

Cockshutt Engine Gang.

This plow is of the individual bottom type, that is, each bottom is controlled by its own lever. The plow frame is made up in the shape of a triangle,

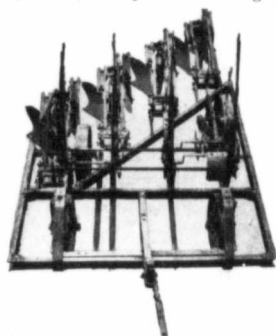


Fig. 30.—Top view of eight bottom La Crosse plow showing automatic lifting attachment and frame.

which is carried on four wheels in the case of the larger sizes, and upon three wheels in the case of the smaller sizes. The beams are two piece, the plow standard passing between them. It is built in the following sizes:

Six furrow frame for 4, 5 or 6 plows.

Eight furrow frame for 6, 7 or 8 plows.

Ten furrow frame for 8, 9 or 10 plows.

Twelve furrow frame for 10, 11 or 12 plows.

Facilities are provided for adjustment both for setting and for lining the plow, the setting adjustment being a screw arrangement placed on the top of the standard (Fig. 2) and the alignment adjustment being taken care of where the beam fastens to the frame (Fig. 3). The general arrangement of beams, clevis, etc., as shown in Fig. 4.

John Deere Engine Gang.

This engine gang differed from most other engine gangs in a great many particulars. In the first place it is so arranged that each lever operates two bottoms. The construction of the frame is of the truss type, all parts being rivetted together. The front wheels are centered, and all three wheels are inside the frame. This allows the plow to turn very short and does not interfere with the engine. Fig. 5 shows this wheel arrangement, also method of frame construction. The assembling of the beams and bottoms in pairs is shown by Fig. 6.

The beams on John Deere engine gangs are of the curved type. This was adopted so as to provide clearance in trashy or foul ground. This form of beam may not be so rigid as the straight standard, but the wide space between the ends of the plow beams permits of a method of attachment that makes it very

rigid and takes care of the side thrust.

The beams are attached to the frames by means of a screw clevis (Fig. 7). By means of an ordinary wrench the beam points can be easily raised or lowered while the plow is in operation. Rolling coulters are provided which can be set in such a way as to jump the plow over any obstructions there may be in the ground. Quick detachable shares are used on Deere engine gangs, thus greatly facilitating the changing of shares.

The gang is hitched to the engine by means of chains. The chains are attached to the engine frame with clevises which can be shifted sidewise to suit any condition. John Deere engine gangs are made in 4, 6, 8, 10, 12 or 14 bottom sizes. A single bottom attachment may also be had whereby odd numbered combinations may be made such as 5, 7, 9, etc. Fig. 8 shows a side view of an 8 bottom John Deere engine gang.

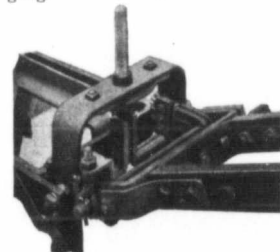


Fig. 31.—Adjustments for suction and width between bottoms.

Verity Engine Gang.

This gang is of the individual lever type. It has straight standards and double beam construction. The frame construction is of the bridge truss type, firmly riveted together, with the three wheels inside the frame. Each plow is adjusted by means of a "screw bolt" at the top of each standard. Alignment is taken care of by means of a screw adjustment at the front end of the left hand beam. "Winging" is prevented by means of a set screw on the front end of the right hand beam. One of the big features claimed for Verity engine gangs is the "self-leveling" device (Fig. 9). When changing the depth of furrow it is not necessary to adjust the plows in any way. The depth may be changed from one to eight inches by simply moving the lever. This applies to any or all of the bottoms. Large gang wheels, 16 inches in diameter, are provided, and rolling coulters are used. Verity engine gangs are made in 6, 8, 10, 12 and 14 bottom sizes, but the frame is so constructed that a one bottom attachment can be used when desired, thus making the gangs 5, 6, 7, 8, 9, 10, 11 or 12 bottoms. A good idea of the beam and

frame construction of Verity engine gangs can be gleaned from Fig. 10.

