



*B. L. Peters*  
**GRAIN DRILL**  
**D-137-D**

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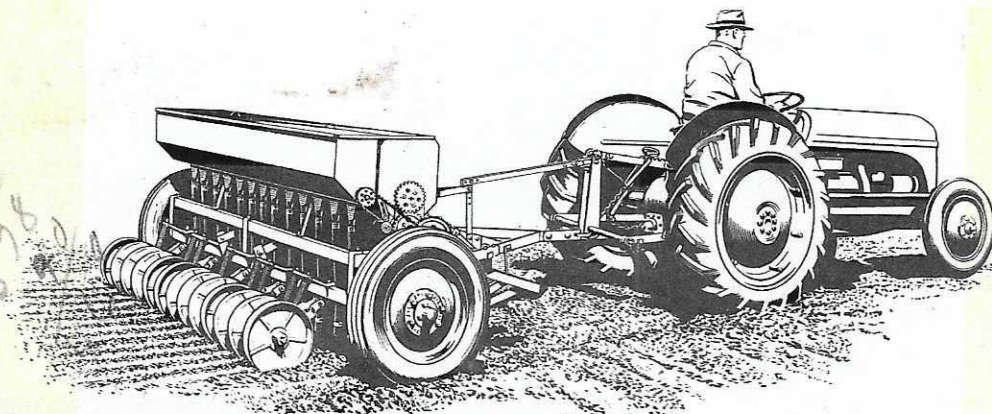
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**OPERATING**  
**and ASSEMBLY**  
**INSTRUCTIONS**

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378*



**HARRY FERGUSON, INC. • DETROIT, MICH.**

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## FOREWORD

The new Ferguson D-137-D Grain Drill is a thirteen hole drill with single concave disc openers spaced seven inches apart. The heavy duty one piece frame rigidly braced with cross members, eliminates twisting and sagging. The seed box of corrosion-resistant sheet steel holds 8 bushels and is mounted on top of the frame, carrying none of the load of the frame and opener assemblies.

The ADJUSTABLE INTERNAL RUN SEED CUP of the New Ferguson drill gives highly accurate metering of seed over a wide range.

This manual contains illustrations and information concerning the lubrication, operation, adjustment, and assembly of the Ferguson drill. Read, study, and follow the instructions contained herein and you will receive the satisfaction, the long life, and the performance built into this drill.

Permit the installation of only GENUINE REPAIR PARTS purchased from your Ferguson Dealer. These parts are manufactured with the same care and precision exercised in production of the original implement. This assures exact dimensions, uniformity, hardness, quality of material, and interchangeability of parts.

# D-137-D GRAIN DRILL

## GRAIN DRILL MODELS

D-137-D 13 x 7 Grain Drill with adjustable seed cups, single disc openers, brome grass agitators, Ferguson hitch, and two Ferguson wheels with tires and tubes.

Above drill may be equipped as follows:

D-137-FA . . . . . Fertilizer attachment

D-137-GA . . . . . Grass seeder attachment

D-137-DC . . . . . Drag chain coverer

D-137-PW . . . . . Press wheel coverer

D-137-Z Consisting of:

D-137-D . . . . . Grain Drill

D-137-FA . . . . . Fertilizer attachment

D-137-GA . . . . . Grass seed attachment

D-137-DC . . . . . Drag chain coverers

D-137-Y Consisting of:

D-137-D . . . . . Grain Drill

D-137-PW . . . . . Press wheel coverers

When ordering replacement parts be sure to state the Grain Drill model and serial number, which is located on the upright member of the hitch.

## LUBRICATION

### Grain Drill:

1. Lubricate the following fittings with chassis lubricant.
  - a. Disc openers hubs every 2 hours.
  - b. All others, every 4 hours.
2. Press wheels are equipped with hard white iron bearings which require no lubrication.
3. Keep disc openers coated with rust-proofing compound when drill is not in use.

### Fertilizer Attachment:

1. Lubricate square bar end bearings—2 hours.
2. Oil chain idler—4 hours.

### Grass Seeder Attachment:

1. End bearings—2 hours.
2. Oil chain idler—4 hours.

## GRAIN DRILL OPERATION AND ADJUSTMENT

### Control:

The three point connection to the Ferguson System gives the operator control of the drill without leaving the tractor seat. The disc openers are raised or lowered for turning or transport by finger-tip control. Raising the drill automatically throws the seeding mechanism out of gear, and lowering it places the mechanism in gear.

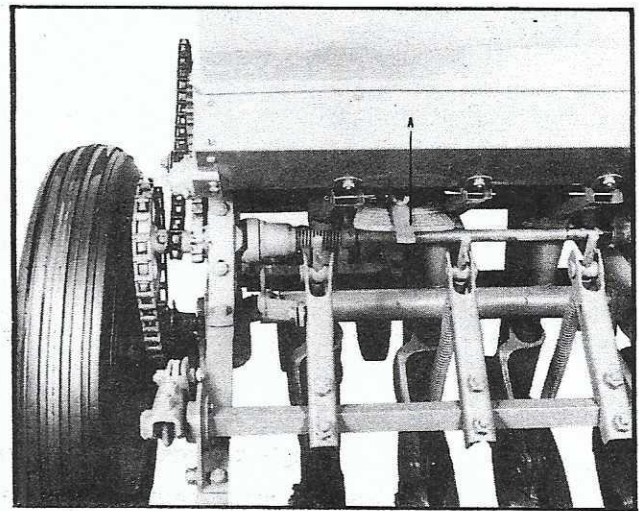


Fig. 2A

### Seeding Rates:

Two seeding rate levers (right side lever indicated by arrow), Fig. 2A, change the seeding rate by moving the seed feed shaft, thereby changing the size of the feed cup opening, Fig. 2B, and the rate of seeding. The Adjustable Run Feed Cup may be set to drill small seed such as alfalfa and clover with the same high degree of accuracy as with larger seed such as oats, wheat, or soybeans.

**THE SEEDING RATE LEVERS MUST BE ADJUSTED IDENTICALLY FOR PROPER SEEDING.**

A simple adjustment of the clutch throw-out arms permit the drill to be operated in the raised position for broadcast seeding.

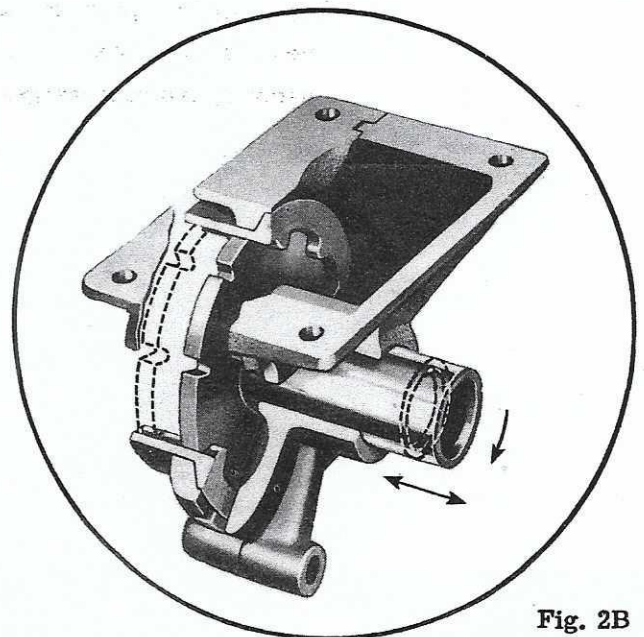


Fig. 2B

# D-137—D GRAIN DRILL

## Spacing:

Spacing of the drill is so arranged that by removing the grain agitator shaft and blocking off seed cups, row widths can be obtained as illustrated in Fig. 3 through 7.

