FULLER & JOHNSON

MANUFACTURING CO
MADISON, WIS., U.S.A.

MANUFACTURERS OF

HIGH GRADE IMPLEMENTS AND GASOLINE ENGINES

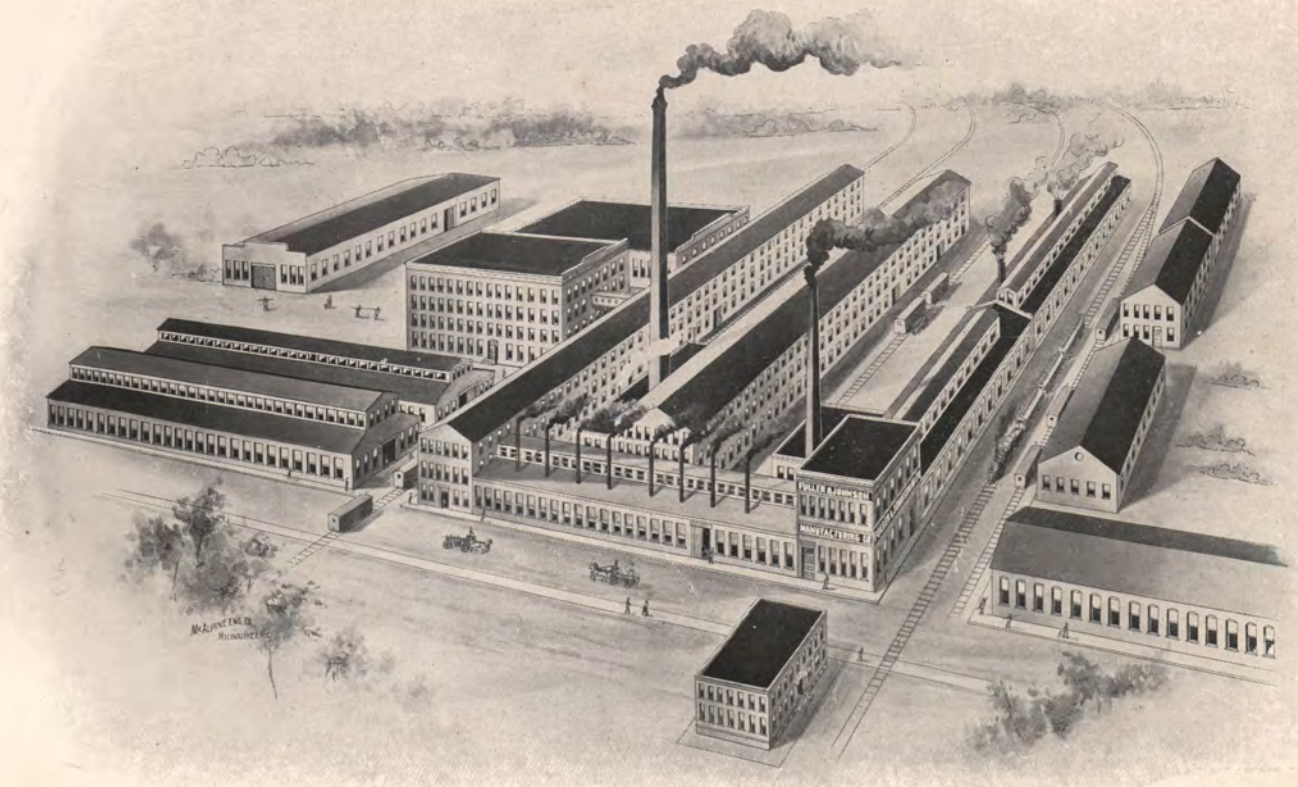
Fuller & Johnson Mfg. Company

MADISON, WISCONSIN, U. S. A.

MANUFACTURERS OF HIGH GRADE

Agricultural Implements and Gasoline Engines

"One sale doesn't make a customer—it's all in delivering the goods. Increased sales depend upon 'Good Will'—'Good Will' means satisfied customers. Fuller & Johnson Goods Satisfy"



Plant of Fuller & Johnson Mfg. Co., where quality is given first consideration.

THE business of the Fuller & Johnson Manufacturing Company has had a steady growth from the date of its organization over thirty years ago. The Fuller & Johnson "quality" is everywhere recognized, and, in consequence a larger demand each year is being created for the popular and reliable goods of this Company's manufacture. Each article of its production has been designed and manufactured to meet an actual need of the progressive farmer. Nothing that money and skill can contribute is left out in the manufacture of its goods, and the Company has had constantly in view, the idea of keeping abreast of modern scientific methods of farming, by turning out implements in harmony with the demand such methods require.

Buying farm implements in blind faith is a hazardous experiment and the conservative farmer will not take such risk. An implement not strongly made or not of correct design or if made of inferior materials is a poor investment at any price. Remember that the guaranty of Fuller & Johnson quality and utility is back of every article of its manufacture. Those who appreciate quality and are willing to pay for the best are those to whom we cater and for whose trade our business is directed.

Each article of our manufacture is the result of more than thirty years experience in successful manufacturing.

Our customers are our best advertisers. We trust that this pamphlet may be helpful—in it are illustrations and descriptions of the goods made in the Fuller & Johnson factory having the guaranty of Fuller & Johnson quality.

GOOD PLOWING

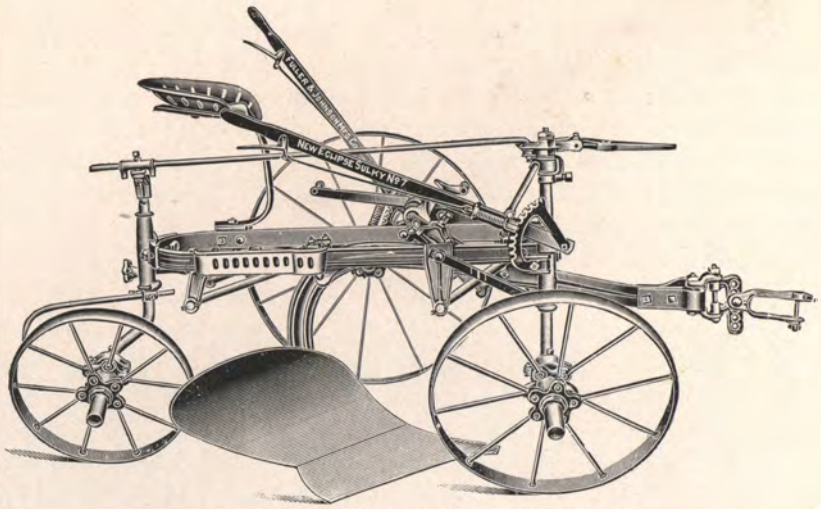
GOOD plowing is an art, but it is very poorly developed at the hands of some men, notwithstanding the fact that it is the basic tillage operation and is old as history itself.

Some people will go so far as to say that "plowmen are born, not made." The best way to make a good plowman is to commence with the boy and holding the plow should be the young agriculturist's first lesson. What we learn when young is always remembered.

Buy a good plow, don't take any chances, then make **quality** of work, not **number** of acres, the goal. Poorly plowed fields mean poor seed beds and a reduced yield of crop. To do **good** plowing not only requires a **good** plow but **considerable care.** It takes considerable power to move earth and lay it over in a nice furrow, but no more to put it in a nice even furrow than to simply string it along in an uneven ridge. A good strong, steady team will help a lot, but

bad plowing is not generally the fault of the team but of the man between the handles or on the seat. With a **good** plow there is no place to fix the blame of poor work except upon the **man** himself. A **good** plow is a most **sensitive** implement and responds to **careful adjustment** the same as other **high class** machines. **Without proper adjustment** no plow will do good work. **Get the hitch right** and the **other parts** in **proper line** so that the **draft will be uniform** and then cut a **straight furrow of uniform depth.**

Good tillage cannot be secured without **proper** plowing to begin with. Turn the furrow clean and use a type of mouldboard which will give a good pulverizing effect. With a deeply plowed field, better cultivation can be given and more moisture conserved than where the surface has just been scraped. Some plowmen only pile up ridges and leave a hard strip between each furrow. The furrow should be cut clean and turned up to the sun. There is always a **sense of satisfaction** in doing a thing **right,** and there is nothing in which this feeling exerts itself more strongly than when one has laid out a nice strip of land and plowed it out, straight, to the finish. No progressive farmer will be outdone in the matter of plowing if he uses a FULLER & JOHNSON "*New Eclipse.*"



Fuller & Johnson New Eclipse Sulky Plow

FULLER & JOHNSON "NEW ECLIPSE" SULKY AND GANG PLOWS

THE PERFECTION OF ALL RIDING PLOWS

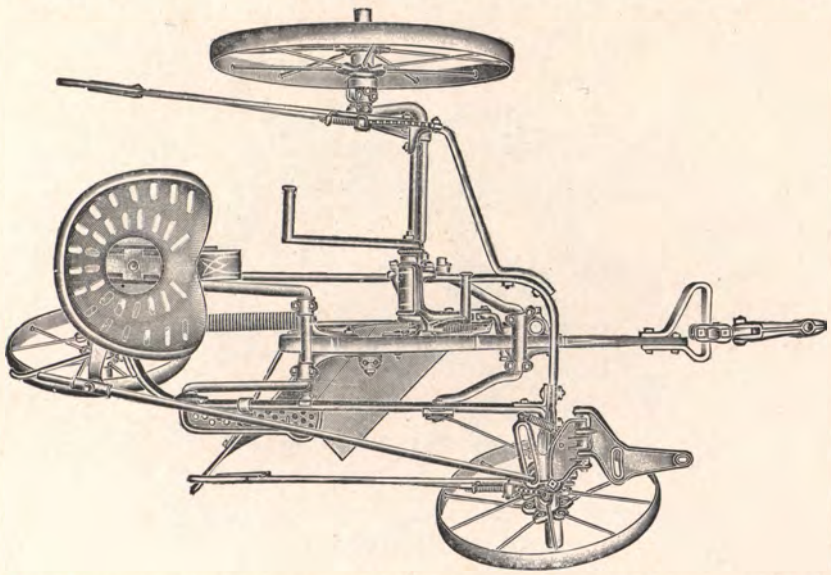
The essentials of a riding plow are correctness of design, materials of the best quality, and workmanship of the highest order, insuring strength, durability and the best of working qualities.

STRENGTH AND WEARING QUALITIES

The *New Eclipse* frames are one piece; wonderfully stiff and strong; the rear furrow wheel connection, by reason of its superior construction, is self bracing, **a most important feature,** for, as is well known by all purchasers of wheeled plows, if there is a **twisting** or **bending** of the rear **furrow wheel connection the plow cannot work right.** Every practical farmer knows also how important it is that the front furrow wheel lever connection should be strong in construction—here we use a 5/8 inch round rod operating in bearings 1¼ inches long. Every farmer will appreciate the extra strength of this feature.

FRAME EXTENSION TO LAND WHEEL

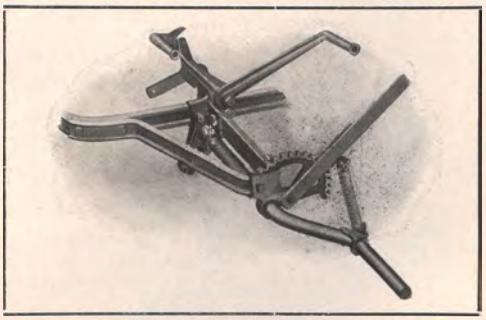
The construction and bracing here is such that it is an utter impossibility for the frame to go down. With this construction we **guarantee** that there will be no springing or sagging.



Fuller & Johnson New Eclipse Sulky Plow—Top view

Observe also the broad rear and front bail bearings, also the long bearings of the rear and front furrow wheel axle holders.

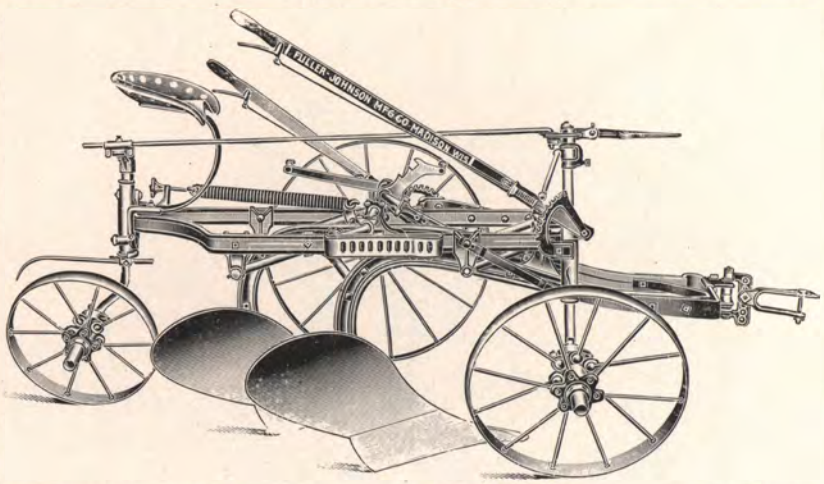
The front and rear furrow wheels are at all times controlled by the pole. The front furrow wheel axle has a short offset which brings the lower edge of the wheel rim close up to the perpendicular line of the axle standard, thus overcoming tendency of the wheel to caster and throw the pole over against the horses.



This feature, together with the fact that the connecting rod between the front and rear wheel is held close up to the front axle, takes away all side strain on the pole. When the plow is turned to the right or left the rear wheel is not pushed or dragged around but the slotted casting on the front furrow wheel standard causes the rear wheel to caster the same as the front wheel.

THROAT ROOM

The *New Eclipse* Plows have a throat room measuring 21½ inches, which is a **valuable feature of these plows.**



Fuller & Johnson New Eclipse Gang Plow

BEAM STRENGTH

The beams are of extra weight and strength, are of high carbon steel, very rigid and strong and are designed to withstand unusual strain. The beam foot where attached to the plow base is not drawn out and thereby weakened, but it has the extra strength of full weight at this point which is necessary to obviate twisting.

HEAVY FROG

The frog is high carbon steel, heavy and of strong construction, insuring rigidity and a uniformly correct shape of mouldboard.

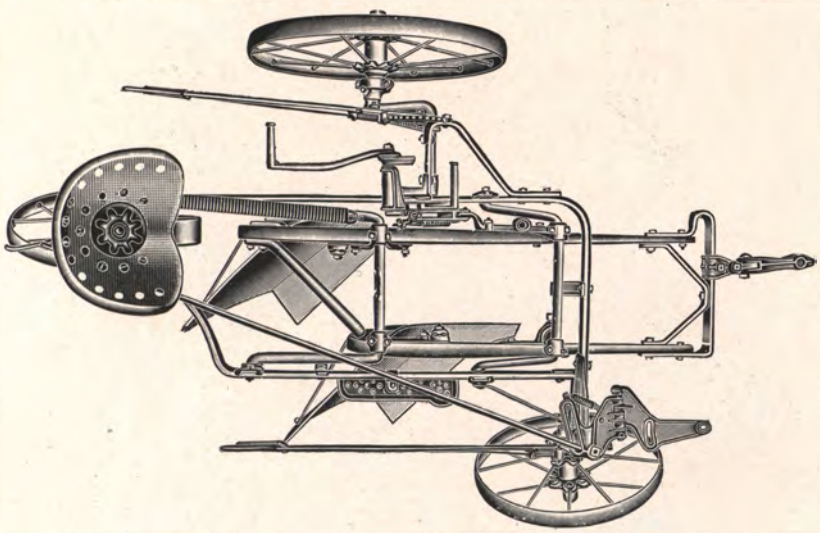
MOULDBOARDS, SHARES AND LANDSIDES

The mouldboards are of the special Fuller & Johnson turn, temper and polish, insuring the best of scouring and turning qualities.

The shares are very broad and heavy, $^{5}/_{16}$ inch thickness, both mouldboards and shares are double shinned. The landside, where welded to share, is reinforced by a heavy bead. All of these features add to the wearing qualities and materially to the life of the plow.

WHEELS

The strong malleable hubs; the heavy spokes rivited to the hub and tire makes a wheel of unusual strength. The construction is such that if a spoke is accidentally broken out any ordinary blacksmith can replace it at an expense of but a few cents. Long distance dust proof axle boxes on every one of our *New Eclipse* wheels.



Fuller & Johnson New Eclipse Gang Plow—Top view

EASIEST,—STRONGEST,—LIGHTEST DRAFT,—EASIEST ON HORSES AND MAN

All the levers are handy and easy to work. The powerful foot lever and lifting spring causes the plow to lift exceptionally easy. The ease of controlling, draft and all, combine to make the *New Eclipse* Sulkies and Gangs the easiest of all riding plows on horses and man, and plowing with them is positively a pleasure. Any boy large enough to handle a team can handle the *New Eclipse.*

DIRECT BEAM HITCH

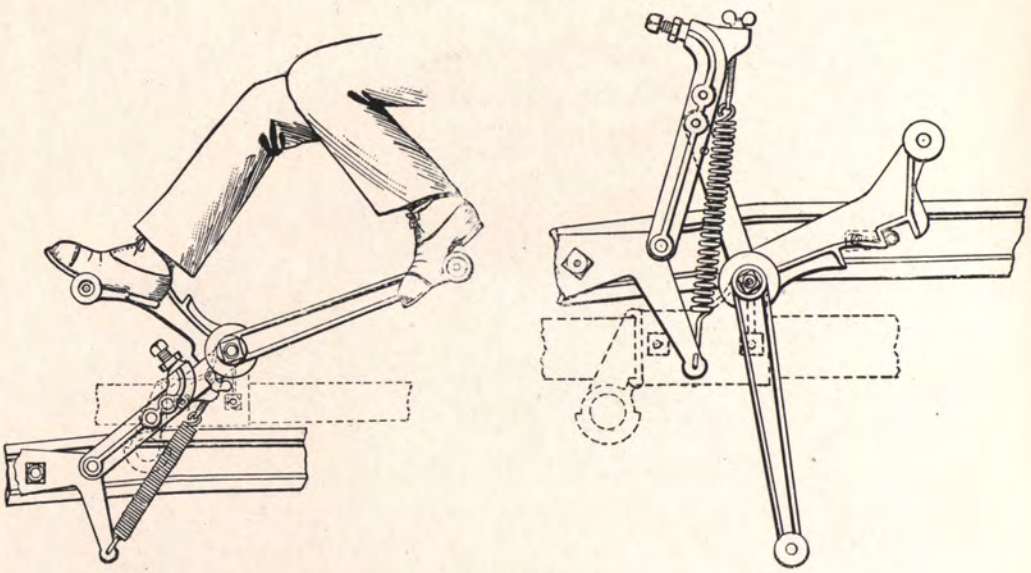
Notice the wide range of adjustment of clevis.

Sulky Plow Clevis

Gang Plow Clevis

FOOT LIFT AND LOCK LEVER

One of the **very** essential features of a riding plow is a good foot lift and a proper locking lever. The *New Eclipse* positively is in a **class by itself** and **alone in these features.** With our vastly superior construction of locking lever, ad-



justments can be made to hold the plow in the hardest ground or so that the plow will float.

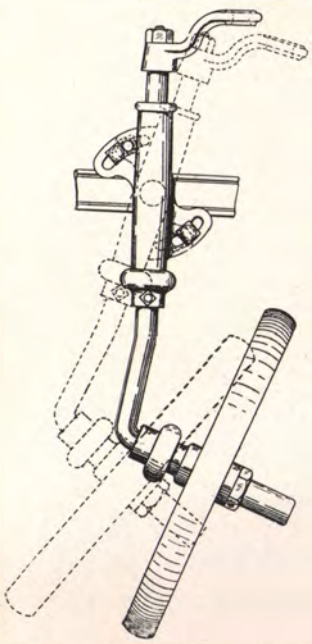
This spring lock lever assists in drawing the plow down to proper depth, where it is held by its own suction when adjusted to lock. **To adjust** the plow so that it will **float** requires but a moment and is done by means of a set screw and then when a stone or other obstruction is encountered the plow automatically rises to clear it and a slight pressure of the foot causes it to draw back into the ground without stopping the team, preventing broken shares and accidents to the driver by being thrown from his seat.

The spring lock lever is indispensable on any foot lift plow that is needed for work in hard ground, because the tension of the lock spring can be set so that the plow is held down. Without this particular kind of lock spring the plow would have a tendency to work out of the ground under such conditions, unless the operator kept his foot on the lever all the time. Look into this spring lock lever feature carefully and do not buy a plow without it if you do not want trouble and annoyance.

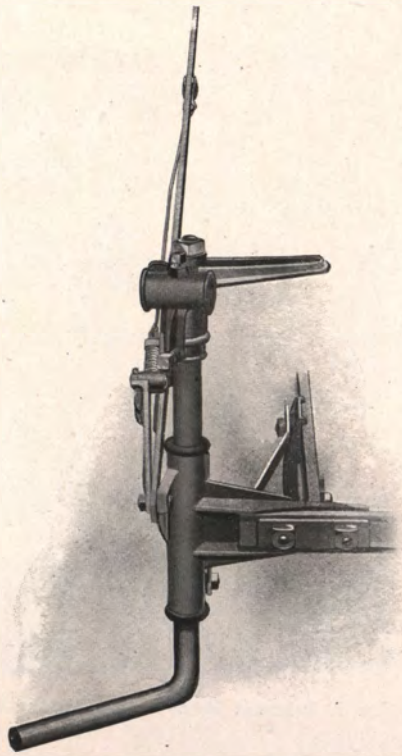
The compensating spring on the landside lever insures a uniform depth of furrow in rough and uneven ground. Too many so-called compensating springs are there for show only, they fail to act because not properly attached. Note carefully the perfect action of this spring on the *New Eclipse*.

The foot lever of the FULLER & JOHNSON *New Eclipse* plow is in the right position to be easily reached by the operator. He does not have to slide off his seat to reach it nor does he have to stand up in order to get a sufficient purchase or leverage to lift the plow.

There probably never was a plow made with as powerful a foot lever as the FULLER & JOHNSON *New Eclipse* nor one that can be handled so easily.



Rear Furrow Wheel Connections



Front Furrow Wheel Connections

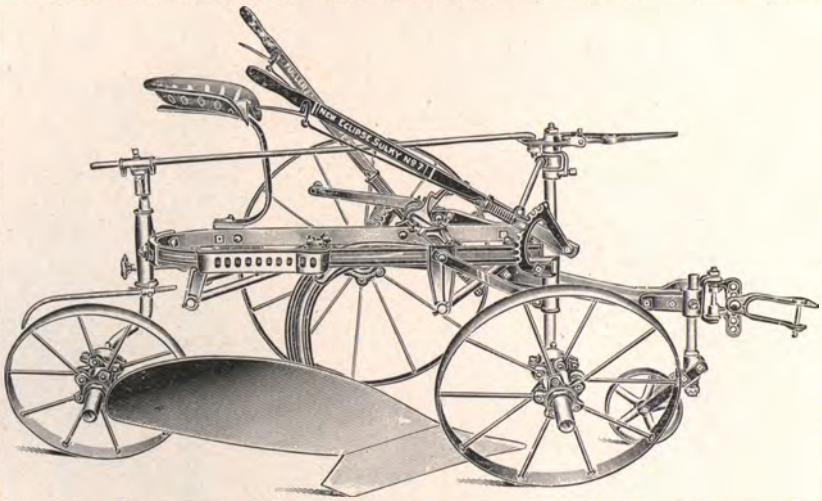
FRONT AND REAR FURROW WHEEL ADJUSTMENTS

Both the front and rear furrow wheels of the *New Eclipse* Sulky and Gang can be adjusted to or from the land by means of slotted bracket castings which is of great advantage in setting the plow to cut the desired width in either hard or soft ground. The above illustrations show the simplicity with which these adjustments can be made.

Every up-to-date farmer will save time, money and trouble by insisting upon his dealer furnishing him with the *New Eclipse* and **nothing else.** He should not be induced to take something else "**just as good.**" Thousands of purchasers of the *New Eclipse* plows make the broad statement that they are the **best, strongest, lightest draft, most durable, easiest handled** of any. We guarantee that this record of superiority will be maintained. *Eclipse* plows made in standard sizes and equipped with standard styles of bottoms.

The Fuller & Johnson Light Draft Implements

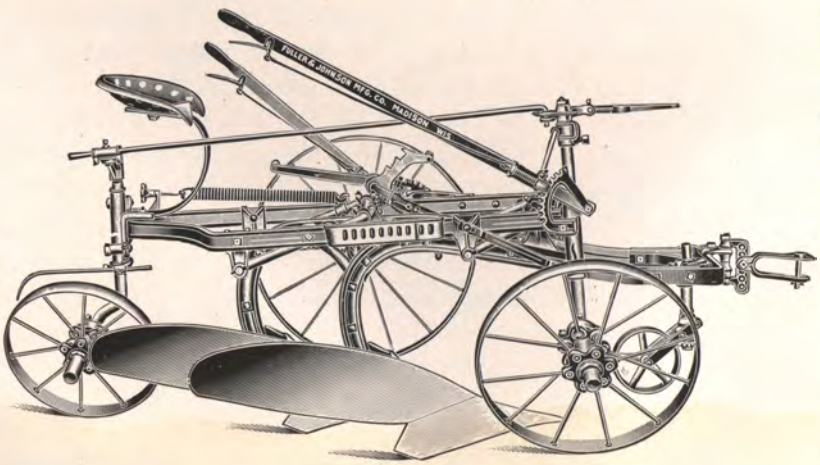
FULLER & JOHNSON SULKY AND GANG PLOW BREAKER ATTACHMENTS



Fuller & Johnson New Eclipse Sulky with Breaker Attachment and Gauge Wheel

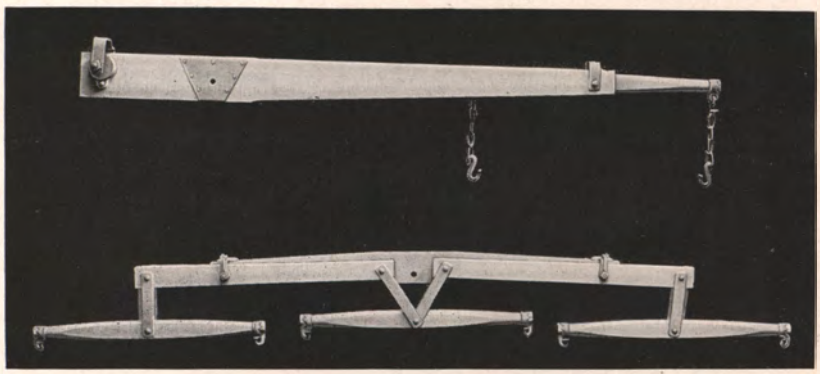
Prairie breaker attachments of different sizes can be furnished for both *New Eclipse* Sulkies and Gangs.

