

Four Cylinder

Four Wheel

E-B 12-20

Model AA-S.A.E. Rating

**KEROSENE
TRACTORS**

Enclosed Gears Running in Oil
High Power — Light Weight

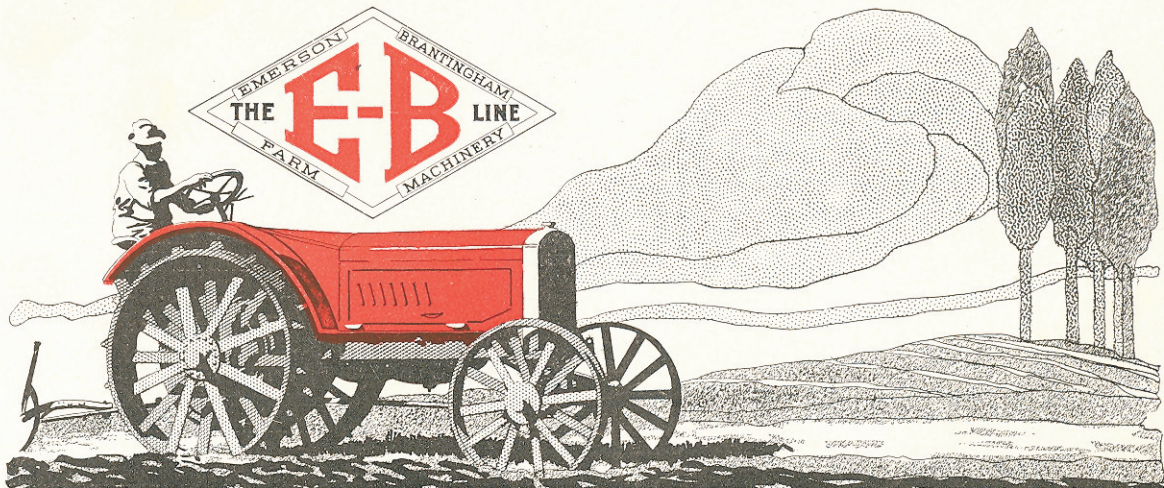
EMERSON-BRANTINGHAM IMPLEMENT CO.

GOOD FARM MACHINERY

INCORPORATED

ESTABLISHED 1852

ROCKFORD, ILL., U.S.A.



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BRANCH HOUSES

Amarillo, Texas
 Billings, Mont.
 Columbus, Ohio
 Dallas, Texas
 Denver, Colo.
 Des Moines, Iowa

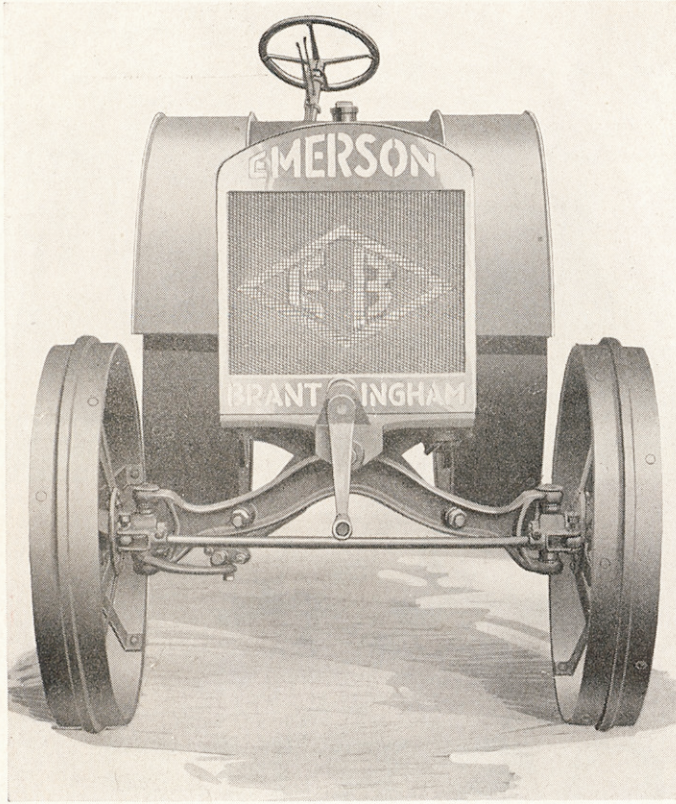
Fargo, N. Dak.
 Great Falls, Mont.
 Harrisburg, Pa.
 Indianapolis, Ind.
 Kansas City, Mo.
 Minneapolis, Minn.

Nashville, Tenn.
 Oklahoma City, Okla.
 Omaha, Nebraska
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DISTRIBUTORS

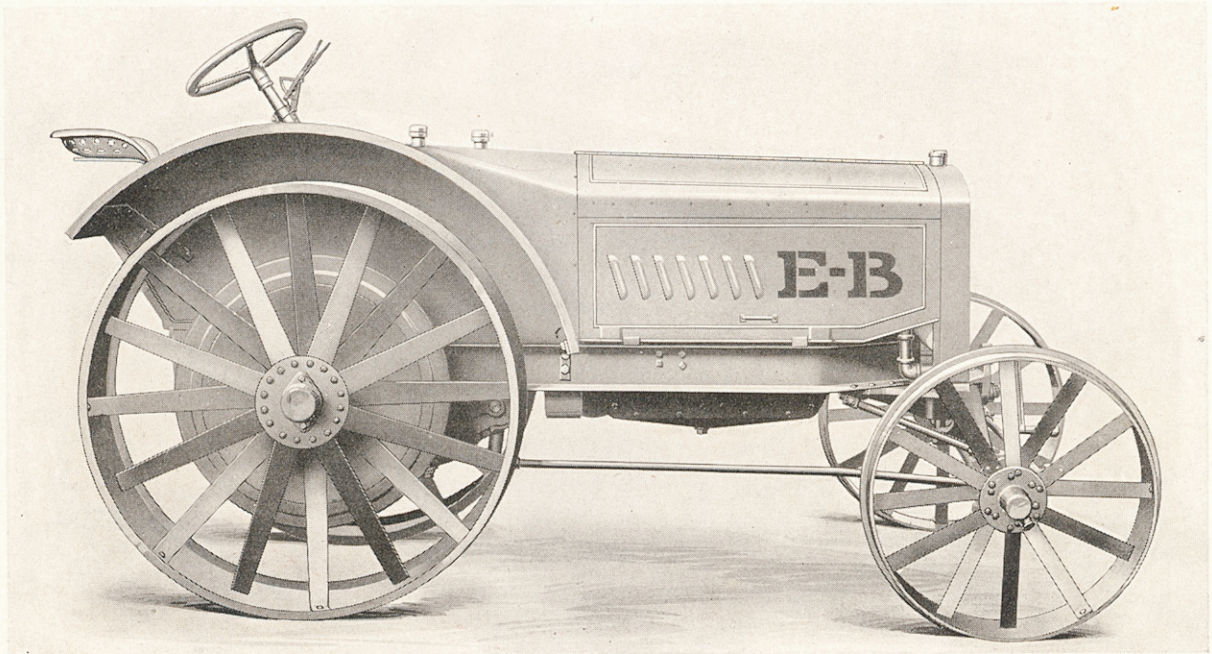
Thomson Mach. Co., New Orleans, La. Brock & Skidmore, San Francisco, Cal.
 John Goodison Thresher Co., Sarnia, Ont. O. W. Farr, Gresham, Oregon.
 Miller-Cahoon Co., Murray, Utah, Idaho Falls, Idaho.
 Tudhope, Anderson Co., Winnipeg, Man.



Front view of E-B 12-20 Model AA (cleats removed)

Specifications of the Model AA

Tractor trade name.....
 Drawbar H. P.....
 Belt H. P.....
 Motor make—Bore—Stroke.....
 No. of Cylinders and Cycle.....
 Normal speed R. P. M.....
 Lubrication System Type.....
 Ignition.....
 Carburetor and Fuel System.....
 Cooling System Type.....
 Belt Pulley diam.—face—R. P. M.....
 Transmission Type.....
 No. of Speeds Forward.....
 Speed M. P. H.....
 No. of Wheels and arrangement.....
 No.—Diam.—Face of Drive Wheels.....
 No.—Diam.—Face of Non-Drive Wheels.....
 Frame Construction.....
 Wheelbase and Tread.....
 Total width overall.....
 Total length overall.....
 Turning Radius.....
 Total weight less fuel, water, oil and lugs.....
 Shipping weight, including standard equipment.....

