JOHN CHAMBERS AND SON, Ltd.

Box 934, Auckland, N. Z. Box 109, Dunedin, N. Z.
Box 466, Christchurch, N. Z. Box 463, Wellington, N. Z.
Gisborne, N. Z.

CASE

Kerosene Tractors and Grand Detour Plows

CASE

OFFERS A BIG LINE OF POWER FARMING MACHINERY

CASE STEAM TRACTOR:
Eight Sizes—30 H. P.; 40 H. P.; 50 H. P.; 60 H. P.; 65 H. P.; 75 H. P.; 80 H. P. and 110 H. P.

CASE KEROSENE TRACTORS:
Four Sizes—10-18 H. P.; 15-27 H. P.; 20-40 H. P.; 22-40 H. P.

CASE THRESHING MACHINES:
Six Sizes:
20x28 Lightweight (9 Bar Cylinder).
22x36 Lightweight (12 Bar Cylinder).
26x46 Lightweight (12 Bar Cylinder).
32x54 Threshers (20 Bar Cylinder).
36x58 Threshers (20 Bar Cylinder).
40x62 Threshers (20 Bar Cylinder).

CASE BALING PRESSES:
Two sizes—14x18 and 17x22; also 14x18 Sweep Power Baler.

CASE SILO FILLERS:
Three Sizes—No. 10, No. 12 and No. 16.

GRAND DETOUR PLOWS:
2-bottom; 3-bottom; 4-bottom; 5-bottom; and 6-bottom. (Various types—Bottoms for any soil.) We also make Brush Breakers.

GRAND DETOUR HARROWS:
8, 9 and 10 foot tandem—18 or 16 inch discs.

CASE ROAD MACHINERY:
Road Rollers; Graders; Rock Crushers; Scrapers; Stone Screens and Bins; Drags; Rooters, Etc.

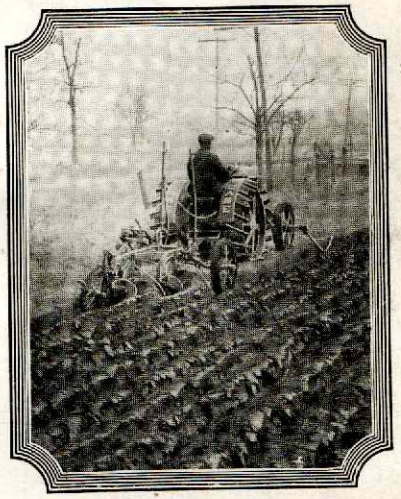
SEND FOR DETAILED INFORMATION —MAILED GLADLY ON REQUEST

NOTICE:—We want the public to understand that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Company.

J. I. Case Threshing Machine Co., Inc.
RACINE, WISCONSIN, U. S. A.

CASE

KEROSENE TRACTORS *and* GRAND DETOUR PLOWS



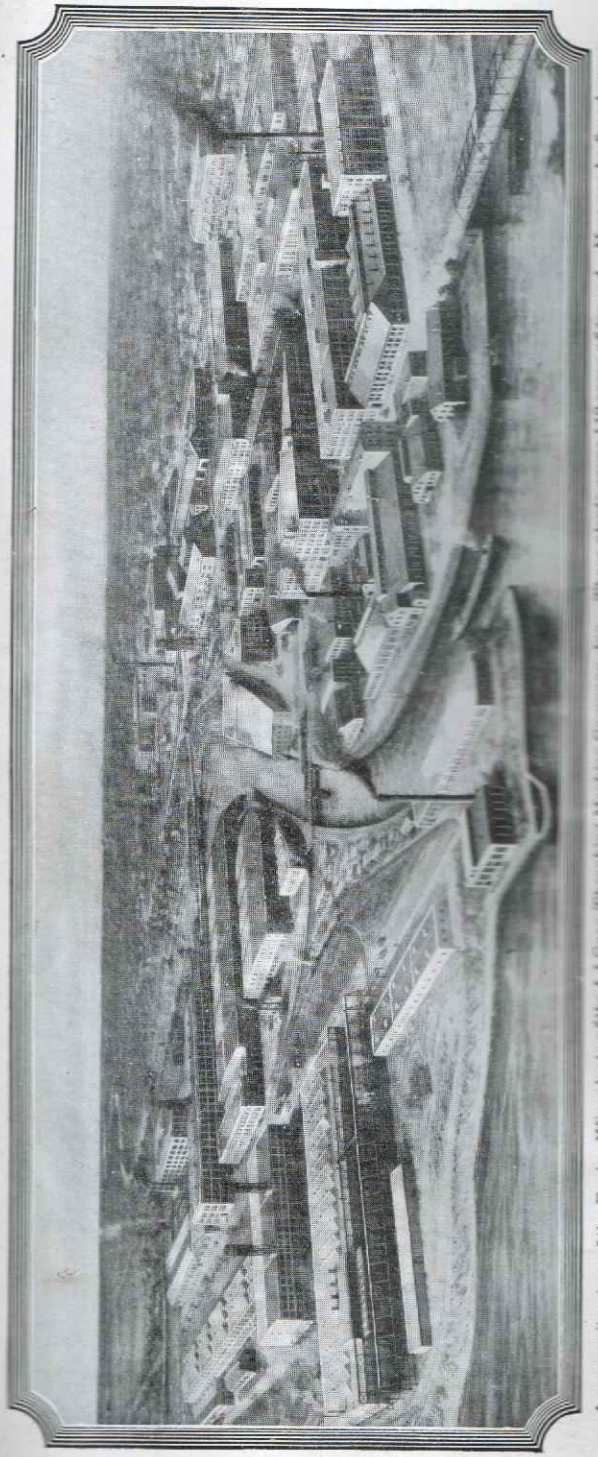
Established in 1842

NOTICE:—We want the public to know that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Company.

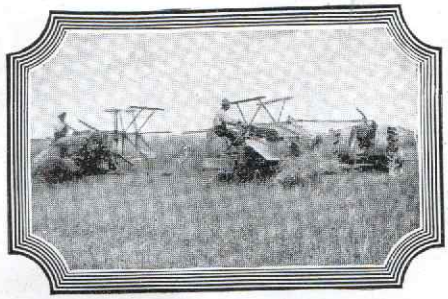
To avoid confusion the J. I. CASE THRESHING MACHINE COMPANY desires to have it known that it is not now and never has been interested in, or in any way connected or affiliated with the J. I. Case Plow Works, or the Wallis Tractor Company, or the J. I. Case Plow Works Co.

H. M. STONYER
Agent - Tenant

J. I. Case Threshing Machine Company
(INCORPORATED)
RACINE - WISCONSIN - U. S. A.



A composite view of the Racine, Wis. plants of the J. I. Case Threshing Machine Company, Inc. These plants cover 140 acres of ground. Here can be found every facility for the economical and accurate production of Case Power Farming Machinery. Our Plow Factories, located at Dixon, Ill., are illustrated on page 48



How To Choose A Tractor

IF IT were possible for you to consult a group of the foremost tractor engineers on the purchase of a tractor, if you were to seek their advice and accept their unbiased opinions, here are some of the things they would say to you:

Choose the tractor with a four-cylinder valve-in-head motor designed to stand the severe service a tractor motor is subjected to. It should burn kerosene economically—it should continuously develop its full rated horsepower on that fuel without overheating.

Choose a tractor that can develop a liberal reserve in excess of its rated horsepower.

Choose the tractor with all cut steel, spur gears, the simplest type of transmission and assurance for durability.

Choose the tractor that has all vital working parts enclosed in dust proof, oil tight housings.

Choose the tractor that provides accessibility.

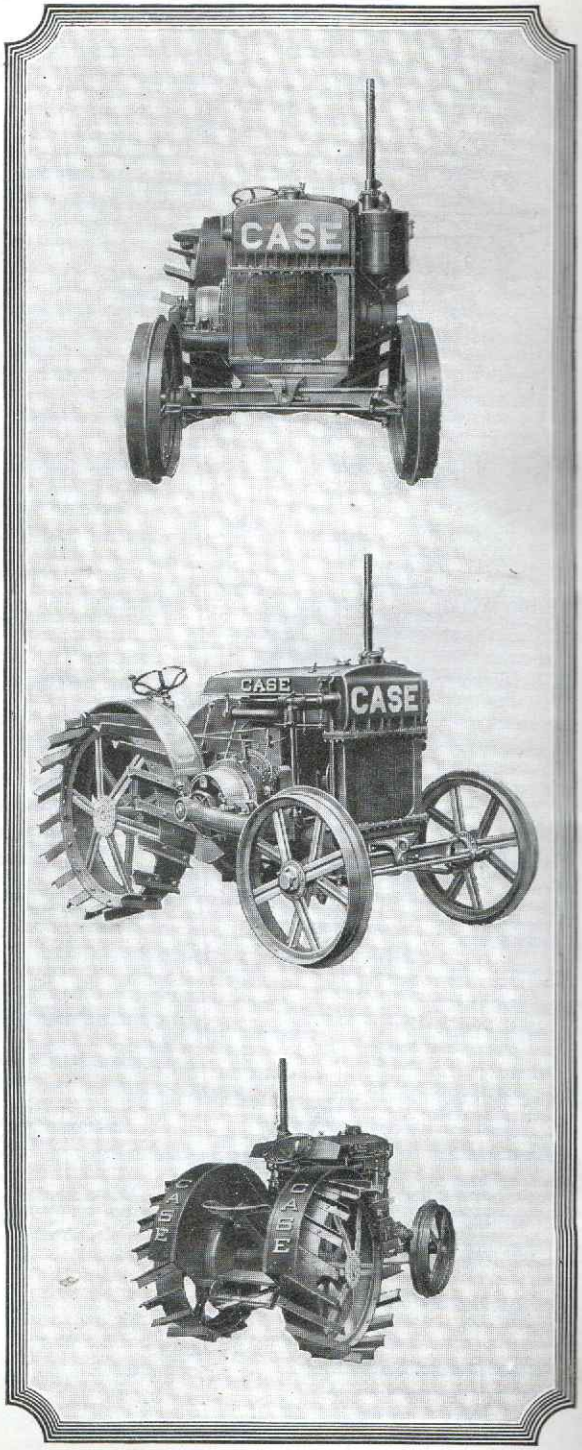
Choose the tractor that has a high grade, high tension, dust and water proof magneto, requiring no batteries.

Choose the tractor that is handy for all drawbar and belt work.

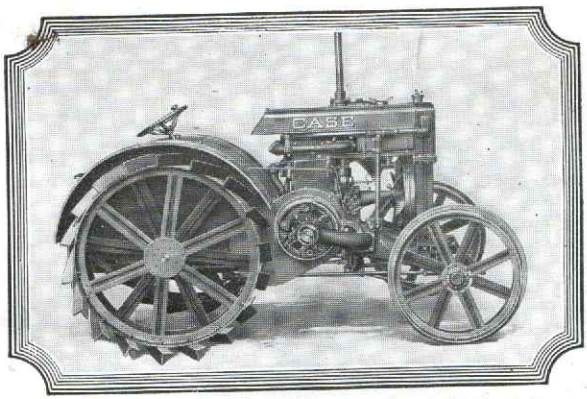
Choose the tractor built by a concern whose reputation you know to be excellent and with sufficient financial responsibility to make its guarantee worth something to you.

Choose the tractor backed by a concern with active, up-to-date branch houses and dealers to give the right kind of service at the right time.

The object of this catalog is to picture and describe a line of tractors that will meet every one of these requirements. A brief study of this catalog is worth your while. It reveals the latest in tractors and plows as they are designed and built in the plants of the J. I. Case Threshing Machine Company.



Viewing the Case 10-18 H.P. Tractor from different angles



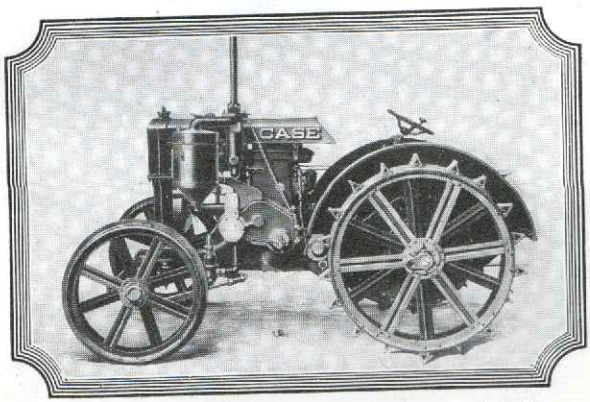
Pulley side Case 10-18—belt pulley conveniently located

Case 10-18—A 2-3 Plow Tractor

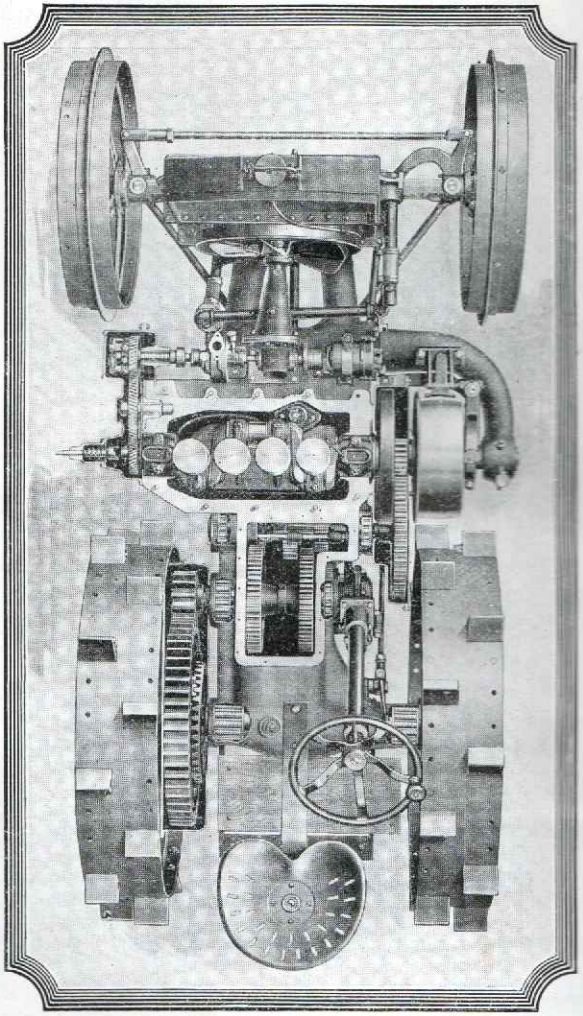
THE Case 10-18 is an ideal size for small or large farms. On many unusually large farms and ranches several of these small tractors are used which makes possible the performance of various tasks at one and the same time. Whether the 10-18 is best suited to your needs depends on your particular belt and drawbar requirements.

It pulls two 14-inch plows in hard and tough soil or three 12-inch bottoms under favorable conditions. Pulls a 7 or 8 foot tandem disc harrow, a 5 section spike tooth harrow, a 22-shoe grain drill, two 6-foot binders or the largest manure spreader. Being light in weight prevents soil packing and makes it well suited for seeding and discing. It is ideal for road work, pulling a Case No. 3 road grader or a pair of road drags. For general hauling it handles easily from 5 to 10 tons depending on road and grade conditions.

It drives a Case 20x28 thresher with feeder and wind stacker, a Case No. 10 or No. 12 silo filler with 40-foot blower pipe, a large baling press, small husker or sheller, feed mill, wood saw, concrete mixer and a dozen and one other belt driven machines. The Case 10-18 is really an "all year round" tractor, ready to perform the many tasks to which it is so well adapted.



Left side Case 10-18—drivers equipped with spade lugs



This aeroplane view of the Case 10-18 shows method of mounting motor crosswise on one piece main frame—permitting use of all spur gears, the simplest type of transmission. Note how belt pulley is mounted on crank shaft, the logical position

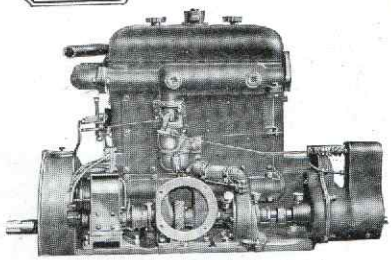
THE Case 10-18 tractor has ample reserve power for temporary hard pulls. No tractor leaves the Case factory until rigid motor tests indicate a liberal reserve above the rated horse power. The 10-18 is compact and low down which makes it ideal for orchards.

We built one of the pioneer tractors in America in 1892. Our gas engine experience of over a quarter of a century has assisted materially in the perfection of Case kerosene tractors. Coupled with this is our agricultural experience covering a period of 78 years.

Over ninety-nine per cent of all Case parts are built complete in the Case shops. Here we have every facility for accurate manufacturing under careful inspection and supervision. We wish you could visit our factories to see for yourself the extreme care we exercise in putting quality into every part.

One Piece Main Frame

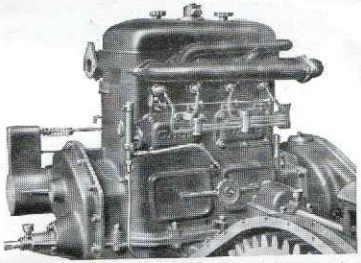
(Patent Applied For)



Case 4-cylinder valve-in-head motor

WE call your attention to the frame. Just as a building needs a good foundation, so must the tractor have a foundation that will insure strength to stand up under the stress and strain of tractor work. The Case 10-18 has a one piece frame. The frame casting includes the main part of the crank case and the transmission case. It likewise constitutes the housing for the rear axle and bull pinion shaft.

The holes on each side of the frame into which the bearings are fitted are bored in one operation on a special machine that does its work with marvelous exactness. All finished surfaces, such as bearings, ends, and the top and bottom of the transmission and crank case, are accurately milled. This feature of construction assures the permanent alignment of all shafts, the proper meshing of all gears and long wear.



Rear view of Case 10-18 motor

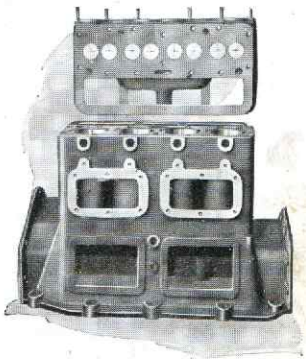
Built to Withstand Strains

The frame and other parts are protected from twisting strains by the three point suspension which is provided by the front axle being pivoted in the center at the front of the frame. The shaft on which this axle is pivoted extends back to the bracket to which the front axle brace rods are anchored, so that the axle and brace rods are connected to one shaft. The brace rods are adjustable so that the front axle may be kept in proper position at all times.

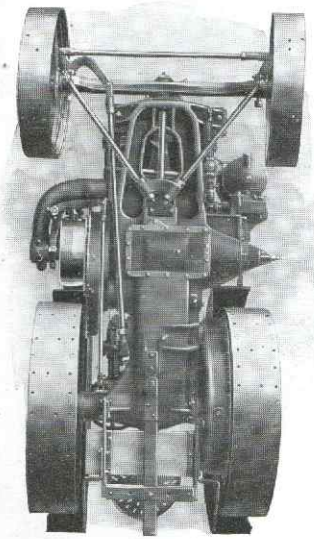
The forged steel front axle is of the automobile type, with ground and hardened steel spindles for the wheels.

The drawbar is attached to the frame casting under the center of the rear axle and may be locked in any position or left to swing. This construction insures easy manipulation of the tractor.

The Case 10-18 motor is of the four-cylinder valve-in-head type designed especially to economically burn kerosene. This motor is built to meet the rugged work to which tractor motors are subjected. Continued field tests have proved this type of motor to be the most efficient in power developed and economical in consumption of fuel. This motor is made in the Case shops and built by skilled motor mechanics.



Cylinders with head and side plates removed



Under side Case 10-18 Tractor—no exposed working parts

The bore is 3⅞", the stroke is 5 inches. The head of the motor is easily removable which makes it a simple matter to remove carbon from the combustion chambers.

The valves are all contained in the removable head. The head can be removed and taken to a bench and valves ground without the necessity of climbing over the tractor or standing in awkward and uncomfortable positions.

The head has ample cooling capacity which protects the valves from the warping effects of overheating.

A pressed steel cover over the motor head protects the valve stems, rocker arms, etc., from dust and dirt. These parts are oiled by an oil spray which comes from the crank case and provides ample lubrication for these parts.

The water jacket is provided with hand hole plates permitting the removal of all sediment.

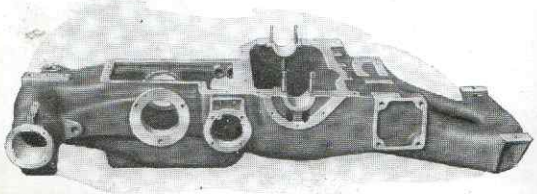
The main part of the crank case is a part of the main frame and the cylinder block is bolted solidly to a carefully machined surface, assuring a good foundation for the motor. The bearings for the crank shaft are also contained in the main frame. The bearing caps are on top of the shaft giving easy access for adjustment. This construction provides the strongest and most rigid support for the crank shaft.

Crank Shaft of Liberal Proportions

The crank shaft is a drop forging, very carefully ground and given a running balance. The crank shaft is 2⅜ inches in diameter and runs in two bearings, the total length of which is 9 inches. The crank pins also are of ample size, 2⅜ inch diameter by 2½ inches long, and are ground to size.