These attachments work perfectly and are easily put on and taken off the beams.

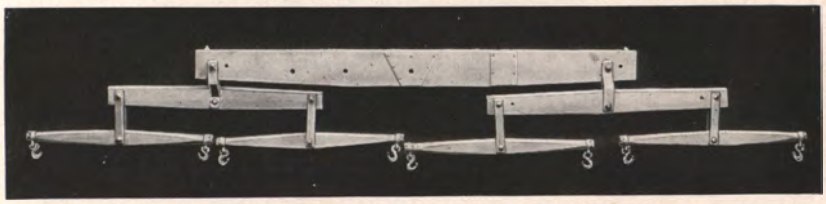


Fuller & Johnson New Eclipse Gang with Breaker Attachment and Gauge Wheel

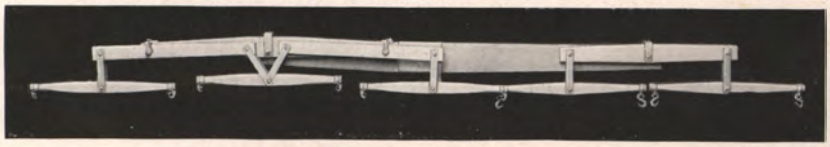
SULKY AND GANG PLOW EVENERS



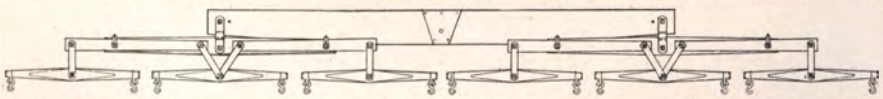
Regular Three Horse Evener with Four Horse Attachment for Sulky Plow



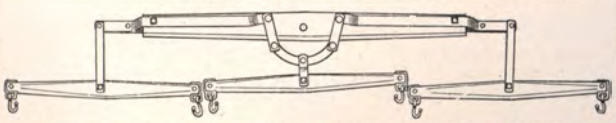
Regular Four Horse Abreast Evener



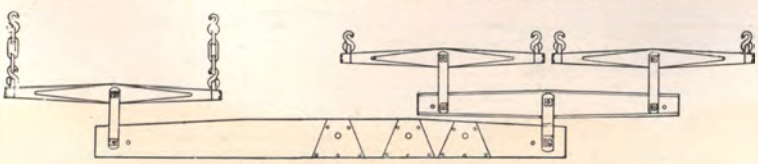
Regular Five Horse Abreast Evener



Regular Six Horse Abreast Evener

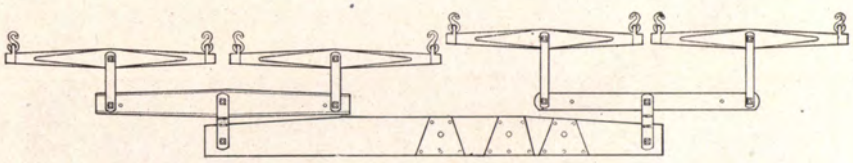


Special Three Horse Abreast Combination Evener

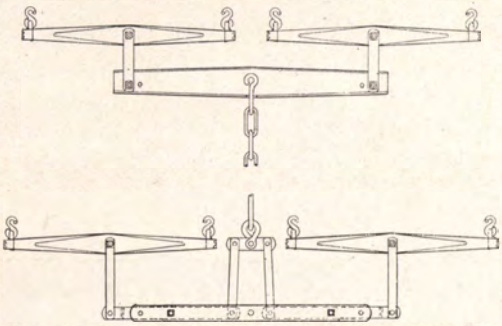


4H 6H 5H

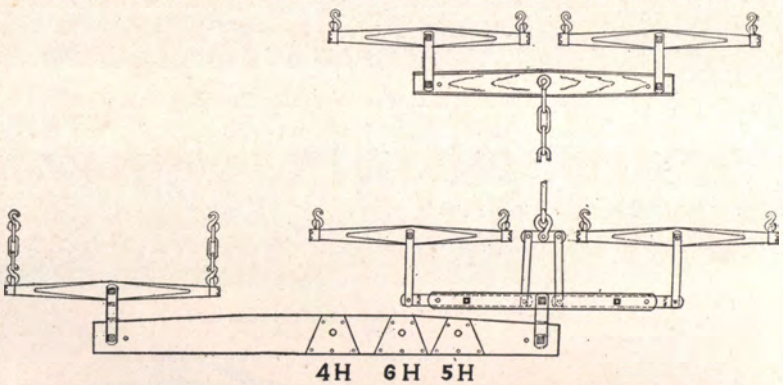
Three Horse Abreast Combination Evener



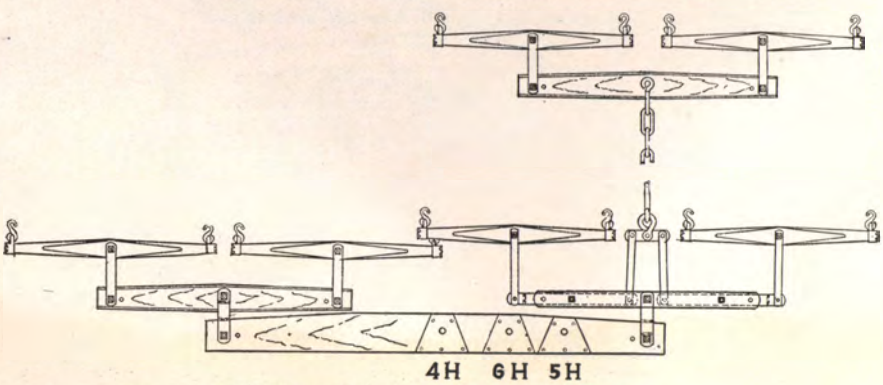
Four Horse Abreast Combination Evener



Four Horse Tandem Evener



Five Horse Tandem Combination Evener



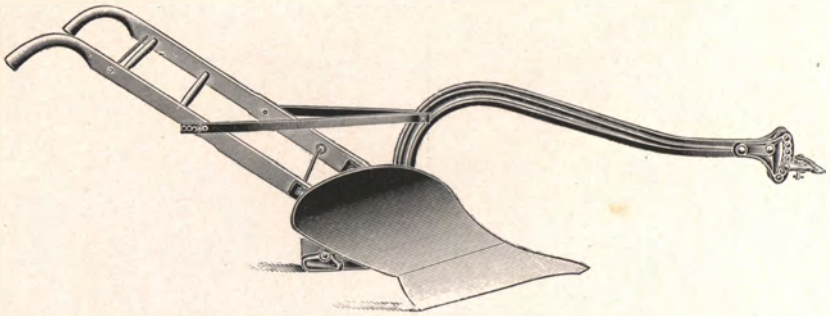
Six Horse Tandem Combination Evener

FULLER & JOHNSON WALKING PLOWS

EACH implement of FULLER & JOHNSON production is noted for superiority of quality, workmanship, strength, durability and exceptionally light draft. Every article of its manufacture is **absolutely dependable.**

DETAILS OF CONSTRUCTION

Strong, extra scouring and turning qualities, light running. **Mouldboards** and **shares**—are the right turn, temper and polish, features that are absolutely essential. A plow may be all right in every other respect and if lacking in these essentials be absolutely worthless. Only years of experience enable a manufacturer to turn out plows that are absolutely correct in all details.



Fuller & Johnson S. U. Stubble Plow, showing Mouldboard Design

The mouldboards, shares and landsides are the special FULLER & JOHNSON quality. The mouldboards and shares are double shinned; the shares are very broad and heavy and the weld of landside to share is reinforced by a heavy bead, thereby insuring greater wearing qualities and adding materially to the life of the plow; the landside has a detachable semi-steel heel, replaceable at slight cost. A heavy steel frog is used, giving rigidity and strength and insuring uniformly correct shape of mouldboard.

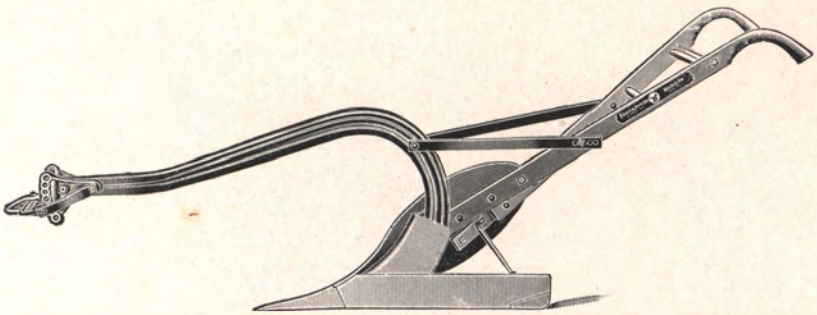
The plow beams are heavy and extra strong and are guaranteed against springing.

The handles are made of heavy thoroughly seasoned oak and fastened to the beam and mouldboard with steel clips, braced by heavy steel straps and connected with two rounds and heavy iron rods.

The clevises are malleable iron with wide jaws and the cross clevises are strongly braced.

Probably no article that the farmer buys for farm work gives him, or at least should give him, the concern that the purchase of a plow does, for without good plowing it is positively impossible to raise good crops. What is more **annoying** than a plow that **wings**—that fails to **scour**—that does not **turn** a good furrow—that lacks in **strength** or that is **skimped** in **material?** What is more **satisfactory** than a plow that **fullfils perfectly** all of these requirements? Note the **perfection** in every detail of the FULLER & JOHNSON plows—the **weight**—the **strength** of construction—the **extra wearing** qualities because of the **thickness** of mouldboard, share and landside and the extra **width** and **weight** of the share. **Every plow** bearing the FULLER & JOHNSON name is a guaranty of the F. & J. quality. A farmer therefore cannot be too particular in the selection of his plow. The FULLER & JOHNSON plows are absolutely right—long manufacturing experience has enabled us to reach this point of perfection.

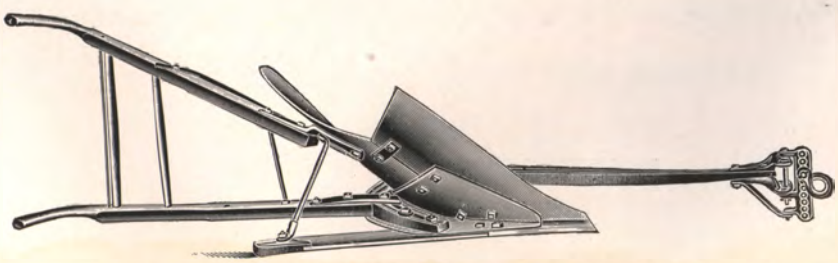
We make plows in various sizes and styles for all practical purposes, stubble, turf and stubble, breaker and sod, medium and low landsides.



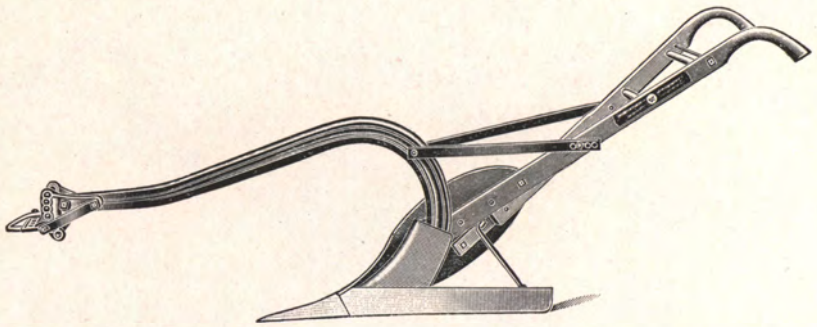
Fuller & Johnson S. U. Stubble Plow, showing Landside Design

FULLER & JOHNSON STUBBLE PLOWS—S. U. SERIES

These plows, because of their particular shape and design, are especially adapted to work in old ground or loamy soil where it is difficult to make a plow scour. The quick turn of the mouldboard insures the turning under completely of all trash, etc., and leaves the ground in the best possible shape for harrowing—high throat room prevents clogging. Light draft.



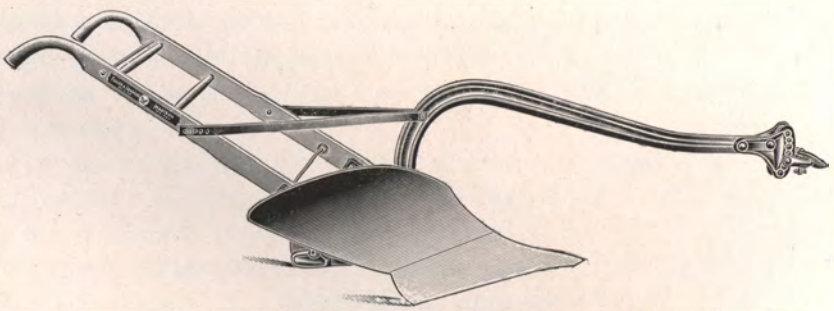
Fuller & Johnson S. U. Stubble Plow, Bottom view showing Rigid Share Construction



Fuller & Johnson L. U. Plow. Showing Landside Design

FULLER & JOHNSON L. U. SERIES

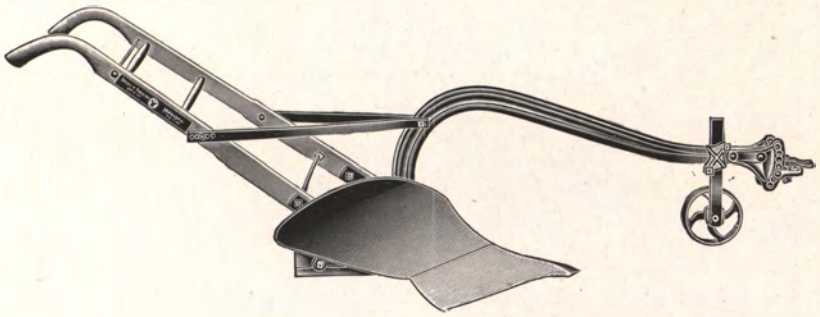
In the West, particularly in Kansas and Nebraska, there is a demand for a lower landside, altho the shape of the plow base required is identical with that used in our new S. U. Plows. With the exception of the lower landside this series is exactly like the S. U. series.



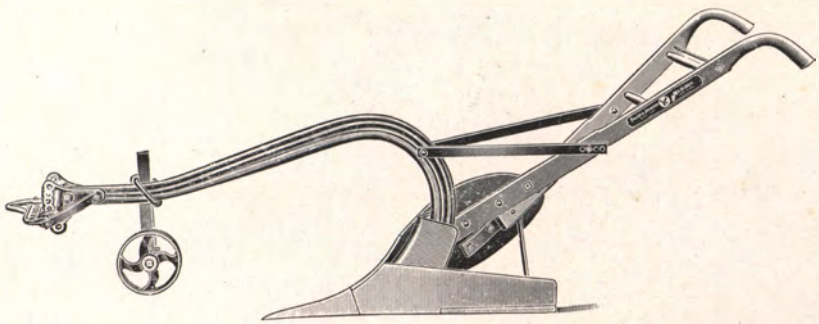
Fuller & Johnson T. U. Turf and Stubble Plow, showing Mouldboard Design

FULLER & JOHNSON T. U. SERIES

Turf and stubble, general purpose plows have long gradually turned mouldboards which will not kink the sod, but will cover up stubble, etc. Especially adapted for use in timothy and clover sod, in clayey soils and for deep plowing. Just the plow for general purpose work.



Fuller & Johnson Wisconsin Clipper—The General Purpose Plow.
Showing Mouldboard Design



Fuller & Johnson Wisconsin Clipper Plow, showing Landside Design

FULLER & JOHNSON WISCONSIN CLIPPER

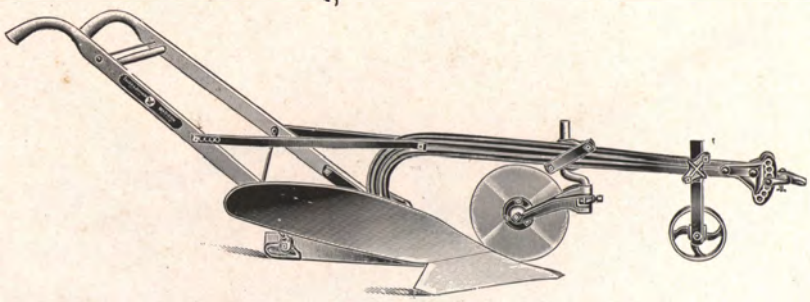
General Purpose Plow

Similar to the turf and stubble series but has high landside, steel mouldboard and landside with broad chilled cast shoe, which can be replaced when worn, or if desired can be furnished with cast landside. Very broad at the base,—furnished with either steel or cast share. **A plow especially adapted to sandy soil.**

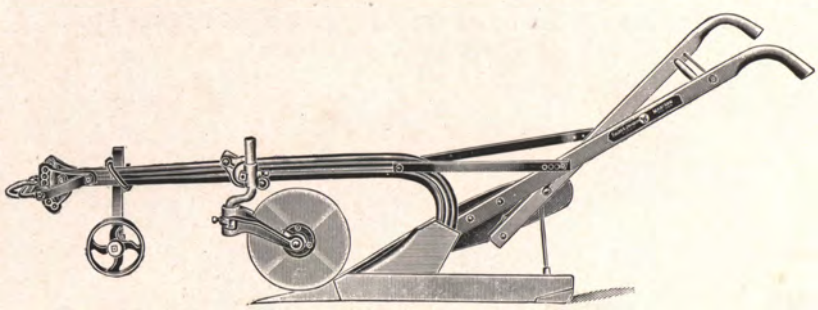
FULLER & JOHNSON PRAIRIE KING BREAKER

Slip Share

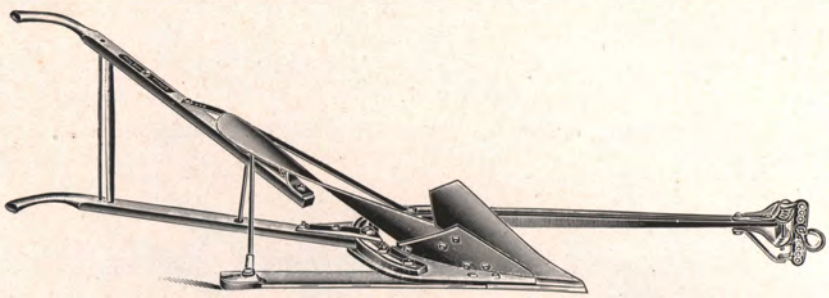
In sizes from 12 to 16 inches, solid steel shares, mouldboards and landside. Hardened soft center steel mouldboards furnished if specified. Built especially for breaking prairie soil. The long slanting mouldboard of FULLER & JOHNSON pattern and special design turns the sod perfectly without kinking or breaking. For excellence of work, strength and lightness of draft this plow is unex-



Fuller & Johnson Steel Beam Prairie Breaker, showing Mouldboard Design



Fuller & Johnson Steel Beam Prairie Breaker, showing Landside Design

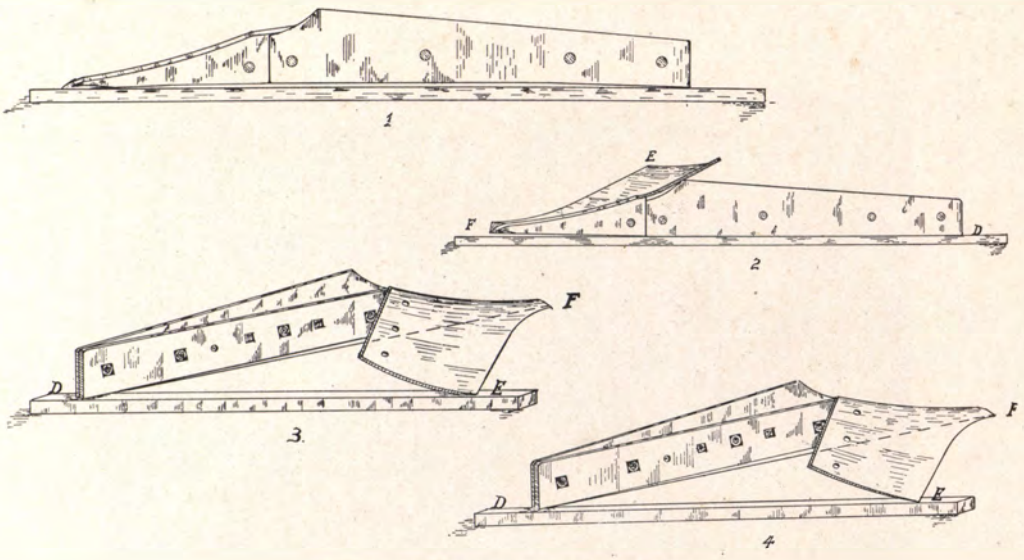


Fuller & Johnson Prairie Breaker, Bottom view, showing Extremely Rigid Construction

celled. Furnished regularly with rolling colter, gauge wheel and extra share. Special colter equipment furnished if desired.

Our steel beam *Prairie Breaker* is a specialty in prairie breakers; has $^{7}/_{16}$ inch steel frog, insuring rigidity, strength and also a uniformly correct shape of mouldboard. On this plow we use a one piece landside and a chilled replaceable heel, which possesses much greater wearing qualities and can be easily replaced at any time at an expense of but a few cents. Handle braces are heavy steel straps; beaded landside on share, the point being double shinned, practically doubling the life of the plow. This breaker is also adapted to breaking timothy or clover tame sod.

The Fuller & Johnson Light Draft Implements



THE SETTING OF SHARES

FIRST.—The level running of a Plow depends entirely upon the set of the Share, and so important is the right set of a share to the proper running of a Plow, that the blacksmith who last sharpened and set the Share is entitled to all the credit for its level running or all the blame for its winging or running on the point, **and the original manufacturer must in all cases be held blameless.**

SECOND.—The point of a Share should always be set down, as shown in Figure 1. If set down too much the Plow will incline to run on its point more or less, according as the fault is aggravated. If set up, as shown in Figure 2, or worn to sled-runner shape on the bottom, the Plow will incline to run out.

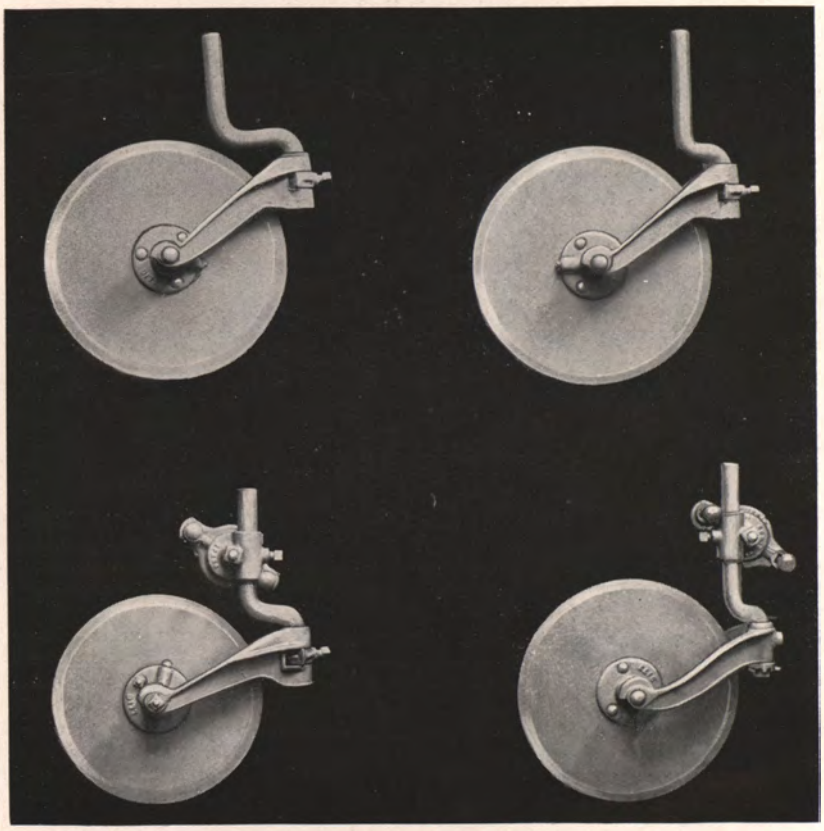
THIRD.—The proper set of the Share for ordinary soil is determined by placing a straight-edge (D), Figure 3, across from heel of landside to heel of Share, which straight-edge should have a bearing at E from edge of Share 1 inch wide on 12-inch Shares, 1¼ inches on 14-inch, 1½ inches on 16-inch and 1¾ inches on 18-inch Shares, as shown by the shading in the cut. This will prevent winging down.

FOURTH.—For use in hard ground the edge of Share at E should be set down so that straight-edge D, Figure 4, when placed across, as shown in the cut, will touch at edge of Share about ½ inch.