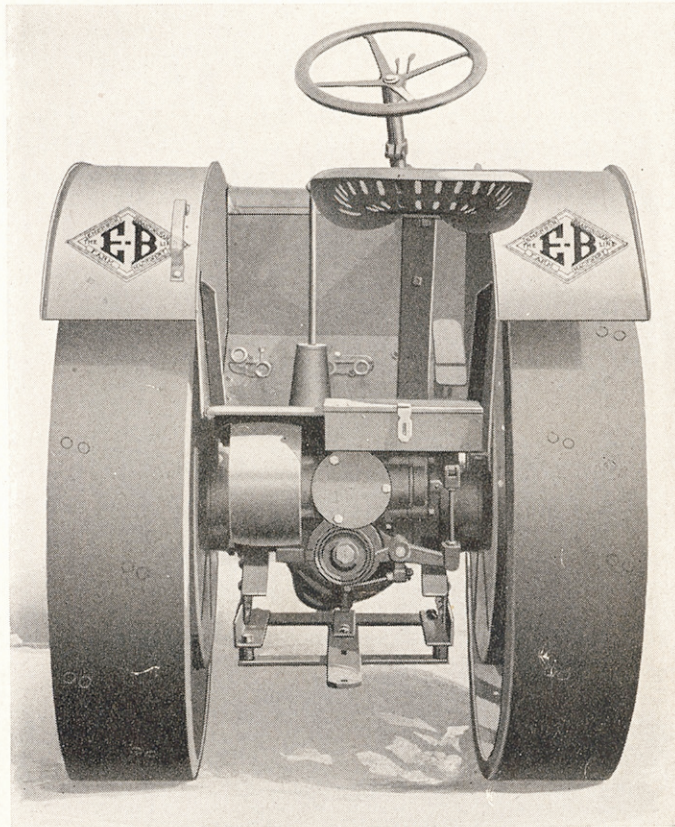


Right side view of E-B 12-20 Model AA (cleats removed)

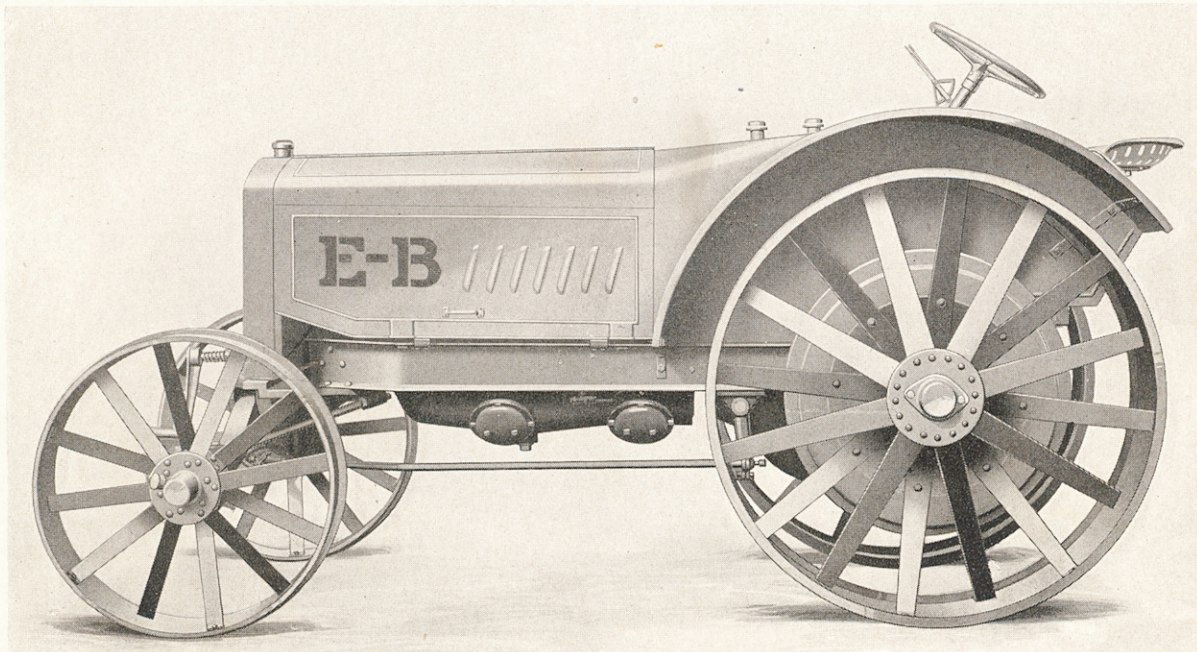
E-B 12-20 Tractor

S.A.E. Rating

E-B 12-20, Model AA
 12 S. A. E. Rating
 20 S. A. E. Rating.
 Own—4 $\frac{3}{4}$ -in. x 5-in.
 4—4 Cycle
 900
 Splash with circu. pump.
 K. W. H. T. Magneto.
 Bennett—Gravity Feed.
 Modine Radiator with pump.
 12-in.—6 $\frac{3}{8}$ -in.—900.
 Own—Sliding Gear.
 2
 Low 1.81—High 2.33.
 4 with 2 rear drivers.
 2—54-in.—12-in.
 2—36-in.—6-in.
 Built-up.
 87-in.—52-in.
 55 inches.
 132 $\frac{3}{4}$ inches.
 12 $\frac{1}{2}$ feet.
 4355 pounds.
 4575 pounds.



Rear view of E-B 12-20 Model AA (cleats removed)



Left side view of E-B 12-20 Model AA (cleats removed)

The E-B 12-20 Meets To-Day's Powerful Enough to do the Heavy Work on the Big Farm; Farm; Ease of Handling Permits its use by Women and



A Big Labor and Horse Saver

Power in compact form that can be controlled with very little physical labor—that's the E-B 12-20 Model AA. It's a tractor lighter and no larger than the average 8-16 that you are familiar with but with power equal to a 15-25. So easily handled and controlled that a woman or boy can operate it successfully and perform the work of several strong men and ten or twelve big horses.

The E-B 12-20 Model AA is the right size for eight out of ten farms, powerful enough to do all the heavy work on a big farm yet adapted by its small size and ease of handling to the 100 acre



The Kind of Job You Can Do with an E-B 12-20 Model AA



The Ideal Tractor for the Average Farm



Plowing a Large Acreage in Texas with Three E-B 12-20 Model AA Tractors

S Conditions of Farm Service

Small Enough to be Convenient for use on the 100 Acre Boys; Does Wider Range of Work than any Other Tractor

farm. It will do all the work a reasonable operator could expect and do it at a surprisingly low fuel cost because you are not buying fuel to move from two to five thousand pounds of excess weight around.

The E-B 12-20 Model AA does a wide range of work, does draw bar or belt work equally well and it can be used economically on either light or heavy work.

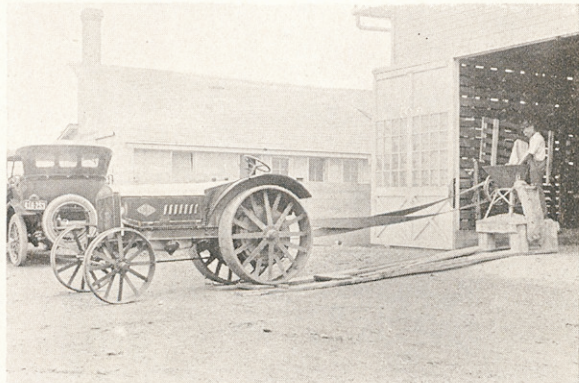
It is a standardized tractor rated according to rule adopted by the S. A. E. (Society of Automotive Engineers) which is only 80% of its actual power.



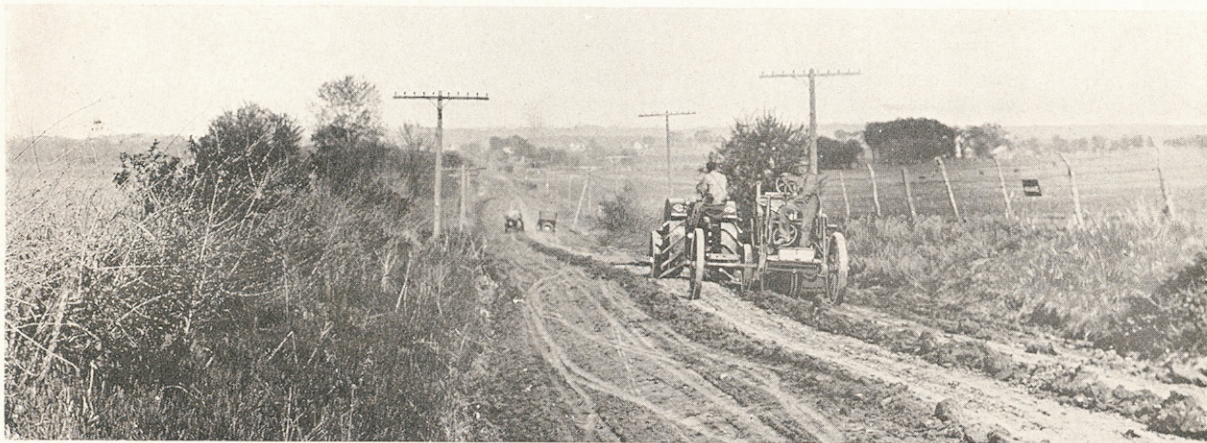
E-B 12-20 Model AA and E-B No. 104 Disc Plow



Tough Plowing with an E-B 12-20 Model AA



E-B 12-20 Model AA does Belt Work as well as Draw Bar Work



An Ideal Tractor for Road Work—Small, Powerful, Easily Handled

E-B 12-20 Model AA S.A.E. Rating Tractor

Emerson-Brantingham Engineers Leaders In Tractor Design for Eleven Years

Originators of Nearly All the Features Used in Modern Design on the Best Tractors

It is with honest pride that E-B designers can look on the tractor industry today with the knowledge that Emerson-Brantingham has given to the world most of the important feat-



E-B (Big Four) at Winnipeg Motor Contest in 1910

ures that are considered standard construction on high grade tractors today.

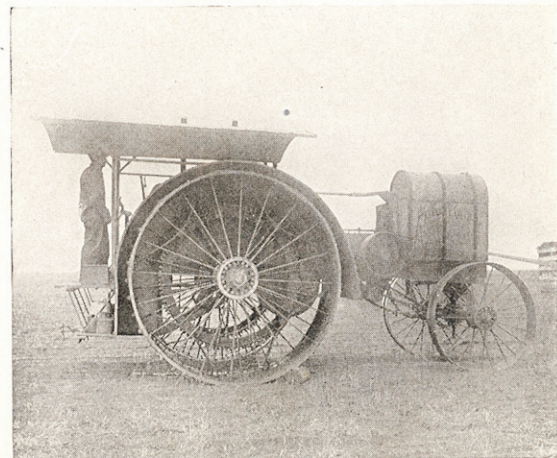
Foremost among these is the four cylinder kerosene burning tractor motor. In this instance, although the Emerson-Brantingham motor has had many imitators, none have reached the degree of perfection attained on the E-B motor, which has only been made possible by the years of experimental and development work spent on it before other Companies were manufacturing this type of motor or in existence.

