

(No Model.)

J. M. FALLIS.
Shovel Plow.

No. 243,231.

Patented June 21, 1881.

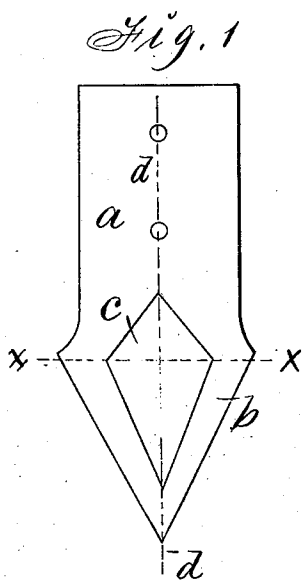


Fig. 2

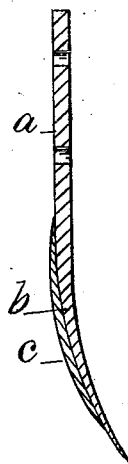


Fig. 3



Fig. 4



Fig. 5

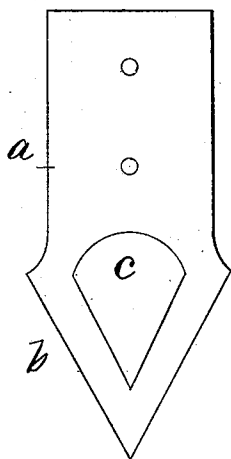


Fig. 7

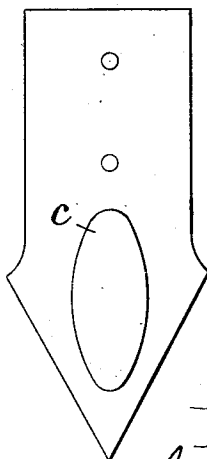
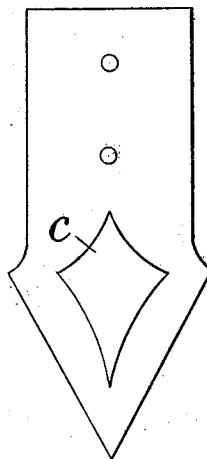


Fig. 6



Witnesses:

Frank W. Heers.

C. W. Nicholas.

Inventor:

John M. Fallis

By Thomas G. Orwig,
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UNITED STATES PATENT OFFICE.

JOHN M. FALLIS, OF INDIANOLA, IOWA, ASSIGNOR OF ONE-HALF TO JOEL T. HUFFMAN, OF SAME PLACE.

SHOVEL-PLOW.

SPECIFICATION forming part of Letters Patent No. 243,231, dated June 21, 1881.

Application filed April 27, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. FALLIS, of Indianola, in the county of Warren and State of Iowa, have invented an Improved Cultivator-Shovel, of which the following is a specification.

My invention relates to the manner of re-enforcing a shovel-plow or cultivator-shovel so as to prevent it from breaking, to protect its point from wear, and also to facilitate the repointing and tempering thereof.

Heretofore blanks for cultivator-shovels have usually been cut from a steel bar having a longitudinal swell in its center, that formed an integral rib along the entire longitudinal center of each shovel-blank cut therefrom, to strengthen it and to aid in protecting and refitting its point; but such a surplussage of metal along the entire length of the shovel is a needless expense, and produces a heavy, clumsy shovel.

I do not claim, broadly, the welding of a re-enforcing piece of metal to the back of a shovel-blade or cultivator-tooth, for I am aware that it is not new to weld steel or other metal for such uses as to provide metal for renewing the point or edge of tools, for strengthening parts exposed to greatest strain, and for many kindred objects.

My invention is intended to apply well-known methods to the specific production, in a rapid and cheap manner, of a shovel-blade of improved and superior quality; and my object is to provide an improved, light, strong, and durable wrought-metal shovel-plow, by re-enforcing blanks of common form cut from flat plate metal of uniform thickness, in such a manner that the cutting-edges, point, and entire front face can be more readily tempered and made hard enough to scour well, while the part of the complete shovel-plow that is subjected to the greatest strain remains comparatively soft and retains its tenacity.

Figure 1 of my accompanying drawings is a back view of one of my improved shovels. *a* is the upper and flat portion, and *b* the lower tapering and pointed portion, of a shovel-blank of common form. *c* represents a lozenge-shaped re-enforcing piece, welded upon the back of the blank *a b* in such a position that its upper point extends upward over the lower portion of the part *a*, downward toward

the point of the shovel, and laterally toward its parallel edges.

Fig. 2 is a longitudinal sectional view, taken through the line *d d*, and Fig. 3 is a transverse view, taken through the line *x x* of Fig. 1.

Fig. 4 is a transverse view, showing the re-enforcing piece composed of two leaves or layers, *c* and *c'*.

Figs. 5, 6, and 7 are detail views, showing modified forms of the re-enforcing piece *c*.

While the lozenge shape is preferred, that particular shape is not essential in accomplishing the results contemplated, and the various shapes shown, and others not shown, can be readily stamped from plate metal by means of a die and press, and advantageously used in forming and applying the re-enforcing piece to the shovel-blank to produce my improved cultivator-shovel.

To apply the re-enforcing piece *c* to the back of the shovel-blank *a b*, I simply place it in proper position, as shown in Fig. 1, and weld it fast in a common way by means of heat and beating upon an anvil in such a manner as to produce a smooth joint and even surface along the entire edge of the re-enforcing piece. And when the re-enforcing piece is thus solidly united with the blank the complete shovel can be shaped and tempered in a common way, so as to produce a hard and polished front face that will readily scour in the soil, while the heavy and re-enforced portion that is subject to strain will remain soft and tenacious and free from brittleness, and consequently strong and durable. And when the point becomes blunt, metal can be readily drawn from the swell formed by means of the re-enforcing piece to renew and sharpen the point without welding a point on, as is now commonly practiced in refitting cultivator-shovels.

I claim as my invention—

As an improved article of manufacture, a wrought-metal shovel-plow or cultivator-shovel having a re-enforcing piece, *c*, permanently fixed on or united with its back and lower portion, substantially as shown and described, for the purposes specified.

JOHN M. FALLIS.

Witnesses:

WM. ERWIN,
L. A. WILKINSON.