If the grass seeder attachment is to be used when seed cups are blocked off, it will be necessary to remove the agitators and replace the shaft as the grass seeder is operated through the grain agitator spur gears.

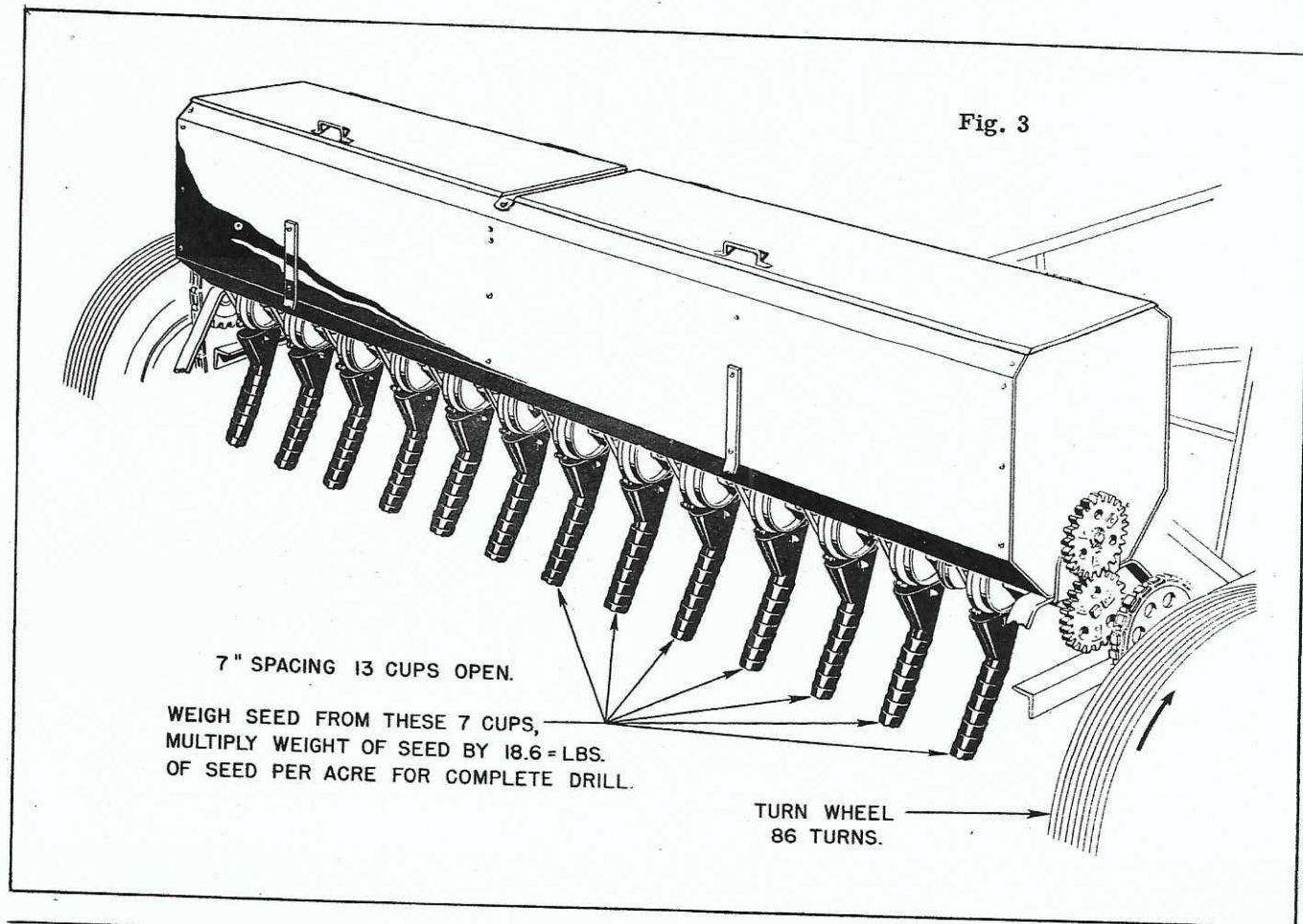
## Seed Rate Checks:

It is customary practice to check the seed application rate of a grain drill against the setting on the quadrants of rate adjustment levers before the drill is used in the field.

First make sure that both rate levers are set identically on the seed rate shaft. To do this, loosen set screws which secure shifter collars Part (F-181) at inner end of rate lever. Next, move rate shafts to the closed position on both the right and left hand sides of drill. Check that seed cups are completely closed. Then set rate levers on the closed position on the quadrant and retighten set screws in shifter collars.

Now the seed application rate per acre may be checked by jacking up one end of the drill and turning the ground wheel as explained in the following procedure and sketches:

1. Place seed in hopper.
2. Jack up right hand wheel. (viewing drill from rear)
3. Place receptacles under the open cups on right side of drill.
4. If necessary, loosen clutch arm bolts to allow clutch to engage.
5. Set seed rate levers for desired application.
6. Revolve ground wheel number of turns indicated on applicable figure.
7. Weigh seed from all open right-hand boots.
8. To compute lbs./acre application for various spacings use the figures on the following applicable diagram.