Second, and not less important is the E-B enclosed multiple speed transmission running

in an oil bath. This feature alone has saved E-B tractor owners thousands of dollars in gear repairs and much more in time.

Another big money and time saver that originated on E-B tractors is the heavy duty roller bearings with which all E-B tractors have been equipped for years.

In the early days, ignition was one of the bugbears of the tractor industry. Batteries were the old stand by. Low tension magnetos were a little improvement, but batteries were still necessary for starting. It was not until high tension magneto ignition was installed in



One of the first Tractors equipped with Hyatt Roller Bearings (E-B Big Four 1913)

E-B tractors and the impulse starting system worked out that the old unreliable battery system could be discarded.

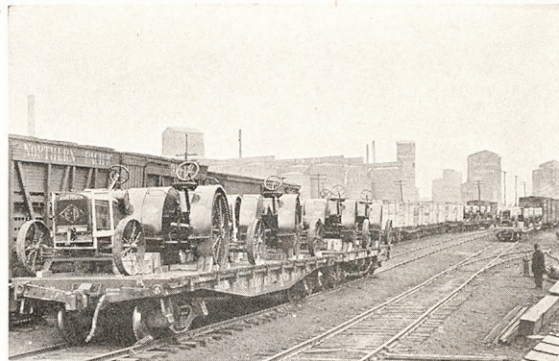
E-B 12-20 Model AA S·A·E Rating Tractor

Like Produces Like—A Tractor Can Be No Better Than The Factory That Builds It

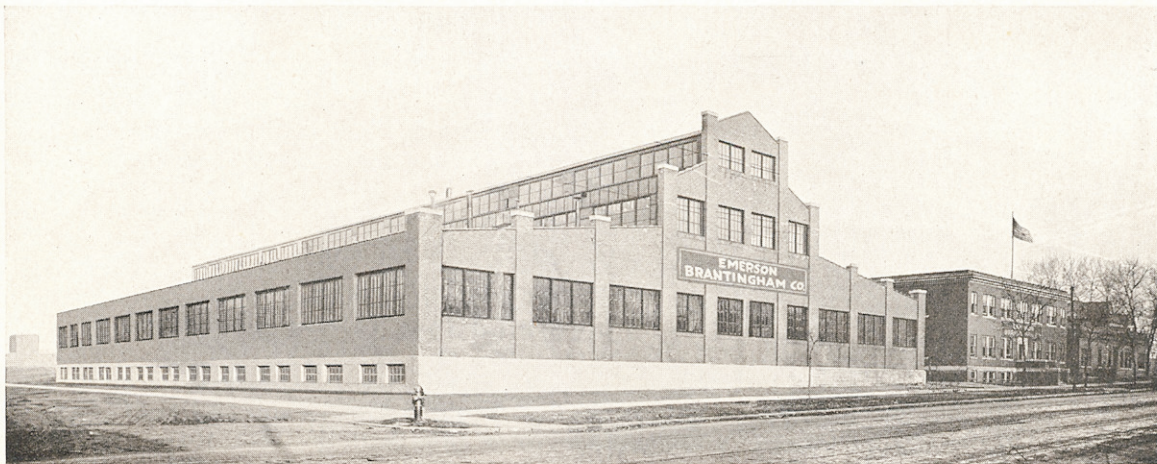
**Be Sure the Tractor You Buy is Built in a Factory Equipped
with the Machinery to Turn Out Accurate Work**

Now that skilled labor is scarce, more depends on the factory than ever. Building tractors requires extremely accurate work, in many cases down to a thousandth part of an inch. Today, with the government calling out all America's expert workmen the burden is placed squarely on the factory. The Emerson-Brantingham Company has always made E-B tractors largely with the aid of modern automatic machinery and has recently added a large new addition completely equipped with the latest type of machines capable of producing the most accurate work with the least man power. E-B owners are further safe guarded by the most rigid inspection system ever installed in a tractor factory. Every part, no matter how small and unimportant, is passed on by the inspection department. Perfect parts do not make a perfect tractor, however, unless properly assembled, and this is determined in the E-B factory beyond the shadow of

a doubt by two thorough tests. The motors are first tested separately on a test block as they come from the assembly floor. A second test is made on the completed tractor to make sure it is worthy to bear the E-B trade mark.



Shipping Tractors by the Train Load from the
E-B Tractor Works



New Addition to E-B Tractor Works—Building on right Factory Office

E-B 12-20 Model AA



S·A·E Rating Tractor

The Most Power for the Weight and Money Ever Offered

E-B 12-20 Model AA, A Three Plow Tractor with power to pull Four Plows in Stubble or Easy Plowing

Unlike an automobile, a tractor must not only propel itself, but also must have sufficient power left to do a reasonable amount of work. The amount of this surplus power is dependent on two things—the weight of the tractor and the friction drag.

Every extra pound of weight over what is actually necessary for strength, saps a little power from the motor and reduces its tractive efficiency. Besides, you are paying good money for fuel to move useless metal. In addition, it makes climbing grades more difficult and tends to mire down the tractor in soft ground.

On the E-B 12-20 Model AA, owing to the extreme simplicity and compactness of design, which has been patented, we have been able to greatly reduce the weight and also increase the strength.



E-B 12-20 Model AA pulls from four to six discs in the hardest kind of soil

Although the E-B 12-20 Model AA is very conservatively rated and much more powerful than its rating indicates, it weighs less than the average weight of the ten leading 8-16 tractors you are familiar with.



The E-B 12-20 Model AA is a three plow tractor

It is also small in size—smaller than some 8-16's, making it more convenient for the driver, handier to operate in cramped quarters, easier to take apart or repair and no more expensive to house than a small wagon.

It will do all the work that a reasonable operator could possibly expect of a tractor of its rating **and have power to spare.**

The E-B 12-20 Model AA is all tractor. It will give you the maximum power for the least money, it will pull a full 12-20 load **and still have plenty of power in reserve for an emergency.**

E-B 12-20 Model AA S·A·E·Rating Tractor

E-B 12-20 (Model AA) 100% Efficient—Does Belt Work Equally As Well As Draw Bar Work

An All Year Round Machine—Makes You Independent of Outside Power—Enables You to do Your Belt Work Cheaper and at Your Own Convenience

Unless your tractor is also especially designed for belt work, you are losing half of the benefits of owning a tractor and increasing its cost to you per hour for service.

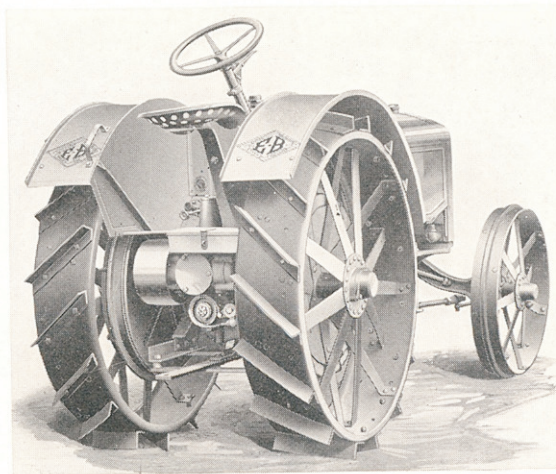
Belt power is nearly as important to you as the draw bar power. It enables you to keep the tractor busy at all seasons, thereby greatly decreasing its cost to you per hour of service. It makes you independent of outside power—no need to put off your work till your neighbor gets through using his power—no waiting for the thresherman—you do your belt work at your own convenience when the time is ripe.

To successfully handle belt work, however, your tractor must be particularly designed for it. This

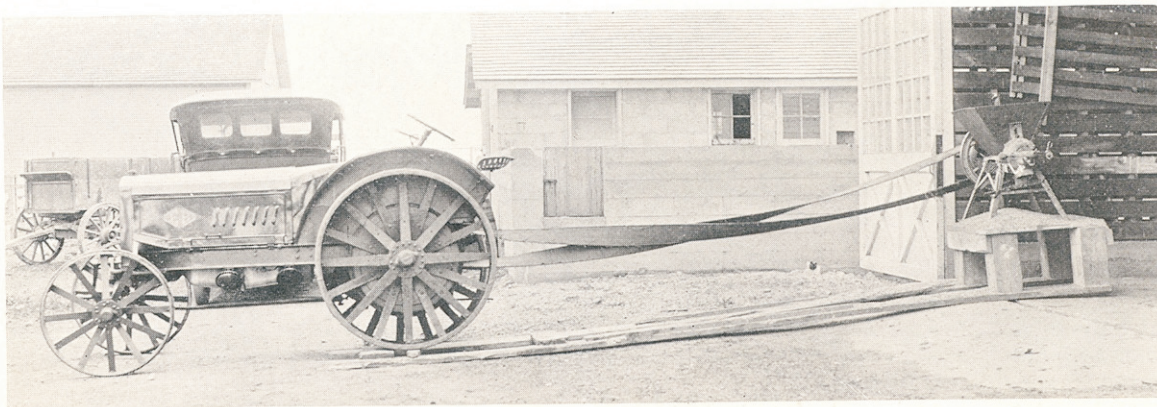
has been amply provided for in the E-B 12-20 Model AA. We wish you to note particularly the position of the belt pulley at the rear of the tractor and parallel to the axle. This position has three big advantages. 1st, it makes it possible to hook up the machine being operated to

the tractor draw bar and moved without taking off the belt. 2nd, It is easier to make a set. 3rd, When not in use it is entirely out of the way.

