

Ferguson,
DISC HARROW
INSTRUCTIONS

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FERGUSON DISC HARROW

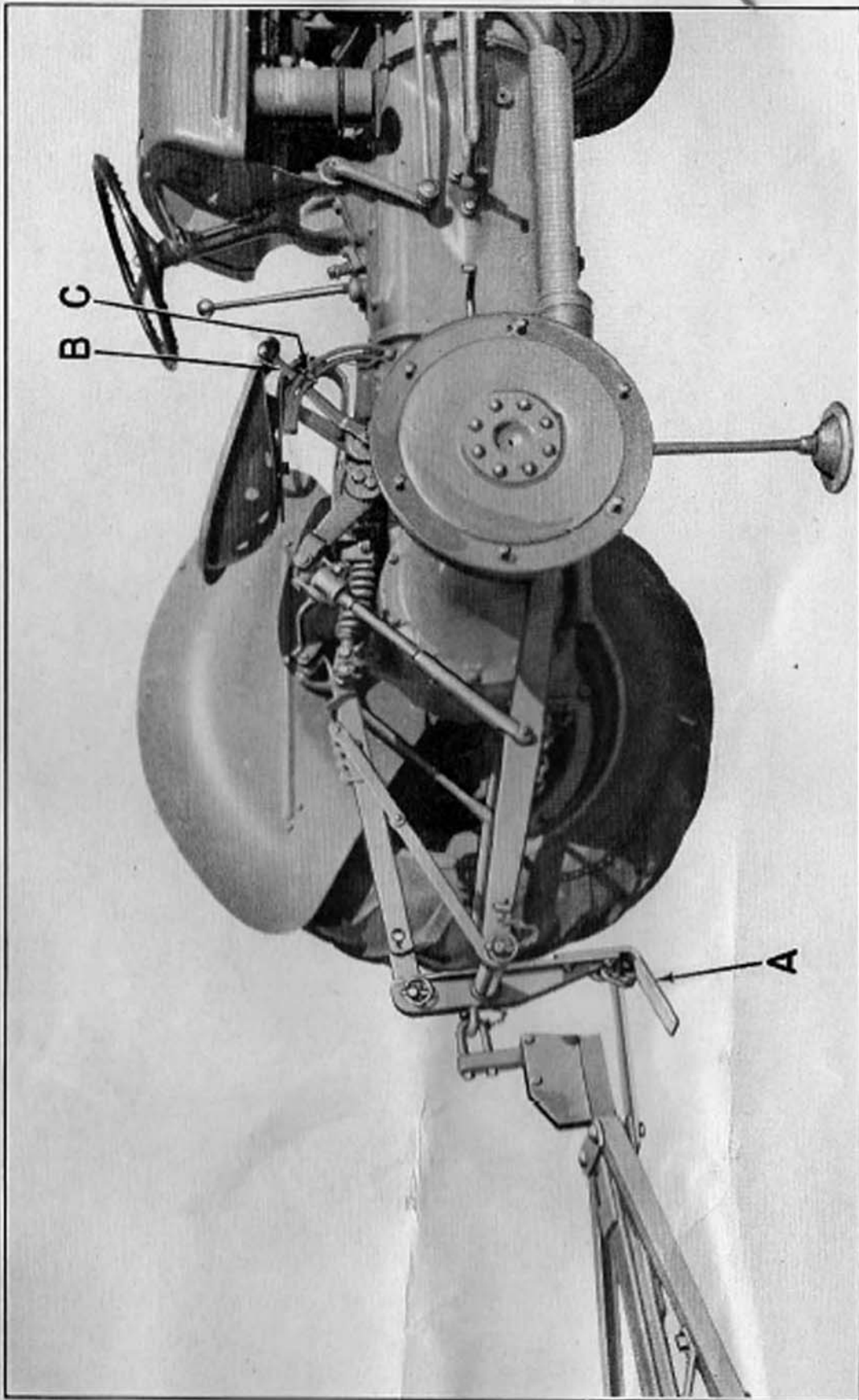


FIGURE 1—Tandem Disc Harrow Hitch

The Ferguson System of *Automatic Hydraulic Control* is applied to the Disc Harrow hitch and serves as a safety feature in a manner similar to the safety and protective features this system gives to all Ferguson attached implements.

Figure 1 shows the side view of the Tractor and hitch, the skid "A", and the hydraulic control lever "B". The skid rest "A" is designed to travel close to the surface of the soil in order to make contact with the soil in case the tractor wheels sink in soft ground or drop into a deep hole. When this occurs the skid "A" makes contact with the ground. This puts a pressure on the top link and puts the hydraulic pump into operation. The lower links are raised immediately which *automatically* removes the angle from the disc gangs, thus freeing the load on the tractor so that it will continue its movement forward without loss of time.

Warning! This automatic feature works only if the control lever—shown as "B" in Figure 1—is placed just far enough forward to allow the lower links to drop rapidly. The stopper on the quadrant, "C", Fig. 1, should be set at this point to fix this position for the control lever. If the stopper is placed too far down on the quadrant, the automatic control *will not operate*.