FIFTH.—Plows that have worked satisfactorily in soft ground in the spring when they come to be put in shape for fall plowing will nearly always have to have the edge of the Share set down, as explained in the preceding section, otherwise they will incline to wing over on landside.

SIXTH.—Large-sized plows, especially when run shallow in soft ground, are very sensitive, and should have a wide bearing at E (Figure 3), and when used in hard ground care must be taken to set the edge of Share down, as explained in section 4, to prevent winging on landside. All Wheel Plows, being balanced on wheels, should always have point and edge of Share set well down, as shown in Figures 1 and 4. Endless trouble can be avoided by keeping the Shares well sharpened. **Failure to keep Share points on Wheel Plows well sharpened and set down will prevent perfect operation and greatly increase the draft.**

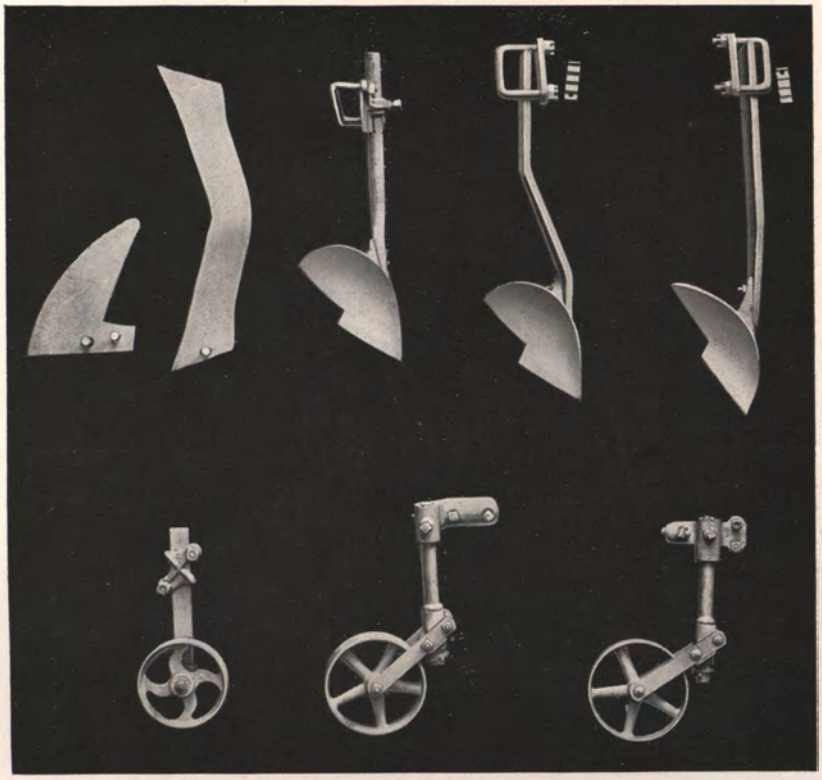
TO SHARPEN.—Heat the point of the Share to a low cherry red (not white heat) and hammer the under side until it is as sharp as desired. Be careful not to get the heat too high, as it destroys the quality of the steel, and hammer only at a cherry red. Heat at one time only as much as you can hammer. **The body of the Share should not be heated, so as not to disturb the fitting edge.** Then thoroughly cold-hammer the whole cutting edge. Set the Share on a level platform, leaving one-eighth of an inch under middle of landside piece to give proper suck or pitch. For 12-inch or 14-inch Plows to be used with two horses, the wing edge of Share should touch the platform from 1 inch to 1½ inches. For 16-inch Plows and Prairie Breakers and 12 or 14-inch Plows to be used with three horses, the extreme outside wing edge of Share must be rolled up to obtain a bearing from 1 inch to 1½ inches to prevent winging down.



Rolling Colters for Riding and Walking Plows

SERMON ON FARMING

The following excellent sermon on farming is contained in a farmers' bulletin issued by the **United States Department of Agriculture**: "Farming is a complex business. The successful farmer must be a good manager. This means that he must know what to do and how to do it, and must be able to do things at the time they should be done. He should have some knowledge of physics, mechanics, chemistry, physiology and engineering. He must know something of the breeds of live stock and of the principles involved in feeding them and breeding them. He must know something of soils and most of this knowledge of the soil must come from experience with the particular soil he farms. No amount of



Cutters, Jointers and Gauge Wheels for Walking and Riding Plows

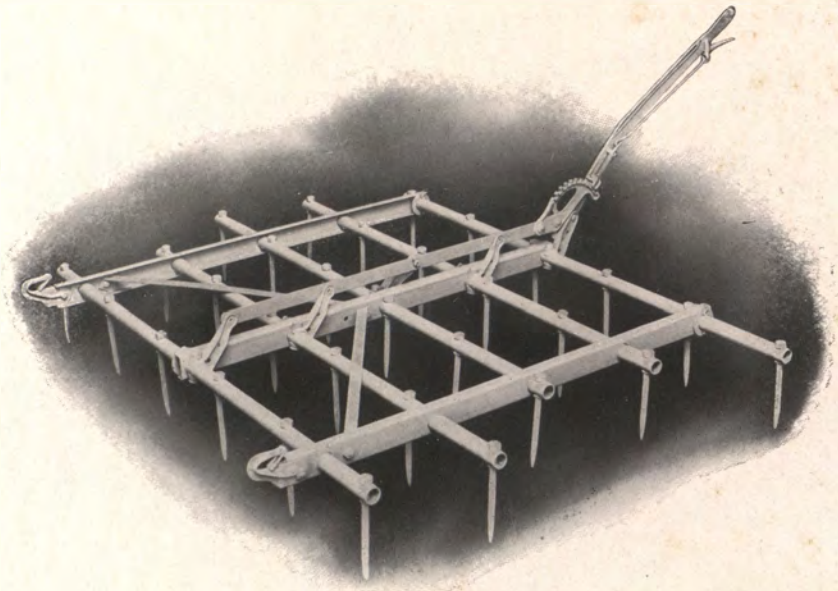
knowledge of these things gleaned from books will completely take the place of experience. No man can begin farming without previous experience, and be successful from the start. Yet some of the most successful farmers of this country began farming in middle life. Their success has been due to persistent effort, indomitable energy, patience and a realization of their lack of knowledge which led them to seek information from every possible source. The first few years were full of discouragement. Later, many such men have won enviable reputations as farmers.''

Every farmer will realize the truth in the above. It does not take a man long to find out that farming is a complex business and that there are many, very many things that can be learned only through experience. This need not always be his own experience if he will but profit by the experience of others, so it behooves him to study and learn what others have found out; to see, to think and above all to apply.

FULLER & JOHNSON STEEL LEVER HARROW

PIPE BAR

THE demand for steel lever harrows has been steady because of their durability, strength and flexibility. Many harrows of this type are too light in construction, they twist out of shape and are a source of annoyance. No complaint of this nature is ever heard of the FULLER & JOHNSON harrow. Channel steel connecting bars are used in its construction, three in each section, with flat diagonal braces running from the front corners to the center of each section, making a **strong, well built** harrow. The teeth are ½ inch square, of good length, either spike or dagger shape. Levers give teeth any desired slant. We use drop link clevises to attach eveners to sections on all our harrows. Combination eveners are furnished with all of our three and four section harrows; hence a three section or two section harrow can be made without buying new evener.



Fuller & Johnson Thirty Tooth Section of Pipe Bar Harrow

The holes in the wood evener bars are bored uniformly, and will be found adapted to all the combinations for which they are intended. All the draft irons are made to conform to the different wood bars and will be found interchangeable throughout.

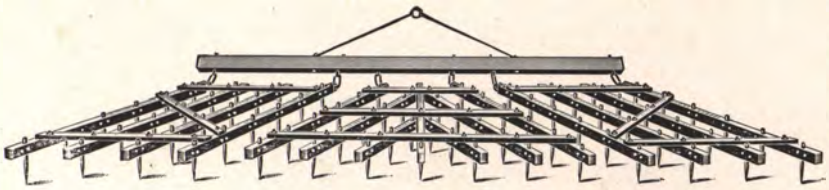
Each harrow section, as shipped from the factory, has attached to it two links and eye bolts to attach it to any size evener, while each "attachment," such as the 90 tooth, is shipped from the factory with the short straps and bolts necessary to attach to the other evener with which it is to be used.

There is an individuality in every FULLER & JOHNSON farm implement which carries the stamp of approval to every one who investigates its merits. No implement will be satisfactory to the purchaser if it is not designed with especial reference not only to utility but also to length of service as well. The FULLER & JOHNSON implements are noted for their genuine worth—excelling in quality of material, in excellence of design, in quality of workmanship and strength, as well as in superior working qualities; hence every purchaser of a FULLER & JOHNSON implement gets **full value received.** He gets full value because he gets an article with material of the **right quality and** enough of that material used in its manufacture to insure the proper strength—an article that is correctly designed and constructed, on which the workmanship is not slighted. The FULLER & JOHNSON Mfg. Co. does not do its experimental work at the expense of the farmer.

FULLER & JOHNSON NEW BOSS HARROW

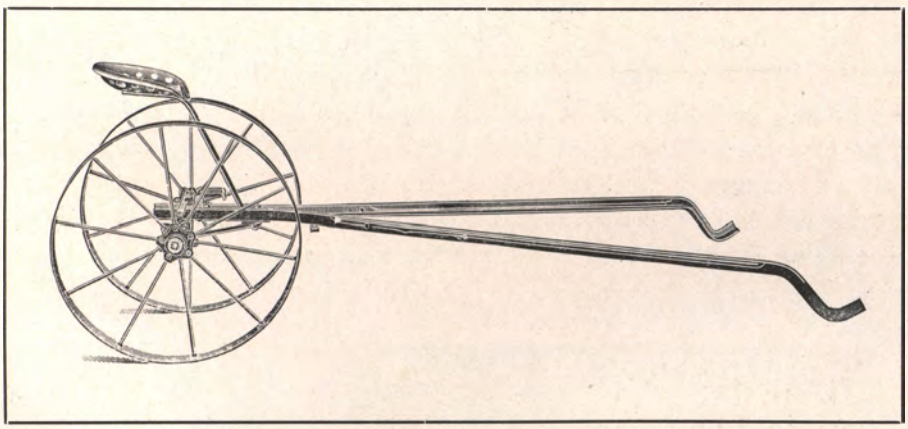
A VERY popular harrow in the Northwest. Made up of an "A" frame 30 tooth center section with 24 and 36 teeth side sections added, to make a two, three or four horse harrow, as desired, with 78, 102, 126 or 150 teeth, cutting 14, 18, 22 and 26 feet respectively. The tooth bars are good weight and are made from well seasoned **oak timber**, well painted and finished, solid **oak cross pieces** securely bolted on, tooth bars are **double** riveted at each tooth to prevent splitting; teeth are of high carbon steel, **good length** with dagger point. Drop link clevises permit attaching or taking off eveners easily and quickly.

For the 126 or 150 tooth four horse harrows we furnish a combination evener from which can be made two 78 tooth eveners or one 78 tooth and one 102



Fuller & Johnson 78 Tooth Boss Harrow

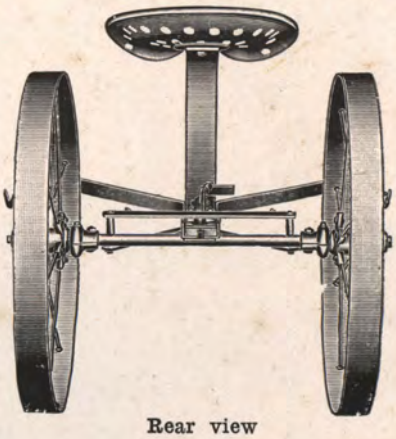
tooth evener, as desired. We furnish eveners of extra thickness and width. Each combination evener is provided with a chain and pulley equalizer in the center to equalize the draft between the two pair of horses. A **strictly first-class** harrow in every detail.



FULLER & JOHNSON HARROW CART

Probably nothing else that the farmer can buy for the same amount of money will save him as much tiresome work as a harrow cart. Without it he must not only walk a long distance to harrow a large field, but must necessarily walk on soft ground, which greatly adds to the tiresomeness of the task. Our harrow cart is light, but strong and durable, being made entirely of steel. The draw bars are made entirely of angle bar steel, so arranged that the cart can be used with any size of lever harrow without in any way interfering with the levers or other parts of the harrow. The track is wide enough to prevent the wheels from running on the corn row in harrowing small corn. The shortest corners can be turned without cramping or binding the cart, as the wheels have a wide range of "caster."

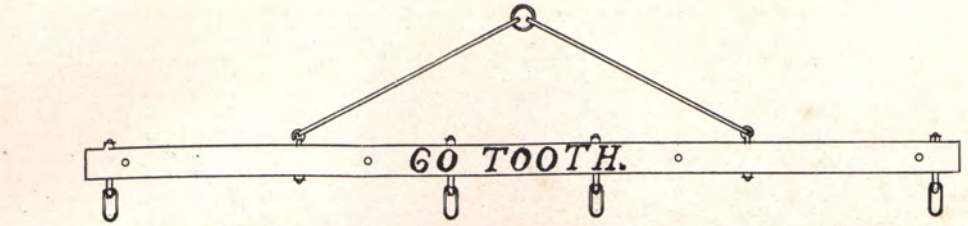
The seat is placed on a comfortable spring. This spring is attached to the main frame of the cart instead of to the axle, so that the driver always faces the front, no matter how the cart is angled. The drawbar attached to the axle is coupled well forward, which steadies the cart when the wheels encounter obstructions. These points contribute largely to the comfort of the driver.



Rear view

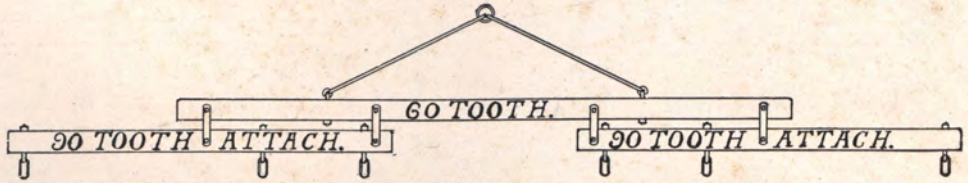
This cut gives a rear view of the cart, illustrating the caster device and also the lock which holds the wheels steady when going forward. When it is desired to make a turn the operator has but to touch the lock lever with his foot to disengage the lock. After the turn has been made the lock will again engage without further attention.

The wheels are good height, adding to the comfort of the driver. They are made with 2½ inch tires, which prevent them from sinking into the soft ground. They have malleable iron hubs and re-placeable dust-proof magazine boxes. The strong staggered steel spokes are riveted to the hubs in such a way that a blacksmith can easily replace them in case of accident. The cart is well balanced, the seat being directly over the axle. The seat can be adjusted forward or back.

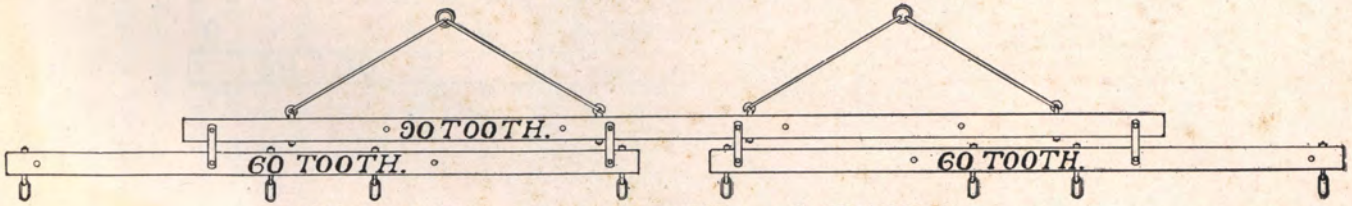


PIPE OR U BAR. 60 TOOTH. 2 SECTION.

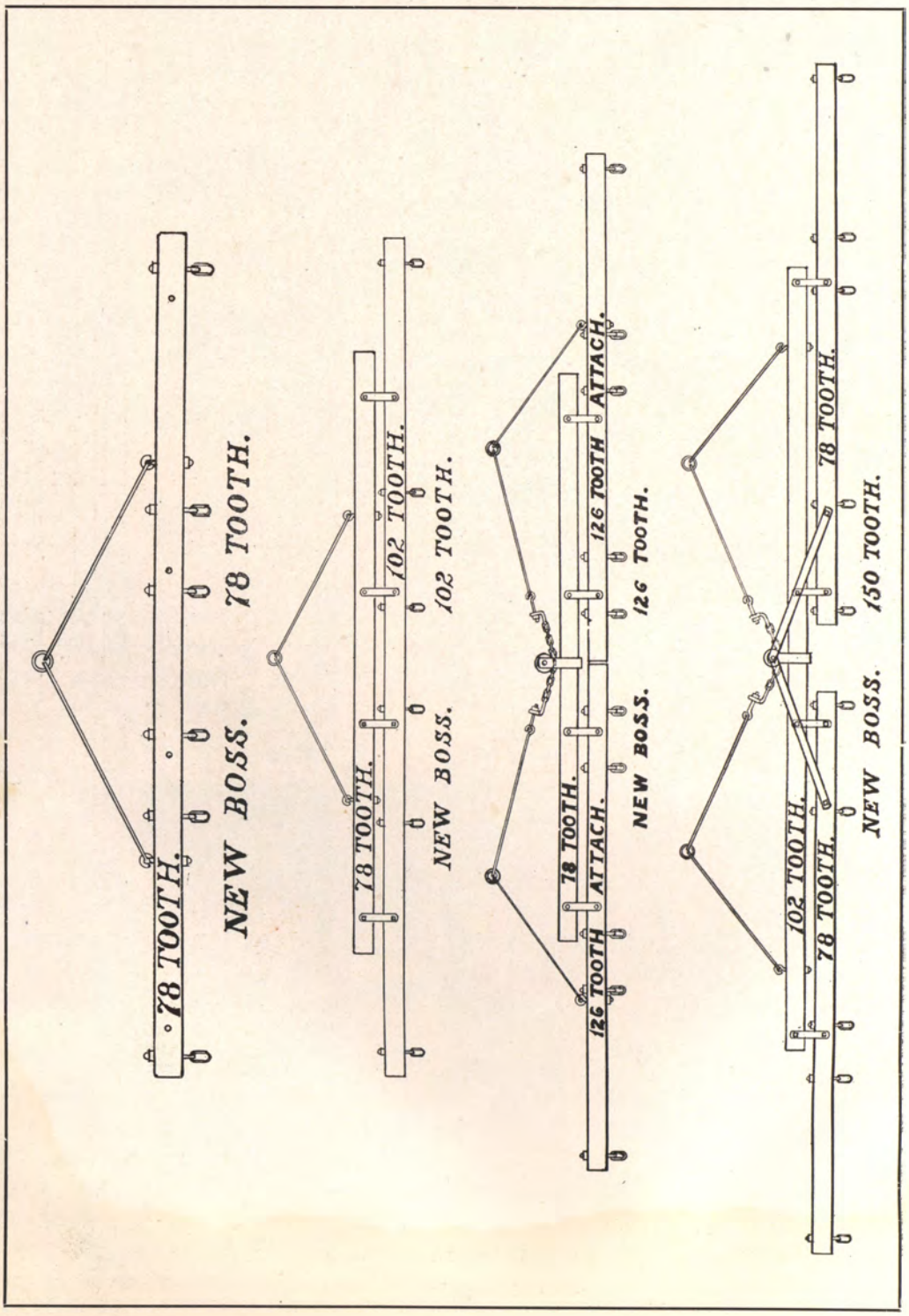
PIPE OR U BAR. 90 TOOTH. 3 SECTION.



PIPE OR U BAR. 90 TOOTH. 3 SECTION.



PIPE OR U BAR. 120 TOOTH. 4 SECTION.

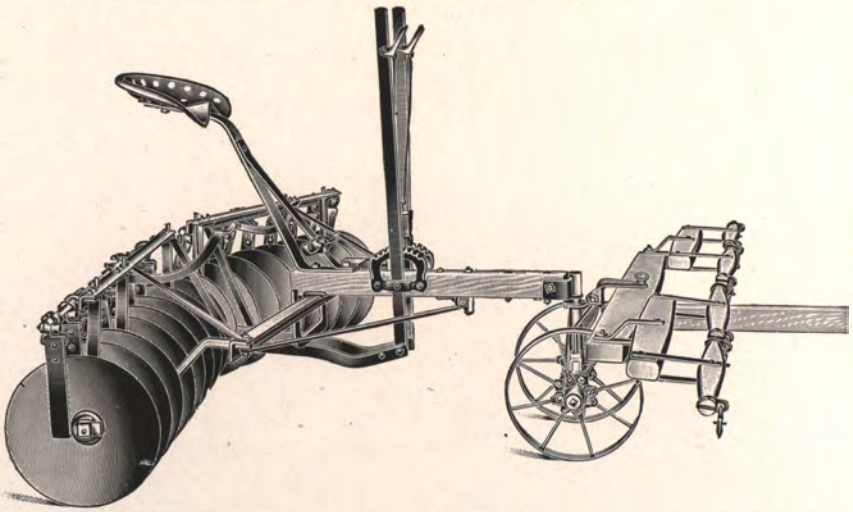

78 TOOTH.
NEW BOSS. 78 TOOTH.
78 TOOTH.
102 TOOTH.
NEW BOSS. 102 TOOTH.
78 TOOTH.
126 TOOTH ATTACH.
126 TOOTH ATTACH.
NEW BOSS. 126 TOOTH.
102 TOOTH.
78 TOOTH.
78 TOOTH.
NEW BOSS. 150 TOOTH.

FULLER & JOHNSON DISC HARROWS

THE construction of the frame is of angle bar steel, very strong and rigid, the truss rods connecting from outer ends of main frame to underneath the pole have threaded nuts on the ends, permitting of the centering of gangs should they get out of alignment, a **very important feature.**

The gangs act independently, are flexible and will work in the most satisfactory manner in uneven or stony ground. Side pressure is equalized and strain on frame is obviated by the bumpers at inner ends upon which the gangs roll.

Double levers furnished with this harrow permit not only the setting of the gangs at any desired angle but also each gang at a different angle, if conditions so require. The center draw rods, which are attached to the levers and to the depth adjusting bar reinforced by reason of the superior construction of main

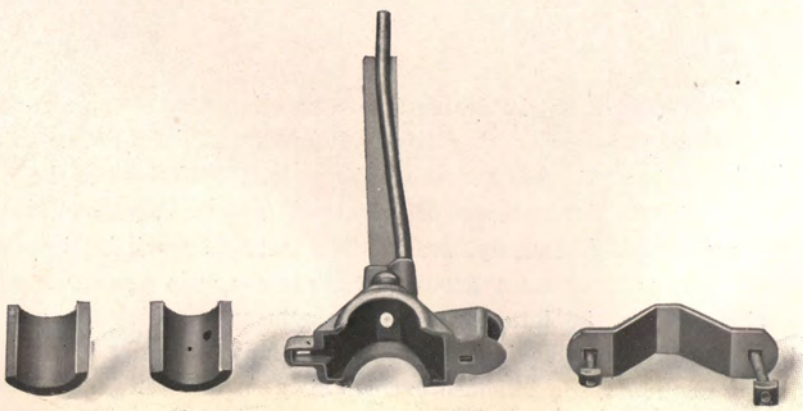


Fuller & Johnson Disc Harrow complete with Tongue Truck, Evener and Pole

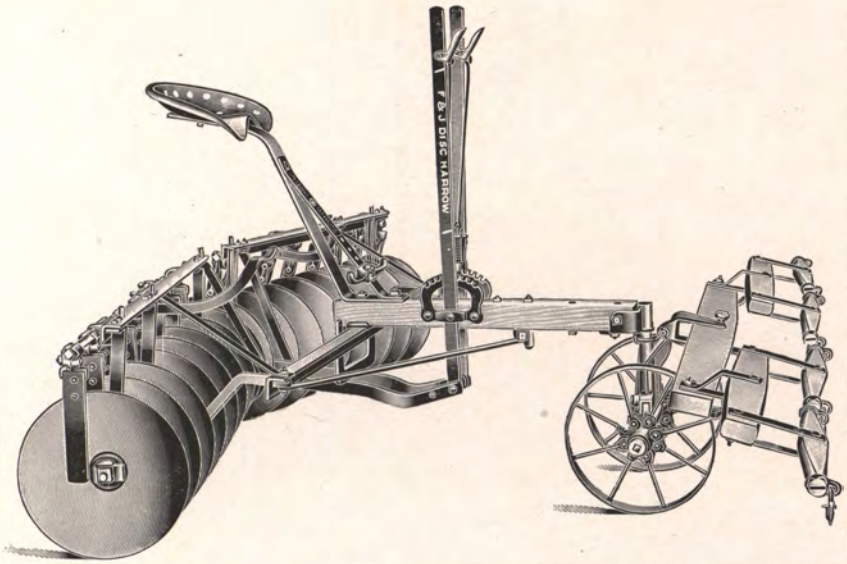
frame bar, giving additional strength. Disc blades are heavy gage and of the best steel, well polished and sharp.

Scrapers are of the oscillating knife type, riveted to the clamps which are bolted to the scraper rod by **clamp** and **bolt,** permitting the removal or adjustment of each independently of the other. A positive stop absolutely precludes any possibility of the scrapers working off the edges of the blades.

Boxings are of hard maple boiled in oil, encased in metal covering of malleable iron and steel.



