

Aug. 18, 1936.

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2,051,234

REPAIR ELEMENT FOR WORN PLOWSHARES

Filed April 26, 1935

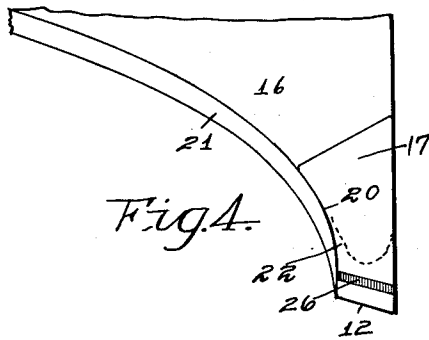


Fig. 4.

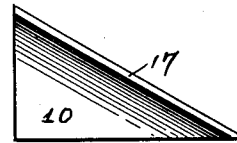


Fig. 6.

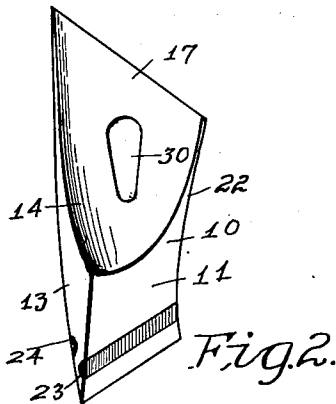


Fig. 2.

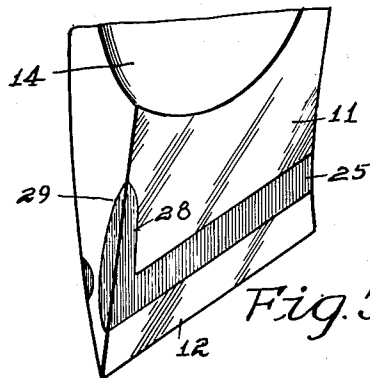


Fig. 5.

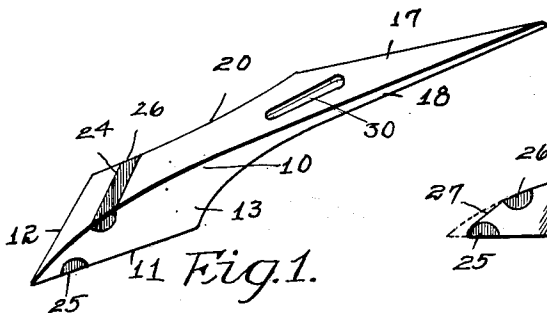


Fig. 1.

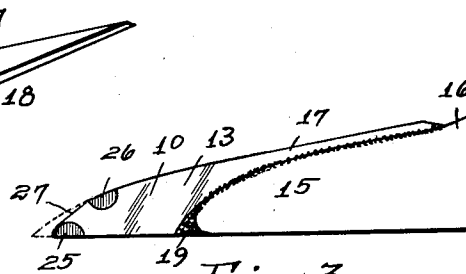


Fig. 3.

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2,051,234

REPAIR ELEMENT FOR WORN
FLOWSHARES

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Application April 26, 1935, Serial No. 18,401

8 Claims. (Cl. 97—125)

This invention relates to an improved repair element adapted to be used in connection with the resharpening and repairing of the nose portion, or point, of a plow share.

5 The object of my invention is to provide improved means of simple, durable and inexpensive construction for renewing the worn out nose of a plow share, which is particularly adapted to be applied to said plow share by the electric arc welding process now in common use in
10 a large number of repair shops.

A further object of my invention is to provide a renewable repair element for plow shares having a tapered or sharpened nose, so shaped
15 and formed as to substantially fit the worn nose when placed in position thereon, to thereby eliminate a large amount of preparation to the worn out plow share before application of the repair element, as has heretofore been necessary.
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More specifically, it is the object of my invention to provide a repair element for plow shares having its sharpened or tapered front end provided with transversely arranged inserts of very
25 hard abrasive resisting alloys, and so arranged that the front end of said element will always remain in a beveled and sharpened condition as the element is worn away by use, whereby the proper amount of suction will always be maintained during the life of the repair element. My
30 invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the
35 accompanying drawing, in which:

Figure 1 is a perspective view of my improved repair element.