On the E-B 12-20 Model AA the belt pulley shaft runs on Hyatt roller bearings so that friction is reduced to the minimum. By a simple operation it can be disconnected from the transmission so that it will not run when not needed for belt work.



The Belt Pulley is Under the Floor out of the Way



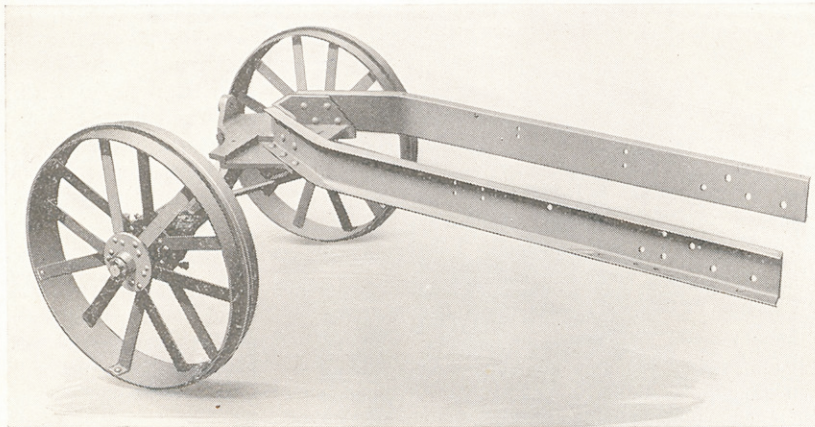
The Rear Pulley is the Most Convenient Way of Belting a Tractor to a Machine

E-B 12-20 Model AA S·A·E·Rating Tractor

E-B Patented Transmission Makes Possible More Compact Construction Hence Greater Strength, Lighter Weight, More Power, Less Cost to You

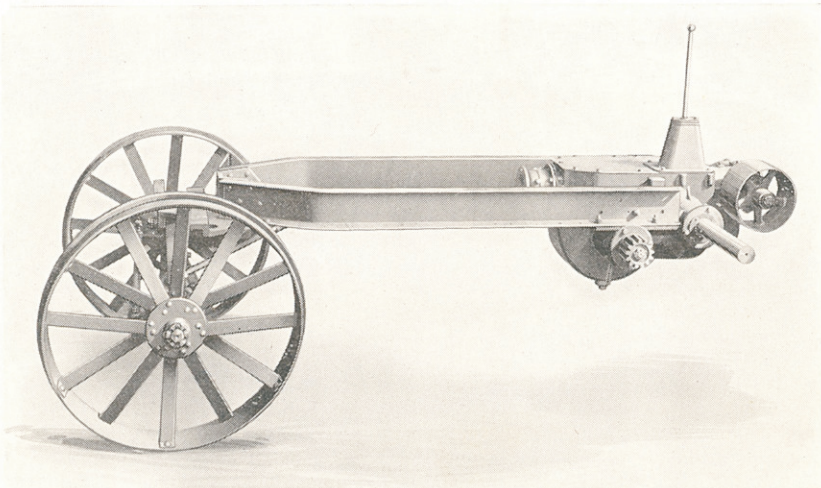
On the E-B 12-20 Model AA it is not necessary to have a big long built up frame of channel bars and angles or a heavy cast frame—just the two short channels of steel bent into the shape of a U that you see in the cut. The

money in the original purchase price of the tractor and ever after in fuel to move around when your tractor was working. The U shape of the front allows the wheels to be cramped in, permitting the tractor to turn in a radius of 12½ feet.



Frame Construction—Can There be Anything more Simple Than This?

E-B patented short coupled transmission makes this construction possible. Note in the illustration how short the transmission case is and that the rear axle and transmission form a single unit. All the frame is needed for is to connect the transmission case with the front axle and only long enough to form a mounting for the motor. It also greatly reduces the number of parts and therefore the cost to you. This construction has many advantages. It saves an enormous weight of useless metal that would cost you



Frame with Transmission Mounted—Note the Compact Construction of the Transmission Case.

E-B 12-20 Model AA



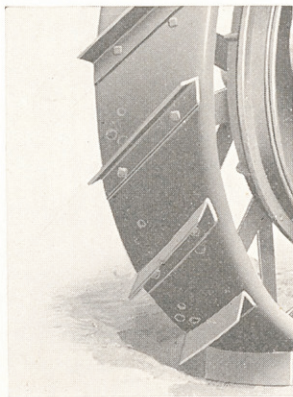
S·A·E·Rating Tractor

and gear are mounted on the frame in an oil and dust tight case. Pack the case full of hard or semi-hard oil in the spring and you can forget it till the following year.

The front wheels are large in diameter with wide tires making it easier to operate on soft or rough ground. They are built up steel with flat staggered spokes hot-riveted to the rim and hub.

Rear Wheels

The rear wheels are built up steel with wide flat staggered spokes hot riveted to the hubs and rims. The rims are made with a turned edge making a light and stronger rim and one that stony roads can not crimp up the edges. The hubs are cast of semi steel making the best construc-



Rear wheel lugs furnished as regular equipment

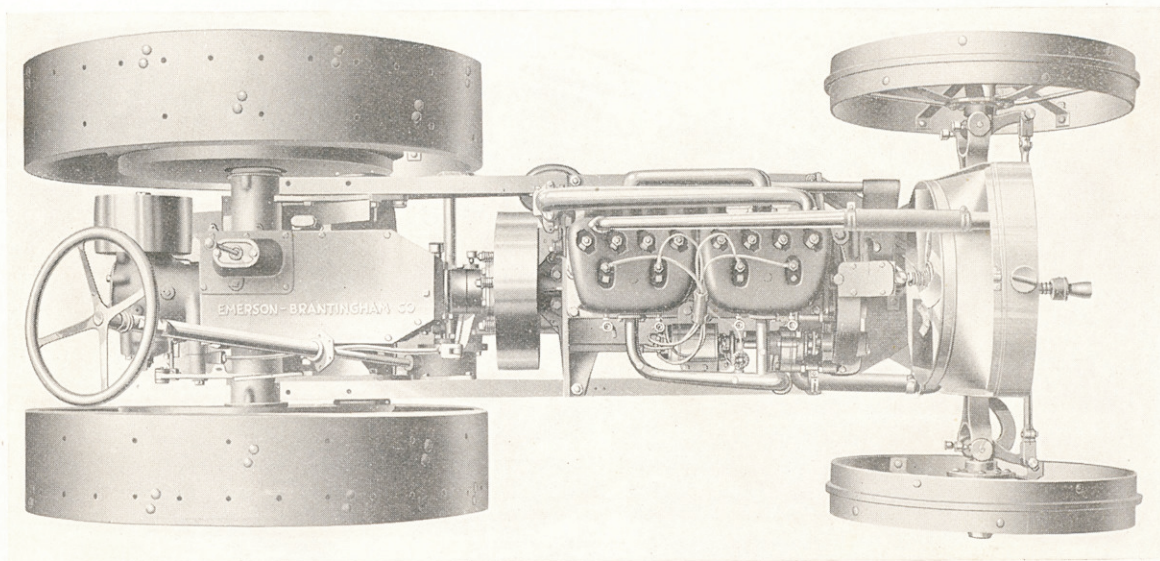
tion possible to produce. The lugs furnished regularly are bolted on so that they can be removed at any time.

Dust Shields Protect Operator

Dust shields the full width of the drive wheels and with side shields that completely partitions off the operator's platform from the dust and dirt are provided.

Plows On Hills

E-B 12-20 Model AA plows on side hills where plowing is practical. It is wide enough, with the center of gravity low enough, to work on side hills too steep for any ordinary wagon to travel with safety. All four wheels track and all four wheels run on the unplowed ground, thus getting rid of a very serious complaint by some farmers who have used other types of machines. The draw bar has a wide lateral adjustment which can be made quickly by pulling out a pin and reinserting it when the adjustment is made. A vertical adjustment of 4 inches is possible by removing four bolts. The clearance under the draw bar is from 11½ to 15½ inches according to where the draw bar is set.



Complete assembly without sheet metal covering. Note the simple compact construction.

E-B 12-20 Model AA S.A.E. Rating Tractor

All Gears On E-B 12-20 Model AA Tractor Entirely Enclosed from Dust and Dirt

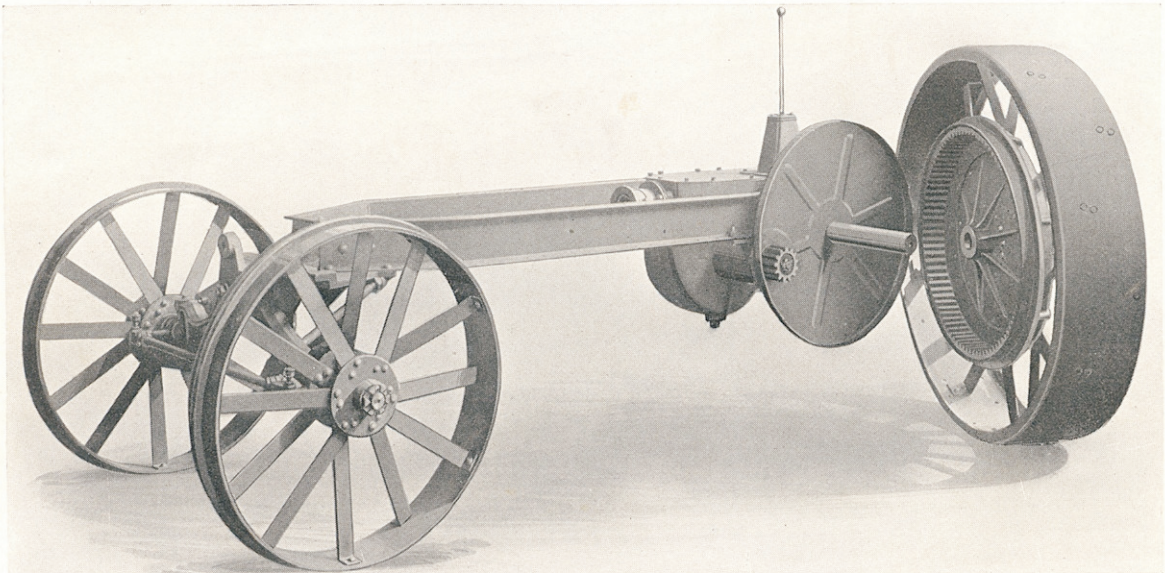
E-B Design also Postively Prevents Gears Getting out of Alignment—A Double Insurance Against Trouble

Ask any tractor owner what part of a tractor fails first and in ninety cases out of a hundred he will tell you the gears. In the average tractor they either get out of alignment and break from being mounted partly in a case and partly on the frame or they quickly grind themselves out by being left open and unprotected from the dust and grit which in many localities makes as good a cutting compound as powdered emery.

