(No Model.)

H. D. TERRELL

HEEL SWEEP.

No. 560,603. Patented May 19, 1896.

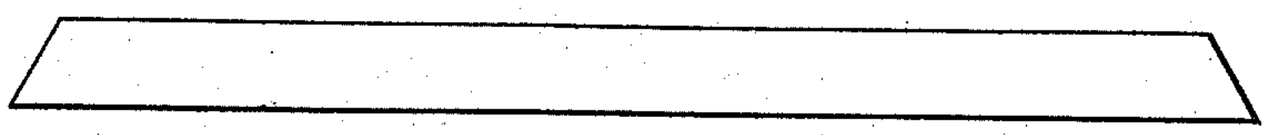

Fig. 1.

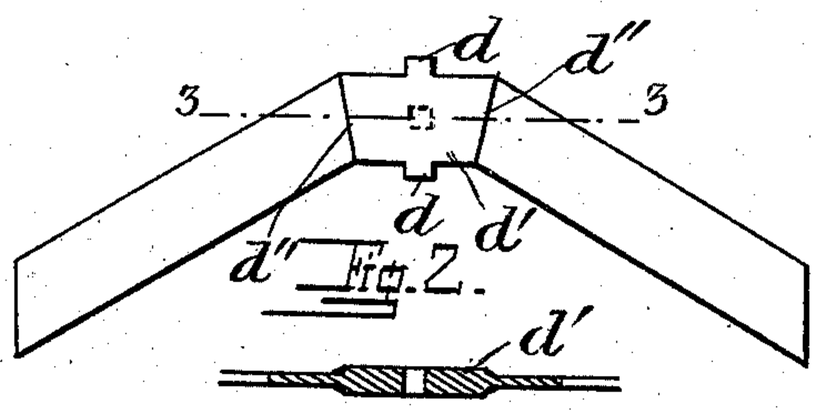

Fig. 2.

Fig. 3.

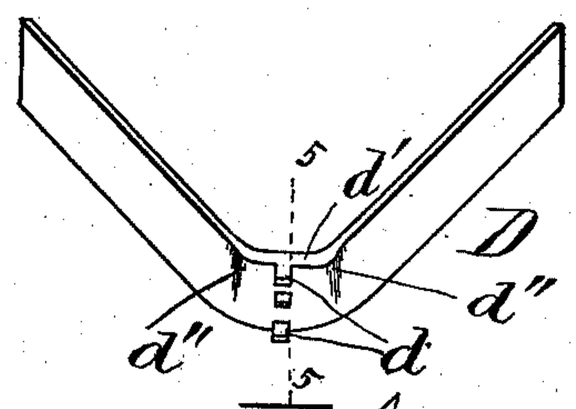

Fig. 4.