Detail of Disc Harrow Boxing

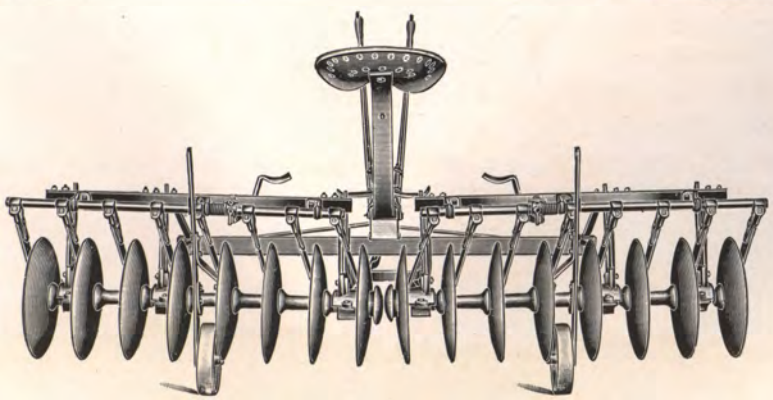


Fuller & Johnson Disc Harrow complete with Tongue Truck and Evener without Pole

Oil tubes are high and easy of access, they go direct to the center of the boxing and all danger of the boxing cutting or wearing unduly is obviated if kept well oiled.

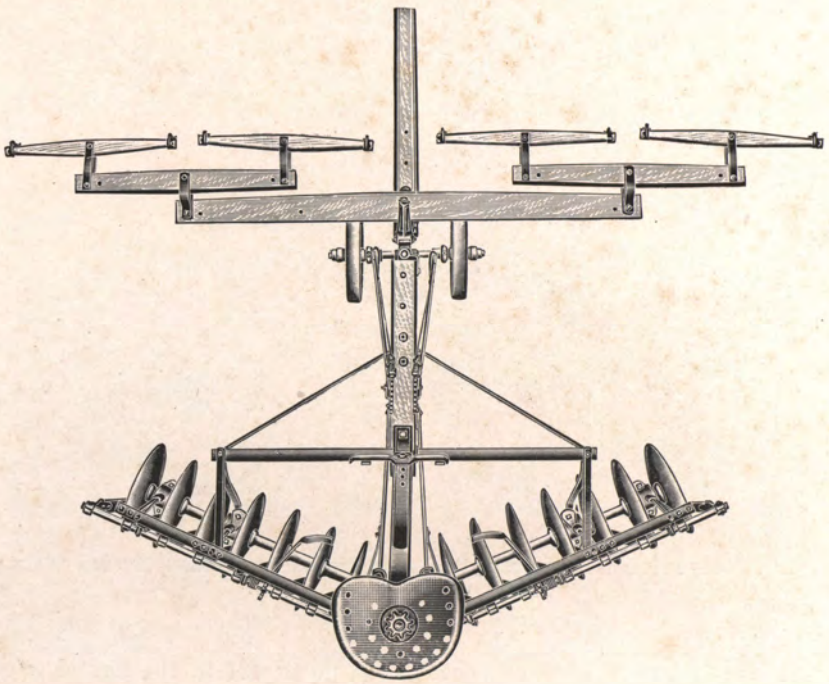
Hitch is low and direct to gangs, minimizing the strain on horses' necks. When disc tongue truck is used with harrow, draft strain is from stub pole. Stub poles are furnished with all of our disc harrows.

Made in three sizes or widths, 6, 7, and 8 feet cut. Weight boxes can be supplied extra if desired.



Rear view of Disc Harrow, showing Transportation Trucks

Detail of Truck



Fuller & Johnson Disc Harrow with Tongue Truck, Pole and Evener—Top view

Our Tongue Truck for Disc Harrow is furnished with wheels of our own make, heavy spokes, long distance axles with outside screw caps; each truck furnished with a combination hitch so that it can be used with equal satisfaction with or without pole. This truck can be used on any make of disc harrow.

By using a tongue truck on your Disc Harrow you take **all** neck and side draft off the team. The axle of the truck is pivoted, permitting the wheels to adjust themselves to uneven ground. If either wheel strikes an obstruction it will raise without tipping the harrow frame.

If our truck is used it is immaterial whether you do or do not use a pole, because the harrow will follow in a straight line with the team and will be just as satisfactory when used with the truck without the pole as with it or vice versa.

The simplicity of the FULLER & JOHNSON Tongue Truck and the extra strength make it beyond question the most desirable to buy.

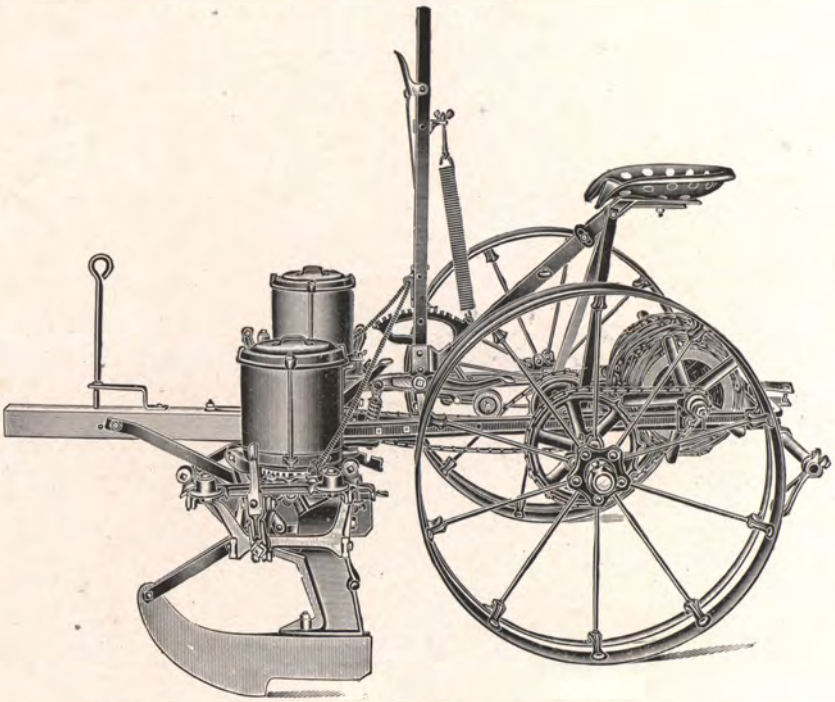
The Fuller & Johnson Light Draft Implements

LABOR SAVING FARM IMPLEMENTS

THE saving of time; saving caused by increased yield; saving by reason of longer wear; saving on team by reason of lighter draft; saving in ultimate expense in various ways if an implement of correct design and construction is purchased right at the outset are, or should invariably be the governing motives rather than that of a trifling little matter of price. Remember this—that in 999 cases out of 1,000 one never regrets buying **the best.** The first cost may be more but the **ultimate** cost is **infinitely less.**

Seasons are short, labor high, expenses go right along. One of the best, if not **the best** methods of economizing is in the matter of buying. **Invariably get the** implements that are **best** even though the first cost is more; then give them good care, keep bolts tight, use plenty of oil, **read directions** and **carefully observe them.**

No **skimping** or **"short weight"** methods are employed in the manufacture of FULLER & JOHNSON goods.

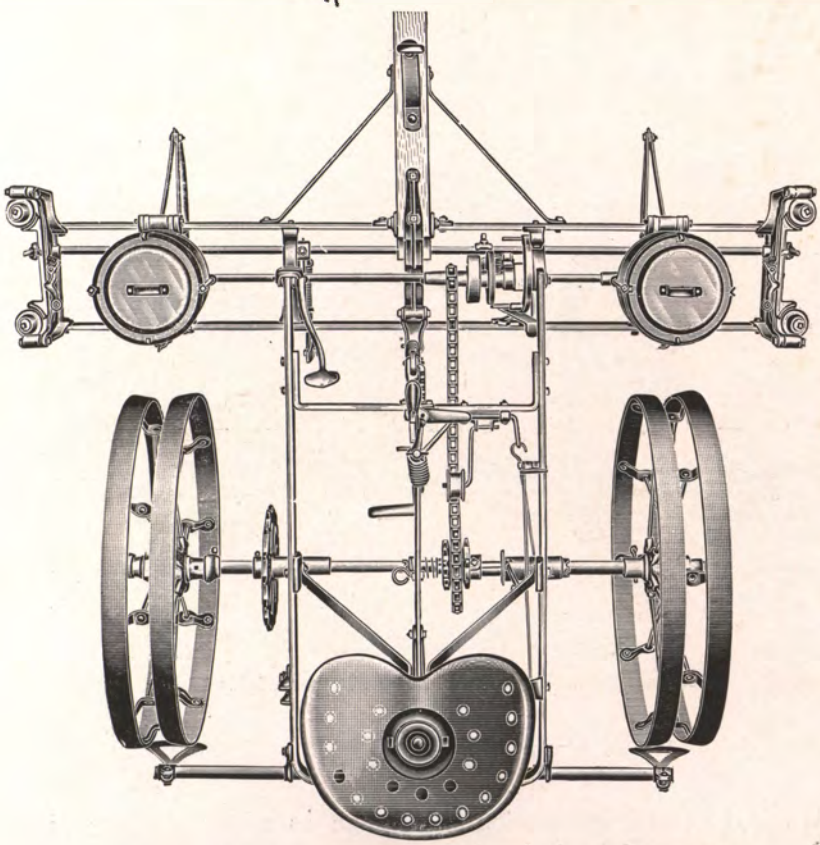


Fuller & Johnson Reliable Variable Drop Planter complete

FULLER & JOHNSON RELIABLE VARIABLE DROP PLANTER

A strictly reliable corn planter is what every corn grower requires. There are **many** planters on the market but **few** that are in every sense of the word **reliable.**

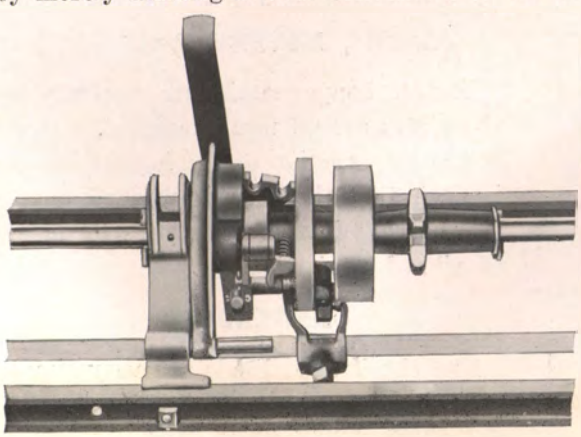
Every up-to-date corn grower knows that the price is absolutely a **secondary** consideration when selecting a corn planter. What he wants is a planter well and carefully built, of proper design and which will plant accurately without any bother or trouble. We **positively guarantee** our *Reliable Drop* planter to be **just such a machine.** It is the result of much careful, painstaking care, study and experimenting and we confidently assert that for uniform accuracy of drop, general efficiency, convenience, simplicity, strength and excellent working qualities it is unrivalled if not positively unequalled. Its wonderful success and popularity are attested by thousands of gratified users. We use flat drop plates of our own special design and the uniformly satisfactory results secured even with ungraded corn has completely demonstrated their great superiority over all other types. By grading the corn an almost **absolute** accuracy and uniformity of dropping is attained. This is because of the perfect adaptability, correct designing and fitting of each working part.



Fuller & Johnson Reliable Variable Drop Planter without Wire and Spool

THE VARIABLE DROPPING DEVICE

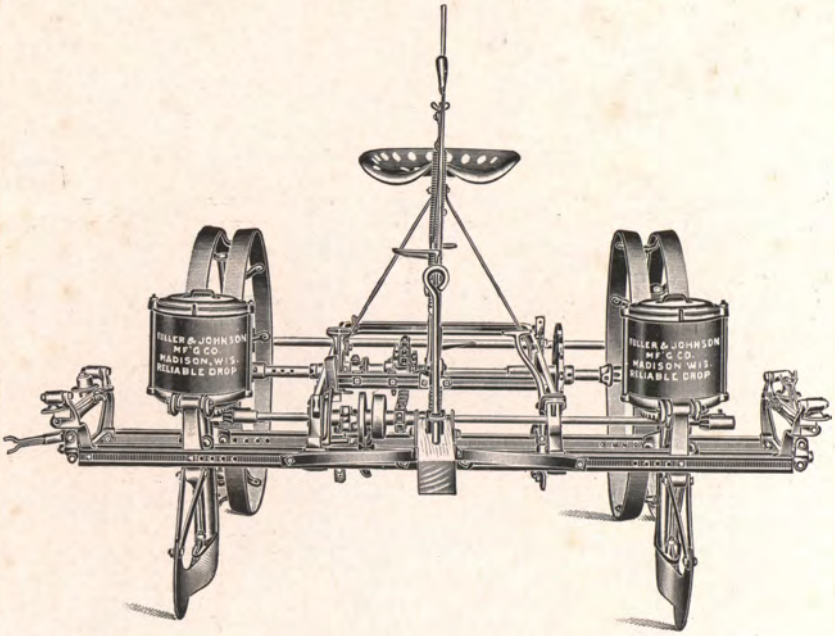
By the simplest kind of mechanism positive and absolutely reliable in its action, by merely shifting a lever convenient to the driver by touching it with your hand or foot without stopping the horses you instantly change the drop to two, three or four kernels to suit the variations of your soil.



Detail of Variable Dropping Device

FRAME

The frame is of high carbon steel, strong and rigid in construction with yielding connection between the front and rear frames, permitting the runners to follow uneven ground. Spring connection between front and back—powerful lifting spring.



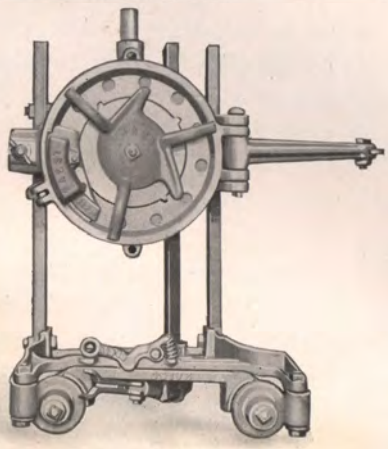
Fuller & Johnson Reliable Variable Drop Planter without Wire and Spool

WHEELS

Wheels are the same construction and design as we furnish on all our goods and which are fully explained elsewhere. See page 78.

FRONT

Front is very rigid, being well braced. The connection between the front and rear frame is yielding, permitting runners to follow uneven ground.



Detail of Hopper Bottom, showing Ribbed Projections

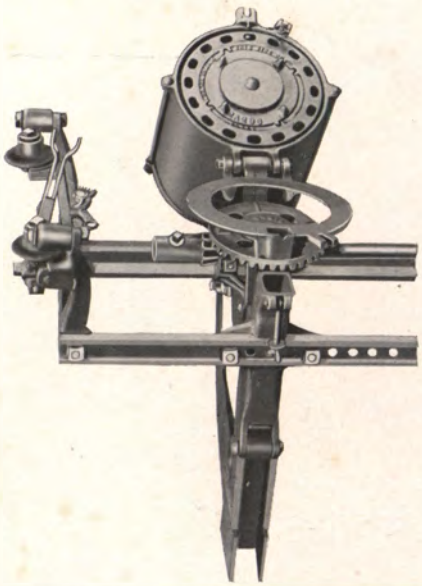
PLATES, HOPPER AND CASE

Plates, hopper and case surrounding the plates are all machine fitted.

The construction of the hopper bottom is such that the corn is worked out to fill the cells in the seed plates by means of ribbed projections.

CHECKROWER

The checkrower heads are very simple, with fork attached direct to the operating shaft, doing away with all useless connections.



Detail of Tilting Box and Plates for Reliable Drop Planter—Top view

Detail of Wire Reel

SEED BOX

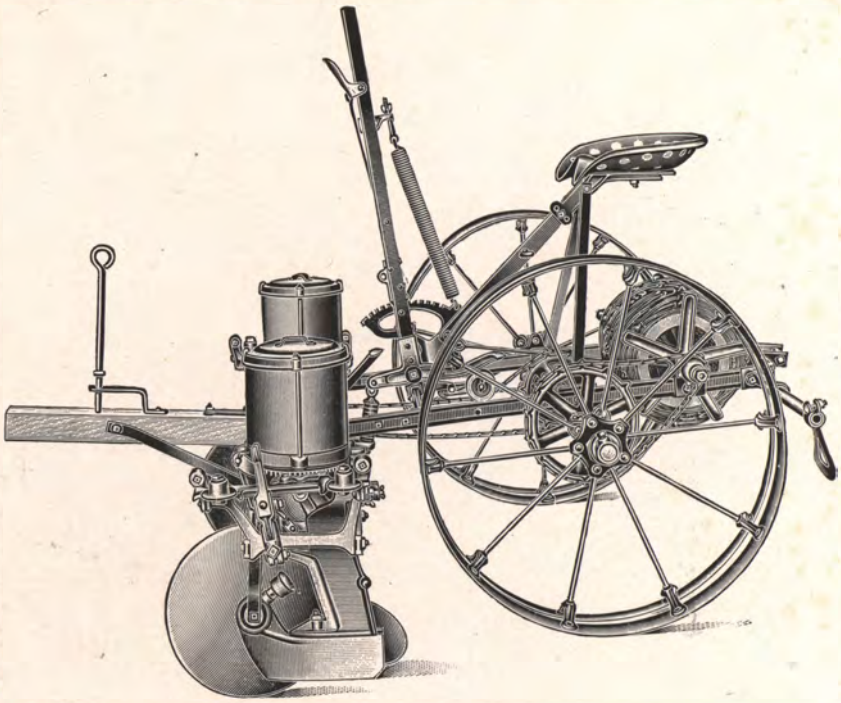
Seed boxes are hinged and can be turned clear over to put in or change seed plates without emptying the corn. Boxes are of good size and hold a large quantity of corn. The lid of the seed box is securely fastened.

AUTOMATIC REEL

We place the wire reel under the driver's seat. The reel drum is a perfect cylinder of sheet steel upon which the wire is readily wound without kinking. The drive is very effective. It consists of a small sprocket with friction hub and spring by means of which the desired tension can be brought to bear on the reel when reeling up wire. Another advantage of our reel is that it may always remain in position ready to take up the wire. When reeling up the wire one of the anchor stakes is used as a distributer as shown in the cut above.

TONGUE ADJUSTMENT

The slotted castings on the sides of the rear end of tongue where it is attached to the planter frame permits of up and down adjustment to suit height of horses. Raising pole in slot of casting permits the planter to check sooner, lowering of the pole results in slower checking.

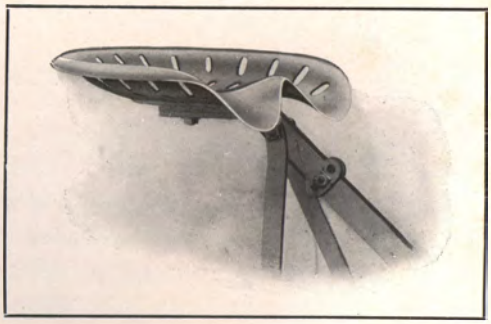


Fuller & Johnson Reliable Variable Drop Disc Planter

ADJUSTMENT

Width adjustment of 3 feet, 3 feet 2 inches, 3 feet 4 inches, 3 feet 6 inches, or 3 feet 8 inches can be made if desired.

SEAT

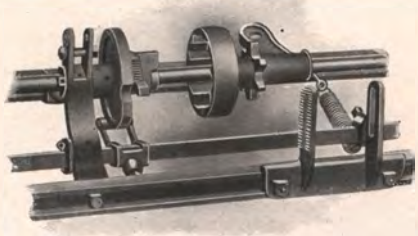


Seat can be adjusted forward or backward to suit the driver and keep the weight of the planter in perfect balance at all times.

THE CLUTCH

One of the very essential parts of an accumulating drop planter is the **clutch,** and to make the strong statement that we have the simplest, strongest, most perfect clutch yet devised, we feel, is no exaggeration. This clutch on the planter front is driven by a chain from the main axle of the planter. When the clutch is engaged it turns the shaft which carries it and revolves the seed plates which accumulate the corn ready for dropping when the checkrower acts. When the plates have turned enough to assemble one hill of corn on each side of the planter the

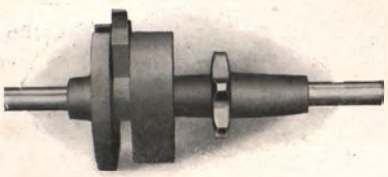
clutch is disengaged and the seed plates turn no more until the action of the checkrower drops the hill already accumulated and permits the clutch to again engage and start the plates. When the planter front is raised the chain is automatically thrown out of gear and remains stationary until the front is lowered again. An examination of the detail cuts here shown conclusively demonstrate our claims of superiority for this clutch. Note that it consists of but three parts aside from the pin and spring, making it a model of simplicity. It is **positive** in its action, being forced or tripped apart by power, when the required number of kernels of corn is reached **instead of being thrown out by the uncertain action of a spring.** No progressive farmer fails to appreciate the strength and importance of this feature of our clutch. The **greater** the strain on this clutch the **tighter** it engages but it positively cannot fail to open at the right time and stop the accumulation of corn.



Clutch Drawn Apart

This cut shows the clutch in its position on the planter, but with the two principal parts drawn apart on the shaft and also shows the stop on the square operating shaft, which disengages the clutch and holds it open until the action of the checkrower in dropping one hill of corn releases the pawl of the clutch and permits it to revolve the plates until the kernels are accumulated for the next hill, when the clutch is again disengaged.

The next cut shows the clutch as it appears on the shaft when in operation, with the sprocket wheel which revolves it. The end of the pawl which strikes the stop on the operating shaft is shown at the top.



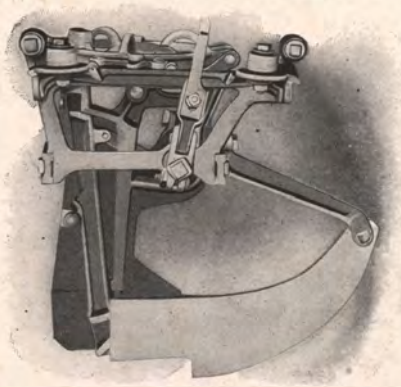
Clutch as it appears in Operation

FOR DRILLING

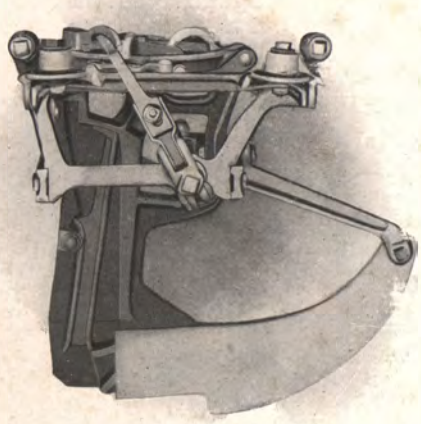
The change from hill to drill drop is made in an instant by the use of the foot lever. The lower end of the seed valve in the heel of the runners must be held clear back. This is done by pushing the foot lever down and fastening it with the lever lock. No extra attachments are necessary to make the change. No setting of extra valve for drilling. No springs in leg of planter to operate valve.

THE VALVE

The valve is what is called a "kick-back valve," made in one piece. It throws the corn in perfect check, no matter whether the horses walk slowly or fast. When they walk fast it acts more quickly and throws the corn farther back than when they walk slowly, resulting in no scattering of hills.

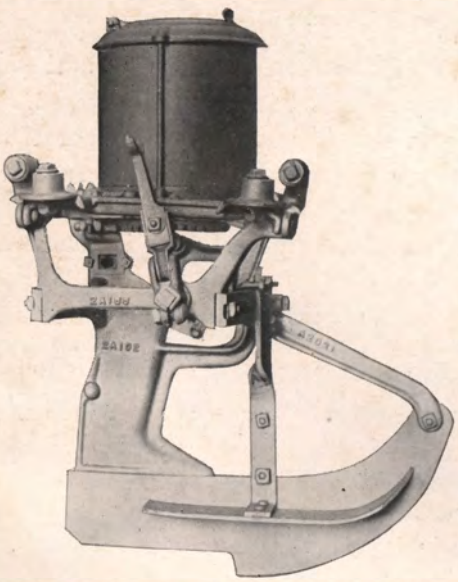


Valve Closed



Valve Open

The illustrations show the valve closed, in position to receive the corn from the seed box, and open in position to deposit the corn in the ground. As the kernels fall from the seed plate they are in view of the operator until dropped to the lower valve by the action of the checkrower.



Planter Shank, showing Depth Adjusting Shoe on side of Runner

SIGHT FEED

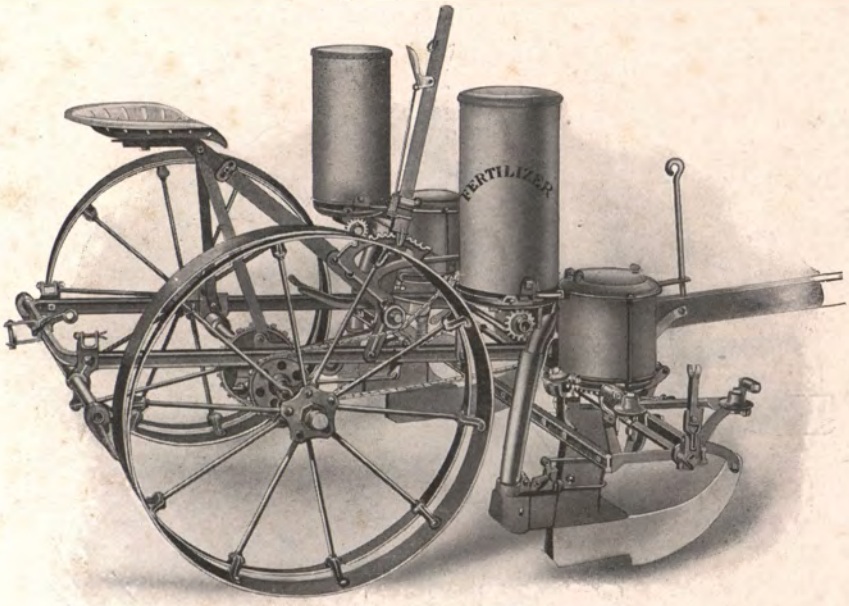
The dropping of the corn can be readily seen by the operator without leaving his seat.