On the E-B 12-20 Model AA you are absolutely protected from the danger of these troubles. All the transmission gears and rear

axle are housed in the same oil tight dust proof gear case. This gear case is a single rigid casting with a removable cover for inspection, so that it is absolutely impossible for any of the gears or the rear axle to get out of alignment, no matter what strain the tractor frame is subject to, as all the bearings are housed in the same casting.

The two master gears and the two drive pinions are housed in two dust proof sheet steel cases located one on each side of the frame. This construction permits all bearings to run in oil at all times. All gears are machine



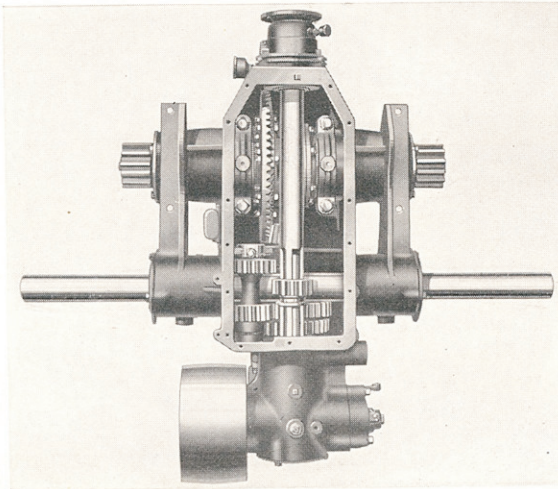
Note the simplicity and yet perfect protection of the E-B drive pinion and master gear casings—same construction on both right and left sides.

E-B 12-20 Model AA



S.A.E. Rating Tractor

cut by automatic machinery and all driving gears run on Hyatt Roller bearings. All gears or shafts subject to thrust are equipped with Bantam ball thrust bearings. The solid bar steel rear axle which runs through the trans-



Top view of E-B Transmission Case with cover removed.

mission case is a live axle and also runs on Hyatt Roller bearings mounted in the case, and running in oil. The gears are shifted by a ball and socket type shifting lever similar to that used on the highest priced automobiles. The gears lock into place on each change. Two speeds forward are provided of 1.81 miles per hour and 2.33 miles per hour. Reverse 1.81 miles per hour. Drives are direct on all speeds.

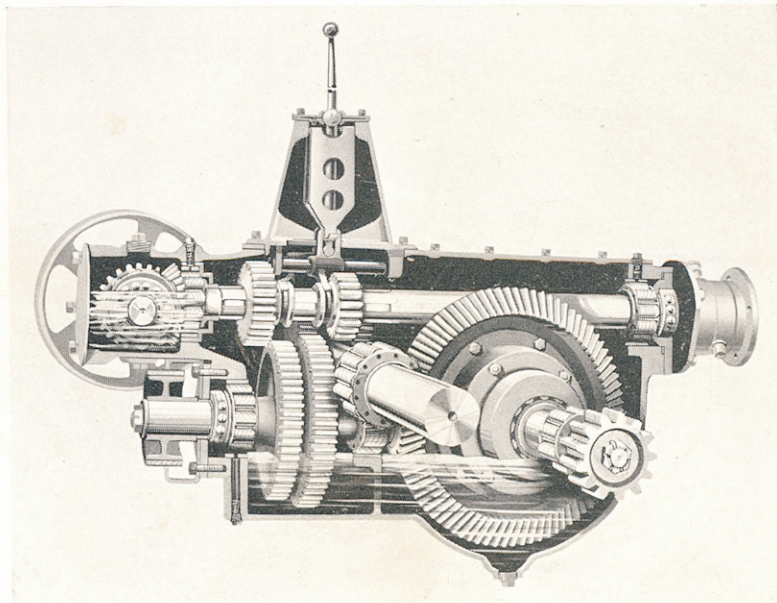
Thresher Pulley

The thresher pulley is 12 inches in diameter with $6\frac{3}{8}$ inch face. It is directly geared to the main drive shaft and runs 900 R. P. M., the same speed as the motor. It is located at the rear of the

tractor (the natural position) in a separate compartment of the transmission case. With the pulley in this position it is not necessary to remove the thresher belt to move the outfit.

The pulley shaft runs on heavy duty Hyatt Roller bearings and both bearings and gears operate in an oil bath. When not in use the pulley gears can be disconnected from the driving gear, by a simple operation so that the pulley will remain idle. Inasmuch as the thresher pulley compartment is separated from the main part of the transmission case by a partition and the thresher gears only need operate part of the time the compartment can be filled with a semi fluid grade of oil.

Unlike many other tractors a separate clutch is not used for the thresher pulley but it is controlled by the main clutch which will handle the full power of the motor without difficulty.



Sectional view of E-B Transmission Case showing roller and ball bearings and oil level in main casing and thresher gear compartment.



E-B Tractors Always Known as The Four Cylinder Line

The many advantages of the four cylinder motor were recognized and adopted by E-B engineers eleven years ago

Assuming that imitation is the sincerest praise the foresight of E-B designers in adopting and developing the four cylinder motor for E-B tractor power has been amply demonstrated in the past year or two. Nearly all large tractor manufacturers who have persistently clung to the old one and two cylinder types of motors have finally put out four cylinder models.

The substitute, however, is never as good as the original and the experience gained by the Emerson-Brantingham Co., in the manufacture of one type of motor for eleven years cannot be duplicated.

The E-B line stands supreme as the only standardized four cylinder kerosene line.

Why E-B Designers Selected the Four Cylinder Motor

- 1—Constant power—see diagram at bottom of page.
- 2—More elastic power—will deliver power at a wider range of speeds.
- 3—Lighter weight for the power.
- 4—Practically eliminates vibration.
- 5—More compact—can be put in smaller space.
- 6—Easier to start.
- 7—Easier to repair.
- 8—More economical of cooling water.
- 9—More reliable under varying conditions of service.
- 10—The kind of power plant any auto owner can understand and the local garage man can repair.

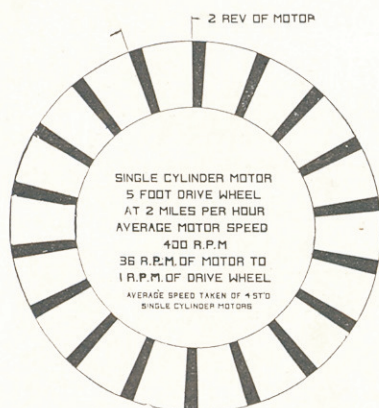


FIG I

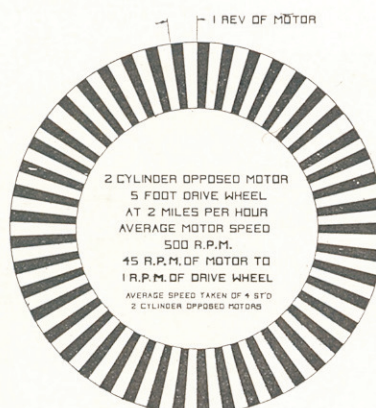


FIG. II

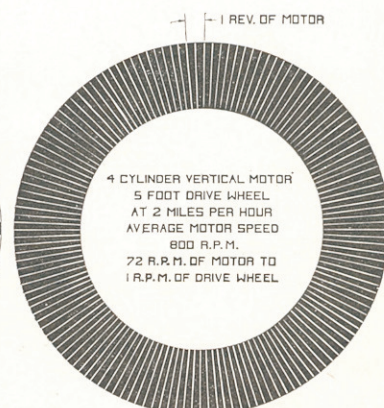


FIG. III

Diagram showing number of power strokes per revolution of driver delivered to drive wheel by three types of motors, each black section represents one power impulse stroke

E-B 12-20 Model AA



S·A·E·Rating Tractor

Consider This Well in Buying A Tractor— Is The Motor Accessible

Look it over carefully and be sure you can get at every part quickly if need be, for it may save you the loss of much valuable time or even the loss of a crop.

Your tractor is often many miles from town and on account of its slow speed cannot be driven into the local garage and dissembled like your automobile. You must make any repairs that are necessary quickly in the field and you don't want to take the entire machine apart to get at it out there in the dirt where parts are easily lost or covered with dust.

On the E-B 12-20 Model AA this feature has been carefully worked out and ample provision

has been made for getting at any part of the motor. Two large inspection plates are provided in the right hand side of the motor base which are easily removed. The operator sitting comfortably on a small box or block facing the motor can make any adjustments necessary on the connecting rod bearings or even remove the pistons.

Other parts of the motor, although entirely enclosed to keep out the dirt, can easily be reached. In fact, on the E-B motor it is an easy job to remove the cylinders, as the motor is free from the mass of piping and wiring commonly found on tractor motor.



