furnished for the No. 2, 2-furrow.

Jointers or knife cutters can be furnished.

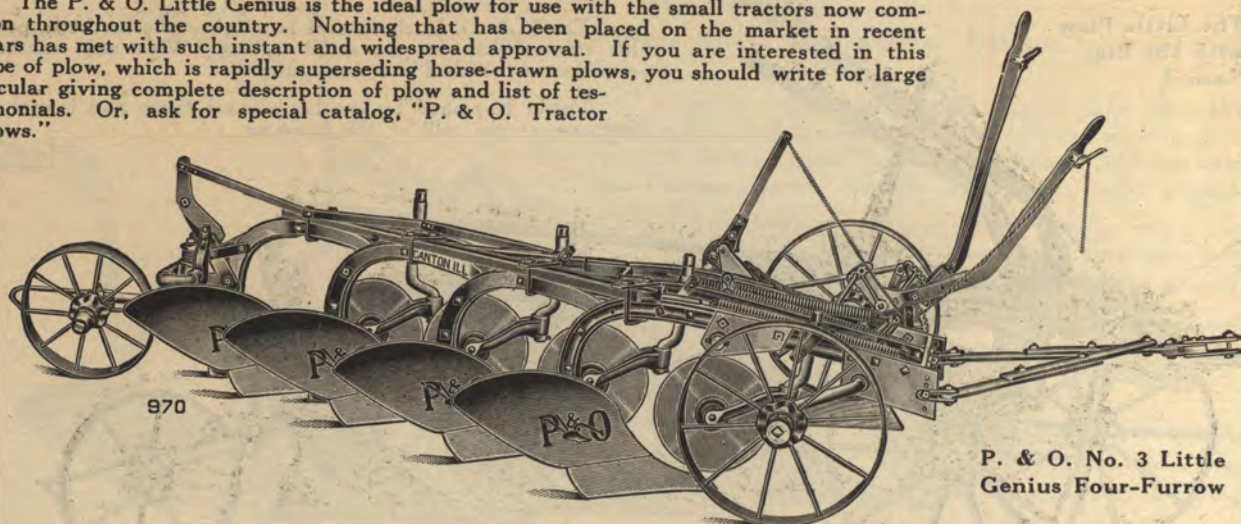
A combination couler and jointer can also be furnished on special orders.



P. & O. Plows, Harrows, Planters and Cultivators

P. & O. LITTLE GENIUS POWER LIFT TRACTOR PLOW—(Continued)

The P. & O. Little Genius is the ideal plow for use with the small tractors now common throughout the country. Nothing that has been placed on the market in recent years has met with such instant and widespread approval. If you are interested in this type of plow, which is rapidly superseding horse-drawn plows, you should write for large circular giving complete description of plow and list of testimonials. Or, ask for special catalog, "P. & O. Tractor Plows."



P. & O. No. 3 Little
Genius Four-Furrow

P. & O. No. 2 MOGUL POWER LIFT TRACTOR GANG PLOWS

Frame made of heavy steel angles, securely bolted together.

Double beams, proven stronger than any other beam construction.

Steel stub beam or standard—it gives more clearance in trashy ground and is stronger than a cast standard.

Cone bearings in head blocks or beam couplings make it possible to take up all wear.

Pin break standards.

Set screw in yoke at rear end of beam permits accurate adjustment for leveling the bottom.

Simple and accurate suction adjustment. Easy to set plows in perfect alignment.

Spacing blocks between the beams make each bottom cut its full width, thus insuring uniform furrows.

Independent lever for adjusting each bottom gives even furrow depth.

All different types of P. & O. Bottoms interchangeable.

All wheels have removable dust-proof boxes, with screw caps for using hard oil. Easy to grease.

High gauge wheel, and properly shaped gauge wheel axle—will not clog in trashy ground.

Depth of any bottom can be instantly changed without stopping the tractor.

Bottoms enter ground naturally—they don't have to be forced in with springs.

Gauge wheels placed exactly on center line of bottoms—bottoms run absolutely level.

Self casting coulter, with chilled cone bearings that can be tightened to effectively take up wear.

One or more bottoms can be raised if soil is hard or heavy, without affecting the action of the power lift.

Platform hinged—can be raised to oil or inspect power lift device.

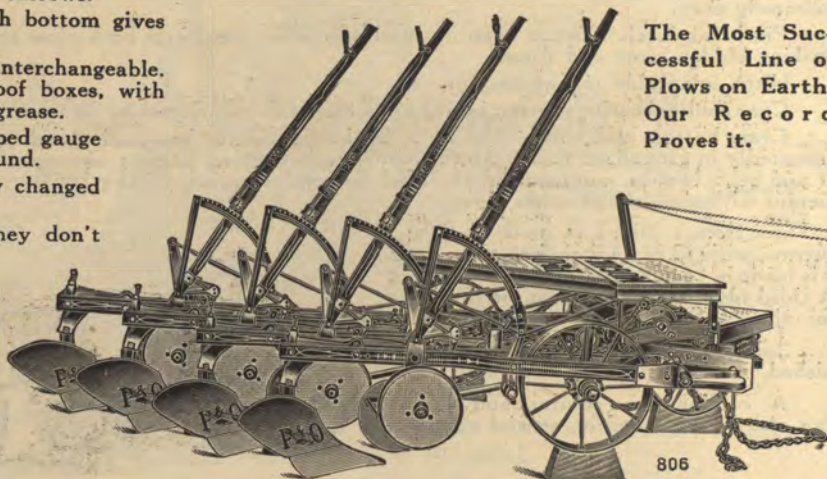
On the No. 2 Mogul Power Lift the bottoms are raised and lowered at will of tractor operator without stopping, by means of two ropes tied within convenient reach.

Power lift timed to put bottoms into and out of ground on a perfectly straight line, regardless of speed, leaving square headlands.

Operation of independent levers does not interfere with the power lift device.

Power for raising the bottoms is furnished by the rear landside carrying wheel.

Made in 4, 5, 6, 8 and 10 furrow.



The Most Successful Line of
Plows on Earth.
Our Record
Proves it.

P. & O. Four-Furrow Mogul Power Lift Tractor Plow

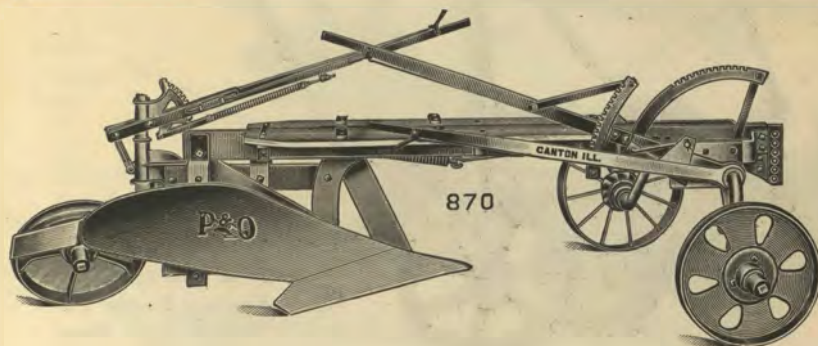
Plows, Harrows, Planters and Cultivators

P. & O. TRACTOR GRUB BREAKER

For use with traction engines only—A Great Big Plow for a Great Big Job.

For breaking up brush land, mesquite, or any other land that cannot be broken with an ordinary plow.

It has cut through roots up to 6 inches in diameter, and on one occasion plowed up a row of hedge—something that a cyclone won't do.



P. & O. Tractor Grub Breaker

Cuts a 24-inch furrow from 6 to 12 inches deep.

Weights 2,000 pounds. Bottom measures from tip of share to end of mold extension, six feet and two inches.

Operator handles lever from center of platform.

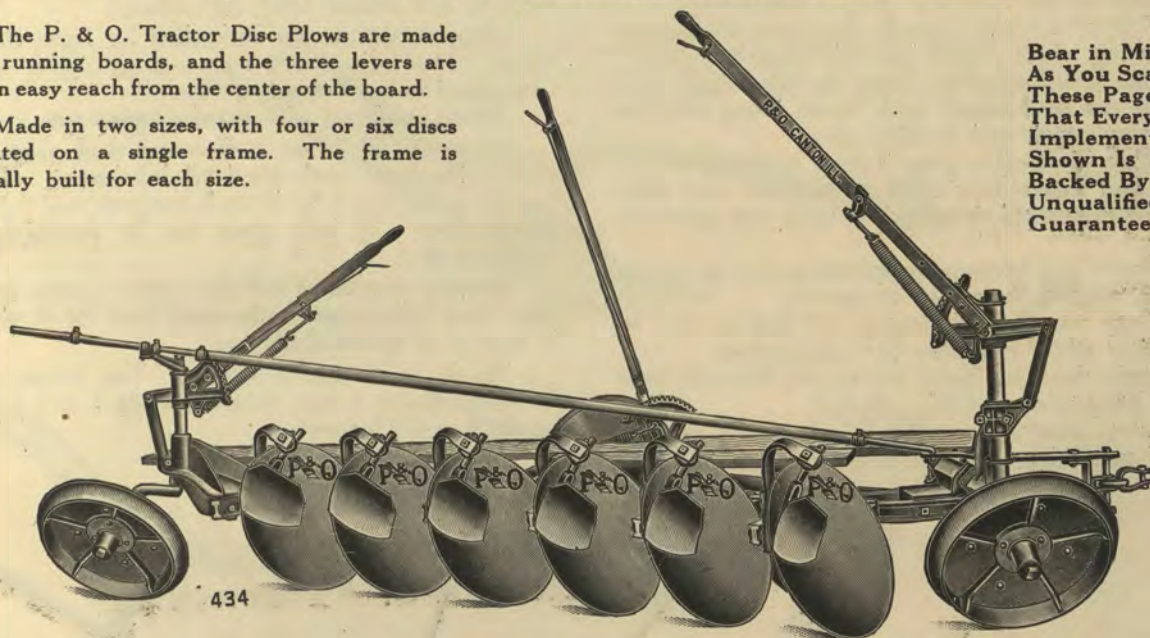
Can be furnished with solid or rod mold, and with Duck Bill or Quincy Cutter.

P. & O. No. 13 TRACTOR DISC GANG PLOWS

The P. & O. Tractor Disc Plows are made with running boards, and the three levers are within easy reach from the center of the board.

Made in two sizes, with four or six discs operated on a single frame. The frame is specially built for each size.

**Bear in Mind
As You Scan
These Pages
That Every
Implement
Shown Is
Backed By An
Unqualified
Guarantee.**



P. & O. Six-Furrow Disc Tractor Gang Plow

The six furrow cuts a strip of 60 inches. Extra holes are provided so that eight 24-inch discs can be used instead of six, making the furrows 7½-inches wide instead of 10.

Wheels are made of cast iron, 24-inches in diameter, with a 4-inch face, and with a flange on one side to prevent the plow from slipping.

Wheel bearings are long and equipped with dust-proof boxes.

The rear and furrow wheels are controlled from the hitch.

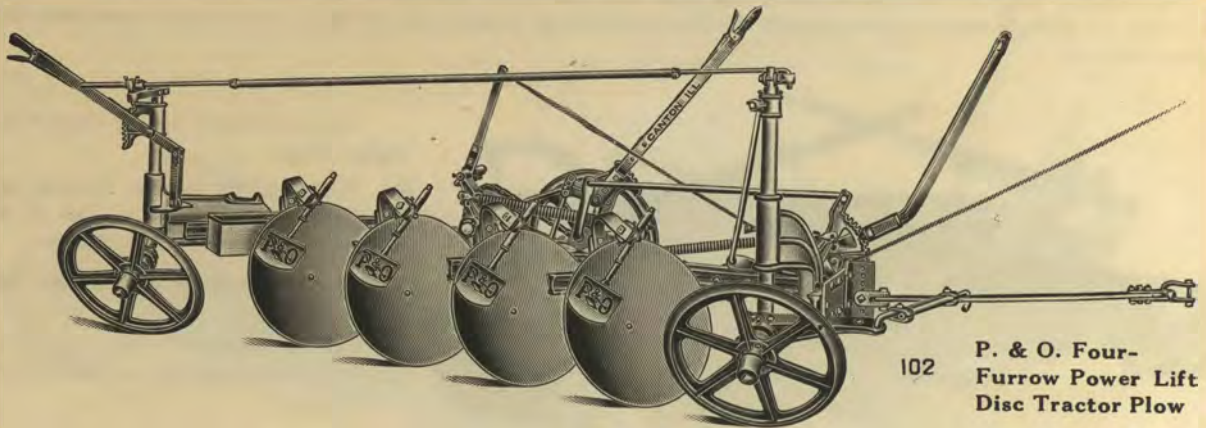
The discs can be given more or less suction by raising them up or down on the beams.

We can furnish Cables and Drawbar for pulling two or three gang outfits.

The clevis can be set up or down to suit height of tractor hitch.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. POWER LIFT TRACTOR DISC GANG PLOWS TWO, THREE AND FOUR FURROW



P. & O. Four-Furrow Power Lift Disc Tractor Plow

The P. & O. No. 1 Power Lift Disc Plow has the same dependable, positive power lift device as that used on the famous P. & O. Little Genius.

Tractor operator controls plow from his position at steering wheel. Only one trip rope required.

One lever operates front furrow wheel, and another the land wheel, both levers being used for regulating depth and leveling plow.

When discs are in ground front furrow lever sets ahead and within easy reach of operator, but when discs are raised, this lever swings back over plow out of way.

Levers and bottoms counterbalanced by heavy springs, making them easy to operate.

Lever provided for raising rear end of plow to give discs ample clearance for transporting.

Great clearance under beams and between discs insure good work in trashy ground.

Hitch construction holds wheels rigidly as plow moves on straight course but allows them to caster

naturally in turning to right or left. Rigidity of hitch permits plow to be backed. Wide range of vertical and lateral hitch adjustment.

Rear furrow wheel controlled by front furrow wheel. Has adjustment for securing proper set of rear wheel in hard or soft ground.

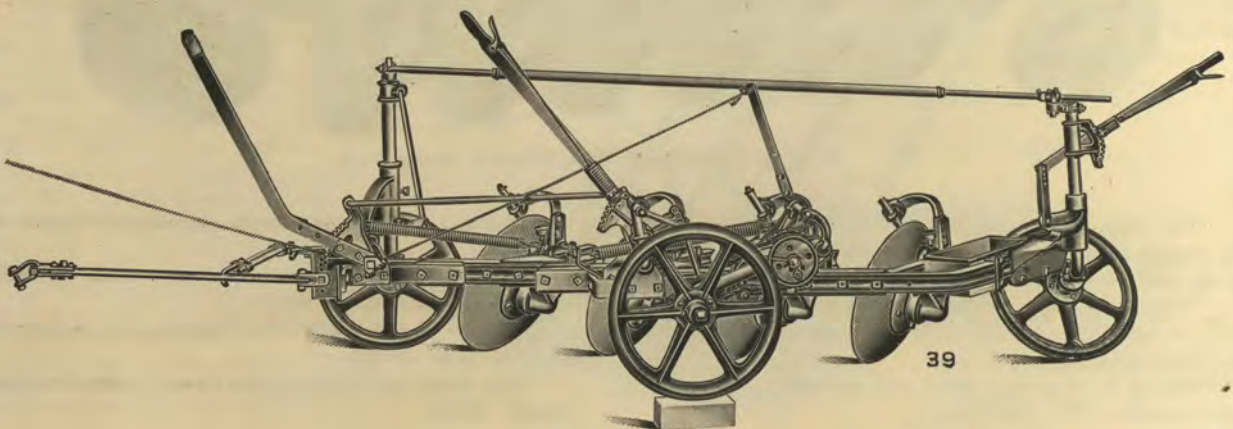
Hitch equipped with wooden break pin.

Discs are 24 inches in diameter, and revolve on chilled bearings, with hard oil lubrication. Discs can be set to cut 8 to 10 inch furrows, and 6 to 10 inches deep. 26 inch discs can be furnished on special orders.

Scraper arms have ball and socket joints, giving very close adjustment. Scrapers may be as shown in cuts or of moldboard type.

Made in 3 and 4 furrow. The frame construction makes it easy to convert the 3 to a 2 or 4, or the 4 to a 3 furrow.

Will plow 10 inches deep.

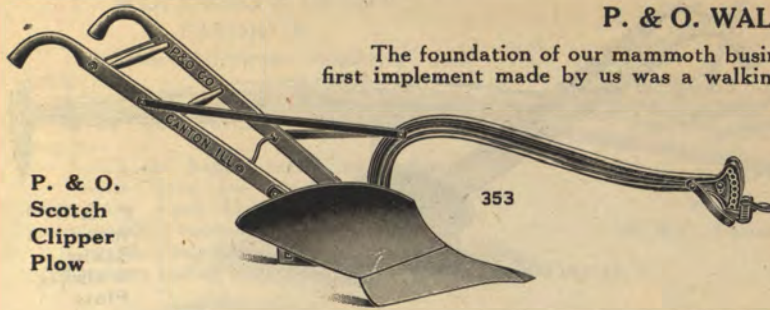


P. & O. Plows, Harrows, Planters and Cultivators

P. & O. WALKING PLOWS

The foundation of our mammoth business rests upon the P. & O. Walking Plow. The first implement made by us was a walking plow. That we made good walking plows is evidenced by our present high standing in the farm implement world, our immense plant being the largest and oldest permanently established plow factory on earth. With the walking plow as a basis, the P. & O. line now embraces not only the many varieties of tillage implements illustrated and described in this catalog, but many others used in the Southern States and in foreign countries, making altogether the largest and most complete

P. & O.
Scotch
Clipper
Plow



line of implements manufactured in any one factory in the United States.

Our standard high-grade walking plows are made with soft-center steel molds and shares, and with double shins, the latter being a re-inforcement on the shin of the plow, giving it twice the wearing surface over single shin plows. These



P. & O. Hillside Plow



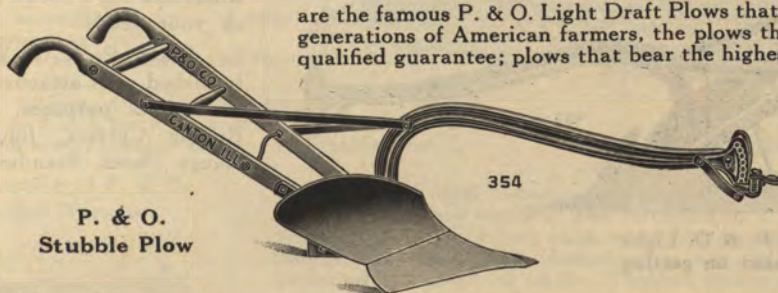
P. & O. Combination Plow,
Wood Beam



P. & O. Timber Plow

In the construction of P. & O. Light Draft Walking Plows no detail is too slight to receive our undivided attention. The proper shape of the share, the mold, the landside, the bracing together of these parts to form a perfect bottom; the right curve of the handles, the

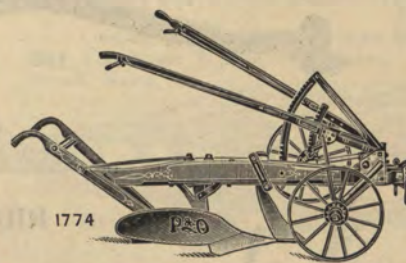
are the famous P. & O. Light Draft Plows that have been used by three generations of American farmers, the plows that are backed by an unqualified guarantee; plows that bear the highest stamp of skilled workmanship, the best material, and which we are proud to send out to the world bearing the trademark "P. & O."



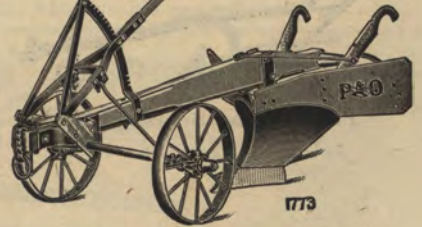
P. & O.
Stubble Plow



P. & O. New Ground Plow



P. & O. Brush Breaker, with Truck



P. & O. Ditching Plow with Wings

bend in the throat of the beams, the landing of the beams for the number of animals necessary to pull it; the bracing of the handles, the hitch and clevis and its adjustments—these and all other details have been scientifically worked out, and the result is a line of plows that is giving satisfaction today in the same measure as they have been during all the years of the existence of the P. & O. factory.

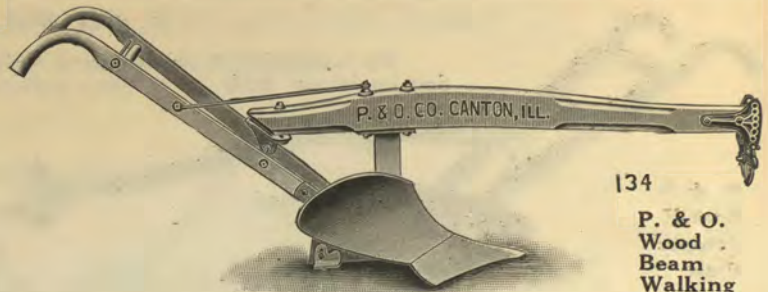


P. & O. Wood Beam Prairie Breaker

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. WALKING PLOWS

In addition to the regular line of Walking Plows made for ordinary field work, we also make a full line of plows for special purposes. There is no section subject to cultivation but that a P. & O. plow is made for the purpose; whether for road work, grading, plowing in timber land, irrigation ditches, in orchards, vineyards, in the brush, on the virgin prairies, on hillsides, in alfalfa roots—for any conditions of which you can think, we can supply the proper plow.



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P. & O.
Wood
Beam
Walking
Plow



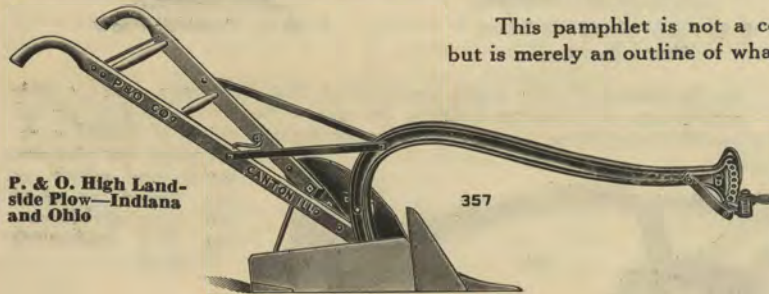
P. & O. Wood Standard Plow



P. & O. Grading Plow



P. & O. Root Ground Plow

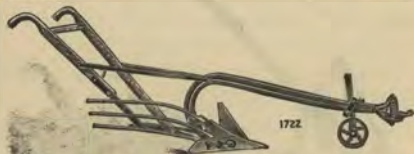


P. & O. High Land-side Plow—Indiana and Ohio

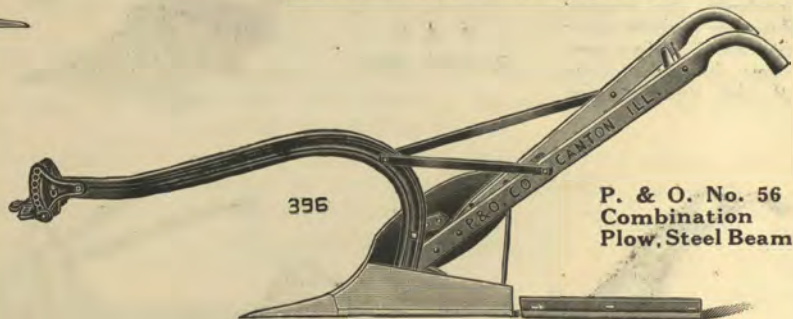
This pamphlet is not a complete catalog of P. & O. Light Draft Plows, but is merely an outline of what we can furnish. If you need a plow for special work, ask the P. & O. dealer or write and tell us your needs.

Many P. & O. Walking Plows can be furnished with attachments which are needed for special purposes, such as Fin Cutters, Rolling Cutters, Jointers, Gauge Wheels, Gauge Shoes, Standing Cutters, etc.

Ask your dealer for P. & O. Light Draft Plows and then insist on getting them.



P. & O. Rod Breaker Plow

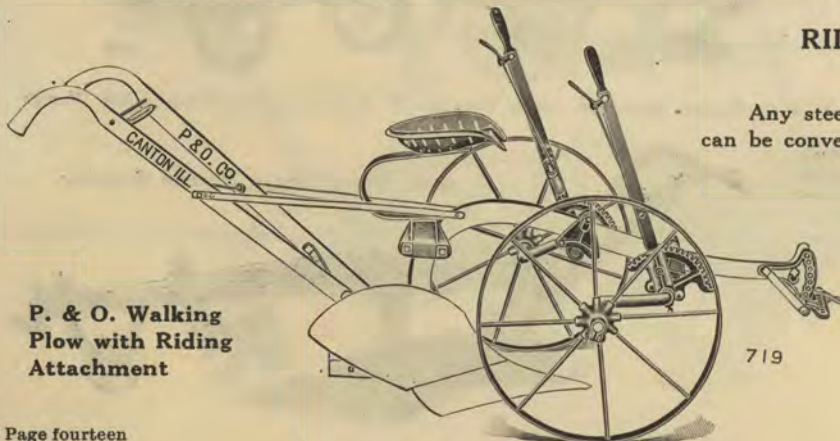


P. & O. No. 56
Combination
Plow, Steel Beam

RIDING ATTACHMENT FOR WALKING PLOWS

Any steel beam walking plow or middle breaker can be converted into a satisfactory two-wheel sulky with this attachment. It can be put on without drilling any holes. Each wheel has an independent lever within convenient reach of the driver. The depth of the furrow can be regulated by these levers.

