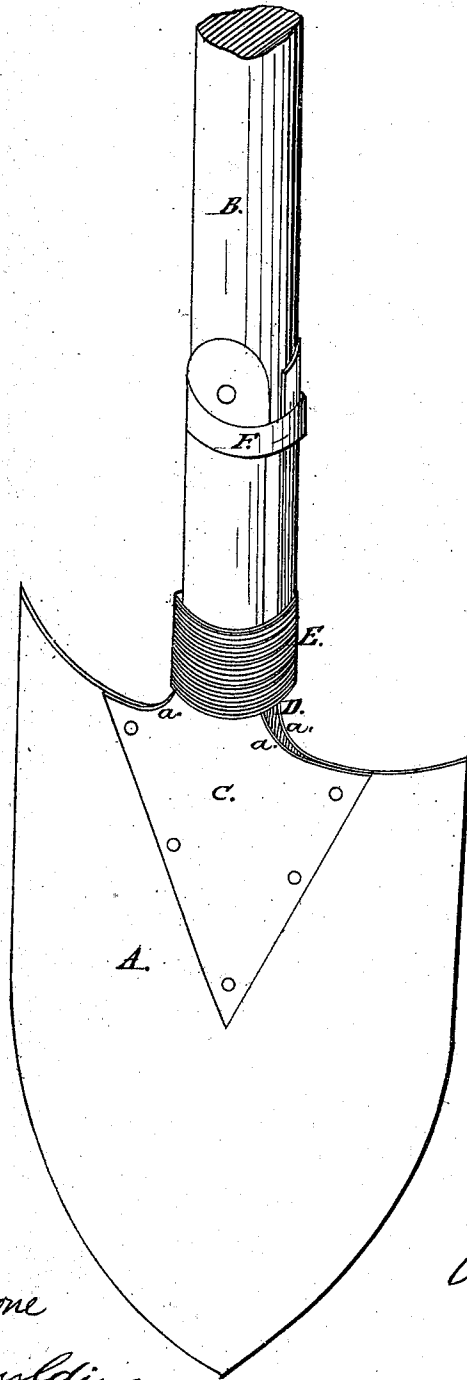


*J. W. Pearce,*

*Shovel.*

*No. 105,838.*

*Patented July 26, 1870.*



*Witnesses:*  
*Geo. L. Boone*  
*George Shaulding*

*Inventor:*  
*John W. Pearce*  
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# United States Patent Office.

JOHN W. PEARCE, OF SUISUN, CALIFORNIA.

Letters Patent No. 105,838, dated July 26, 1870.

## IMPROVEMENT IN SPADES AND SHOVELS.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, JOHN W. PEARCE, of Suisun, county of Solano, State of California; have invented an Improvement in Spades and Shovels; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains, to make and use my said invention or improvements without further invention or experiment.

My invention relates to improvements in the construction of shovels, and the invention consists in a peculiar manner of securing the handle to the blade, as hereinafter more fully described.

The accompanying drawing represents a perspective view of a shovel with my improvement applied thereto.

In constructing shovels, it has been customary to form the blade with one strap formed of the same sheet of metal, and then to form the other of a separate piece and rivet it fast, the handle being inserted between the two. Ordinarily the angle or corner at each side, where the straps join the plate C and the blade A, is made in the form of a right angle, and the straps are apt to break off at that point. To remedy this defect these corners have laterally been rounded or curved in their outline, thus leaving the straps wider and stronger at that point, as represented in the drawing. It has also been customary heretofore to secure the handle to the shovel simply by rivets extending through the straps and the handle.

Now, in order to secure the handle more firmly in place, and to give greater strength to the shovel at the point where the handle and straps join the blade, I construct the straps with rounded corners at the point of junction with the plate, as above described, and then instead of rivets, I use ferrules or bands to fasten

the handle to the straps and the shovel. At the upper end of the straps, where the handle is round and the straps narrow, an ordinary metallic band, F, may be used, but at the lower end, owing to the widened form of the straps and the flattened shape of the handle, it is obvious that such a band cannot be applied.

To secure this part I therefore construct a band or ferrule, by taking good strong wire and winding it closely around the handle and straps, as represented at E, the wire as it is wound adapting itself to the irregular outline or surface of the parts. After having thus wound it to a sufficient height, I then solder the wire together, the solder at the same time flowing in between the coils of the wire, and soldering the wire fast to the straps. In this way I make an irregularly-shaped ferrule, corresponding to the form of the parts to which it is applied, and which is at the same time secured permanently in place.

A shovel thus made is much stronger, and will therefore last longer than those made in the ordinary manner, especially as I thus avoid weakening the handle near its lower end by making a hole to receive a rivet.

Having thus described my invention,

What I claim is—

The herein-described improvement in the construction of shovels; that is to say, the ferrule F, formed by winding wire thereon, and then soldering the wire together and to the straps, substantially as described.

In witness whereof I have hereunto set my hand and seal.

JOHN W. PEARCE. [L. s.]

Witnesses:

WM. GERLACH,  
JNO. L. BOONE.