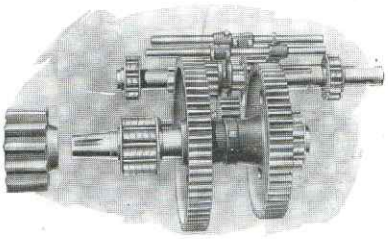
The pistons are made and finished with great care. They are made of special cylinder iron. The first rough turning cut is taken from the casting which is then allowed to season before the finishing cuts are made and the grinding is done. These pistons are supplied with three rings and also have oil grooves which assist in the proper lubrication of piston and cylinder walls.

The connecting rods are drop forgings, and are given special heat treatment to insure in them the greatest possible strength.



One piece main frame of Case 10-18 Tractor

The crank pin bearing is a bronze backed babbitt bearing of the best material available, and the piston pin has a bronze bushing. The piston pin is made of seamless steel tubing, ground and hardened, and is held in place by a Woodruff key and a locked set screw.

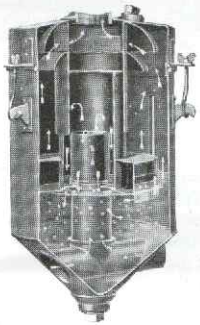


Transmission is composed of cut steel spur gears, enclosed and running in oil

Proper Fuel Mixture Assured

Our system of carburetion, together with general design of the motor, makes the use of kerosene simple and efficient with no undue trouble.

The carburetor used on these motors is simplicity itself. It forms the proper mixture without any trouble, contains very few small parts and has only one adjustment. The heaters which we use are placed where they will heat the mixture at the proper time and deliver it to the cylinders in a thoroly vaporized state.



Patented Case air washer

Case (Patented) Air Washer

An air washer of our own make is provided which removes all the dust and dirt from the air before it is taken with the fuel into the cylinders.

The air is drawn thru water which removes all dust. The screen in the float prevents the air from passing thru the water in large bubbles and thus clean air is delivered to the carburetor at all times. In other words, the Case air washer prolongs the life of the interior motor parts by keeping them free from grit and dust.

High Tension Magneto

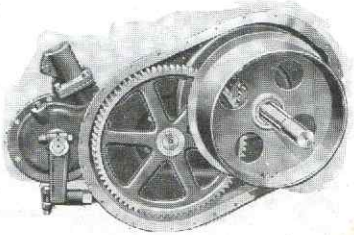
Ignition is one of the most important factors in the successful use of a tractor. We use a high grade, high tension magneto, with impulse starter coupling which means that no batteries are required in starting. This coupling produces a hot spark when the motor is turned by hand.

The magneto on the Case 10-18 is absolutely dust proof and water proof. Its adjustments are few and simple. With the latest and high grade magneto such as we use you are sure of dependable ignition.

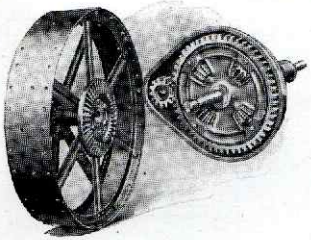
The governor is of the fly ball type and is entirely enclosed. The governor is provided with a cover the full size of the governor case which is easily removed, giving ready access to the governor.

All Parts Properly Lubricated

Thorough lubrication is provided by means of a combination pump and splash system. A plunger pump supplies oil, first direct to the main bearings and from these it overflows to



Belt pulley in place—clutch and gear cover removed to show first reduction gears



Cover removed to show forged, cut steel master gear and bull pinion

splash trays located directly underneath each crank pin, from where it is splashed to lubricate the cylinders and other working parts contained in the crank case.

An oil indicator in plain sight of the operator shows pump is forcing oil thru tubes. A float also in sight of operator indicates oil level in crank case.

An Efficient Cooling System

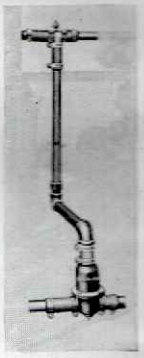
The cooling system on the 10-18 is of the forced circulation type. The water is circulated by means of a centrifugal pump.

The radiator made in the Case shops is of the copper fin and tube, non-clogging type, with a cast iron frame. This radiator is made in five parts as illustrated here. The core is supported by two cast sides bolted to the cast upper and lower sections which act as reservoirs. This Case radiator is sturdy, efficient and can easily be taken apart without the aid of an expert mechanic.

A ball bearing fan driven by enclosed helical gears aids in cooling the motor. The capacity of the cooling system is 9 gallons.

Thermostatic Regulator

The cooling system is further controlled by the Sylphon Thermostat, a device which keeps the motor hot. This Thermostat makes the Case 10-18 tractor an efficient kerosene burner. It causes the motor to warm up quickly and vaporize kerosene much sooner than if the entire cooling system were in circulation when starting. It also reduces the chances of raw fuel passing by the pistons and diluting the oil in the crank case.

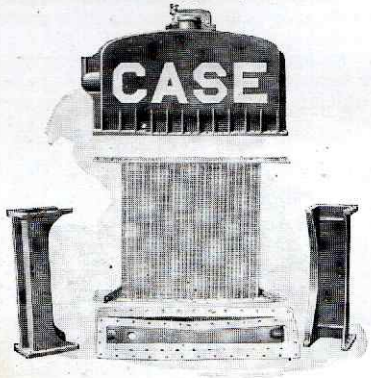


Sylphon Thermostat

The Sylphon Thermostat works automatically and requires very little attention.

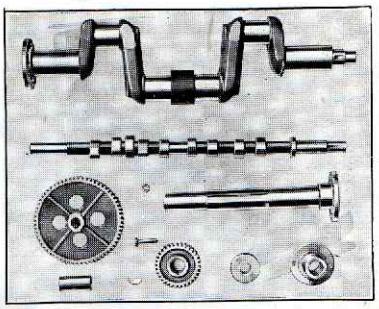
Properly Located Belt Pulley

On all Case tractors, the belt pulley is mounted on the crank shaft. This pulley is also on the same side as the steering wheel. It is therefore a very simple matter to line up to a thresher or any other belt driven machine. Compare this ideal location of the belt pulley with the location on many other makes of tractors. The belt pulley is 14¼ inches in diameter and has a 5¼ inch face. Speed, 1050 R.P.M.



Case radiator—disassembled

A pulley brake is provided which acts on the face of the belt pulley. It can be used to stop belt driven machinery or, when the gears are in mesh, as a road brake for the tractor. This brake is operated by the same lever that operates the clutch.



Case 10-18 crank shaft, cam shaft, extension for crank shaft, timing gears, etc.

The clutch is of the expanding shoe or toggle type. Only one clutch is used for the transmission or when the tractor is used for belt work. The clutch shoes are cast steel, faced with asbestos friction fabric which takes hold of the load gradually without overheating or burning and permits the load to be started without jerks or strains.

All Steel Spur Gears—Enclosed

The transmission like all parts of Case tractors is of our own make. This transmission is composed entirely of cut steel spur gears. We want to emphasize all spur gears because it represents the simplest type of transmission.

The illustration on page nine shows clearly the two speed transmission. Note that all gears are machined and have cut teeth, hardened. Every gear is of steel and every one is carried on a short, liberal sized carbon steel shaft. Low speed 2¼ M. P. H. High speed 3½ M. P. H.

All gears in the Case 10-18 are protected from ruinous dirt and grit. They are completely enclosed in dust-proof housings and they all run in a bath of oil.

Note in the illustration on page ten that there are four differential pinions. These are carried on short shafts and are well supported by the differential spider. They are housed, self-oiling, and no dust can get at them. Master gear, bull pinion, clutch gear, first reduction gear, in fact all gears are enclosed and well lubricated.

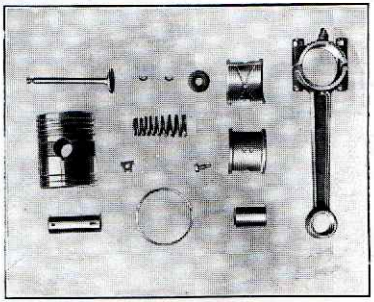
Drive Wheels and Grouters

The drive wheels, 42 inches diameter by 9 inch face, are rigidly constructed. The tires are made of boiler plate and are carried by twelve 3 inch flat spokes which are riveted. Two rivets are used at the felloes and four at the hubs.

Power is applied to both rear wheels, which are controlled by the differential so that both wheels exert an even pull, eliminating all twisting strains when turning corners.

Angle iron grouters, diagonally placed, are furnished as regular equipment. On special order we can furnish spade lugs, road cleats, or inverted angle iron grouters with tie ring. (See page 38.)

Every Case tractor includes a set of tools consisting of a combination wrench, double end wrenches, special wrenches for magneto and spark plugs, pliers, screw driver, a can of hard oil, copperized hand oiler and other handy tools for use around the tractor.



Case 10-18 connecting rod and bearings, piston, piston pin, cylinder ring and valve parts

Specifications Case 10-18 Tractor

Rated brake horsepower at normal engine speed	18
Rated drawbar horsepower at normal engine speed	10
Rated drawbar pull at 2¼ miles per hour	1666 lbs.
Maximum brake horsepower	20 to 22
Maximum drawbar horsepower on good surface	13 to 14
Motor speed, normal	1050 R.P.M.
Rated road speeds at normal engine speed	2¼-3½ M.P.H.
Number of 14" plows recommended for ordinary field conditions	2
Size of thresher it can successfully operate with all attachments	20x28"
Total tractor length	8' 5½"
Total tractor width	4' 8"
Total tractor height (exhaust pipe off)	4' 6¼"
Wheel base	65"
Weight without fuel and water (with angle iron grouters)	3820 lbs.
Height of drawbar from ground	13½"
Turning circle, outside diameter	22' 0"

FRAME

The frame is a single casting, well reinforced to prevent breakage.

The Front Axle is drop forged and so mounted on the frame that the latter is given a three point suspension, thus relieving it of strains when traveling over uneven ground.

MOTOR

Cylinders: Bore 3⅞", stroke 5". Four, cast en bloc, vertical, crosswise on frame. Material, special cylinder iron.

Valves: Located in head; diameter of exhaust valve 1½", inlet valve 1½". Material, nickel steel, hardened and ground.

Crank Shaft: Two main bearings; total length of bearings, 9", diameter 2⅜". Material, high carbon steel, drop forging, double heat treated, ground. Crank pin 2⅜" diameter, 2½" long.

LUBRICATION OF MOTOR

Splash for cylinders, piston pins and lower connecting rod bearings; copper oil feed tubes lead from oil pump to crank shaft main bearings; fan gears run in oil; rocker arms mechanism lubricated from oil mist.

Oil indicator in sight of operator shows pump is forcing oil through tubes. Float in sight of operator indicates oil level in crank case.

GOVERNOR

Case throttling, centrifugal ball type; enclosed, running in oil.

IGNITION SYSTEM

High tension magneto, equipped with impulse starter. Wires are heat, oil and weather proof; provided with spring clip terminals at spark plug end; ⅞" S.A.E. standard thread spark plugs.

AIR WASHER—(Patented)

Water type; air taken into combustion chamber is drawn through a film of water before entering carburetor, and all bubbles are broken up in a fine submerged screen freeing air of dust and grit before entering carburetor. This washer is of our own design and is built in Case shops.

FUEL SUPPLY SYSTEM

Carburetor: Kingston vertical, single nozzle, size 1⅛"; gravity feed; gasoline used for starting when engine is cold, kerosene used after motor has warmed up. Gasoline Fuel Tank: Capacity, 2 gallons. Kerosene Fuel Tank: Capacity 10.5 gallons. Fuel Line: Annealed copper tubing, provided with strainer, which prevents any sediment from fuel to enter carburetor.

COOLING SYSTEM

Radiator: Copper tube and fin type with cast iron frame; water used as cooling medium, circulation from water pump; cylinders and cylinder head jacketed. Capacity of cooling system 9 gallons.

"Sylphon" Thermostatic Regulator for circulation control of cooling water. Regulator allows water in cylinder jackets to quickly rise to a temperature where the thermostatic unit in regulator expands (160-180 degrees), thus allowing the cylinders to become hot enough to vaporize kerosene much sooner than if the entire cooling system were in circulation when starting.

BELT TRANSMISSION

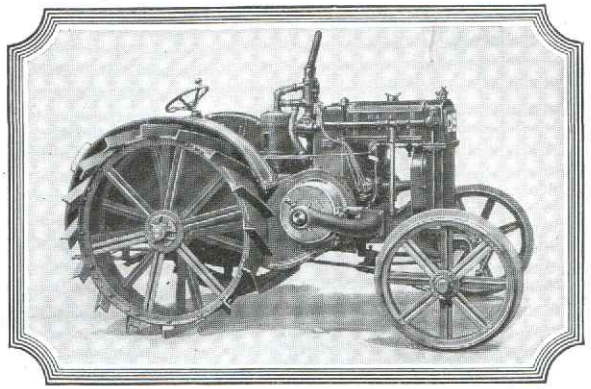
Belt pulley on crank shaft; pulley has 5¼" face and 14¼" diameter; belt travel 3916 feet per minute at normal engine speed.

CLUTCH

Type: Expanding shoe, made in Case shops. Clutch Spider: Splined hub, six splines. Clutch Shoes: are cast steel, faced with asbestos friction fabric. Pulley Brake: Operated by clutch lever; facilitates gear shifting as well as serving as brake for tractor when transmission gears are in mesh.

TRANSMISSION

Spur gears throughout. All gears have cut teeth, all are enclosed and run in oil. Shafts run in Hyatt roller bearings.



Pulley side Case 15-27—belt pulley conveniently located

Case 15-27—A 3-4 Plow Tractor

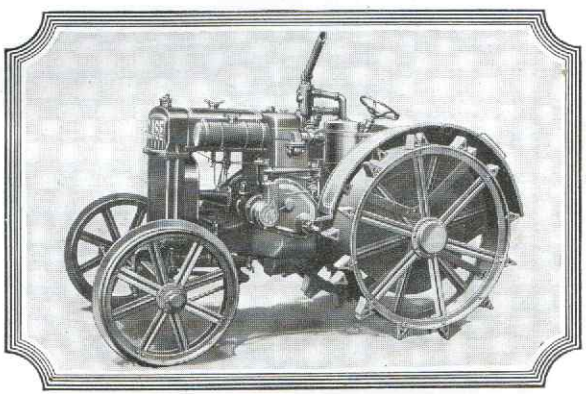
OF THE medium sized gas tractors now on the market we believe you will find the Case 15-27 the one tractor that combines every tested and tried feature known to the tractor engineering field.

It is correct in design and well built. It has an abundance of power, simple but sturdy in construction and economical in fuel consumption. It has what we term "get-at-ability" in other words, all parts are easy to get at.

Every farmer can appreciate the advantage of a light but strongly built tractor that will develop the horsepower this Case 15-27 does. It offers numerous advantages over heavier tractors of similar power, especially when traveling over plowed ground or in plowing a wet field, because it is less apt to mire and will deliver the maximum pull at the drawbar. The light weight of the Case 15-27 tractor makes it particularly adaptable for discing, harrowing, seeding as well as plowing under unfavorable field conditions where other tractors may fail.

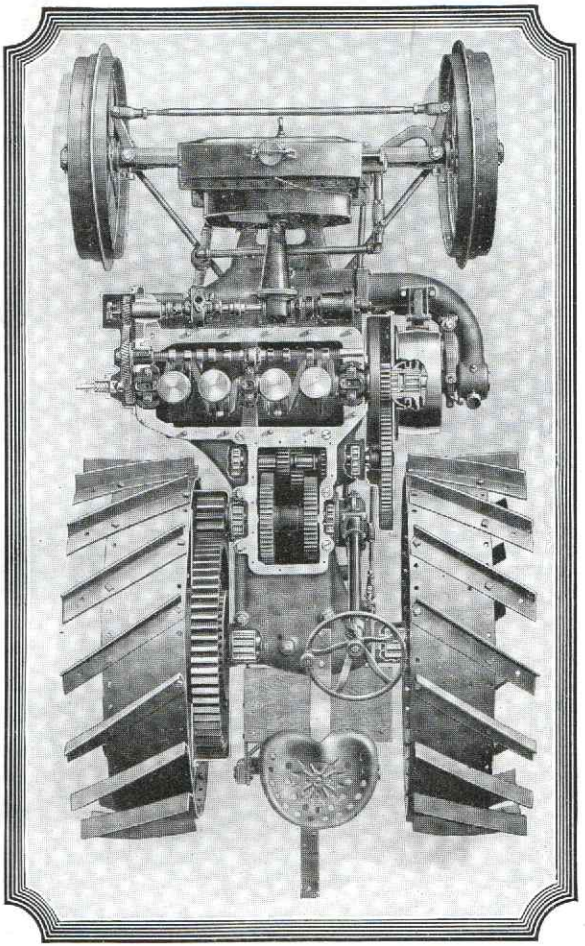
The Case 15-27 pulls three 14-inch plows in hard soil and under favorable conditions handles four bottoms. It operates a 10-foot double action disc harrow, or two 22-shoe grain drills, two 7-foot binders, and does other drawbar jobs requiring the same power.

(See page fifteen for further details.)



Left side Case 15-27—drivers equipped with spade lugs

Viewing the Case 15-27 H. P. Tractor from different angles



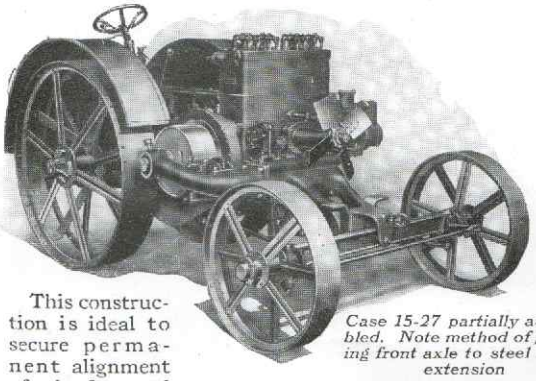
Aeroplane view of Case 15-27 Tractor with gear covers partly cut away to show how all working parts are enclosed, how the mounting of the Case motor crosswise on the main frame permits use of all spur gears, the simplest type of transmission and also allows mounting of belt pulley on the crank shaft

THE Case 15-27 tractor drives a Case 26x46 thresher with feeder and wind stacker, a Case 16-inch silo filler with 40-foot blower pipe, a 6-roll husker shredder or other machinery requiring similar power.

At general hauling this tractor pulls from 10 to 15 tons depending on grade and condition of footing. Pulls a Case No. 2 road grader or two or three road drags. Drives an 8x15 rock crusher with elevator and revolving screen. Does the work ordinarily requiring from 6 to 10 horses.

One Piece Frame Construction

The main frame of the 15-27 tractor is a one piece casting, so designed that in addition to being the main frame it also forms the main part of the transmission case, crank case and rear axle housing. This construction allows all the bearing seats for engine crank shaft, transmission shafts and rear axle to be machined in one casting. These holes are bored on a special machine in one operation.



Case 15-27 partially assembled. Note method of pivoting front axle to steel frame extension

This construction is ideal to secure permanent alignment of shafts and gearing. The pivot point is at the center of the front axle, which construction makes a three-point support for the tractor frame and eliminates any tendency to twist the frame when the tractor is moving over rough ground.

Rear axle is of the one piece, live type. It is made of .40 to .50 carbon steel 2¾ inch diameter. The axle runs on Hyatt roller bearings, these being located close to each main drive wheel and supported in the main frame casting. The casting at this point houses the axle and bearings; also forming a large reservoir for oil so that both bearings and axle operate in a bath of oil.

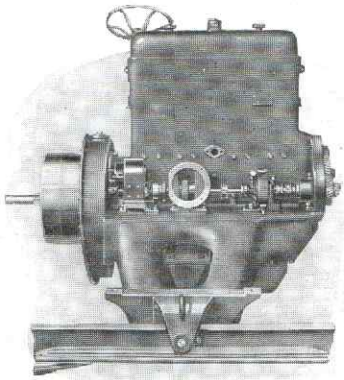
All Gears Enclosed—Running in Oil

Differential gear is of the bevel type and mounted on the rear axle. All gears composing the differential are steel. The four differential pinions are bushed and operate on hardened pins. The main drive or bull gear is fastened to the center wheel of differential. This gear is made of a forged weldless, steel ring having cut teeth and hardened. The bull pinion is also made of a steel forging the teeth being cut and hardened. Differential, bull gear and bull pinion are operated in oil tight housing, making their lubrication positive and eliminating any dirt or dust from reaching these parts, thus preventing abnormal wear. Proper lubrication, correct material, ample protection means long service from these parts.

Front axle is made of forged steel and is of the automobile type. The axle is braced in every position; either of the front wheels will lift to pass over an obstruction 30 inches high without interference. The outside turning diameter of the tractor is 27 ft. 3 in. The steering gear is of the worm and worm wheel type and non-reversible. Both worm and wheel are made of steel forgings machined all over and hardened. They are contained in an oil tight housing.

Motor. The Case motor for the 15-27 tractor is a special tractor motor. It is built to stand the strains and hard usage found in tractor work and will like all Case motors develop more power than the rated horsepower, leaving a liberal reserve to take care of a temporary load in excess

The one piece main frame of the Case 15-27 Tractor



Front view Case 15-27 motor

of the rated horsepower. The motor is especially designed to successfully and economically operate on kerosene. It is of the four cylinder, vertical, valve-in-head type, bore 4½ inches and stroke 6 inches.