View showing one of the two hand hole plates removed from motor base, note the easy working position of operator

E-B 12-20 Model AA



S.A.E. Rating Tractor

The E-B 12-20 H. P. (S.A.E. Rating) Kerosene Motor Is the Last Word in Tractor Power Plant Construction

**Designed by Experts backed by Eleven Years Tractor Experience—
Built in the E-B Tractor Plant by Automatic Machinery**

The E-B 20 H. P. (S. A. E. Rating) Kerosene Motor was particularly designed for operation on the E-B 12-20 Model AA Tractor and is manufactured in the E-B factory. Purchasers of the E-B Model AA Tractors are thus absolutely protected from the ills of stock motors, converted gasoline motors and light weight automobile motors. It is a heavy duty moderate speed four cylinder motor that will **pull its full load on kerosene** twenty-four hours a day if necessary.

It embodies all the advantages of previous E-B kerosene tractor motors and many new features that cannot be obtained on any other motor.

Only High Grade Accessories Used

The materials used in the various parts are the best that can be obtained for their respect-

ive purposes and are manufactured by machinery producing absolutely accurate and highly finished work.

All accessories are of standard manufacture—the best in their respective lines and include the Bennett carburetor, Bennett air cleaner, K. W. high tension impulse starting magneto, Modine radiator and Bantam ball thrust bearings.

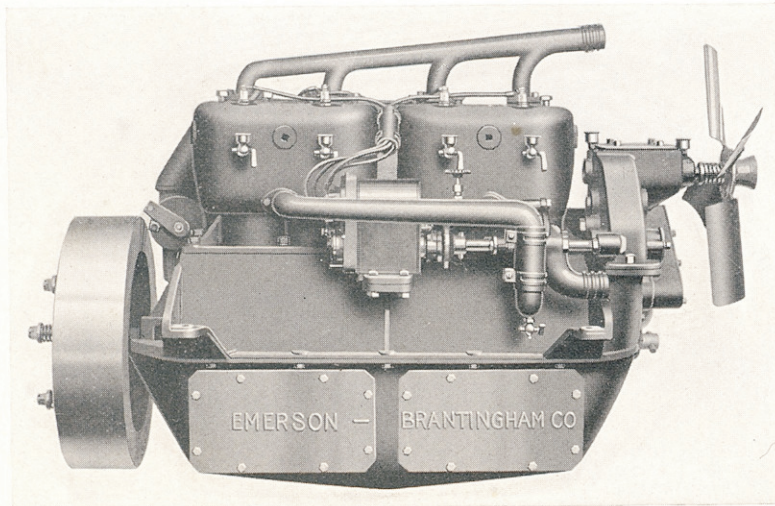
Built for Hard Service

All working parts are completely enclosed and dust tight. The cylinders are cast in pairs and are free from the great mass of piping and wires so common in some motors and can be removed very quickly if necessary. The oil casing is provided with two large inspection plates and is also split so that by taking out a few cap screws the whole bottom may be re-

moved thus exposing the crank shaft and bearings without disturbing the rest of the motor. All the parts are designed for hard service and are made much stronger than is common in automobile practice. The bearings are exceptionally large and ample provision is made for their thorough lubrication.

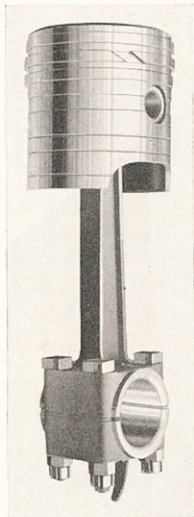
Pistons

The pistons are designed especially for kerosene service and are **tapered at the top** to take care of the expansion from the added heat generated by kerosene. The connecting rods are drop forged and exception-



Right hand view of Motor showing Magneto, Water Pump and Inspection Plates in Oil Casing. Note also Clutch Spring in Fly Wheel.

E-B 12-20 Model AA S·A·E Rating Tractor



E-B Piston—note heavy Connecting Rod and large Bearings

ally strong. They are four bolt type and the bearings are easily adjusted. The lower bearing caps are provided with a splash finger that aids in throwing the oil well over the various bearings within the crank case.

Adequate Lubrication

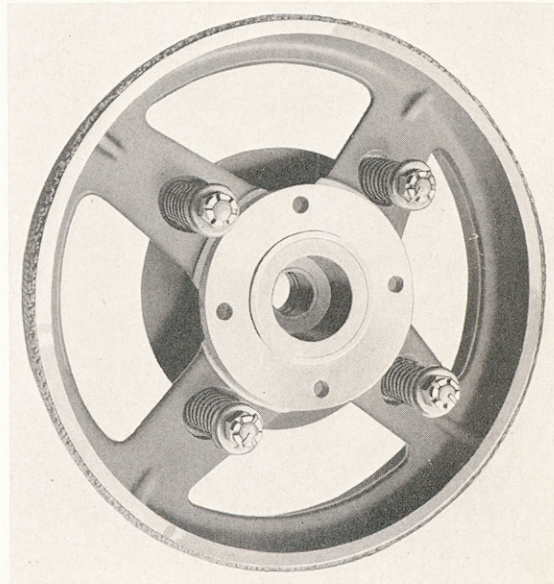
Motor lubrication is most important on a kerosene burning motor and every means has been provided in the E-B 12-20 Model AA Tractor to insure perfect lubrication under all conditions. The splash system is used, assisted by an oil pump. The engine oil reservoir holds 3 gallons of oil, and an oil gauge is provided on the oil casing to show the oil level.

An oil gauge is also placed on the dash in plain sight of the operator. If the oil pressure is too low, or if the oil density is too thin, or if the oil system is clogged up the **gauge will not show oil.**

The oil in the crank case can be run several days. The only bearings on the motor that need attention every day are the fan and pump bearings which are provided with grease cups.

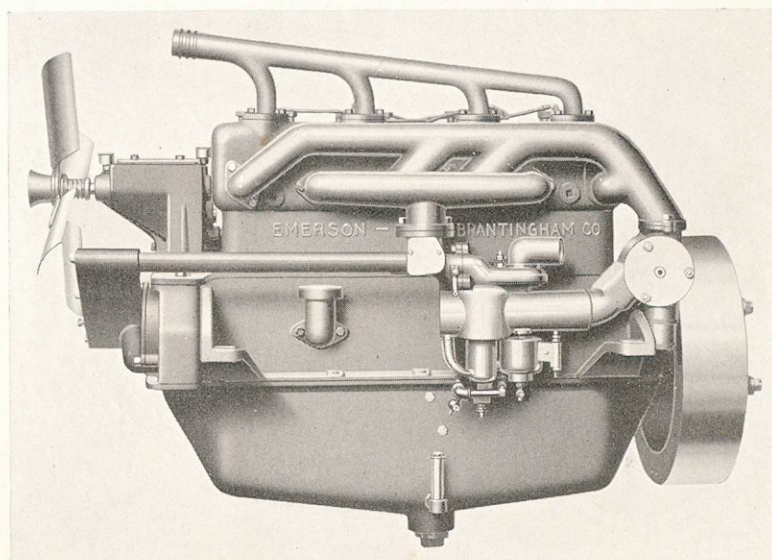
Clutch

The clutch is cone type, located in the fly wheel. It is provided with ball thrust bearings. The lining is high grade asbestos fabric. Accessibility is one of the features of this clutch. It is provided with four springs, instead of one heavy spring, which are much more accessible and



E-B Cone Type Clutch—note the four springs which can be easily adjusted

easier to adjust. A brake is provided to prevent the clutch spinning when disengaged.

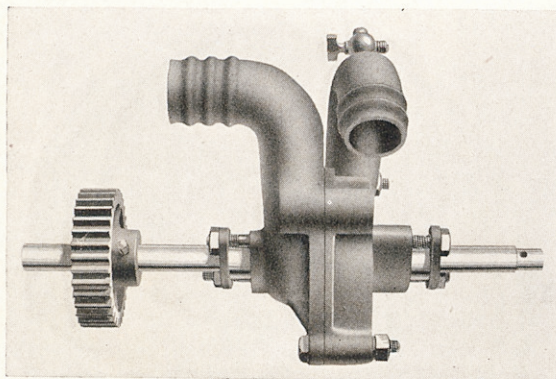


Left hand view showing Carburetor and Manifold

E-B 12-20 Model AA



S·A·E·Rating Tractor



E-B Gear Driven Centrifugal Water Circulating Pump

E-B Cooling System Most Efficient

One of the most distinctive features of E-B Kerosene Motors is the cooling system. The water spaces around the cylinders are made larger than gasoline engine practice demands so that the added heat generated by the kerosene will not be injurious. Especial provision is also made for water circulation around the

valves and spark plugs. This is most important, as one of the great troubles in the ordinary motors not designed for kerosene has been with spark plugs becoming overheated and causing preignition. The entire cooling system has a capacity of 7 gallons. The radiator is the Modine Spirex, and the water is circulated by a gear driven centrifugal pump. The fan is also gear driven (no belt to get loose or break) and is provided with a self-operating spring clutch so that in any sudden change in speed the fan or gears will not be injured.

Governor

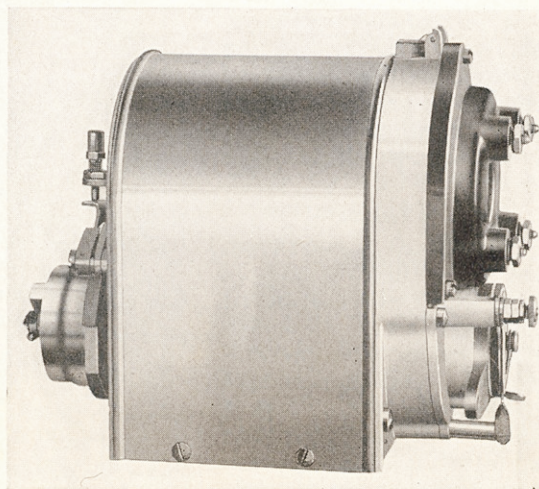
A horizontal fly ball throttling governor of E-B design and manufacture controls the motor speed at all times. **The governor and hand throttle have separate butterfly valves** so that the motor cannot be raced. The governor is on the inside of the motor case and runs in an oil bath.