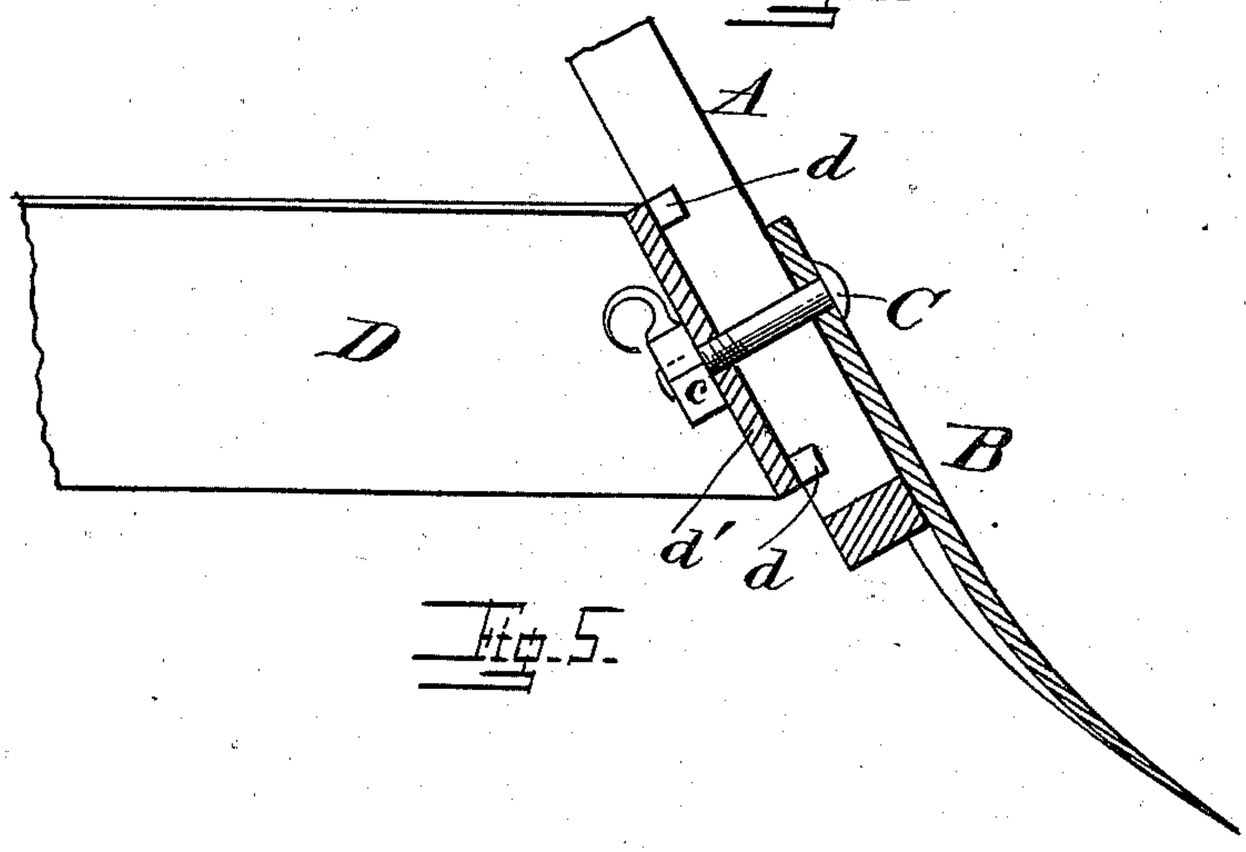

Fig. 5.

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UNITED STATES PATENT OFFICE.

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HEEL-SWEEP.

SPECIFICATION forming part of Letters Patent No. 560,603, dated May 19, 1896.

Application filed October 30, 1895. Serial No. 567,410. (No model.)

To all whom it may concern:

Be it known that I, HENRY DENTON TERRELL, a citizen of the United States of America, and a resident of Atlanta, in the county of Fulton and State of Georgia, have made a certain new and useful Improvement in Heel-Sweeps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in plow-blades of the form known as "heel-sweeps," the object of the invention being the stiffening thereof to render them less liable to bend, break, and become distorted and useless, and also to provide a securement therefor to the standard of the plow which shall be rigid and attach the said sweep to same in a practically solid manner, so that said sweep may be the better able to withstand the heavy strains of use, the details whereby both of these ends are attained being hereinafter fully specified.

In the accompanying drawings, Figure 1 is a view of the straight blank from which this device is made by bending, upsetting, and setting. Fig. 2 is a view of same upset and bent edgewise, and so partially finished. Fig. 3 is a section on the line 3 3, Fig. 2. Fig. 4 is a perspective view of the device, further showing its construction. Fig. 5 is a detail in section of the device in position on the standard of a plow.

In the figures like reference-marks indicate corresponding parts in all the views.

A is a standard, and B is a shovel-blade, C being the heel-bolt and *c* the heel-bolt nut, all of which are of the ordinary form of construction.

D is the heel-sweep forming the subject-matter of this application and is made as follows: In Fig. 1 is seen a blank, which is a straight piece of steel with its ends cut diagonally, so as to stand practically vertical when the sweep is finished and in position on the standard. This blank is heated and upset in its middle portion, so as to be thickened at that point, as shown in Fig. 3, and at the same time lugs *d* are thrown up therefrom in the middle of the thickened portion *d'* and in the same plane as same, the bar being bent edgewise in upsetting, so that the partially-worked blank, as shown in Fig. 2, is produced. The bends *d''* are then produced by setting, whereby the proper angle of the blades proper is provided, and the angle of the part immediately in contact with the back side of the standard is also produced, the lugs *d* being bent forward, as shown in Fig. 4, said lugs being for the purpose of stiffening the attachment to the standard, as seen in Fig. 5, by projecting between the side bars of said standard, which they should fit. The hole for the heel-bolt is then punched, and the sweep is finished and ready for use. It is obvious that by reason of the distance of the lugs from the heel-bolt hole the rigidity of the attachment of the blade is perfect, as no displacing movement of said blade can take place without a shearing off of both of said lugs.

The objection to heel-sweeps as at present constructed is that they will bend along the offsets *d''* and turn back, thereby changing their angle and rendering them inoperative either partly or completely, according to the degree of bending, and in either case making the plow difficult to handle. By reference to Fig. 4 it will be seen that the stiffness is added to the sweep exactly where it will do the most good—that is, in the portion which is immediately in front of the standard, and also around the offsets before alluded to.

The bending of a heel-sweep obviously weakens the metal at the point bent, and for this reason I make the thickened portion of sufficient length so that the bends to make the blades turn backwardly come in the thickened portion, whereby an excess of strength is had at these points before bending and a sufficient amount after bending. As is well known, the strain at the bend-points is great, and the hole also weakens the sweep in the center, both of which weaknesses are obviated by this improvement.

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

As a new article of manufacture, a heel-sweep formed of a central flat portion provided with a bolt-hole and wings bent back at an angle therefrom, said heel-sweep being

brought to a uniform thickness at said central flat portion and a short distance therefrom along said wings, said wings being considerably thinner and of practically uniform thickness from the ends of said thickened portion to their points, substantially as and for the purpose specified.

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

HENRY D. TERRELL.

Witnesses:
A. P. WOOD,
M. BROWN.