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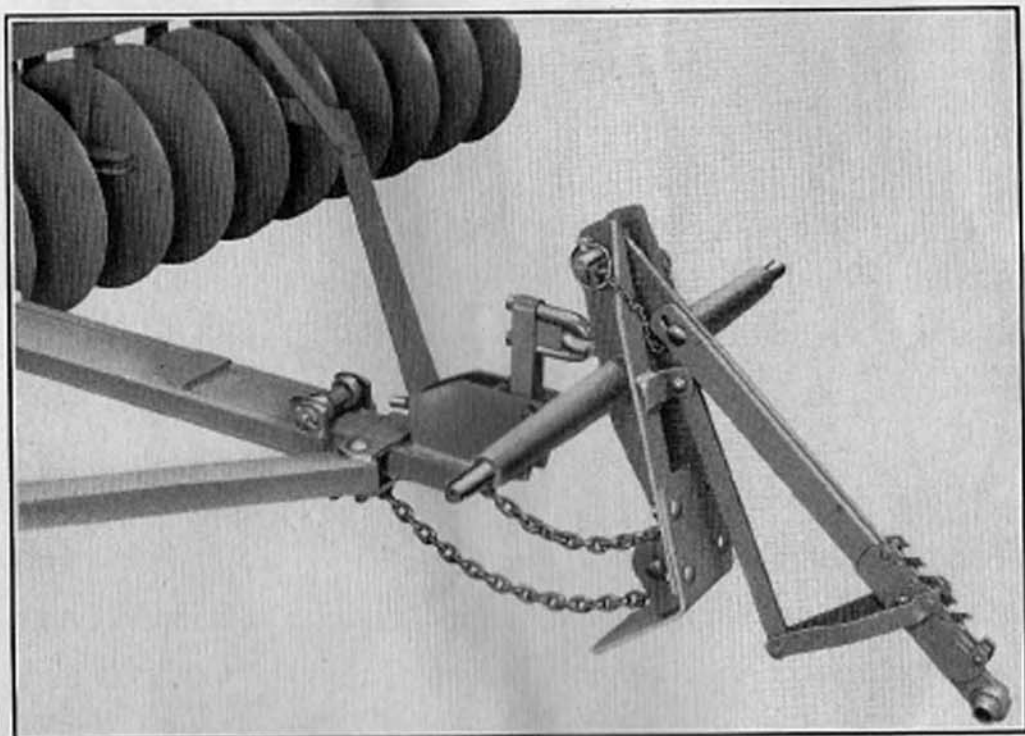


FIG. 2—Single Disc Harrow Hitch

Figure 2 shows the Harrow resting on the ground with the top link attached to it. Figure 3—the top link is turned to the rear and the tractor is backed up as shown, ready to attach.