The attachment includes wheels, axles, levers, seat and seat spring, and all necessary connections.



P. & O. Walking
Plow with Riding
Attachment

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. DRAG HARROWS FAVORITE

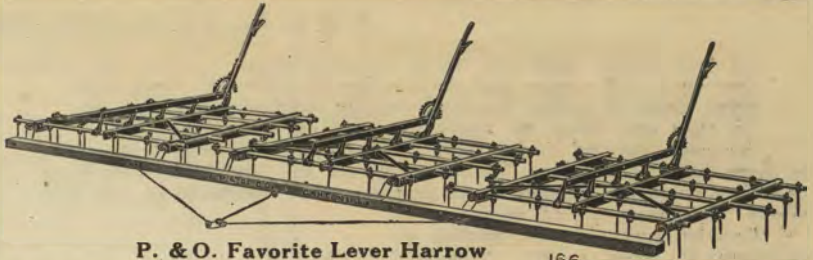
Combines lightness, simplicity and strength.

Made in 25, 30 and 35 tooth sections. Draw Bars furnished for 2, 3 or 4 sections.

$\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch teeth, as ordered. Tooth Bars are steel pipe. Cross beams are steel U-bars. Each section has additional center beam.

Lever adjusts tooth bars to any angle.

Cushion spring on lever protects teeth against injury.



P. & O. Favorite Lever Harrow

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514

P. & O. Flexible Round Bar Harrow

GUARD END

General construction same as U-bar. Built with end guards to prevent ends of tooth bars from injuring trees or shrubs. An ideal harrow for orchard and vineyard use.

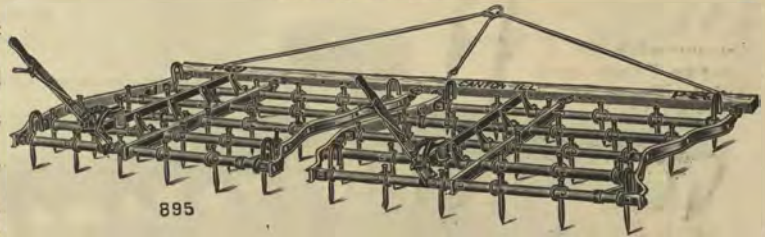
Corner teeth are extended in form of runners for use in transporting harrow.

Made in 25, 30 or 35 tooth sections, and furnished in 2, 3 or 4 sections.

Works from 8 to 24 feet, according to size.

Equipped with $\frac{1}{2}$ or $\frac{3}{4}$ -inch teeth, as ordered.

Cushion springs on levers prevent bending or breaking teeth.



895

P. & O. 60-Tooth Guard Harrow

One Section of P. & O. U-Bar Harrow



1704

Each section has 20 teeth.

Furnished in 2, 3, 4, 5 or 6 section harrows. Stay chains between the sections keep them from spreading.

Tooth bars of steel U-bars—very strong.

25, 30 or 35-tooth sections, and furnished in 2, 3 or 4 sections.

Works from 8 to 24 foot strip, according to size.

Simple and rigid tooth clamps—only one bolt.

Lever adjusts angle of teeth. Cushion spring on lever prevents damage to teeth.

Corner teeth have runner extensions.

CLIMAX

One of the simplest harrows built, but durable and efficient.

Teeth are 9-16-inches square, 7 inches long, and are securely fastened to tooth bars.



1022

P. & O. Climax Harrow

P. & O. HARROW CART

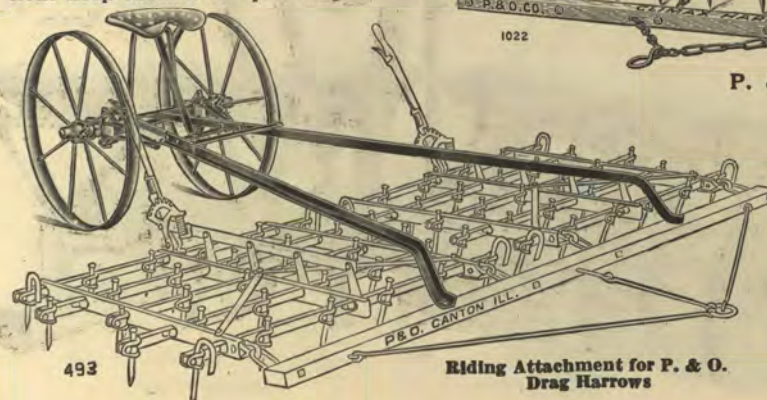
A light, easy riding cart that can be used with any drag harrow.

It is well balanced and does not throw any extra weight downward on draw bar. Being light, and equipped with concave tired wheels, the additional draft is not to be considered against the added comfort which it gives the operator.

Wheels swivel on axles and follow the harrow in turning.

No man who has tramped over plowed ground all day behind a drag harrow would do it again after using a P. & O. Harrow Cart.

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Riding Attachment for P. & O. Drag Harrows

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 2 STAR DISC HARROWS

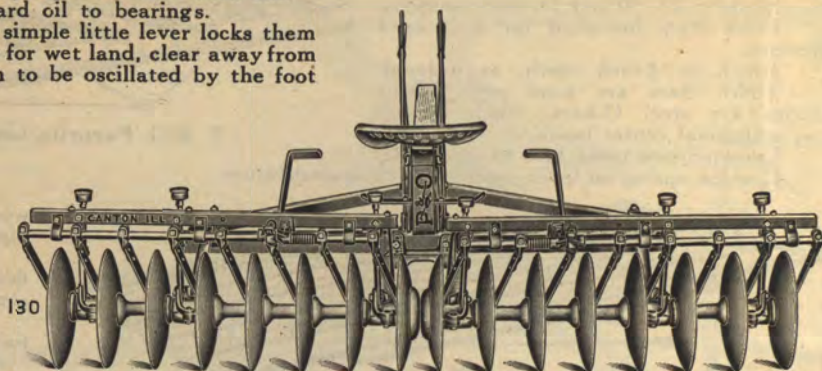
All steel riveted angle iron frame, affording great clearance and strength. Braced to tongue in three places.
Low hitch with tongue and clevis in line of draft. No neck draft.
Hard maple oil soaked bearings, cheaply replaced when worn out.
Oil cups and tubes for conveying hard oil to bearings.

Scrapers operated by foot levers. A simple little lever locks them in three different positions. At outer edge for wet land, clear away from the discs when not needed, or in position to be oscillated by the foot levers. Scrapers are of spring steel.

Can be equipped with seeding attachment for small grains. Broadcast or drill.

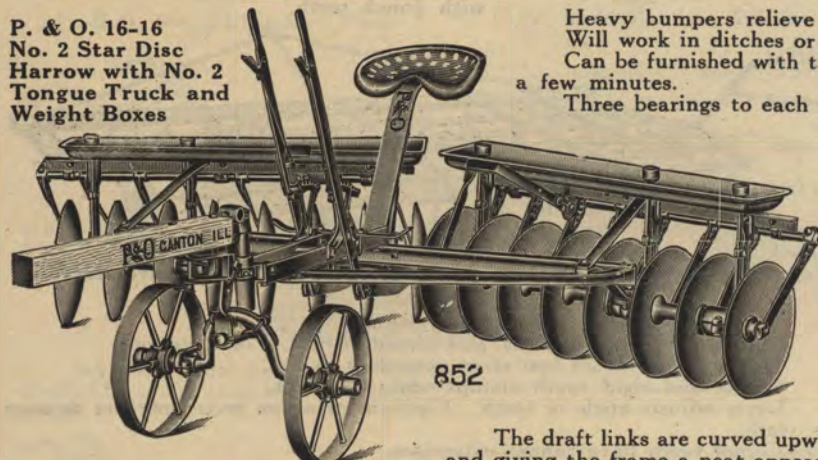
Each gang operated by its own lever, and can be set at any desired angle.

P. & O. No. 2 Star Disc Harrows are made in 4, 5, 6, 7, 8, 9 and 10-foot sizes, with 16, 18 or 20-inch discs, with or without tongue truck. A tandem attachment can be furnished to convert it into a splendid double disc harrow. We can also furnish cut-out discs if wanted.



P. & O. No. 2 Star Disc Harrow.

P. & O. 16-16
No. 2 Star Disc
Harrow with No. 2
Tongue Truck and
Weight Boxes



Heavy bumpers relieve the bearings of end pressure.
Will work in ditches or on banks.
Can be furnished with tandem attachment, which can be put on in a few minutes.
Three bearings to each gang.

Can be furnished with third lever attachment which gives more penetrating power and a wide range of adjustments of depth to inside ends of gangs.

Highest quality steel discs carefully sharpened and polished.

High tongue truck wheels, fitted with dust-proof boxes with screw caps for using hard oil.

The tandem attachment which can be furnished is flexible. The knuckle adjustments on the arch pivot make the rear gangs a perfect leveler.

The draft links are curved upward, raising the frame high from the ground and giving the machine a neat appearance and great clearance in trashy ground.

Large spools give great support to discs and add to the durability of the harrow. The curved pull irons hold the harrow level at all angles.

Steel frame standards placed edgewise to give greatest possible clearance between discs at bearings.

Tongue truck has arched axle, giving ample clearance in trash. It is adjustable for all sizes of discs and the pole can be set for two, three or four horses or taken off if desired.

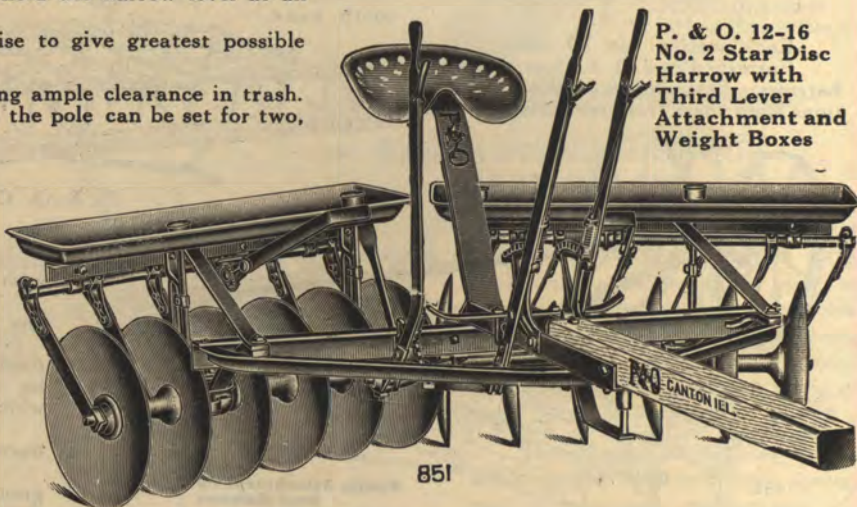
Tongue truck is flexible, allowing wheels to conform to surface of ground. Tongue truck has wide range of up and down adjustment.

Weight boxes are furnished as extras when so ordered.

Seat spring re-inforced with extra leaf, giving great strength and flexibility.

Curved pull irons connected to levers with pin and key instead of bolt.

Third lever attachment insures thorough work over dead and back furrows.



P. & O. 12-16
No. 2 Star Disc
Harrow with
Third Lever
Attachment and
Weight Boxes

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. TANDEM ATTACHMENTS FOR P. & O. STAR DISC HARROWS

Any P. & O. Star Disc Harrow can be converted into a perfect tandem disc harrow with one of these attachments. Tandem disc harrows have become quite popular with the farmer because they mean economy of time and labor.

The construction of the gangs is the same as that of our regular No. 2 Star Disc Harrows—square gang bolts—heavy spools with wide bell flanges giving great support to centers of discs, making them very rigid. An adjustable steel loop provides for adjusting inner ends of gangs for depth.

The scrapers are the same as on our No. 2 Star Harrow.

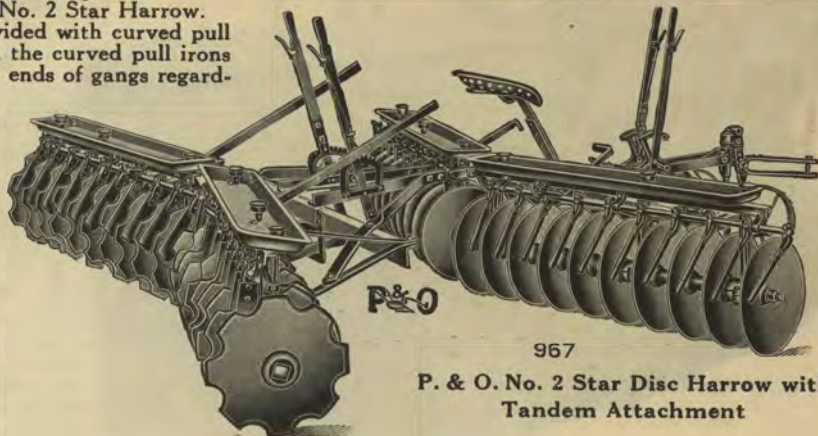
Levers for angling the gangs are provided with curved pull irons, and give wide range of adjustment, the curved pull irons maintaining the proper depth of the inner ends of gangs regardless of angle.

The P. & O. Tandem Attachment attaches directly to the pole of the front harrow and throws no extra strain on the front frame.

The frame is made of all straight parts, and will not straighten out when subjected to strain. The frame is made of steel and riveted together.

Bearings are equipped with hard maple, oil soaked bushings, encased in dust proof housings, and supplied with hard oil by compression grease cups.

Made in 4, 5, 6, 7 and 8 foot sizes, with 16, 18 or 20 inch discs, solid or cutout.



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P. & O. No. 2 Star Disc Harrow with Tandem Attachment

P. & O. No. 13 TRACTOR TANDEM DISC HARROWS

The P. & O. No. 13 Tractor Tandem Disc Harrow is built for service behind tractors, being sufficiently heavier than our horse harrows to stand the slight additional wear and tear of such service, but not so heavy as to occasion unnecessary draft on the tractor.

Each harrow is built on its own frame, giving great flexibility, and allowing rear harrow to be detached when it is desired to single disc. Frames made entirely of steel, the parts of each frame being securely riveted.

The draft of the rear section is directly on the pole, and throws no extra strain on the front frame. The hitch and frame of the rear section are made up of all straight parts, there being no parts to straighten out and give trouble when subjected to strain.

Bearings on both front and rear gangs are provided with hard maple oil soaked bushings, and are supplied with hard oil from easily accessible grease cups. Each gang has three bearings.

Hitch is directly to the steel stub tongue. It is provided with an ample range of up and down adjustment, and permits hitching to any tractor. The No. 13 Tractor Harrow does not require a tongue truck.

Gang bolts are square and discs cannot slip. Spools have broad bearing on discs, supporting them against strain.

A Lock Device on the Gang bolt nuts prevent them from working loose.

To protect it against heavier strain of tractor service, the No. 13 Harrow is equipped with large gang bolts and spools. On the front harrow adjustable gauge stops permit setting inner ends of discs up or down for leveling gangs or we can furnish our regular third lever attachment for the front harrow. On the rear harrow an adjustable steel loop provides an easy means of securing this adjustment. Each gang is angled independently by its own lever. The curved pull irons

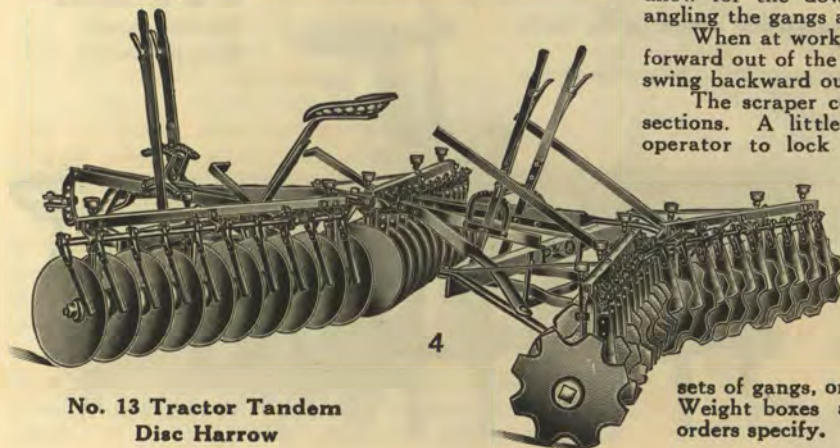
allow for the downward swing of the levers, so that in angling the gangs a uniform depth is maintained.

When at work the levers on the front harrow are swung forward out of the driver's way and on the rear section they swing backward out of the way.

The scraper control is the same on the front and rear sections. A little lever on each scraper bar enables the operator to lock the scrapers against the discs, or away from them, or to leave them free to be operated by scraper levers. Foot levers operate the scrapers on the front harrow, while the levers for the rear section have extensions which enable the operator to reach them from the seat.

Made in 7, 8, 9 or 10 foot, with 16, 18 or 20 inch discs, solid discs on front, and cutout discs on rear gangs. Or we can furnish solid discs on both.

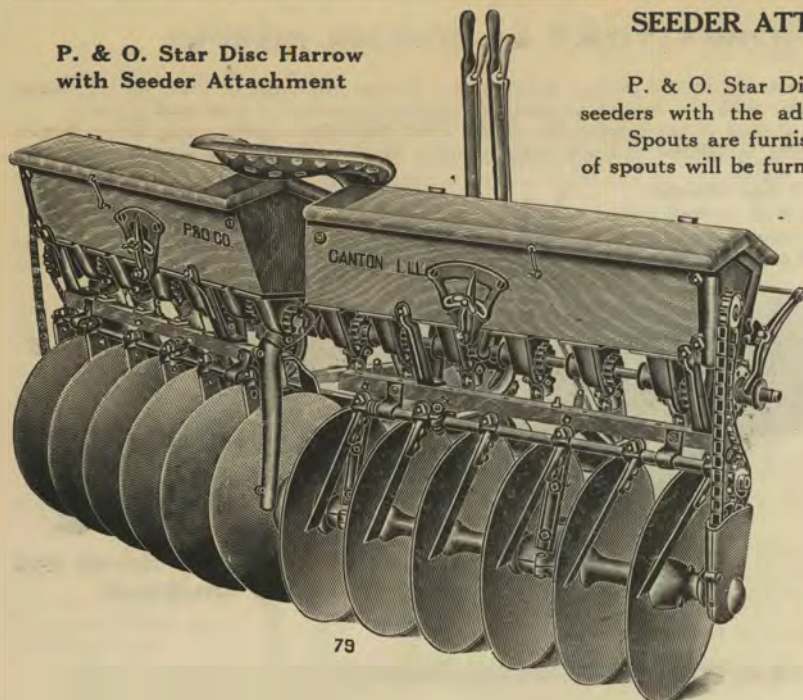
sets of gangs, or cutout discs on both if orders so specify. Weight boxes are furnished as extras, and only when orders specify.



4
No. 13 Tractor Tandem Disc Harrow

P. & O. Plows, Harrows, Planters and Cultivators

**P. & O. Star Disc Harrow
with Seeder Attachment**



SEEDER ATTACHMENT FOR P. & O. STAR DISC HARROWS

P. & O. Star Disc Harrows can be converted into first class seeders with the addition of these attachments.

Spouts are furnished for broadcasting or drilling, or both sets of spouts will be furnished.

Made in two sections—one for each gang.

Each section driven separately, so that when discing the land twice only one section need be operated.

The feed may be adjusted to plant any quantity desired.

All cups adjusted at same time by changing the position of the indicator on the feed gauge.

Deeply and smoothly grooved feed rolls prevent cutting or crushing the seed.

Can be furnished for 6, 7 and 8 foot harrows. All parts furnished for attaching to any Star Disc Harrow of above sizes.

A P. & O. Harrow with seeder attachment means economy for the farmer. He has two tools in one and can harrow his ground thoroughly and plant at the same time.

The seeders do not interfere with the angling of the discs.

Agitators can be furnished if wanted.

P. & O. ALFALFA HARROWS

Here is a harrow built for, and especially adapted to, use in Alfalfa Ground.

Its use after cutting alfalfa keeps ground fresh and loose, and makes it possible to grow crops year after year without re-seeding.

Heavy steel frame, securely braced to tongue, strong and rigid.

Low frame and hitch eliminate neckweight.

Tooth plates made of malleable iron, one being recessed to receive the teeth, and the other, bolting up tightly, holds the teeth absolutely rigid.

The teeth are headed, the heads resting against flanges in the tooth plates, and cannot be pushed out of place.

Each disc has 18 teeth, beveled on one side only, the points of the teeth being about 3 inches apart.

Furnished for use with four horses, or for three horses, as ordered.

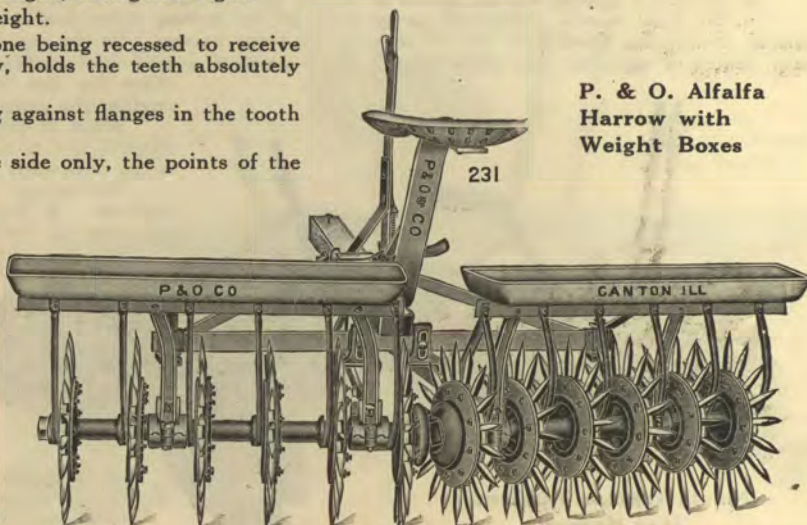
Made in 4, 5, 6, 7 and 8 ft. sizes.

Adjustable brackets on the frame hold the inner ends of the gangs to their proper depth.

Cleaners are always set and require no trip levers.

Bearings made of oil soaked hard maple bushings.

Pressed steel weight boxes can be furnished if wanted as extras.

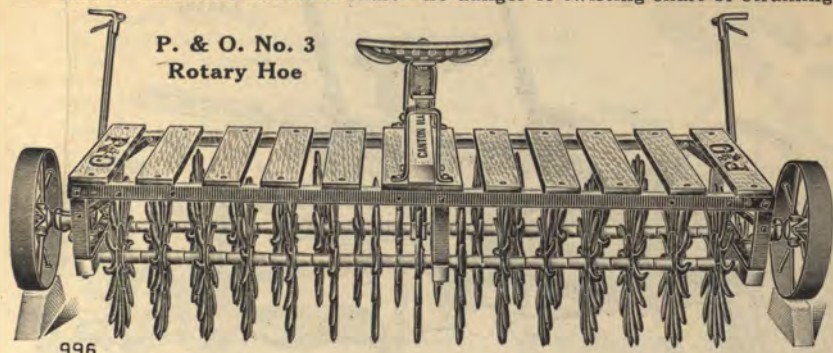


**P. & O. Alfalfa
Harrow with
Weight Boxes**

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. ROTARY HOE

As a crust breaker in young corn and wheat the P. & O. Rotary Hoe is invaluable. Digs into and breaks the crust without dragging great chunks of it over and cutting off the plants. Also a thorough cultivator—loosens the soil closer to the corn roots than any other type of implement. Hoe wheels work on round shaft—no danger of twisting shaft or straining hoe points when turning at ends of field.



Shaft bearings are equipped with oil-soaked hard maple bushings—very durable and almost frictionless.

Wheels set five inches apart on two shafts, having same effect as if they were set on one shaft and 2½-inches apart.

Hoe points so designed as to give most effective penetration of soil, but will not tear the plants.

Frame made of steel angles, rigidly braced at corners, and reinforced by a truss brace.

Solid inch boards bolted to the top of the frame form a platform over the wheels, protecting the operator and providing a place for additional weight when working in extremely heavy crust.

Equipped with extra long evener draw bar and neckyoke, which lets horses walk in alternate rows.

Tongue can be adjusted up or down to suit height of horses.

