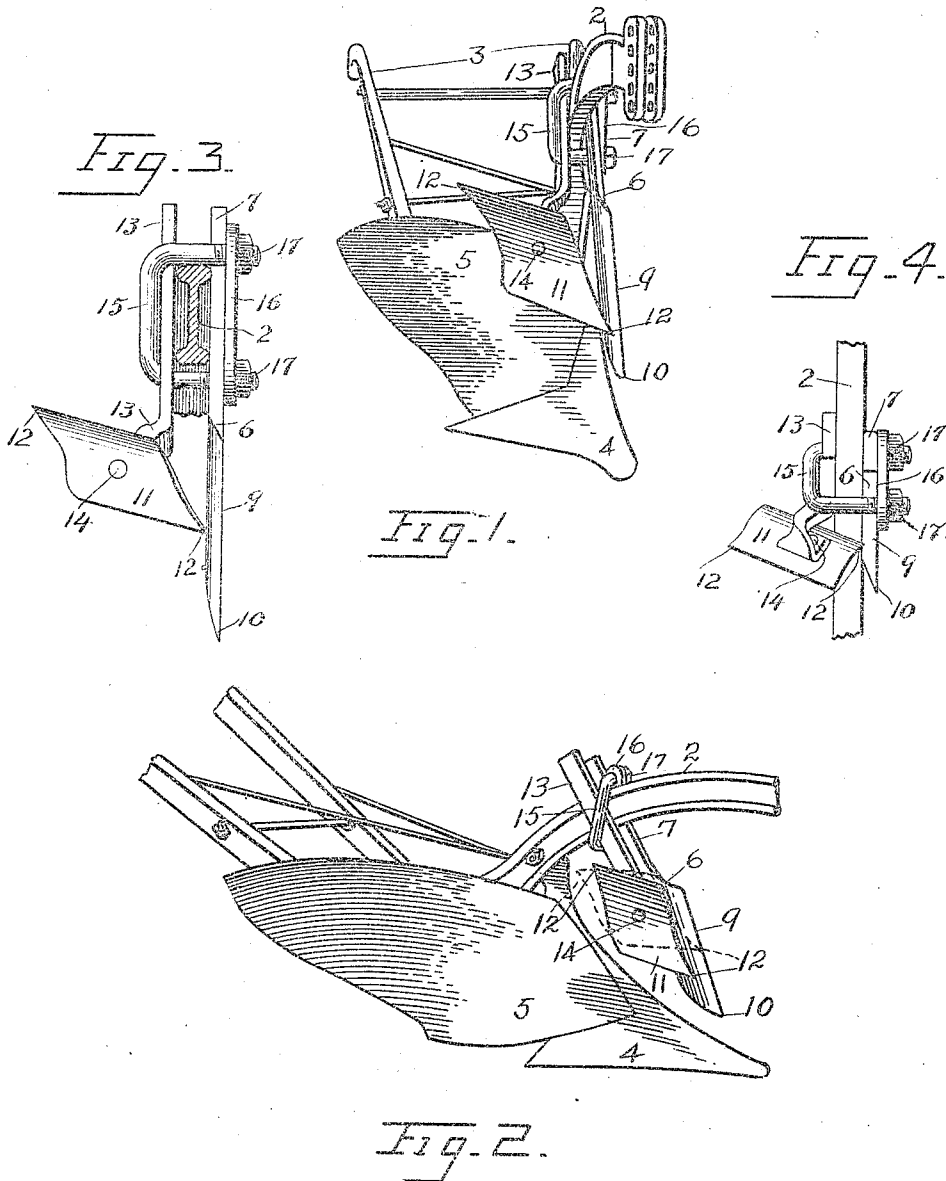


981,294.

Patented Jan. 10, 1911.



WITNESSES:
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PLOW-JOINTER.

981,294.

Specification of Letters Patent. Patented Jan. 10, 1911.

Application filed January 6, 1910. Serial No. 536,686.

To all whom it may concern:

Be it known that I, LEVI LIVERMORE, a citizen of the United States, residing at Dexter, in the county of Jefferson and State of New York, have invented certain new and useful Improvements in Plow-Jointers, of which the following is a specification.

This invention relates to improvements in jointers for plows, and has for its object to provide a simple, strong, effective and inexpensive device, which is capable of being readily and quickly attached to the beam of a plow, and is also adjustable to different service positions.

A particular object of the invention is to provide a jointer for splitting, skinning and turning over the top of the furrow-slice in advance of the turning operation by the main plow; the jointer being positioned intermediate the point of the share and the mold-board of the plow, one point of the jointer overlapping and yieldingly held against one side of the colter.

A further object is to provide a jointer which is reversible, and which may be adjusted so as to throw the surface soil or sod in different directions as compared with the throw of the remainder of the furrow-slice. And a further object is to provide a device of the class which will increase the effectiveness of the work of a common plow without increasing the draft.

Other features and parts of the invention will be understood from the detail description which follows, and as illustrated in the accompanying drawings which form a part of this specification, and in which—

Figure 1 is a front view of a plow equipped with my improved jointer. Fig. 2 is a side view of the same. Fig. 3 is a sectional view through the plow beam, looking at the front of the plow. Fig. 4 is a plan view looking down upon the beam, with portions to the front and to the rear of the colter and jointer broken away.

In the drawings, 2 represents the beam, 3—3 the handle, 4 the share, and 5 the mold-board of a plow, all of which parts are common to the ordinary plow, and may be connected and applied in the usual manner.