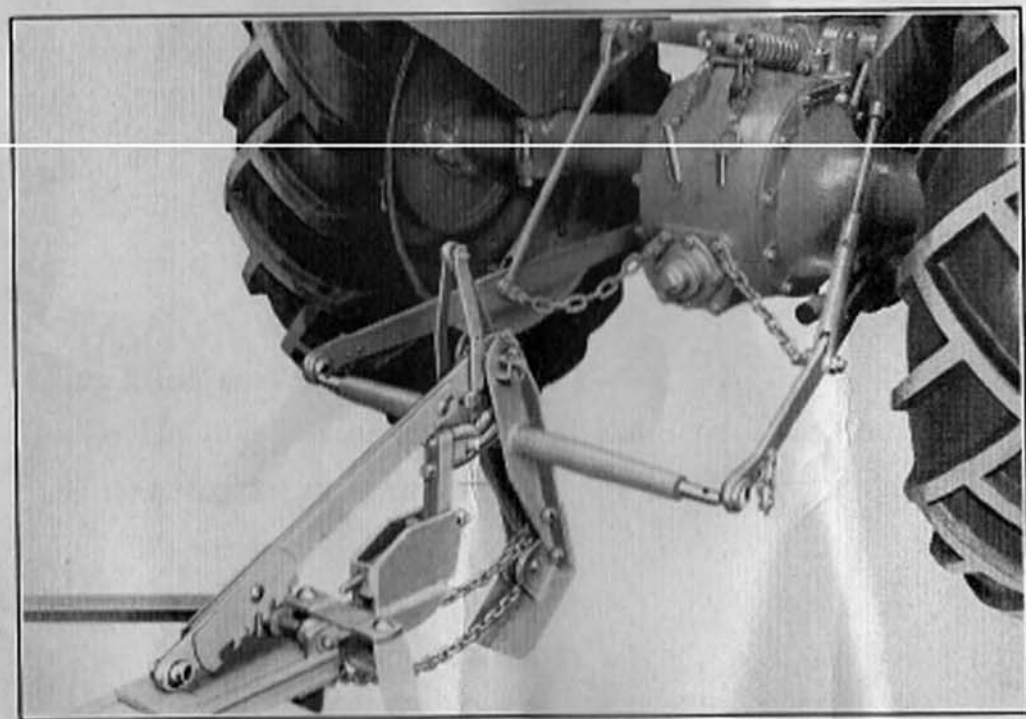


FIG. 3

FERGUSON DISC HARROW

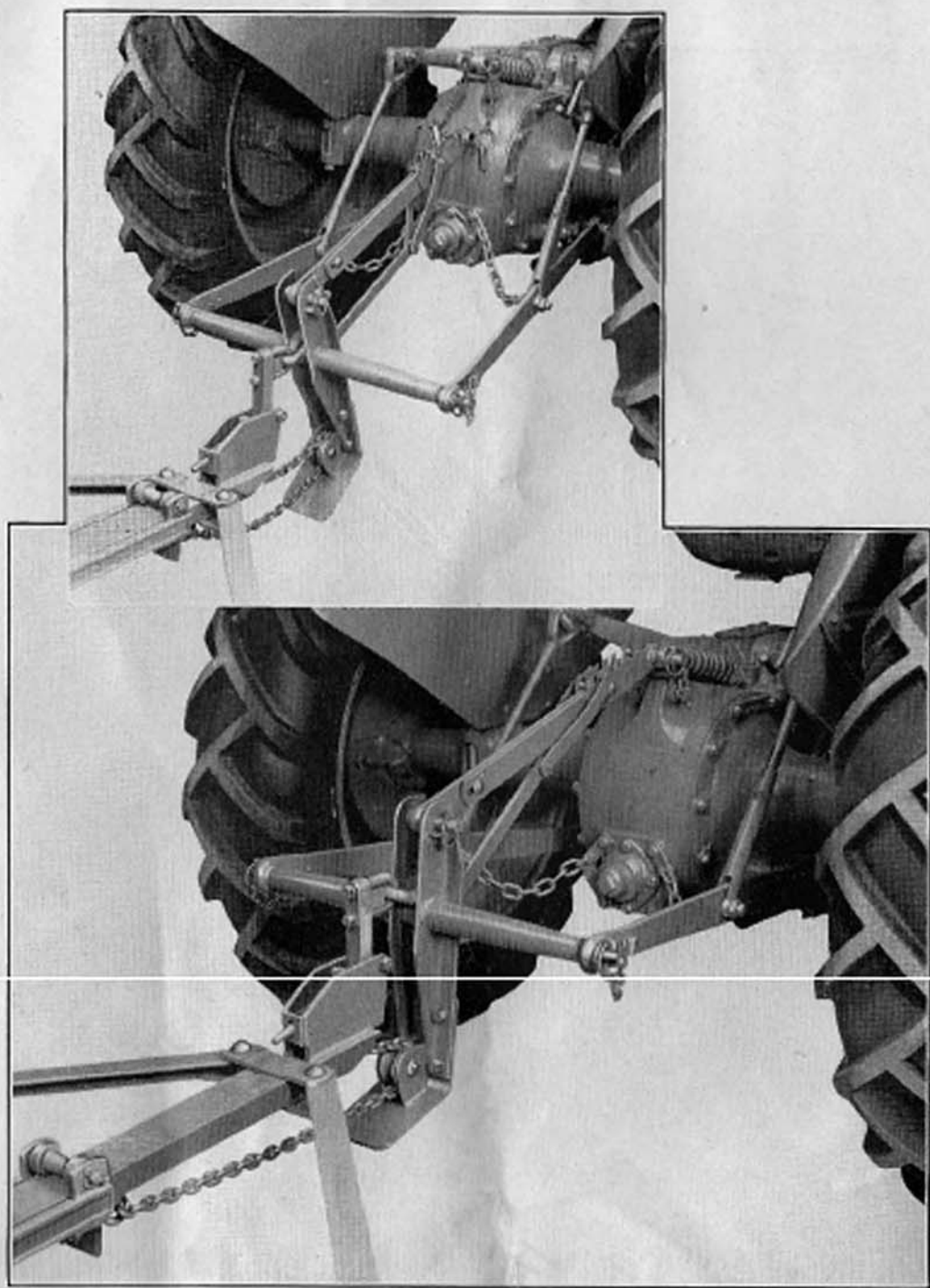


FIG. 4

Figure 4 shows the lower and top links attached to the tractor. Attach the lower links first as shown in insert, then raise the lower links to a point where the top link is easily connected to the tractor.