The carrying wheels raise the hoe wheels from ground when transporting the hoe from one place to another. They are attached to the outside bearing brackets, and are provided with levers for raising and lowering the hoe.

Carrying wheels give closer depth adjustment.

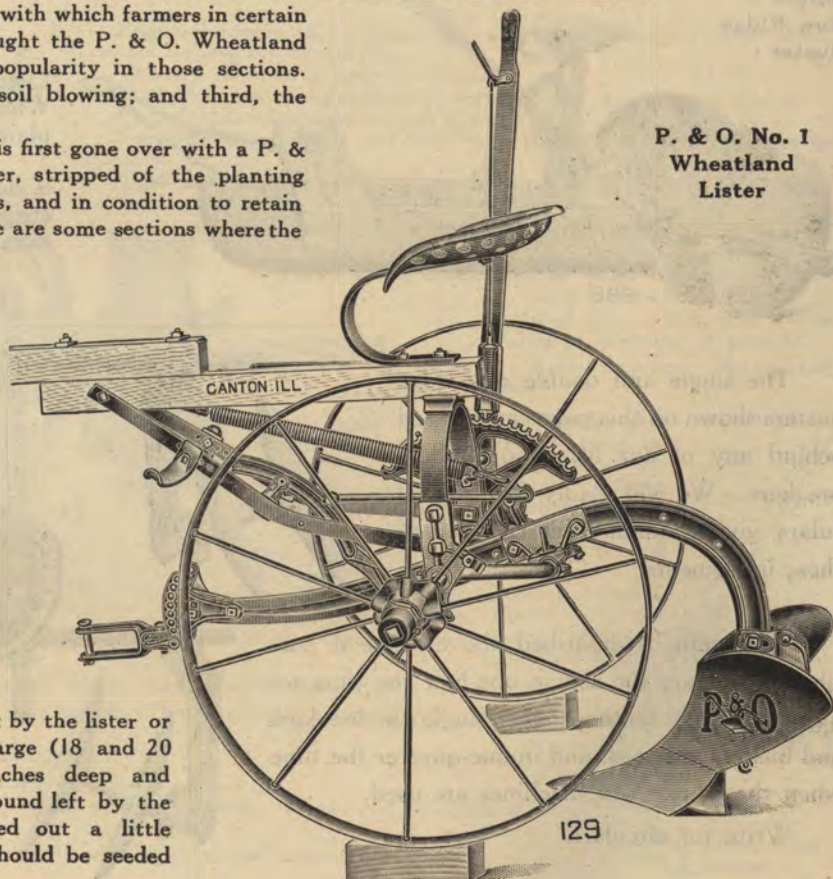
Made with 29 wheels, which work a strip 70 inches wide.

P. & O. WHEATLAND LISTERS AND P. & O. RIDGE BUSTERS

There are at least three propositions with which farmers in certain sections have to contend that have brought the P. & O. Wheatland Listers and Ridge Busters into great popularity in those sections. The first is lack of moisture; second, soil blowing; and third, the Hessian fly.

Whether for wheat or corn, the soil is first gone over with a P. & O. Wheatland Lister or any regular lister, stripped of the planting parts. This leaves the ground in ridges, and in condition to retain all moisture and prevent blowing. There are some sections where the soil blows so badly as to either blow the wheat out of the ground or cover it up with drifting sand or dirt. Again, in most western states there is generally a small amount of rainfall after harvest, just at the time for plowing or working the ground. The soil at that time is generally very hard, and instead of soaking into the ground a large part of the water runs off. Good farmers know that the sooner after harvest they prepare their ground, the more moisture they will be able to retain.

Four to six weeks after the ground has been listed it should be gone over with the P. & O. Ridge Buster. It will tear down the ridges left by the lister or middle breaker, and the discs being large (18 and 20 inches), it will cut from 6 to 9 inches deep and thoroughly plow up every inch of the ground left by the lister. This leaves the ground leveled out a little rough. If the soil is bad to blow it should be seeded

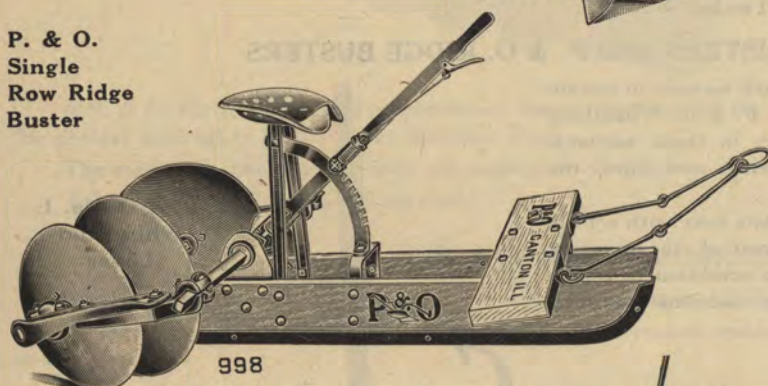


P. & O. Plows, Harrows, Planters and Cultivators

after working with the ridge buster, as it is then in condition to resist the wind. If it does not blow, a light drag harrow can be used after the ridge buster, and once going over will leave the ground nice and smooth.

It has been tried out and proven that by listing and ridge bursting it is possible to raise the yield from three to five bushels per acre over ground prepared in the ordinary way, and it has been almost free from the ravages of the Hessian fly.

**P. & O.
Single
Row Ridge
Buster**

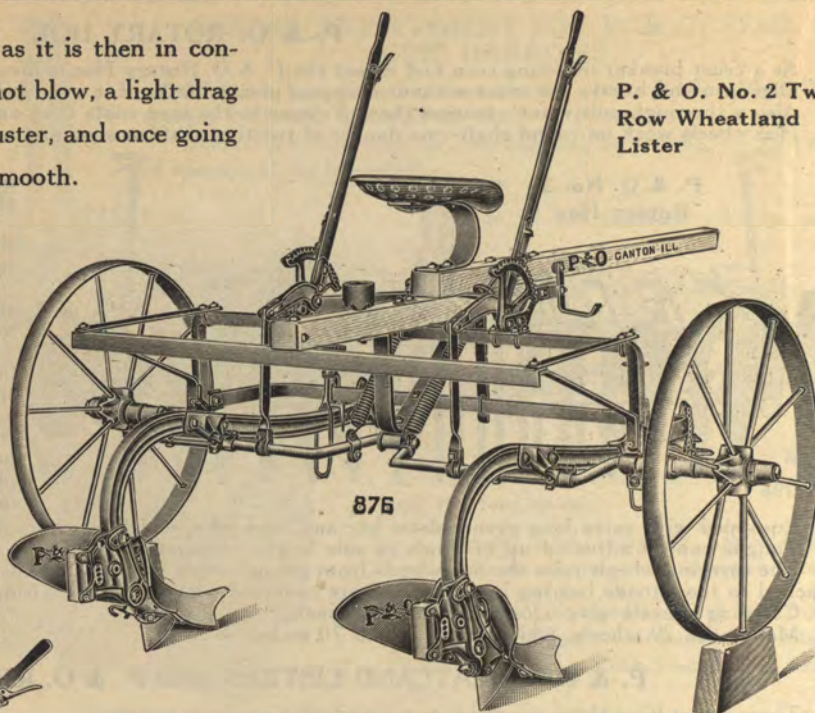


The single and double row ridge busters shown on this page can be used behind any of our listers or middle breakers. We will gladly furnish circulars giving detailed description of these implements.

The methods described above make it possible to prepare the soil in one-half the time required by other methods when single row breakers and busters are used, and in one-quarter the time when the double row machines are used.

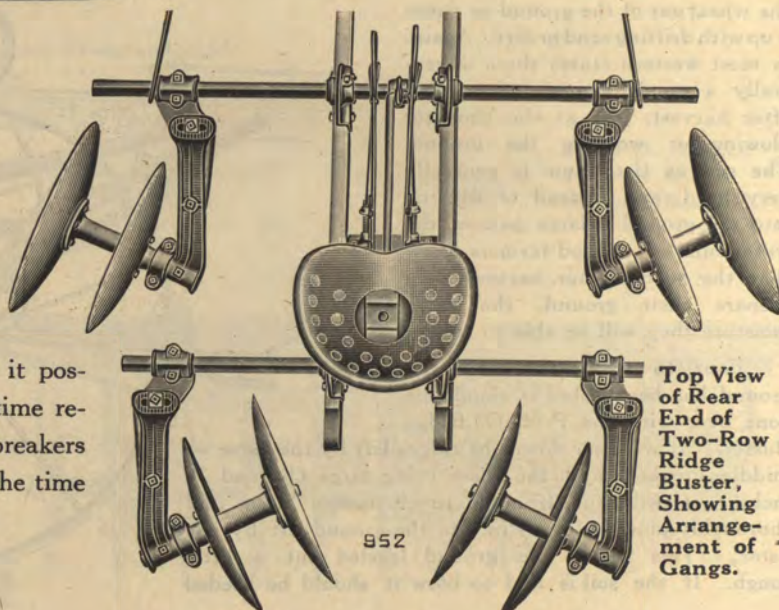
Write for circulars.

**P. & O. No. 2 Two
Row Wheatland
Lister**



The P. & O. No. 1 Wheatland Sulky Lister is similar to our No. 382 (Two Wheel Chain Drive) Lister stripped of planting parts.

The P. & O. No. 2 Wheatland Lister is similar to our regular Two-Row Listers stripped of planting parts, and is a strong durable and efficient machine.



**Top View
of Rear
End of
Two-Row
Ridge
Buster,
Showing
Arrange-
ment of
Gangs.**

P. & O. Plows, Harrows, Planters and Cultivators

Simple, durable and effective clutch. Only three parts in clutch. Clutch rollers and pins made of tool steel, case hardened.

Furnished with liberal supply of edge drop plates. Hoppers are of combination type and either edge or flat drop plates can be used. Special plates for handling different grains can be furnished.

Long axle bearings.

Can be instantly changed from hill drop to drill.

30 or 36 inch wheels, with flat open center or concave tires.

Sight feed, without glass.

Only one revolution of the feed shaft, whether dropping 2, 3 or 4 kernels to the hill.

Eccentric plate on top of corn plate carries corn to cut off and avoids congestion.

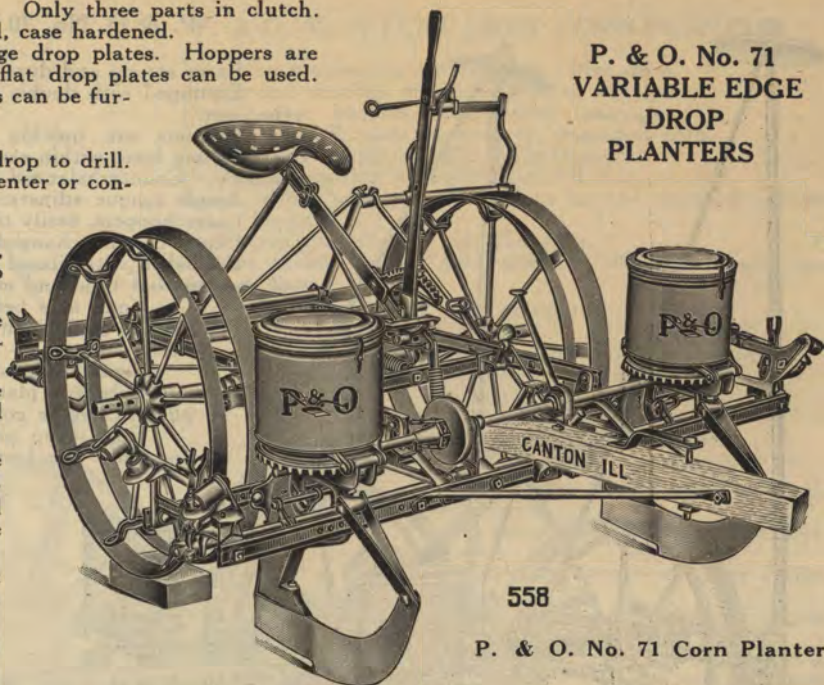
Edge drop plate runs in a groove which insures one and only one kernel to each cell.

Triple valves carry two hills in reserve all the time. Impossible to double the hill.

Lower valve compensates for speed of team, dropping all hills right distance apart.

Check heads set at such an angle that wire cannot bind when nearing end of row. Automatic wire release.

Can be furnished as Drill only if so wanted.



**P. & O. No. 71
VARIABLE EDGE
DROP
PLANTERS**

558

P. & O. No. 71 Corn Planter

Regular runners, stub runners or disc furrow openers can be furnished. Runners are quickly detachable.

Take-up device for wear on clutch.

Plunger forces seed out without scattering.

Foot drop for checking at ends of rows.

Fertilizer attachment, and Soy Bean and Pea attachments, can be furnished.

Cushion spring at rear of tongue keeps proper tension on front frame in uneven ground.

Every planter actually tested with seed in hoppers before leaving factory.

Extra strong frame tied at eight different points.

Seed mechanism thrown in or out of gear automatically with raising or lowering of planter.

Roller knocker. No cracked corn.

Variable drop. Can be changed instantly without stopping the team to plant 2, 3 or 4 kernels to the hill.

Fewer parts used for our variable drop feature than on any other planter.

Variable drop lever easily operated from seat. Driver operates it with his foot.

Note that no extra clutch is used in connection with the

variable drop feature. Variation is secured by shifting the drive shaft, engaging the pinion with different sets of teeth on the gear plate.

Equipped with double disc markers, which can be changed from the seat.

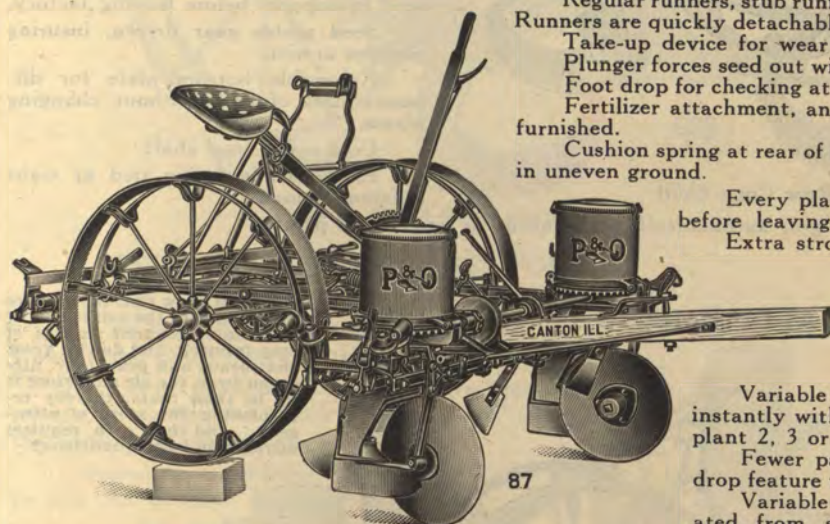
Tilting lever within easy reach, and can be left "floating" or stationary. Counter-balanced by strong spring.

Ample tongue adjustment for any sized team.

Reel can be used on either side of planter.

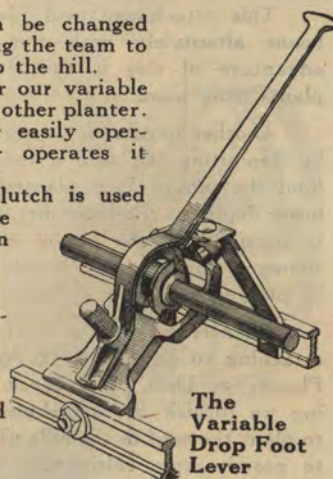
Large hoppers, easily tilted to change plates or remove corn. Plates can be changed without emptying hopper.

Gauge shoes, to be attached to the runners, can be furnished as extras.



P. & O. No. 71 Disc Corn Planter

87



**The
Variable
Drop Foot
Lever**

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 70 TWO-ROW CORN DRILL

Extra strong and durable without extra weight.
Equipped with double disc markers, which can be changed from the seat.

Runners are quickly detachable.

Tilting lever within easy reach and can be left "floating" or stationary. Counterbalanced by strong spring.

Ample tongue adjustment for any sized team.

Large hoppers, easily tilted to change plates or remove corn.

Plates can be changed without emptying hopper.

Furnished with liberal supply of edge drop plates. Hoppers are of combination type and either edge or flat drop plates can be used.

Long axle bearings.

30 or 36 inch wheels, with flat open center or concave tires.

Sight feed, without glass.

Eccentric plate on top of corn plate carries corn to cut off and avoids congestion.

Edge drop plate runs in a groove which insures one and only one kernel to each cell.

Regular runners, stub runners or disc furrow openers can be furnished.

Special plates for handling different grains can be furnished.

Fertilizer attachment and soy bean and pea attachments can be furnished.

Cushion spring at rear of tongue keeps proper tension on front frame in uneven ground.

Every drill actually tested with seed in hoppers before leaving factory.

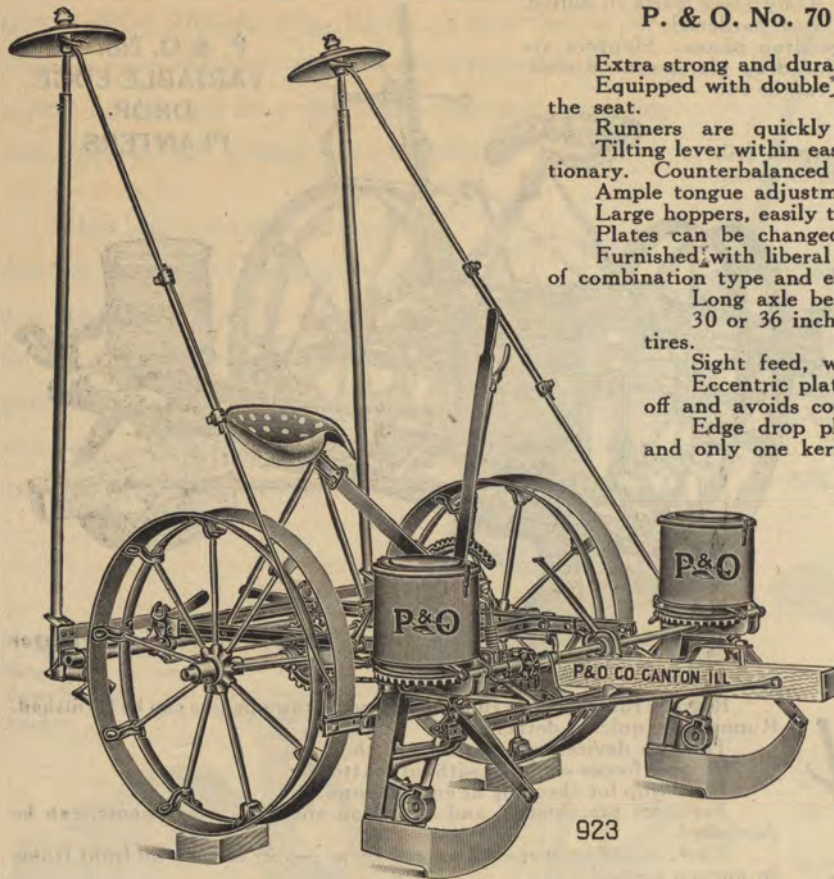
Seed plates gear driven, insuring positive action.

Reversible bottom plate for different sizes of corn without changing plates.

Cold rolled steel shaft.

Extra strong frame tied at eight different points.

Seed mechanism thrown into or out of gear automatically with raising or lowering of planter.



923

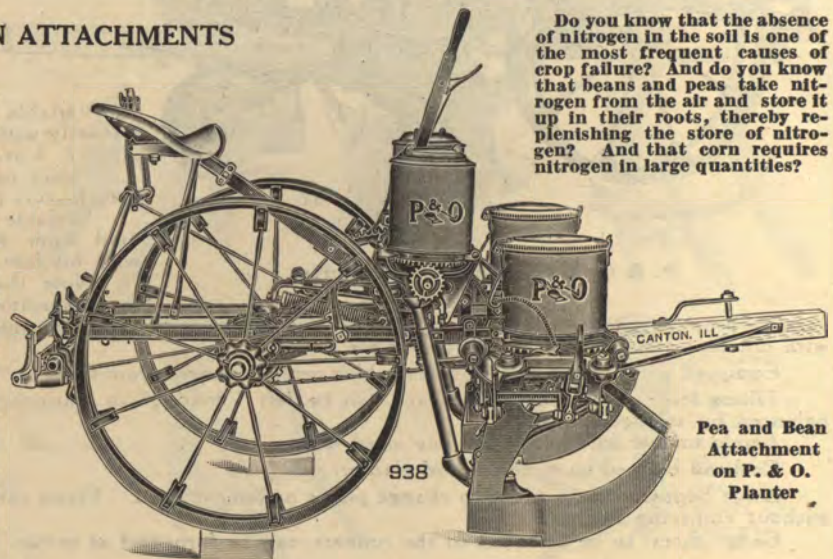
P. & O. No. 70 Two-Row Corn Drill

P. & O. PEA AND BEAN ATTACHMENTS

This attachment will plant peas or beans alternately with the corn. One advantage of this is that it gives the plants more room.

Another important advantage is that by depositing the seed a few inches behind the runner, it is planted at a shallower depth, as the loose dirt has a chance to partially fill the furrow made by the runner. And peas or beans should not be planted as deeply as corn.

All necessary parts are furnished for attaching to any P. & O. No. 70 or 71 Planter or Drill. For check row planting we furnish the attachment equipped to plant the seed in the hills with the corn, to permit cross cultivation.

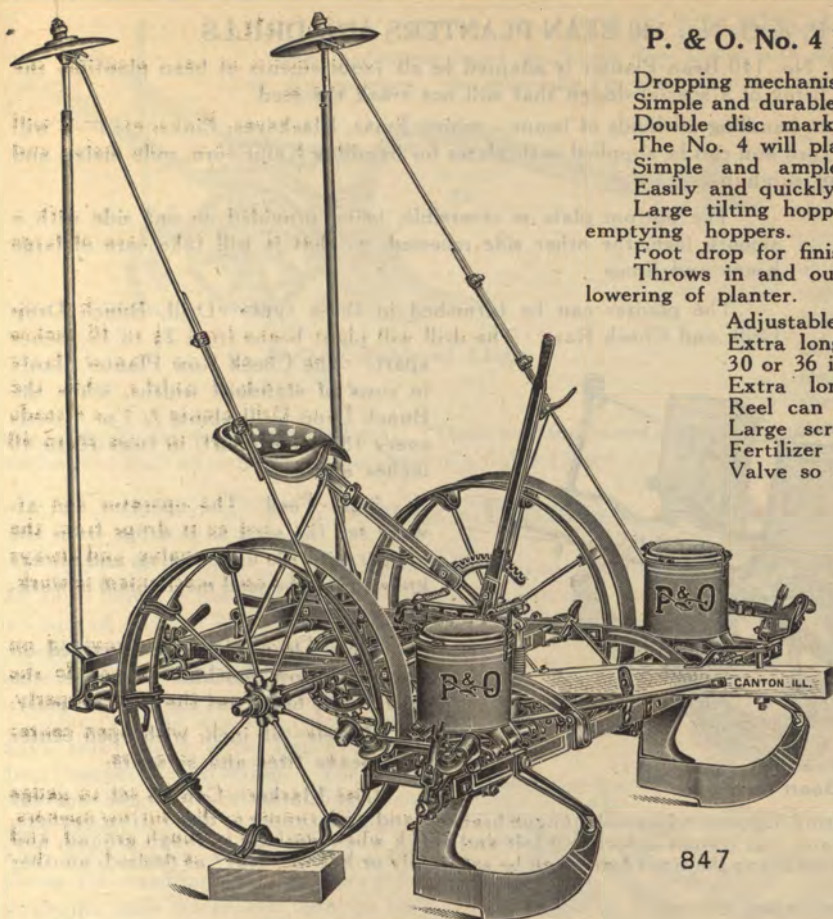


938

Pea and Bean Attachment on P. & O. Planter

Do you know that the absence of nitrogen in the soil is one of the most frequent causes of crop failure? And do you know that beans and peas take nitrogen from the air and store it up in their roots, thereby replenishing the store of nitrogen? And that corn requires nitrogen in large quantities?

P. & O. Plows, Harrows, Planters and Cultivators



P. & O. No. 4 FLAT DROP CORN PLANTER

Dropping mechanism wire driven. Flat drop.
Simple and durable, with few parts to wear out.
Double disc markers with chilled bearings.
The No. 4 will plant, accurately, ungraded corn.
Simple and ample tongue adjustment.
Easily and quickly changed from hill drop to drill.
Large tilting hoppers. Seed plate can be changed without emptying hoppers.
Foot drop for finishing out the rows.
Throws in and out of gear automatically with raising and lowering of planter.