THE RUNNERS

Runners are made very broad to insure long wear. Stub runners can be supplied if desired. Hardened runners furnished extra. We can also furnish depth adjusting shoes to attach to the runners, when desired, extra. A feature of our planter is the detachable runners **interchangeable with disc openers,** if desired, so that you **can have two planters** in one if you wish by simply getting the disc openers or the shoe runners as extras.

INTERCHANGEABLE PARTS

The **interchangeability** of the **regular runners** and of the **disc openers, both fitting on the same shank,** is a **wonderful advantage,** giving you a **two** in **one** planter, so that if the condition of the soil in one field is better adaptable to the disc opener and in another field to the regular runner, the **interchange** can



Reliable Variable Drop Planter with Fertilizer Attachment

quickly and **easily** be made. When disc openers are used, covering blades are clamped onto the cross bar of the planter front which are adjustable to throw more or less quantity of soil, to suit, over the corn before it is pressed down by the planter wheels.

THE DISCS

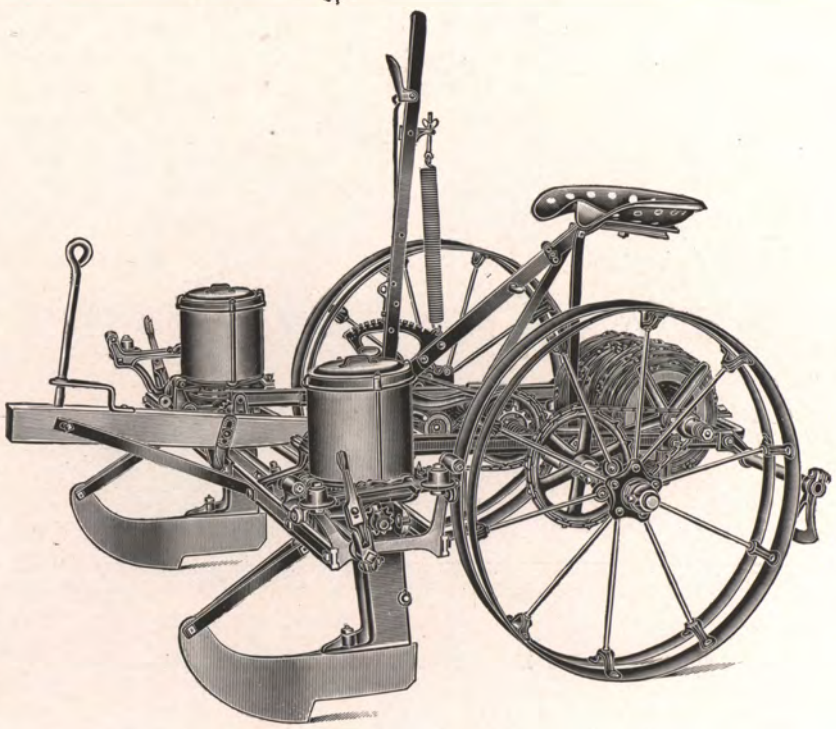
The discs are very sharp and will cut through corn stalks or other trash. They are set at just the right angle to give the proper action, enabling them to enter the ground just as the discs on a disc harrow. They open the ground to a sufficient width and depth, while the surplus earth that may be thrown aside is gathered within the reach of the wheels by a blade or covering shovel which follows each disc. This insures a thorough pulverization of the soil and the complete covering of all the corn to a uniform depth. The discs are fitted with scrapers which bear slightly against the discs, keeping them clean at all times.

THE BEARINGS

The bearings of the disc are machine fitted and reduce the friction to a minimum. They are lubricated by means of compression grease cups placed back of the discs. These are filled with some hard lubricant, such as axle grease, which can be fed into the bearings as needed by simply screwing down the cap, a little at a time. This insures perfect lubrication without waste of oil or the accumulation of dirt caused by oil overflowing from bearings.

FERTILIZER ATTACHMENT

Simple and effective. The action is positive and uniform and the hoppers are amply large. Meets every requirement, has no superior. The fertilizer does not come in direct contact with the seed but is mixed with the earth which is pressed into the trench or furrow by the wheels, obviating danger of burning the seed by direct contact.



Fuller & Johnson Victor Corn Planter with Wire Reel

FULLER & JOHNSON VICTOR STEEL CORN PLANTER

HILL OR DRILL DROP

The *Victor* steel corn planter meets a very general demand for a light, moderate priced and yet absolutely dependable corn planter.

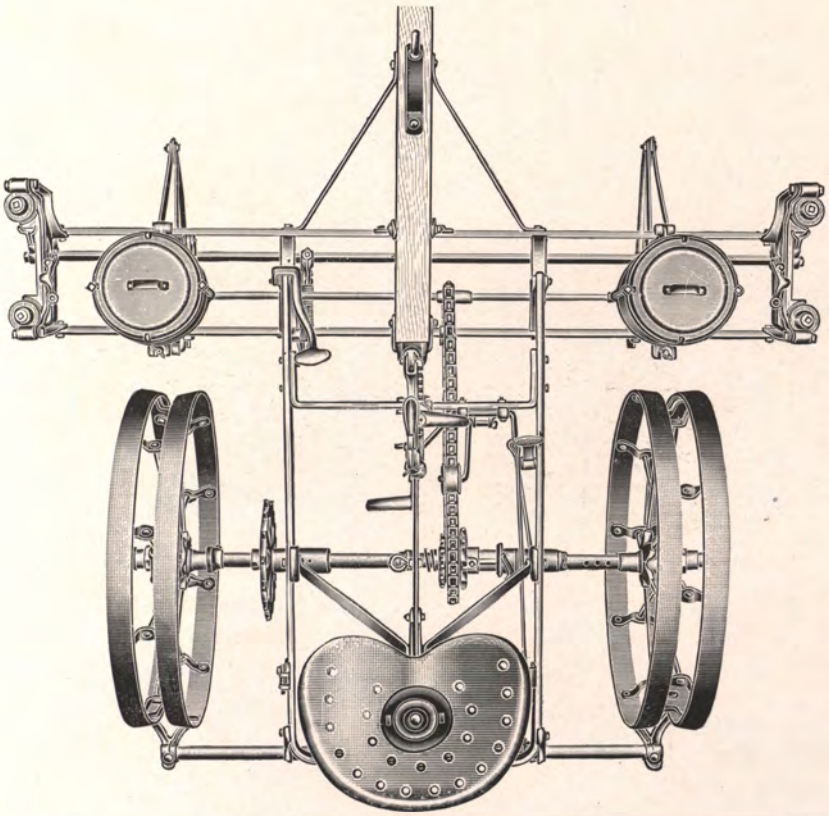
The *Victor* fills every requirement in point of simplicity, lightness of draft, strength, durability, and accuracy of work.

Its friends are legion.

Equally reliable as a hill or drill drop and when used as a hill drop planter, if properly adjusted and handled it will plant rows so straight both ways of the field that you can hardly tell which way it was driven across the field. A brief description follows:

FRAME

The frame is made of high carbon channel steel, strong and of great rigidity. The balance can always be maintained by adjusting the position of the seat. The yielding connection between the planter front and the rear frame allows the runners to follow uneven ground.



Top view of Victor Corn Planter

LIFTING SPRING

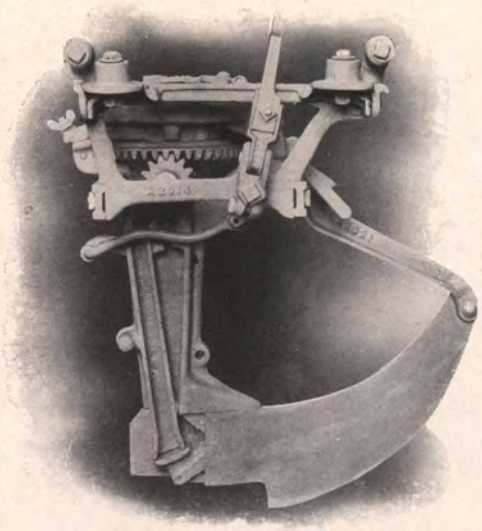
A powerful lifting spring assists the operator in lifting the runners out of the ground.

WHEELS

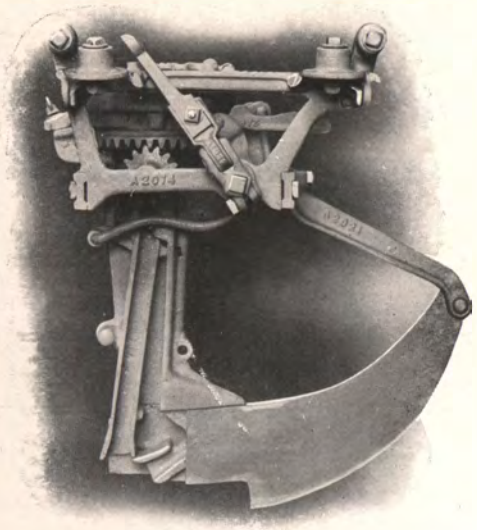
The wheels are of our own make, with renewable boxes and malleable hubs, the strong staggered steel spokes being riveted to the hubs in the same manner as our other wheels, making it possible for any blacksmith to replace a spoke in case of accident instead of replacing the wheel. See page 78.

RUNNERS

Runners are made very broad to insure long wear. Stub runners can be supplied if desired. Hardened runners furnished extra. We can also furnish depth adjusting shoes to attach to the runners, when desired, extra. A feature of our planter is the detachable runners **interchangeable with disc openers,** if desired, so that you **can have two planters** in one if you wish by simply getting the disc openers or the shoe runners as extras.



Sectional view of Victor Leg, showing Valve in (receiving corn)



Sectional view of Victor Leg, showing Valve out (depositing corn)

SEED BOXES

The seed boxes turn completely over, and the plates can be changed without emptying the corn. The boxes are of large size and hold enough corn for very long rows with heavy seeding.

SEED PLATES

The seed plates are fitted by special machinery, and accuracy of fit is positively guaranteed.

CHECKING

In checking the kick-back valve throws the corn in perfect check, whether the horses walk slowly or fast. It will be readily seen that if the horses walk fast the corn will be thrown farther back than if they walk slowly, as the corn is brushed off the table by the motion of the valve. One lever drives both seed plate and valve, causing them to always work in unison. The stop is on the **valve,** not on the **fork,** thereby giving a full stroke to the valve and to the plate; and not only driving the plate to position to discharge the seed into the tube, but acting as a **positive stop** to the plate at this point, **which prevents planting double.**

CHECKROWER

The checkrower heads are very simple, with fork attached direct to the operating shaft, doing away with all useless connections.

DRILLING

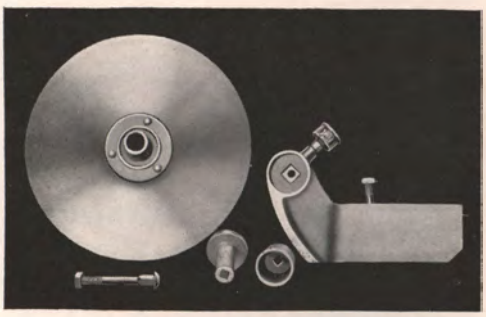
For drilling, the change is made from checking to drilling by simply dropping gear rims and changing of position in shank as shown in cut. All check plates can be used for bunch drilling. An automatic clutch throws the drill out of gear when the runners are raised.

AUTOMATIC REEL

We place the wire reel under the driver's seat. The reel drum is a perfect cylinder of sheet steel upon which the wire is readily wound without kinking. The drive is very effective. It consists of a small sprocket with friction hub and spring by means of which the desired tension can be brought to bear on the reel when reeling up wire. Another advantage of our reel is that it may always remain in position ready to take up the wire. When reeling up the wire one of the anchor stakes is used as a distributer as shown in the cut at top of page 39.

THE DISCS

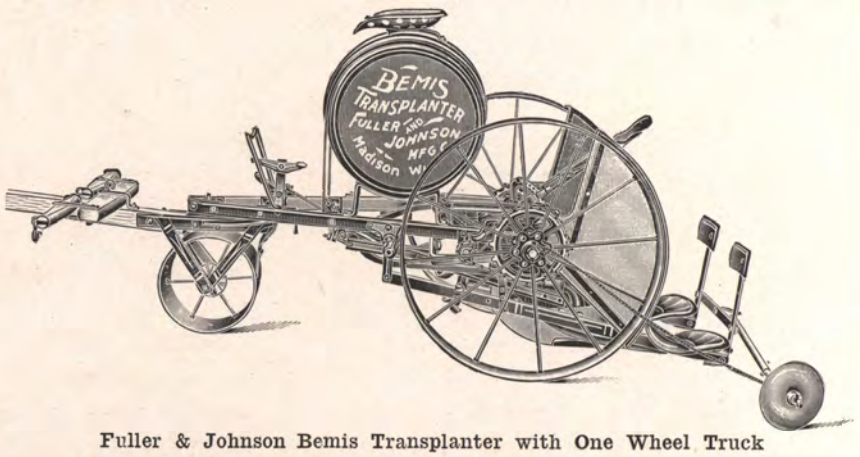
The placing of our disc runner on the same shank as our regular runner is a great advantage in making it possible for one to change the style of runner to suit the condition of the soil. Runners can be detached in case of accident by simply loosening a bolt. The discs are very sharp and will cut through corn stalks or other trash. They are set at just the right angle to give the proper action, enabling them to enter the ground just as the discs on a disc harrow. They open the ground to a sufficient width and depth, while the surplus earth that may be thrown aside is gathered within the reach of the wheels by a blade or covering shovel which follows each disc. This insures a thorough pulverization of the soil and the complete covering of all the corn to a uniform depth. The discs are fitted with scrapers which bear slightly against the discs, keeping them clean at all times.



Details of Disc Opener and Bearings

THE BEARINGS

The bearings of the disc are machine fitted and reduce the friction to a minimum. They are lubricated by means of compression grease cups placed back of the discs. These are filled with some hard lubricant, such as axle grease, which can be fed into the bearings as needed by simply screwing down the cap, a little at a time. This insures perfect lubrication without waste of oil or the accumulation of dirt caused by oil overflowing from bearings.



Fuller & Johnson Bemis Transplanter with One Wheel Truck

FULLER & JOHNSON STEEL FRAME BEMIS TRANSPLANTER

SETS tobacco, cabbages, sweet potatoes, tomatoes, strawberries, celery, nursery slips, etc., better than can be done by hand. This machine has revolutionized the tobacco growing industry. It is also extensively used by market gardeners, nurserymen, etc.

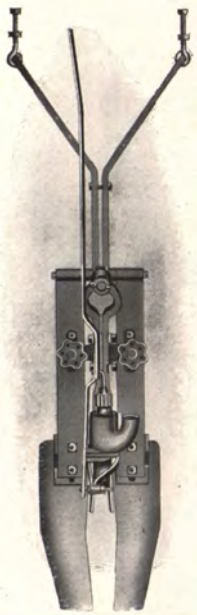
It sets your plants when they are ready. Plants can be set out with this transplanter easier, quicker and better than by hand and **can be set out whenever the plants are ready.** Need not wait for rain, as each plant is watered at the roots as set and the roots are covered by firm earth, which is dry on the surface and cannot bake. **The plants start sooner and mature more evenly.** The roots retain the moisture underneath the dry surface and the plants begin to grow at once. **Great increase in yield per acre.** A larger yield and a better quality of crop will be obtained from machine setting than from hand setting.

The supply of water can be regulated as conditions require. A strainer in the barrel prevents the valve from becoming clogged and insures free flow of water.

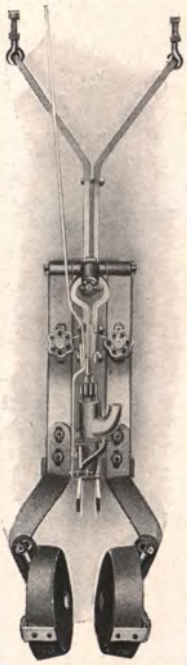
The frame of this transplanter is made of angle bar steel, strong and rigid.

THE PLOW AND PRESSURE PLATES

One of the most essential parts of a transplanting machine is the plow, i. e., furrow opener and covering device. The FULLER & JOHNSON *Bemis* has the only floating shoe. Each pressure or covering plate is fastened to the plow by a long steel spring which is independent of the shoe and of each other.



Top view of Shoe with Regular Pressure Plates.



Top view of Shoe with Pressure Rollers instead of Plates.

The pressure applied to the shoe or furrow opener and to the pressure or covering plates is derived from the weight of the two droppers sitting on the rear seats of the machine, or from a lever with a powerful spring, or from both, as may be desired; the pressure from either source being easily and quickly adjusted to suit the varying conditions.

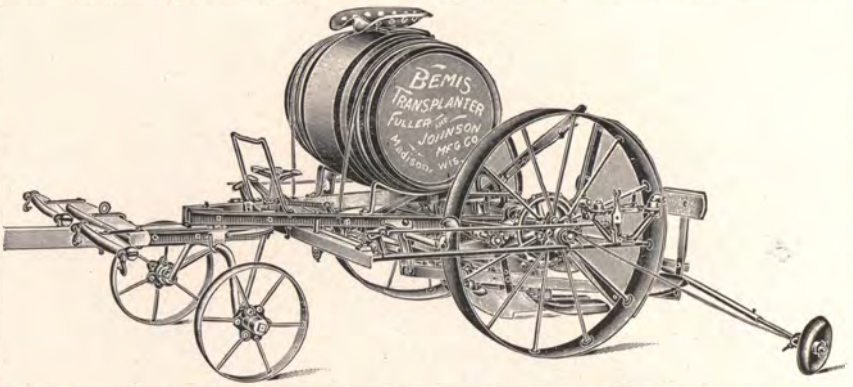
The pressure from the weight of the droppers is more uniform, adapting itself automatically to any unevenness of the ground and under all ordinary conditions is ample, while the spring pressure can also be applied in such degree as desired for very deep planting or where the ground is harder than usual.

A Ratchet Clutch is provided for automatically throwing the mechanism out of gear when necessary to back the team and machine, avoiding waste of water and breakage of parts.

A lever for shutting off the water is at the rear end of the cam shaft within easy reach of either dropper, by means of which the water can be shut off **instantly.**

Pressure rollars can be furnished instead of pressure plates if desired but we recommend the pressure plates.

Wheels are our own make, extra strong, 36″ high with broad face to prevent sinking in soft ground, malleable hubs, replaceable boxes, spokes replaceable by any blacksmith in case of breakage. See page 78.



Fuller & Johnson Steel Frame Bemis Transplanter with Two Wheel Front Truck

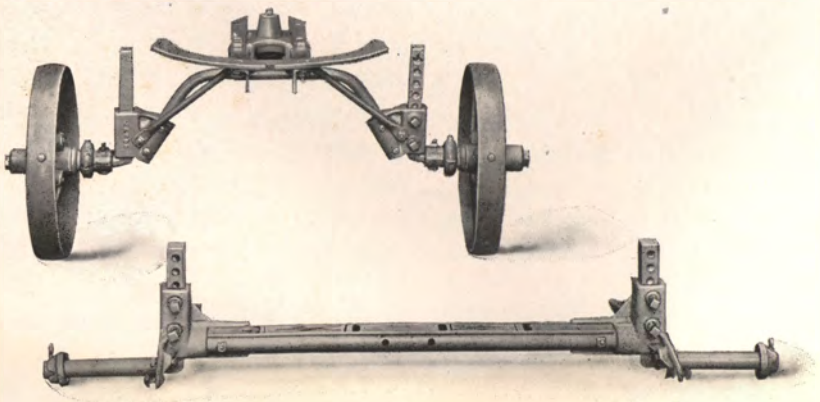
The **distance** between plants and the intervals of the water in the trench is regulated by the use of sprocket wheels of different sizes.

The **depth of furrow** can be regulated at will.

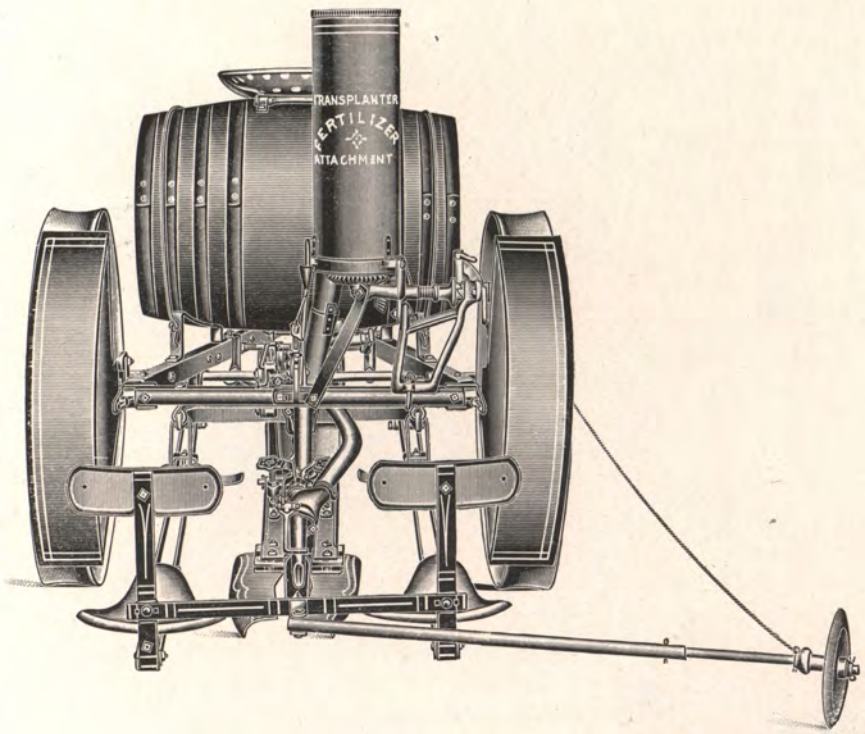
For planting on ridges we furnish extra a special two wheel front truck to straddle the ridge and adjustable front or rear axle, or both, so that the machine and truck can be raised to suit the height of the ridge. Especially adapted to sweet potato planting.

CHECKROW ATTACHMENT

A checkrow attachment can be furnished with this machine, extra, with wire, suited to planting such distance apart as desired. When the checkrower attachment is used the distance between plants is determined by the wire buttons instead of the sprocket wheels.



Adjustable Front Truck and Rear Axle for Planting on Ridges



Fuller & Johnson Bemis Transplanter—rear view, with Fertilizer Attachment.

POTATO PLANTING ATTACHMENT

A potato planting attachment can be furnished at small additional price, consisting of an extra runner with a hopper through which the potato cuttings are dropped into the trench. This attachment can be easily and quickly substituted for the regular runner and makes a first-class potato planter of this machine in addition to using it for various kinds of transplanting.

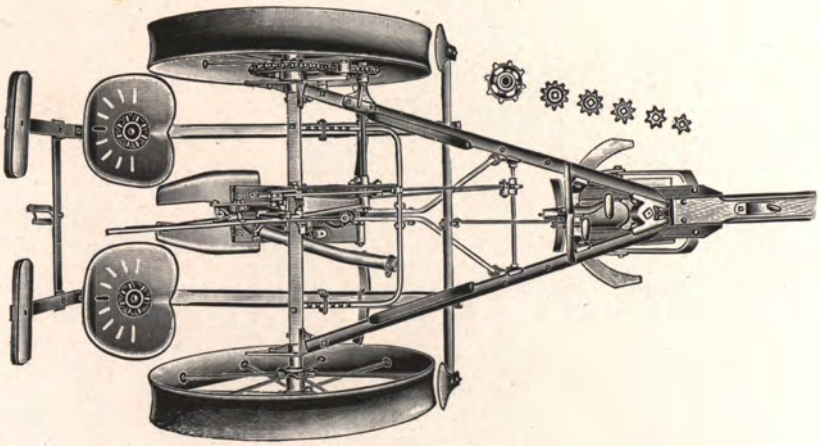
Potato Planting Attachment

NURSERY ATTACHMENT

A nursery attachment, consisting of a shoe large enough for setting nursery stock, can also be furnished for a small additional price.

FERTILIZER ATTACHMENT

A fertilizer attachment, simple and reliable, with extra large hopper, can be furnished at an additional price. It is designed to sow the fertilizer on the top



Top view of Bemis Transplanter without Barrel

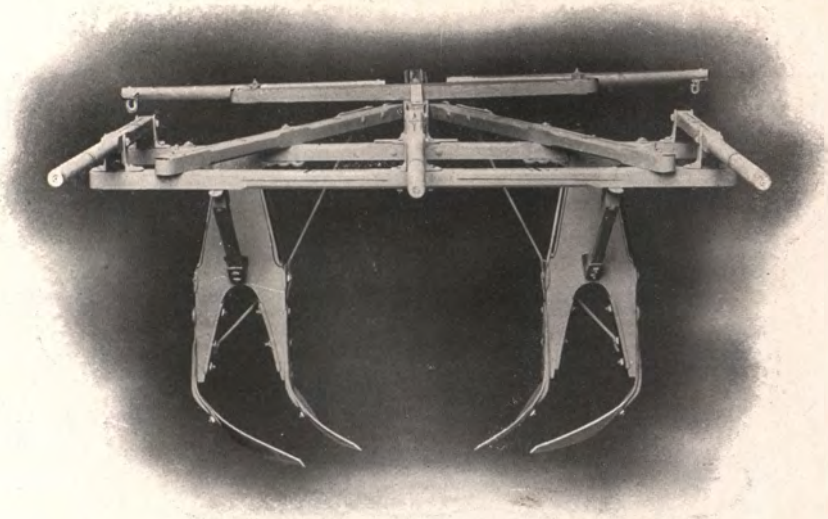
of the ground just ahead of the shoe or runner. As the ground is opened and afterwards pressed around the plant the fertilizer is mixed with the soil in such a way as to positively prevent danger of the roots being burned by contact with the unmixed fertilizer. Thousands of these fertilizer attachments are in use with entire success.