Figure 2 is a bottom view of the same.

40 Figure 3 is a side elevation, illustrating the landside edge of the repair element and the manner in which the said repair element is applied to the worn nose of a plow share. This figure also illustrates the manner in which the
45 sharpened end of the repair element is maintained by hardened inserts.

Figure 4 is a front view of my improved repair element showing the manner in which it is applied to a plow share and the manner in which
50 the repair element for the cutting edge of the plow share is applied.

Figure 5 is a bottom view of a slightly modified form in which the bottom insert of the repair element is extended rearwardly along the
55 intersecting edges of the bottom portion of the

element and the land-side face to prevent wearing away of the intersecting edges.

Figure 6 is a rear elevation of my improved repointing element.

My improved device comprises a body member 10, having a bottom portion 11 and a front cutting edge 12 and a land-side portion 13. The back end of the bottom portion 11 and the land portion 13 are cut away to form a recess 14, as illustrated in Figures 1, 2 and 5, said recess being shaped to fit the upper face of the nose portion 15 of the plow share 16, as illustrated in Figure 3. The back end of the body member 10 terminates in an inclined flange 17, having an opening 30, said flange being adapted to overlap
15 the upper surface of the nose 15.

The repair element 10 is applied by placing the flange 17 above the nose portion 15 with the landside 18 aligned with the landside face of the nose 15, as illustrated in Figure 4. Soft welding steel is then applied to the edges of the opening 30 and the top surface of the share 16 for temporarily holding the repair element in position for final adjustment. The repair element may then be further adjusted to increase
25 or decrease its suck by tapping the beveled end of the element with a hammer to elevate or lower the same. After the member 10 is properly adjusted the opening 30 may then be filled with hard steel and finished.
30

The landside edge 18 of the flange 17 is welded to the upper edge of the landside face 15, as clearly illustrated in Figure 3, any recesses such as at 19 being filled with welding material.

The opposite edge of the body 10 from the landside portion 13 is provided with a concave curve, 20, into which is fitted the forward end of the renewable cutting edge 21 for the share 16, the inner edge of the forward end of the cutting edge 21 being welded into the curved
40 portion 20, the said cutting member 21 also being welded adjacent to the cutting edge of the member 16 after the said edge has been properly shaped and formed. By welding the forward end of the member 21 to the body member
45 10 it will be seen that said member 21 will greatly strengthen the anchorage of the member 10 to the nose portion 15, in such a manner that a comparatively small amount of welding between the member 10 and the nose portion 15
50 needs to be provided, inasmuch as the member 21 serves as a lever to support the member 10 against a certain amount of rocking movement that tends to take place as the point is forced through the ground and is engaged by stones and
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other solid substances tending to raise or lower the pointed end of the member 10. The rear end of the member 21 is anchored to the plow share by welding.

5 Usually all the welding required is along the landside edge 16 and along the lower edge of the nose portion 15, along the dotted line 22, as illustrated in Figure 4. The back edge of the member 17 usually does not require welding. This enables the repair man to easily remove the member 10, whenever desired, by simply placing a cold chisel between the back edge of the member 17 and the top surface of the nose portion 15, and then driving the chisel in place to separate the repair member from the worn nose 15, after which a new repair element may be substituted.

To increase the life of the repair element and at the same time maintain the true beveled edge of the cutting end of the member 10, I have provided, in the bottom member 11, a transversely arranged groove 23 substantially parallel with the cutting edge 12, and a second transversely arranged groove 24 in the top surface of the forward end of the member 10 and somewhat rearwardly of the lower groove 23. Both of these grooves are filled with an alloy of very hard metal. It is a great deal harder than the metal from which the body member 10 is formed. Thus inlays 25 and 26 are formed. The outer surfaces of the inlays are even with the outermost surfaces of the body portion in which the grooves are mounted.

After the edge 12 has become slightly worn, then a new edge 27 will be formed joining the front edges of the inlays 25 and 26, as illustrated in Figure 3. The inlay 25 will tend to prevent the sharpened edge from becoming rounded, while the inlay 26 will tend to prevent the upper surface of the nose 15 from becoming too thin so that it would break or bend in case the cutting edge would engage a rock or other hard substance in the soil.