# D-137-D GRAIN DRILL

Fig. 4A

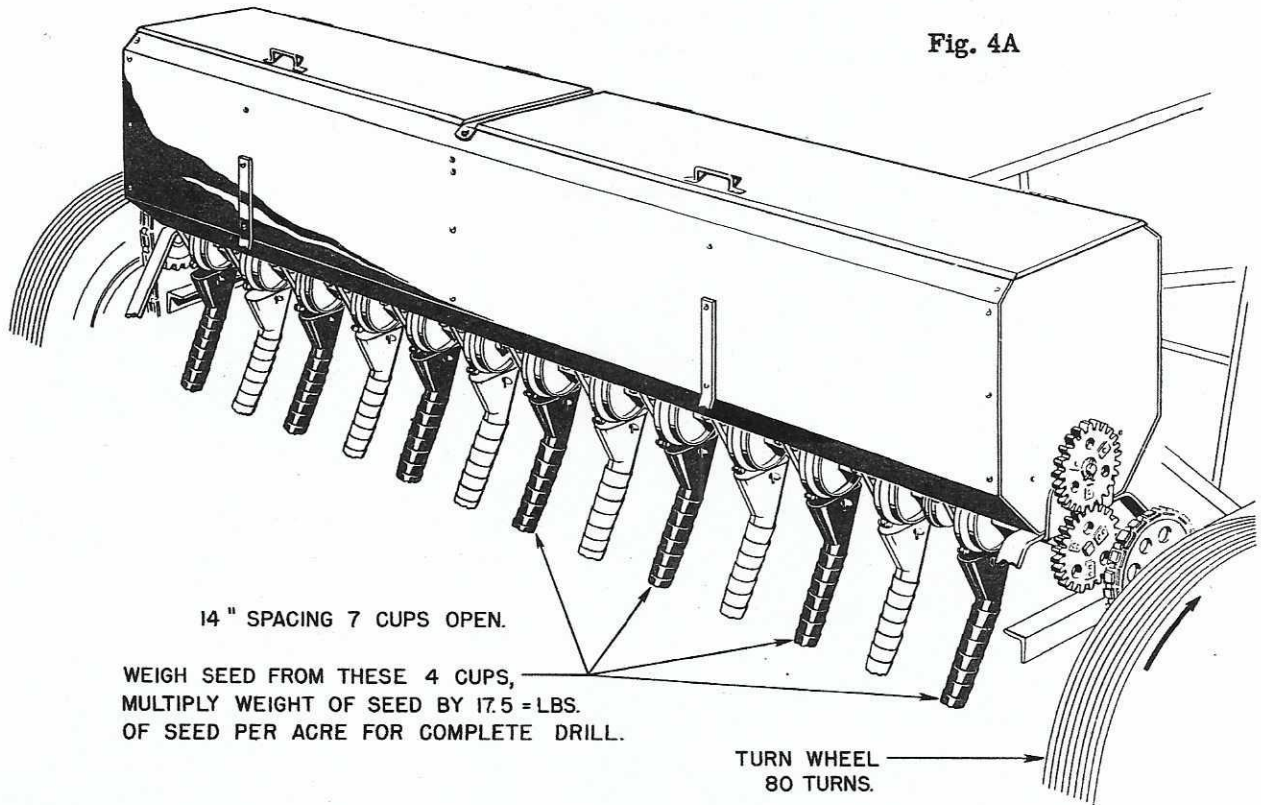
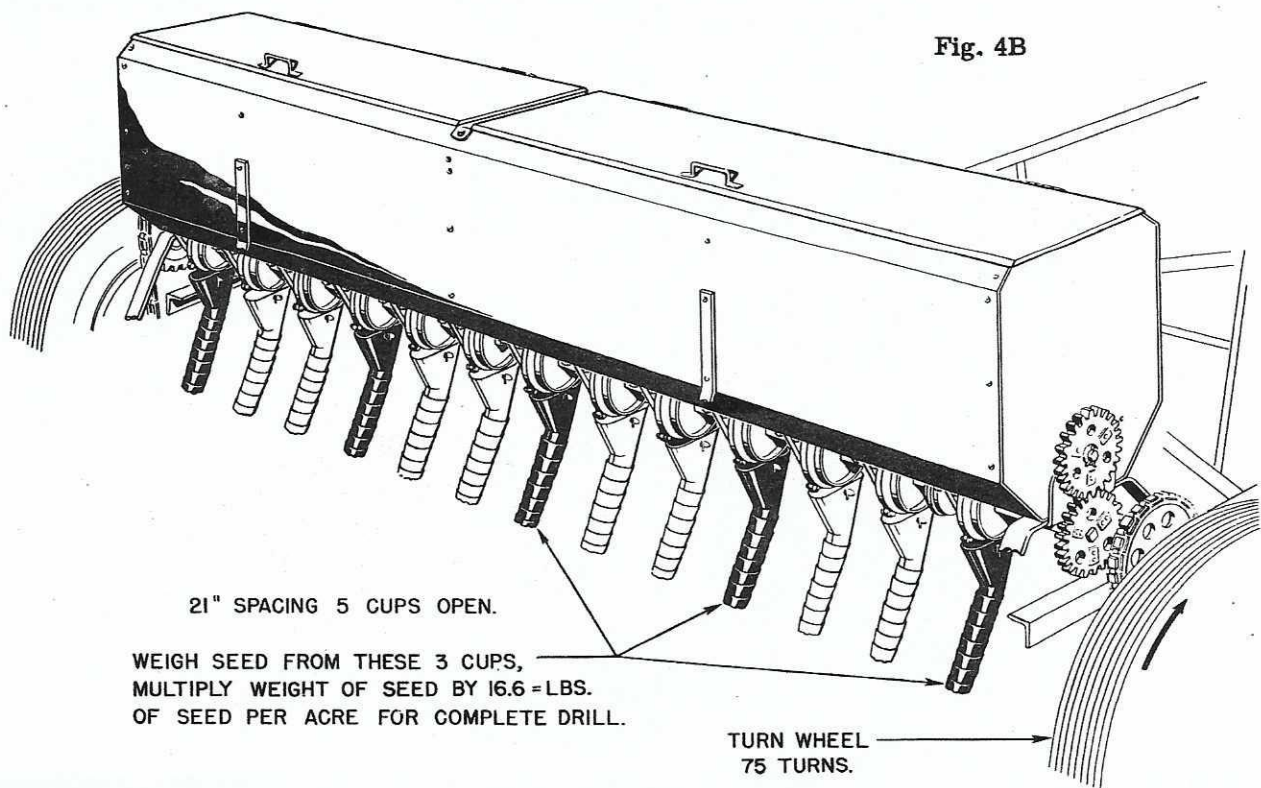


Fig. 4B



# D-137-D GRAIN DRILL

Fig. 5A

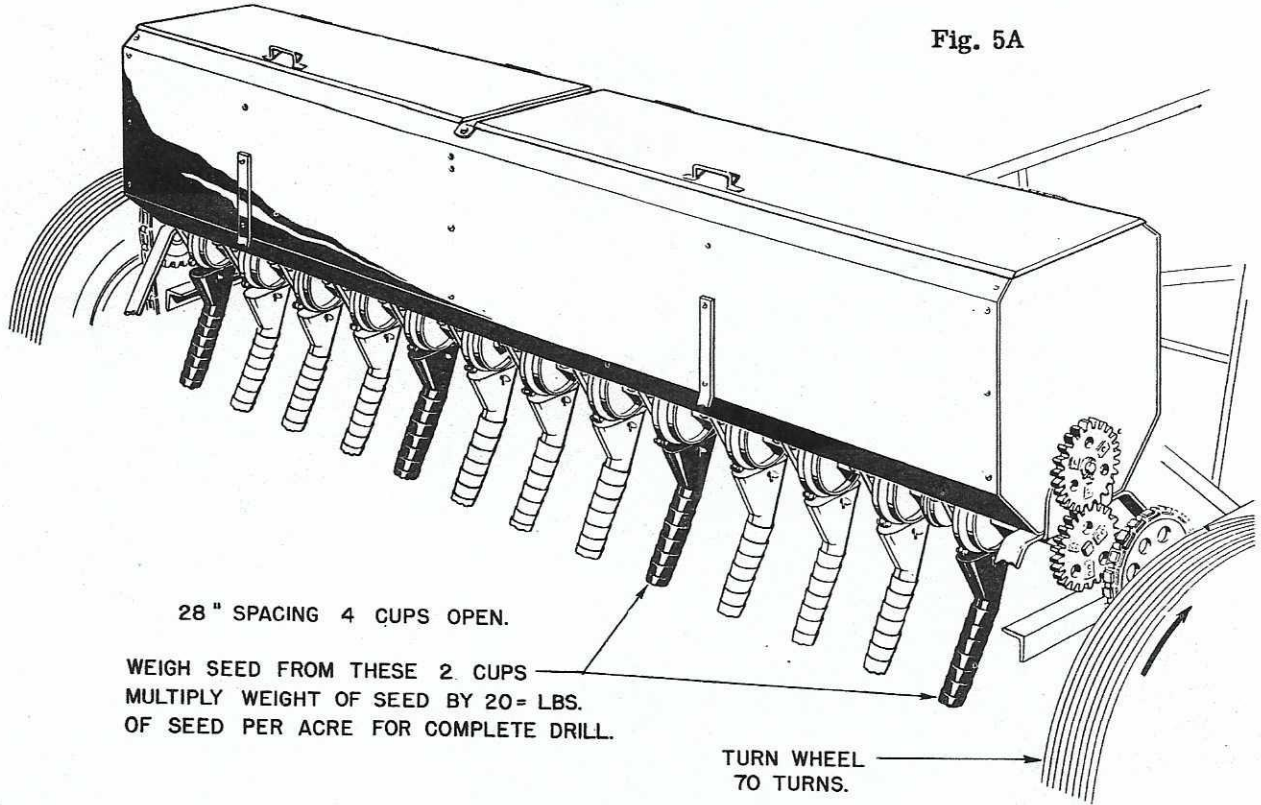
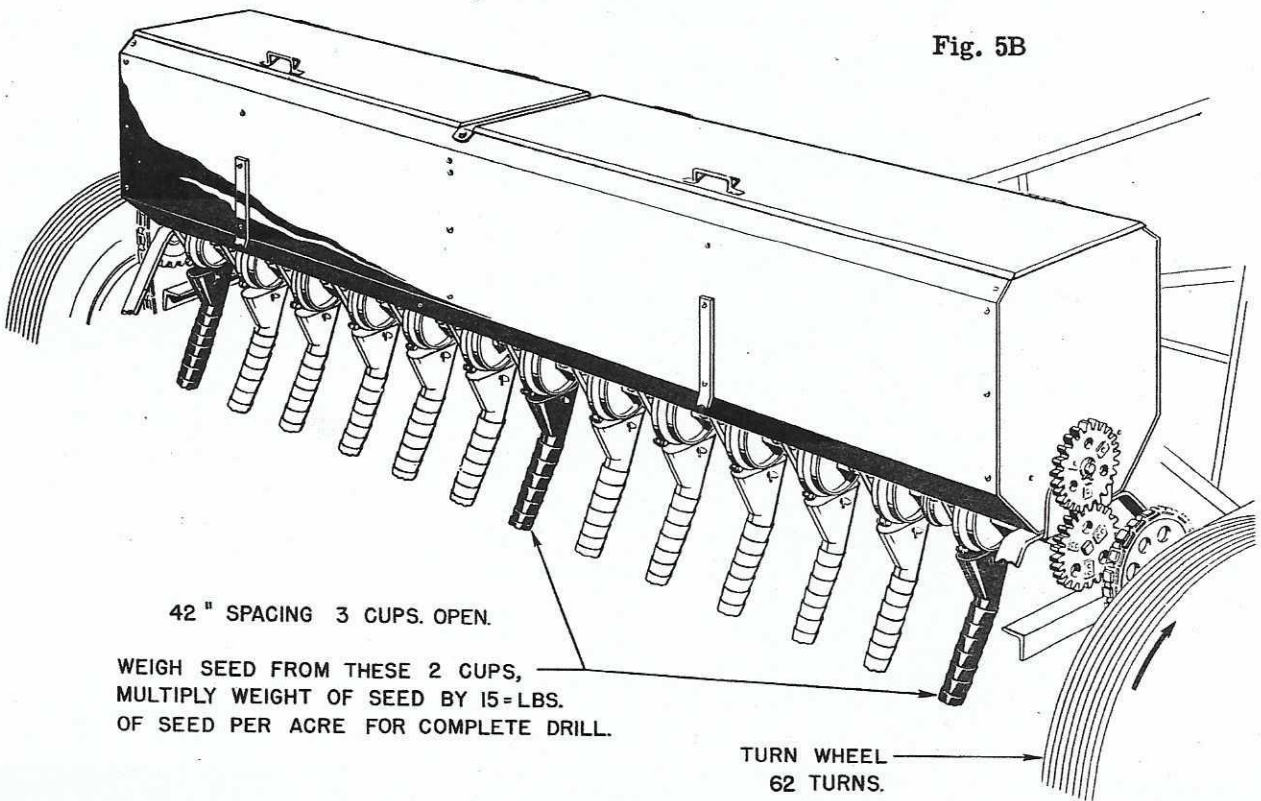