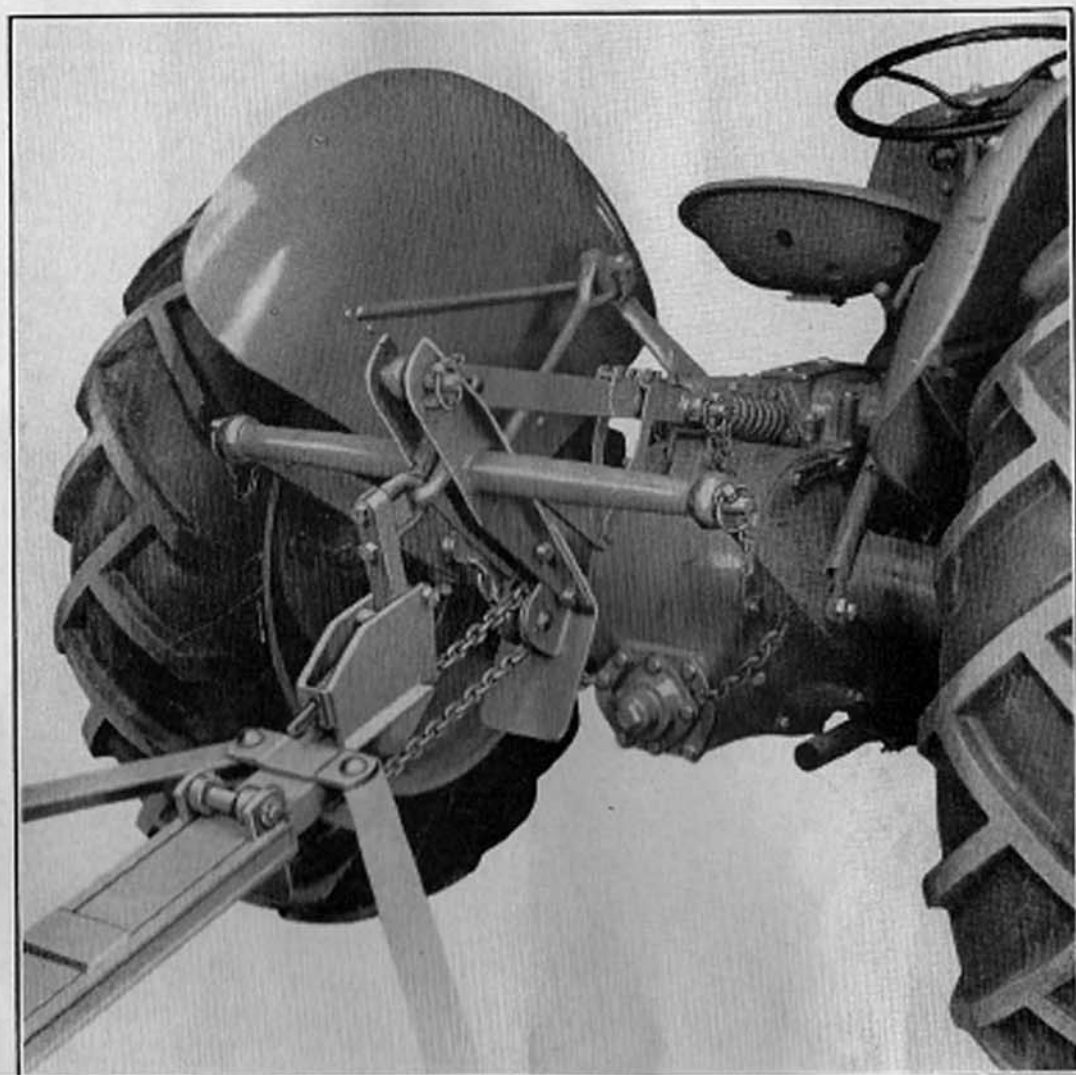


FIG. 5

Raising the lower links to full height, as shown in Figure 5, straightens the gangs to their transport position.

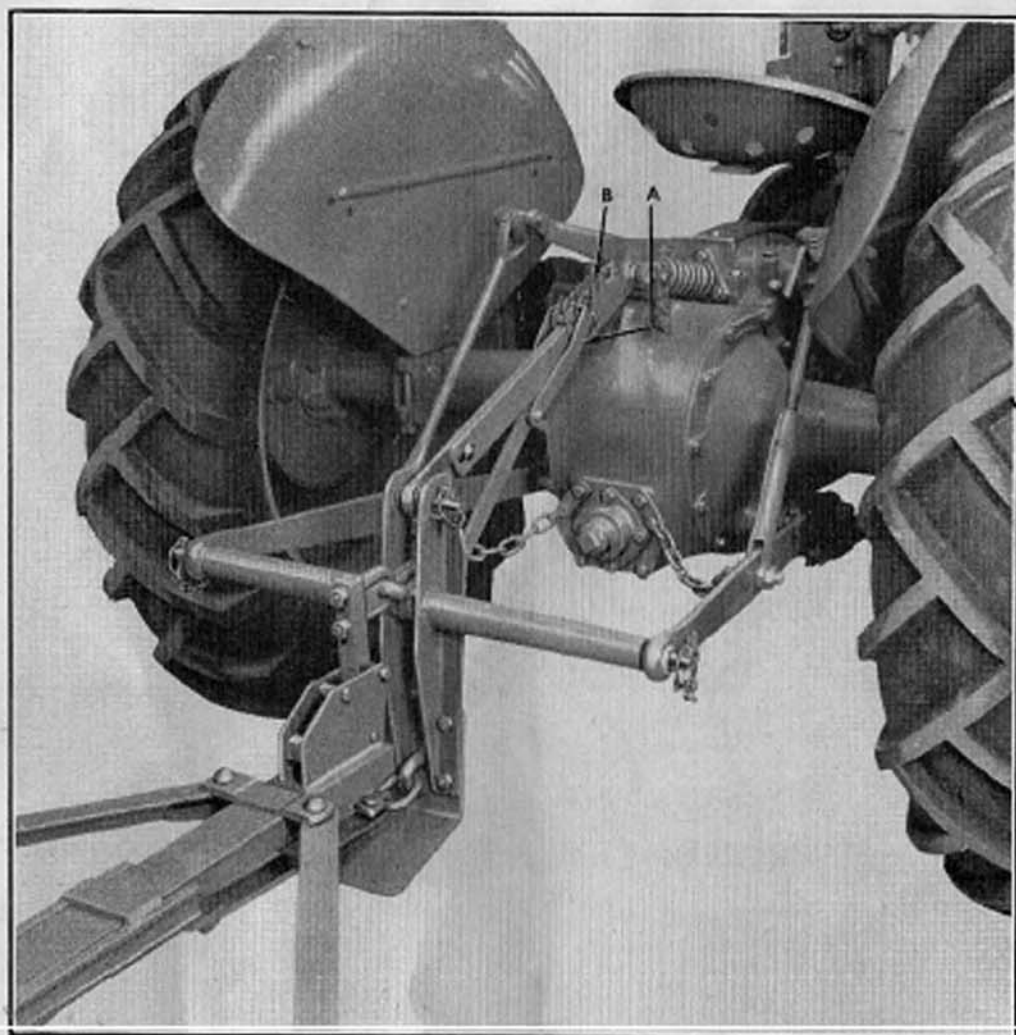


FIG. 6

Figure 6 shows the hitch held in working position. The yoke "A" can be placed in six positions on the angle control rack "B". When the yoke is placed in the notch farthest away from the seat it allows the *greatest* angle to be taken by the disc gangs. Placed in the notch nearest the seat, it gives the *least* angle to the disc gangs.