Adjustable to any standard width.
Extra long axle bearings.
30 or 36 inch flat open center or concave tires.
Extra long runners—well braced.
Reel can be used on either side.
Large scrapers controlled by foot levers.
Fertilizer Attachment can be furnished.
Valve so made that corn will not scatter.

Adjustable fork, with malleable check heads.

Runner shank has two intermediate valves.

Regular runners or discs furrow openers.

The No. 4 is the simplest successful two-row planter built.

Raising lever assisted by lift spring.

Valves have a plunging movement which assists in discharging the seed quickly and compactly.

Front frame can be left "floating" or held rigidly as desired.

Liberal supply of seed plates for changing quantity of seed planted and for different sizes of corn.

Impossible to put seed plates in wrong.

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P. & O. No. 4 Corn Planter

FERTILIZER ATTACHMENTS FOR P. & O. PLANTERS

We can furnish this attachment for any of the P. & O. Planters and Drills shown in this catalog.

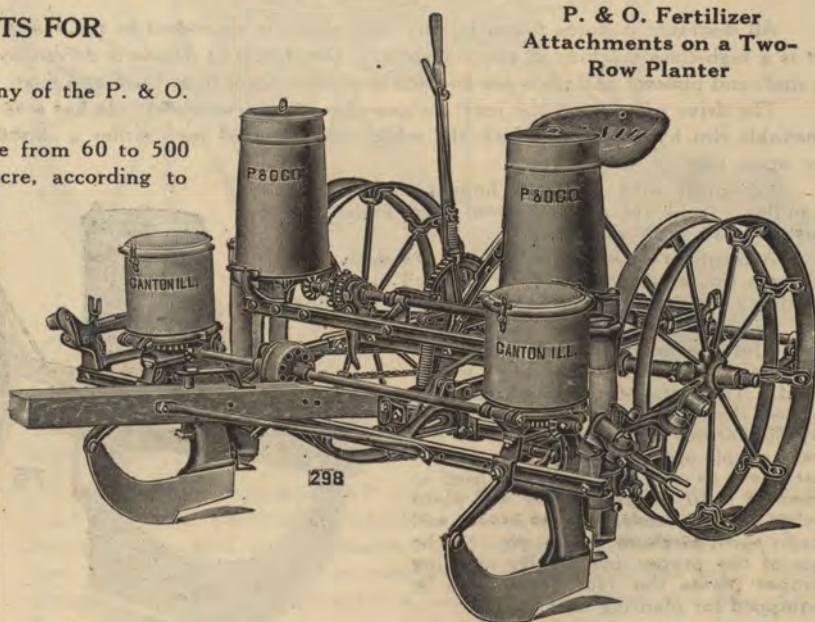
The cut-off is adjustable to distribute from 60 to 500 pounds of commercial fertilizer to the acre, according to the nature of the fertilizer used.

Unless otherwise ordered, it is equipped to drill the fertilizer continuously in the rows, as it has been our experience that this method secures a better distribution of the corn roots, and does not interfere with the germination of the seed.

Hoppers are very large, and tapered toward the top, which allows the contents to work down without clogging.

Throws into and out of gear automatically with lowering and raising of planter. Can also be thrown out with the foot in case there are parts of the field which do not need fertilizer.

P. & O. Fertilizer Attachments on a Two-Row Planter



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P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 140 BEAN PLANTERS AND DRILLS

The P. & O. No. 140 Bean Planter is adapted to all requirements of bean planting, the seed mechanism being of a special design that will not crack the seed.

In addition to handling all kinds of beans,—white, limas, Blackeyes, Pinks, etc.,—it will handle ordinary corn and can be supplied with plates for handling Kaffir corn, milo maize, and the various grain sorghums.

The bottom plate is reversible, being provided on one side with a smooth face, the other side recessed, so that it will take care of large beans and limas.

The planter can be furnished in three types—Drill, Bunch Drop Drill, and Check Row. The drill will plant beans from $2\frac{1}{2}$ to 19 inches apart. The Check Row Planter plants in rows of standard widths, while the Bunch Drop Drill plants 2, 3 or 4 seeds every 18 inches apart, in rows 28 to 40 inches apart.

Sight Feed—The operator can always see the seed as it drops from the hopper onto the upper valve, and always knows that the seed mechanism is working perfectly.

Foot Drop—This is provided on the check row machine to enable the operator to finish out the ends properly.

Wheels—30 inch, with open center or concave tires and scrapers.

Disc Marker—Can be set to gauge

different widths of rows. Equipped with tilting hoppers, adjustable tongue bracket, and with runner or disc furrow openers.

A spring connection between the front and rear frames absorbs all jolt and shock when working in rough ground, and insures even depth of planting. The lever for raising the front frame can be set rigidly or left to "float" as desired, another desirable feature in rough ground.

A fertilizer Attachment can be furnished when wanted.

P. & O. No. 8 CORN DRILLS

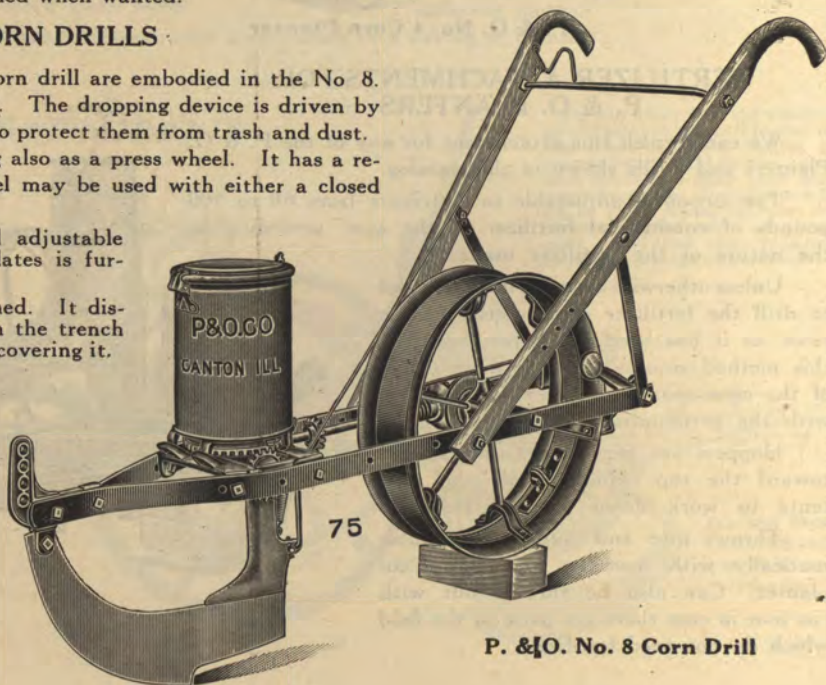
All desirable features found on any corn drill are embodied in the No. 8. It is a high-class machine in every respect. The dropping device is driven by a shaft and pinion. All gears are encased to protect them from trash and dust.

The drive wheel is in the rear, serving also as a press wheel. It has a removable rim by means of which the wheel may be used with either a closed or open tire.

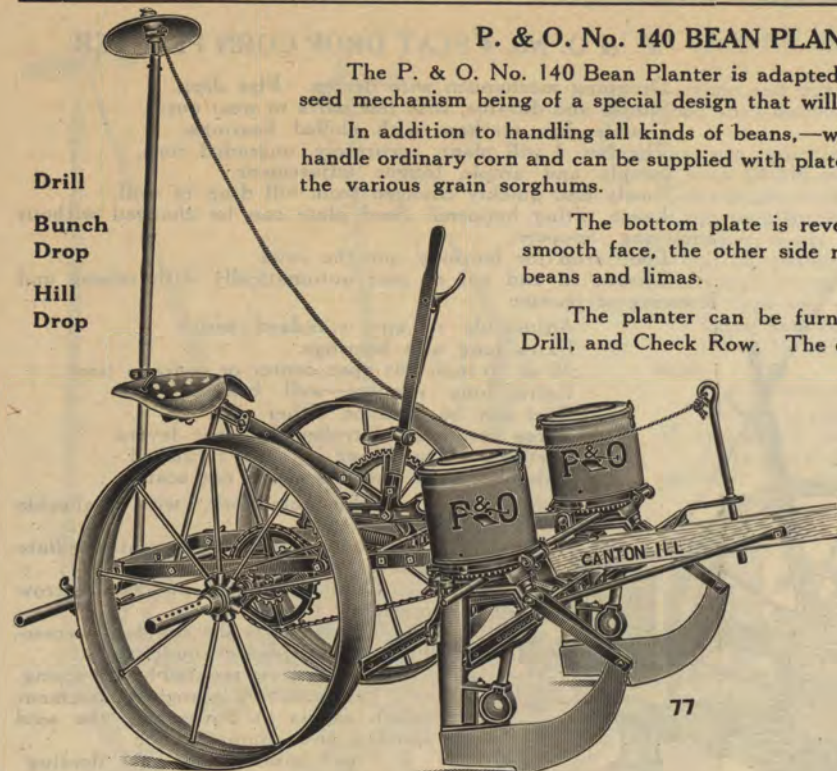
Equipped with a tilting hopper and adjustable handles. A liberal assortment of seed plates is furnished with each machine.

A fertilizer attachment can be furnished. It discharges the fertilizer on top of the seed in the trench made by the runner, the wheels effectually covering it.

We can furnish a pea attachment for use on the No. 8 Corn Drill when the Fertilizer attachment is not used. The distance apart and quantity of peas desired to plant can be regulated by the various plates furnished. It is a very simple operation to put on this attachment as only four bolts are used to connect it to the frame. It will plant other delicate seeds, such as broom and kaffir corn, sorghum, millet, etc., by the use of the proper plate. By ordering proper plates the No. 8 can also be equipped for planting beet seed.



P. & O. No. 8 Corn Drill



P. & O. No. 140 Bean Drill

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. WALKING LISTERS

The illustration shows the Single Row Lister with shovel covers, which can also be furnished with disc covers. By removing the planting mechanism it is stripped down to a Middle Breaker,

to be used in plowing up the furrows, and to be followed later by a corn drill. By removing the middle breaker bottom and attaching a gauge wheel the Single Row Lister can be converted into a One-Horse Corn Drill. This Corn Drill is also sold by itself as a complete implement, and it can be furnished with either disc or shovel covers. Subsoilers of different patterns can be supplied. Hopper can be tilted over for emptying. When transporting or turning around the planting appliances can be raised, which

automatically throws them out of gear. These walking listers are very popular on small farms where the corn acreage is not large enough to warrant the purchase of a Sulky Lister.

P. & O. Combined Lister

P. & O. SULKY LISTERS

The P. & O. Line of Listers is the most up-to-date line on the market. We show here our most popular corn listers, but can only describe them briefly for lack of space. We suggest that if you are interested in Lister tools, you should go to your nearest dealer or write us for literature.

Our No. 382 is a two wheel chain drive sulky lister with improved flat drop hopper construction. The hoppers are hinged to allow tilting them when emptying or changing plates. Flat drop plates are furnished, and plates for handling the various grain sorghums, milo maize, etc., can be furnished. Planting distances, 7, 13, 15, 18 and 22 inches.

The No. 464 Lister is a four wheel chain drive lister with variable drop feature. This feature enables the operator to change the feed instantly, there being three speeds for each plate, for instance, a 7-hole plate will drill the seed 14, 16 or 18 inches apart, and an 8-hole plate will drill 16, 18 or 20 inches apart.

P. & O. No. 382
Chain Drive Sulky
Corn Lister



P. & O. Lister Bottoms are made of soft center steel—molds and share. The bottom is attached with one large bolt and tail nut, and is easily removed when desired.

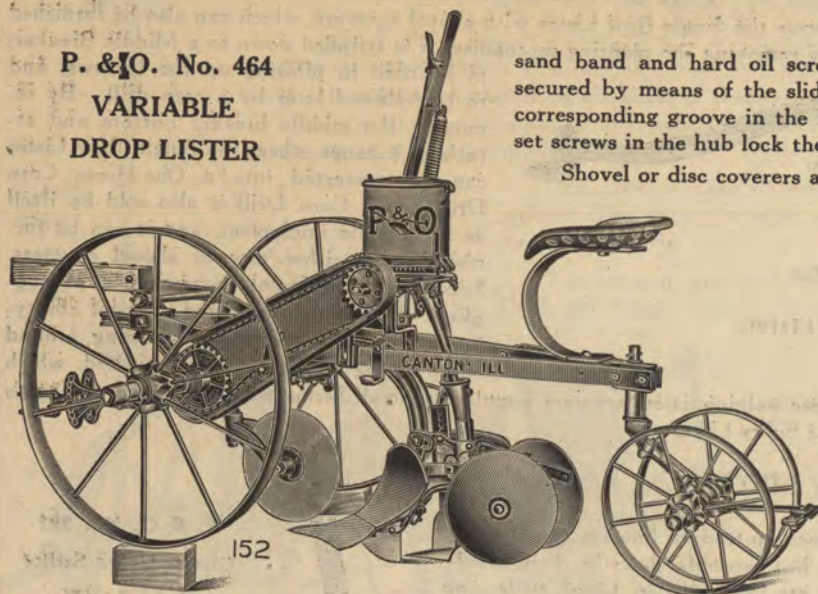
One splendid feature on the P. & O. Sulky Listers is the adjustable wheel box which permits setting the wheels in or out for different widths of rows, in combination with the well known P. & O. dust proof wheel box construction. Notice the detail in the lower left hand corner of this page. Note that the axle bearing is enclosed in a long dust proof sleeve with dust proof



The Adjustable Wheel Box used on our Sulky Listers

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 464 VARIABLE DROP LISTER



sand band and hard oil screw cap, and that the width adjustment is secured by means of the sliding wheel hub. A rib on the sleeve and a corresponding groove in the hub prevent the wheel from turning, while set screws in the hub lock the wheel in the desired position.

Shovel or disc coverers are furnished, as desired by the purchaser.

A leveling device maintains the proper angle and suck of bottom regardless of depth. This insures uniform planting depth and a level furrow bottom.

The hitch is directly to the beam, and has ample lateral and vertical adjustment.

A heavy spring assists the operator in raising the bottom.

Equipment includes subsoiler, rolling coulter, evenner and neckyoke.

The bottom plate is reversible, one side being smooth and the other side recessed, so that large or small corn can be handled nicely with the same plate, by turning this bottom plate over.

The first lister ever built was a P. & O. We not only invented the lister but have been the chief factor in bringing it, in its many present forms, to a state of perfection not equalled by any other make. We are the recognized leaders today in the manufacture of listers, and they bear the same general characteristics of all P. & O. implements—Strength, Simplicity and Ease of Operation.

P. & O. TONGUELESS LISTERS

Furnished with combination cotton and corn hopper or corn hopper only, as desired. Corn hoppers are of improved flat drop construction. Plates are furnished. Cotton hopper is removable, and the corn hopper can be tilted; plates can be changed without removing seed.

Sight feed and simple hand throw-out for stopping seed plates. Can be turned at ends of rows without raising the bottom out of the ground.

Furnished with disc or shovel coverers, which are held yieldingly in the ground by spring pressure.

The bottom always retains the same suction regardless of depth, and a very simple device is provided for changing the suction. The bottom is not held rigidly in the frame, but goes into the ground point first, and comes out point first.

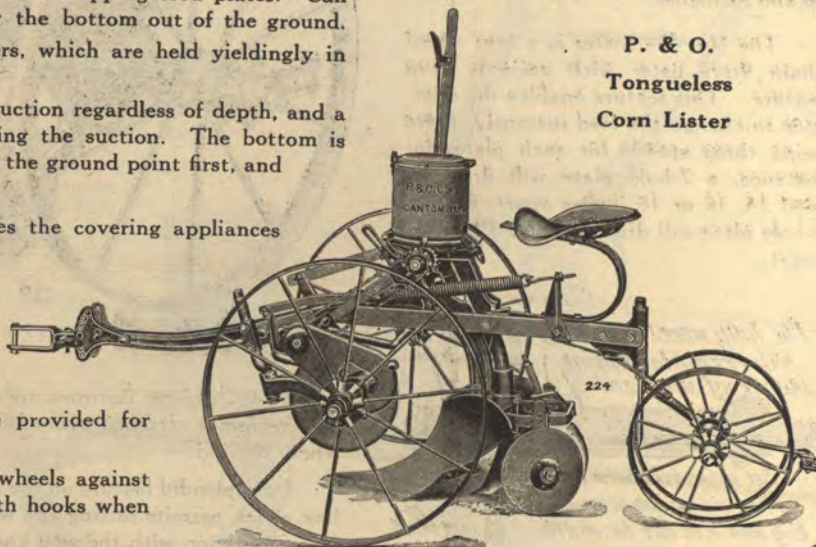
An improved accelerating device raises the covering appliances and sub-soiler extra high. Sub-soiler is adjustable up or down.

Front wheels 30 inches in diameter with heavy hubs, removable boxes, and adjustable in or out on axle. Rear wheels 18 inches in diameter, staggered spokes, and have dust-proof boxes. Scrapers are provided for rear wheels.

The rear axle has a lock to hold the wheels against side swing. Rear wheels can be locked with hooks when transporting down hill.

A tongue attachment can be supplied if desired.

P. & O. Tongueless Corn Lister

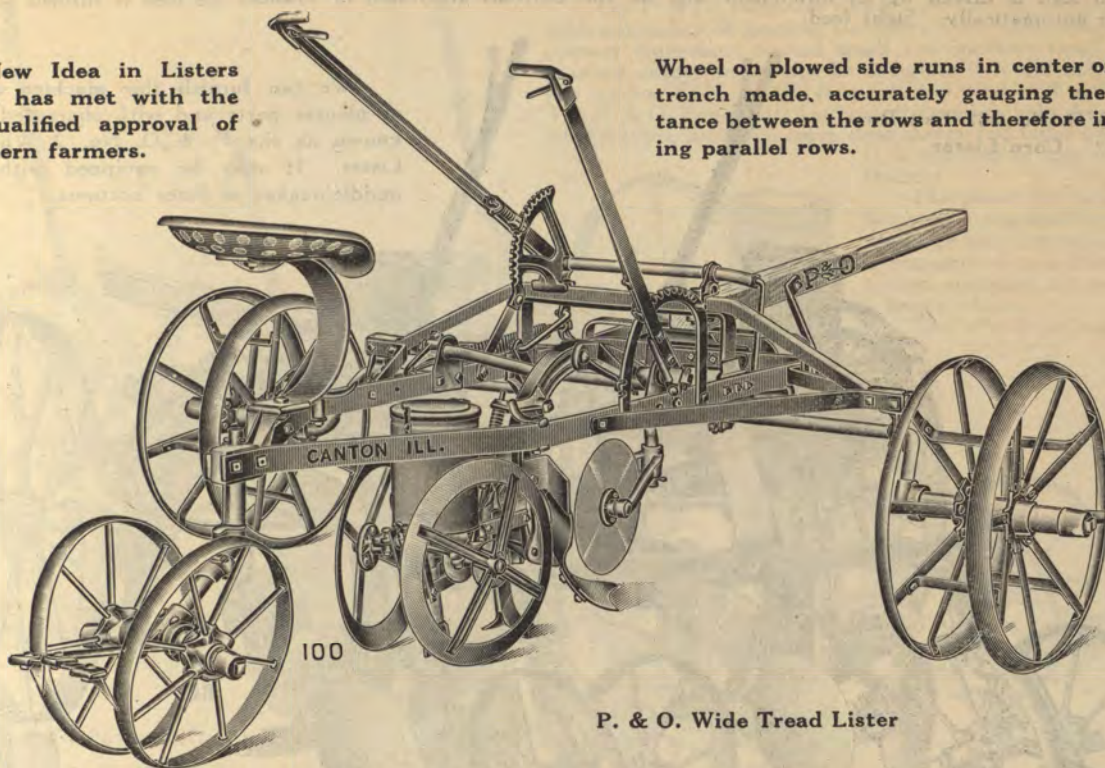


P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 1 WIDETREAD LISTERS

A New Idea in Listers that has met with the unqualified approval of western farmers.

Wheel on plowed side runs in center of last trench made, accurately gauging the distance between the rows and therefore insuring parallel rows.



P. & O. Wide Tread Lister

Wheels made with wide open center tires, conforming to bottom of trench, to prevent packing the soil over the seed.

Construction of wheels causes a little depression to be made on each side of the seed bed. These little trenches prevent the dirt from washing and uncovering the seed.

When working on side hill the wheel in the furrow has a bank of earth to work against, holding it right to its work—it can't slip down hill.

When the lever is in the center notch the frame is leveled for transportation. Note that the raising and lowering of the wheels for leveling or depth adjustment is accomplished at one time with the one lever.

Seat on rear of frame, placing operator in full view of working parts and in convenient reach of both levers. Foot rests are adjustable.

One man said that riding his Widetread Lister was "just like riding in a boat." Those who have ridden the old style listers know what that means.

Another said that by being able to gauge the rows exactly he got in enough extra rows on a 15 acre piece to pay for his lister in a single season.

The front wheels can be set in or out on the axles for different widths of planting.

The rear wheels follow rigidly when moving on a straight line, but caster automatically in turning.

The backbone of the frame is a square steel tube arch, and is reinforced by another arch of solid flat bar steel connected with the frame rails. It positively cannot sag.

The frame can be leveled for plowing at different depths, and with either wheel in the furrow; and also when working on hillsides. The Widetread will do efficient work on hillside or level.

Axle bearings are extremely wide, giving great rigidity to the axles.

Bottom swung from two points, just like a P. & O. Diamond Plow. This gives rigidity to the plow and a smooth furrow bottom.

A conveniently placed lever adjusts the depth and raises and lowers the bottom at the ends of the field. It is assisted by a heavy tension spring, and its operation requires very little effort.

The planting parts are raised with the bottom.

The planting mechanism is operated by the traction of the covering wheels.

A subsoiler just in front of the seed spout loosens the soil a little below the furrow bottom. A small shovel on the seed spout makes a little trench in the loose dirt for the seed and the covering wheels throw the dirt back in, thoroughly covering the seed.

Planting mechanism works against a cushion spring. Hitch is direct to beam—very little of the draft is on the frame. A four-horse evener is furnished.

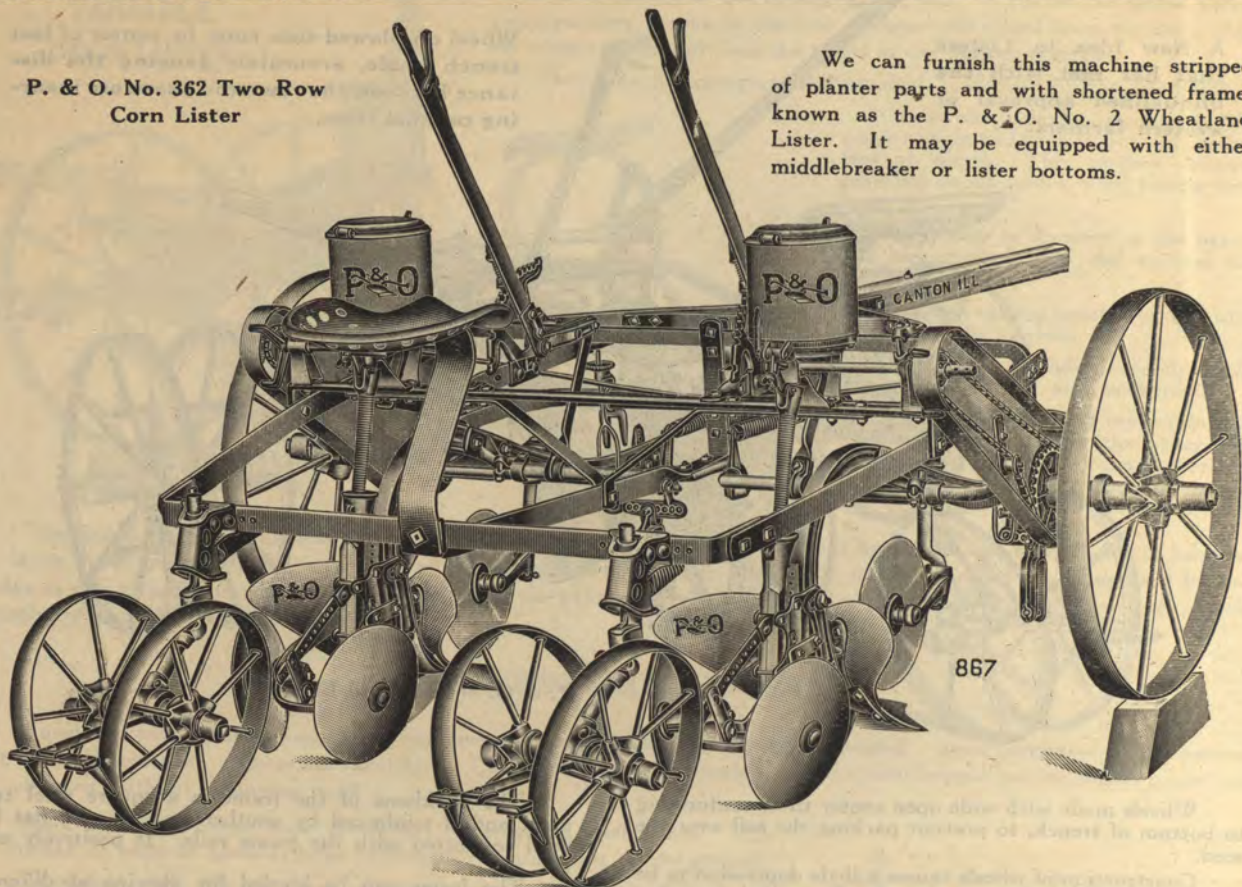
P. & O. Plows, Harrows, Planters and Cultivators

P. & O. TWO ROW LISTERS

Can be equipped with regular corn hoppers, or with cotton hoppers, which will handle either cotton or corn.