Fig. 5B



## D-137-D GRAIN DRILL

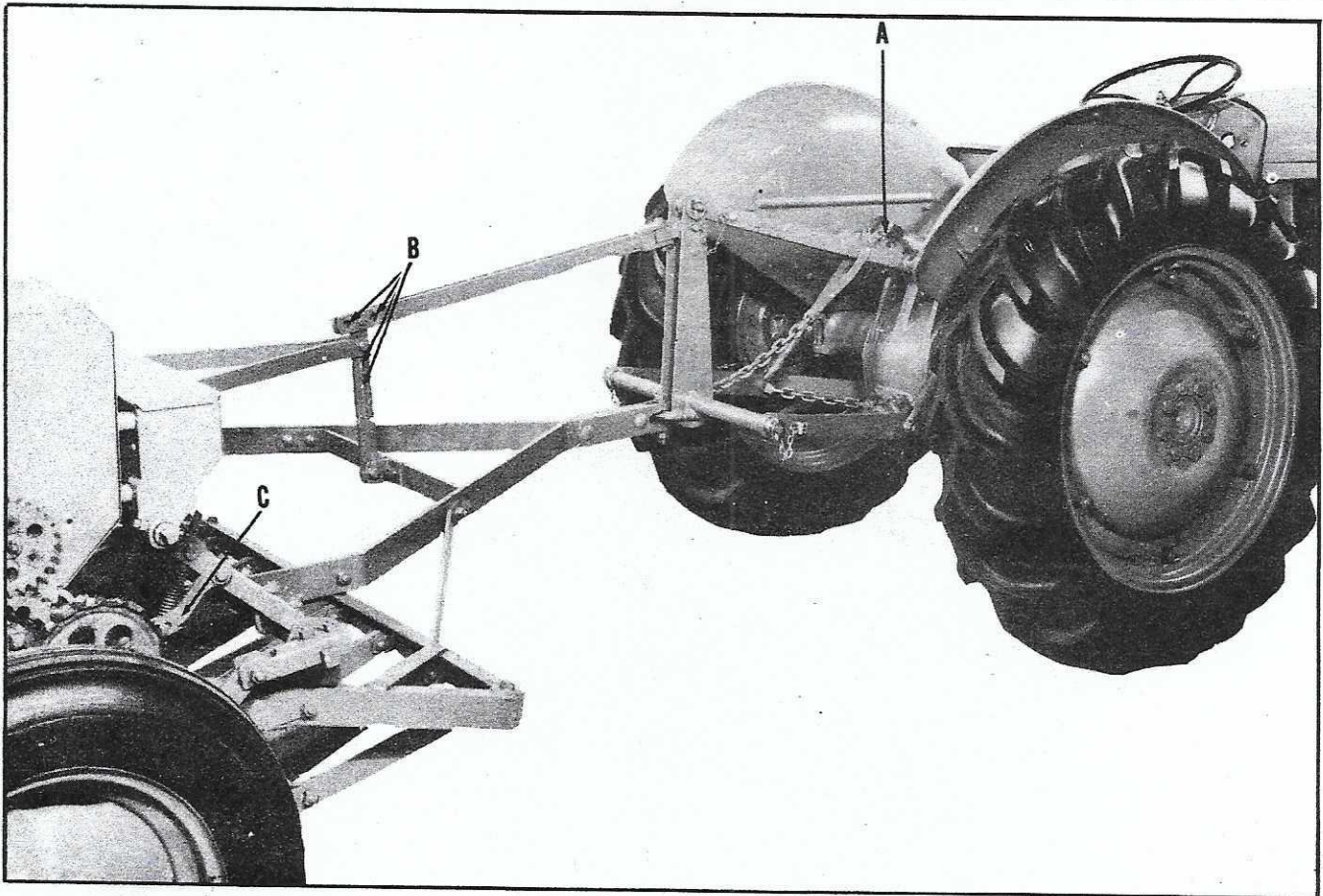


Fig. 6

### Acreage Tally:

The acreage tally is calibrated to show the acreage covered while the clutch is engaged. The large pointer should be set at 20 when starting a new measurement.

### Seeding Depth:

Seeding depth is controlled by the height of the tractor draw bar and hitch.

Adjustment of the depth control linkage, A, on the top link rack, Fig. 6, sets the maximum lowering of the draw bar thereby determining the seeding depth. Depth may be changed, while in motion, by raising draw bar slightly and shifting rack to desired position.

Pressure on the disc openers may be changed by shifting spring retainer clips to the various slots on the spring bar. Spring clips should be raised to increase pressure and dropped to relieve pressure.

Further lift and penetration adjustment may be obtained through the holes, B, Fig. 6, which connect the rigid top link to the vertical member.