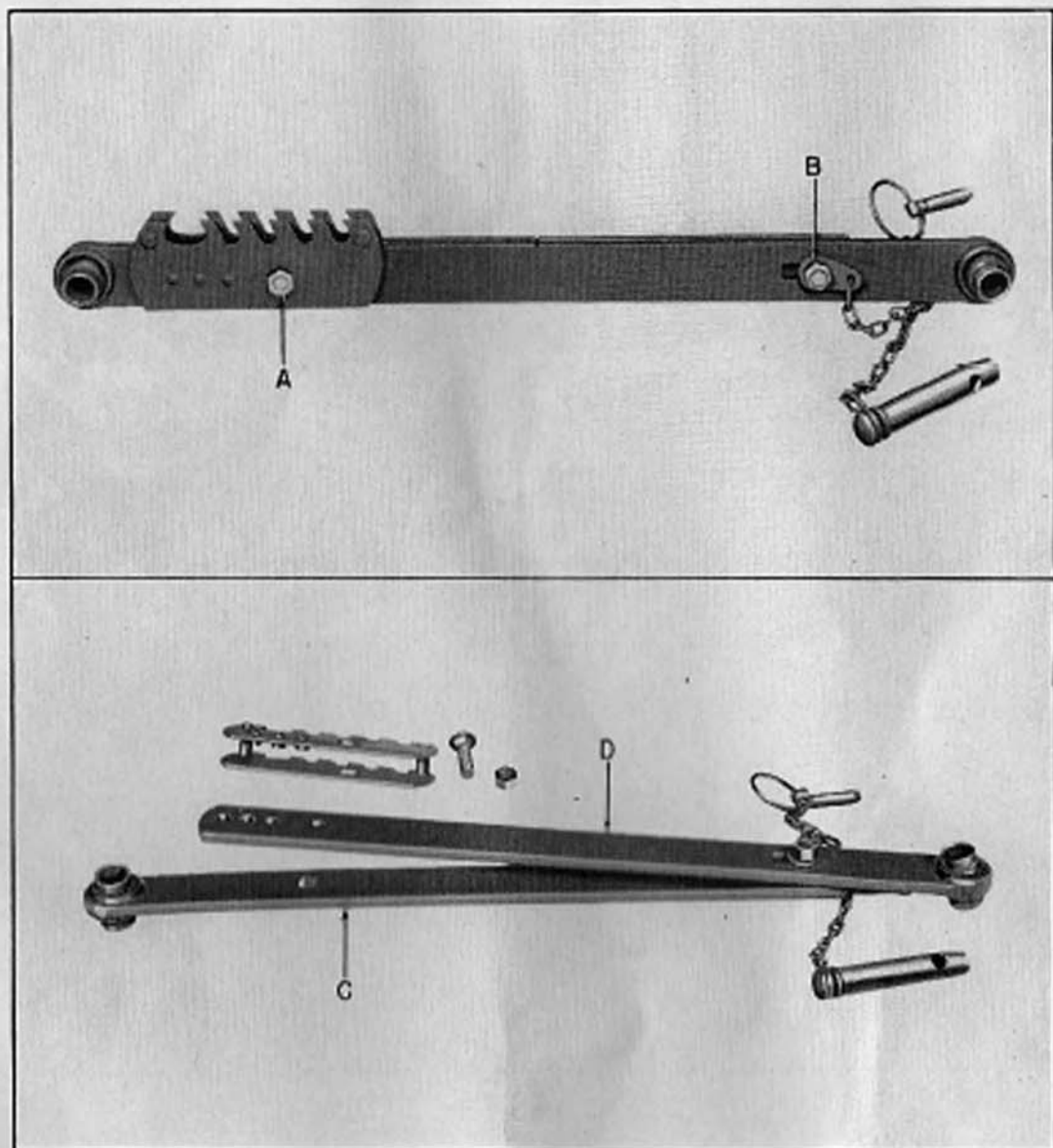


FIG. 7

Figure 7 shows two views of the top link, one where it is completely assembled ready for use. Should it ever be necessary to remove the angle control rack remove bolt "A" and loosen nut "B". Separate the two sections of the top link, "C" and "D", then remove the angle control rack from section "D". **WARNING:** Do not alter angle control rack, nor change the length of the top link when the angle control rack is attached to it. Alterations can seriously affect the operation of the hydraulic system.

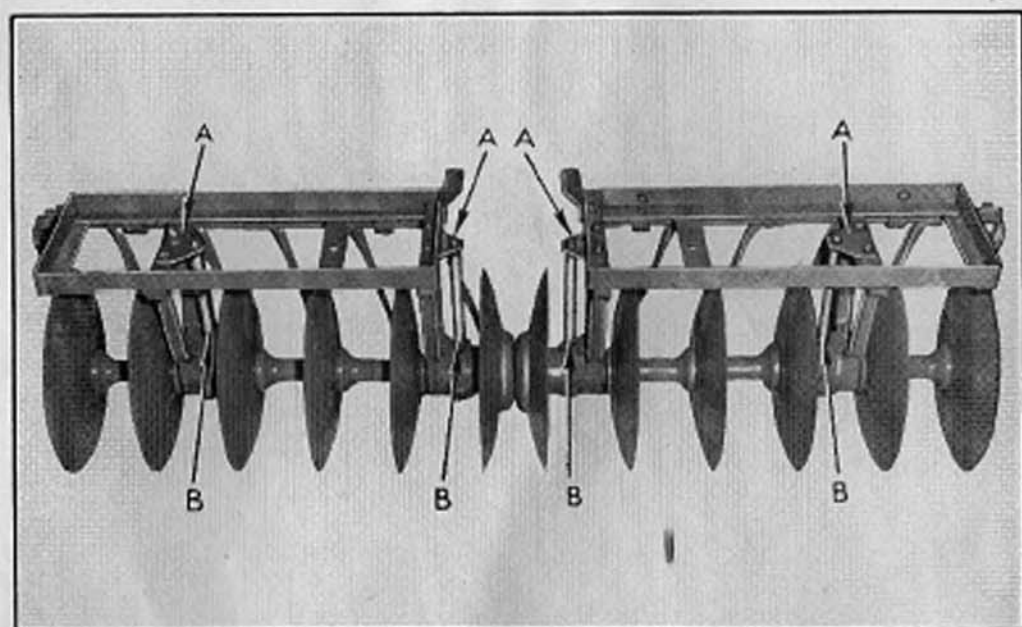


FIG. 8

ASSEMBLY INSTRUCTIONS

1. Place each front gang in working position, as indicated by stencilling on end discs. Block each gang in an upright position.
2. Remove triangular plates A-A-A-A and draft pins B-B-B-B.