Each feed is driven by its own chain, and as the bottoms are raised or lowered the feed is thrown out of or into gear automatically. Sight feed.

P. & O. No. 362 Two Row
Corn Lister



We can furnish this machine stripped of planter parts and with shortened frame, known as the P. & O. No. 2 Wheatland Lister. It may be equipped with either middlebreaker or lister bottoms.

Shovel or Disc Covers.

Hitch is direct to beam.

Adjustable from 3 feet to 3 feet 6 inches.

Each bottom independently controlled.

Corn Hoppers of improved flat drop construction and furnished with liberal supply of flat drop plates.

Cotton Hoppers are the same as used on all P. & O. Cotton Planters and Listers. Reverse feed. Can be regulated to plant any quantity desired.

Equipment includes Rolling Coulter, Six-Horse Eveners, Neckyoke and Subsoilers.

When you want the best that can be had of any article, you go to those who know the most about making it, and who take pride in producing only the best they know how. So that if you want anything in the line of tillage implements, insist that it bear the P. & O. trademark. We know how to build them, and we never place a tool on the market until we are absolutely sure of its ability to make good at the work for which it was built.



A Miniature Gold Plow

Fill out this coupon, mail it to us with ten cents and we will send, postpaid, one of these Gold Plows, exact size of illustration.

Parlin & Orendorff Co., Canton, Ill.

Gentlemen—Enclosed find ten cents (mention whether Postal Note or coin) for which send one Souvenir Gold Plow.

Name Town

Box R. F. D. No. State

A handsome and appropriate present for your wife, mother, sister or best girl. Hundreds of thousands of them are being worn in every part of the country.

P. O. Plows, Harrows, Planters and Cultivators

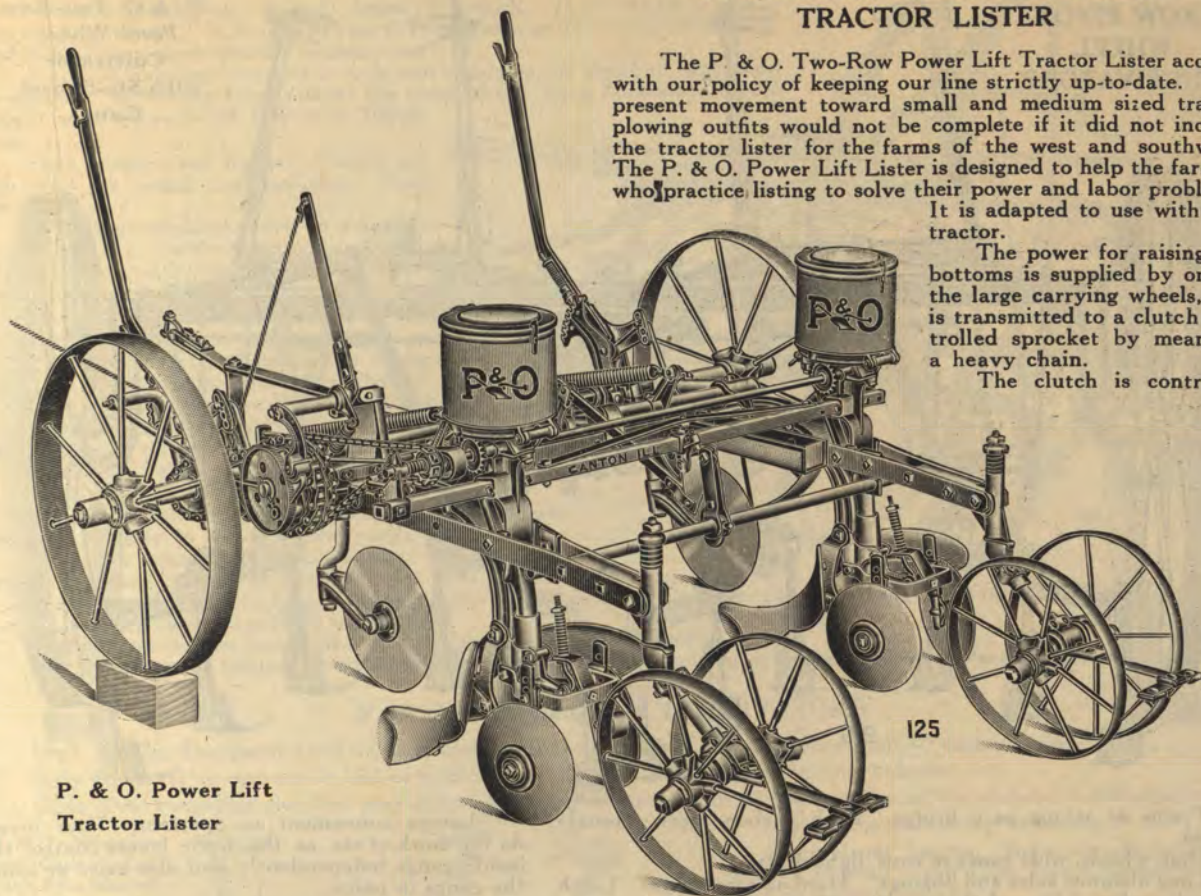
P. & O. POWER LIFT TWO ROW TRACTOR LISTER

The P. & O. Two-Row Power Lift Tractor Lister accords with our policy of keeping our line strictly up-to-date. The present movement toward small and medium sized tractor plowing outfits would not be complete if it did not include the tractor lister for the farms of the west and southwest. The P. & O. Power Lift Lister is designed to help the farmers who practice listing to solve their power and labor problems.

It is adapted to use with any tractor.

The power for raising the bottoms is supplied by one of the large carrying wheels, and is transmitted to a clutch controlled sprocket by means of a heavy chain.

The clutch is controlled



P. & O. Power Lift
Tractor Lister

by the operator by means of a single trip rope, fastened within convenient reach from his position on the tractor.

Power operates on the bottoms both in entering and leaving the ground, so that the whole weight of the machine is brought to bear upon the bottoms, causing them to enter the hardest soil, and holding them there. The principle of the power lift device is identical with that employed on our famous Little Genius Tractor Plows.

Each of the large carrying wheels is provided with a lever which enables the operator to level the lister when working in uneven ground.

When at work, the levers are within convenient reach from the front of the lister, but when the bottoms are raised, they swing back over the lister, out of the way.

The bottoms are counterbalanced by heavy springs, which assist the lifting device and also in operating the levers.

Provision is made in the frame for setting the bottoms for rows either 3 feet 4 inches, 3 feet 6 inches, or 3 feet 8 inches apart.

The rear wheel frames are pivoted on the beams, and are held in proper alignment by means of frame guides. This construction gives the wheels the necessary motion up and down, but keeps them always directly behind the bottom, and therefore in the proper position in relation to the seed bed.

The proper suction is secured by means of a set screw between the beams and the rear wheel frames.

The connection between the lift device and the rear wheels is in the center of the machine, laterally, and is made in such a way as to afford a positive lift on the rear wheels, and at the same time does not in any way interfere with the flexibility of the rear wheel frame.

The hopper bracket, seed spout and frame guide are combined in one unit, which is fastened solidly to the beam.

The hoppers are set to throw the feed to the front, enabling the operator to see the seed as it leaves the hopper.

The hopper construction is our new flat drop type, which insures perfect filling of the seed cells, and positively will not crack or grind the seed.

The bottom plate is two faced, the cells on one side being provided with recesses, which feature enables the planting of either large or small grains with the same plate by simply reversing it in the hopper.

The power for driving the seed mechanism is taken off the clutch sprocket. The clutch on the feed shaft is thrown into and out of gear automatically, with the lowering and raising of the bottoms.

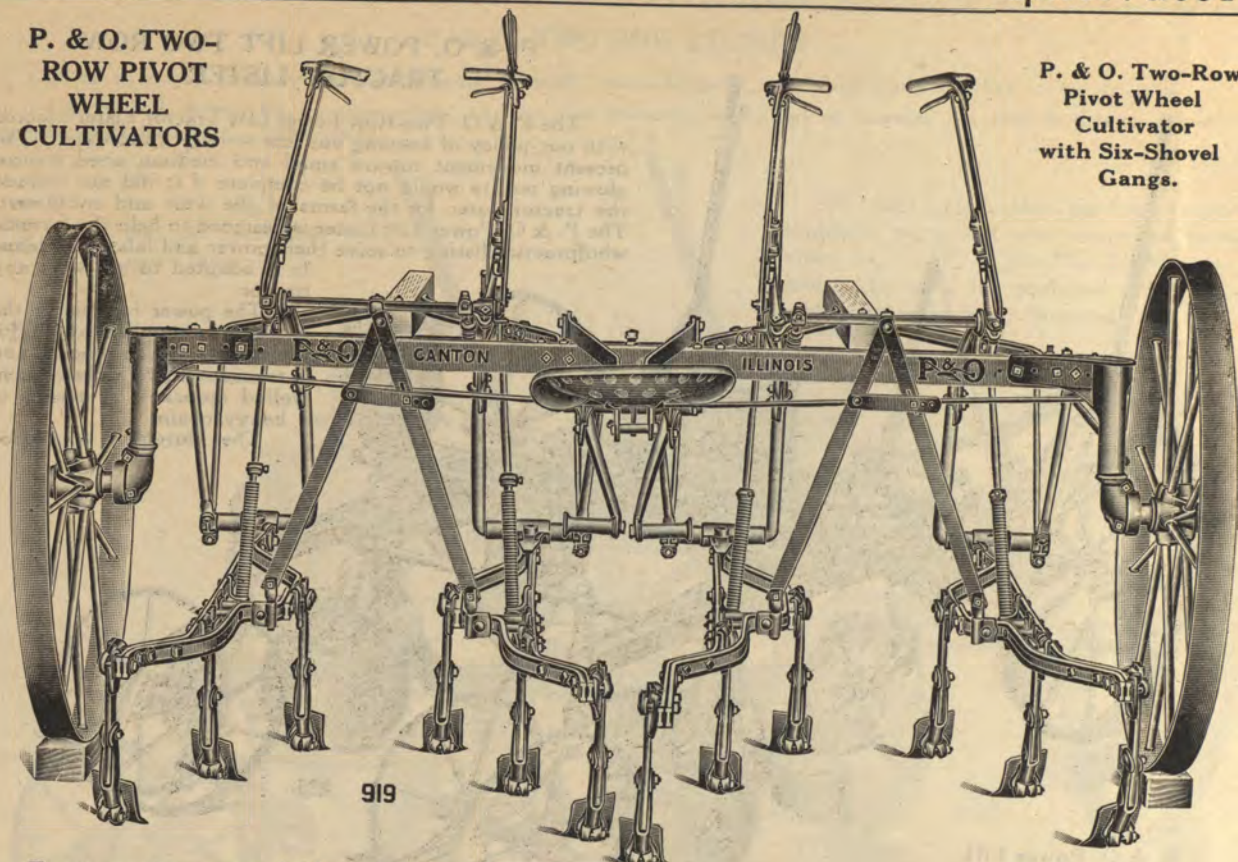
The bottoms are made with soft center steel molds and shares, thoroughly hardened.

The hitch plates are bolted directly to the beams, throwing none of the bottom draft onto the frame. Ample vertical adjustment is provided.

A wooden break pin in the hitch protects both lister and tractor against breakage which might result from encountering a stone or other obstacle.

P. & O. Plows, Harrows, Planters and Cultivators

**P. & O. TWO-
ROW PIVOT
WHEEL
CULTIVATORS**



**P. & O. Two-Row
Pivot Wheel
Cultivator
with Six-Shovel
Gangs.**

Frame as strong as a bridge. High carbon steel, strongly trussed.

High wheels, wide "concave" tires, light draft.

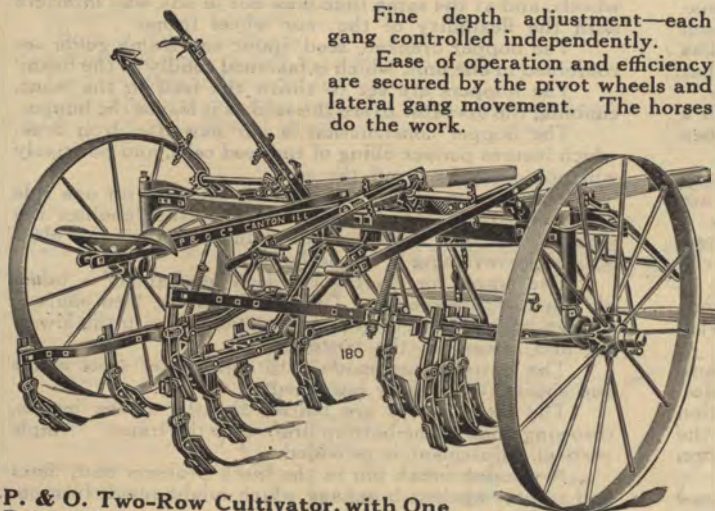
Long distance axles and boxings. Hard oil screw caps. Linch pin and washer. No end thrust—long life.

Three or four horse hitch—short coupled—a perfect equalizer. No neck weight.

Clear view ahead—nothing to obstruct the operator's view of the corn.

Fine depth adjustment—each gang controlled independently.

Ease of operation and efficiency are secured by the pivot wheels and lateral gang movement. The horses do the work.



**P. & O. Two-Row Cultivator, with One
Pair of Gangs Raised. One Lever only being required.**

Page thirty

Levers convenient to operator. Four levers do the work of six, as the inside levers control the inside gangs independently and also raise or lower the gangs in pairs.

Guided in dodging by easy working, adjustable foot levers, pivoting the wheels in the desired direction.

Can be equipped with any style of gangs, including disc lister and surface attachments.

Pressure springs center hung, insuring proper tension in all conditions of ground and in any position of the gangs.

Strap provided for locking wheels when taking cultivator from one place to another.

Weight of working parts glides on rollers mounted in frame—very little effort required in shifting even in crookedest rows.

Parallel movement of gangs insures each shovel cutting proper width and depth.

Lifting springs so arranged as to aid in raising gangs but to lose their lifting power when shovels enter ground.

Gang couplings have lateral adjustment and are absolutely rigid. A tongue truck can be furnished as an extra. Adjustable for the standard widths of corn. High grade soft center steel blades.

Gang arches set back to rear frame, placing the pull over the wheel centers instead of on the front of frame. This feature eliminates neck weight.

Sand bands clamp around the bends in the axles—they can't slip and they greatly strengthen the axles. Low steel hitch.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. JEWEL HAMMOCK CULTIVATORS

When in doubt, buy a P. & O. Jewel Hammock. It is a staple article—you can't go wrong. It is a cultivator that has been on the market for years, and has always given perfect satisfaction.

A simple lever device on each rock arm regulates the depth of each gang as desired. A balance lever adapts the poise of the Jewel Hammock to the weight of a 10-year old boy or a 300-lb. man.

High carbon steel frame. Perfect adjustment for width and balance. Clear view ahead.

The gangs are long, work on a pendulum against a cushion spring, and with lifting spring, with wide range of adjustment in front and rear.

Gangs can be converted into 4, 6 or 8 shovel, adapting cultivator to all states of cultivation.

Four and six shovel gangs can be furnished with spear point shovels without extra charge.

Crank shaft gives equal adjustment on both sides. Long gang pull irons give easy swing to gangs and will not break off the growing corn.

Gangs are locked up when raised for transporting. High arch, giving great clearance.

The evener pivots the draft both above and below the pole, directly in line with the gangs.

The axles telescope into a structural tubing—neat and rigid means of setting the wheels for wide or narrow track.

High wheels, concave tires, removable dust-proof boxes with screw caps for using hard oil. Linch pins inside the screw caps keep the wheels from working off.

Canopy top can be furnished. Adjustable to any desired angle.

The Jewel can be converted into a perfect working surface cultivator by means of surface attachment.

P. & O. WIGGLETAIL CULTIVATORS

High wheels, dust-proof hard oil caps and sandbands, linch pins and washers, flat or concave tires.

Only one lever to operate at end of field. It raises both gangs and maintains balance.

Cone pivot couplings give free play sidewise and permit front ends of beams to be set up or down. All looseness due to wear can be effectively taken up.

Long strong beams. Rear shovels far enough back to prevent trash from accumulating between them and the wheels.

Seat can be folded over and cultivator used as a walker. Seat bars can be locked, making frame rigid. Can be narrowed to cultivate either corn or potatoes. Adjustable hitch. Direct pull from gangs.

Levers assisted by springs.

Gangs work against springs, giving an elastic pressure.

By the arch being pivoted to the tongue the gangs are kept in a parallel position and have ample range of side swing.

The operator is always in position to see the corn.

The wiggletail motion and general ease of operation make this the ideal cultivator for work on sidehills or in crooked rows.

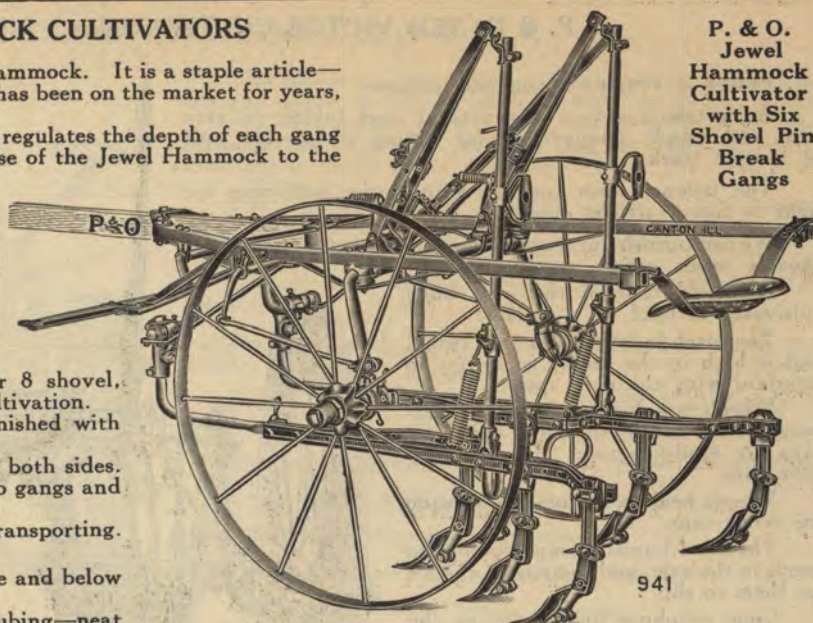
Seat bars provided with a roller which gives easy movement and reduces friction.

Axles telescope in a structural steel tubing—neat and easy means of setting wheels for wide or narrow track.

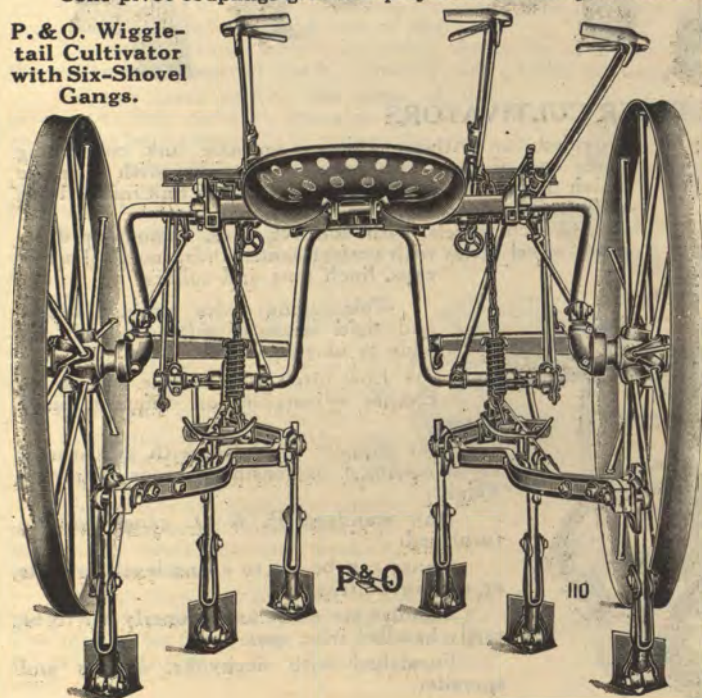
Frame shift squares gangs with each hill, plowing each one even and at an equal depth.

Can be furnished with any style of gangs.

P. & O.
Jewel
Hammock
Cultivator
with Six
Shovel Pin
Break
Gangs



P. & O. Wiggle-
tail Cultivator
with Six-Shovel
Gangs.



P. & O. Plows, Harrows, Planters and Cultivators

P. & O. NEW VICTOR CULTIVATORS

Frame is simple, strong and compact.

Axles telescope into a structural steel tubing—a very neat and simple arrangement for setting wheels for wide or narrow track.

The balance lever quickly adjusts the cultivator for light or heavy weight operators.

We can furnish our 4 and 6 shovel gangs with spear point shovels when orders so specify.

Seat folds out of the way when cultivator is used as a walker.

The hitch is low, has a free swing, and is high in the center so as not to interfere with the corn row.

Wheels are high, with long dust-proof boxes, and by means of the screw caps are easily greased. Flat or concave tires.

Wheels held on by linch pins inside the screw caps.

The sand bands clamp around the bends in the axle, and there is no chance for them to slip.

Cone couplings for connecting the gangs to the arch assure absolute rigidity no matter how long the cultivator is used.

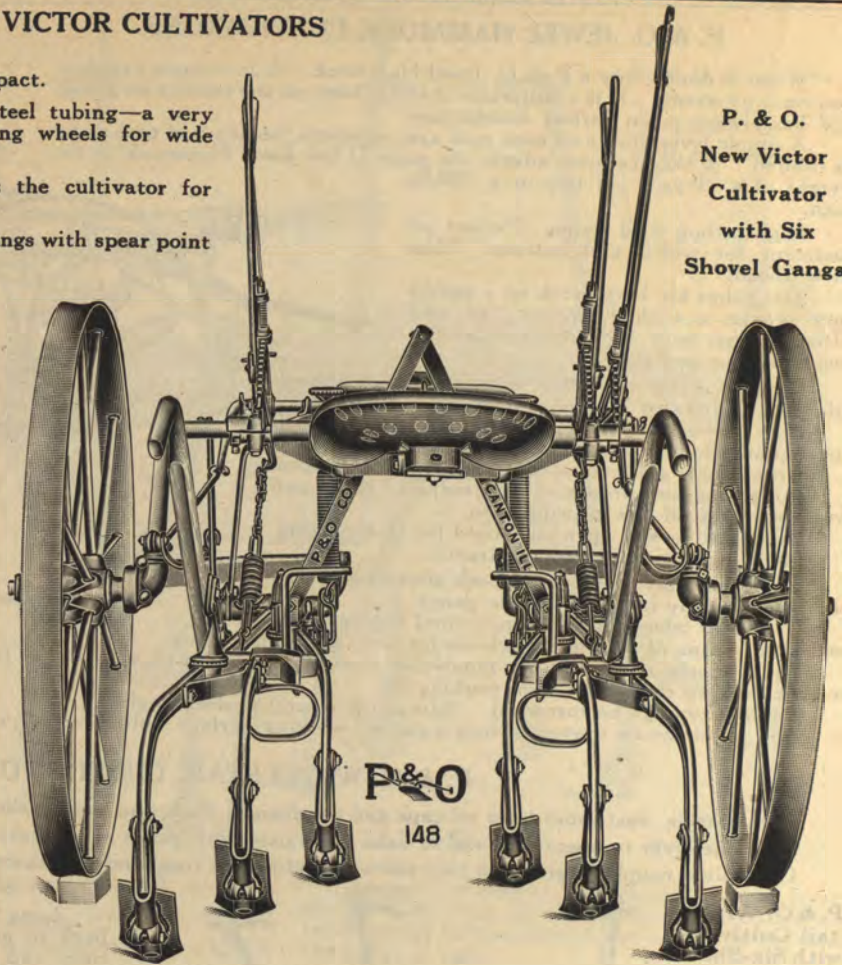
Gangs are hung in the frame in such a manner as to insure an even depth of cultivation, as the operator swings them sidewise.