Readjust the clutch throw out link, C, Fig. 6, whenever the above adjustment is made.

Under average conditions penetration is adjustable from 1 to 4 inches.

When planting depth is increased the delivery boot is automatically raised to prevent soil from clogging the opening. For shallow planting the boot automatically lowers, assuring positive delivery to the bottom of the furrow made by the disc openers.

### Clutch Throwout Adjustment:

The clutch should be adjusted to throwout when drill is in the raised position. Adjustment is made by increasing or decreasing length of clutch arm, C, in Fig. 6.

Spring holding clutch jaw in position should be adjusted to hold jaws firmly together. This adjustment is made by moving collar A, Fig. 7, toward the clutch, thus placing the spring under greater compression.

**CAUTION: DO NOT ENGAGE CLUTCH WHILE DRILL IS MOVING.**

### Transport:

The drill is placed in the transport position by raising the Ferguson finger-tip control lever and thereby raising the tractor lower links. This action raises the furrow openers and press wheels



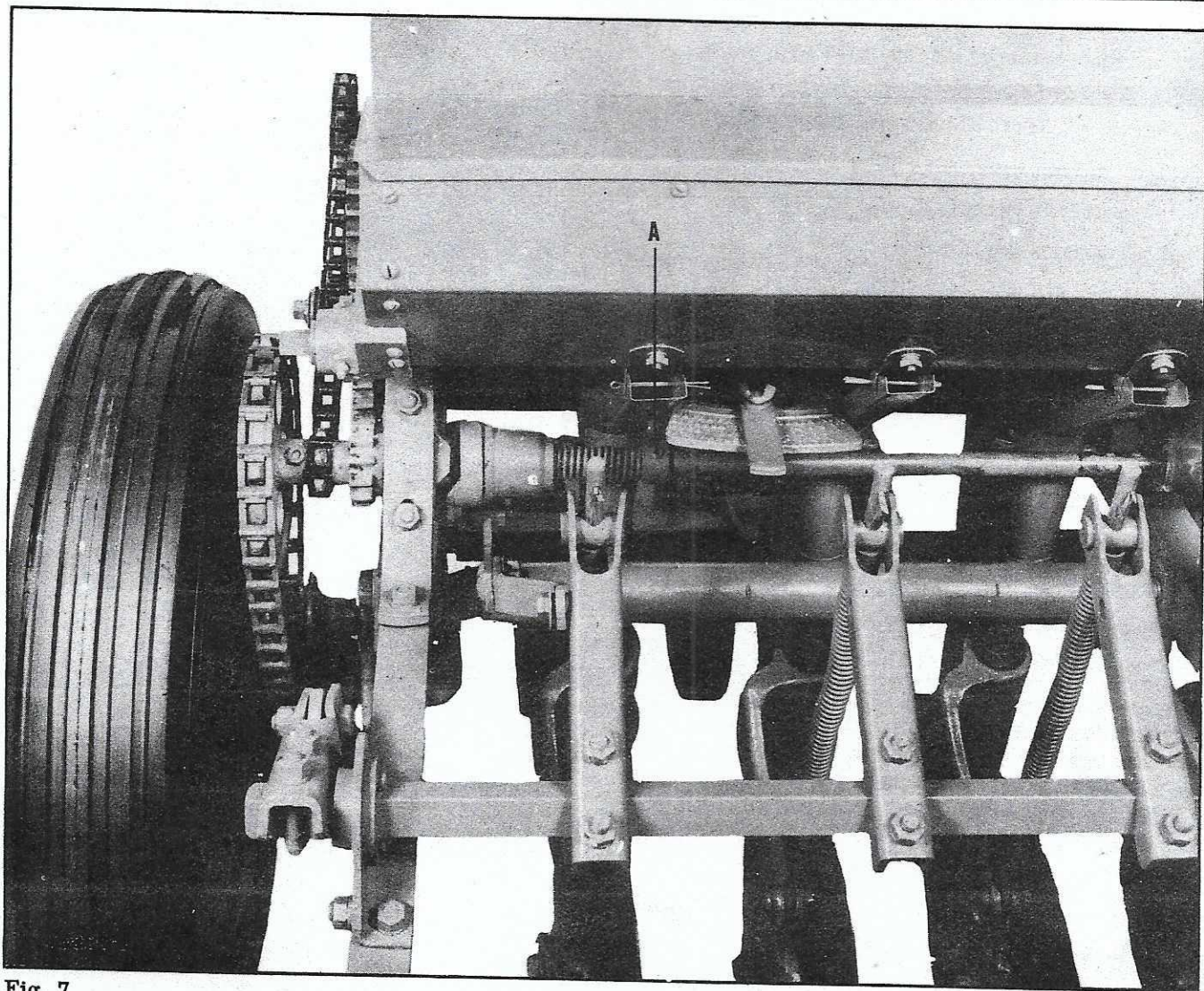


Fig. 7

if used. The entire drill is raised by the pivot action of the axle.

**Fertilizer Attachment: Operation and Adjustment:**

The large capacity fertilizer attachment mounts directly to the rear of the grain box. Fertilizer feed is a square bar rotating in the bottom of the box. The agitator apron moves fertilizer down to the feed bar. Delivery rate is determined by the speed of square bar which is controlled by driving and driven sprocket combinations.

Fertilizer attachments come equipped with either the A or the B group sprockets. The following table gives approximate delivery rate for various sprocket combinations when using dry, free-flowing fertilizer.

**GROUP A**

- FF-58-18-tooth drive sprocket
- FF-50-14-tooth driven sprocket-  
175 to 225 lbs. per acre

- FF-6 -12-tooth driven sprocket-  
275 to 325 lbs. per acre

- FF-49-10-tooth driven sprocket-  
375-450 lbs. per acre

**GROUP B**

- FF-59- 6-tooth drive sprocket
- FF-5 -24-tooth driven sprocket-  
30 to 50 lbs. per acre

- FF-50-14-tooth driven sprocket-  
85-110 lbs. per acre

- FF-6 -12-tooth driven sprocket-  
125-150 lbs. per acre

If the desired distribution cannot be obtained with the sprockets furnished, it is possible to obtain a complete range by purchasing additional sprockets.

To supplement the above mentioned sprockets, a 6-tooth driven FF-47, and an 8-tooth driven FF-48 are available and will give greater distribution rates.

## D-137-D GRAIN DRILL

The following tables give possible combinations that may be made by adding available sprockets to the original equipment:

①. Using a 6-tooth drive sprocket FF-59.

- 24-tooth driven sprocket—30 - 50 lbs. per acre.
- 14-tooth driven sprocket—85-110 lbs. per acre.
- 12-tooth driven sprocket—125-150 lbs. per acre.
- 10-tooth driven sprocket—140-175 lbs. per acre.
- 8-tooth driven sprocket—165-190 lbs. per acre.
- 6-tooth driven sprocket—190-210 lbs. per acre.

②. Using an 18-tooth drive sprocket FF-58.