The motor is placed transversely on the frame so that spur gears may be used thruout and to make it possible to place the belt pulley on the crank shaft, thus doing away with loss of power as is the case when belt pulley is operated thru gears.

A high grade carburetor is provided which supplies fuel and air in proper proportion at all loads. The fuel and air before entering the cylinder is made to pass thru a specially designed vaporizer. This vaporizer is heated by the exhaust and the operator can depend on it to preheat and vaporize the fuel.

The cylinder head is made removable and in it are located the valve seats, inlet and exhaust passages. By removing the cylinder head ready access can be had to the cylinders and valves, facilitating the removing of carbon or re-grinding of valves.

Removable Cylinder Barrels

The cylinder barrels are removable so that in case of wear or scoring they can be replaced readily. This is an important feature as only the barrel need be replaced instead of entire cylinder block. The barrels are made of special cylinder iron and the bore is ground.

The valve mechanism including rocker arms, springs, valve stems and push rods, is enclosed in a dust-proof cover. This cover is made of a steel stamping.

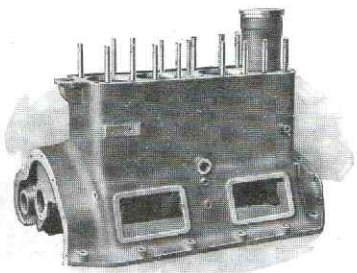
Main bearings. Main bearings are of the renewable shell type. They are bronze backed and babbitt lined and three in number. The total length of bearings on the crank shaft is 12⅛ inches.

Crank shaft. The crank shaft is a steel drop forging properly heat treated and all bearing surfaces are accurately ground to size. The diameter of the crank shaft is 2½ inches which is exceedingly large in proportion to the cylinder bore. Before being installed in the motor it is given a running balance by means of a balancing machine.

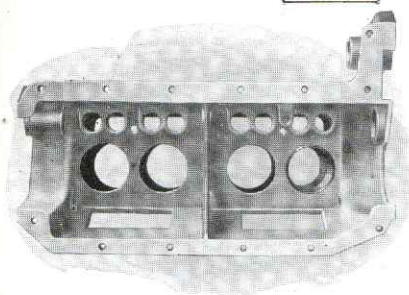
Motor Is Governor Controlled

Governor. This is of the centrifugal ball type, entirely enclosed and self oiled. By the removal of a cover easy access is gained to all parts. The shaft which drives the governor is mounted on ball bearings and wearing parts are hardened.

Pistons. The pistons are made of special cylinder iron, the same grade of material as is used in the cylinder barrels. In machining they are first rough turned, and then



Cylinder block with removable cylinder barrels



Bottom view of cylinder block with cylinder barrels removed

allowed to season, after which they are ground and machined to exact size.

Three rings are provided, together with grooves to assist in proper lubrication. The piston pin is held stationary in the piston.

Proper Lubrication Insures Long Life

Lubrication. The motor is lubricated by force feed, thru the drilled crank shaft. The oil pump, driven from cam shaft, is of the plunger type with a cast brass body and ball check valves. The steel plunger is hardened and ground. This pump is located at the lowest point of the oil pan or reservoir.

An oil indicator is provided and located in sight of the operator which shows when the pump is working. A telltale provided with a float also in sight of the operator shows at all times the oil level in the reservoir.

Oil reservoir. The oil reservoir is made of sheet steel stamping, its capacity being about five gallons of oil. This reservoir is easy to remove and by its removal access is gained for any adjustment which may be required on any main or crank pin bearing.

The friction clutch is dependable and simple in construction. All parts that have to do with its adjustment are conveniently located. The clutch acts on the inside of the belt pulley and is thrown in and out of engagement by means of a lever located near the operator's seat.

High-Tension Magneto

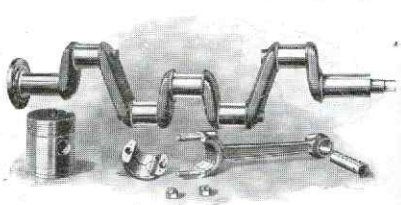
Ignition. Ignition is provided by a dust-proof high tension magneto equipped with impulse starter. This impulse starter eliminates the use of batteries for starting. The wires from the magneto to the spark plugs are heat, oil and weather proof. Care has been taken as to the proper location of magneto, so that at all times it can be readily reached by the operator. The breaker box and distributor are directly in front and in plain view.

Case Air Washer (Patented)

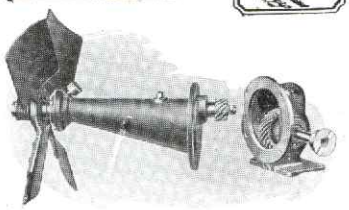
Air washer. All the air which passes thru the motor is first passed thru the washer, then thru the air heater and finally to the carburetor. The air in passing thru the water is washed of all particles of sand and dirt; at the same time, the air becomes moistened which greatly assists in the operation of the motor when using the lower grades of fuel.

The Cooling System

Cooling. The motor is water cooled. Circulation of the water thru the cylinder jackets and radiator is accomplished by means of a centrifugal pump. *The radiator* is of the fin and tubetype with a copper core made independent and supported in a cast iron frame.



Crank shaft, connecting rod and piston



Fan driven direct from motor through helical gears which are enclosed and run in oil

The upper and lower tanks of the radiator are made of cast iron and these tanks when bolted to the cast iron side members, make a frame which holds the core in such a manner that it cannot be effected thru vibration or jars which are so destructive to the ordinary type of radiator. This construction also lends itself for easy repairs or cleaning.

By taking off the upper head, the end of all tubes are exposed so that they can be cleaned and in case of any repairs being necessary to the core, it can be entirely removed.

The air for cooling the radiator is circulated by a gear driven fan. The fan shaft is provided with ball bearings and the fan itself is mounted loose on its shaft and is driven thru a friction device. This friction device is provided to relieve the strain on the fan gears and parts which have to do with the fan drive.

Sylphon Thermostat

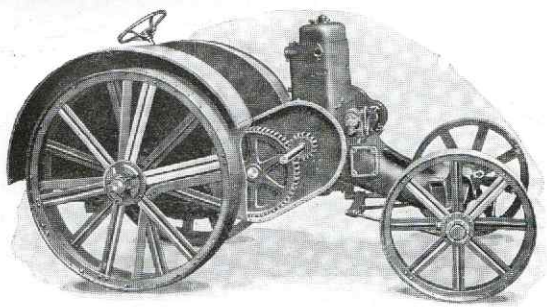
Thermostatic control. To secure the best efficiency and economy it is necessary that the motor be kept at a proper temperature. We supply as regular equipment a Sylphon Thermostat. This maintains the proper temperature of the motor, independent of the load or atmospheric temperature.

Cut Steel Spur Gears

Transmission. The transmission in this tractor is composed of cut steel, spur gears which are enclosed in a dust-proof case and run in oil. The bearings are contained in the frame casting making it impossible for them to get out of line. By removing the cover all the transmission gears can easily be reached.

The crank shaft pinion is made of a steel forging and meshes into a cut-steel first reduction gear which is keyed to first shaft in the transmission. This shaft runs in Hyatt roller bearings and is provided with six splines which drive the two-speed changing gears. These sliding gears are drop forged, cut and hardened and provide two speeds, 2¼ miles per hour on low gear for the heaviest pulls and 3 miles per hour for road speed and some of the lighter work in the field.

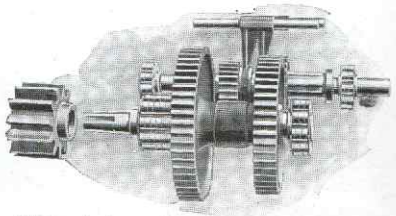
The high and low speed gears are both drop forgings, cut and hardened. The shaft which carries these two gears also carries the bull pinion and runs in Hyatt roller bearings.



Cover removed to show first reduction gear and clutch pinion

Properly Located Belt Pulley

The illustration on page 15 shows how the *clutch pulley* is mounted on roller bearings directly upon the crank shaft and located on the same side as the steering wheel.

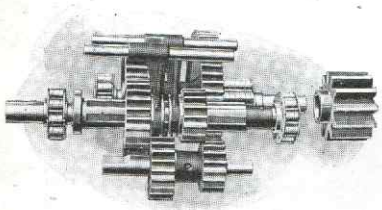


Transmission—all spur gears of steel, with teeth cut and hardened

We believe that this is the best possible location for the pulley, for the reason that it is in plain view of the operator when lining up to a driven machine and the tractor can be conveniently backed into the belt by the use of its regular transmission.

Substantially Built Drive Wheels

Drive wheels. Power is transmitted evenly to both rear wheels by means of the differential. The rear wheels are 52 inches in diameter with a 14 inch face. They are strongly constructed. The tires are made of steel $\frac{7}{16}$-inch thick. They are reinforced by angle iron felloes. Each wheel is provided with 12 flat spokes, these spokes being riveted to a malleable iron hub. The outer ends of the spokes are riveted to the angle iron felloes.

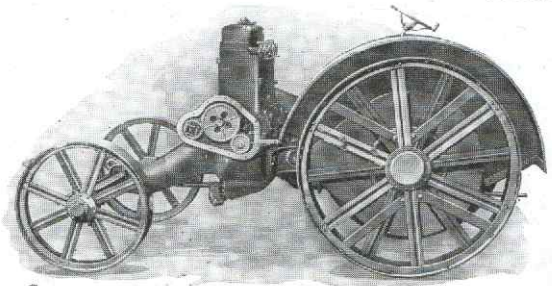


Front view of 15-27 transmission—note short, liberal size shafts and the roller bearings

Care is taken in the construction of these wheels that the spokes bottom properly, not only on the hub but the tire as well, so as to relieve some of the strain to which the rivets are subjected. Spokes are corrugated thru their entire length which increases their strength to withstand side strains. The entire construction is such as to make a solid durable wheel with plenty of reserve strength.

Angle iron grouters are regularly furnished. These extend 4 inches beyond the outer edge of the tires. These grouters are of sufficient number and so spaced that the wheel will ride smoothly over a hard road.

Inverted angle iron grouters with tie ring, spade lugs, or road cleats; also extension rims can be furnished on special order. Wheel guards of sheet steel properly reinforced and braced are regularly supplied. These guards are a protection to the operator and also prevent dust being carried up by the wheels and blown onto the operator.



Cover removed from end of motor to show timing gears—note enclosed final drive

Specifications Case 15-27 Tractor

Rated brake horsepower at normal engine speed	27
Rated drawbar horsepower at normal engine speed	15
Rated drawbar pull at 2¼ miles per hour	2500 lbs.
Maximum brake horsepower	33
Maximum drawbar horsepower on good surface	21-24 at 2¼ M.P.H.
Normal engine speed	900 R.P.M.
Rated road speeds at normal engine speed	2¼-3 M.P.H.
Number of 14″ plows that can be pulled under all ordinary conditions	3-4
Size of thresher which can be successfully operated with all attachments	26x46″
Total tractor length	10′ 7″
Total tractor width	72″
Total tractor height without exhaust pipe	68″
Wheel base	76½″
Shipping weight without fuel and water (with regular grouters)	6460 lbs.
Height of drawbar from ground	14″
Turning circle, outside diameter	27′ 3″

MOTOR

Cylinders: Bore 4½″, stroke 6″. Four cylinders cast vertically en bloc; mounted crosswise and having renewable cylinder barrels. Material, special cylinder iron.

Valves: Located in head; diameter of inlet and exhaust valves 1⅞″. Material, nickel steel, hardened and ground.

Crank Shaft: Three bearings; total length of bearings, 12⅛″; diameter 2½″; crank pin 2½″ diameter, 2¾″ long. Material, high carbon steel drop forging, double heat treated (quenched and drawn), ground.

ENGINE LUBRICATION

Force feed.

Oil indicator in sight of operator shows when pump is working; float in sight of operator indicates oil level in reservoir. Pressure gauge located in oil line indicates oil pressure in pounds. Oil level plugs on gear housings show proper level for oil.

GOVERNOR

Type: Throttling, centrifugal ball type; enclosed and operating in oil. Governor Shaft: Runs in renewable bushing and in cone type ball bearings. Material, cold rolled steel; carbonized, hardened and ground.

IGNITION SYSTEM

High tension dust proof magneto, equipped with impulse starter. No dry cells used. Wires are heat, oil and weather proof and provided with spring clip terminals at spark plug end. ⅞″ S.A.E. standard thread spark plugs.

AIR WASHER

Type: Water. Air taken into combustion chamber is drawn through water and all bubbles are broken up by a fine submerged screen, freeing air of dust and grit before entering carburetor and cylinders.

FUEL SYPPLY SYSTEM

Carburetor: Kingston vertical, single nozzle, size 1⅜″; gravity feed; gasoline used for starting when engine is cold—kerosene used after motor has warmed up. Gasoline Fuel Tank: Capacity 2¾ gallons. Kerosene Fuel Tank: Capacity 20 gallons. Fuel Line; Annealed copper tubing, provided with Case strainer, which prevents any sediment from fuel entering carburetor.

COOLING SYSTEM

Radiator: Copper tube and fin type with cast iron frame. Water circulated through cylinders and cylinder head by pump. Capacity of cooling system 11 gallons.

"Sylphon" Thermostatic Regulator. The regulator prevents the jacket water from circulating through the radiator until the engine has quickly reached a temperature high enough to vaporize kerosene soon after starting. This reduces dilution of oil in crank case to a minimum.

CLUTCH

Type: Enclosed, single dry disc. Easily adjusted by two adjusting screws on the outside. Clutch Pulley Brake: Operated by clutch lever, facilitates gear shifting as well as serving as brake for tractor when transmission gears are in mesh. Belt pulley mounted on crank shaft. Belt travels 3762 feet per minute at normal engine speed. Belt Pulley: 16″ diameter, 6½″ crowned face. Material, grey iron.

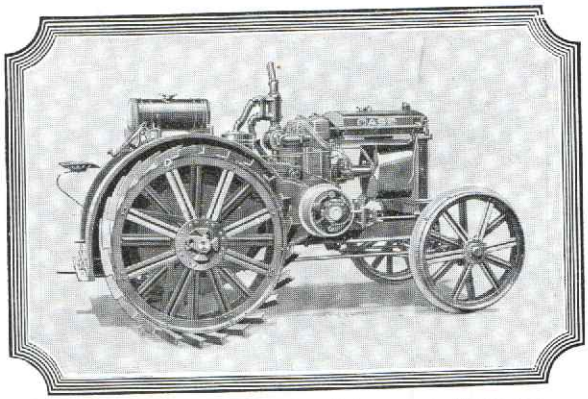
TRANSMISSION

Cut steel gears used throughout. All gears enclosed and run in oil. Shafts operate in Hyatt roller bearings.

FRAME

The main frame is a single casting well reinforced. The frame is so mounted upon the front axle that it is given a three point suspension, which is very important to relieve strains when traveling over uneven ground.

Viewing the Case 22-40 H. P. Tractor from different angles

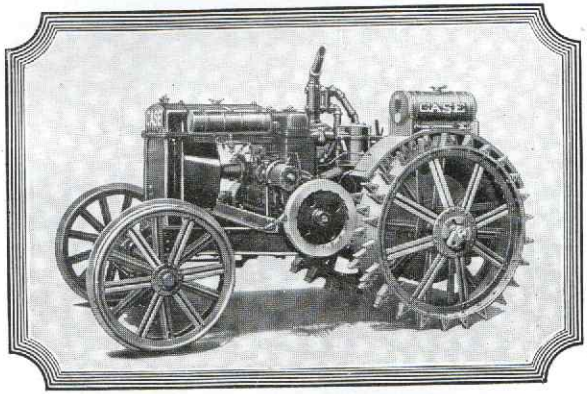


Pulley side Case 22-40—belt pulley conveniently located

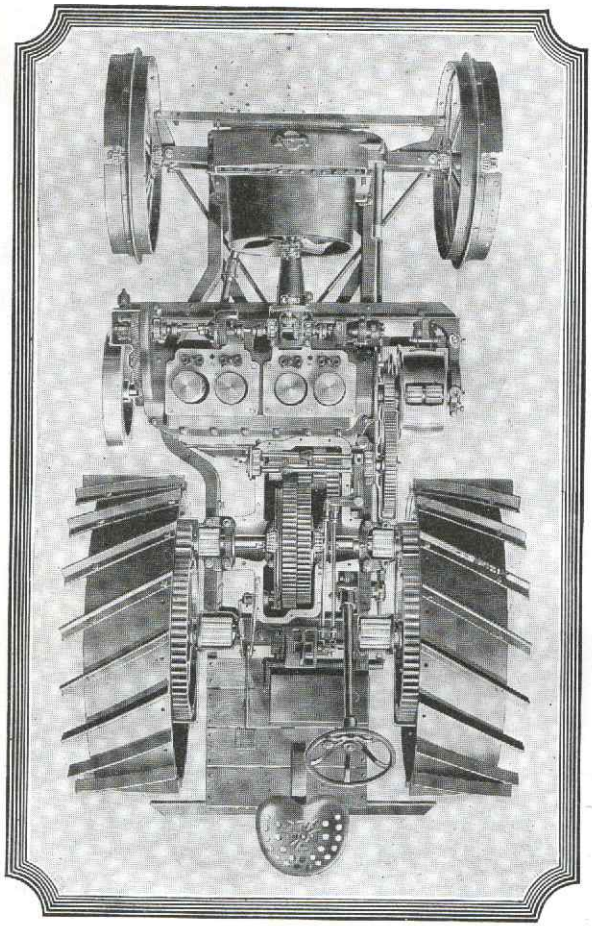
Case 22-40—A 4-5 Plow Tractor

THE Case 22-40 kerosene tractor, in general design, follows closely to the lines of the Case 10-18 and 15-27 tractors. For instance, the motor is of the four-cylinder, valve-in-head type designed especially for successfully and economically burning kerosene. It is mounted crosswise on the main frame, allowing the use of all spur gears, the simplest type of transmission. The belt pulley is mounted on the crank shaft and on the same side with the steering wheel, making it simple to line up to all belt driven machinery. All the gears are cut steel, enclosed and running in oil. The Case patented air washer prevents dust from entering the cylinders—that means long life. Regardless of how closely you may compare this tractor with other makes, we believe you will find the Case 22-40, in design, in materials, in workmanship and performance just a step ahead. All the knowledge gained by close contact with field conditions—all the improved and accurate methods of manufacturing, have enabled us to offer to tractor purchasers a product that can be depended upon for efficient service for years to come.

The Case 22-40 is a 4-5 plow tractor. This tractor is recommended for pulling four 14-inch plows in tough or baked soil, grades, etc., or five plows under favorable conditions. Pulls a 10-foot double action disc harrow in combination with a drag or a 20 to 24-shoe grain drill



Left side Case 22-40—drivers equipped with spade lugs



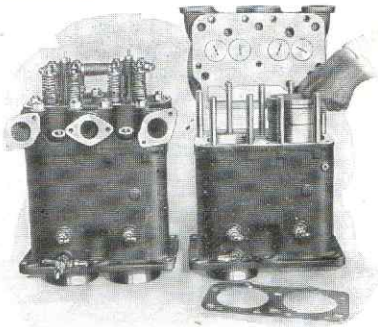
Aeroplane view of Case 22-40 showing cross mounting of the Case 4 cyl. motor, the location of belt pulley, the all cut steel spur gears and the final drive thru two master gears

or can pull two large grain drills with a 5-section drag and other similar combinations. At general hauling the Case 22-40 will pull from 15 to 24 tons depending on grades and footing. Pulls two Case No. 1 road graders. An ideal tractor for plowing up old road beds; pulling excavation or elevating graders; operating rock crusher; drives a 32x54 thresher with feeder and wind stacker; a 20-inch silo filler with 40 to 50-foot blower pipe; an 8 to 10-roll corn husker, large sheller or feed mill. Does the work requiring from 8 to 16 horses. It is handy for drilling, sawing and pumping. In fact, the practicability of Case tractors is unequalled.

On the basis of first cost the Case 22-40 may seem a little higher in price than some makes, but it costs least in the long run. We appeal to the prospective tractor user who seeks to make a permanently profitable tractor investment.

This tractor is so designed, its weight so distributed and the drawbar so located that it will not "rear up" in front when pulling its maximum load.

Substantial, Built-Up Frame



Cylinders cast in pairs—note cylinder head removed to show removable cylinder barrel

The 22-40 frame is built up of steel channels and boiler plate, and is so designed that it will resist deflection in itself, independent of any other part which may be bolted to it. This has been accomplished by placing cross members of deep section between and connecting the two strong channels which form the side members of the frame. These cross members are hot riveted in place and all corners are reinforced by angle and gusset plates. Cross braces are provided to prevent distortion of the frame, due to the strains set up by the pull on the drawbar. The main side members are made of 8-inch steel channel.

Cannon Bearing for Rear Axle

The rear axle roller bearings are contained in a one piece casting, held to frame by large "U" bolts which carry the vertical load, and also by reamed bolts, which take care of all pulling or pushing stresses. This casting is also provided with a large oil chamber, and felt washers are placed at the outer end of the bearings to retain the lubricant.