In Figure 5 I have illustrated a slightly modified form of inlay as provided in the bottom surface of the body. The corner at the intersection of the bottom and landside surfaces has a rearwardly extending groove 28 in which an alloy inlay 29 is mounted. This inlay 29 extends upwardly into the landside surface 13, as well as in the bottom surface 11, and thus tends to prevent wearing away of the corner of the body member 10.

Thus it will be seen that I have provided a renewable repair element for plow shares of simple and cheap construction, which may be easily and quickly applied without expensive preliminary operations to fit the plow share for the repair element, the flange 17 being designed to rest on top of the worn nose portion 15, while the forward end of the body member 10 rests substantially across the forward end of the nose. In this manner the repair element is greatly reenforced by the nose portion 15 which is formed integrally with the plow share. By forming the inserts in the cutting or forward end of the repair elements I have provided means whereby a comparatively small amount of alloy may be employed which will at the same time be more effective and stronger than would be the case if the entire pointed end were formed of this hard material.

I claim as my invention:

1. A renewable repair element for plow shares, comprising a body having bottom and landside portions, the back end of the bottom and land-

side portions being cut away to form a recess for receiving the worn nose of a plow share, the upper surface of said body being beveled downwardly and forwardly and downwardly and laterally from the landside edge, the upper and lower surfaces of the forward end of said body having transversely arranged inserts formed of comparatively hard material, the upper insert being supported rearwardly of the lower insert.

2. A renewable repair element for plow shares, comprising a body having its upper surface beveled forwardly and laterally, the back end of the bottom and landside portions being cut away to form a recess for receiving the nose portion of a plow share, and a comparatively thin and inclined flange portion adapted to overlap that portion of the plow share adjacent to its nose, the bottom and top surface of the forward end of said body being provided with transversely arranged inlays of a comparatively hard material, the upper inlay being supported rearwardly of the bottom inlay.

3. A renewable repair element for plow shares, comprising a body having a landside surface, the back end of its under surface being recessed to approximately fit the upper and forward surface of the nose of a worn plow share, the forward end of said body being beveled to form a sharp edge, the upper and under surfaces of said body having inlays of a comparatively hard material substantially parallel with the cutting edge of said body, the landside end of the lower inlay extending rearwardly along the corner of said body formed by the intersection of the bottom and landside surfaces of the said body.

4. A renewable repair element for plow shares, comprising a body member having its forward end beveled downwardly and forwardly, the under surface and the beveled face of said body each being provided with a hardened and transversely arranged insert, the upper insert being mounted rearwardly of the lower insert whereby the forward end of said body will be maintained in a sharpened condition as it is used.

5. A renewable repair element for plow shares, comprising a body having its upper surface beveled forwardly and laterally, the back end of the bottom and landside portions being cut away to form a recess for receiving the nose portion of a plow share, and a comparatively thin and inclined flange portion adapted to overlap that portion of the plow share adjacent to its nose, said flange being provided with an opening to permit the flange to be yieldably and temporarily adjustably welded to the upper surface of said nose portion.

6. A renewable repair element for plow shares, comprising a body having a comparatively thin and inclined flange portion adapted to overlap that portion of a plow share adjacent to its nose, said flange being provided with an opening to permit the flange to be yieldably and temporarily adjustably welded to the upper surface of said nose portion.

7. A renewable repair element for plow shares, comprising a body having a comparatively thin and inclined flange portion adapted to overlap that portion of a plow share adjacent to its nose, said flange being provided with an opening to permit the flange to be yieldably and temporarily adjustably welded to the upper surface of said nose portion, and a renewable cutting edge having its inner end welded to the inner edge of said body member.

8. A renewable repair element for plow shares, 75

comprising a body having bottom and landside portions, the back end of the bottom and landside portions being cut away to form a recess for receiving the worn nose of a plow share, the upper surface of said body being beveled downwardly and forwardly and downwardly and laterally from the landside edge, the upper and lower surfaces of the forward end of said body having transversely arranged inserts formed of comparatively hard material, the upper insert being supported rearwardly of the lower insert, and a renewable cutting edge having its inner end welded to the inner edge of said body member.

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