Ignition

The ignition on the E-B 12-20 Model AA Tractor is the K. W. high tension system with the K. W. impulse starting magneto, mounted on brass away from the heat of the engine. The impulse starter enables the operator to turn over the motor slowly and get a spark for starting the same as if batteries were used. It is not necessary to spin the motor.



Modine Spirex Radiator

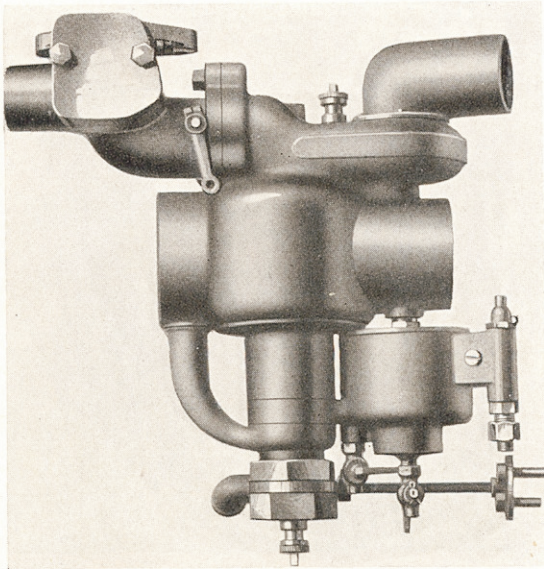


K. W. High Tension Impulse Starting Magneto



Not a Makeshift, But a Real Kerosene Motor

There are two general ways of burning kerosene, both of which have their advantages and disadvantages. One is to run the cylinder extremely hot and admit the kerosene into it cold in the form of a spray, trusting to the heat of the cylinder to vaporize it. This system is often wasteful of fuel and the intense heat makes lubrication difficult and expensive. The



Bennett Kerosene Carburetor

other method is to heat the manifold and vaporize the kerosene in that way. This method is a makeshift used on converted gasoline motors. It reduces the power of the motor as the heated manifold expands the gas to such an extent that the cylinders only get a weak charge. The E-B method of burning kerosene is distinctive and free from the disadvantages of other generally used methods.

The cylinders and manifold are run comparatively cool, therefore the cylinders get a full concentrated charge and lubrication is made easy. A special Bennett Carburetor is used

(the most expensive manufactured) in which the kerosene is first vaporized as much as possible by means of jets and then thrown against the hot walls of a heated chamber of the carburetor which changes the vapor into a perfect gas without superheating as is the case with a heated manifold. The gas is also cooled to some extent by passing through the cool manifold.

The gasoline tank holds 4 gallons and the kerosene tank 20 gallons. The fuels are changed or controlled by two valves located on the dash. Provision for injecting water with the fuel is provided for cleaning the cylinders and for operating under heavy load. The carburetor is equipped with a hot air damper controlled from the dash for supplying the heat in the carburetor.

Gravity feed to the carburetor is used.

Bennett Air Cleaner

The dust from a dry field going into the motor through the carburetor plays an important part in the life of a motor and if allowed to get into the motor will mix with the lubricating oil and cut with telling effect on the pistons, rings, cylinder walls and all bearing surfaces of the motor. E-B motors are amply protected from this by a Bennett Air Cleaner which is installed in the air line so that every bit of air entering the carburetor is thoroughly cleaned and no dirt or grit can enter the cylinder.

This is an accessory that is very necessary to the life of the engine and is supplied on the E-B 12-20 Model AA Tractor as regular equipment and should lengthen the life of your machine several years.



Bennett Air Cleaner

E-B 12-20 Model AA S.A.E. Rating Tractor

E-B 12-20 Model AA is the Last Word in a Farm Tractor

**Easy to Handle—Practically Trouble Proof—Economical to Operate—
Powerful Enough to do the Work Properly and Its
Design Insures Long Life.**

The Most Modern and Practical Tractor ever Designed

The E-B 12-20 Model AA is the most practical tractor ever designed and is better adapted for conditions as they exist today than any other machine. There is not a single freak feature embodied in its construction. Every part is of a recognized standard design and free from complications. It is as near trouble proof as it is possible to make a tractor and with ordinary care will do the work it is designed for in a most gratifying way. The absolute protection given all working parts and the high quality of the accessories and bearings is an insurance to you against excessive wear in any part of the machine and a guaranty for a long life.

Ease of Operation

The E-B 12-20 Model AA is a small tractor with big power, and was especially designed for operation by women or boys. The control mechanism is exactly the same as on many automobiles and is just as easy to handle. The auto type steering column is provided with the customary spark and throttle levers. The gear shift lever is ball and socket type and only one foot pedal is used—a combined clutch and brake pedal.

On the dash are the oil gauge, gasoline valve, kerosene valve, hot air damper and water valve.

A comfortable steel spring seat is provided for the operator that gives an unobstructed view ahead.

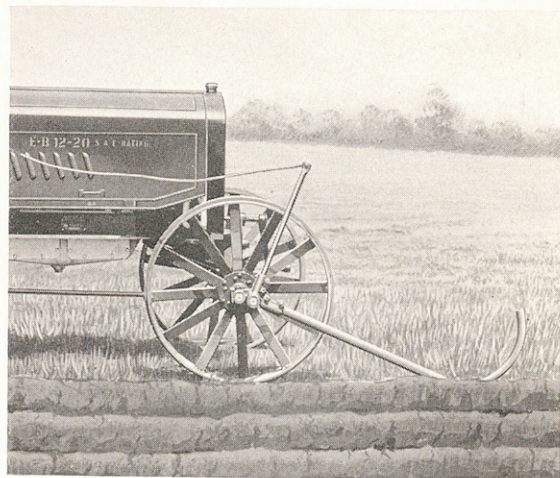
General Equipment and Finish

The E-B 12-20 Model AA Tractor is fully equipped and assembled ready to start when you receive it. A metal tool box with a padlock hasp is located in convenient position under the operator's seat. It is nicely painted,

striped and varnished with red body and green running gear.

You need never be ashamed of your E-B tractor. We take great pains in the finish and it is all you could desire.

Extra Furrow Guide

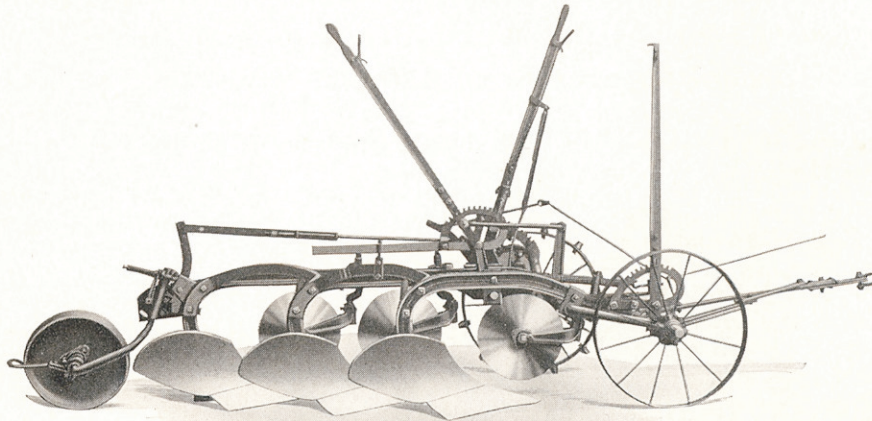


E-B 12-20 Model AA Furrow Guide

A furrow guide can be furnished as an extra at an additional cost that will make the tractor self steering while plowing. It is a very simple device, consisting of an extension spindle which is bolted on to the right hand front wheel. A bent pipe which runs in the furrow is provided with a bearing which rides on the spindle, thus enabling the pipe to move up and down vertically to provide for the unevenness of the ground and to allow the pipe to be lifted at the end of the furrow. This is accomplished by means of a rope running back to the operator's seat. This spindle is long enough so that the guide can be adjusted for plowing with two or more bottoms.

E-B 12-20 Model AA S.A.E. Rating Tractor

E-B No. 102 and 103 Self Lift Tractor Plows



E-B No. 102 Self Lift Plow equipped with three bottoms

No. 102 two or three bottom convertible—No. 103 three or four bottom convertible, equipped with E-B quick detachable shares.

Most compact plow manufactured.

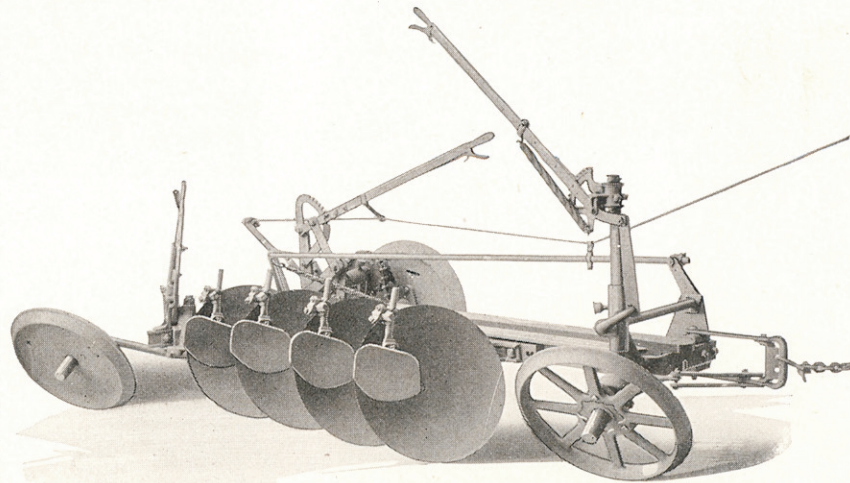
The quickest raising plow ever designed. Wheels carry weight of plow both in working position and for transportation.