Lump Scraper

LUMP SCRAPER

For use in stony or lumpy ground in scraping stones or lumps from in front of the plow. It is also adapted for removing dry soil so plants can be set in damp ground.

Rows No. 1 and 2 planted same day. No. 1 with Bemis Transplanter and No. 2 by hand.



Fuller & Johnson Prout Tobacco Hoe

FULLER & JOHNSON TOBACCO HOE

A very popular and widely used machine for cultivating tobacco plants especially, equally adapted to hill or flat cultivation and does much better work than can be done by hand besides the saving of labor.

The Blades are adjustable to throw the dirt any way, and leave the ground in any desired condition. The distance between the standards is adjustable to suit the width of row. It gives all the advantages of surface cultivation and if you are a tobacco grower you cannot afford to be without one of these machines.

It cultivates equally well corn, potatoes, tomatoes, cabbages, in fact all kinds of root crops. When the ground is level and you wish to keep it so, run the hoes even. When the ground is ridged and you wish to keep it so or when it is level and you wish to ridge it, fit the hoes by the slots and bolts in the malleable attachments to the profile of the ground or the shape of the ridge that you wish to make, the inside hoes being raised to correspond. In hoeing small plants for the first time, raise the rear end of the pole to the top of the slotted iron on the front cross piece, which will avoid covering the plants. In after hoeings, lower the rear end of the pole as desired by the operator, to assist in shaping the ridge of the row. Always run the hoes as near the plants as possible without hitting them.

The Fuller & Johnson Light Draft Implements

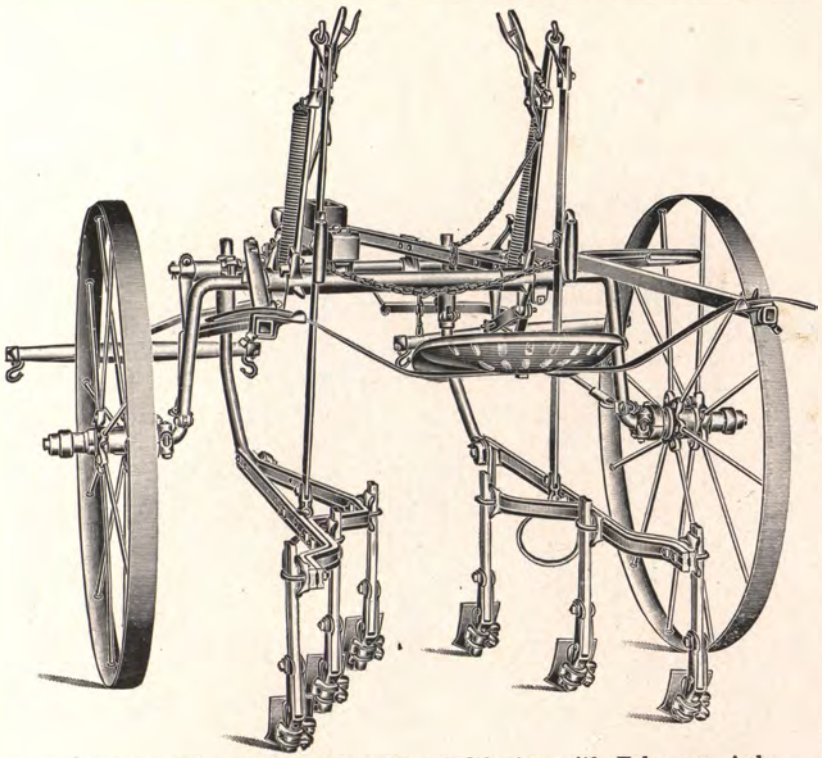
FULLER & JOHNSON CULTIVATORS

ONE of the most popular cultivators built. Its sale has been phenomenal. We can furnish this cultivator with hammock or straddle seat, as desired.

Construction.—All steel, frame is strong and rigid. Telescope axles, adjustable in width from 42 to 52 inches. Pivot pole attachment furnished extra when ordered and very quickly and easily attached.

AUTOMATIC OR HORSE LIFT

The horses do all the work of raising the drag bars and balancing the cultivator. This feature is obtained by means of the flat bars attached to the mast and the hangers. When the balance lever is released the wheels automatically drop back, assisted by the weight of the driver, pushing the flat bars back and throwing mast forward past center, thereby lifting the drag bars automatically.



Fuller & Johnson Hammock King Cultivator with Telescope Axle

When the lever is pulled down the masts are thrown past center the other way, lowering the drag bars. The flat bars can be readily removed if the automatic or horse lift feature is not desired.

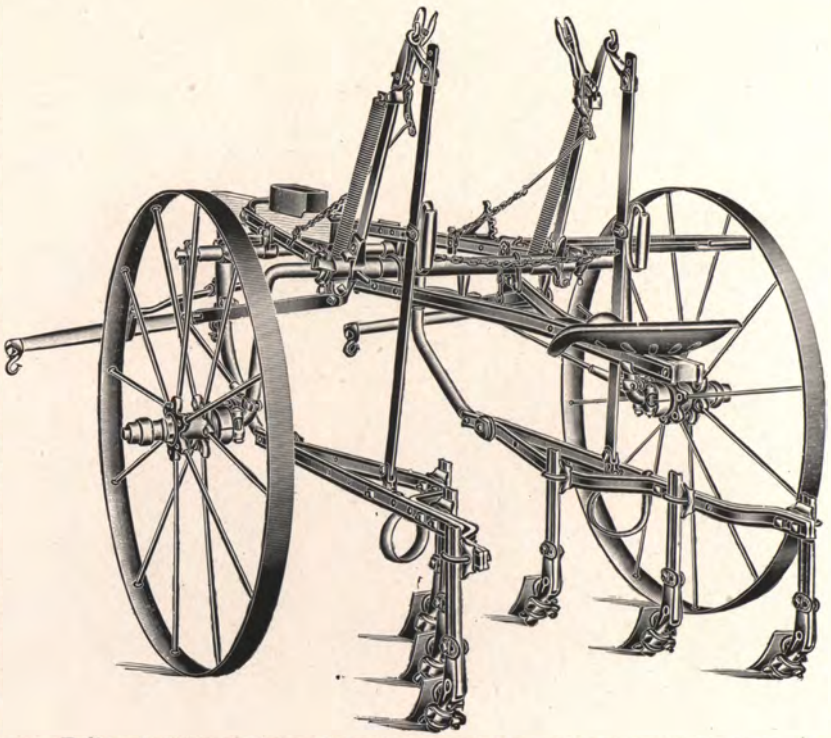
POSITIVE STOP AND SPRING TENSION

If spring connecting rod is hooked into upper hole in the lower arm of the hand lever it causes a positive stop to the gang at the desired depth; while if hooked into the lower holes more or less tension as required is secured. The positive stop makes easier work in steering the gangs in crooked rows.

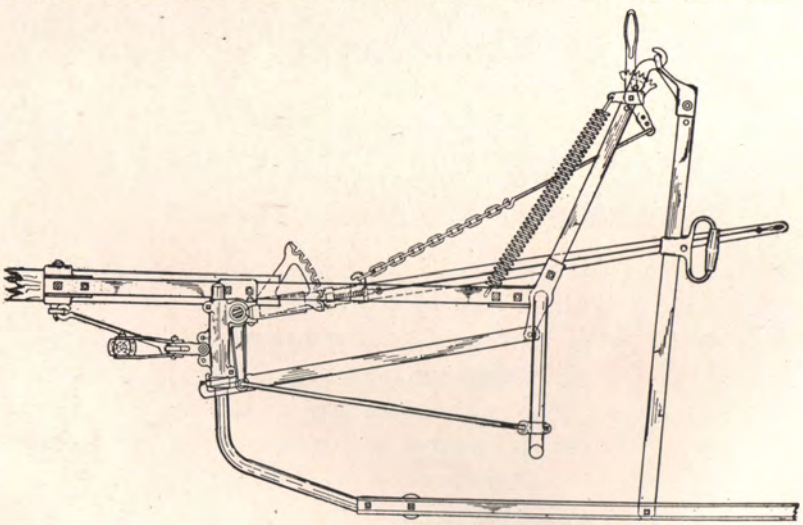
To cross a depression. The ratchets are pivoted on the masts and in crossing a depression the shovels can be lowered as far as necessary to do effective work without changing the depth adjustment. Simply take hold of lever at top of mast and pull backward and down without releasing the lever from the ratchet. This stretches the lifting spring and lowers the gangs as far as necessary.

INDEPENDENT DEPTH ADJUSTING LEVERS

Independent depth adjusting levers enable the operator to quickly and instantaneously gauge the depth of each gang independently.



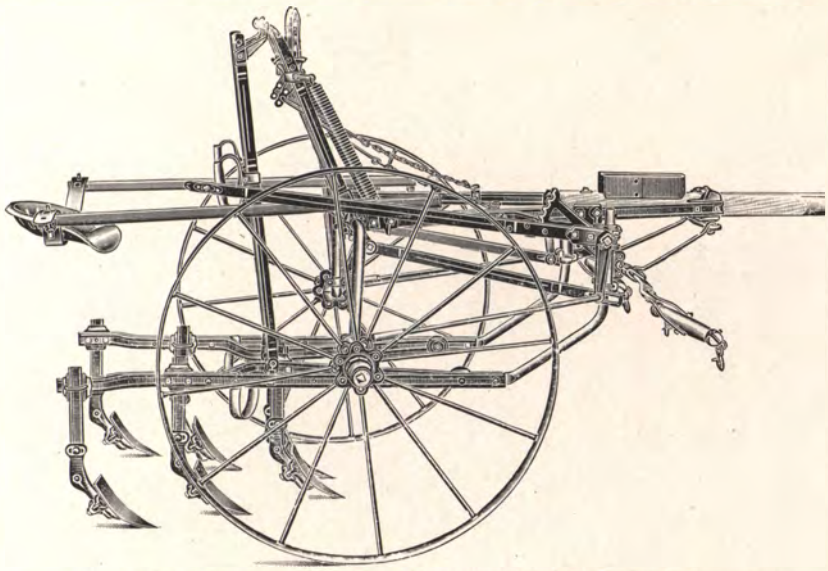
Fuller & Johnson King Cultivator with Telescope Axle—Extended



Details of Independent Depth Adjusting Levers and Hitch

HITCH

Hitch is a direct draft, pulling below center, which of itself tends to good penetration of shovels. An up and down adjustment of hitch is provided to suit conditions.



Fuller & Johnson King Automatic Cultivator No. 7

SEAT

Seat is adjustable, can be moved back or forward to balance for a light or heavy man. There is also a further adjustment for this purpose of the axle connecting rods, if necessary.

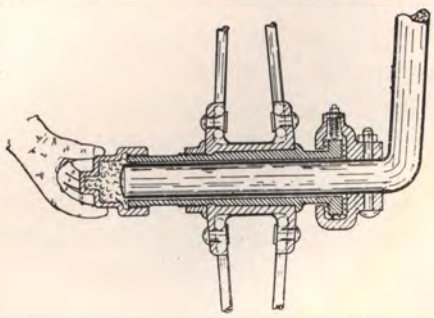
DRAG BARS

Drag bars are best steel, **double** thickness, very rigid construction, long coupling bearings, standards have vertical and horizontal adjustment.

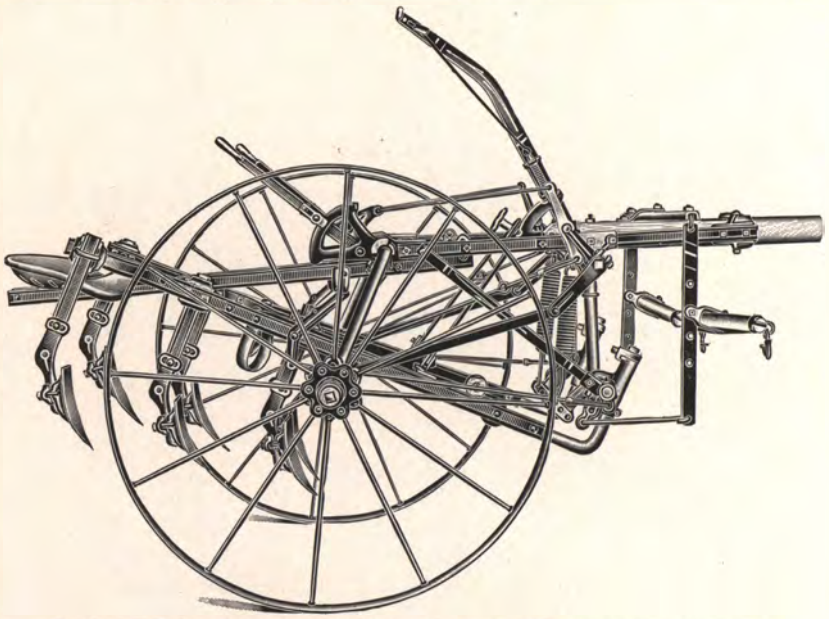
SHOVELS

Shovels are all of the **best soft center** steel, highly tempered and polished, noted for correct shape and scouring qualities.

WHEELS



Wheels high, with wide concave tires, our own make, heavy spokes, long distance axles, dust proof replaceable wheel boxes, with screw caps on outer ends, unscrew the caps, fill with grease and replace—oil hole also in inside sand cap. If a spoke is accidentally broken out of a FULLER & JOHNSON wheel you are not compelled to buy a new wheel at an outlay of three to five dollars, but spoke can easily and quickly be replaced by **any** blacksmith at a cost of a few cents. See page 78.



Fuller & Johnson Horse Lift Cultivator—Shows height of Lift

FULLER & JOHNSON NEW HORSE LIFT CULTIVATOR

COMBINED RIDING AND WALKING CULTIVATOR

A combined cultivator pronounced by all users to be as near perfection as it is possible to get.

CONSTRUCTION

All metal, strong steel frame with telescope axles for adjusting to wide or narrow cultivating.

THE HORSE LIFT

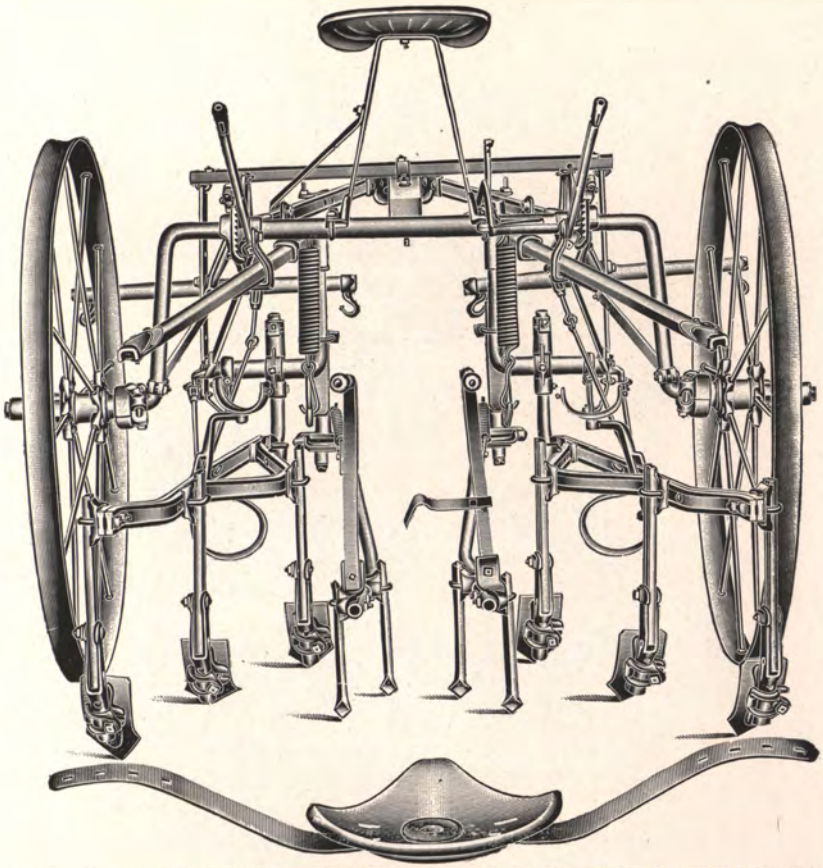
The horse lift feature of this cultivator, from which it is named, relieves the operator of the work of lifting the gangs and balancing the cultivator at the end of each corn row. He simply releases the balancing lever and the team does the work of lifting the gangs and balancing the cultivator.

The unbounded popularity of this cultivator and the constantly increasing demand is evidence of its great success.

Equipped with four or six shovel break pin or spring trip, eagle claw or spring tooth drag bars. Light draft.

DEPTH ADJUSTING LEVER

Very convenient to the operator, as he does not have to grasp any spring arrangement to lower the bars. The lever automatically engages a ratchet having very closely spaced teeth.



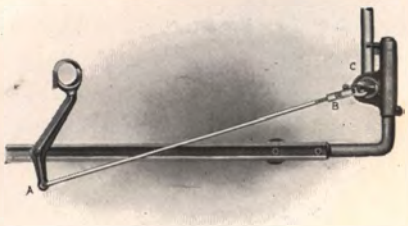
Fuller & Johnson Horse Lift Cultivator with Tobacco Hoeing Attachment

LIFTING SPRINGS

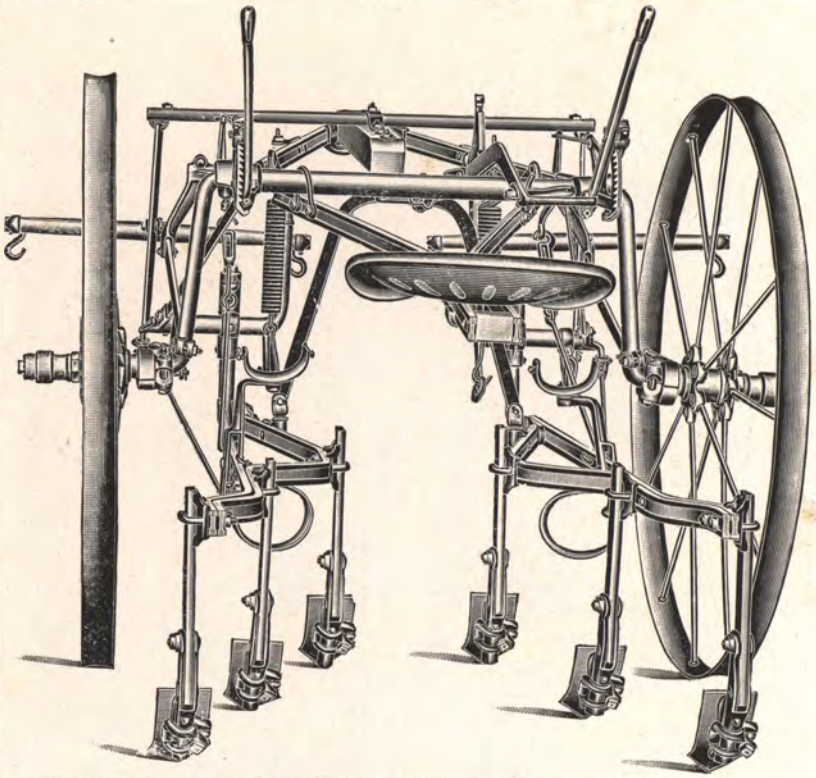
Lifting springs are nearly on center when drag bars are down. The tension of the springs can be adjusted as desired—can be set nearer to the dead center when gangs are down or farther from it by using the different holes in lower end of arm.

THE GUIDING DEVICE FOR GANGS

If you have a boy large enough to drive a team he can handle a FULLER & JOHNSON Horse Lift Cultivator with the aid of our guiding device. This consists of a pair of foot levers with great purchase set far back on the gangs, making it possible to guide the gangs with the feet while the hands are employed in driving. This guiding device can be readily attached or detached as it is necessary to remove only one bolt. Where arch is not wanted, springs can be furnished for returning the gangs.



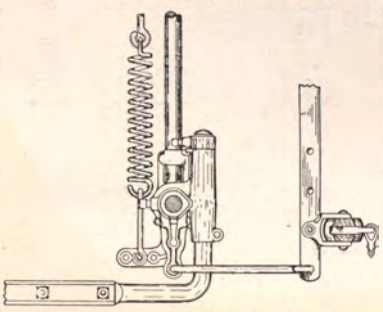
Details of Guiding Device



Fuller & Johnson Horse Lift Cultivator, showing Axles in

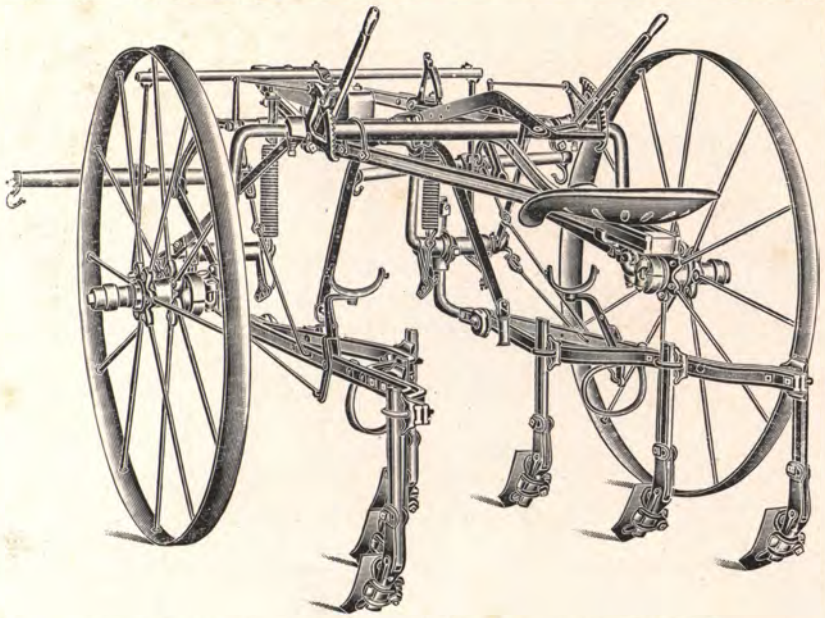
SPREAD ARCH

Spread arch controls spacing of the drag bars and is quickly and easily adjusted to regulate spacing desired by means of a hand wheel on top of arch, not necessary to get off the seat or even to stop the team to make this adjustment.



THE COUPLING AND HITCH

The couplings are low, giving ample suction to the shovels. They are provided with extra long bearings and have both vertical and horizontal adjustment. Hitch low, is direct draft, pulls below center of coupling, giving suction to shovels and increased penetration to the gangs; up and down adjustment can be made to suit conditions.



Fuller & Johnson Horse Lift Cultivator—Axles Extended

PIVOT POLE ATTACHMENT

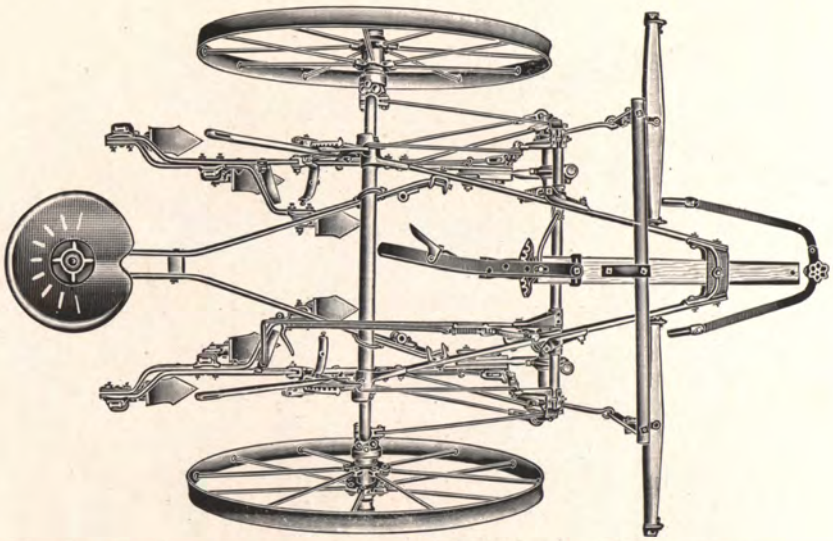
Pivotal pole attachment in connection with the foot guiding device makes a very desirable arrangement for side hill cultivating and is easily and quickly attached.

WHEELS AND DRAG BARS

Wheels and drag bars same as are furnished with our *King Automatic* cultivator, for which see description.

HOEING ATTACHMENT

We furnish with this cultivator a hoeing attachment consisting of an extra driver's seat, a pair of small gangs and shovels, with handles for swinging them in and out, hung between the regular gangs—the operator works the large gangs with his feet in the usual way and the small gangs with his hands, running the shovels between the plants in the rows, when he comes to a plant he spreads the small gangs apart until the plant is passed and then brings them together again, repeating the operation when the next plant is reached. With this attachment, which is especially valuable for cultivating plants rowed but one way, such as tobacco, potatoes, cabbage, tomatoes, etc., quicker, easier and better work will be done than with a hoe.