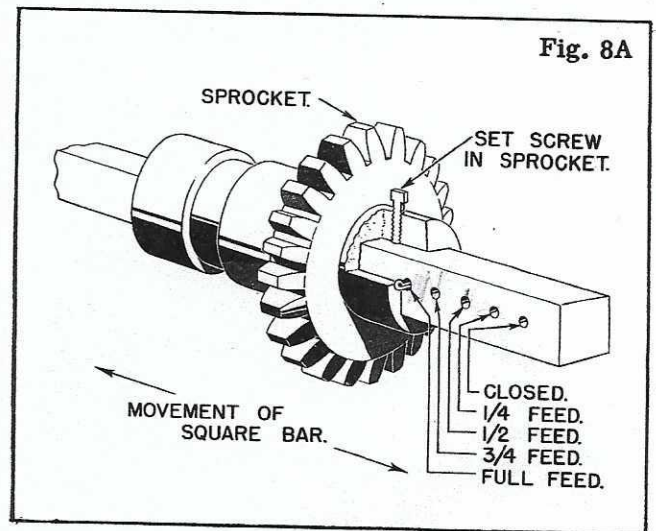
- 24-tooth driven sprocket—100-125 lbs. per acre.
- 14-tooth driven sprocket—175-225 lbs. per acre.
- 12-tooth driven sprocket—275-325 lbs. per acre.
- 10-tooth driven sprocket—375-450 lbs. per acre.
- 8-tooth driven sprocket—425-500 lbs. per acre.
- 6-tooth driven sprocket—475-550 lbs. per acre.

Care should be exercised in keeping the fertilizer hopper clean. Most fertilizers absorb moisture from the air and the combination can lead to corrosion very rapidly. Leave as little fertilizer as possible in the box when unit is to be idle. At the end of the season clean box, shaft, apron, etc., thoroughly.

### Grass Seed Attachment Operation and Adjustment:

Although the grain drill will sow grass seeds satisfactorily, a special grass seeder of one bushel capacity is available as extra equipment. With this attachment grain and grass seed may be sown in one operation. Adjustments are made by loosening set screw in sprocket and moving the square bar to right or left. Moving bar out increases rate and moving bar in decreases feed rate, as indicated by sketch.

- 1st—Loosen set screw in sprocket.
- 2nd—Move square bar to desired position (See rate chart).
- 3rd—Place 1/8" cotter pin in the desired hole and move the square bar so the cotter pin is against the sprocket.
- 4th—Tighten the set screw in the sprocket.
- 5th—It is not necessary to use the cotter pin if a setting between the holes is desired.



When the hole nearest the end of the shaft is against the sprocket, the feed is shut off. In like manner, when the hole farthest away from the end of the square bar is against the sprocket, the feed is wide open. See Fig. 8A.

### Grain Drill Assembly:

1. Assemble grain drill hitch as shown in Fig. 9A.
2. Remove all binding wires from main frame assembly. Attach lifting link, A, Fig. 8B, to axle arm support, B.
3. Connect drive chain tightener to main frame.
4. Mount rubber tired wheels.

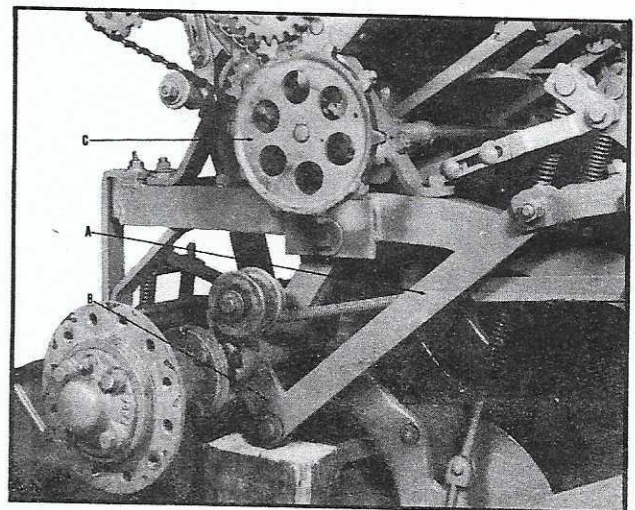


Fig. 8B

GRASS SEED FEEDING CHART IN LBS. PER ACRE

	Full Feed	3/4 Feed	1/2 Feed	1/4 Feed
Alfalfa and Sweet Clover	24 lbs.	18 lbs.	12 lbs.	6 lbs.
Millet	16 lbs.	12 lbs.	8 lbs.	3-1/2 lbs.
Timothy	20 lbs.	15 lbs.	11 lbs.	5-1/2 lbs.

## D-137-D GRAIN DRILL

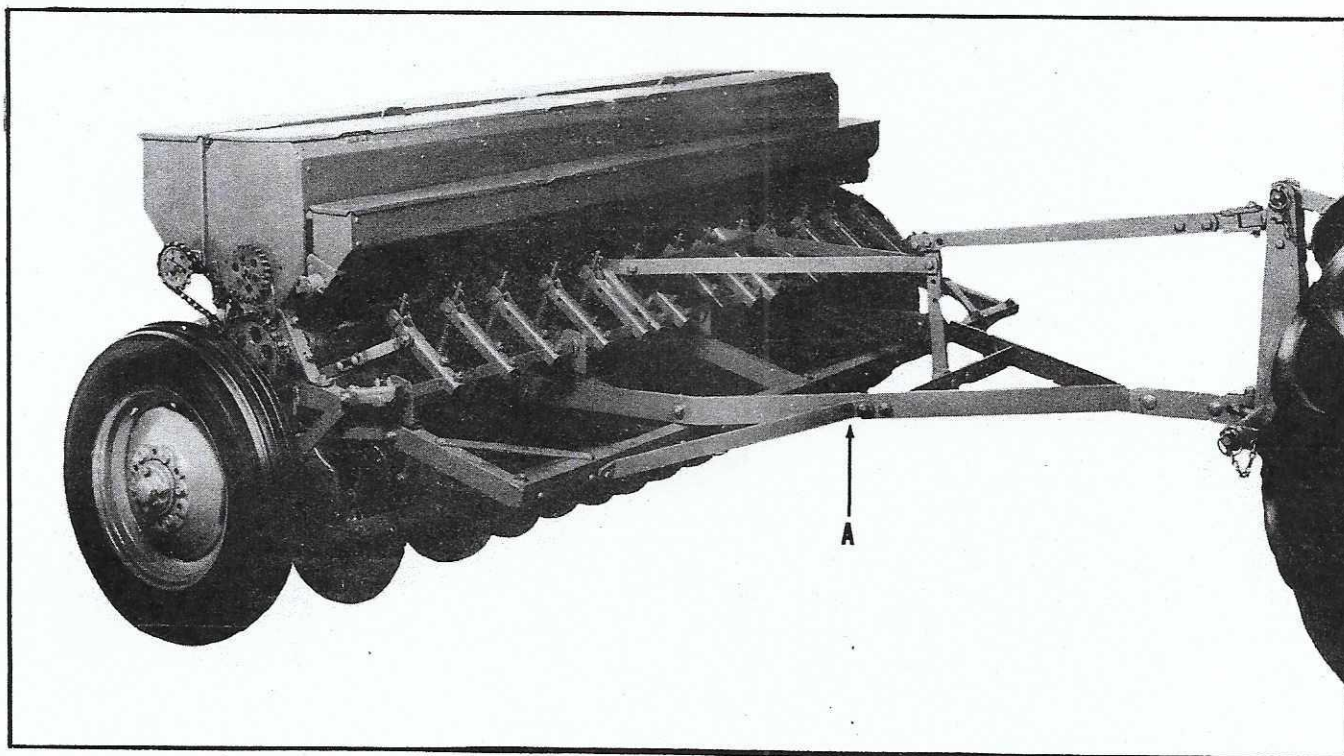


Fig. 9A

5. Support main frame assembly on wheels, and block under front frame angle. Attach hitch assembly, A, making sure that all bolts have been started before drawing any up tight.
6. Block under hitch and hang furrow openers, A, to frame assembly, Fig. 9B. This implement is designed to use seven (7) right and six (6) left furrow openers.
7. Set seed box in position on main frame assembly and bolt these units together.
8. Assemble sprocket, C, to countershaft as shown in Fig. 8B.
9. Install acreage talley indicator making sure that talley indicator and worm gear on main feed shaft are in constant mesh and not binding.
10. Assemble clutch throw-out arms, D, Fig. 8B, to grain drill. Make adjustment, following guide on page 6.
11. Install drive chain assembly as shown in Fig. 9C.