The rear axle itself is 3¼ inches in diameter, made of high carbon steel. Axle is of the live type i. e. it revolves in its own bearings. This construction is preferable to designs embodying a stationary or fixed axle.

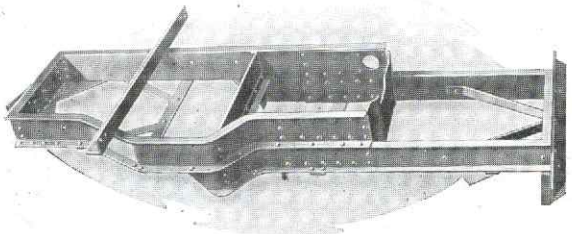
The front axle is of the built up truck type. It is pivoted at the center and held to the main frame by a steel casting. This construction allows a three-point support for the main frame. It is braced by two rods and a flat center brace. These braces give the necessary support to the axle, independent of the position it may be in.

The wheel spindles are made of steel, heat treated, and are provided with tapered roller bearings which carry both the radial and thrust loads of the front wheels.

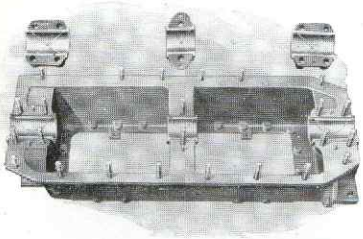
The hubs of the front wheels are provided with large chambers which hold the lubricant and also felt washers and dust caps, which completely enclose the bearings, preventing leakage of oil, and keeping dust from entering.

Four-Cylinder, Verticle Motor

The tractor motor is subjeced to greater strain than any other motor. The Case 22-40 motor, entirely of our own design, is built to meet rugged tractor work. It is



Substantial main frame of Case 22-40—built up of steel channels and boiler plate—note cross members and reinforcing angle and gusset plates



The combined width of the 3 main crank shaft bearings is 16 inches

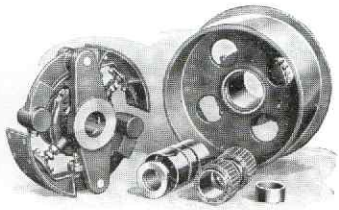
of the four-cylinder vertical, valve-in-head type, recognized for its efficiency. Cylinders are cast in pairs. A feature on this motor is the removable cylinder barrels which are cast of special cylinder iron machined and ground. These cylinder barrels can be replaced at small expense, should the bore become worn or damaged.

The bore of the motor is 5½ inches with a stroke of 6¾ inches. Motor operates at a normal speed of 850 R. P. M.

Cylinder heads removable. The cylinder heads are cast in pairs, one for each pair of cylinders and may be quickly removed. The inlet and exhaust valves are seated directly into the cylinder heads. This construction allows the combustion chamber to be entirely machined and of such a form as to secure the highest possible fuel economy.

Valves are made of nickel steel; they are guided by separate bushings which are pressed into the cylinder heads and when these bushings become worn, they can be replaced at very little expense.

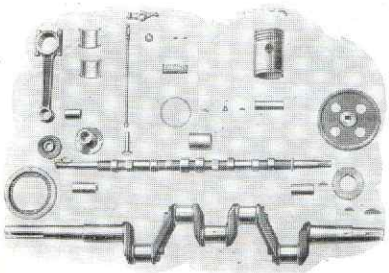
Valve gear and all operating parts of the motor are entirely enclosed. A stamped metal cover provided with a felt gasket keeps all dust or dirt from reaching the valve stems, springs and rocker arms which operate the valves.



Clutch and roller bearings removed from belt pulley

Crank Shaft Well Proportioned

Much care and thought have been given to the design of the crank shaft. There is no other part of a tractor motor which is subjected to such severe strain as the crank shaft. Therefore, special care has been given to the selection of proper material and dimensions. This is to eliminate, as far as possible, the tendency to distort under heavy working stresses. Ample and proper bearing surfaces are provided to secure long life from the bearings, and to avoid the need of frequent take up in the bearings. The crank shaft is supported on three bearings. All of these are of the removable shell type, composed of a bronze shell, lined with high grade babbitt metal.



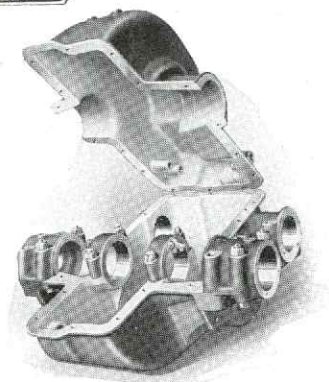
Crank shaft, cam shaft, connecting rod, piston and other interior parts of 22-40 motor

The diameter of the crank shaft in all bearings and pins is 3⅛ inches, approximately 57% of the cylinder bore. The two end bearings are each 6 inches long, and the center bearing 4 inches long. The material is high

carbon steel, drop forged and heat treated. All bearings and pins are accurately ground.

The connecting rods are drop forged of "I" section. The piston end is fitted with a solid Non-Gran bronze bushing and the lower end is provided with bronze shells, babbitt lined. Thin metal shims are provided for adjustment.

The pistons are cast from special iron and are machined and ground to accurate limits. Each piston is provided with three rings and the total length of piston is 8 inches. The piston pins are made of high grade steel, carbonized, hardened and ground. They are bored their entire length to secure lightness. The total bearing area of pin is 1⅝ inches by 2¾ inches.



Transmission housing—removable cover affords easy access to all parts of transmission

An Efficient Carburetor

A single carburetor is used for either gasoline or kerosene. The location of the carburetor is such that all adjustments can be made by the operator without being compelled to leave the engine platform. Our own design of exhaust heated manifold is used which thoroughly vaporizes the lower grades of fuel such as kerosene or distillate.

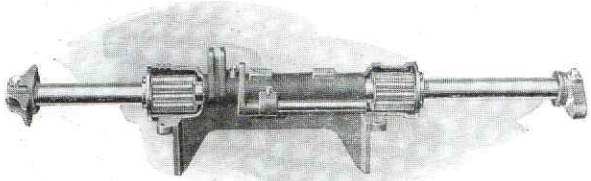
A separate tank is used to furnish a small amount of water in connection with the kerosene fuel. The point of lead at which water is made to enter is determined by a weighted valve opened by the vacuum inside of the carburetor.

All Parts Well Lubricated

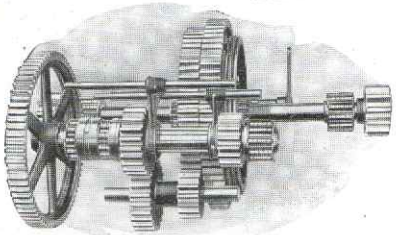
Lubrication. The motor is lubricated by means of a multiple force feed oil pump. Separate leads supply oil to each cylinder, cam shaft bearings, main crank shaft bearings, and crank pins, together with the governor parts which are located inside of the crank case. This system of lubrication always applies clean and fresh oil to all the main working parts of motor. The oil pump is located directly in front of the operator who can observe its operation and the exact amount of oil fed to the different parts.

Roller Bearings for Belt Pulley

The crowned belt pulley is 16½ inches in diameter, and the face proportioned for an 8 inch belt. This pulley is mounted directly on the crank shaft, which results in economy when tractor is used for belt work. No power is lost between the motor and pulley, as is the case when the pulley is driven thru gears. This pulley is mounted on two Hyatt roller bearings.



Axle housing partly cut away at ends to show Hyatt roller bearings



All steel, spur gear transmission —note roller bearings

The clutch is of the toggle type. It is provided with two shoes. The working surface of each is lined with anti-friction material. The toggles for operating clutch are of the equalizing type, which causes the same pressure or contact on each of the two shoes.

Dust Proof High Tension Magneto

The ignition is by means of a high grade, high tension, dust proof magneto, so located that all the working parts are accessible. The distributor and breaker box are very accessible. This magneto is provided with an impulse type of coupling, which is used for starting and eliminates the use of batteries.

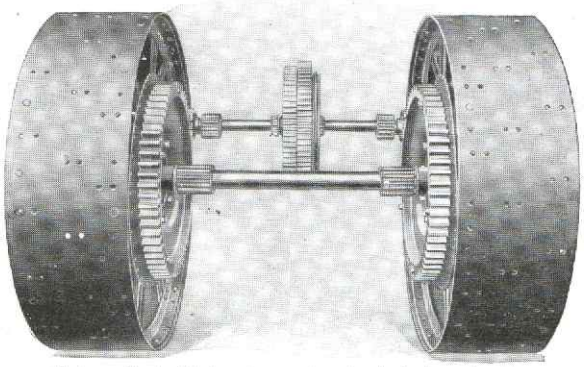
Only Clean Air Enters Motor

Air washer. There is nothing that will prolong the life of a motor more than to keep dust and grit from entering the cylinders. We supply as regular equipment, a water type of air cleaner. This patented washer is made in our own shops, and is provided with a float so that the depth of water through which the air is drawn, is kept constant. The air in passing through the water is cleansed of all particles of sand and dirt, at the same time the air becomes moistened which greatly assists in the operation of the motor when using the lower grades of fuel.

The radiator is of the tubular, truck type, and provided with top and bottom tanks made of cast iron with side members of the same material. The radiator core is entirely independent of tanks or side members, and is a unit by itself. This construction facilitates repairs or renewal. Radiators for Case tractors are made in our own shops.

All Steel, Spur Gear Transmission

Power is transmitted from the motor crank shaft to rear wheels, through the means of straight spur gears and all gears are enclosed and run in oil. The illustration on page 24 of this catalog shows the entire train of gears between the pinion on the engine crank shaft and the bull gears. The latter are fastened securely to the rear wheels.



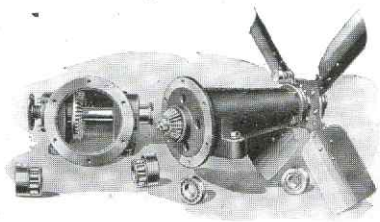
Note method of drive—an enclosed cut steel master gear and pinion for each drive wheel

The pins on which the four bevel pinions of the differential are mounted, are hardened. Removable bushings are provided for the bores of the pinions. The radial and thrust loads of the differential bevel gears are carried by taper roller bearings. These bearings are adjustable for wear. A foot brake is supplied, the band of which is fitted to the center spider on the differential gear. The brake being applied to this point will lock both of the rear drive wheels, a convenience on a grade or when "setting" for belt work.

The bull pinions are forged, all teeth are cut and hardened. These are fastened to shafts by a taper fit and Woodruff key. The bull pinions mesh into the two bull gears, which are fastened directly to the hubs of the two main drive wheels.

Cut Steel Master Gears Enclosed

The bull gears are made of a forged steel ring provided with cut teeth and hardened, and these rings are shrunk and fastened to a cast spider. Both the bull pinions and bull gears are completely housed, and operate in oil. The illustration on page 28 shows the relative position of the differential, bull pinions and bull gears with the type of bearings used to support the differential shaft and rear axle.

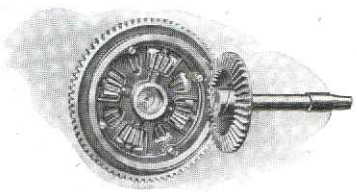


Fan is driven thru cut steel bevel gears, fully enclosed and running in oil

The transmission housing is provided with a cover which can be readily removed, giving access to all parts of transmission contained in this housing.

Fan—Drive Enclosed

Fan blades are of pressed steel, and are riveted to a pressed steel spider. The fan spindle is driven through a pair of hardened bevel gears, thus doing away with the use of belt for this purpose. The fan spindle is mounted on ball bearings. The fan spider is not keyed to the spindle, but is mounted loose thereon, and is driven by a disc type of friction, a spring always maintaining the correct amount of pressure on the disc. This construction allows a slight amount of slippage to take place between the spindle and fan, which overcomes the starting strains, which would be imposed on all the fan drive, if it were keyed direct to the spindle. The driving parts of the fan are all enclosed and run in oil.



Differential exposed to show the four bevel pinions

The differential is of the bevel gear type. Four steel pinions are carried within the differential spider. The pinions mesh with a pair of bevel gears mounted on the bull pinion shaft, the latter being in two parts. On the outer end of each shaft a drop forged bull pinion is securely fastened.

The steering gear is of the worm and worm gear type; both worm and gear are made of forgings, cut teeth and hardened and are entirely enclosed and operate in oil. The same high grade materials and workmanship are employed as used on the most expensive motor truck gears.

Specifications Case 22-40 Tractor

Rated brake horsepower at normal engine speed 40
Rated drawbar horsepower at normal engine speed 22
Rated drawbar pull at 2.2 miles per hour . . . . . 3760 lbs.
Maximum brake horsepower 45-48
Maximum drawbar pull on good surface, at 2.2 M.P.H. 4250 to 4750 lbs.
Normal engine speed . . . . . 850 R.P.M.
Rated road speed at normal engine speed . . . . . 2.2 and 3.2 M.P.H.
Number of 14" plows that can be pulled under ordinary conditions . . 4-5
Size of thresher that can be successfully operated with all attachments . . . . . 32"x54", 28"x50", 26"x46"
Total tractor length . . . . . 153"
Total tractor width . . . . . 82½"
Total tractor height . . . . . 90"
Wheel base . . . . . 96"
Clearance at lowest point . . . . . 15"
Shipping weight with regular grouters . . . . . 10300 lbs.
Approximate total weight on drivers 66%
Height of drawbar from ground . . . . . 17"
Total swing of drawbar . . . . . 24"
Turning radius . . . . . 20' 3"

MOTOR

Cylinders: Bore 5½", stroke 6¾". Four vertical cylinders cast in pairs, cylinder blocks mounted crosswise and have removable cylinder barrels. Material, special cylinder iron.

Valves: Located in head; diameter of inlet and exhaust valves 2 17/32"; diameter of stems ½". Material, nickel steel, hardened and ground.

Crank Shaft: Three bearings; total length of bearings 16", diameter 3⅛"; crank pin 3⅛" diameter, 3¼" long. Material, high carbon steel drop forged, double heat treated (quenched and drawn), ground to size.

ENGINE LUBRICATION

Force Feed Lubricator: Force feed to all parts of engine. Oil pump; belt driven from engine. Capacity 5 quarts. Fifteen oil feeds. Four oil feeds to connecting rod bearings through oil rings. Three oil feeds to main crank shaft bearings. Three oil feeds to cam shaft bearings. One oil feed to governor housing. Four oil feeds to cylinder barrels.

GOVERNOR

Make: Case. Type: Throttling centrifugal ball, enclosed and operating in oil. Governor Shaft: Runs in two ball bearings. Material, cold rolled steel; carbonized, hardened and ground.

IGNITION SYSTEM

High tension magneto, equipped with impulse starter coupling. No dry cells used. Wires; heat, oil and weather proof, and provided with spring clip terminal at spark plug end. ⅞" regular, S.A.E. standard thread spark plugs.

AIR WASHER

Type: Water. Air taken into combustion chamber is drawn through water and all bubbles are broken up by fine submerged screens, freeing air of dust and grit before entering carburetor.

FUEL SUPPLY SYSTEM

Fuel: Engine recommended to burn kerosene, gasoline or distillate.

Carburetor: Kingston vertical, single nozzle, size 2"; gravity feed; gasoline used for starting when engine is cold, kerosene used after motor has warmed up. Water used with fuel on load. Water fed through carburetor. Intake air and mixture heated from exhaust. Manifold provided with cold air damper.

Gasoline Fuel Tank: Capacity 3¾ gallons. Kerosene Fuel Tank: Capacity 26½ gallons. Fuel Line: Annealed copper tubing, provided with strainer, which prevents any sediment from fuel entering carburetor.

COOLING SYSTEM

Radiator: Case made; copper tube and fin type with cast iron frame. Water circulated through cylinders and cylinder head by pump. Capacity of cooling system 15½ gallons.

CLUTCH

Type: Expanding shoe made in Case shops. Clutch Spider: Splined hub; six splines. Material grey iron. Clutch Shoes: Material, cast steel faced with asbestos friction fabric. Equalizer on clutch shoe adjustment to give equal pressure on shoes. Clutch Pulley Brake: Operated by clutch lever; facilitates gear shifting as well as serving as brake for tractor when transmission gears are in mesh. Material cast steel.

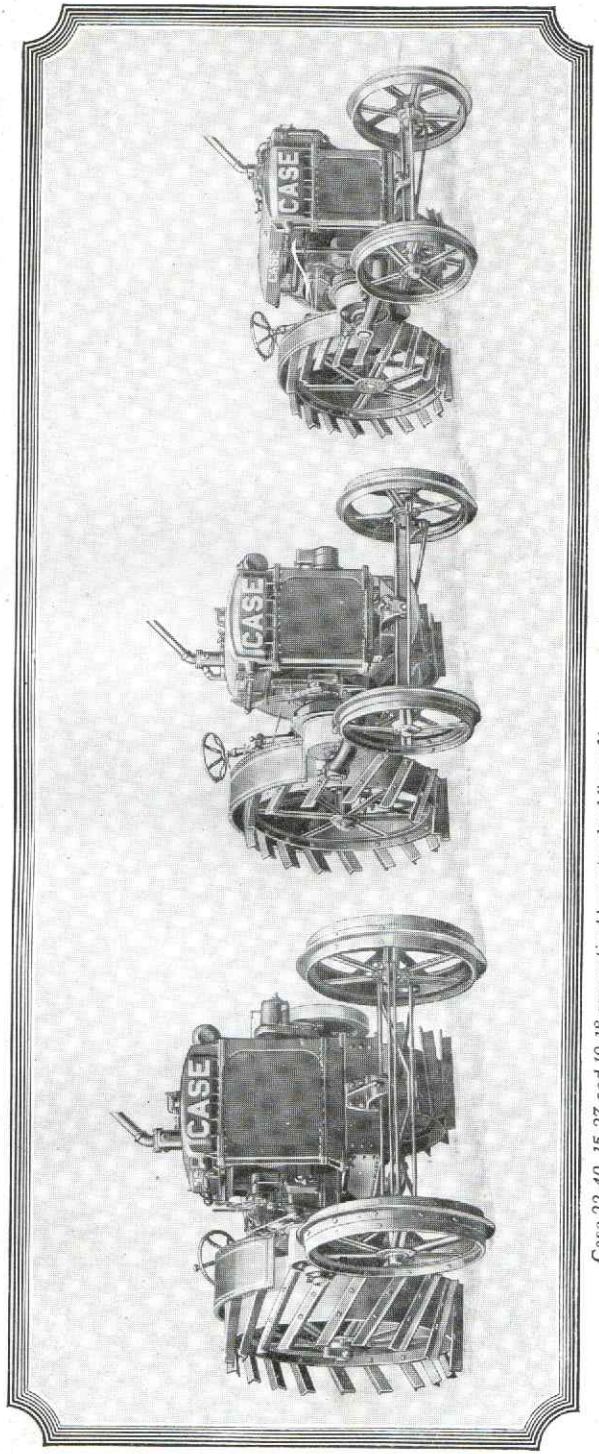
Belt pulley mounted on crank shaft. Belt travel 3669 feet per minute at normal engine speed. Pulley: 16½" diameter, 8½" crowned face. Belt Pulley Bearings: Two special Hyatt roller bearings.

TRANSMISSION

Spur gears used throughout. All gears run in oil and shafts on roller bearings. Transmission case is dust proof and oil tight.

FRAME

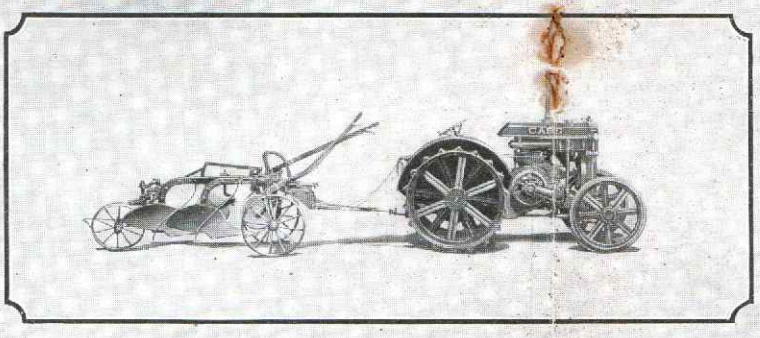
Built up channel steel. Material 8" channel and 7" channel. Well braced and hot riveted.