Gang coupling is adjustable up or down and in or out.

Two depth levers.

The Victor Gangs are equipped with a foot lift which enables the operator easily to raise the gangs to clear them of trash, without affecting the the depth at which they are set.

P. & O.
New Victor
Cultivator
with Six
Shovel Gangs



P. & O. BALANCE RIDER CULTIVATORS

Rider's weight balances gangs, giving an extremely easy lift.

Short coupled and compact frame, has great rigidity and strength.

Frame can be leveled to suit height of team.

Means for obtaining proper balance has been neatly

provided for without levers. An axle link connecting lower end of arch with axles, is provided with a device which permits shortening or lengthening link instantly to shift weight on wheels.

42 inch wheels, with concave tires, removable dust-proof wheel boxes with perfect sand bands, hard oil screw caps, linch pins and collars.

Telescoping axles provide simple and rigid means of setting wheels for wide or narrow widths.

Low hitch with ample clearance. Evenly adjustable for different sized horses.

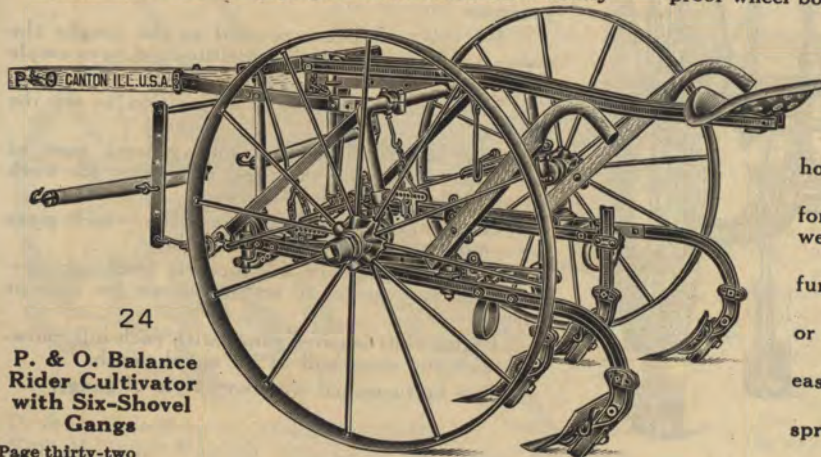
Seat support provided with adjustment for increasing or decreasing leverage of driver's weight.

Any standard P. & O. gangs will be furnished.

Gangs can be set to swing level for wide or narrow cultivation.

Handles are short and properly set to be easily handled from seat.

Furnished with neckyoke, shields and spreader.



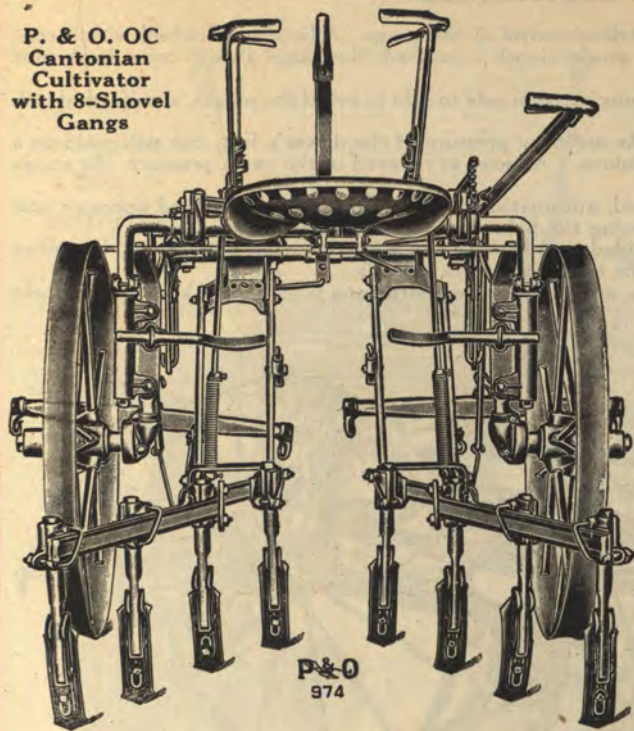
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P. & O. Balance
Rider Cultivator
with Six-Shovel
Gangs

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. CANTONIAN CULTIVATORS (Style O C)

P. & O. OC
Cantonian
Cultivator
with 8-Shovel
Gangs



The manner in which the various desirable features of different types of cultivators have been combined in the P. & O. Cantonian make it particularly desirable to the particular farmer. We believe that no other cultivator combines so many special features.

The OC is especially adapted to use in the eastern states, where there is a demand for a low wheeled narrow cultivator with wide range of adjustments.

Balance lever adapts poise of machine to weight of operator.

Depth of each gang regulated independently of the other.

Center lever permits instant spreading or narrowing of gangs.

Telescoping axles give variety of width adjustments.

Pivot wheels with parallel gang movement.

Offset axles give extreme narrow widths.

Low wheels, pivoted by means of foot levers.

Gangs work under spring pressure.

Double pointed shovels.

Horses assist operator in raising gangs.

Can be used in corn, potatoes, tobacco and truck—any place where a low cultivator with a variety of adjustments is wanted.

P. & O. CANTONIAN CULTIVATOR (Style O B)

Conveniently placed foot levers enable the operator to quickly guide the cultivator to or from the row.

The pivoting of the wheels causes the gangs to be instantly carried to right or left to conform to the row, and the gangs are always parallel with the line of draft.

The gang spreader lever is located in the center of the machine, just in front of the operator, and enables him to draw the gangs in, or spread them, instantly, for narrow or wide cultivation.

Balance lever adapts the poise of the machine to light or heavy operator, and raises and lowers both gangs at the ends of the rows.

Each gang has its own depth lever, and can be adjusted independently.

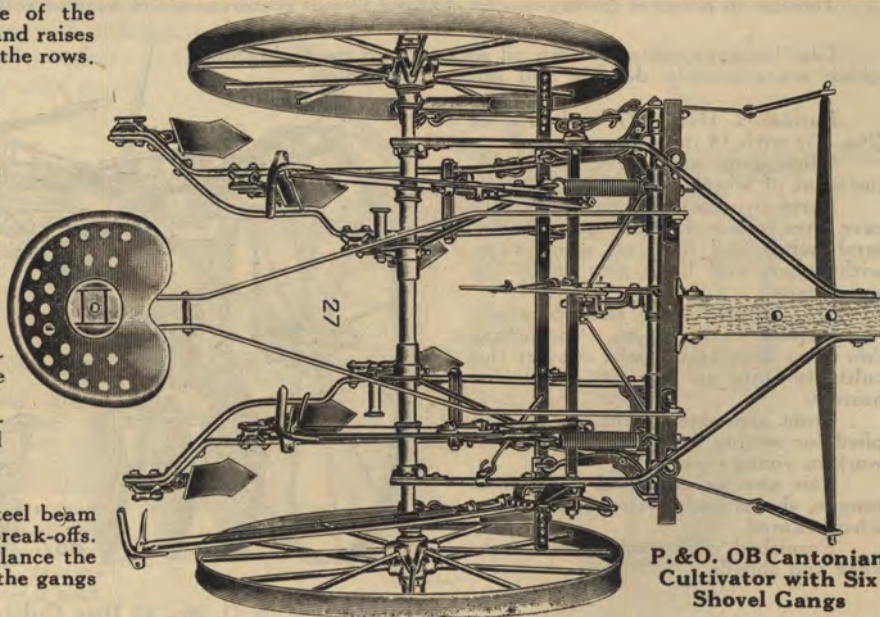
The wheels can easily be set in or out for rows of from 41 to 49 inches.

Each axle and its pivoting arm are made in one piece, eliminating all chance of working loose or the wheels spreading, and thereby adding to the draft. The wheels on the Cantonian can not spread.

In raising the gangs the operator is assisted materially by the draft of the team.

The wheels are high and equipped with dust-proof boxes, hard oil screw caps, linch pins and washers, and concave tires.

We can furnish 6 or 8-shovel steel beam gangs with pin-break or spring-trip break-offs. The tension on the springs which balance the gangs is adjustable to the weight of the gangs used.



P. & O. OB Cantonian
Cultivator with Six
Shovel Gangs

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. PERFECTO CULTIVATORS

The big feature on the P. & O. PerfectO is the simple, leverless control of the gangs. A little hand wheel within convenient reach of the operator adjusts the depth and when the proper depth is secured, the gangs always come back to it after having been raised for turning at ends of field.

The gangs swing only from the couplings, and therefore in swinging from side to side to avoid the plants, a uniform depth is maintained all the time.

The gangs work against a spring, and are unaffected by the ordinary pressure of the driver's feet, but will yield to a little extra pressure when crossing dead furrows or other depressions. As soon as relieved of the extra pressure, the gangs return to the proper working depth.

When the gangs are raised the wheels are thrown backward, automatically balancing the machine and operator and holding the tongue level. An adjustment is provided for adapting the balance to light or heavy operators.

The PerfectO is a combined cultivator. The gangs are provided with handles and foot stirrups. The seat rail is jointed and permits the seat to be thrown back over the frame when the operator desires to walk.

The gangs can be set in or out and up or down on the arch, and are provided with cone pivots for taking up looseness due to wear.

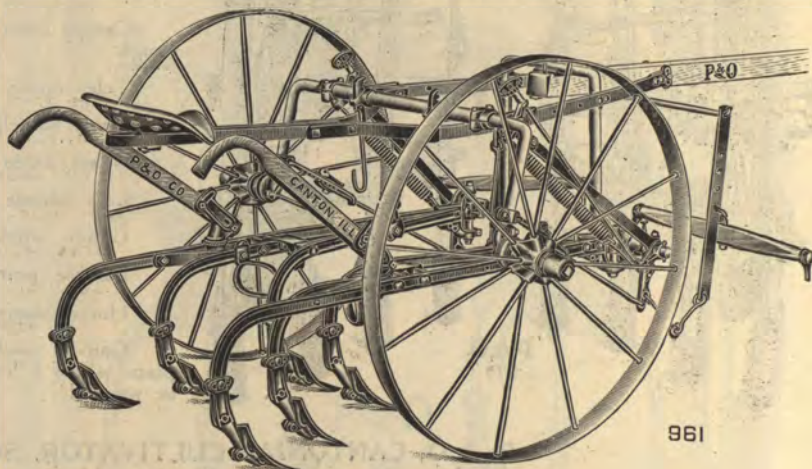
The frame is simple, strong and thoroughly braced.

Telescope axles provide a simple, neat and rigid means of setting the wheels in or out for wide or narrow track. High clearance.

High wheels, with concave tires, removable dust-proof wheel boxes with dust-proof sand bands and screw caps for using hard oil. Wheels are held on by linch pins inside the screw caps. These are the strongest wheels ever put on a cultivator.

The hitch is low, with high clearance in the center.

Furnished with any of the standard P. & O. steel beam gangs.



P. & O. PerfectO Cultivator with Six Shovel Gangs.

P. & O. No. 92 DISC CULTIVATOR

Gangs can be reversed for in or out throw, and can be set to conform to ridges when plowing listed corn. Tension on pressure springs can be changed to suit requirements of hard or soft ground.

Disc bearings equipped with oil soaked hard maple bushings, which are extremely durable and almost frictionless.

Furnished (No. 92) with 16, or (No. 93) with 14 inch discs.

Telescoping axles give width adjustment of wheels.

Forty-two inch wheels, with concave tires, removable dust-proof boxes, sand bands and hard oil screw caps, with collars and linch pins inside the screw caps.

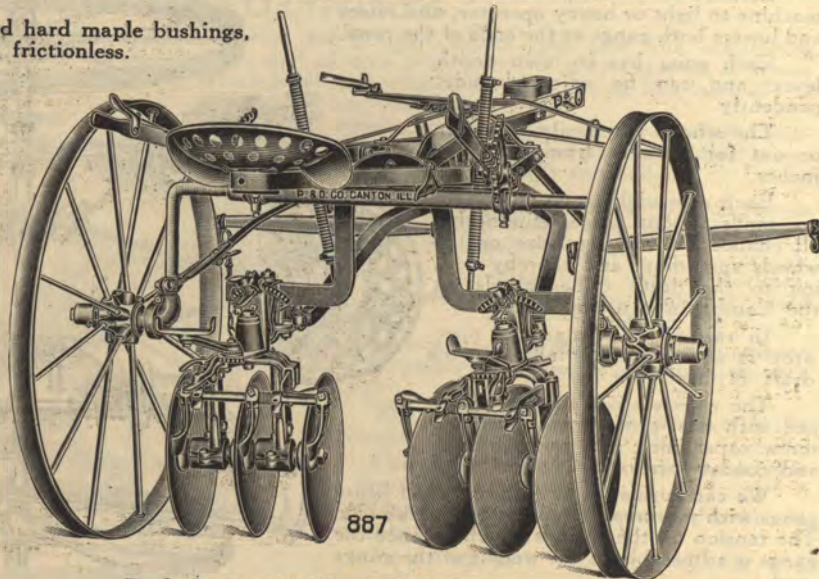
Seat adjustable to suit operator.

Harrow attachment, comprising two extra discs and spools, convert this cultivator into an efficient 4-foot disc harrow.

Front arm attachment can be supplied for setting inside discs ahead for work in young corn.

Can also be equipped with pivot tongue, shovel and leveler attachments when wanted.

Furnished with steel evener, neck-yoke and shields.

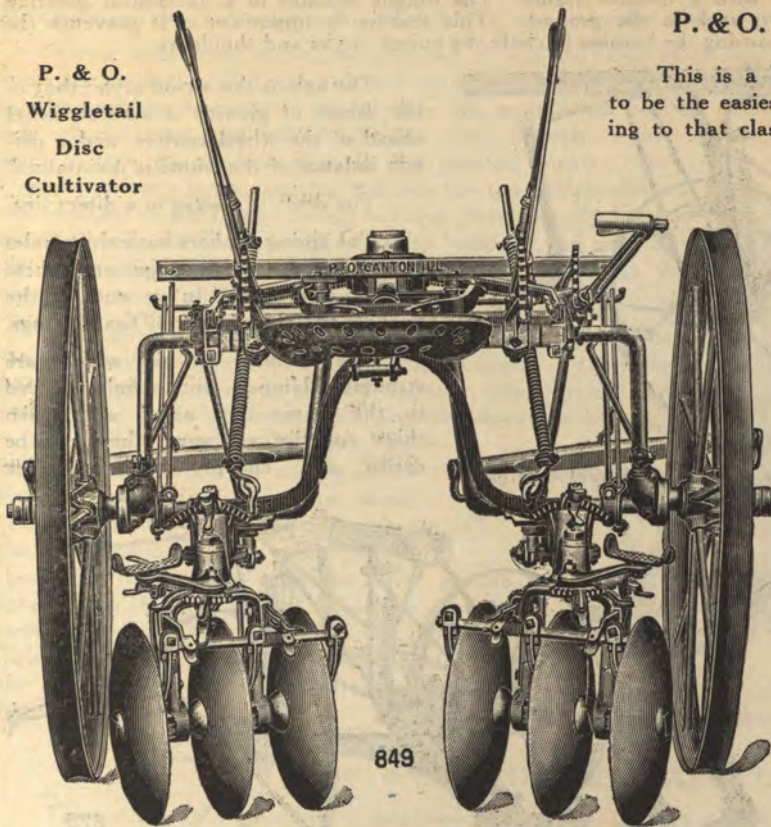


P. & O. No. 92 Disc Cultivator

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. WIGGLETAIL DISC CULTIVATOR

P. & O.
Wiggletail
Disc
Cultivator



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This is a brand new Disc Cultivator, and we believe it to be the easiest disc cultivator to operate ever built, belonging to that class of cultivators known as pivot tongue.

Discs can be reversed without using a wrench or removing any bolts.

Discs easily tilted and angled, as the levers are within easy reach of operator.

Balance lever for adapting poise of machine to light or heavy operator.

Telescope axle permits setting wheels in or out for rows of varying widths.

Operator always has clear view ahead. Singletrees can be raised or lowered to suit height of horses.

High steel wheels with removable dust-proof boxes, sand bands and screw caps for using hard oil. Wheels held on by linch pins inside the screw caps. Concave tires.

Foot stirrups in connection with pivot seat to operate gangs.

Strong steel frame.

Frame pivoted to end of tongue.

Each gang operated by its own independent lever.

Gangs can be given greater or less angle from the seat.

Easiest disc cultivator to operate ever built.

The swinging of the seat to right or left angles the frame in relation to the tongue, carrying the gangs to right or left and permitting work in the crookedest rows.

We can furnish our regular steel and pipe beam gangs with special couplings adapting them to use with this cultivator.

Shovel gangs may be equipped with handles, and the cultivator used either as a rider or walker.

The Wiggletail Disc Cultivator with shovel gang attachment gives practically two cultivators for little more than the cost of one.

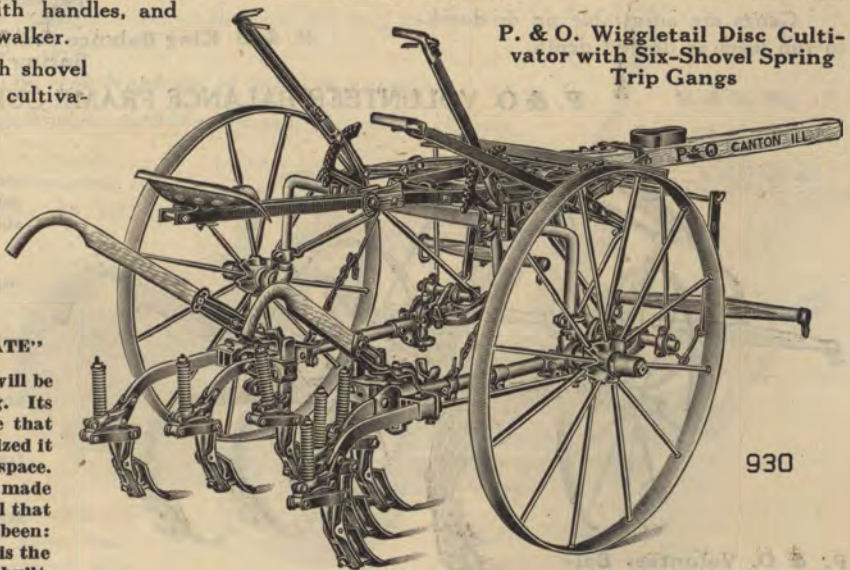
Seat rail is jointed and seat can be thrown over out of the way when using cultivator as a walker.

Knife levelers, harrow, four and six shovel, front arm and spring tooth attachments can be furnished.

"SIMPLE, STRONG AND EASY TO OPERATE"

This expression in some form or other, will be found in more than one place in this catalog. Its frequency of repetition may lead one to believe that it is used flippantly, that after being memorized it is trotted out on any and all occasions to fill space. Far from it. P. & O. implements have been made for three-quarters of a century, and during all that time the keynote of everything made has been: "Simple, strong and easy to operate." It is the foundation upon which the P. & O. line is built.

P. & O. Wiggletail Disc Cultivator with Six-Shovel Spring Trip Gangs

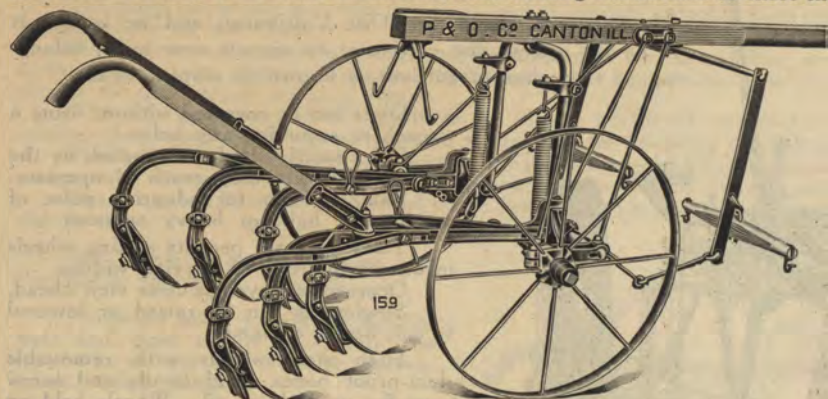


930

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. KING BALANCE FRAME CULTIVATOR

This is a first-class walking cultivator, built with a balance frame. The tongue remains in a horizontal position at all times, whether the gangs are raised or at work in the ground. This feature is important as it prevents the tongue from lifting at the ends of the rows, thus causing the harness to chafe the horses' necks and shoulders.



P. & O. King Balance Frame Cultivator with Six-Shovel Gangs

handles are attached with rose washers and can be set in any position.

Cone pivot couplings. All lost motion due to wear can be effectively taken up, and kept as tight as when new.

Gangs can be set in or out on the axle sleeves.

Wheels have dust-proof boxes and screw caps for using hard oil.

Any standard type of P. & O. gangs can be furnished, pin break or spring trip.

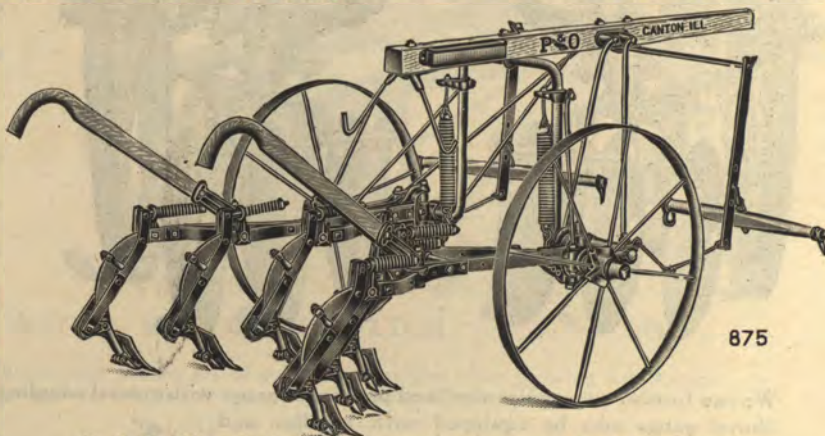
Gangs are adjustable up or down to run level at desired depth.

The axle is the set-off style; that is, the center of gravity is several inches ahead of the wheel centers, and a perfect balance of the frame is maintained.

The draft is always in a direct line.

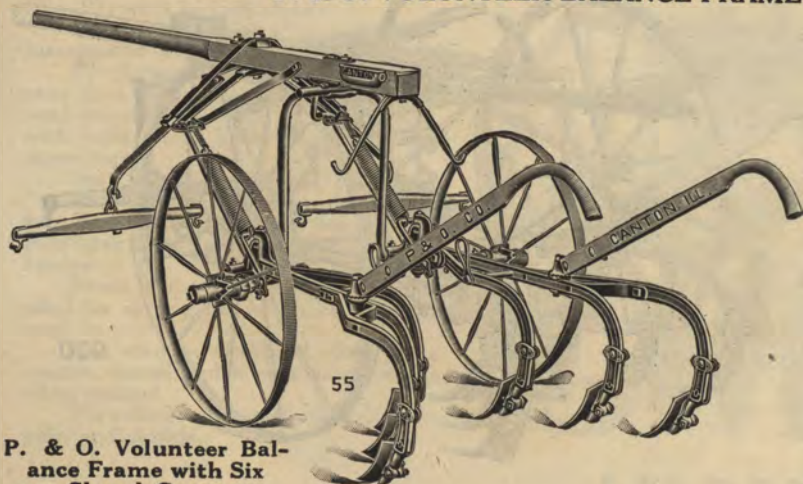
The spring anchors have three holes for fastening the springs and these springs can be set in or out on the anchors to balance light or heavy gangs.

The spindles for the wheels are strongly clamped and firmly braced to the frame and axles, and when these spindles are worn they can be easily and cheaply replaced. The



P. & O. King Balance Frame Cultivators with Six-Shovel Spring Trip Gangs

P. & O. VOLUNTEER BALANCE FRAME CULTIVATORS



P. & O. Volunteer Balance Frame with Six Shovel Gangs

The Volunteer Balance Frame Cultivator is light but strong, has every necessary adjustment, and is adapted to any soil, either in cotton or corn.

Heavy springs from hitch to gangs make it extremely easy to handle gangs.

Notches in gang yokes provide for setting gangs to or from rows.

Parallel beams with cone pivot beam couplings for taking up wear.

Adjustable arch; low hitch; balance frame.

Dust-proof wheel boxes with hard oil screw caps. Staggered spokes.

34 to 44 inch wheel track. Any standard P. & O. gangs can be furnished.

Plows, Harrows, Planters and Cultivators

P. & O. FERTILIZER ATTACHMENTS FOR VOLUNTEER BALANCE FRAME CULTIVATORS

This attachment can be easily and quickly attached to the Volunteer Balance Frame Cultivator, and with it any kind of commercial fertilizer can be distributed. It runs smoothly without jerking or jarring.