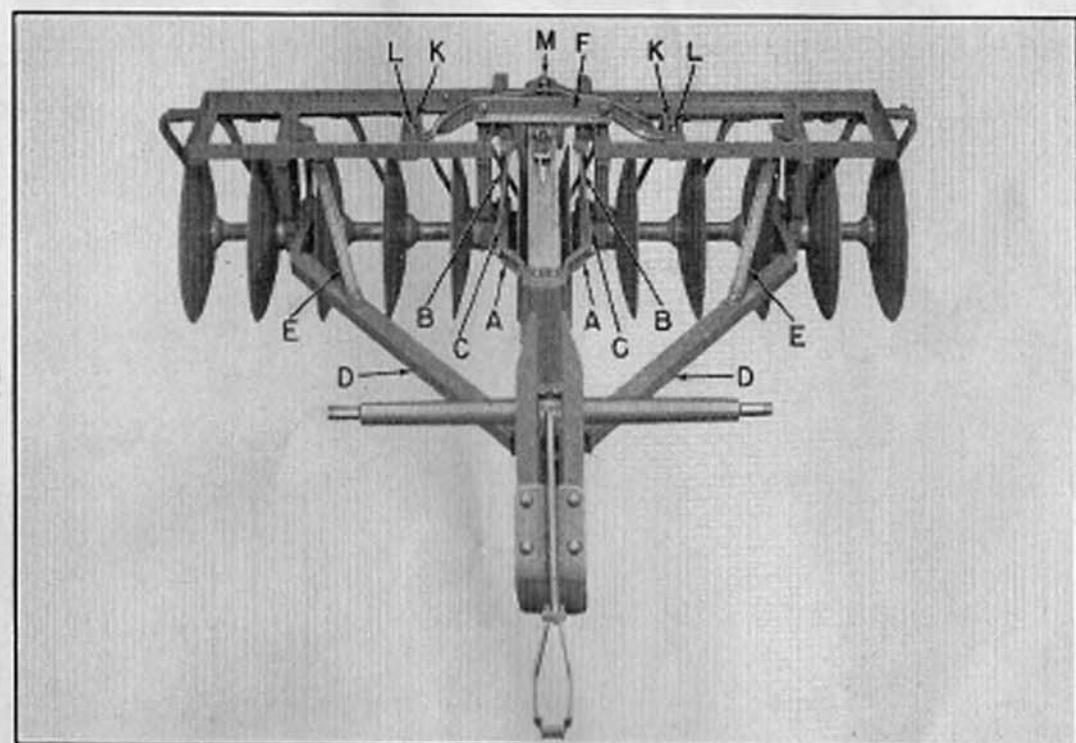


FIG. 9

1. Assemble center draft fork A-A to the draft pins B-B.
2. Note that the inside gang braces C-C are marked "Right" and "Left" and fitted on the *outside* of the center draft fork, as shown.
3. The outside draft bars D-D, and the outside gang braces E-E are attached as shown.
4. The snubber F is marked "Front". Attach it as shown.
5. Note that the ends of the snubber are *underneath* the cross bars K-K. Note the flanged bushings L-L are assembled with the flange *upward*.
6. The adjustment for the downward pressure for the center of the gangs is at M. When assembling leave the top nut flush, as shown. Final adjustment can be made in the field.