Case 22-40, 15-27 and 10-18 respectively—a standard line of kerosene tractors, scientifically correct in design and construction from a mechanical as well as an agricultural standpoint

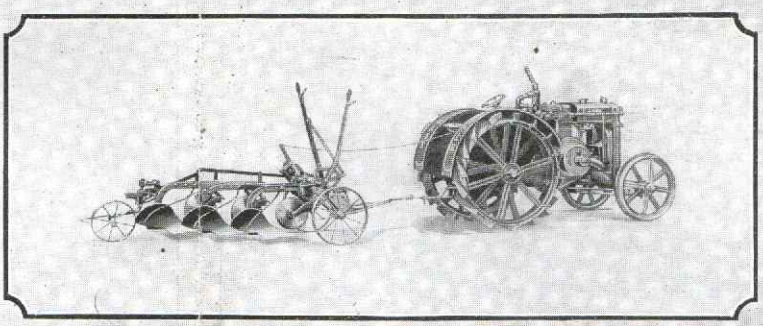
CASE · TRACTORS GRAND DETOUR PLOWS

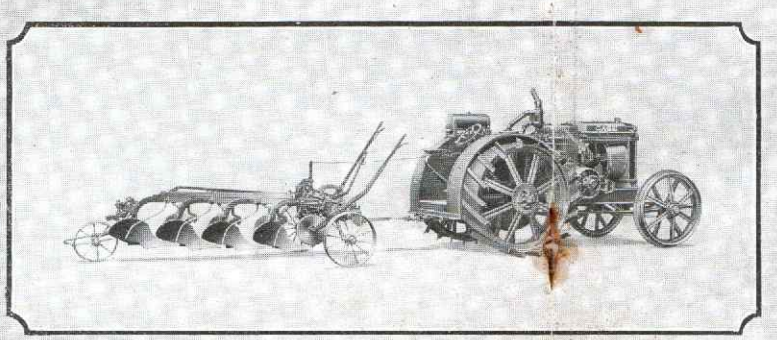
One of These Outfits Will Fit Your Farm



The Case 10-18 tractor and two bottom Grand Detour Plow is an ideal combination for small or large farms. With this combination, one man can plow from 6 to 9 acres in 10 hours in hard, tough soil. This tractor can pull 3 12-inch bottoms under favorable conditions.

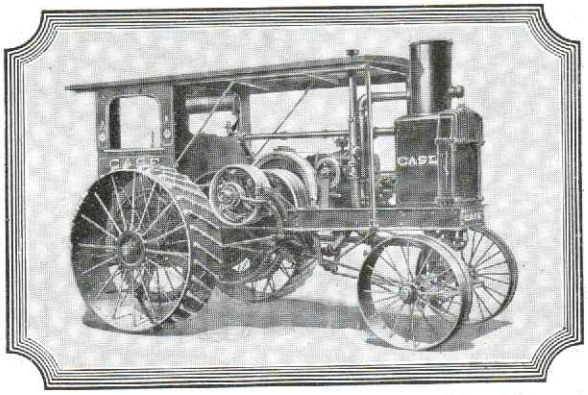
With this Case 15-27 H. P. Kerosene Tractor and a 3 bottom Grand Detour Plow one man can plow from 10 to 14 acres in 10 hours in tough baked soil. Under favorable conditions the Case 15-27 pulls 4 bottoms.





The Case 22-40 H. P. Kerosene Tractor and a 4 bottom Grand Detour Plow. With this outfit one man can plow from 14 to 18 acres in 10 hours. This tractor can pull a 5 bottom plow under favorable conditions.

NOTE—We want the public to know that our plows are NOT the Case plows made by the J. I. Case Plow Works Company



Pulley side, Case 20-40—pulley conveniently located

Case 20-40—A 4-5 Plow Tractor

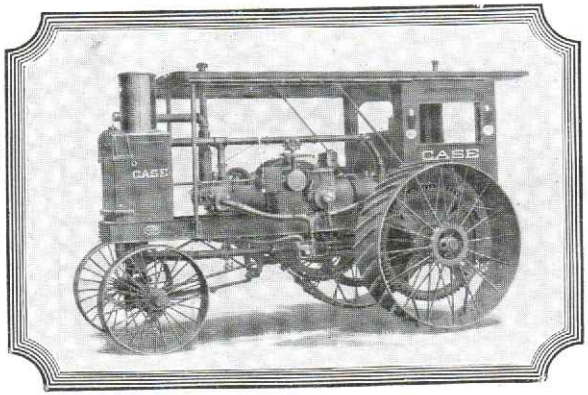
THE Case 20-40 is designed for field and belt work on a large farm or ranch. Its drawbar capacity of 20 horsepower gives it a pull of 3,800 pounds at normal speed, 2 miles per hour.

It is 177 inches long, 100 inches wide and 107 inches high and weighs about 14,000 pounds.

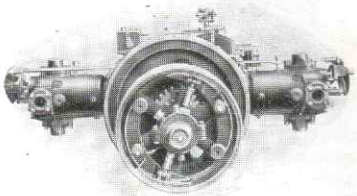
The 20-40 has stood the test of time. Not only as a model, but as a serviceable machine to owners, for some of the earliest tractors, bought years ago, are still in successful daily service on thousands of farms.

Of course, this tractor as now built is not the same as when first made. As improvements, suggested by experience and tried in severe tests met the approval of Case engineers, they were adopted for the 20-40. Hence this tractor has every needed feature. Case engineers put in more than endurance alone when they designed the 20-40. Economy of operation was another factor they built into it and as a result it is an economical and efficient kerosene burner.

With all its power, durability and convenience to the operator, the Case 20-40 tractor is most simple in construction. Every part is accessible and every part is as good as the whole.



Left side Case 20-40—note full length canopy and operator's cab



Case 20-40 motor showing clutch pulley

The Case 20-40 can pull four 14-inch plows in tough sod or hard gumbo. It can pull 5 bottoms under favorable conditions. It drives a Case 32x54 thresher with feeder and wind stacker and does a variety of other drawbar and belt jobs requiring the same power. For road grading, hauling, operating rock crushers, etc., the 20-40 is ideally suited.

Rigid Main Frame—Cannon Bearing for "Live" Rear Axle

The frame is built of steel channel sections, and all connections are hot riveted. A sufficient number of cross girts and reinforcements are supplied to insure rigidity and prevent disalignment of gears and motor parts.

The bearing for the rear axle which is of the cannon type, is bolted to the side channels of the frame. This not only adds rigidity to the frame, but prevents rear axle from getting out of line, and means that gears retain proper mesh, at all times. This method of construction also provides a dust-proof bearing for a "live" axle running in oil.

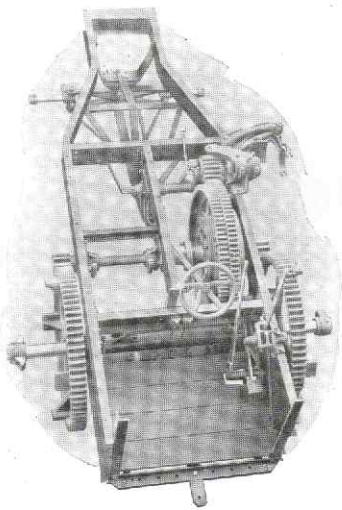
Drawbar Properly Located

The drawbar on this tractor is so located that the draft is from just below the counter shaft. This prevents straining or twisting of any part of the frame, as the pull is evenly divided over all parts of it. The tractor will not "rear up" on maximum pulls. The drawbar itself is a heavy steel bar, ¾ of an inch thick and 4 inches wide.

Powerful, Reliable Motor

The power plant of this tractor is a valve-in-head, two-cylinder, opposed engine. Cylinders are of grey iron with heads cast separately. Bore, 8¾ inches; Stroke, 9 inches. All parts of the motor are easily accessible.

The motor is held to the frame by four ⅞ inch turned bolts and seven ¾ inch rough bolts. This is an expensive method of securing the motor to the frame, but it is one of the features which guarantees long life to the tractor.



Case 20-40 main frame and transmission

Crank Shaft

The crank shaft is drop forged, ground to a limit of 1-2000 of an inch. The fly wheel flange is integral with the crank shaft. The crank shaft and crank pin bearings are interchangeable and are of the highest grade of babbitt. They are fitted with ample grooves for oiling and may be quickly renewed, if necessary. Bearings are machined all over and finally rolled by our own rolling device in order to make them fit accurately.

Simple—Easy to Operate

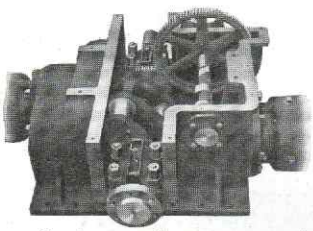
The high grade materials, liberal proportion of parts and extreme simplicity found in this tractor are greatly responsible for its extraordinary durability. The operator's convenience has not been overlooked. The ratchet cranking device makes starting easy. The gear shifting lever works easily and like the clutch lever is in a handy location. A powerful road brake and an effective pulley brake are regular equipment. If you farm a large acreage investigate this Case tractor.

Force Feed Lubrication

Lubrication is force feed by a Madison-Kipp pump. The sight-feed oiler takes care of all important working parts. All other parts are provided with grease cups.

The multiple feeds at the pump are so located as to be seen at all times by the operator. The bull gears and pinions are lubricated by drip oilers.

Cooling is accomplished by means of a copper fin and tube type radiator. The core is non-clogging and supported by a 4-piece cast frame. Large capacity prevents water from boiling, under any condition. Cooling is augmented by a fan and Thermo-Syphon water circulation.

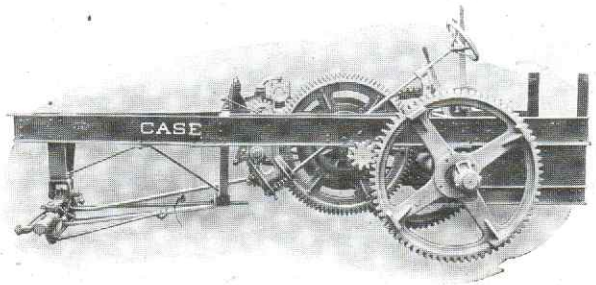


Crank case with cover removed

Kingston carburetor successfully supplies gasoline, distillate or kerosene to the motor. The fuel feed valve for the carburetor is controlled by a hand lever in the operator's cab and regulated by the governor after starting the engine. The gasoline is carried in an 11-gallon tank and kerosene in a 26-gallon tank. The motor uses either successfully and economically.

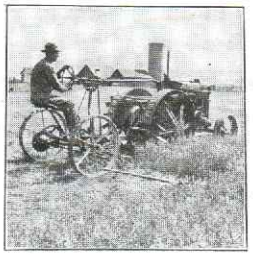
All Spur Gears

This 20-40 is an all-spur gear tractor and all gears are exceptionally durable. Cut steel pinions make up the two speed, sliding gears for transmission. The shifting of a lever changes speed from 2 to 3 miles per hour. The reverse gear is also controlled by means of the same lever, which is interlocking. The clutch shoes are lined with asbestos clutch lining. Adjustments for wear are easily taken up. Only one clutch is used for traction or belt work. The pulley brake for road or belt operation will be found convenient for making quick stops.



Side view of main frame and propelling device

Case Extension Tractor Control

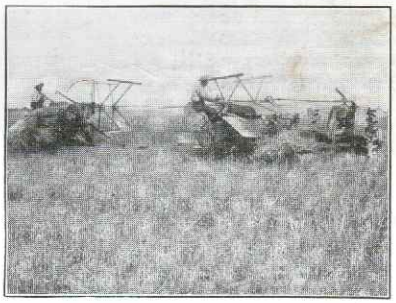


Operator has full control of both tractor and mower

THE Case extension tractor control is a simple device that can be attached to either the Case 10-18 or 15-27 tractors. For haying and harvesting the operator can control the tractor from the seat of the mower or binder. Note the illustrations on this page. The man on the seat of the mowing machine has perfect control of the tractor. The harvesting scene also shows how this handy device can be applied. Here two men are operating three units with ease. This is a saving of man power.

This extension tractor control is very easily attached and its operation is unusually simple. It consists of a telescopic extension steering shaft, a bracket and a pair of bevel gears on the steering column and a bracket on the drawn machine. The bracket carrying the front end of the device is quickly clamped to the steering column.

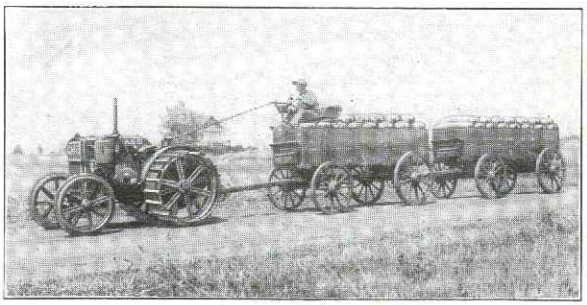
The extension shaft telescopes and the universal joints work easily without binding. The clutch and brake are easily controlled by means of an endless rope giving perfect control at all times.



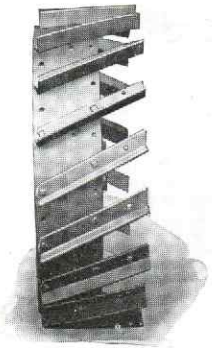
Here are two men handling three units —a saving in labor

Tractor owners without any considerable outlay of money can cut down on labor costs with the use of the Case extension tractor control.

For the operator's protection against the heat of summer we can furnish at very nominal cost an umbrella and parts to attach same to the Case 10-18, 15-27 and 22-40 tractors. In the harvest days with their blistering heat, you will be glad you provided yourself with this inexpensive attachment. The umbrella is 66 inches in height and opens to a diameter of 52 inches. It is covered with a good quality of khaki duck which is waterproof.

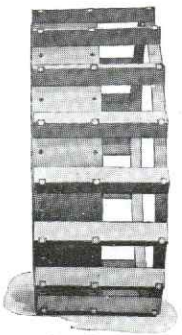


Can be driven as you drive your horses



Angle iron grouters, diagonally placed. Regular on 10-18, 15-27 and 22-40

Spade lugs for 10-18, 15-27 and 22-40



Right angle grouters and tie ring for 10-18, 15-27 Tractor

Tire Lugs and Extension Rims

FOR USE WITH CASE TRACTORS

CASE kerosene tractors are regularly equipped with angle iron grouters. Spade lugs, if specified at the time of purchase, can be furnished in place of the regular grouters. These types are best suited for general farm work. Another type (for 10-18 and 15-27) that may be had in lieu of the regular grouter is the angle iron grouter placed at right angles on the tire, with tie ring at outer end.

Road Cleats for 10-18, 15-27 and 22-40

To meet peculiar soil conditions we can also furnish on special order a set of mud lugs for use in rice fields. When required we can also supply road cleats.

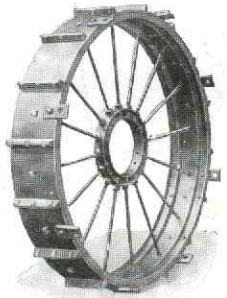
The tires on the drive wheels of Case kerosene tractors are punched to accommodate any of the grouters or lugs referred to above. Thus it is a simple matter to obtain grouters to suit local conditions.

Extension Rims

In soft, spongy ground or where maximum bearing surface is necessary, we recommend the use of Case extension rims. These extension rims are also punched so that grouters can be easily attached. Case extension rims are easily and quickly attached. We furnish them in the following sizes:

Extension rims for 10-18, 15-27 and 22-40

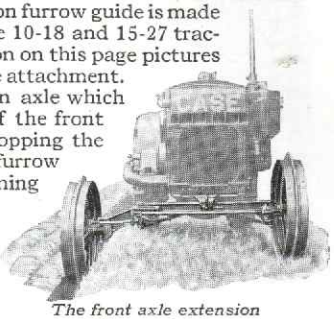
- 4″ Extension Rims for front wheels for 10-18 Tractor.
- 4″ Extension Rims for front wheels for 15-27 Tractor.
- 8″ Rear Wheel Extension Rims for 10-18 Tractor.
- 6″ Rear Wheel Extension Rims for 15-27 Tractor.
- 8″ Rear Wheel Extension Rims for 15-27 Tractor.
- 8″ Rear Wheel Extension Rims for 20-40 Tractor.
- 12″ Rear Wheel Extension Rims for 20-40 Tractor.
- 10″ Rear Wheel Extension Rims for 22-40 Tractor.



Extension rims for 20-40 tractor

Case Self-Steering Devices

THE Case axle extension furrow guide is made for use with the Case 10-18 and 15-27 tractors. The illustration on this page pictures clearly the simplicity of the attachment. It consists of an extension axle which is attached to the fork of the front axle. This permits of dropping the right front wheel in the furrow at the same time maintaining the horizontal position of the tractor. Thus the tractor with this furrow guide makes the Case 10-18 or 15-27 self steering.



The front axle extension furrow guide

By the use of this simple guide all wheels except the right front wheel travel on the unplowed ground when plowing. This is preferable to running two tractor wheels in the furrow. It permits the use of drive wheel rims wider than the furrow, consequently a Case tractor may be operated with such widths of extension rims and length of grouters as local field conditions require.

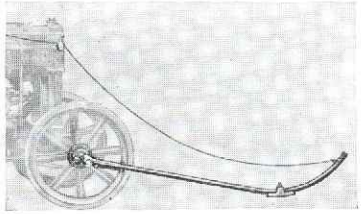
This type of furrow guide, which adds very little weight but maintains the horizontal position of the tractor, is recognized as superior to the many other methods of self steering, as it eliminates possibility of imperfect lubrication and prevents undue wear on bearings caused by side thrust, troubles which are often encountered when tractor is not operating in a horizontal position.

Very little time is required in putting on this attachment. It is only necessary to jack up the front end of the tractor, remove one wheel and one bolt and fasten the furrow guide to the front axle.

Auxiliary Steering Device

The Case auxiliary steering device illustrated below is furnished for attachment to the Case 10-18, 15-27 and 22-40 tractors. It is very simple in its construction, requires only a few minutes time to attach or remove. This steering device eliminates the continuous attention necessary on the part of the operator when plowing. It is adjustable so that the tractor can be run at different distances from the furrow. You will note in the illustration the rope running thru the pulley to the operator's seat, thus enabling the operator to lift the device from the furrow without leaving his seat. This operation is necessary especially when turning at furrow ends.

The construction is such that there is no part which will cause trouble. The device consists of a bent pipe, one end of which is bolted directly to the front wheel, while the outer end which is curved, operates against the bottom and side of the furrow. A shoe, which is adjustable, is provided to prevent wear where pipe runs in the furrow. The pipe provided for the 22-40 tractor is longer than that used with the 10-18 and 15-27.



Auxiliary steering device for 10-18, 15-27 and 22-40 tractors

The cost of the Case steering device is very nominal, but its aid in tractor plowing is such that it is well worth more than its price.

Case Fuel Tenders—Two Sizes

EVERY owner of a gas tractor needs a fuel tender on his farm. With two sizes of Case tenders to choose from you can select a tender suitable for your needs. Quality, not price is what counts in equipment of this kind. These tenders are made in our own mammoth boiler works, the material is laboratory tested, and the workmanship carefully inspected.

All Joints Are Welded

The Case eight and twelve barrel round tenders are strongly constructed of 14-gauge steel. The joints are welded and leak-proof. Front and rear convex heads are of steel, welded into place and the tender is furnished with 38 or 42-inch bolsters.

A threaded wing cap for filling nipple is quickly removed or screwed back in place without tools, making filling convenient. The contents of the tank are drawn off by means of a valve, located at the lowest point in the rear.

Case 8 bbl. round fuel tender

The 12-barrel tender is supplied with a generous size fuel hopper, which is held in place by retaining rods attached to the front bolster. An ordinary spring seat may be quickly attached to this fuel hopper.

A gasoline pump which will fill or empty the tank, can be furnished at extra price.

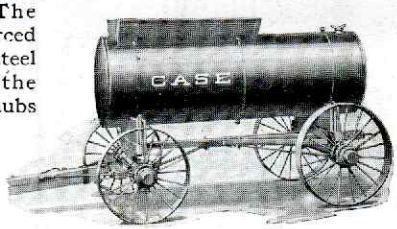
This pump, which is of the rotary type, may be quickly attached to the outlet valve, and then by turning crank, the fuel may be pumped directly to the engine or other receptacle. The hose usually ordered with this pump is wire lined 1 inch hose in a 10 foot length. By using this attachment an owner is assured against waste of fuel as well as a saving of labor.

Capacity and Weights

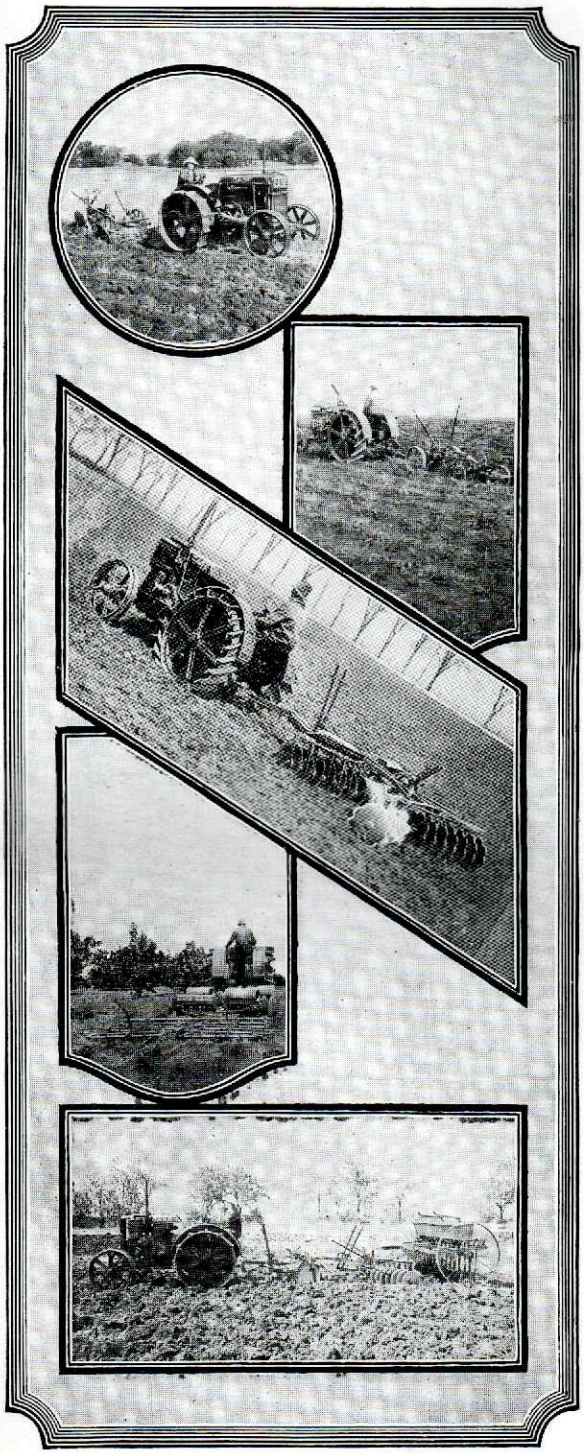
The 8-barrel tender has a capacity of 252 U. S. gallons or 210 Imperial gallons and weighs 260 pounds without truck, while the 12-barrel has a capacity of 380 U. S. gallons or 317 Imperial gallons and weighs 385 pounds.