P & O Engine Gang.

The P & O engine gang is another of the individual bottom type. This gang has been built for a number of years. It is built in 5, 6, 8, 10 and 12 bottom sizes. The frame construction differs in the different sizes. Fig. 11 shows the construction of a ten bottom frame and Fig. 12 the construction of a 6 bottom frame. The front wheels on both styles are castored, and are so arranged that they run on a circular track. The frames are built of heavy channel iron braced and cross braced so as to give a very rigid effect. One feature of the P & O engine gang is the arrangement of the levers. Each bottom has its own lever, but they are each attached to a pivoted standard in such a manner that they can be bunched together, thus greatly facilitating their handling by the operator without being obliged to walk clean across the platform. The hitch is by chains that can be either crossed or hitched straight to the drawbar of the engine. Fig. 13 gives a very good idea of the construction of the P & O engine gang, better known as the "Mogul," also of the arrangement of the levers towards the centre. Fig. 14 gives an idea of the individual plow with hoisting lever, etc.; also the position of the gauge

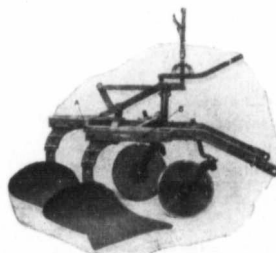


Fig. 32.—Details of La Crosse plow.

wheel. This gauge wheel is self-castering, which greatly aids in turing corners. The plow standards are attached to the beam by two bolts, as shown in Fig. 15, this beam being of a semi-carved type. In stony ground the bolts may be exchanged for

wood pins, which break when undue strain is put upon the point, thus saving shares and oftentimes a twisted or broken beam.

The beams on the large size plows above eight bottoms are made in one size only, and of the same pattern, so that they are interchangeable. In the five and six bottom sizes the outside or right hand beam is designed to allow the traction wheel to run inside the frame. All other beams on the small plows are

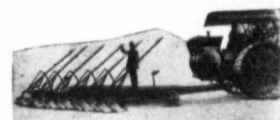


Fig. 33.—Reeves engine plow with hand lever left.

inter-changeable, and may be used even on the larger sizes.

Fig. 16 shows the method of attaching the beam to the frame, and Fig. 17 shows the method of regulating the "wing" of the share. Gage stops are provided on the notched quadrant, and if the depth of plowing has been determined they may be set for any depth desired. All that is necessary to do in setting the plows in the ground is to pull back the latch and throw the lever upward. The levers are long, making the lifting of the plows from the ground an easy matter.

Oliver Engine Gang.

This engine gang is somewhat of a departure from most other makes, in that the larger sizes are made up of a combination of the smaller ones. The sections are made in either 3, 4, 5, or 6 bottoms, and for example an 8 bottom gang would be made up of a combination of 3 and a 5 bottom section.

Fig. 18 shows the frame arrangement for one section, also the extension on the front right hand corner of the section attached to it. The frame is triangular and is carried on 3 caster wheels, one in the rear and two in front. The levers are individual, likewise each beam has its own gauge wheel and coulter. The gauge wheels are made solid, the idea being to prevent their picking up mud in wet

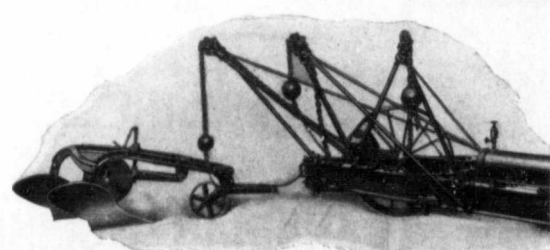


Fig. 34.—Steam cylinder and counter weights by which two plows are raised at one time.