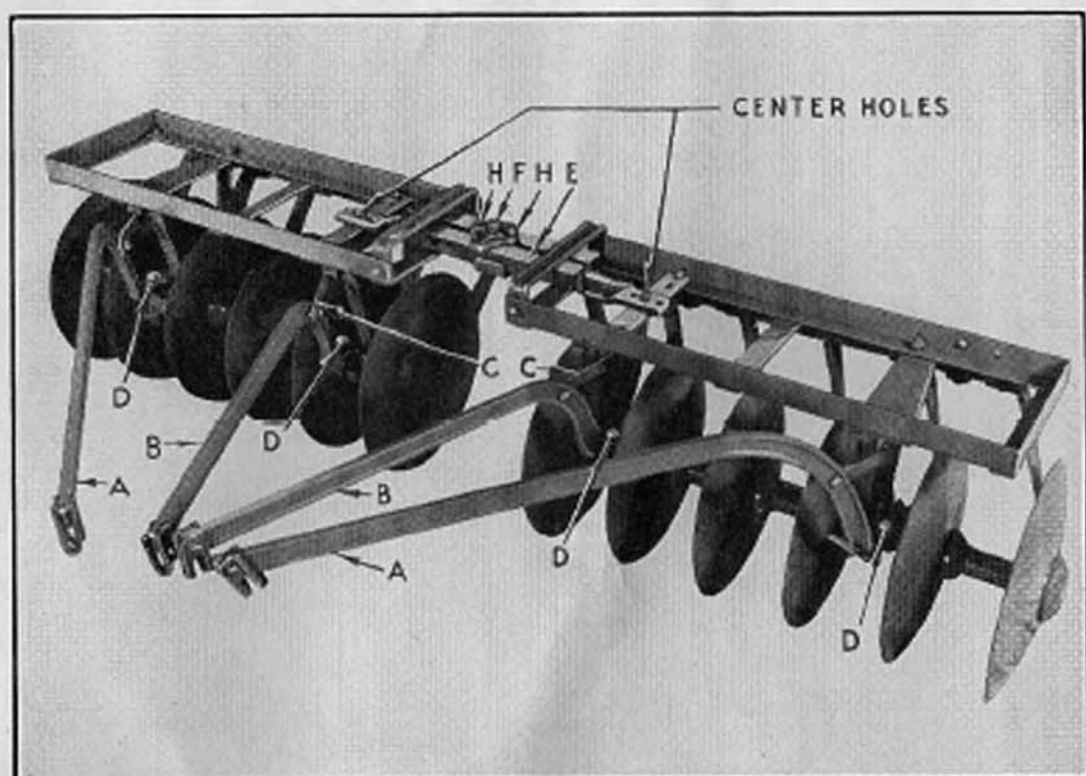


FIG. 10

1. The outside trailer reaches A-A are marked "right" and "left", and should be fitted as shown.
2. The inside trailer reaches B-B are interchangeable. Note that the braces C-C are fitted on the *inside*.
3. The four pins D-D-D-D are the short pins supplied in bag.
4. The snubber E is fitted as shown, in the center hole, for normal conditions.
5. In this case the flange washers are *underneath*.
6. The nut F should be screwed down until it is about flush, as shown. The cap screws H-H should then be screwed down *tightly*. Final adjustments can be made in the field.

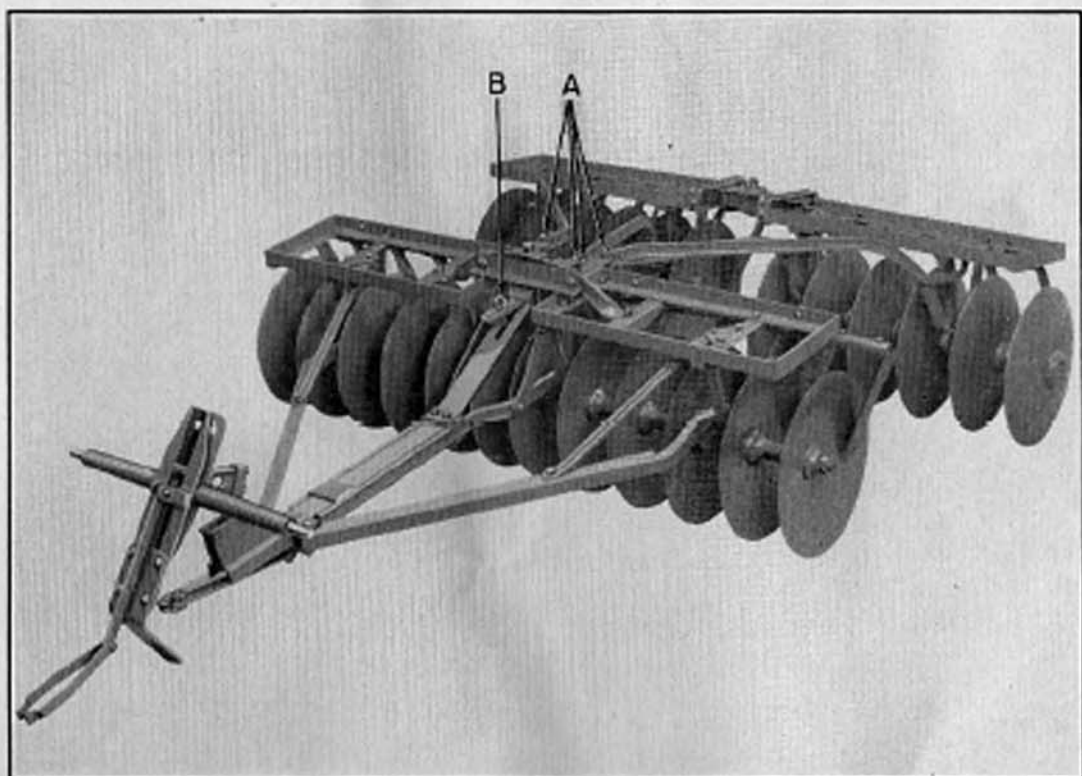


FIG. 11

1. Note how the rear gang has been attached to the front by the four pins A. See that the washers in the bag are fitted to the lower ends of these pins before the cotter pins are fitted.
2. The rear gang adjusting pin B is placed in the marked hole for usual conditions.

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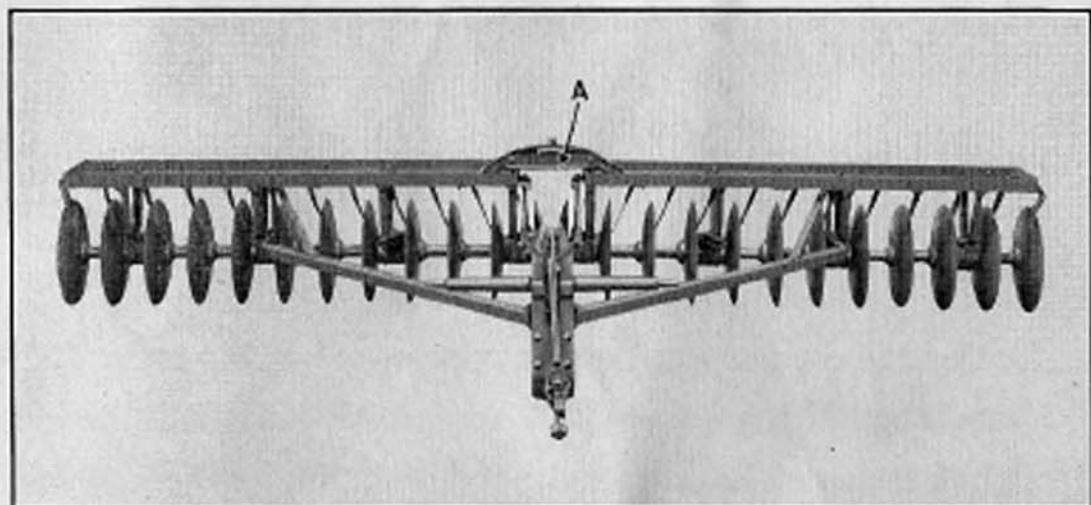


FIG. 12

Assembly of the single Disc Harrow is accomplished in exactly the same manner as shown in Figures 8 and 9. Make sure that the snubber (A) is correctly installed and later adjusted under field conditions so that the gangs are level and each disc can penetrate the same depth.