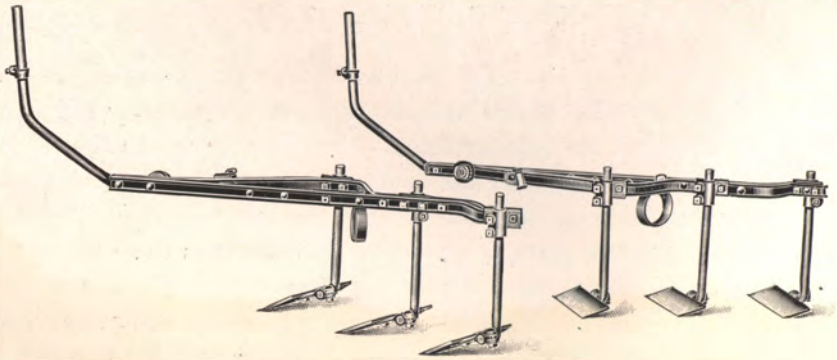
Top view of Horse Lift Cultivator, showing Pivot Pole Attachment

FULLER & JOHNSON SURFACE ATTACHMENT

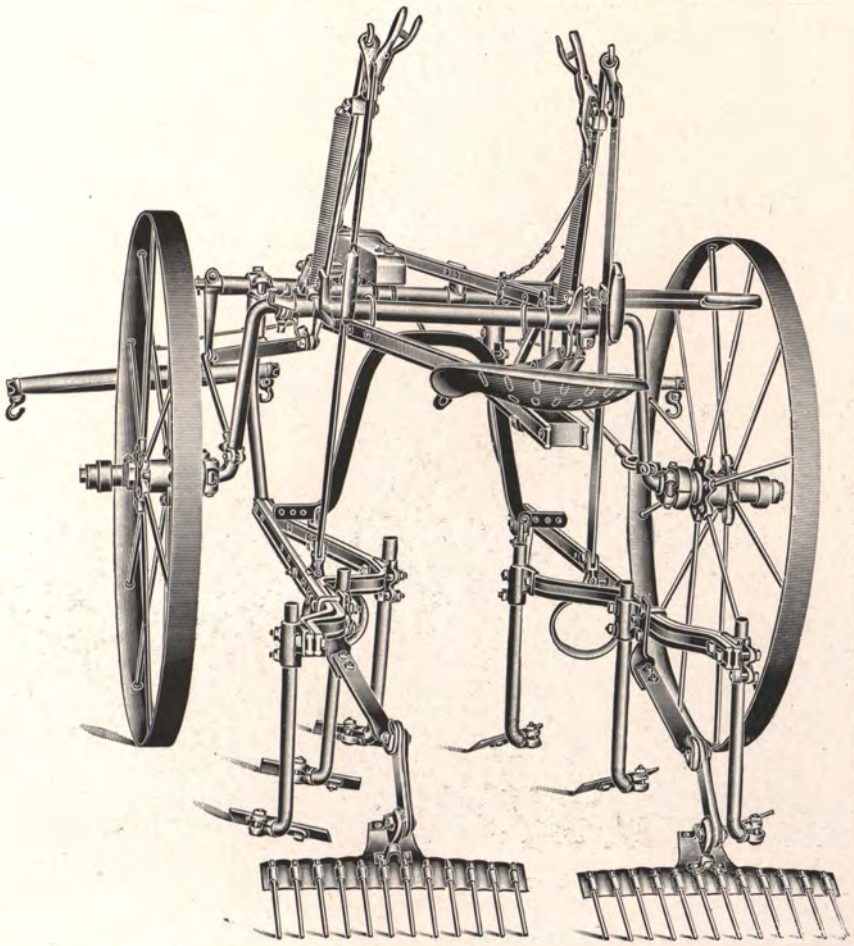
Our Surface Attachment has won great popularity in sections where surface cultivation is practiced. It does not injure the roots of the plants. This method of cultivation clears the field of morning glory, wild buckwheat, weeds, etc., effectually, and in soils adaptable to surface cultivation brings surprising results in the way of crop returns.

The FULLER & JOHNSON Surface Attachment can be readily attached to any adjustable standard drag bars, thus adapting same for surface cultivation. It takes but little time to make the change.

The blades are of steel and can be set at any angle to the ground; their points can be raised or lowered to regulate the depth of cultivation. Adjustment of the standards can also be made to change the angle of the blades.



Fnller & Johnson Surface Attachments



Cultivator with Surface Attachments

ARCH

We furnish an exceptionally heavy arch for use in connection with our surface attachment at small additional cost. It is very high, giving ample clearance and affording an unobstructed view of the corn row, thus enabling the operator to do perfect work.

PULVERIZERS

The pulverizers or levelers follow the surfacing blades and level any ridges or lumps which they leave. These attachments are especially appreciated in clayey sections. They are so designed that they can be set at any angle to the ground. The bars can be adjusted to regulate the pressure under which they work. Furnished at small additional cost.

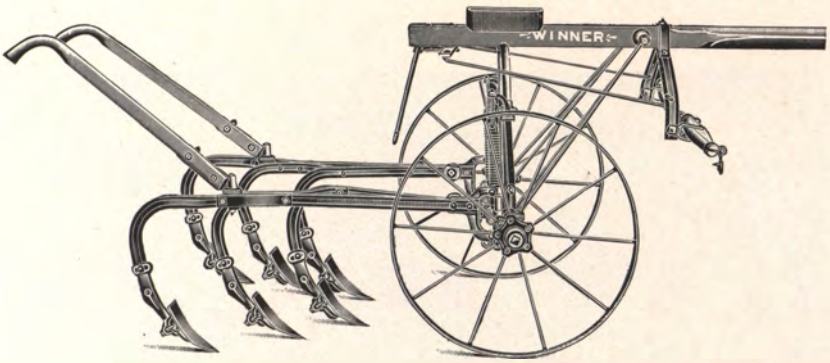
Eight F. & J. Cultivators operating on A. P. Allis' Stock Farm near Madison

The above photograph was taken on one of the most modern and up-to-date farms in this country. No expense has been spared to make it an ideal farm in every particular—the mechanical equipment, design and location of buildings as well as the systematizing of work—all have been given careful attention.

Mr. Allis' farm is located on the shores of Lake Monona, Madison, Wisconsin, and only a few miles from the state capitol. A better piece of land would be difficult to find. It is kept in prime condition; is most carefully tilled with the best —most up-to-date implements—those made by the Fuller & Johnson Manufacturing Company.

Very few men give the implement subject closer attention than does Mr. Allis. The fact that his farm is equipped with a full line of Fuller & Johnson implements is ample proof that they meet the most exacting requirements.

The Fuller & Johnson Light Draft Implements



Fuller & Johnson Winner Walking Cultivator complete

FULLER & JOHNSON WINNER WALKING CULTIVATORS

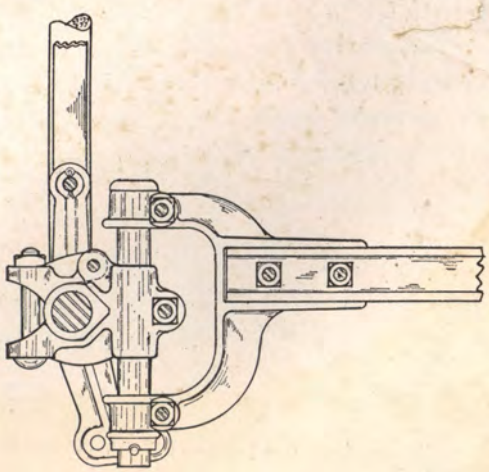
This is a high grade cultivator in every detail, exceptionally well designed and constructed. It has heavy steel braces extending from arch to the pole and extra heavy steel double tree.

DOUBLE ACTING BALANCE SPRINGS

When the cultivator is at work the lever arms on the couplings are on dead center, and the springs have no effect on the gangs to interfere with their suction. The lower ends of the springs are fastened to the lower arms on the couplings, and the upper ends are fastened to the upper arms by means of steel rods running down to them. This makes the springs double acting, and as their tension decreases when the gangs come up, the leverage of the springs on the gangs increases, so that their weight is perfectly balanced even when raised to their full height.

COUPLINGS

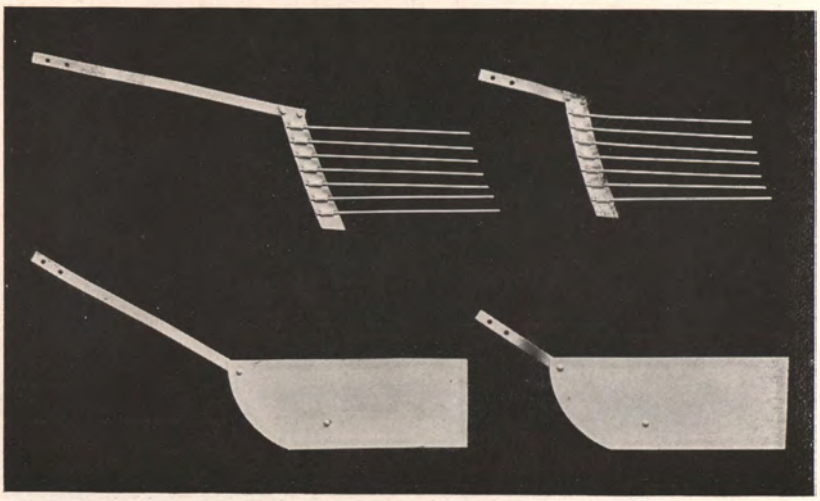
The couplings are low, giving good suction to the shovels, and can be adjusted to raise or lower the front ends of the gangs. By this adjustment the relative depth of the front and rear shovels may be changed. The spread between the gangs may also be changed by moving the gangs in or out.



Details of Coupling

STEEL EVENER

The steel evener used on this cultivator gives a low hitch and perfect equalization of draft.



Rod and Solid Shields

EQUIPMENT

Furnished with four or six shovel pin break or spring trip,—eagle claw or spring tooth drag bars. Rod shields furnished extra if ordered.

SHOVELS

The shovels are made of the very best soft center steel, extra hardened and polished. They will scour wherever plow steel can be made to scour.

WHEELS

The wheels are made of steel, with renewable long distance boxings. The strong staggered spokes are riveted to the malleable hubs in such a way that they can be easily repaired or replaced by any blacksmith in case of accident. Dust proof replaceable wheel boxes with screw caps on outer ends.

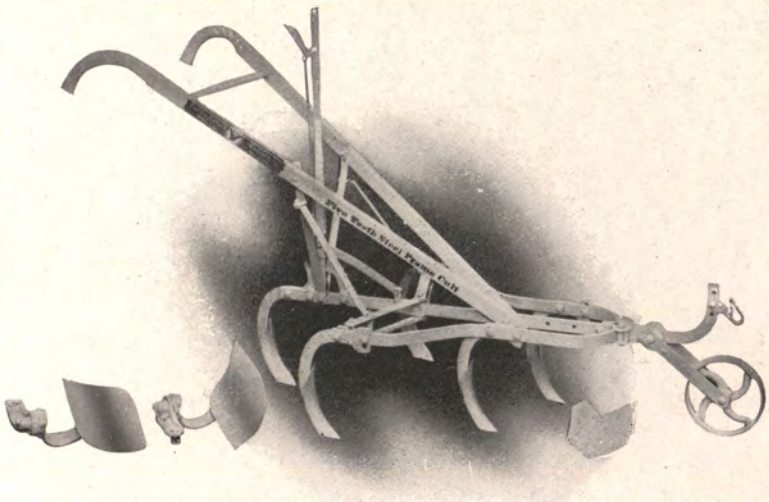
ARCH

The arch is made of steel; very strong, rigid and of good height. The diameter of the arch snugly fits the boxes of the wheels, eliminating any wobbling and materially increasing the life of the cultivator.

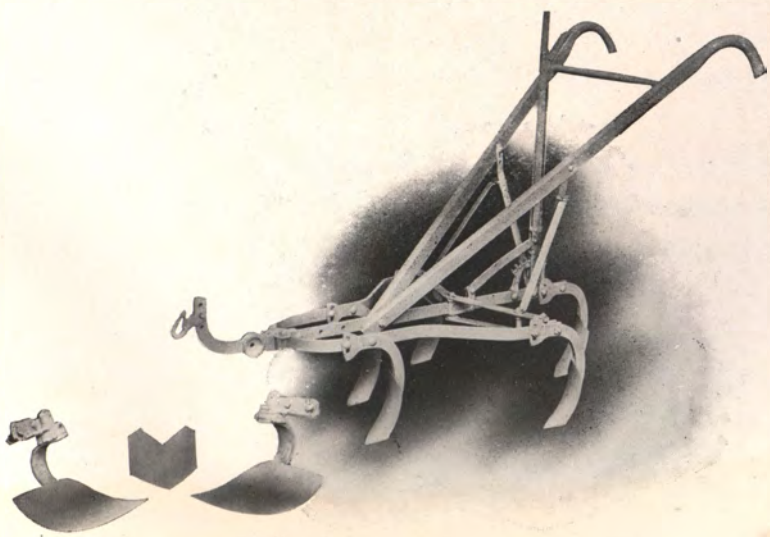
SHIELDS

We can furnish either rod or solid shields, as shown above, as desired by the customer.

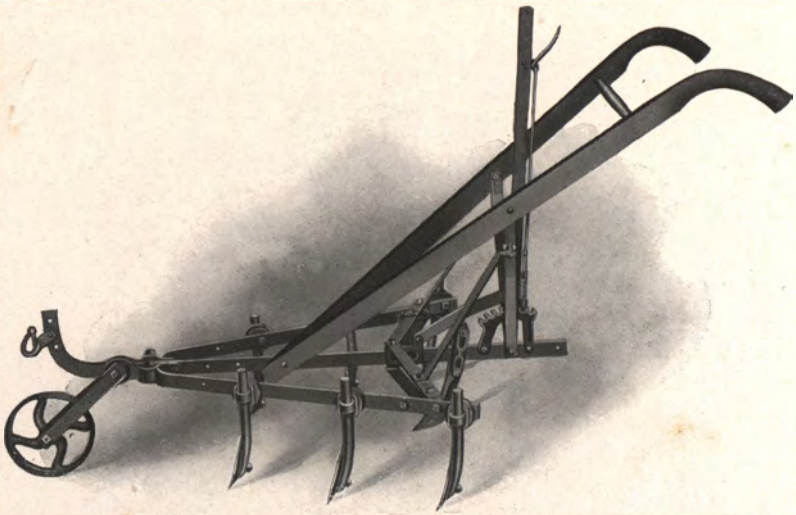
SMALL CULTIVATORS, SHOVELS, PLOWS, ETC.



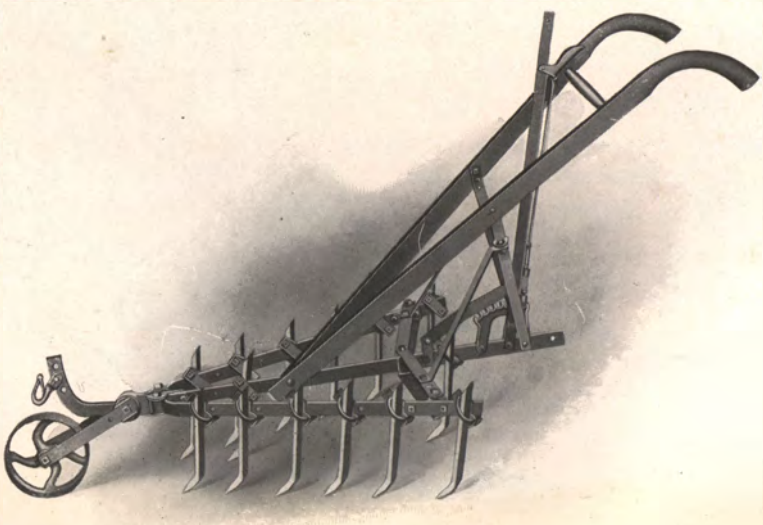
Five Tooth Cultivator complete with Horse Hoe Attachment



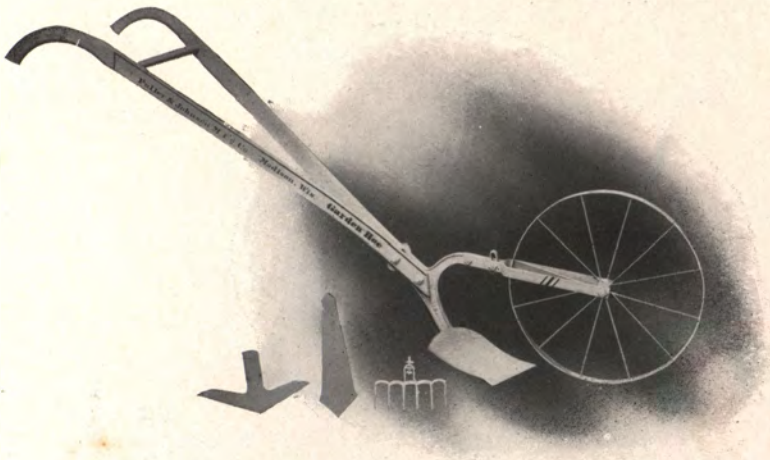
Five Tooth Steel Lever Cultivator without Gauge Wheel



Seven Tooth Steel Cultivator with Lever



Fourteen Tooth Steel Cultivator with Lever



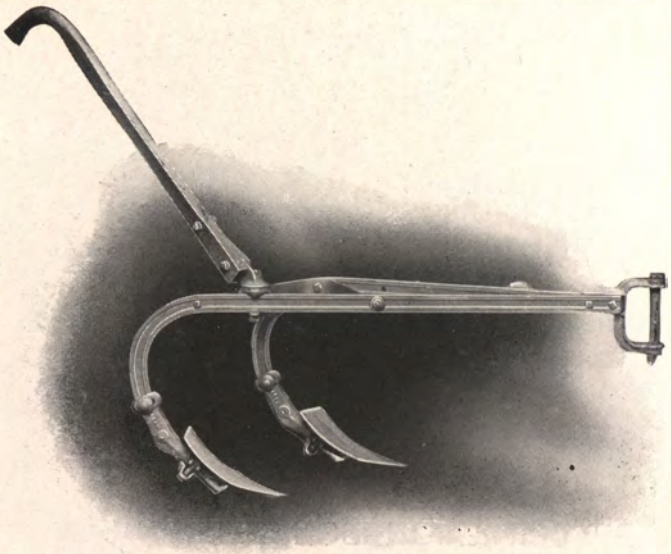
FULLER & JOHNSON GARDEN HOE

This is an exceedingly neat, compact and useful hand tool, designed for use in garden cultivation. The frame and handles may be adjusted so that a child can use it. The blades can be set for plowing at various depths, and with the different attachments it can be used for nearly every kind of work in a small garden. It has a substantial steel wheel. The plow comprises cultivator blade, hoe, mold-board shovel and rake, a very complete outfit. The blades are made from the best spring steel.

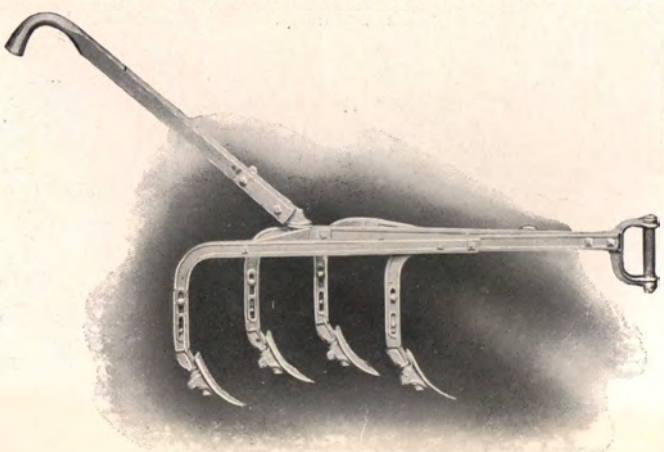
The large and ever increasing demand for this tool is the best evidence of the universal satisfaction it has given. It is sold at a price which places it within the reach of every person who does gardening, either for the market or for his own family.

The FULLER & JOHNSON farm implements are widely known, are popular and recognized by all who use them to be of the highest standard. The thousands of satisfied customers who for years have used the plows, harrows, cultivators, planters, transplanters, gasoline engines, etc., of the FULLER & JOHNSON manufacture are our strongest and best advertisers.

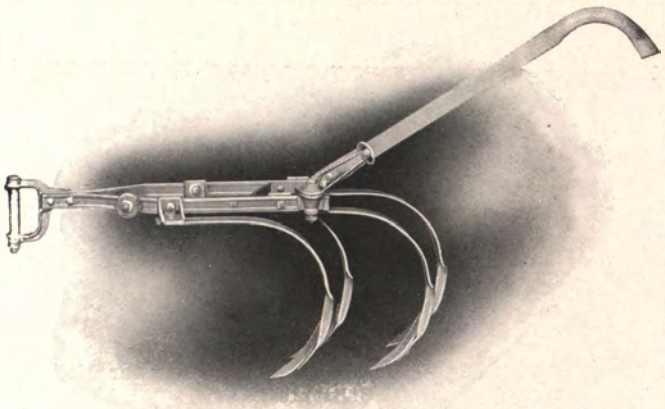
CULTIVATORS, GANGS AND ATTACHMENTS



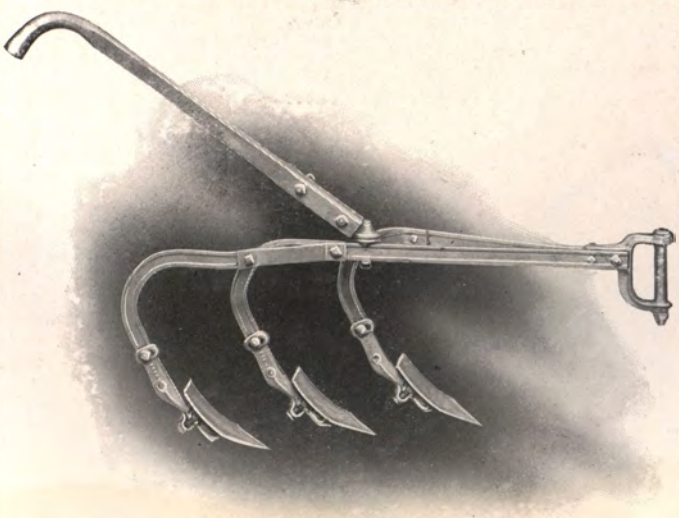
No. 1. Four Shovel Bow Bar for Winner Cultivator



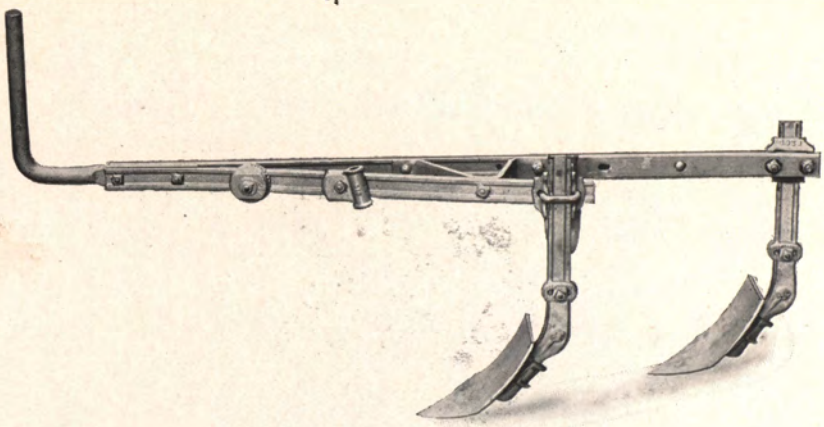
No. 3. Eight Shovel Eagle Claw Bow Bar for Winner Cultivator



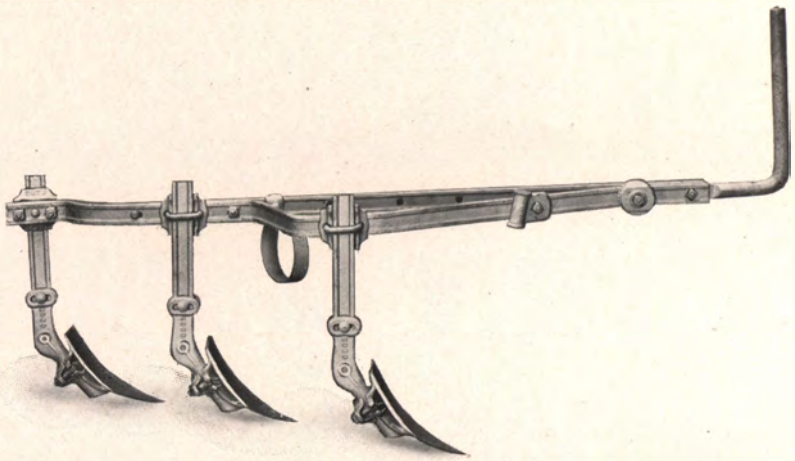
No. 4. Eight Tooth Spring Tooth Beam for Winner Cultivator



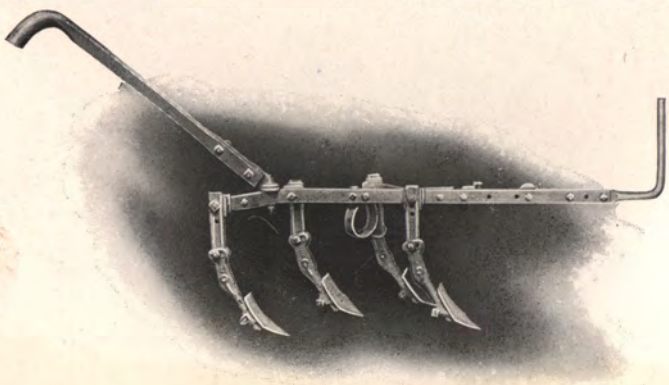
No. 5. Six Shovel Bow Bar for Winner Cultivator