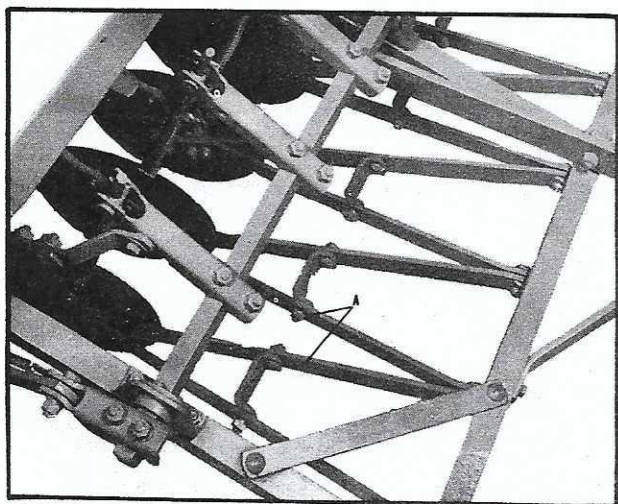


Fig. 9B

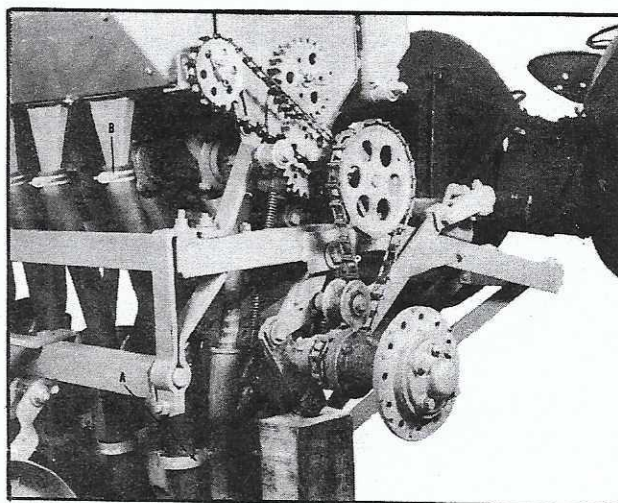


Fig. 9C

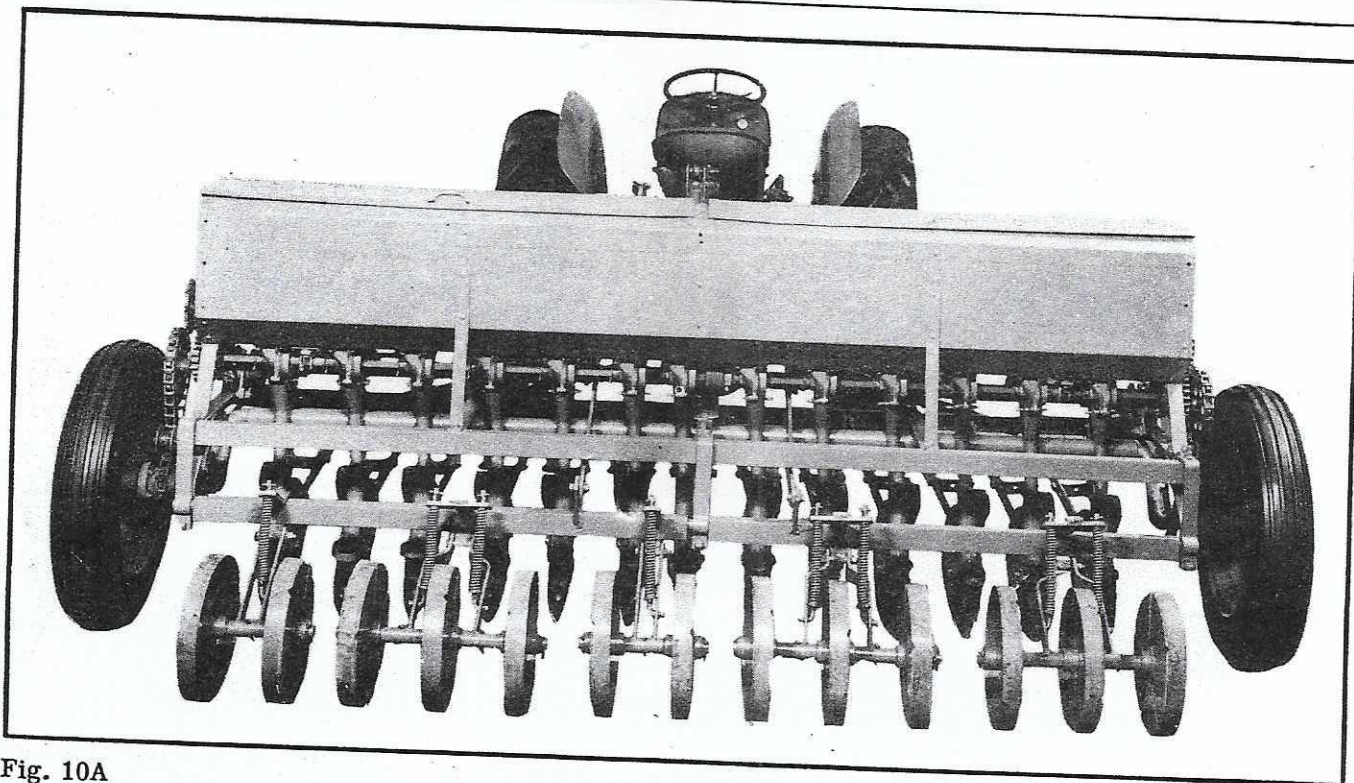


Fig. 10A

12. Install seed tubes to grain drill as shown in Fig. 9C.
13. If drag chains are to be used with your drill, install as illustrated in Fig. 10B.
14. Press wheels (if used) should be installed as shown in Fig. 10A. First attach rear frame angle support for press wheels and press wheel lift arms. The arrangement of the press wheel is as follows:

Starting on the left side (viewing from rear): 2 wheel gang, 3 wheel gang, 2 wheel, then two remaining 3 wheel gangs. **PRESS WHEELS ARE EQUIPPED WITH HARD WHITE IRON BEARINGS WHICH REQUIRE NO LUBRICATION.**

15. Mount tractor hitch to grain drill hitch assembly. Fig. 6.

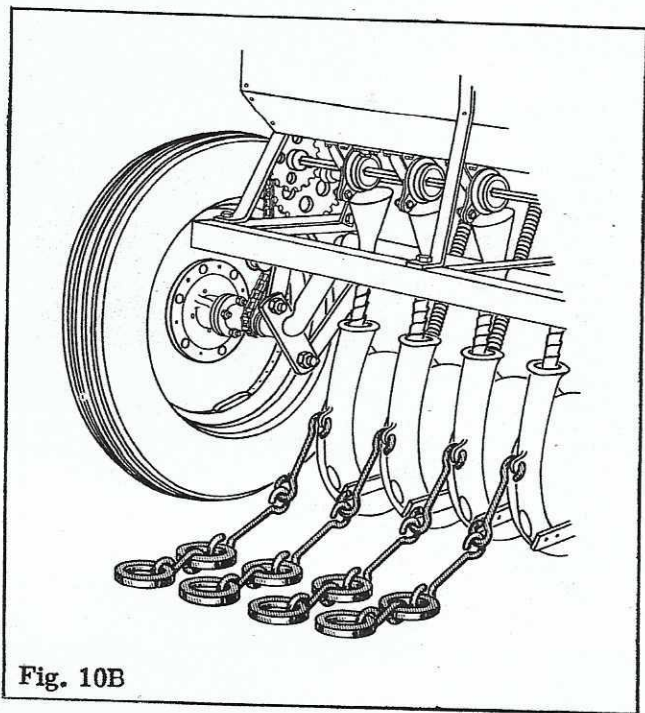


Fig. 10B

**Fertilizer Attachment Assembly:**

1. Secure fertilizer attachment to rear of grain box, using five bolts—two on each end and one in the center, with block spacers between the fertilizer box and the grain box.
2. Remove right-hand main drive chain, counter shaft sprocket, spacer, and outer half of clutch assembly with spur gear attached.
3. Install new part, consisting of outer half of clutch, spur gear, and fertilizer attachment drive sprocket. (6-tooth or 18-tooth).
4. Replace counter shaft main drive sprocket.
5. Install the correct fertilizer driven sprocket for the amount of fertilizer desired. (See chart Page 8).
6. Install fertilizer attachment drive chain.
7. Install and adjust fertilizer drive chain tightener. Fig. 11A.
8. Replace main drive chain.