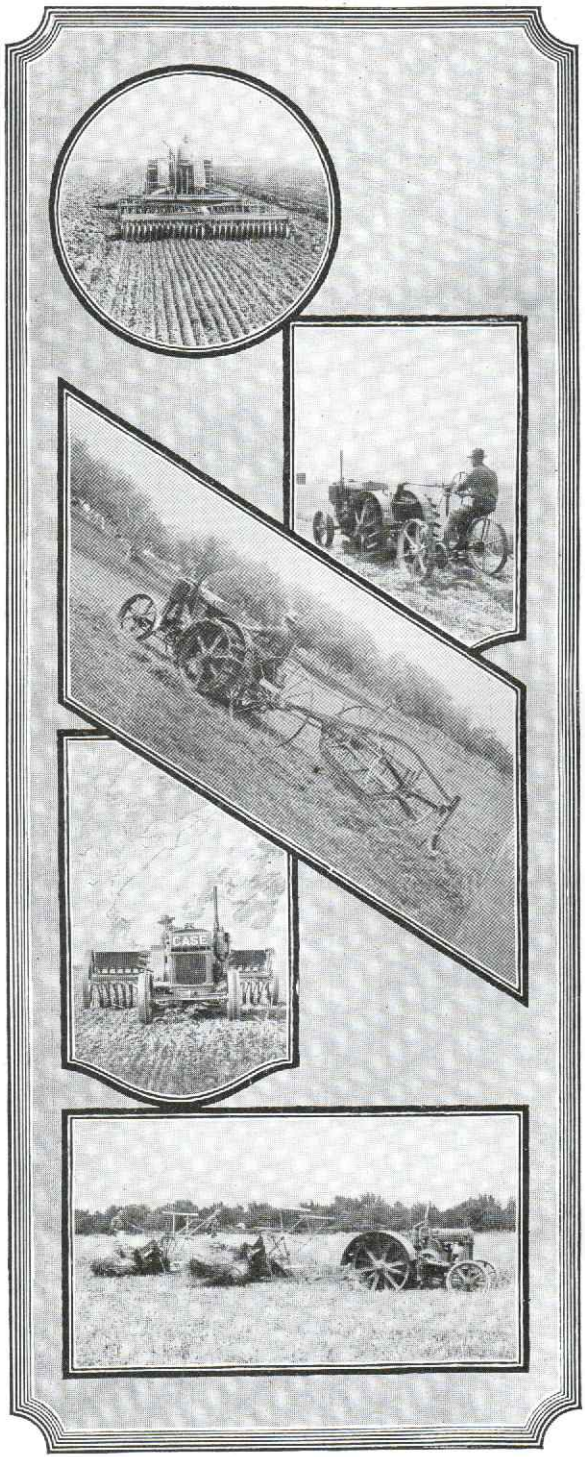
Case Steel Trucks

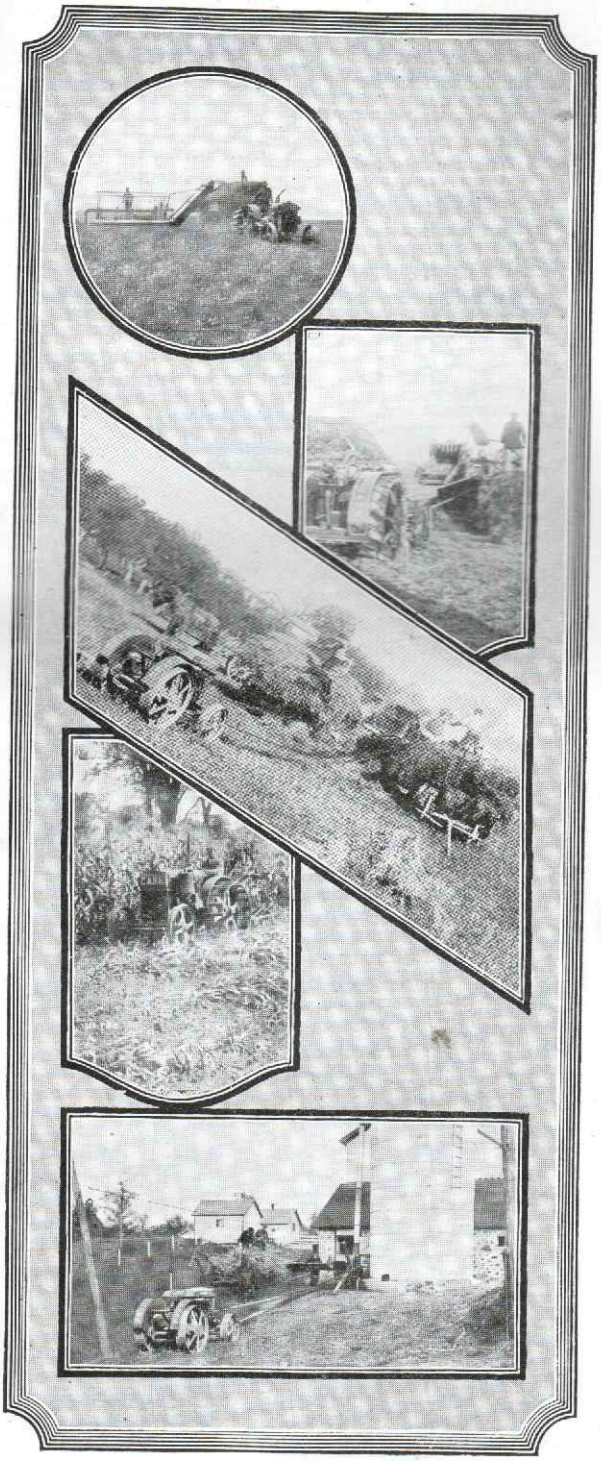
Case steel trucks are designed for use with Case tenders or for separate use. They are made to carry the regular farm wagon box, thus being available for all kinds of hauling. Strength and rigidity are features. Steel pipe axles, hardwood reach, hounds and bolsters go into its construction. The front axle is reinforced by a pressed steel connection for the King pin. The hubs are large with a liberal bearing surface, and the metal wheels have heavy 5-inch face tires.

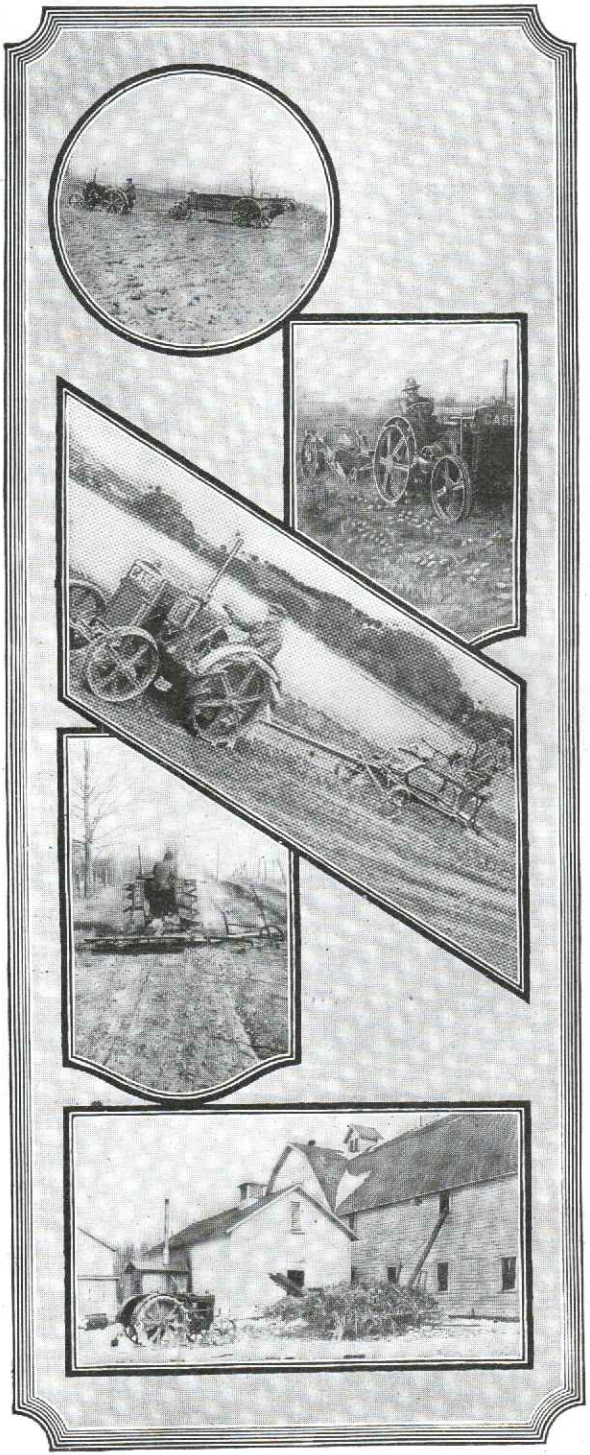


Case 12 bbl. round fuel tender









How to Figure Proper Size Main Drive Pulley for Belt Driven Machinery

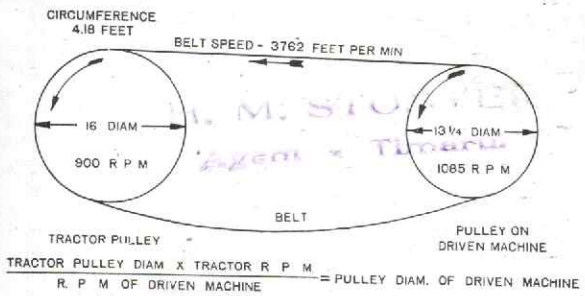
CASE TRACTORS besides doing such traction work as plowing, hauling, road work, harvesting, seeding, discing, listing, packing, etc., may be used for a variety of belt operations, such as threshing, baling, ensilage cutting, feed grinding, husking and shredding corn, pumping water, running a saw, etc.

Proper Size Drive Pulleys Should Be Used

How economically and satisfactorily belt work may be accomplished depends more on equipping the driven machine with the proper size pulley than anything else. The driven machine should be run at its rated speed with the tractor operating at its *normal* speed. A thresher, silo filler, hay baler and all belt machines must be operated at or near some specific speed in order to do satisfactory work. This should be accomplished by fitting the machine with the proper size pulley because the tractor *must be operated at its normal speed.*

A Simple Formula

If it is desired to find the size of a pulley for a certain machine to be operated by the tractor, multiply the diameter of the tractor pulley in inches by the normal speed of the tractor pulley and divide by the speed at which the driven machine should run.



Belt Speed Chart

Example: To run a grain thresher at a cylinder speed of 1100 R. P. M. with a tractor having a 14¼-inch belt pulley that runs at 1050 R. P. M. The diameter of the separator pulley must be

$$\frac{14\frac{1}{4} \times 1050}{1100} = \text{approximately } 13\frac{1}{2} \text{ inches.}$$

(By R. P. M. is meant number of revolutions per minute).

Supposing we have a tractor with a 16-inch belt pulley that runs at 900 R. P. M. and it is desired to run a grain thresher at 1075 R. P. M. The diameter of the pulley on thresher must be

$$\frac{16 \times 900}{1075} = \text{approximately } 13\ 2\text{-}5 \text{ inches.}$$

(A pulley 13½ inches would be sufficiently close).

Given the R. P. M. of the tractor and the pulley diameter on both the tractor and driven machine, to find the R. P. M. of the driven machine, multiply the diameter of the tractor pulley by its R. P. M. and divide by the diameter of the driven pulley.

Another Example

Example: Tractor has 14¼-inch pulley and runs 1050 R. P. M. Pulley on driven machine is 10 inches diameter: how fast will it run?

$$\frac{14\frac{1}{4} \times 1050}{10} = 1496 \text{ R. P. M.} \quad \text{Answer.}$$

Belt Speed: By belt speed is meant the actual speed in feet per minute of any point on the belt. This of course is equal to the peripheral speed of the driving pulley, it being assumed that there is no slippage. This is found by multiplying the circumference of the pulley, in feet, by its speed (R. P. M.).

The circumference of the pulley on the Case 15-27 H. P. tractor is 4.18 feet, the belt speed is therefore 4.18 x 900= 3762 feet per minute.

This is illustrated by a diagram (on page 45).

Table for Case 15-27 Tractor

The following table shows at a glance the size pulley required for any desired speed between 600-1400 R. P. M. of driven machine:

Case 15-27 Tractor		Driven Machines	
Pulley Diameter	R. P. M.	Pulley Diam.	R. P. M.
16″	900	24″	600
16″	900	22″	650
16″	900	20½″	700
16″	900	19¼″	750
16″	900	18″	800
16″	900	17″	850
16″	900	16″	900
16″	900	15″	950
16″	900	14½″	1000
16″	900	13¾″	1050
16″	900	13″	1100
16″	900	12½″	1150
16″	900	12″	1200
16″	900	11½″	1250
16″	900	11″	1300
16″	900	10½″	1350
16″	900	10¼″	1400

The Rate of Doing Various Kinds of Field Work

Rate of Plowing

ONE 14-inch plow pulled at the rate of 2¼ miles per hour will plow .318 acres in one hour. Some time, however, must be allowed for turning, which will depend upon the shape and size of the field and how it is plowed.

All Case tractors are so flexible and easy to handle that the smallest fields can readily be plowed and finished into corners and close to fences. Fields with irregular boundaries can be worked almost as easily as with horses.

Two plow outfit. In a field 80 rods long where lands of average width are struck out, and the turning done on headlands, about 6% of the time is spent in turning at ends. In ordinary practice, therefore, a 14-inch two-bottom plow if pulled at the rate of 2¼ miles per hour will plow .597 acres (about 3-5 acres in one hour.)

At 2¾ mi. .630 acres, about 6 ⅓ acres in a 10-hr. day
At 2½ mi. .663 acres, about 6 ⅔ acres in a 10-hr. day
At 3 mi. .781 acres, about 7 ⅓ acres in a 10-hr. day
At 3½ mi. .927 acres, about 9 ¼ acres in a 10-hr. day

Three plow outfit. A tractor pulling a three-bottom 14-inch plow at the rate of 2 miles per hour will plow .789 acres in one hour after allowing 6% of the time for turning at ends.

At 2¼ mi. .89 acres, about 9 acres in a 10-hr. day
At 2½ mi. .99 acres, about 10 acres in a 10-hr. day
At 3 mi. 1.17 acres, about 11¾ acres in a 10-hr. day
At 3½ mi. 1.39 acres, about 14 acres in a 10-hr. day

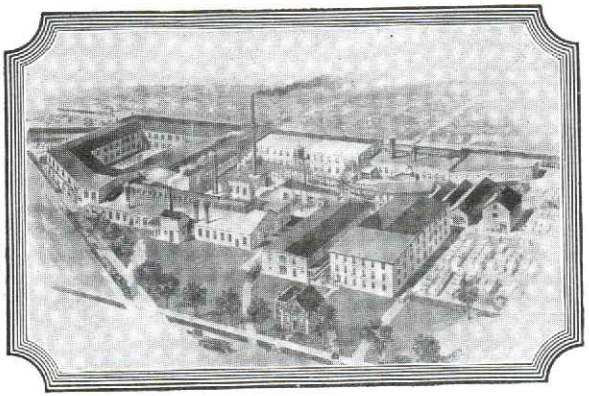
A four-plow outfit will, of course, accomplish about twice as much as the two, if both are run at the same speed; and a six-plow outfit twice as much as the three-plow outfit.

Rate of Harrowing, Seeding, Harvesting

Other field operations are performed at the rate of .242 acres per hour for every one foot width of implement pulled at the rate of 2 miles per hour. In seeding, discing, harvesting, etc., in an ordinary small field about 5% must be allowed for turning. Hence the rate at which work may be accomplished with every one foot width of implement is as follows:

At 2 miles .229 acres—in a 10-hr. day 2 3-10 acres
At 2⅛ miles .243 acres—in a 10-hr. day 2 2-5 acres
At 2¼ miles .258 acres—in a 10-hr. day 2 3-5 acres
At 2½ miles .302 acres—in a 10-hr. day 3 acres
At 3 miles .345 acres—in a 10-hr. day 3 2-5 acres
At 3½ miles .402 acres—in a 10-hr. day 4 acres

In order to determine the amount of work that may be accomplished with any implement pulled, multiply the width of the implement by the above figure corresponding with the speed of travel. For example: An 8-foot binder pulled at the rate of 2½ miles per hour will cut in one hour .302 x 8=2.416 acres (about 2 2-5 acres) or about 24 1-5 acres in a 10-hour day.



Composite view of the plow factories of the J. I. Case Threshing Machine Company, Inc.

Grand Detour An Established Line

HERE are the plow factories of the J. I. Case Threshing Machine Co. Here is where the famous line of Grand Detour Tractor mouldboard plows, grub breakers, disc plows and tractor tandem disc harrows are manufactured.

Over 80 years ago the first Grand Detour steel plow made its bow to the farmer—and the farmer liked it. It was the best in its day and farmers told other farmers. Soon the name Grand Detour became famous, because it represented a high grade product. From the humble beginning there has grown this big factory.

The Grand Detour line of plows and harrows today represents something more than mere implements of quality materials. Grand Detours have built into them practical features. The beams are correctly shaped to assure ample clearance to prevent clogging. Years of field experience has taught us how to make them from the right kind and quality of material. The shape and style of the plow bottoms have been determined after years of experiments in different localities under various soil conditions. Expert plow designers, men who know, have built into Grand Detours, features that are not found in other makes. Our engineers have constructed Grand Detours of the materials best suited. They are backed by the Case warranty.

Last year more Grand Detour tractor plows were manufactured and sold than ever before. Farmers with tractors know that the best tractor in the world is of little value for plowing without the use of an efficient tractor plow. Farmers who want a good job of plowing and a plow that will stand up under the most severe soil conditions will find, as thousands of others, that Grand Detour power lift tractor gangs will satisfy their most exacting requirements.

A brief description of Grand Detour features are given in the following pages. It will amply repay any prospective purchaser to read over the next few pages. We are certain they will hold your interest to the extent of telling you all about Grand Detour plows. If you do not know of a Case dealer near you, write to our nearest branch house. A list of these branch houses is given on the inside of the back cover of this catalog.

NOTICE:—We want the public to know that our plows and harrows are NOT the Case plows and harrows made by the J. I. Case Plow Works Co.

Grand Detour plows and Case tractors took first and second prize (Mfgr's. Div.) at Wheatland, Ill., plowing demonstration Sept. 11, 1919

Notice: We want the public to know that our plows are NOT the Case plows made by the J. I. Case Plow Works Company

The Logical Combination to Buy

THE efficiency of Grand Detour tractor plows was proven at the Wheatland Township (Ill.) Plowing Demonstration, held on September 11, 1919. At this big demonstration a 2-bottom Grand Detour plow pulled by a Case 10-18 tractor; a Grand Detour 3-bottom plow pulled by a Case 15-27 tractor, won first and second prizes (Mfg's Div.) for the best job of plowing in competition with 13 other well known tractor plow rigs. (See silver cup illustration above and the winning outfits below).

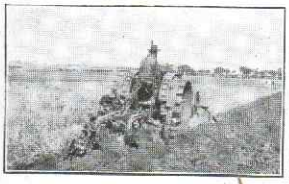
The object of the Wheatland (Ill.) Plowing Contest was to determine which of the outfits entered could do the best plowing. Particular attention was paid to the way in which the soil was turned into even, clean and straight furrows of rounded conformation. Rules of the contest provided that each outfit be operated by only one man, who controlled both tractor and plow.

The ground plowed during the contest was a stubble field, very hard and dry. It put the strength of the plow to the acid test. It also gave the tractor an opportunity to demonstrate its power. The Board of Judges pronounced the work excellent. Farmers saw that power plowing can be done as well and better than plowing with teams. They also saw how easily the wining outfits were operated. For 41 consecutive years the Wheatland Contest has been held.

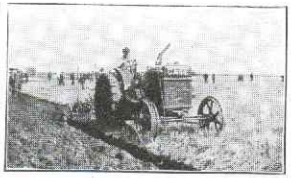
Plowing with a Case tractor and Grand Detour power plow means deeper, cheaper plowing. Deeper plowing helps increase the crop yield. Tractor plowing means more work in less time. Increased acreage can be placed under cultivation.