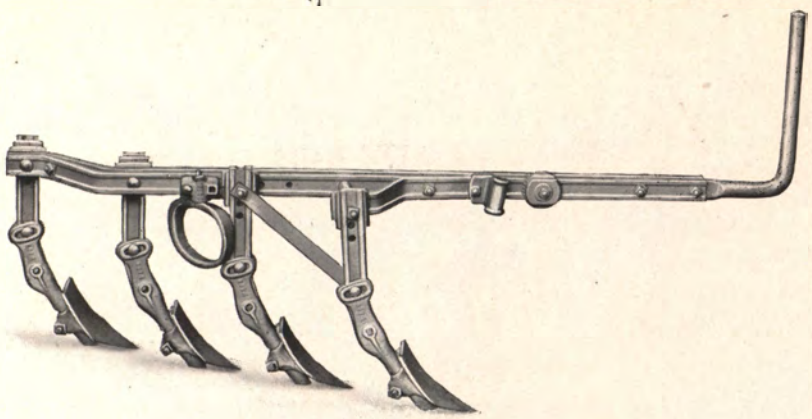
No. 17. Four Shovel Adjustable Standard Drag Bar for No. 2 Horse Lift Cultivator



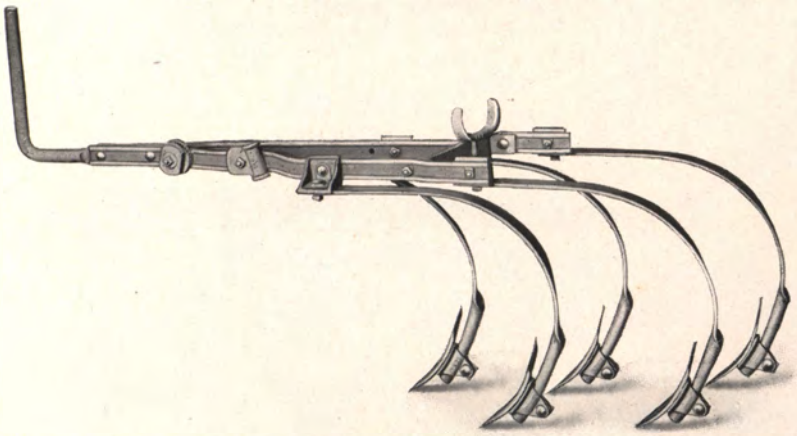
No. 18. Six Shovel Adjustable Standard Drag Bar for No. 2 Horse Lift Cultivator



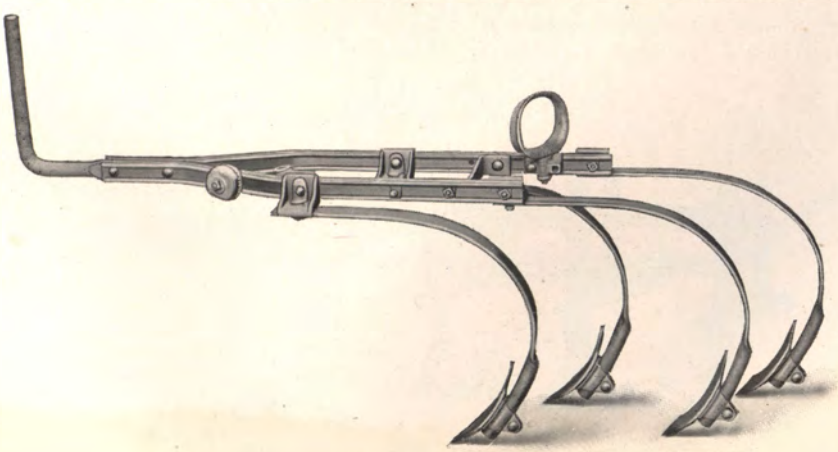
No. 20. Eight Shovel Adjustable Standard Eagle Claw Zig Zag Drag Bar for No. 2 Horse Lift Cultivator



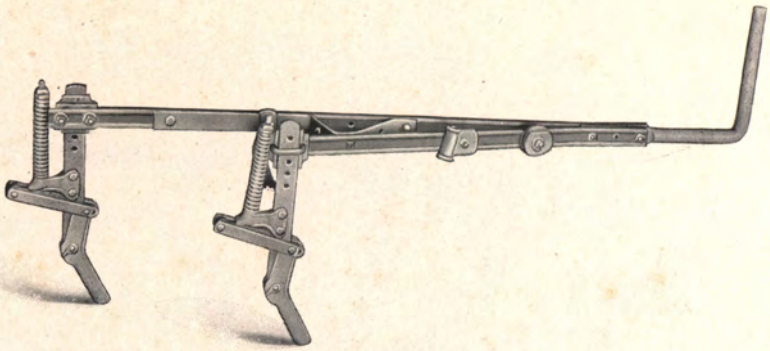
No. 36. Eight Shovel Adjustable Standard Eagle Claw in Line Drag Bar for No. 2 Horse Lift Cultivator



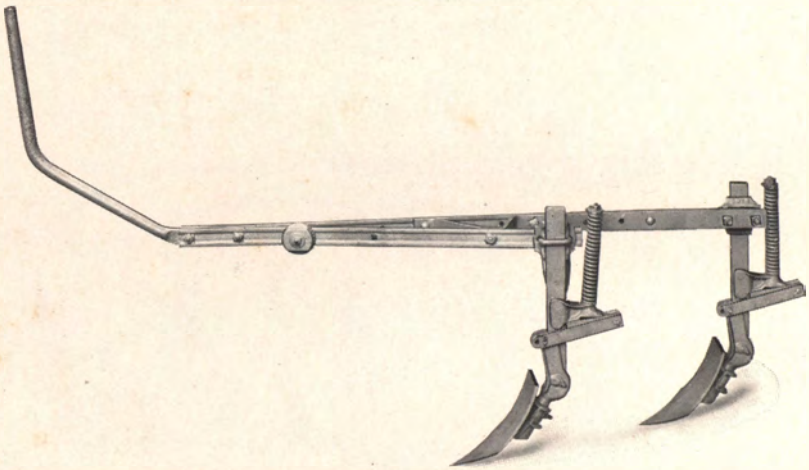
No. 35. Ten Tooth Spring Tooth Beam for No. 2 Horse Lift Cultivator



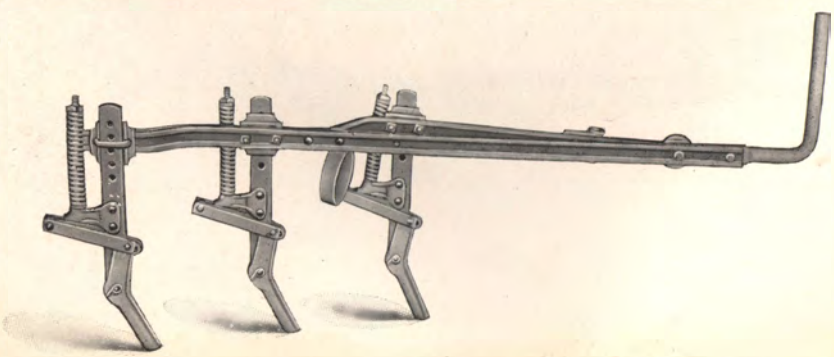
No. 37. Eight Tooth Spring Tooth Beam for No. 2 Horse Lift Cultivator



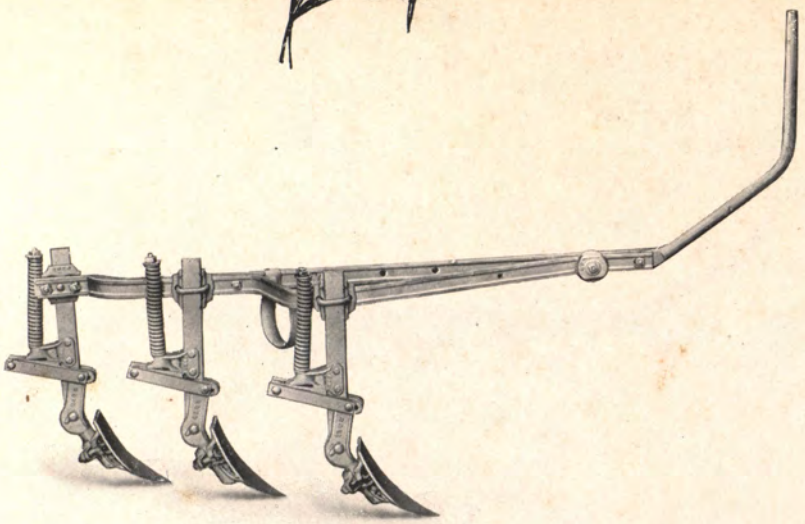
No. 45. Four Shovel Adjustable Standard Spring Trip Drag Bar for No. 2 Horse Lift Cultivator



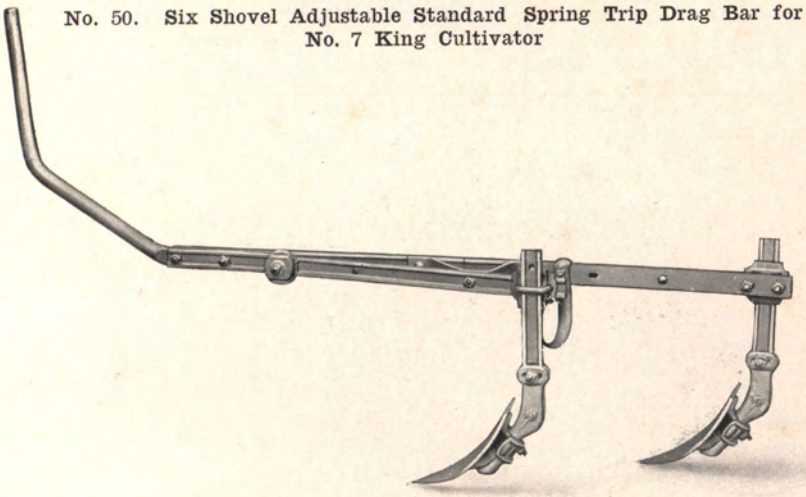
No. 47. Four Shovel Adjustable Spring Trip Drag Bar for King Cultivator No. 7.



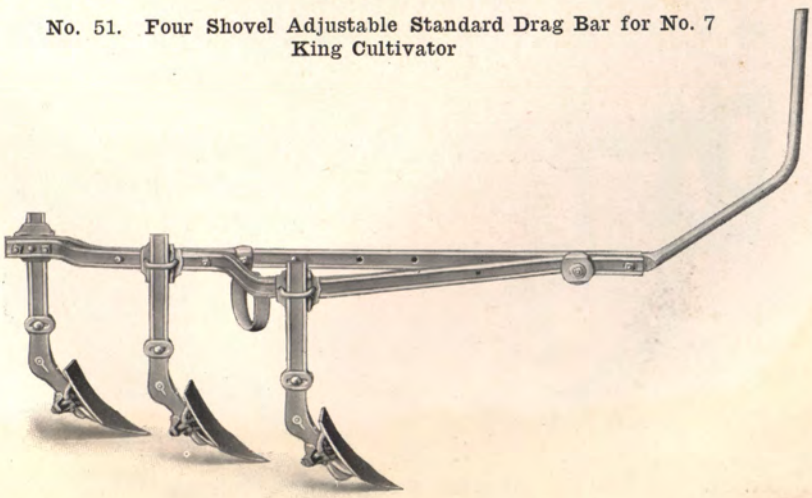
No. 48. Six Shovel Adjustable Standard Spring Trip Drag Bar for No. 2 Horse Lift Cultivator



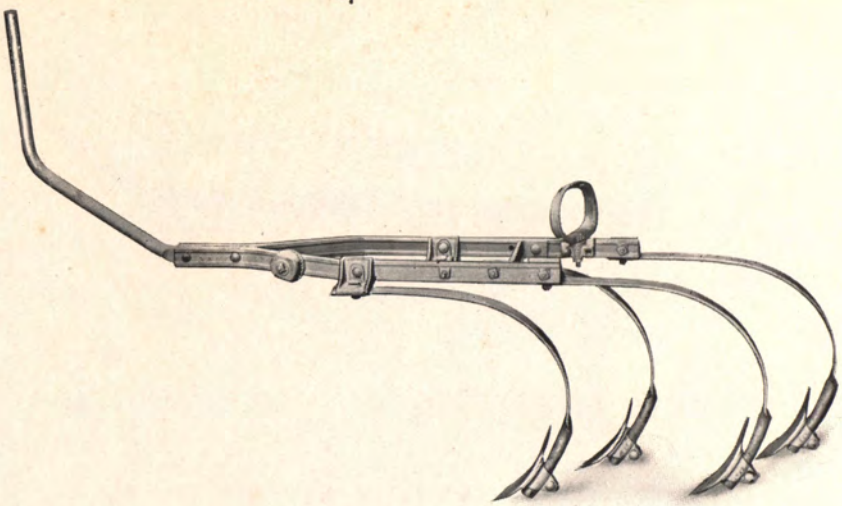
No. 50. Six Shovel Adjustable Standard Spring Trip Drag Bar for No. 7 King Cultivator



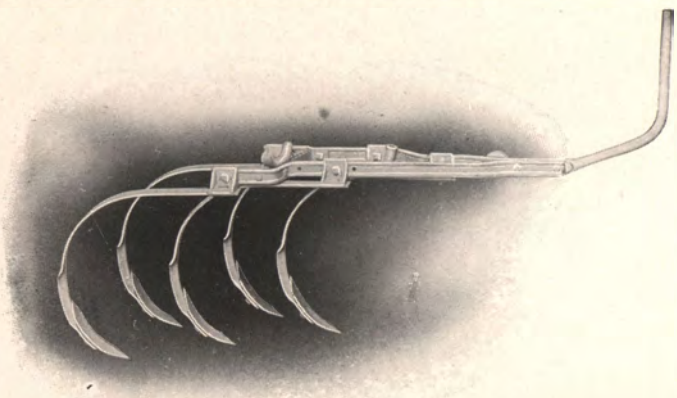
No. 51. Four Shovel Adjustable Standard Drag Bar for No. 7 King Cultivator



No. 53. Six Shovel Adjustable Standard Drag Bar for No. 7 King Cultivator

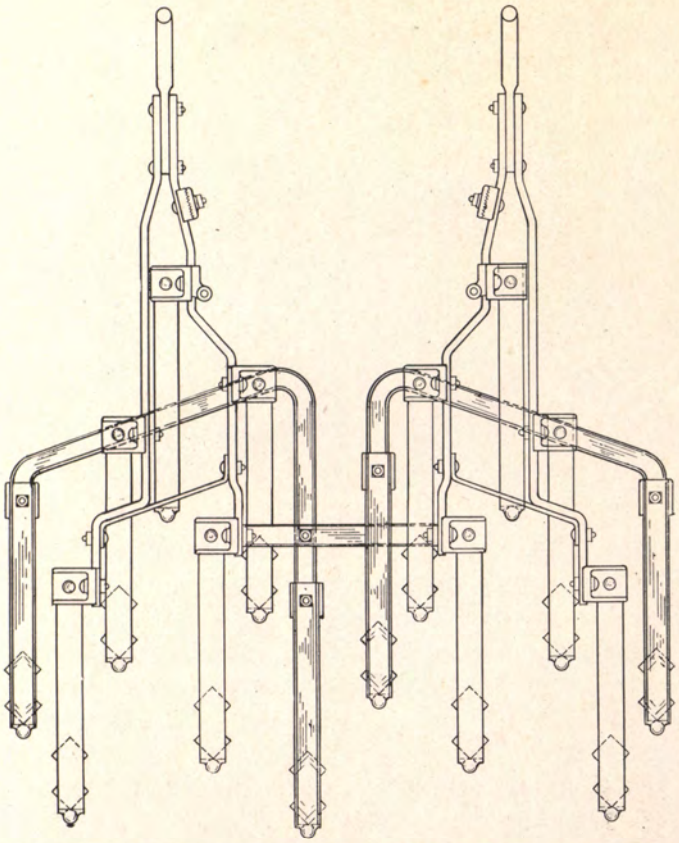


No. 56. Eight Tooth Spring Tooth Drag Bar for No. 7 King Cultivator

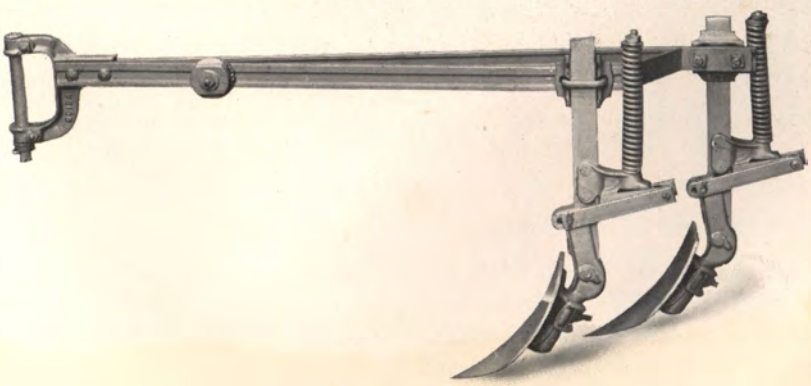


No. 57. Ten Tooth Spring Tooth Drag Bar for No. 7 King Cultivator

No. 59. Four Shovel Adjustable Standard Drag Bar for Winner Cultivator

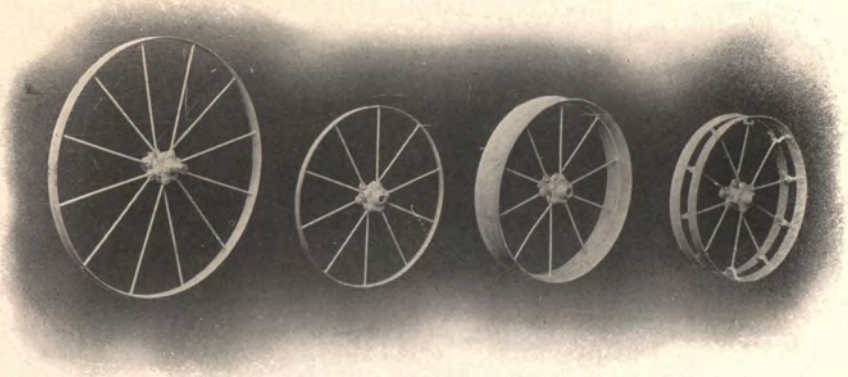


Detail of Center Attachment for Ten Tooth Spring Tooth Drag Bars

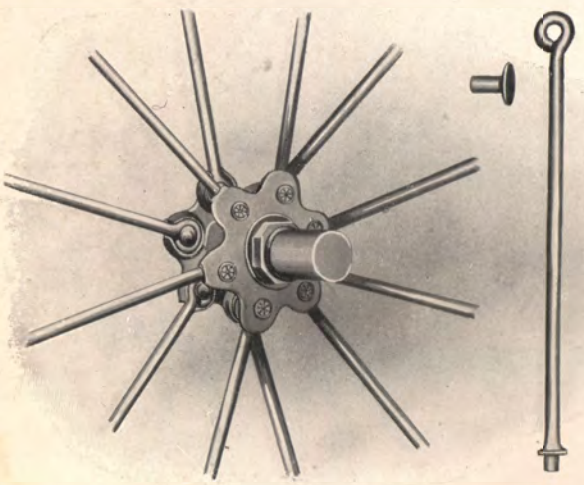


No. 60. Adjustable Standard Spring Trip Drag Bars for Winner Cultivator

PATENT METAL WHEELS



The Hubs are made of two pieces of malleable iron, having grooved flanges into which the bent ends of the spokes fit, and to which they are riveted, as shown in the cut. These are made so that the end of one piece fits solidly over the end of the other, and their length regulates the amount of the stagger of the spokes. Cast boxes run through the center, and on one of them a nut is screwed, which holds the two parts of the hubs firmly together.



Detail of Hub Construction

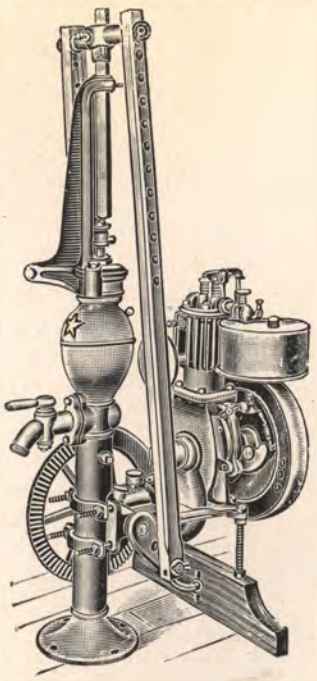
Renewable Boxes. These boxes are made of the best chilled cast iron, insuring good wearing qualities. When worn they can be easily re-them out, and putting new nut on the end, knocking them out, and putting new ones in their places. These boxes have lugs cast on them which fit into grooves in the hubs, preventing their turning in them.

The Spokes are made of round steel bent and headed, and firmly riveted to the hub and rims. This makes a much stronger spoke than where they are cast into the hub, or where they are threaded to screw into the hub and rim, the cutting away for the thread greatly weakening them. This construction also permits any blacksmith to replace any spokes which may be broken by accident, etc., where otherwise new wheels would have to be purchased.

These wheels add greatly to the value of all of our machines, making our line of implements the best on the market.

FULLER & JOHNSON FARM PUMP ENGINE

For years the farmers have been wanting a good efficient small engine for use in pumping water, driving the cream separator, churn, washing machine, fanning mill, feed grinder, etc. In years gone by farm help was cheaper and easier to get but time has altered circumstances until now it is almost impossible to get good farm help and consequently any mechanism which replaces human labor satisfactorily is greatly welcomed by the farmer.



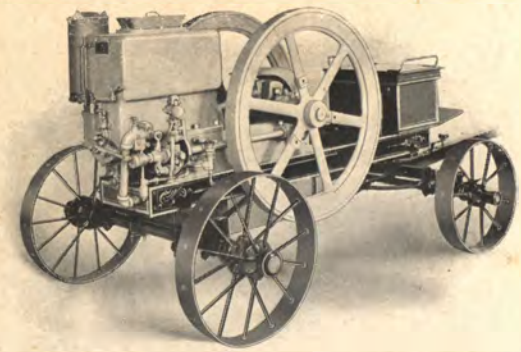
To meet this demand we have designed the now famous Farm Pump Engine. This engine is the most compact and economical pumping engine on the market. It has been especially designed for pumping service and can be attached to the pump standard by simply tightening four bolts. This engine is not cheaply constructed but embodies the same grade of material and workmanship as enters the construction of our high power engines which have won us a reputation as gasoline engine builders second to none.

The Farm Pump Engine has the windmill beat a mile for pumping water. It is always ready for operation when ever you want water. You never have to wait for the wind nor pump by hand. Simply turn on the gasoline and give the wheel a turn—that's all you have to do—the engine does the rest. It simply turns your pump into a gushing hydrant. And it matters little how deep the well—one hundred or six hundred feet is all the same for this wonderful little engine—it pumps just the same. When you add a piece of pipe to act as an air chamber you have excellent fire protection. It will throw a stream higher than a house or force water to your elevated tank or barn—in fact most anywhere.

Pumping water is only one of its stunts. This engine is provided with a special pulley for driving all kinds of farm machinery which you now operate by hand. It has never been equaled as a labor, money and back saver. No matter what the weather conditions may be—rain or snow—30 degrees below zero or 110 above in the shade—it's all the same to the engine. It is air cooled and there is nothing about it to freeze up.

We have a catalogue devoted to this engine which describes it in detail. Send for a copy today.

FULLER & JOHNSON HIGH POWER ENGINES



You who plow and plant and till with **Highest Grade Implements** of the FULLER & JOHNSON line are "up with the times" in other respects. You are utilizing your brains and more and more substituting machinery for muscle.

You have heard of **Gasoline Engines** galore and that some are better than others. You know that if one is better than another it is not because the hired salesman or paid advertiser says so, but because of **difference** in **design** and **construction.**

You need the **Best** and it is an important matter. If you will investigate thoroly so that you may compare without prejudice, you will conclude that the FULLER & JOHNSON **Open Water-Jacket** engines are superior to others because

FULLER & JOHNSON ENGINES	OTHER ENGINES
Have the most symmetrical and pleasing outline.	Are **inferior** in form and general appearance.
Most **massive design,** insuring **smooth speed** of belts and machines.	**Light** weight, insuring **"jerky,"** unsatisfactory speed of belt and machine.
Largest **wearing surfaces,** insuring **more** years service and **perfect** adjustment.	**Small** wearing surfaces, **quickly** worn and out of **adjustment,** consequently out of **time.**
Largest and **strongest** crank shafts; **never** yet one broken in a FULLER & JOHNSON engine of any size.	**Small, weak** crank shafts often **broken,** causing expense and delay.
The **most perfect** cooling system. The **Open Water-Jacket without** tanks, screens or **troublesome** pipe connections, and **without** cylinder head joint to **leak** and **repack.**	Some with the **antiquated** circulating tank and troublesome pipes, screens, pans, etc. Others with crude imitations of the F. & J. open water-jacket but made with **detached** cylinder head, with **"packed" joint** to repack and leak.
No inaccessible cells or chambers to accumulate deposit from cooling water.	**With** inaccessible cells and passages in the head for **accumulating** sediment from cooling water.
Wide water spaces and openings to facilitate circulation and cleaning.	Narrow water spaces between inner and outer cylinders, difficult to clean.
Easiest started, summer and winter, because of **positive** method of spraying and mixing gasoline.	**Difficult** to start in cold weather because of **inferior** methods for mixing gasoline and air.
Positive operating mechanisms, insuring perfect control.	More or less automatic operation that is subject to disturbances by changes in temperature and atmospheric conditions beyond control.

Finally, we have built into our engines **more** of the **best** known, up to date **engineering method** and **process** than has been grouped in **any** other **one** engine. It means **dollars** to you, because it will make **dollars** difference by increasing your profits every year you use power.

Considering **actual** value, **daily earning capacity,** operating **expense, convenience, safety** and price, you cannot afford to buy any other engine.

Get our complete engine catalog from your dealer or from us.

CANTWELL PRINTING COMPANY
MADISON WIS.