

Care and Repair of Plows

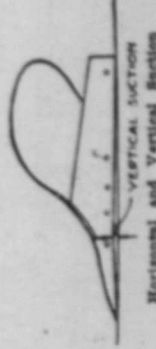
How to keep the most efficient soil pulverizer in shape

PROBABLY no implement used on the farm receives a greater measure of abuse, or as little attention to its proper care, operation and repair as the plow. To quote a recent writer on machinery: "The plow is the basic tillage tool, the fundamental farm implement. It is not merely a tool for inverting the furrow slice, but it is the most efficient pulverizer of the soil in use. As the moldboard turns the furrow, each particle of soil is forced to slip against the particle adjoining, a process which results in a tilth that no other single operation approaches. The general impression prevails that the plow is a simple tool, requiring but little adjustment and less care. This is far from the truth, however. Without question it is the most complex tool on the farm, in that it requires the greatest skill for adjustments, the grain-blender and the gasoline engine not accepted. More effort has been expended in the slow process of development of this seemingly simple tool than in that of any other implement on the farm. Careful study of its construction, adjustment, and use will be amply rewarded."

This useful implement should not be allowed to remain in out-of-the-way places subject to deterioration by weather conditions, but should be housed properly when not in use. When laid by, it should be stored in a dry place away from contact with the ground and the bright parts coated with grease to prevent rust. Once the moldboard share and landside have become pitted with rust an efficient job of plowing can not be done until the corroded parts again have acquired a polish by use. In overhauling, the following scheme is suggested:

Repairing a Walking Plow

Share.—If chilled cast iron and badly worn, renew. If steel and badly worn, should be sharpened, bearing at wing three quarters of an inch for 10-inch bottom to one and a quarter inches for 16-inch bottom; vertical section, one-eighth inch; horizontal section, one-eighth to one-quarter inch, as shown by the illustration.



Landside.—If badly worn and detachable sole is provided, replace sole, otherwise it will be necessary to renew landside.

Moldboard.—Usually in two parts, shin and moldboard proper. If shin be present and badly worn, renew. See that moldboard is bolted tight to frog.

Bracing.—If loose, tighten up connections. **Handles.**—If loose, tighten up bolts so that they are attached rigidly to bottom and see that bracing is tight.

Beam.—If loose, see that bolts to frog are tight. **Gauge Wheel.**—Examine bearings and if badly worn replace with new. If plain bearings, do not lubricate. See that gauge-wheel standard is bolted rigidly to beam.

Jointer.—Examine point, if badly worn and if chilled cast iron, renew; if steel, it may be sharpened. See that it is bolted rigidly to the beam.

Rolling Coupler.—Seldom used on hand plows but if present examine the coupler-wheel bearing and if badly worn, renew. See that the standard is attached rigidly to the beam.

Fin or Hanging Coupler.—Should be attached rigidly to the beam and sharpened if worn.

Adjustments

Depth of furrow.—Made by raising or lowering the clevis or bridle on end of beam. This also may be regulated slightly by the gauge wheel where wide and frequent variations in soil conditions prevail. The gauge wheel should not be used where the soil conditions are uniform, except in very stony soil, as it increases the draft of the plow. In any case, there should not be excessive bearing pressure on the gauge wheel, the function of this wheel being to prevent plowing at a greater than the desired depth when passing from a firm and hard soil to one of more friable nature.

Width of furrow.—Made by shifting the hitch on the clevis or bridle to or from land according to whether a greater or less width of furrow slice is desired. In using more than two horses this also may be regulated to some extent by the gauge wheel if this wheel has a standard which may be adjusted to land to or from land.

Handle.—Should be adjusted to suit height of operator.

Jointer.—Should be set so that its point is just above or just back of the point of the share, to run one and a-half to two inches deep and slightly to the landside of the shin of the plow.

Coupler.—If used, it should be set in a position similar to the jointer except that it should run about half the depth of the furrow. A rolling coupler does not, however, take the place of a jointer. The functions of the two attachments differ in that the function of the jointer is to turn under a small furrow slice ahead of the furrow proper, so that a smoother job of plowing results, and that of the rolling coupler is to cut tough grass roots and surface trash, so that they may be covered more efficiently by the furrow slice.

Hitch.—The theoretical line of draft originates at a point about two inches from the moldboard side of the shin, just above the junction of the shin and moldboard. This line should pass through the hitch at the beam clevis and end at a point midway between the short tug rings at the hames. Any variation from this line will influence the plowing, such as too short or too long traces, short hip straps, etc. If this line be straight and the reins adjusted properly, the plow properly set for depth and width required, no effort of the operator is needed in guiding, except to steady the plow in a proper running position when obstacles are encountered.

Repairs for Sulky and Gang Plows

Wheel bearings.—Take down, clean with cloths saturated with kerosene oil, make adjustments for wear if provided for, and repack with heavy grease before assembling.

Frame.—Examine or loose bolts and connections and take them up.

Landing and lifting levers.—See that all connections are tight and take up lost motion if possible.

Beam and frog.—Examine for loose bolts and connections and tighten if present.

Share.—If worn, replace or sharpen. **Landside.**—If worn and has removable sole, replace the sole, otherwise replace the landside.

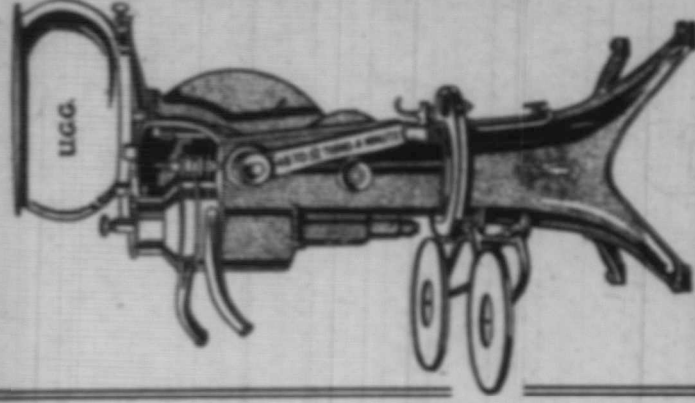
Coupler.—Rolling coupler usually is used. Examine the bearings and renew if necessary. See that coupler standard is attached rigidly to the beam.

Adjustments

Depth.—Regulated by raising or lowering the bottom in relation to the frame. Section as applied to sulky or gang plows is the distance of the back end of the landside from the floor with the point and wing of the share resting on the floor. This is about one-half inch for most plows though it may vary for different lengths of landsides.

Width.—Regulated by adjusting the hitch to or from land on the frame. It may be regulated also to some extent by "landing" the front furrow wheel. **Jointer.**—If used, it should be set so that its point is just above and just back of the point of the share, to run

U.G.G. CREAM SEPARATORS

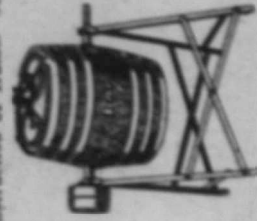


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