The big thing is to choose the right plow. The success other farmers are having with Grand Detours can be your success if you will use the Grand Detour plows built and warranted by J. I. Case Threshing Machine Company.

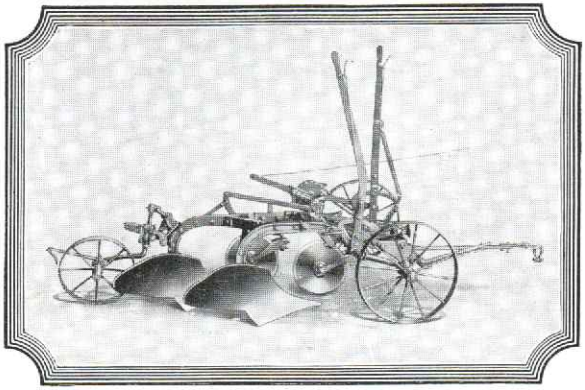
NOTICE—We want the public to know that our plows are NOT the Case plows made by the J. I. Case Plow Works Co.



This is the outfit that took first place



This is the outfit that took second place



Grand Detour 2-bottom power lift rigid beam plow

Grand Detour 2, 3, 4 and 5 Bottom Rigid Beam Power Lift Plows

(Furnished with 12" or 14" Bottoms)

THESE plows are recommended for use with the Case 10-18, 15-27 and 22-40 tractors or other tractors of equal power. They plow nicely to a depth of nine inches. Different shapes of bottoms can be furnished—breaker, stubble, turf and stubble, blackland, etc. (See illustration on page 59). Rolling coulters are part of the regular equipment, but on special order we can furnish jointers instead, or combination coulters and jointers.

The Grand Detour rigid beam plows are light but, because of their high grade materials, excellent design and simplicity, they are unusually strong. All beams are of high carbon steel, extra heavy, well braced and designed to give ample clearance. The wheels are of the correct height and equipped with long-distance magazine boxes with grease caps on the ends.

An important feature is the quick detachable bottom. Removing a few bolts and transferring the swivel trail wheel permits of detaching a bottom from any of these sizes, a feature particularly advantageous in hilly land or in hard soil.

Grand Detour Features

Power lift. One man can operate both tractor and plow from operator's seat by means of rope attached to a simple clutch. One pull of rope raises plows from the ground, another pull quickly lowers them to full depth.

High lift. Exceptionally high lift on Grand Detours eliminates all trash gathering when turning at ends or traveling from one job to another.

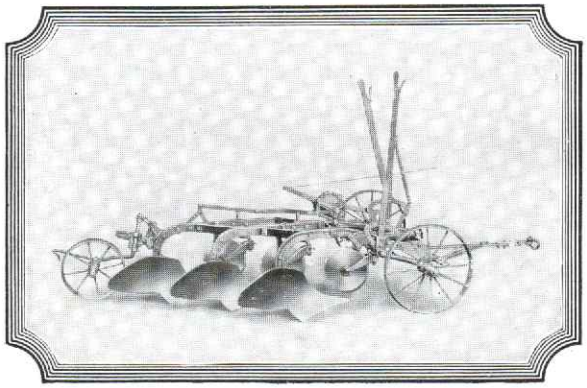
Swivel trail wheel is connected with the lifting device. This raises rear and front of plows to the same level.

Break pin hitch. A simple and adjustable hitch with break pin prevents share breakage and also permits of backing the plow account rigid draft irons connecting the plow to tractor. No chains required.

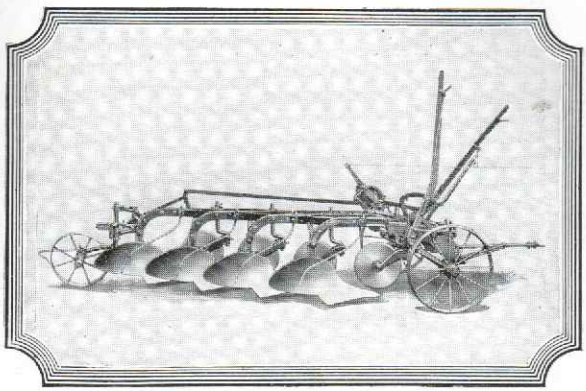
Depth lever. Change of depth is accomplished by means of a lever. Another lever provides for leveling the gang or for tilting when opening or finishing a land. Both levers are within convenient reach of operator but they do not interfere with him while turning or plowing.

Throat room. Ample throat room is provided for plowing trash covered land. Each bottom is located far enough ahead of the one following, to accommodate a nice turn of each furrow slice, therefore no clogging, a feature appreciated by all good plowmen.

Standard equipment. Rolling coulters, adjustable tractor hitch with break pin, also scraper for rear wheel.

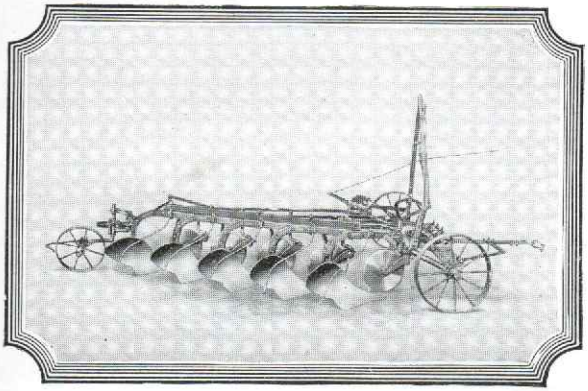


Grand Detour 3-bottom power lift rigid beam plow

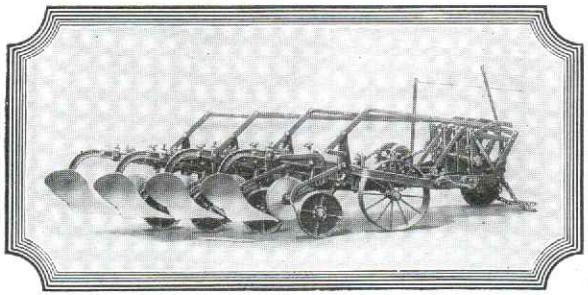


Grand Detour 4-bottom power lift rigid beam plow

NOTICE:—We want the public to know that our plows are NOT the Case plows made by the J. I. Case Plow Works Co.



Grand Detour 5-bottom power lift rigid beam plow



Grand Detcur 4-bottom, medium wt., independent beam plow

Grand Detour 4-Bottom, Medium Wt. Power Lift, Independent Beam Plow

EACH beam of this plow is independent, an importa- feature when plowing uneven land. The compou- l lever is within easy reach of the operator, seated i his tractor and by its use any one or more bottoms can be lifted and held suspended. This feature is provided to give the operator the advantage of marking headlands with one bottom. On steep grades or in very hard soil, he can use the number of bottoms conditions require. It will also be found convenient in finishing a field.

A castor wheel at the front supports the frame and helps greatly in maintaining uniformity of furrows. It makes turning possible without skidding the carrying wheels.

The truck wheels are large in diameter, which feature lessens the draft and reduces revolution for traveling, making for longer life in bearings.

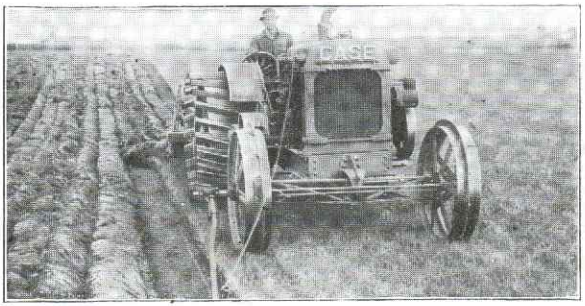
Grand Detour Features

The gauge wheels, running immediately in front of the coulters, hold down manure or trash, while coulters cut full depth. This means uniform depth of furrows, a clean cut and prevents clogging of bottoms.

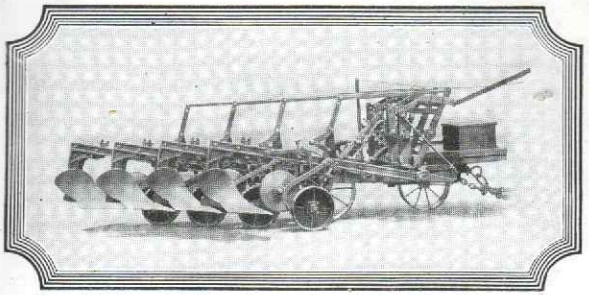
Latches on the lifting device have two notches. In moving from field to field or over a road, the bottoms can be easily lifted to the second notch, giving unusual clearance.

The features of power lift, adjustable plow bottoms, break pin standards, etc., are embodied in all our independent beam plows. Various shapes of bottoms are offered to meet soil conditions in different localities.

Because of the universal adjustable beam connections at front end of each beam, and the manner of "staying" each beam, uniform space between plows, makes each bottom cut the same width, and hold its proper position. Therefore all bottoms work alike.



We recommend Grand Detour 4-bottom plows for use with the Case 22-40 kerosene tractor



Grand Detour 4-bottom, heavy duty, independent beam plow

Grand Detour 4, 5 and 6 Bot. Heavy Duty Power Lift, Independent Beam Plows

GREAT features of these plows, unequalled in any other make are the arrangement of the beams, the method of attaching them to the frame, the position of the gauge wheel when working, the accessibility and ease of adjustment on the rolling coulter, the method of attaching the bottom to the standard, and the standard to the beam with the break pin device. It is an indication of what years of plow building experience mean in designing and building.

One-Man Control

We call your attention to the one-man control. A cord to some point within easy reach from the tractioneer's seat affords full control of the plow.

In operation, one pull of the string by the tractioneer drops the plows in succession, beginning with the front plow and leaving all furrows even at ends.

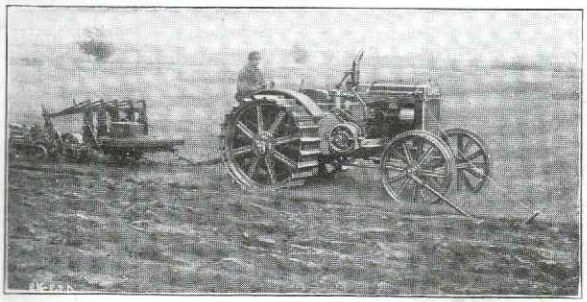
The clutch is simple in construction, very accessible, and acts quickly and positively. Each plow being latched up as it rises, minimizes the load on the clutch during its operation and it carries no load in transporting the plow.

Power lift. Driven by two chains and two pairs of sprockets. These operate a square shaft with cams so timed that only one bottom at a time is lifted or lowered—but they follow in quick succession to avoid ragged furrow ends.

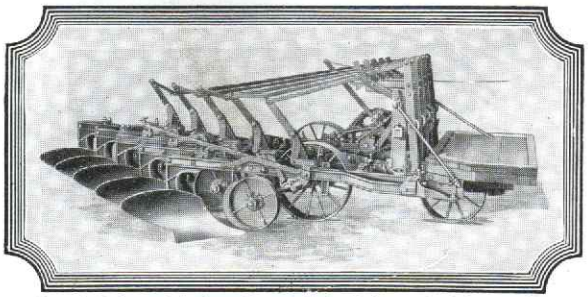
Hand lift. The compound lever—enables operator to raise any number of plows from the ground whether plowing at full depth or when standing still.

The quality of work Case tractors and Grand Detour plows do, we believe, cannot be improved upon. Coulters cut clean edges, and ample clearance permits mouldboards to turn a uniform furrow slice covering all trash or manure.

Each plow can be raised singly. The latches which lock the plows (when raised) have two notches and when



Under favorable conditions the Case 22-40 kerosene tractor readily handles a Grand Detour 5-bottom gang



Grand Detour 5-bottom heavy duty, independent beam plow

traveling from place to place can be held in second notch to give the bottoms ample ground clearance for traveling across trashy ends of a field or moving from job to job.

The adjustable standard allows the widest range of plow adjustment. When beams are set in proper position, they stay in place and need no furrow wheel, chains or any device to keep them in line.

Gauge wheels serve for lifting plows and for carrying them when not plowing. One gauge wheel for each bottom holds trash until cut by rolling coulter.

Substantial Construction

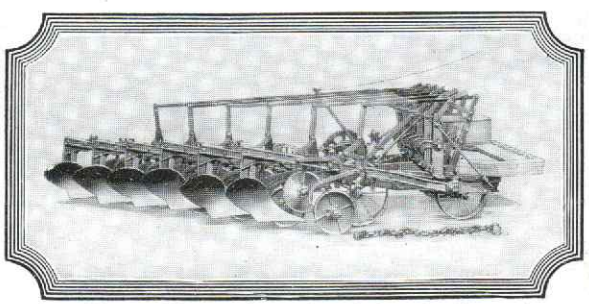
The main frame of heavy duty 4, 5 and 6-bottom gangs is built up entirely of steel. It is well braced and supported by two good sized carrying wheels at the rear as well as one caster wheel toward the front.

The beams are made of I-beam, carbon steel. They are double and forked at the front where they fasten by an adjustable connection to the heavy diagonally placed angle steel member of the main frame. At the rear end of beams, enough space is left between the two sections to accommodate the break pin block and the standard. Two heavy bolts pass thru both sections of the beam to hold the standard firmly in place.

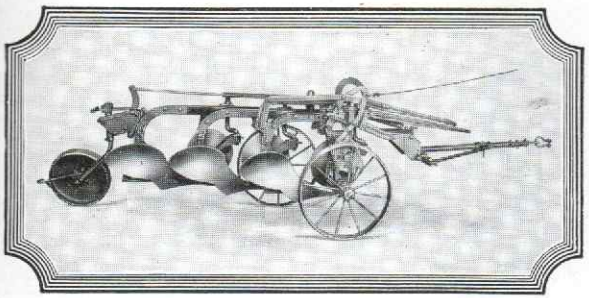
All three sizes of Grand Detour heavy duty gangs are equipped with a simple pin break device, which protects against plow breakage. This device also makes for convenience in changing plow shares. Description and illustration of this feature on pages 58 and 59.

All Grand Detour plows are regularly equipped with steel shares—we can supply cast shares for replacements if they are desired. While the latter are less expensive, we believe steel shares are most economical in the long run.

Independent Beam Plows are regularly equipped with rolling coulters, gauge wheels, platform over main frame, a pair of draft chains, two large clevises and plow wrenches.



Grand Detour 6-bottom heavy duty, independent beam plow



Grand Detour 3-bottom Orchard and Vineyard Plow

Grand Detour 2, 3 and 4 B'm, Rigid Beam, Power Lift Orchard Plows

THESE plows are designed along the same general lines as the rigid beam plows described in the preceding pages except that they have been designed to fit the peculiar requirements necessary for orchard work.

For instance, on the Grand Detour orchard and vineyard plow the arrangement of the wheels and axles makes possible a very compact plow, both in length and width. This permits of operating very close to trees and vines.

Another feature that will interest orchardists is the long low levers. The levers are long enough to permit of making all adjustments without the operator having to get off his seat on the tractor. The levers are always in a horizontal position, do not rock or rotate and are within easy reach whether the plow is in or out of the ground. No separate lever attachment is used.

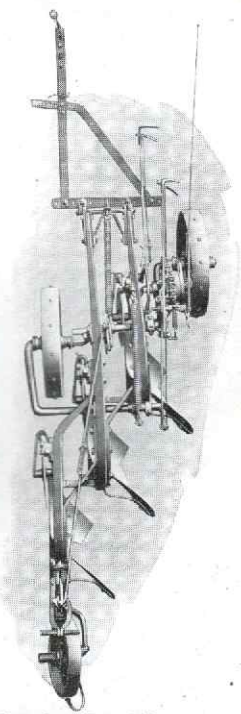
Grand Detour orchard plows have liberal clearance. The beams are 22 inches in height and spaced 19 inches—one back of the other.

The front wheels have tires 4 inches wide. The axle for the land wheel is located back of the front beam. This brings the land wheel nearly along side of the front plow bottom. This facilitates plowing over ridges without allowing the rear bottom to go to an abnormal depth.

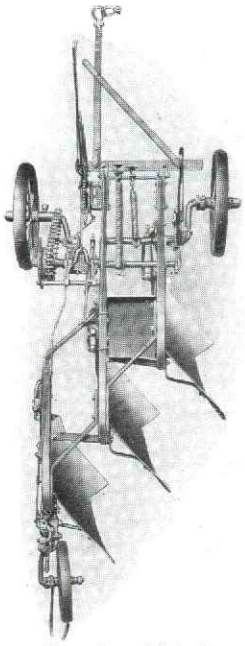
The rear wheel is solid pressed with a renewable hub. The tail piece is adjustable and allows the wheel to be moved to or from the furrow bank. The rear axle has an automatic locking device, causing the wheel to take the side pressure instead of the plow landslide.

The rolling coulters in all sizes of Grand Detour orchard and vineyard plows are equipped with Hyatt roller bearings.

These plows come in three sizes: 2-bottom, 3-bottom and 4-bottom, equipped with 10″, 12″ or 14″ bottoms.



Top view Grand Detour Orchard Plow showing narrow construction. Position of carrying wheels permits of plowing close to trees and vines. Position of adjusting levers avoids interference with branches of trees



Top view of 3-bottom rigid beam plow

Construction Details of Rigid Beam Plows

2, 3, 4 AND 5-BOTTOM SIZES

GRAND Detour rigid beam plows are made of the best material and by experienced workmen, after which they are very closely inspected to insure their going out to the customer in first-class shape. All parts are prepared in jigs to make them interchangeable without adjusting or fitting. The beams in these plows are high carbon steel, shaped so as to give them extra throat room, and of ample length to give liberal clearance between the plows. The wheels are strong, of good height, with wide tires, and have long bearings with grease caps on the ends so that grease can be forced through the entire length of the bearings. Read the brief description below.

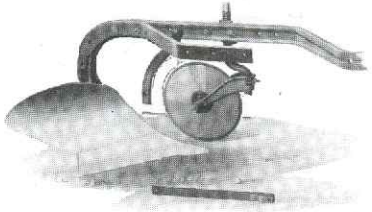
One Man Operates Two Units

One man control. One man can easily handle both plow and tractor from the operator's seat on the tractor. The operator has instant control of the plows. This is accomplished by means of a rope attached to a lever which controls the simple positive clutch which quickly raises and lowers the plows. The power lift device used on the Grand Detour plow is so designed that its action is absolutely positive and it works with such ease that no lugs are required on carrying wheels.

High lift. At the furrow end or any place where it is desirable to raise the bottoms, one pull of the trip rope engages the clutch and quickly raises the plows from the ground. The cranking motion of the front axles lifts the plows from the ground. The weight of the plow is balanced on the front axles by means of two strong, adjustable springs. After the points of the plows have started to leave the ground, an ingenious lever connection between power lift bracket and hind wheel attachment raises the rear of the plow so that all bottoms are lifted to a high level and clear of the ground to avoid gathering trash.

Adjustable hitch. The hitch on the Grand Detour plow is adjustable vertically and horizontally. Each bottom cuts full width and rides in the right position, regardless of the height of the engine drawbar.

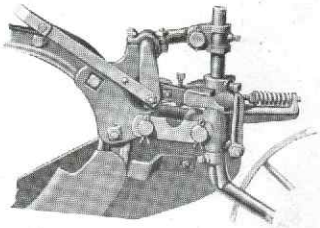
Pin break feature. The simple adjustable tractor hitch referred to above is provided with a wooden break pin thus preventing share breakage. The simple method of coupling our plow to the tractor permits of backing the plow, a desirable feature when occasionally coming in contact with an obstruction or when manoeuvering in very close quarters.



The rear beam on the 3, 4 and 5-bottom rigid beam plow is detachable

Detachable beam and bottom. The 5-bottom Grand Detour gang can be changed to a 4-bottom gang by removing a few bolts and shifting the rear wheel and axle from the fifth to the fourth plow. The same feature applies to the 4-bottom plow which can be quickly and easily changed to a 3-bottom plow. The 3-bottom gang is convertible into a 2-furrow plow. This is important where varying conditions make deeper plowing in one field more essential than in another.

Conformation of Furrows

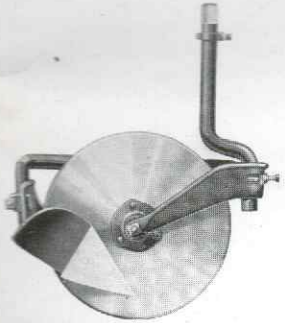


The rear lift and trail wheel feature on rigid beam plows

Throat room. Single plows seldom clog even in trashy ground, and to prevent clogging of Grand Detour gangs ample throat room is provided for plowing thrash covered land. Each bottom is located far enough ahead of the one following, to permit the proper turn of each furrow slice, therefore no clogging, —result—even furrows.

Depth gauge. The adjustment of the plow is governed by two levers near the front end. One lever regulates the depth of the bottoms. The other is for leveling the plow. The latter is a splendid feature for opening new lands or when finishing a dead furrow. Change of depth can easily be accomplished while plowing or when plow is either in or out of the ground as both levers are within easy reach of the tractioneer. By means of these same levers all of the plows may be lifted out of the ground when the plow is not in motion. The land lever remains stationary at all times while the furrow lever travels about 30 degrees forward when plows are raised from the ground. Good plowing can be done to a depth of nine inches.