6 represents a colter having a shank 7, and a cutting edge 9 which terminates in a depending point 10. The colter is of the well-known construction, and is employed

for the same purpose as other similar devices.

11 represents my improved jointer, comprising a concavo-convex plate serving as a mold-board, which is diamond-shaped in plan, and is provided with oppositely formed entering points 12—12, both preferably arranged in the same relation to the body of the jointer, and are intended to be reversibly used.

13 represents the shank, preferably made of spring steel, for supporting the jointer, the lower end of which is enlarged and bent in a peculiar manner to receive and hold the jointer by its tension, at the desired angle, in relation to the colter and also to the mold-board 5. The jointer or plate 11 is perforated centrally to receive a bolt 14, which passes through a corresponding perforation in the angular lower end of the shank 13, as best seen in Fig. 4. In applying the jointer and colter, the colter is placed on the land-side, and the shank 13 on the opposite side of the beam of the plow, and a U-shaped clamp 15, a plate 16, and a pair of nuts 17, are employed in a manner to grip and hold the shanks 7 and 13 tightly against the opposite sides of the beam. In forming-up the shank 13 of the jointer, it is bent in such manner that it will hold the forward point of the jointer against the side of the colter, as shown in the several figures of the drawings. The preferred position for this point of the jointer is about on a line drawn vertically through the center of the blade of the colter, as shown. The jointer is pivoted to the shank 13 by means of the bolt 14, and it may be readily shifted and adjusted to any other position than that shown herein, but I have found from long use of the device, that the best results are obtained, and the most effective work is performed by both the jointer and the colter, when they are disposed in the relation as shown in the drawings. The disposing of the point of the jointer an inch or two rearwardly of the cutting edge 9 of the colter, permits the latter to do its work freely and perfectly, and owing to the fact that the jointer only bears against the colter at its forward point, there is very little, if any, increase in the draft. From the point of contact between the colter and jointer, the latter then curves

upwardly and outwardly away from the colter, thus providing a large clear gap between these two parts, through which weeds, grass, and clods may pass freely without any tendency to clog the plow.

As may be seen by reference to Figs. 2 and 3, the gap between the jointer and colter increases from the point of contact upwardly by the outward curving of the jointer. The form and arrangement of these auxiliary parts are such that there are no points, corners or angles to gather, or to obstruct the free passage of, the earth and refuse, during the operation of the plow. In the preferred arrangement and disposition of the jointer and colter, the lower extremities of both of these parts are preferably spaced and held a few inches above and clear of the share of the plow, and they should also be disposed several inches rearwardly of the point of the share. By arranging the colter and jointer in the manner herein shown and described, these parts have a tendency to steady or balance the plow, and by the peculiar arrangement and relation of the jointer and colter to each other, as well as to the plow, I am able to skim off the top of the soil and turn it over, in advance of the large mold-board, which immediately follows, picks up and turns over the substrata of the furrow-slice, thereby completely covering up the entire top surface. Under this construction, arrangement and operation of a plow, equipped with my jointer, every particle of the top or surface-soil, including grass, stubble, &c., is completely turned over and buried. By changing the shape or angle of the shank 13, the jointer may be set at a greater or less angle as compared with the mold-board 5, for the purpose of varying the work of the jointer. The same result may also be attained, though in a limited degree, by adjusting the jointer to different positions on the shank 13, by means of the bolt 14. It is obvious that some changes and modifications may be made in the device, and in the application of the same, without departing from the spirit of my invention, and I therefore do not restrict myself to precise construction, arrangement and application of the same as herein shown and described.

Having thus described my invention what I claim as new and desire to secure by Letters Patent, is—

1. In a plow-jointer, the combination with

the colter of a plow, of an adjustable plate pointed at its opposite ends, its body curved to form a reversible mold-board adapted for cutting and turning over the surface soil, a spring shank for supporting the said plate, arranged to hold the forward point of the plate against one side of the colter, means for adjustably securing the plate to the shank, and means for clamping the plate and colter to the beam and holding the plate against the colter under a constant spring tension.

2. In a plow-jointer, the combination with a colter carried by the beam of a plow, of a jointer having oppositely arranged points capable of being used reversibly for entering and turning over the top soil, a spring-shank to support the jointer adapted by its tension to hold the forward point of the jointer against the furrow-side of the colter under a constant spring tension, said shank having its lower end formed to hold the opposite or rearward point of the jointer away from the colter to provide a gap increasing in width from the forward point of the jointer to the opposite end thereof, the said forward point of the jointer being positioned rearwardly of the cutting edge of the colter, means for clamping the shank of the jointer to the beam and drawing the jointer against the colter and means for adjustably securing the jointer at different angles to the spring-shank.

3. The combination with a plow and a colter supported by the beam of the plow, of a spring-shank mounted on the opposite side of the beam to the colter and depending coincidingly with the colter, a jointer comprising a curved-plate having like entering points formed at its opposite ends, the said plate attached to the lower end of the spring-shank and adapted to be held by the tension of said shank so that its forward point bears against the furrow-side under a constant spring tension, and rearwardly of the cutting edge, of the colter, a bolt piercing the said plate and also said shank for rigidly holding the jointer in place, and means for clamping the jointer under a constant spring tension against the colter.

In testimony whereof I affix my signature in presence of two witnesses.

LEVI LIVERMORE.

Witnesses:

WILLIAM ALLISON,
ROBERT THOMPSON.