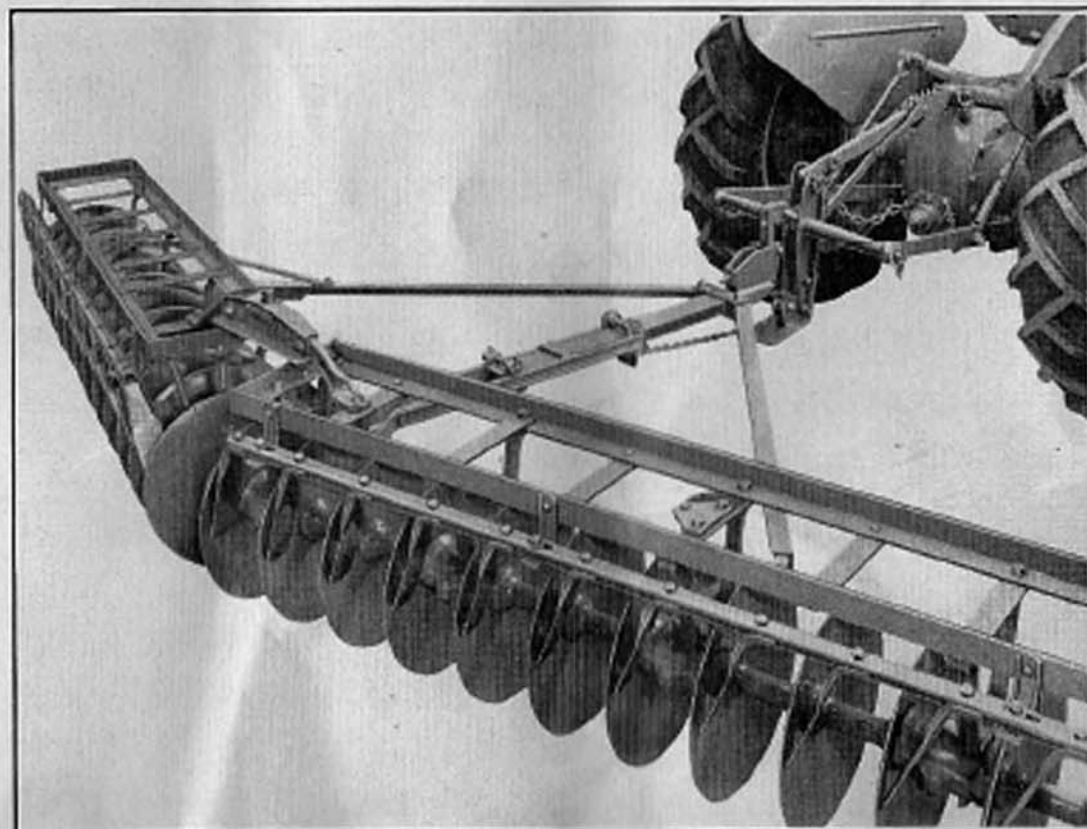


FIG. 13

LUBRICATION

1. All bearings should be lubricated *twice daily* with the same grease as recommended for the tractor.
2. Continue to use gun until grease appears at bearing ends. This insures that all grit is forced out and greatly lengthens the life of the bearings. The draft is also reduced, thus saving fuel and wear on the tractor.

OPERATING HINTS

1. When a new harrow is being put into operation, do not set at full angle for a few hours until bearings are run in.
2. Scrapers should be adjusted to touch discs very lightly, and thus keep down draft and unnecessary wear.
3. On steep hills with heavy soil the rear gang can be removed and the front gang only used.
4. When discing newly plowed sod reduce the angle of the disc and add weight to the front gang only. This will prevent the sod from turning up.
5. When storing harrow, grease discs to prevent rust.
6. Examine all bearings each season and replace when worn. Bearings in good condition reduce draft and save fuel and strain on the tractor.

WARNING

1. The *ordinary* disc harrow is a "tractor destroyer" because the engine and transmission get no relief during hours of working. When plowing or cultivating, for example, the whole mechanism of the tractor gets a "rest" while turning on the headland. There is no such "rest" when using an *ordinary* disc harrow. The continuous heavy strain is very damaging to the whole tractor mechanism, including the steering gear. The strain is also destructive of tires when turning. The Ferguson disc harrow has been designed to overcome these serious objections. By making use of the Ferguson System of hydraulic finger tip control the disc gangs can be straightened out quickly and easily, thus relieving the strain on the tractor and saving time, fuel and tires.
2. *We strongly urge that the control lever always be used to straighten the gangs when turning on the headland so that the whole of the tractor mechanism will get relief and tire wear be reduced to a minimum.*
3. *Never, under any circumstances, overload the tractor, because overloading is highly destructive of the whole of the tractor mechanism, and very wasteful of fuel and oil.*
4. A new tractor should not be used for disc harrowing until it has been run in under light loading for a few days doing other work. If disc harrowing must be done with a new tractor, the angle should be adjusted to keep the draft down to a minimum until the tractor is run in.

A SIMPLE TEST OF OVERLOADING

With the tractor in motion set the throttle lever half way down the quadrant. Then quickly flick the throttle fully open. If the tractor speeds up rapidly the engine is not overloaded—if slowly, the engine is overloaded. These remarks apply to *any* tractor. The overloading should be remedied at once to avoid serious damage.

When operating up a steep hill the above test might indicate overloading. This is not harmful, as it is compensated for when coming down the hill.

It is *continuous* overloading that must be avoided.