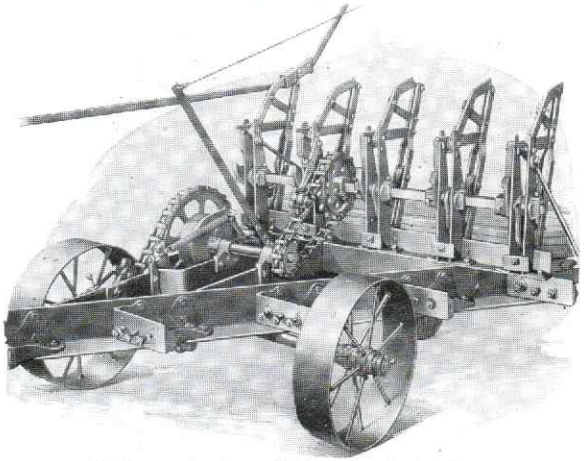
Bottoms. These plows are built with 12-inch or 14-inch bottoms and can be equipped with any of several shapes of bottoms as illustrated on page 59. The steel used in the mouldboards and shares is made up especially of three equal layers. The center layer is soft and tough, thus strengthening the two outer layers which are hard; this is assurance against too rapid wear. The front end of the mouldboard is reinforced with a shin of high carbon steel; and the point of the share is also reinforced with a steel shin. The shares, together with other bottom parts, are built up around a steel frog, and all these parts are shaped, drilled or punched in jigs, making them interchangeable.



The combination rolling coulter and jointer as furnished when ordered with rigid beam plows

Standard equipment. Standard equipment includes rolling coulters, adjustable tractor hitch with break pin, also scraper for rear wheel. Jointers, or combination coulters and jointer furnished on order at slight extra price.

NOTICE:—We want the public to know that our plows are NOT the Case plows made by the J. I. Case Plow Works Co.



Lifting mechanism of independent beam plows

Independent Beam Plow Features

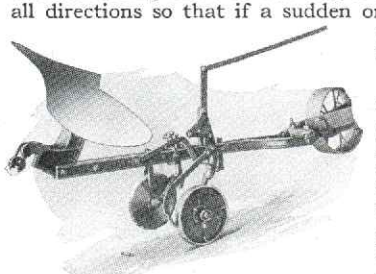
Medium Weight and Heavy Duty Types—Four Sizes

THE Grand Detour independent beam types differ from the rigid beam types only in design. They are built for extremely hard and heavy service such as plowing gumbo soil or land containing roots and material that places extraordinary stress and strain upon a plow. For use with large tractors, our medium or heavy duty types are preferred.

One man control. The plows are raised and lowered by a positive clutch, operated by a light rope from the operator's position on the tractor. This clutch drives a square shaft on which is carried a set of cams which lift the plows from the ground. These cams are so timed that the plows enter and leave the ground in succession, making clean, even furrow ends. As each plow is raised it is locked by a latch, leaving no pressure on the cam shaft. This latch has two notches, and when the plows are to be transported a long distance, they are lifted higher by the compound lever locked in this position by the second notch on the latch. When the bottoms are held in the "high" position, accidental engaging of the clutch will have no effect on the beams.

This feature protects both the plow and the road bed from accidental damage, as well as keeping the plows clear of the ground and will be appreciated by operators who have to move their outfits long distances or over rough ground.

Frames. The frame of these plows is very rigid in construction being made of steel angles and plates, braced in all directions so that if a sudden or extra strain should come, the frame is braced to meet it.



The pin break feature of independent beam plows

This frame is carried on wide faced wheels which have long chilled hubs, with a chilled bearing to resist wear. On all independent beam plows the wheels under the platforms are caster wheels to assist in turning at corners.

The left, rear wheel is of extra width and carries a sprocket which drives the automatic lift clutch. The chain between the drive sprocket and the clutch is malleable and is provided with a tightener.

Gauge wheels are used to lift the plows from the ground and are carried on shafts pivoted and operated by a trilink and lever from the automatic lift mechanism. These gauge wheels are provided with scrapers and are easily adjusted by means of an eye bolt and hand screw.

Heavy beams are made of .80 carbon steel which we have found to be the best possible material for these parts. The beams are accurately shaped to carry all the bottoms in the same position.

They are double and forked at the front where they fasten by an adjustable connection to the heavy diagonally placed angle steel member of the main frame.

At the rear end of beams, enough space is left between the two sections to accommodate the break pin block and standard.

Compound lever. In addition to the power lift, there is also provided a hand lift, by means of which any one or more bottoms may be raised independently of the others. These plows may be raised from the ground whether plowing at full depth or when standing still.

Break pin standards. The break pin standards on Grand Detour independent beam plows is a feature no prospective purchaser of an engine gang should overlook. Should the plow strike a rock with enough resistance to damage the bottoms, the strain will be put against the break pin, the weakest point. The resistance will cause the ends of the pin to break off, allowing the block and arm of the standard to pass down between the beam sections. The standard being hinged to its knee will permit the bottom to tilt back without damage to it. It is then merely necessary to slip a new pin in place of the broken one, tighten up the beam bolts and go on plowing. Besides guarding against breakage of plow shares, the pivoted break pin standard affords convenience in displacing dull shares with sharp ones. The plow may be turned up, affording easy access to share bolts.

Bottoms. Grand Detour independent beam plows are built to carry 14-inch bottoms and can be equipped with any of the several types of bottoms, illustrated here.

Standard equipment. Includes rolling coulters, gauge wheels, a set of draw chains, and a set of plow wrenches.

Stony land bottom JX 12-12"

General purpose bottom DX 12-12", DX 14-14" or DX 16-16"

Full chilled bottom GD 24-12" or GD 30-14"

Turf and stubble bottom CX 12-12", CX 14-14" and CX 16-16"

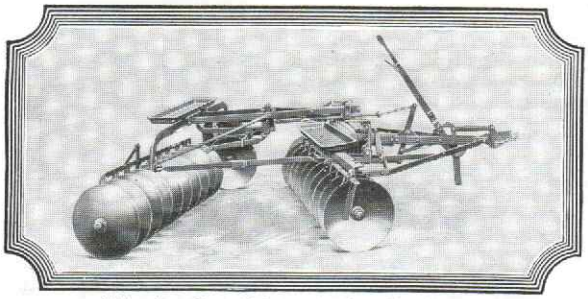
Prairie breaker 26 B 12", 27 B 14" and 28 B 16"

Black waxy land or Texas bottom SP 12-12", SP 14-14" and SP 16-16"

Stubble bottom BX 12-12", BX 14-14" BX 16-16", BX 18-18"

Slat mouldboard bottom

Sod or prairie breaker —rod mouldboard



Side view Grand Detour tandem disc harrow

The Grand Detour Disc Harrow

GRAND Detour harrows are built for use with tractors. They are built in 8, 9 and 10 foot widths with 18-inch discs. Standard equipment includes two weight boxes on front sections and one weight box on rear section, scrapers, tractor hitch and round blades both front and rear. If desired, we furnish on special order, truck and stub tongue.

We can also supply a lighter harrow with 16-inch blades in 6 and 7 foot widths.

Grand Detour harrows are carefully designed, well built of the best materials. By means of a single lever within easy reach from the operator's position on the tractor, he easily controls the angling of the front and rear sections. The pulls on both the front and rear sections are in line, so that in turning there is no interference and unevenness of cut is avoided.

Each section oscillates independently, thus preventing undue strain should a section pass over a stump or stone.

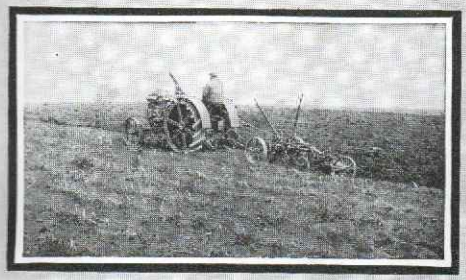
It will be noticed by the cut that the rear or tandem attachment is constructed so that in operation the left hand section travels slightly ahead of the right hand section. The purpose of this construction is to avoid clogging between the sections which often occurs when two inside blades of the rear sections travel exactly opposite each other. At the same time, this construction permits of bringing the sections closer thus insuring the cutting and covering as nearly as possible of the entire span of the harrow.

Hard oil cups are provided for hard maple boxes on front sections. Rear sections have ball bearings. Adjustable scrapers are provided on all sections. Write for Grand Detour Tandem Disc Harrow Circular.

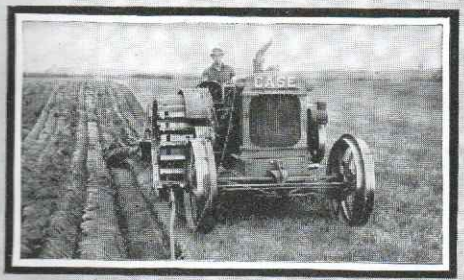
NOTE—We want the public to know that our plows and harrows are NOT the Case plows and harrows built by J. I. Case Plow Works Co.

Case 10-18 tractor pulling Grand Detour disc harrow

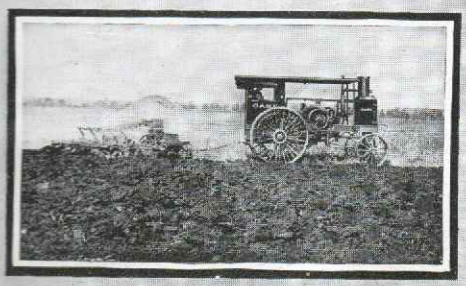
Plowing With a Case 10-18



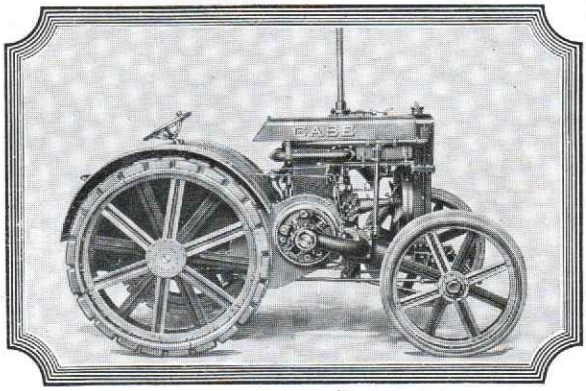
Plowing With a Case 15-27



Plowing With a Case 22-40



Plowing With a Case 20-40



Pulley side Case 10-18 with rubber tires

Case Rubber Tired Tractors

CASE rubber tired kerosene tractors are used principally by industrial plants, villages, townships, and municipalities. A variety of drawbar and belt work such as switching railroad cars in factory yards, interdepartmental hauling, street scraping, dragging, operating pumps, concrete mixers, small rock crushers, miscellaneous hauling can be performed quickly and efficiently. On County and State Fair Grounds, cemeteries, parks, athletic fields, race tracks and similar places a Case rubber tired tractor will save time, labor and money.

On this and the following page we illustrate some of the operations to which these tractors can be practically applied. The large manufacturing concern of New York, Isaac G. Johnson & Company, says regarding their Case rubber tired tractor.

"You doubtless will be interested to know our experience with one of your Case 10-18 Tractors. We have had this machine in operation in our plant for the past two and one-half years and have been very much pleased with it. The service in a steel foundry is severe and the tractor has performed well. Outside of the thorough overhauling which we gave it about six months ago, we have had no trouble to speak of.

"The rubber tires with which you supplied us are still on the machine and we expect a great deal more wear from them.

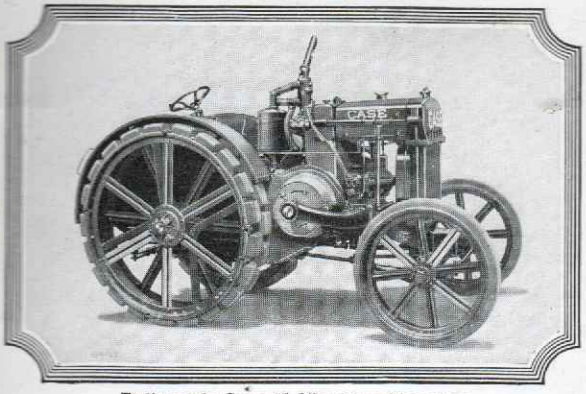
"The major part of this machine's work is to haul slag and refuse material to our dump although it is used somewhat around the foundry.

"I would say this has replaced the service of three teams and twenty laborers.

Very truly yours,
EMORY L. JOHNSON."

The president of the Macomber & Whyte Rope Company has this to say about the two rubber tired machines that are in daily use in their plant: "We are using two of your tractors in and about the yards of our plant and I am pleased to state that they are giving excellent service.

Here's a rubber tired 10-18 hauling coal



Pulley side Case 15-27 with rubber tires

They are operated in conjunction with the Bain Trailers, doing all sorts of work under all sorts of conditions.

The Tractors are far superior to either horses or motor trucks for the work which they are doing.

Yours very truly,
MACOMBER & WHYTE ROPE CO.
Geo. S. Whyte."

Case rubber tired kerosene tractors are built in two sizes, the 10-18 and 15-27. They are identical in mechanical construction to the Case 10-18 and 15-27 tractors illustrated and described on page 5 and 13 of this booklet which have given such unfailing service on farms in all parts of the world under severe field usage.

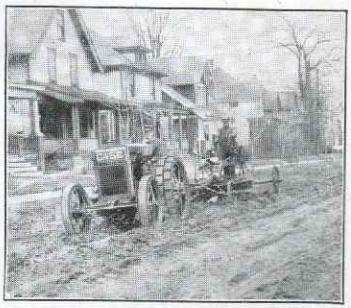
The main frame is a one piece casting, which assures not only rigidity and strength but perfect alignment of all gears, shafts and bearings. The motor is a Case 4-cylinder (4-cycle), vertical, valve-in-head type, head removable. Cylinders are cast en bloc. Dimensions of the 10-18 are 3⅞ in. bore and 5 inch stroke. The 15-27 has 4½ inch bore and 6 inch stroke.

The crank shaft is forged from high carbon steel, heat treated and accurately ground to size. Total width of bearings is 9 in. for the 10-18 and 12⅛ in. for the 15-27.

The engine is mounted crosswise upon the main frame, permitting the use of all spur gears, with cut teeth, hardened. Gears are all enclosed and run in oil. Roller bearings are used thruout.

Ignition is by means of a dust-proof high tension magneto provided with impulse starter coupling, thus eliminating batteries for starting. Cooling is accomplished by means of a copper fin and tube type radiator with cast frame. (Capacity on 10-18 is 9 gallons; on 15-27, 11 gallons). Water circulation is assured by a centrifugal pump, and is regulated by a Sylphon thermostat.

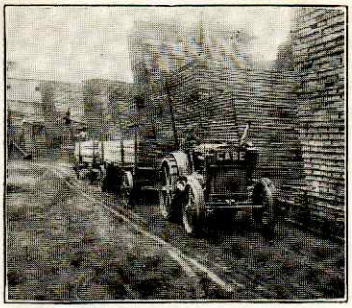
Air circulation is by fan, driven direct from motor by spiral gears, enclosed. No dust or dirt can enter cylinders because air



Case 10-18, rubber tired, grading an unpaved street

drawn by carburetor must first pass thru the Case air washer, where it is cleansed thru screens and water.

The belt pulley, with clutch and brake is mounted directly on the crank shaft. This prevents loss of power and annoyance from bevel gears, worms and chains. On the 10-18 this pulley has a diameter of 14¼ in. and a 5¼ in. face. The diameter of the 15-27 pulley is 16 in. and the face is 6½ in.



This rubber tired Case tractor supplants horses in a lumber yard

Overall dimensions of the 10-18 tractor: length, 8 ft., 5½ in.; width, 4 ft. 8 in.; height, 4 ft. 10 in. The 15-27 tractor: length, 10 ft. 7 in.; width, 6 ft.; height, 6 ft. 6 in.

The rear wheels on the 10-18 are 42 in. in diameter and 9 in. in width; on the 15-27, 52 in. in diameter and 14 in. wide. The front wheels on the 10-18 have a 30 in. diameter and 6 in. width; on the 15-27, 32 in. diameter and 6 in. width. The weights are approximately 4300 and 6460 lbs. respectively.

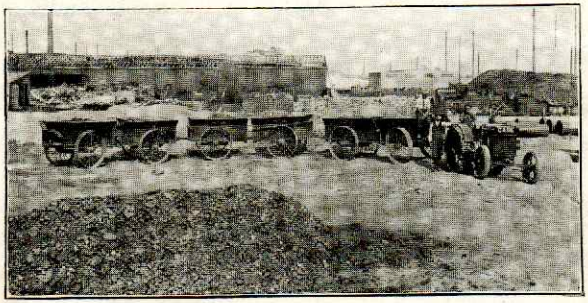
The rubber tires are Kelly Springfield. On the rear wheels, the equipment is in the form of pads set staggered. The pads are 3¼ in. thick, 4⅝ in. wide and 5⅛ in. long. The front wheel tires are solid; on the 10-18 they are 36x5 in. and on the 15-27 they are 38x6 in.

The road speeds of the both tractors are 2¼ and 3½ m. p. h. Fuel tank capacities, 10-18; gasoline, 2 gallons; kerosene, 10½ gallons: 15-27 tractor: gasoline, 2¾ gallons; kerosene, 20 gallons. Both tractors burn kerosene economically and develop full rated horsepower on that fuel. Gasoline is used for starting.

We urge all those interested in this type of tractor to read the descriptive details given elsewhere in this booklet.

H. M. STONYER
Agent — Tinara

J. I. Case Threshing Machine Co., Inc.
RACINE (ESTABLISHED 1842) WISCONSIN, U. S. A.



Case 15-27 tractor (rubber tired) working at the plant of the Carborundum Company, Niagara Falls, N. Y.

BRANCH HOUSES

Where Stocks of Machinery Repairs and Supplies Are Carried for Quick Delivery

UNITED STATES

CALIFORNIA—San Francisco, 235 15th St.; Los Angeles, 162-168 N. Los Angeles St.
COLORADO—Denver, 1800-1818 15th St.
ILLINOIS—Chicago, 1617-1619 S. Michigan Avenue; Peoria, 836-842 S. Washington St.; Freeport, Ill.
INDIANA—Indianapolis, 241-249 Kentucky Ave.
IOWA—Des Moines, 102-108 8th Street; Mason City; Waterloo.
KANSAS—Great Bend; Wichita.
KENTUCKY—Louisville, 1100 W. Broadway; Lexington.
MASSACHUSETTS—Boston, 733 Boylston St.
MICHIGAN—Lansing, 111-115 East St.
MINNESOTA—Minneapolis, 701-705 Washington Ave. S.; Mankato; Fergus Falls.
MISSOURI—Kansas City, 2117-2133 Broadway, Gateway Station; St. Louis, 700-706 S. 17th St.
MONTANA—Billings, 2203-2217 Montana Ave.; Great Falls; Lewiston; Glasgow.
NEBRASKA—Lincoln, 600-620 L St.
NEW YORK—Syracuse, 356-360 West Jefferson St.; New York City, 225 West 57th St.
NORTH DAKOTA—Fargo, 117-121 Northern Pacific Avenue; Dickinson; Bismarck; Williston; Minot; Devils Lake; Grand Forks.
OHIO—Columbus, 444-454 N. Front St.
OKLAHOMA—Oklahoma City, 15-23 E. Main St.; Enid.
OREGON—Portland, 322 E. Clay St.
PENNSYLVANIA—Harrisburg.
SOUTH DAKOTA—Sioux Falls, 329 N. Main Avenue; Watertown, 201-211 First Ave., N. E.; Aberdeen.
TENNESSEE—Nashville, 1146-1148 Broadway.
TEXAS—Amarillo, 102 N. Polk St.; Dallas, 300-312 N. Austin St.
UTAH—Salt Lake City, 236-238 West South Temple St.
WASHINGTON—Spokane, Monroe St. & Boone Ave.
WISCONSIN—Madison, 701-717 E. Washington Ave.; Oshkosh, Light & Marion Streets.

CANADIAN

ALBERTA—Calgary, 10th Ave. and 4th St. West. Edmonton.
MANITOBA—Winnipeg, 81 Water St. Brandon.
SASKATCHEWAN—Regina, Broad St. & 8th. Saskatoon—Queen St. and 1st Ave.

For Particulars see our Nearest Local Dealer or Branch House. Local Dealers in nine thousand towns in the United States and Canada

FOREIGN BRANCH HOUSES

RUSSIA—Odessa, 10 Joukowski St.
SOUTH AMERICA—Buenos Aires—Paseo Colon esq. Belgrano. Rosario—Corrientes. Bahia Blanca—Chiclana Esq. 25 de Mayo. Montevideo—Av. Gen. Rondeau No. 1617. Porto Alegre—Rua 7 de Setembro, 59.

FOREIGN REPRESENTATION

Representation in Africa, Australia, Belgium, Brazil, Chile, Cuba, Denmark, Ecuador, Egypt, France, Greece, Holland, India, Ireland, Japan, Mexico, New Zealand, Norway, Peru, Philippine Islands, Porto Rico, Portugal, Spain, Sweden, Syria.

J. I. Case Threshing Machine Co., Inc.
FACTORY AND GENERAL OFFICES AT
RACINE, WISCONSIN, U. S. A.