The E-B No. 104 Self Lift Tractor Disc Plow

A pull on the rope starts the discs into the ground and 24 inches of travel puts them into the depth as set by the levers.

This plow was built to plow when you are ready. It's made for dry, hard land or for land in perfect condition to plow.

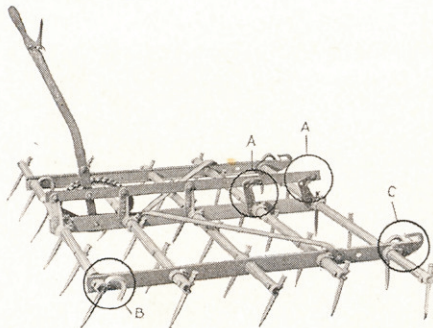
It's built strong, sturdy, to withstand the strain put upon it, and as the entire weight of the frame, discs and the earth they turn is carried on the three thoroughly lubricated wheels, light draft is assured. It cuts clean 3 feet wide, equipped with either 4 or 5 discs without ridges or scallops in the bottom of the furrows.



E-B No. 104 Tractor Disc Plow

Can also be equipped with interchangeable moldboard bottoms.

E-B Spike Tooth Harrows

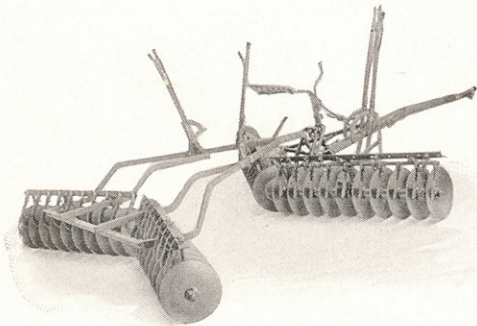


U Bar Harrow

E-B Spike Tooth Harrows

E-B spike tooth harrows are made in one, two, three or four sections and are particularly adapted for tractor use. The two front bars may be set at a different slant increasing the pulverizing qualities of the harrow. A latch is provided to keep the hitch from unhooking.

E-B Disc and Tandem Attachment



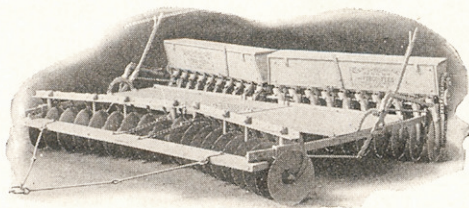
E-B Disc and Tandem Attachment

E-B Disc and Tandem Attachment

This outfit is especially adapted for use with the E-B 12-20 Model AA Tractors. The construction of the front frame is exceptionally strong, being made of one piece of heavy steel built in the form of a triangle, thoroughly braced and reinforced with extra bar.

Heavy angle steel stub tongue. Quadrants are steel instead of cast iron. The levers are exceptionally long.

E-B Engine Disc Harrows



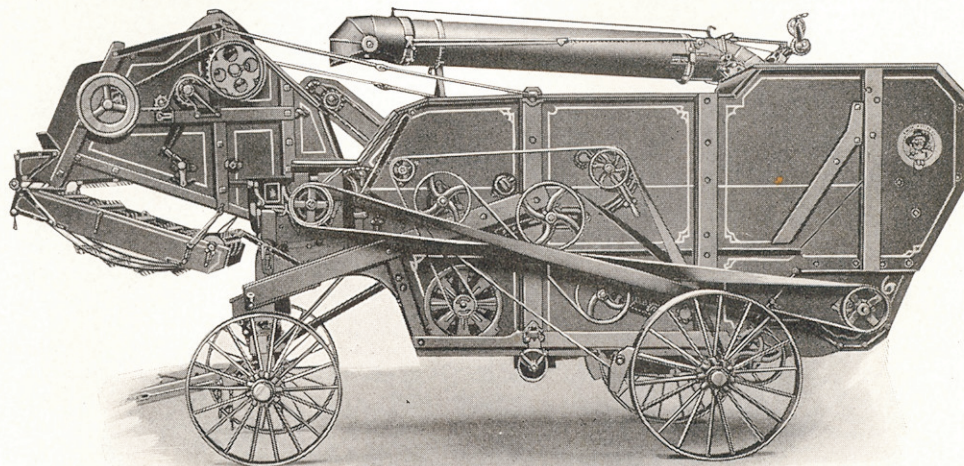
E-B No. 60C Engine Disc Harrow

E-B Engine Disc Harrows

The E-B No. 60-C is a strong and durable disc harrow, constructed for engine work only. Built in two sections with large weight pan between. Front section is set so discs throw out while rear section is set so discs throw in, thereby completely cutting the entire surface of the field. Cuts a strip ten feet wide. Is equipped with forty 16-inch blades. With all discs set straight, it makes a first-class sub-surface packer. Can also be furnished with seeder attachment.

E-B 12-20 Model AA  S·A·E·Rating Tractor

The Geiser Small Tractor Thresher

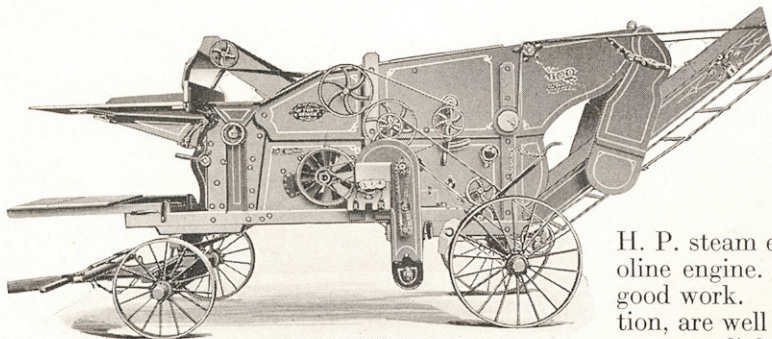


Geiser No. 4 and No. 5 small tractor thresher, especially adapted for use with 12-20 tractors

Grain farmers owning gas tractors are paying double for what they are getting out of their tractors—they buy tractors equipped with both a draw bar and a pulley and then go out and hire their threshing done, when a Geiser Small Tractor Thresher would save their GRAIN—MONEY and TIME and make them independent. It is a little machine with a big capacity.

Cleans by wind and gravity in such a way that the cleaning is practically perfect. Few parts, no unnecessary material to add weight. Workmanlike construction and efficient design. It is a grain saver and cleaner. It has been built for sixty years and in larger numbers every year. Built in sizes 24 x 32 and 27 x 39. Adapted to either steam or kerosene power.

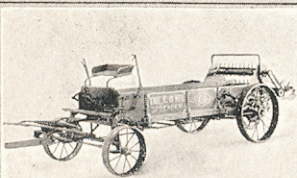
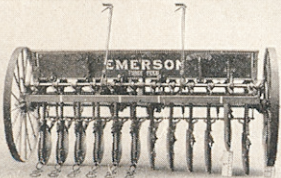
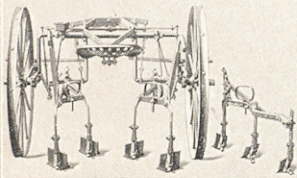
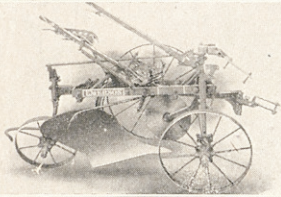
Geiser No. 3 Thresher.



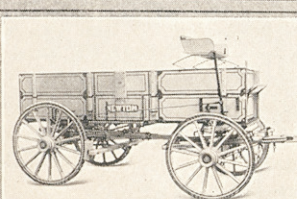
Geiser No. 3 Thresher

The Geiser No. 3 Thresher is 25 x 29, has four wheels, with elevator and folding straw carrier. This machine is well adapted where crops are not large and much hauling is to be done, as it is light and easy to handle. Easily driven by a 6 H. P. steam engine or by a good 8 H. P. gasoline engine. Anyone can operate it and do good work. Working parts have a rotary motion, are well balanced, causing the machine to run very light, requiring less power than any other machine of same size. A good buckwheat, pea and bean thresher.

The Line



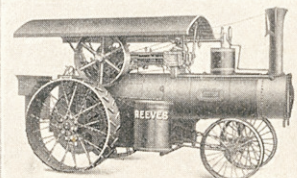
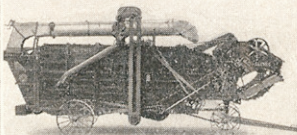
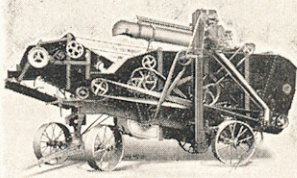
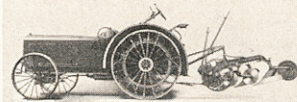
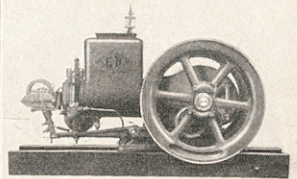
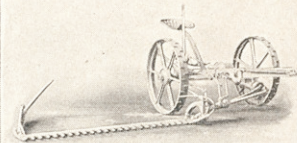
No. 84 Lincoln Seat Buggy, High Arch



The "E-B" Line of Farm Machinery has been successfully used by generations of American Farmers. The best of materials and workmanship, prove their value in "E-B" machines.

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- | | |
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