## D-137-D GRAIN DRILL

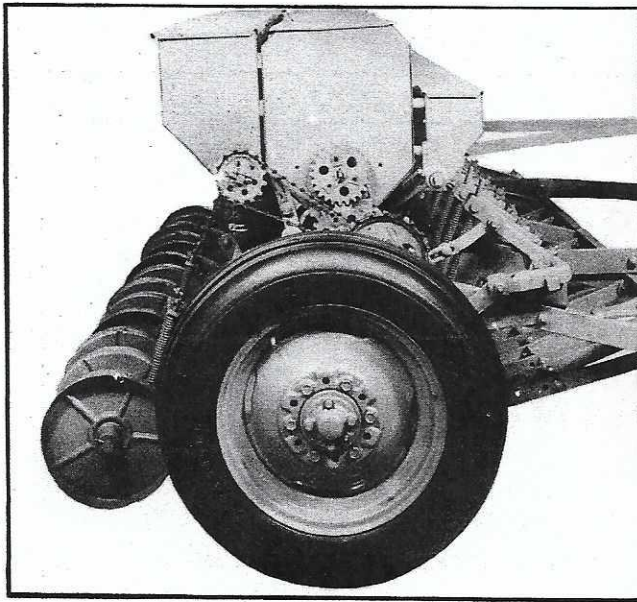


Fig. 11A

9. Bolt the 13 fertilizer tube clamps, A, to rear of seed boots. Fig. 9C.
10. Install the 13 fertilizer tubes with clamps, B. Fig. 9C.

### Grass Seed Assembly:

1. Mount grass seeder attachment to forward side of grain box, using long spacers at the top and short spacers at the bottom as shown in Fig. 11A.
2. Attach the seed chute holder to the grass seeder box, using 1-1/4" stove bolt furnished with the attachment. Fig. 7.

3. Attach the chute to the holder with a 1/8" x 2-1/2" cotter pin, also furnished. See Fig. 7.
4. Seed chute is mounted to the rear, so as to transfer seed to the grain drill seed boot.
5. To broadcast the seed it is necessary to remove the seed chutes and allow seed to drop direct from the openings in the box.
6. Figure 11B shows the drive chain and sprocket assembly. The drive sprocket, FS-2, is bolted to the grain agitator shaft spur gear. The driven sprocket, FS-1, is mounted on the square bar at left end of the seeder attachment. Chain and chain tightener complete the drive.

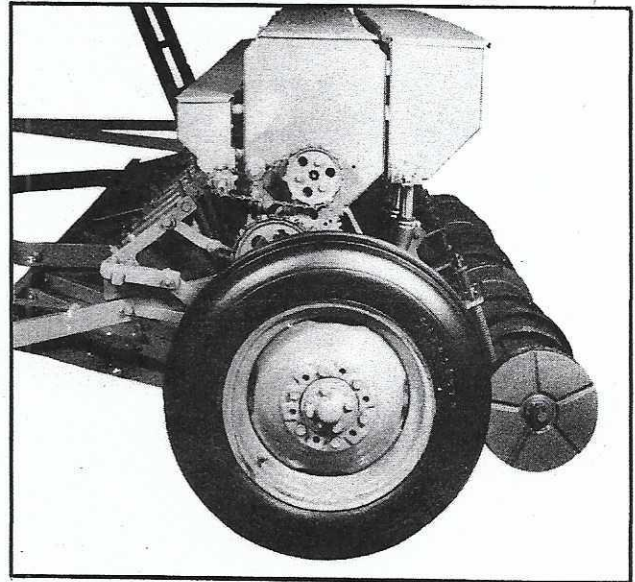


Fig. 11B



# **HARRY FERGUSON, INC.**

## **IMPLEMENT**

### **WARRANTY**

For a period of ninety (90) days from the date of delivery of a new Ferguson Implement to the original purchaser thereof from a Ferguson Dealer, Harry Ferguson, Inc. warrants all such parts thereof (except tires) which, under normal use and service, shall appear to Harry Ferguson, Inc. to have been defective in workmanship or material.

This warranty is limited to shipment to the purchaser, without charge except for transportation costs, of the part or parts intended to replace those acknowledged by Harry Ferguson, Inc. to be defective.

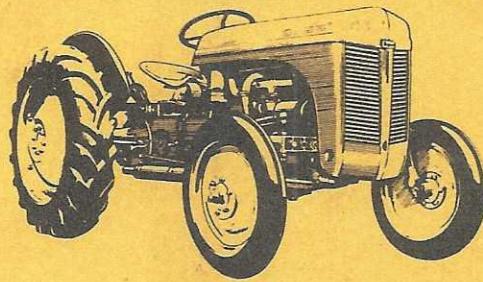
If the purchaser uses or allows to be used on a Ferguson Implement parts not made or supplied by Harry Ferguson, Inc., or if any Ferguson Implement has been altered outside of its own factories or sources of supply, or if attachments have been used which were unsuited and harmful to the Ferguson Implement, then this warranty shall immediately become void. Harry Ferguson, Inc. does not undertake responsibility to any purchaser of a Ferguson Implement for any undertaking, representation, or warranty beyond those herein expressed.

Harry Ferguson, Inc. reserves the right to make changes in design or changes or improvements upon Ferguson Implements without any obligation upon it to install the same upon Implements theretofore manufactured.

See Your Dealer for Information

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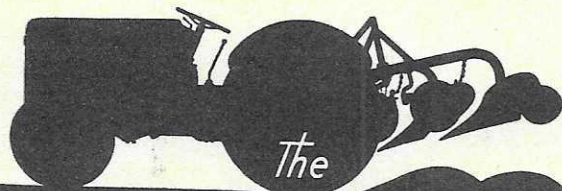
# THE FERGUSON SYSTEM



## THE FERGUSON LINE

Of Implements Includes

- |                     |                         |
|---------------------|-------------------------|
| Moldboard Plows     | Spring Tooth Harrows    |
| 2-Way Plows         | Rigid-Tine Cultivators  |
| Disc Plows          | Spring-Tine Cultivators |
| Disc Terracers      | Lister Cultivators      |
| Blade Terracers     | Four-Row Weeders        |
| Middlebusters       | Farm Mowers             |
| Corn Planters       | Heavy Duty Mowers       |
| Lister Planters     | Feed Grinders           |
| Tillers             | Cordwood Saws           |
| Single Disc Harrows | Farm Wagons             |
| Tandem Disc Harrows | Corn Picker             |
| Spike Tooth Harrow  | Rotary Hoe              |
| Offset Disc Harrow  | Disc Tiller             |
|                     | Heavy Duty Disc Harrows |



**FERGUSON TRACTOR**  
and FERGUSON SYSTEM IMPLEMENTS

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