A little hand lever, conveniently placed, throws the attachment into or out of gear at the ends of the rows, or wherever there are parts of a field which do not require fertilizing. The shaft that operates the plate and agitator revolves continuously, and the fertilizer is drilled onto the ground, on each side of the row, just ahead of the front shovels, which work it into the ground close to the growing plants. The hoppers are very large, tapering towards the top, which allows the fertilizer to work down nicely without clogging. By loosening a thumb nut they can be instantly removed and refilled, dispensing with the necessity of having to carry large bags of phosphate across the field to the planter.

The agitator forces the fertilizer to the feed channel, while the revolving prongs cut a stream off the underside of the body and carry all that may be massed between them through the feed channel made by the cut-off. The cut-offs can be adjusted to distribute from 60 to 500 lbs. to the acre, depending upon the nature of the fertilizer used. The spouts are made in two sections, the lower telescoping the upper section. The upper part is rigid with the hopper, while the lower portion is attached to the arch, and is hinged to allow it to swing backward if it should strike an obstacle. This enables the operator to set the spouts close to the ground to keep the wind from scattering the fertilizer.



Fertilizer Attachments on
P. & O. Walking Cultivator

P. & O. No. 17 SLED LISTER CULTIVATORS

This cultivator is a favorite in localities where the soil is light and the work is not of the severest character. It is a simple, substantial and useful tool, especially adapted to the first cultivation of listed corn.

The lever that lifts the gangs is located in the center of the machine and is within convenient reach of the operator. The shields are raised with the gangs when the lever is thrown forward, but may be adjusted independently.

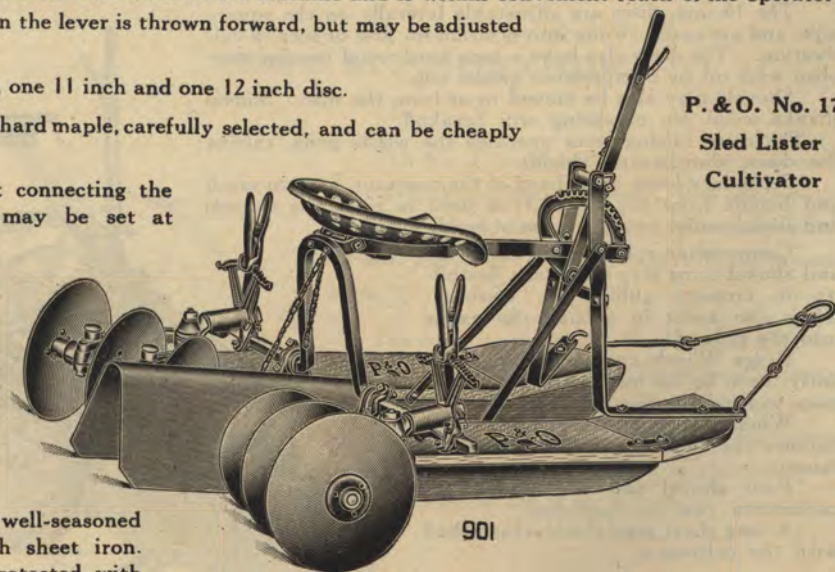
The gangs each comprise one 10 inch, one 11 inch and one 12 inch disc.

The bearings are made of oil-soaked hard maple, carefully selected, and can be cheaply and easily replaced when worn out.

By loosening one bolt at the point connecting the arm with the gang bracket, each gang may be set at any desired angle.

When cultivating the first time, it is customary to put the ends with the largest discs on the inside, thus throwing the dirt from the corn. It is only necessary to loosen a couple of bolts in order to reverse the gangs, throwing the dirt to the corn for second cultivation.

The runners are made from selected, well-seasoned stock, sheathed on the under side with sheet iron. The edges of the runners proper are protected with heavy hoop iron strips.



P. & O. No. 17
Sled Lister
Cultivator

P. & O. Plows, Harrows, Planters and Cultivators

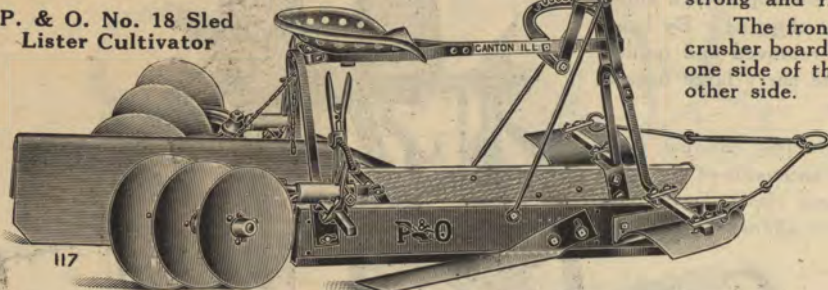
P. & O. No. 18 SLED LISTER CULTIVATORS

Like the No. 17 Lister Cultivator just described, the No. 18 employs the principle of making the driver's weight assist in raising the gangs.

No. 18 is also equipped with 10, 11 and 12 inch disc gangs with oil soaked, hard maple, dust proof bearings.

The runners are steel shod, the shoes being of angle steel.

P. & O. No. 18 Sled
Lister Cultivator



The rear arch pivot is formed by a steel yoke which is bolted to the arch and extends down on both sides of the runner, the pivot point being below the center of the runner. These yokes hold the runners rigidly upright.

Runners are adjustable in or out on the arches, giving any desired degree of adjustment.

Each arch is a solid piece of square steel, extra strong and rigid.

The front arch is connected to the runners and crusher boards in such manner as to effectively prevent one side of the cultivator from straining ahead of the other side.

The crusher boards are made of steel, shaped to conform to the ridges, and adjustable to the desired pitch.

The leveling blades shown in the cut are furnished as an attachment. We can furnish either 34 or 40 inch blades.

P. & O. No. 19 WHEELED LISTER CULTIVATORS

On the wheeled Lister Cultivators the runner friction is eliminated, the weight of the machine being carried on the balance wheels.

Another advantage is that the driver is placed higher, avoiding the dust and being in better position to handle his team and see the field ahead.

The frame of the No. 19 is made almost entirely of steel, very simple and therefore very strong.

Seat adjustable back and forth on seat spring to balance machine and operator and to place him in comfortable relation to the foot rests.

Tongue attached to frame by recessed casting, and securely braced against side strain.

Furrow wheels of solid pressed steel. Double bearings with hard maple, oil-soaked bushings, and dust proof screw caps.

Furrow wheels can be set to hug the ridges for first and later cultivations, without removing any bolts.

The 16 inch discs are adjustable laterally on the square pipe, and are easily swung into position for first or second cultivation. The discs also have a long hard wood bearing supplied with oil by compression grease cup.

Shovels may also be moved to or from the row. Shovel shanks wood pin or spring trip breakoff.

The main raising lever operates the whole gang, raising the discs, shovels and shields.

Secondary lever sets ahead of the operator, easy to reach and handle from the seat. It is used to raise the shovels and shields only, to clear them of trash.

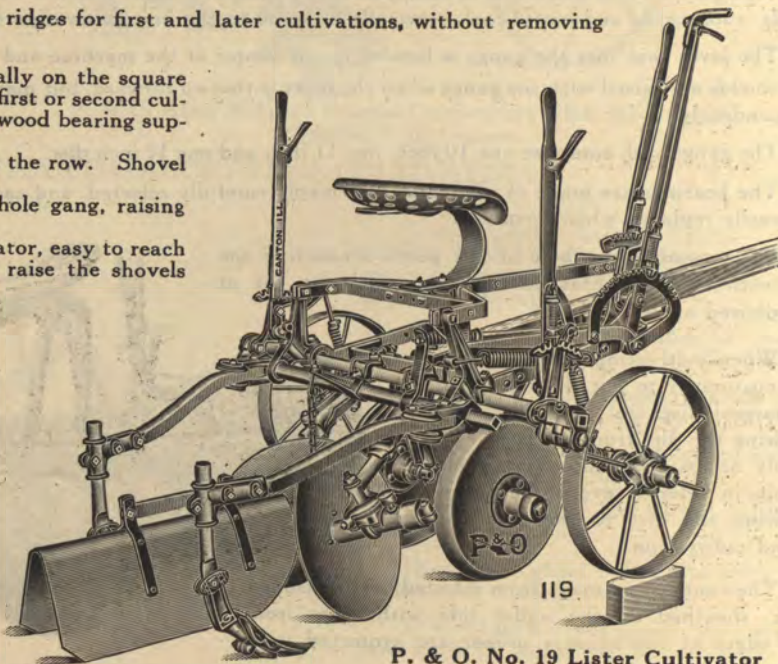
Compression springs between levers and shovel arms give necessary flexibility in crossing gullies or "washes". They also assist in getting the gangs into the ground.

Ridge Wheels controlled independently, each by its own lever, making it easy to level the machine.

Wheels automatically lower and balance the cultivator as the gangs are raised.

Four shovel and ridge shovel attachments can be furnished.

A long sheet steel shield is furnished with the cultivator.

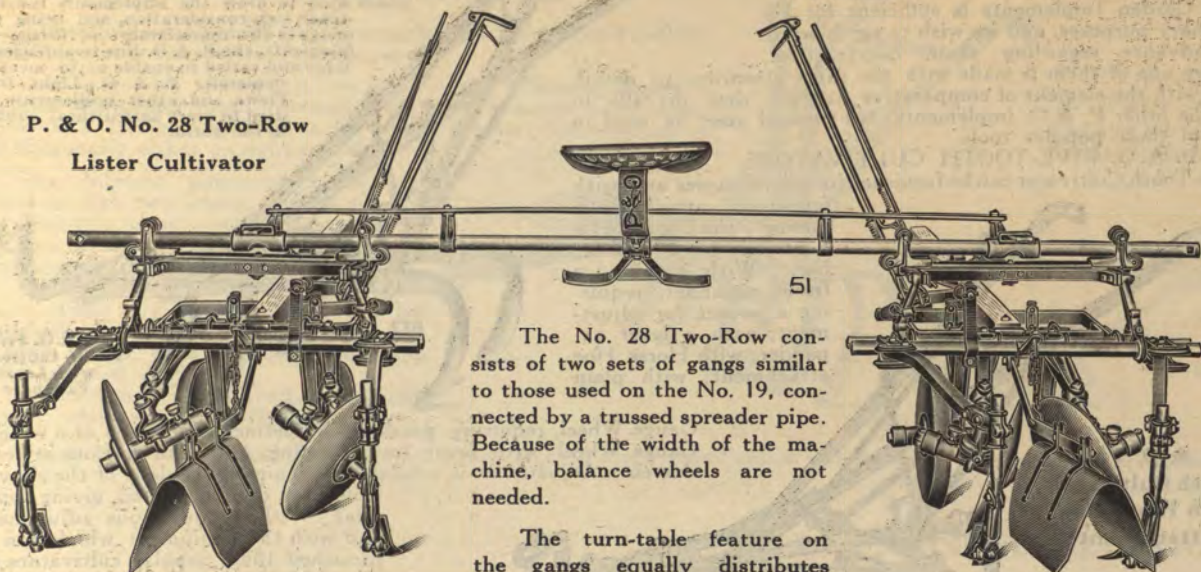


P. & O. No. 19 Lister Cultivator

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 28 TWO-ROW LISTER CULTIVATORS

P. & O. No. 28 Two-Row
Lister Cultivator



The No. 28 Two-Row consists of two sets of gangs similar to those used on the No. 19, connected by a trussed spreader pipe. Because of the width of the machine, balance wheels are not needed.

The turn-table feature on the gangs equally distributes

Gangs set for second cultivation the weight of the gangs, holding them level and preventing one side of a gang or one gang from going deeper than the other side or gang.

Spreader pipe works between two sets of rollers on each gang. Spreader pipes strong and rigid.

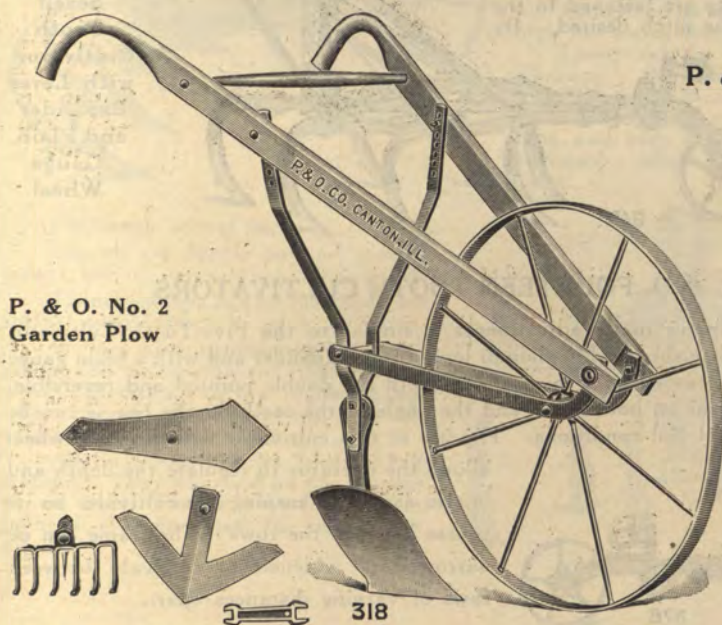
Front levers have lift springs and operate gangs, raising shovels and discs together. Secondary levers operate shovels and shields. The levers are placed in front of the operator, easy to reach and handle from the seat.

The spreader consists of a long steel pipe, reinforced by truss brace with roller bearings on each gang to hold the gangs in position in any kind of land.

Each gang has a fifth wheel which allows forward or backward movement as well as the side movement for width of rows. In other words, one team can get ahead of the other without getting out of the furrow.

Each gang follows its own row independently of the other.

Gangs set for first cultivation



P. & O. No. 2
Garden Plow

P. & O. No. 2 GARDEN PLOW

The No. 2 Garden Plow is a great time and labor saving tool in the garden. It is made with a 24 inch wheel, and provided with adjustments necessary to adapt it to the height of the person using it.

The equipment includes Plow, Rake, Weeder, Bull Tongue and wrench. These attachments enable the user to keep the garden in good shape by killing out the weeds, hilling up the rows, pulverizing the soil, etc. Tens of thousands of these little plows are in use all over the country.

P. & O. Plows, Harrows, Planters and Cultivators

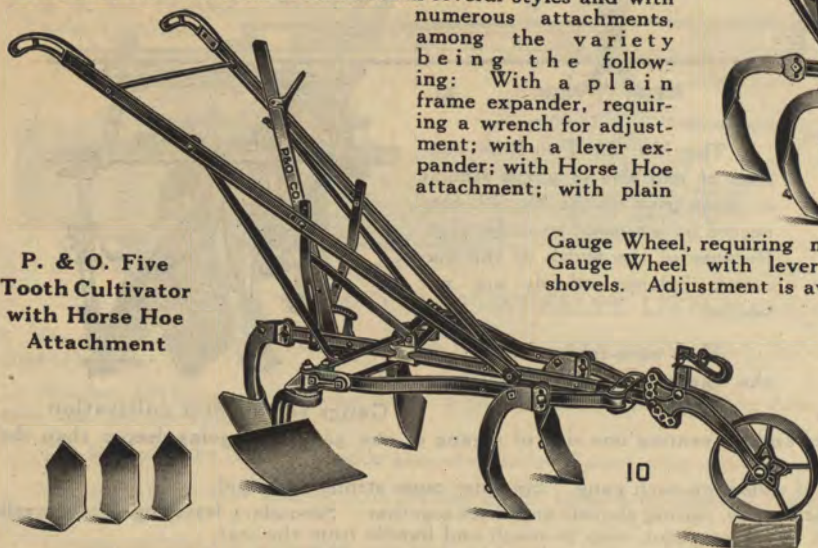
P. & O. ONE-HORSE CULTIVATORS

The P. & O. line of One-Horse Cultivators and Garden Implements is sufficient for all ordinary purposes, and we wish to say a word in advance regarding their construction. Every one of them is made with the same attention to detail, and with the element of comparative strength that prevails in all the other P. & O. implements. No pressed steel is used in any of these popular tools.

P. & O. FIVE-TOOTH CULTIVATORS. The P. & O. Five-Tooth Cultivator can be furnished in several styles and with numerous attachments, among the variety being the following: With a plain frame expander, requiring a wrench for adjustment; with a lever expander; with Horse Hoe attachment; with plain

The soil conditions encountered in various countries and in different sections of this country, require different styles of implements; the power used to draw the implements must be taken into consideration, and being pioneers in the manufacture of tillage implements, the P. & O. line is sufficiently large and varied to enable us to meet all demands. P. & O. Light Draft Plows and other implements are used in every agricultural country in the world.

P. & O. Five Tooth Cultivator with Horse Hoe Attachment



Gauge Wheel, requiring necessary adjustment by means of a wrench; Gauge Wheel with lever for adjusting, and with various styles of shovels. Adjustment is available for changing the slant of the shovels, which are double pointed, giving double wear. With the numerous adjustments and with the equipment which can be furnished these popular cultivators are adaptable to work in all kinds of crops and in any section.

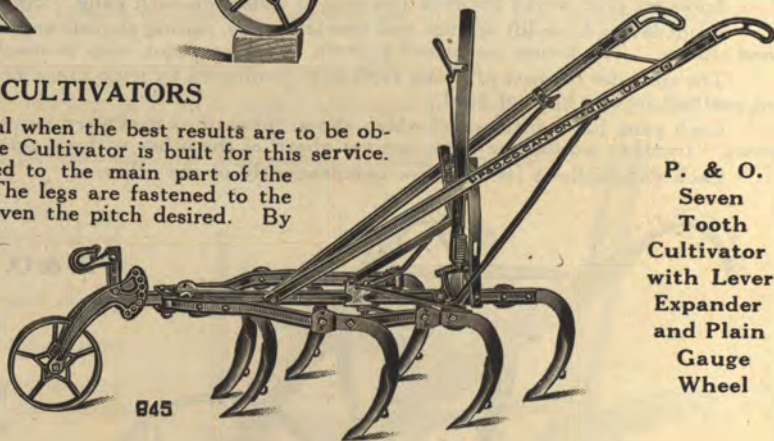
877

P. & O. Five Tooth Cultivator with Lever Expander

P. & O. SEVEN TOOTH CULTIVATORS

Good cultivation of the soil is very essential when the best results are to be obtained and the P. & O. Seven-Tooth One-Horse Cultivator is built for this service.

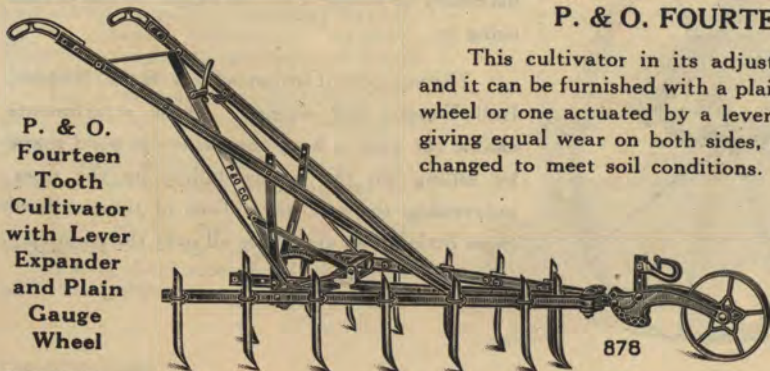
The handles are of steel, strong, well braced to the main part of the cultivator and are adjustable up and down. The legs are fastened to the main bars by bolts and the shovels can be given the pitch desired. By removing the outside legs and shovels the machine can be used as a five-tooth cultivator if desired. The main bars of the frame are made of beaded steel. The shovels are double pointed, crucible-steel, highly polished and fastened to the legs by one bolt in such a way that they can be reversed by loosening the bolt. The frame is made to spread by means of a lever, and the ratchet holds the frame the desired width. The machine is of the latest design and works perfectly.



P. & O. Seven Tooth Cultivator with Lever Expander and Plain Gauge Wheel

P. & O. FOURTEEN TOOTH CULTIVATORS

This cultivator in its adjustments is similar to the Five-Tooth Cultivator and it can be furnished with a plain or lever frame expander and with a plain gauge wheel or one actuated by a lever. The teeth are double pointed and reversible, giving equal wear on both sides, and the angle of the teeth on the beams can be changed to meet soil conditions. The use of this cultivator with a gauge wheel allows the operator to regulate the depth and it also assists in keeping the cultivator to its course between the rows. The frame can be narrowed or widened to cultivate between rows of varying distances apart.



P. & O. Fourteen Tooth Cultivator with Lever Expander and Plain Gauge Wheel

878

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. DIVERSE CULTIVATORS

A one-horse spring-tooth cultivator or harrow which is an excellent tool for use in corn, cotton, potatoes, etc.

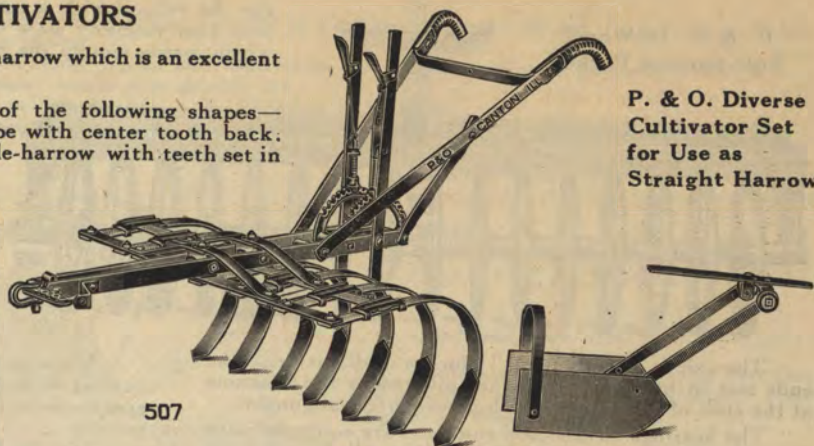
Can be quickly changed to any one of the following shapes—V-shape with center tooth forward; V-shape with center tooth back; seven-tooth straight harrow, or as a side-harrow with teeth set in line diagonally either to right or left.

The different adjustments are obtained by the two levers. Each side of the cultivator is adjusted separately.

Can be used a-straddle of the rows by removing the third tooth from either side.

Spring teeth are made of $\frac{3}{4} \times 1\frac{1}{2}$ -inch spring steel, very strong. They can be furnished pointed, the shape of a shovel, or with round ends for using separate double-pointed shovels.

A shield can be furnished and should be used when straddling the rows.

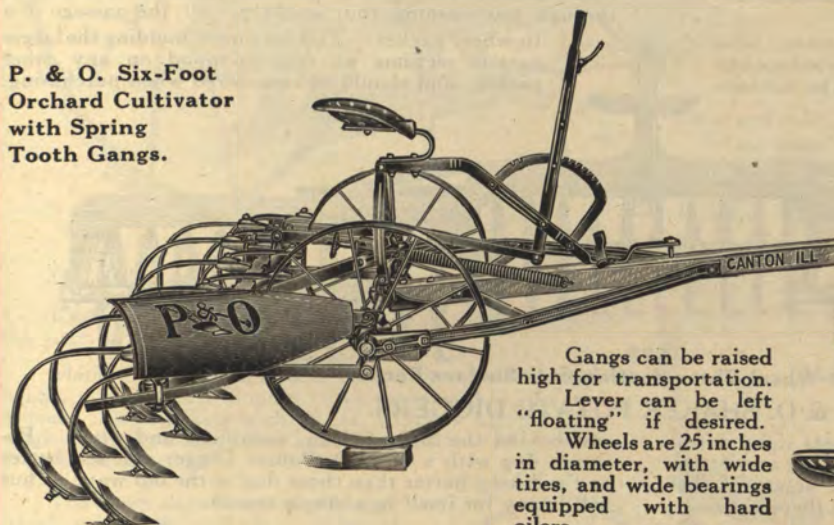


P. & O. Diverse Cultivator Set for Use as Straight Harrow

507

We can also furnish a gauge wheel, which insures an even depth of cultivation and makes the machine easier to handle.

P. & O. Six-Foot Orchard Cultivator with Spring Tooth Gangs.



Gangs can be raised high for transportation.

Lever can be left "floating" if desired.

Wheels are 25 inches in diameter, with wide tires, and wide bearings equipped with hard oilers.

Pin break shovel legs.

Shovels are double pointed, giving longer life.

15-inch sweeps can be furnished for surface cultivation.

We can also furnish spring tooth gangs, and we recommend that they be used in preference to the regular gangs where the soil abounds in roots, stones or other obstacles.

Alfalfa steels can be furnished if wanted. They are used on the regular shovel legs. They are narrow double pointed shovels, used for renovating alfalfa.

