

Robert Calhoun: Improvement in Shovels.

No. 121,331.

Patented Nov. 28, 1871.

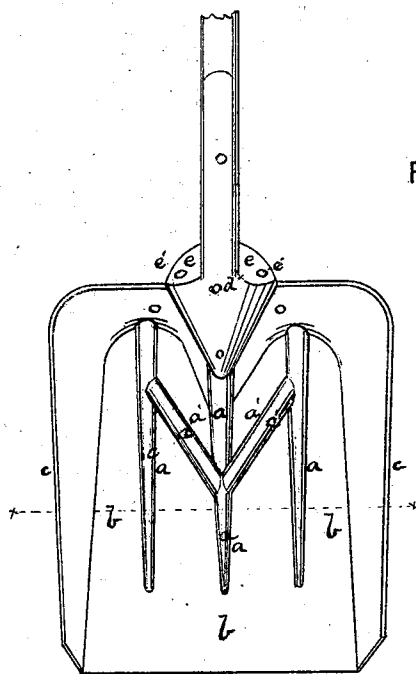


Fig. 1.

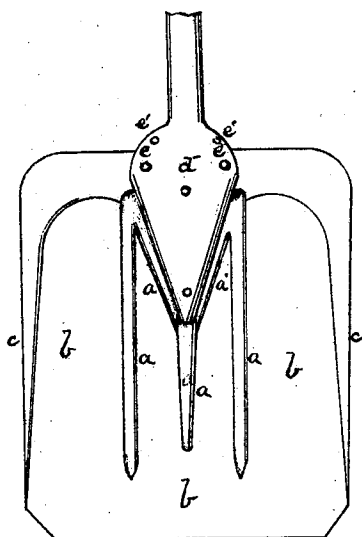


Fig. 2.

Witnesses:

R. C. Henshall

Thos. Kerr

Inventor:
Robert Calhoun
by Bakuell Christy,
his Attys.

UNITED STATES PATENT OFFICE.

ROBERT CALHOUN, OF ALLEGHENY CITY, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JAMES C. LINDSAY, OF SAME PLACE.

IMPROVEMENT IN SHOVELS.

Specification forming part of Letters Patent No. 121,331, dated November 23, 1871.

To all whom it may concern:

Be it known that I, ROBERT CALHOUN, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Shovels; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a face view, and Fig. 2 is a back view of my improved shovel.

Like letters of reference indicate like parts in each.

My invention relates to an improvement in the manufacture of shovels, whereby the blade is made stronger and is more securely attached to the handle.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and manner of use.

The shovel-blade *b* is rolled out and finished up in any of the ways known to the art; but previous to finishing, at any desired point in the stage of manufacture, two or more ribs or corrugations, *a*, extending lengthwise of the blade, upward from near its edge, are rolled or swaged, such corrugations being made parallel with the side edges *c*, or a little inclined thereto. Such corrugations *a* may be unconnected; or a V-shaped rib or corrugation, *a'*, may connect them together, whereby an M-shaped system of ribbing will be formed. Shovel-blades, it is well known, are weakest and most likely to break directly across the blade, about in the line *x x*, Fig. 1. The corrugations *a* add greatly to their strength at that point, and consequently add greatly to their value. Another weak point in

shovels as ordinarily made is where the blade joins the handle. The heaviest strain on the straps comes at that point. To strengthen them properly at this weak point, I shear the strap-blanks *d d'* to the form shown, with a part, *e*, by which the upper or narrow end of the strap gradually spreads, before it joins the shovel-blade *b*, into the broad or lower end. This feature will be observed in both the front and back straps; and to secure still greater rigidity at this otherwise weak point I rivet together the corresponding parts *e* in the two straps, as shown at *e'*. The back strap *d'* at its lower end I make of V-form, and bevel down its edges so that they shall fit neatly into the hollow of the V-shaped corrugations *a'*, whereby the edges of the back strap offer less resistance in use, and a neater finish is imparted to the shovel.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The improved shovel, the blade of which is corrugated, as shown, and which is attached to the handle by straps *d d'*, which straps taper from the blade upward, as at *e*, such parts *e* being riveted together above the blade, substantially as set forth.

2. The back strap *d'*, V-shaped at its lower end, in combination with a V-shaped corrugation, *a'*, the edges of the strap being turned into the hollow of the corrugation, substantially as described.

In testimony whereof I, the said ROBERT CALHOUN, have hereunto set my hand.

ROBERT CALHOUN.

Witnesses:

A. S. NICHOLSON,
THOS. B. KERR.

(141)