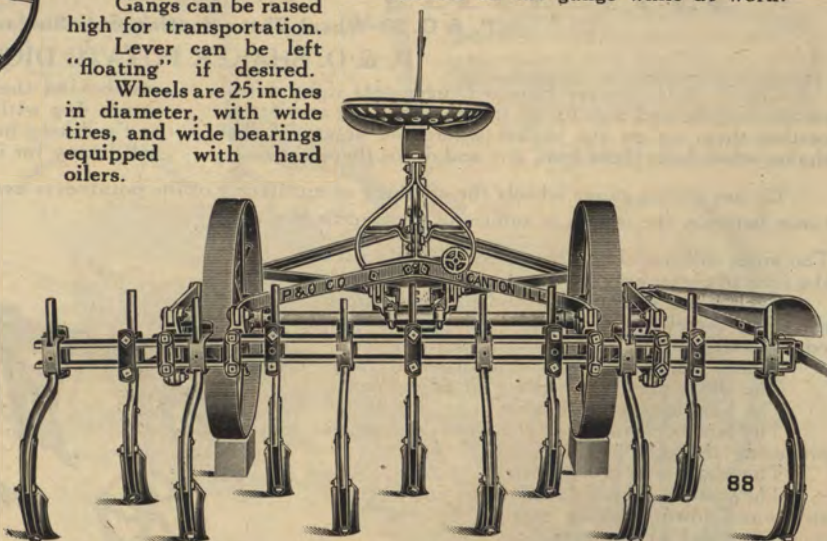
P. & O. ORCHARD CULTIVATORS

This tool is especially built for the thorough cultivation of orchards and vineyards, where its low frame permits close work under vines and overhanging branches.

A shield is provided to prevent injury to vines and trees.

Rear cross bars made of heavy high carbon steel.

A heavy tension spring assists the operator in raising the gangs, and the construction is such that no tension is exerted on the gangs while at work.



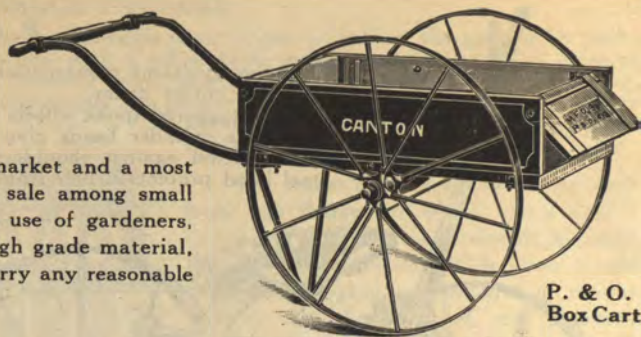
88

P. & O. Orchard Cultivator with Steel Legs.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. HAND CARTS

We can furnish this cart with 30 in. or 36 in. wheels and with a box 20x31x8 inches; or with 36 in. wheels and a box 22x37x9 inches; or with 40 in. wheels and a box 27x44x10 inches. This is one of the handiest push carts on the market and a most useful article for a variety of purposes. It finds a ready sale among small merchants, paper hangers and painters, as well as for the use of gardeners, truck farmers, florists, etc. These carts are well made of high grade material, attractively painted and are guaranteed amply strong to carry any reasonable load.



P. & O.
Box Cart



P. & O. Combined Barrel and Box Cart

P. & O. BARREL CARTS

We furnish the truck and trunnions for a barrel but we do not furnish barrels, as any barrel that has a capacity of from 50 to 60 gallons can be used, there being an adjustment of a couple of inches on the trucks. We furnish the box, which for this frame is 27x44x10 inches. The combination is an excellent one for truck gardeners, florists, and for various other purposes either in town or on the farm.

P. & O. BEET SEEDERS

In this Beet Seeder we can offer you one which is strictly up-to-date in every respect. The accompanying cut, No. 926, shows the regular equipment. Irrigating attachments can also be furnished as extras. The frame is thoroughly braced to give the machine the rigidity so necessary to secure good results. A stub tongue extends across the frame and is securely bolted by means of angle blocks to both front and rear bars of frame.

The press wheels are made in two sections with open center concave tires. Though the openers and press wheels work independently of each other, they are raised and lowered by the same lever. The feed mechanism may be adjusted to plant any quantity of seed desired. All cups are adjusted at once by simply changing the position of the regulating finger on the dial. The seed capacity is very large.

The wheels are thirty inches in diameter, and have wide 3-inch tires which prevent the machine from sinking into the ground when the soil is loose or wet. They can be set in or out to run in the centers of rows of varying distances apart.

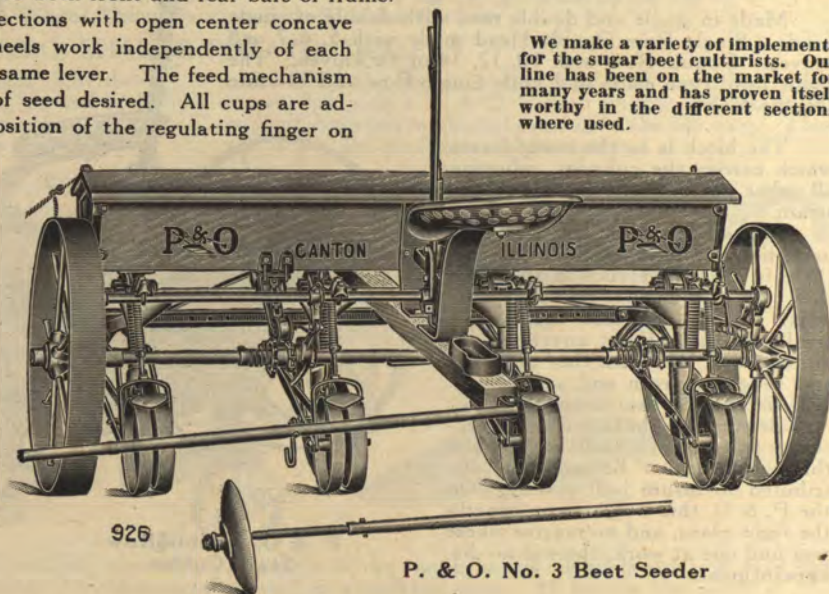
The depth of the runners can be adjusted to a quarter of an inch by means of a compound ratchet.

No. 1 plants in rows 18, 20 and 22 inches apart. Provision is also made for planting in rows 16 and 24 inches apart, alternately. This is desirable when irrigating shovels are used.

The No. 3 Beet Seeder will plant in rows 16, 18 and 20 inches apart.

A two-horse evener and neckyoke are furnished.

We make a variety of implements for the sugar beet culturists. Our line has been on the market for many years and has proven itself worthy in the different sections where used.



P. & O. No. 3 Beet Seeder

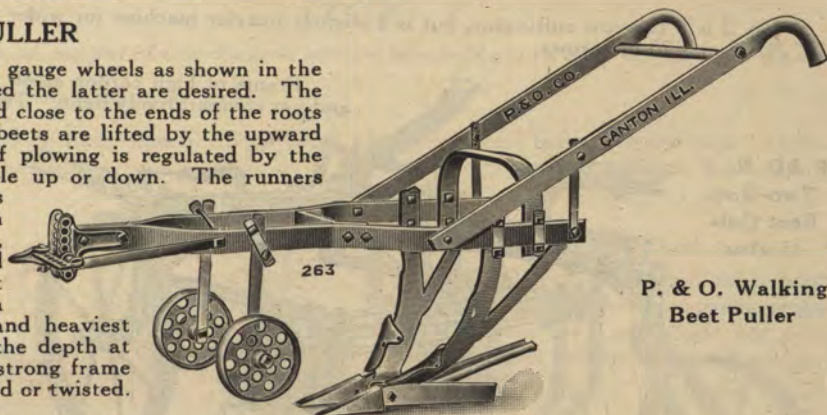
P. & O. Plows, Harrows, Planters and Cultivators



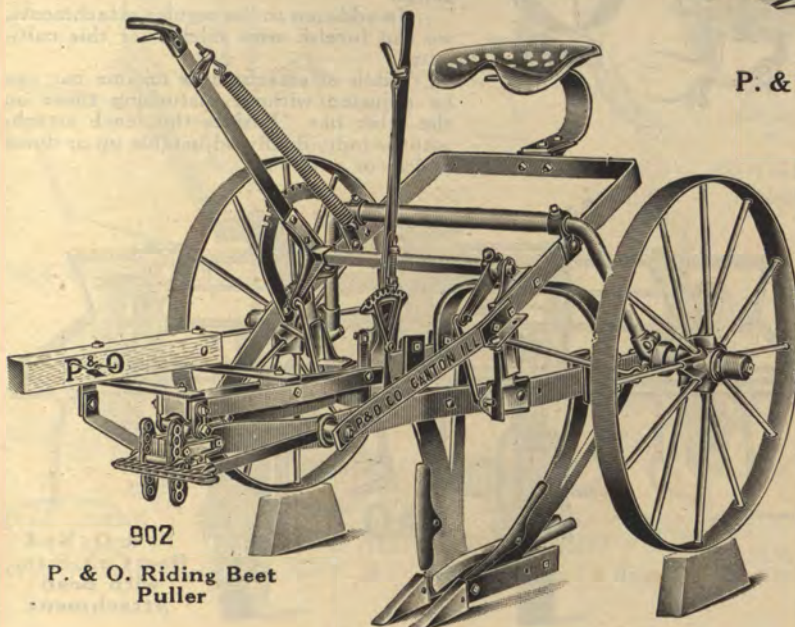
P. & O. Four-Row Beet Seeder with Fertilizer Attachments

P. & O. BEET PULLER

This puller can be furnished with the gauge wheels as shown in the cut and also with rolling coulters, provided the latter are desired. The points are designed to sink into the ground close to the ends of the roots and as the puller is dragged forward the beets are lifted by the upward incline of the lifting bars. The depth of plowing is regulated by the gauge wheels. The handles are adjustable up or down. The runners are provided with removable chilled shins and points which are held in place with wood pins. The points are reversible, giving double wear. As practically all the wear is on these small parts, the cost of extras and repairs is kept down to a minimum. The frame is the strongest and heaviest ever put on a beet puller and owing to the depth at which the plowing is done, an extremely strong frame is needed, one that cannot be easily strained or twisted.



P. & O. Walking Beet Puller



P. & O. Riding Beet Puller

FERTILIZER ATTACHMENTS

This attachment can be used for distributing any kind of commercial fertilizer, and is easily put on. It runs smoothly without jerking or jarring. It is thrown in and out of gear automatically with the raising and lowering of the runners. Can also be thrown out of gear by hand if there are places in the field which do not need to be fertilized.

The hoppers are very large and taper toward the top so that the fertilizer can work down freely. They are also easily removable for emptying.

The fertilizer is forced down through the feed channel by an agitator and revolving prongs cut a stream off the underside of the body and carry all that may be massed between them through the feed channel made by the cut-off. The cut-off can be adjusted to distribute from 60 to 600 pounds per acre, as conditions require. Both seed and fertilizer are drilled into the ground together.

P. & O. RIDING BEET PULLERS

Frame made of one piece of heavy bar steel. Driver's weight assists in raising the puller.

Wheels can be set in or out to run in centers of rows of any standard width.

Main lever raises and lowers puller, the operator being assisted by a strong spring. A second lever regulates the suction of the points and runners.

Operators can see beets just ahead of the points.

Thirty-four inch wheels with flat tires, removable dust-proof wheel boxes and hard oil screw caps.

Depth always the same, whether ground is smooth or uneven.

Hitch adjustable for 2, 3, or 4 horses.

Furnished with 13-inch rolling coulters and with 3 horse eveners.

P. & O. Plows, Harrows, Planters and Cultivators

P. & O. No. 1 TWO-ROW BEET CULTIVATOR

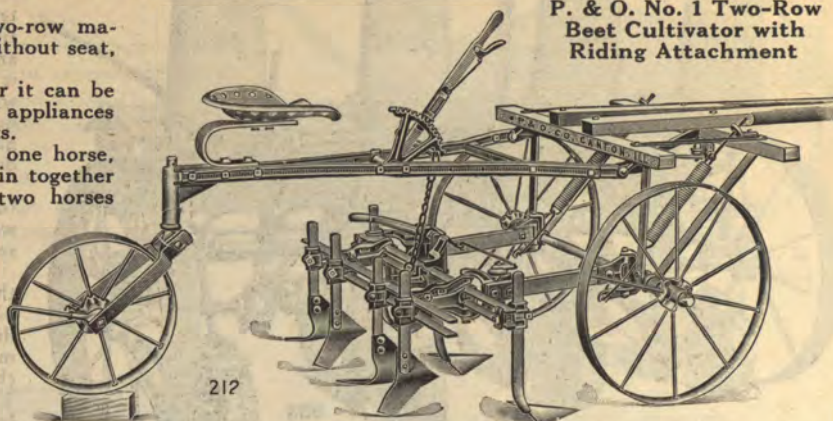
The No. 1 Beet Cultivator is a two-row machine which can be furnished with or without seat, as ordered.

While a very simply built cultivator it can be used with any of our regular cultivating appliances and will give perfectly satisfactory results.

Furnished with a pair of shafts for one horse, but so made that the shafts can be set in together to form a two-piece tongue, so that two horses can be used if desired.

Adjustable for standard width rows. Equipment includes singletree and 8 flat shank clamps.

The cultivating parts are shown on the next page. These are not included as regular equipment. The purchaser chooses the equipment he wants.



P. & O. No. 1 Two-Row Beet Cultivator with Riding Attachment

P. & O. No. 3 TWO-ROW BEET CULTIVATOR

No. 3 is a two-row cultivator, but is a slightly heavier machine for wider rows than the No. 1, No. 3 being built for 22, 24, 26 and 28 inch rows.

Frame of high carbon steel, thoroughly trussed, very strong and rigid, and yet comparatively light. Two horses can pull the cultivator easily.

Balance springs assist in raising and lowering the gangs.

Two pairs of parallel cross bars provide room for any equipment the purchaser may wish to select.

23 inch front wheels and 18 inch rear wheels. 3 inch tires. Equipped with dust proof boxes with hard oil screw caps.

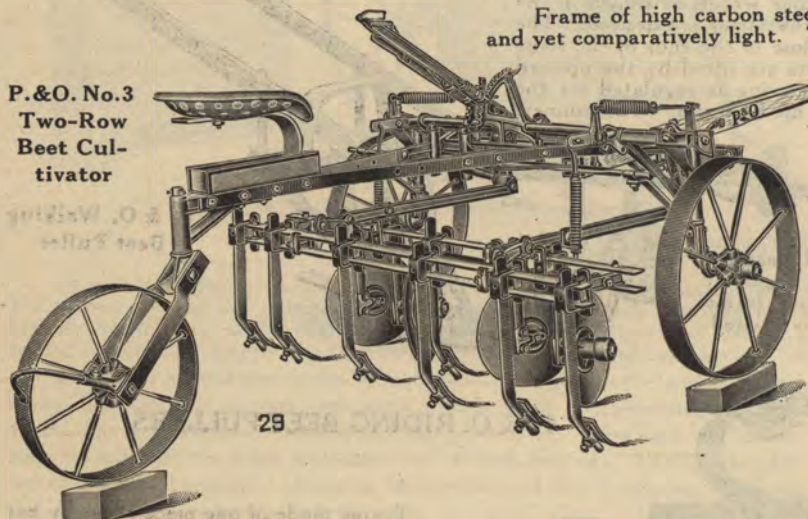
Foot levers pivot wheels either way, carrying gangs to or from rows and insuring close cultivation.

One lever for raising and lowering gangs, with a secondary lever for leveling gangs.

In addition to the regular attachments, we can furnish wire shields for this cultivator.

Pitch of attachments on one bar can be adjusted without disturbing those on the other bar. Besides this, each attachment is individually adjustable up or down and in or out.

P. & O. No. 3 Two-Row Beet Cultivator



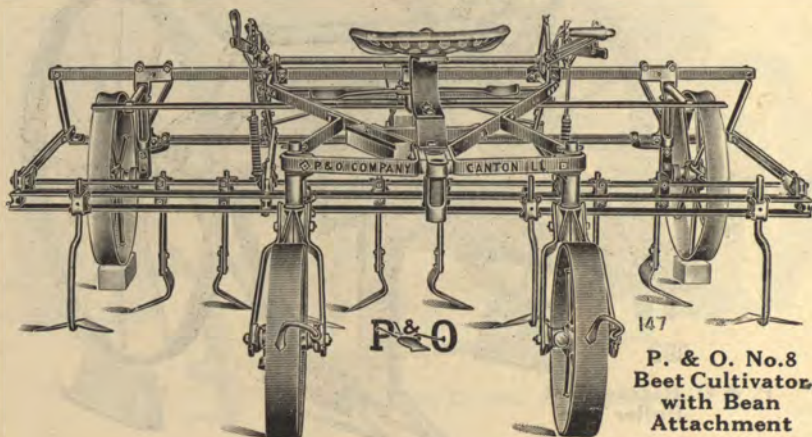
P. & O. No. 8 FOUR-ROW BEET CULTIVATOR

High carbon steel frame, thoroughly trussed—very strong and rigid.

Easy means for changing width for cultivating four rows, 16, 18, 20 or 22 inches apart or for three rows 28 or 30 inches apart.

Regularly furnished for use in beets, but can be furnished with extra rear wheel, for use in beans, melons, peas, etc.

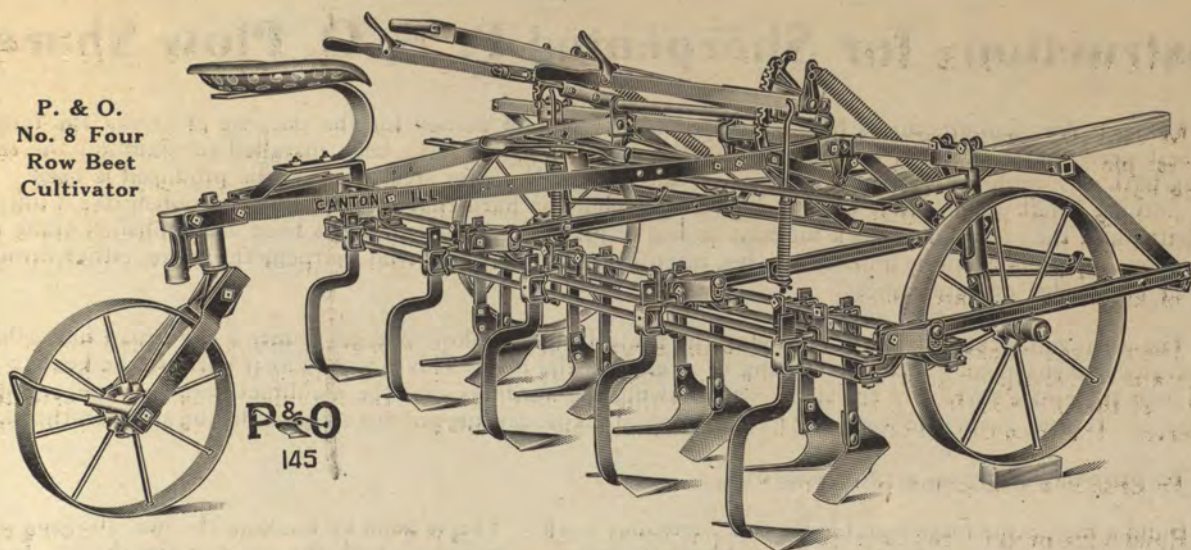
Gangs are built on two pairs of parallel cross bars, providing ample space for any combination of attachments as chosen by the purchaser.



P. & O. No. 8 Beet Cultivator with Bean Attachment

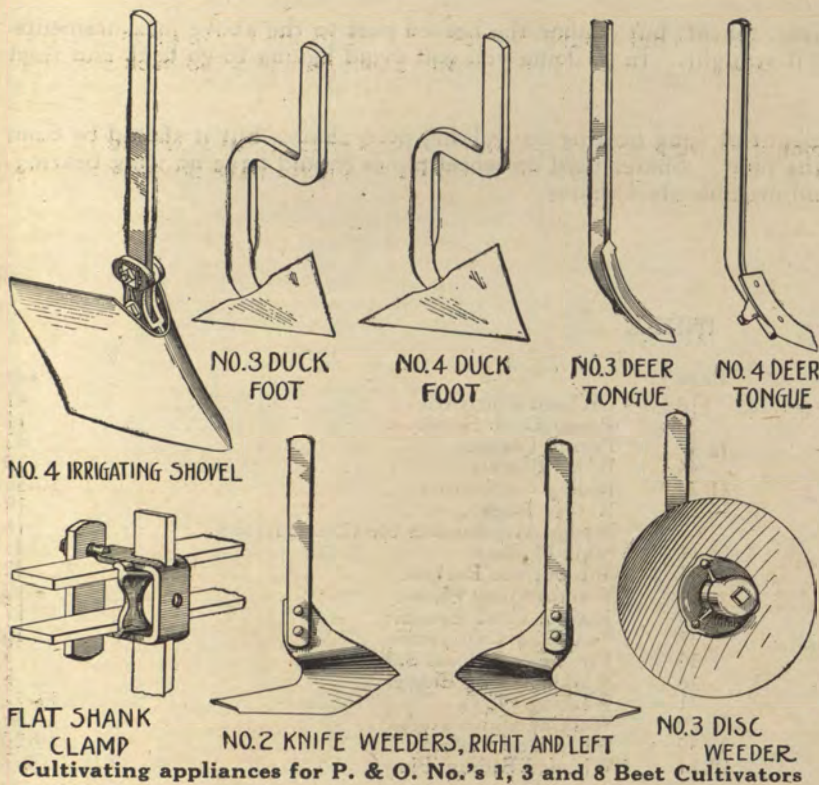
P. & O. Plows, Harrows, Planters and Cultivators

P. & O.
No. 8 Four
Row Beet
Cultivator



The pitch of the cultivating appliances on one bar can be changed without interfering with those on the other bar. Each attachment can be set in or out or up or down as desired.

Wheels have 3-inch tires—concave tires on front wheels. Dust proof wheel boxes and hard oil screw caps. Dust-proof sand bands.



Caster type rear wheel.

Wheels can be pivoted either way by means of foot levers, carrying gangs to and from the rows quickly and permitting close and thorough cultivation.

Wheels can be locked for transporting.

One piece axle and pivot arm.

Main lever raises and lowers gangs at the ends of rows, and requires but one hand to operate. Auxiliary levers are provided for leveling either side independently, when working in uneven ground.

Gangs work under spring pressure which causes them to adapt themselves to unevenness of ground.

Space in front of operator is clear, giving him an unobstructed view of his work.

Balance springs assist operator in raising gangs.

Cultivator furnished less planting parts, the purchaser choosing the combination he prefers. Flat shank clamps are furnished.

An umbrella can be furnished as an extra.

Instructions for Sharpening P. & O. Plow Shares

Modern plow manufacturers have expended large sums of money for the purpose of giving the farmer the best plow shares that can be produced. Refrigerating plants have been installed to maintain the tempering bath at a uniform temperature; the best three-ply soft center steel that can be produced is used. In fact, nothing is left undone that will produce a plow share so hard that it will scour and polish like a mirror, yet withstand the strain and shock incident to heavy plowing, and all that has been accomplished along the lines above mentioned can be undone in a few minutes by the first man who sharpens the share, either through lack of knowledge or carelessness.

The average blacksmith, after removing the share from the plow, plunges it into a big broad fire to heat preparatory to sharpening, oftentimes setting it on edge in the fire. This is wrong as it permits the heat to extend over the entire surface of the share, withdrawing the hardness that the manufacturers were so careful to conserve. It also causes it to warp and lose its original shape, causing annoyance in replacing share on the plow.

To properly sharpen a plow share:—

Build a fire on the forge suitable for this particular work. This is done by banking the fire, allowing only a small opening in the side for the blaze and heat to escape. Commence with the point of the share. Insert this into the fire just far enough to heat the part you wish to draw, never permitting the heat to extend farther back on the share than is absolutely necessary. Draw this down to the proper shape and thickness, which should be as near the original bevel as possible. After the point has been finished, work back toward the heel or wing of the share, never heating more than $1\frac{1}{2}$ inches from the edge and $2\frac{1}{2}$ inches wide. It is important to keep hammering after the steel has changed from a red heat to a black, as this makes the edge tough and hard, giving a wearing surface that will last much longer.

If once down the share is not sufficient, reheat; but confine the heated part to the above measurements. In working along the cutting edge, keep it straight. In so doing you will avoid having to go back and reset the edge.

It is impossible to give the exact amount of wing bearing on walking plow shares, but it should be from 1 to $1\frac{3}{4}$ inches, according to the size of the plow. Shares used on wheel plows should have no wing bearing. These instructions refer to both hard and crucible steel shares.

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LIGHT DRAFT PLOWS

**HARROWS, CORN PLANTERS, COTTON
PLANTERS, LISTERS, DRILLS,
CULTIVATORS, POTATO
DIGGERS, STALK
CUTTERS, ETC.**

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