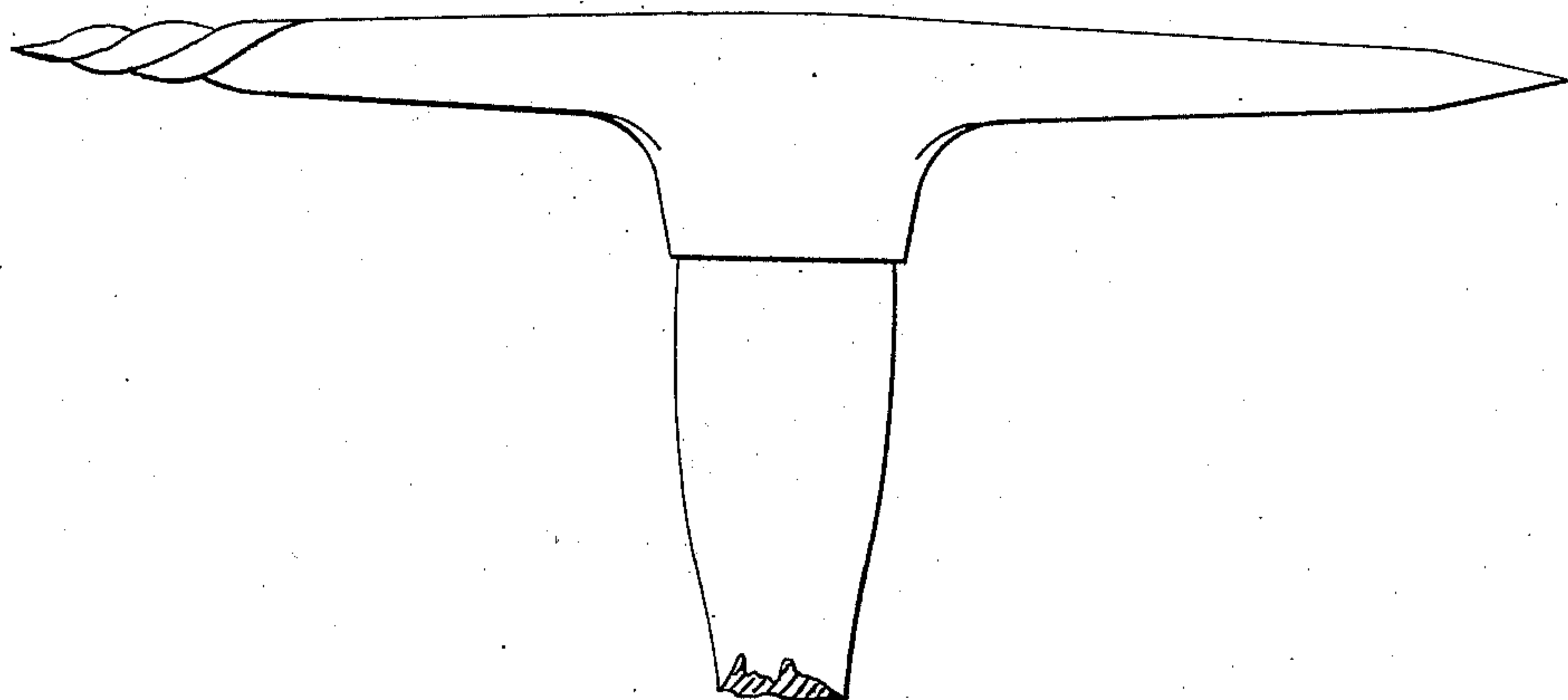


*E. P. Dickie,
Stone Pick.*

N^o 79,815.

Patented July 14, 1868.



Witnesses.

*C. C. Livings
W. C. Day.*

Inventor

E. P. Dickie

by his attorney

G. D. Sutton

United States Patent Office.

EDWARD P. DICKIE, OF MORRISTOWN, NEW JERSEY.

Letters Patent No. 79,815, dated July 14, 1868.

IMPROVEMENT IN PICKS AND PICK-AXES.

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, EDWARD P. DICKIE, of Morristown, in the county of Morris, and State of New Jersey, have invented certain new and useful Improvements in Picks and Pick-Axes; and I do hereby declare that the following is a full and exact description thereof.

The nature of my invention consists in twisting the pick at or near the point. I have discovered that a pick thus prepared enters the earth or soft rock with nearly the same facility as a plain or untwisted point, and that its effect in loosening the earth is much greater. It is twisted with facility while in a heated state, and is hardened afterwards.

I will proceed to describe what I consider the best means of carrying out my invention.

The accompanying drawing forms a part of this specification, and represents a pick having one point twisted according to this invention, and the other left plain, as usual.

In order to produce my twisted pick, I first forge or otherwise produce my pick with its points straight or plain, as usual. I then give a short heat on the pick near the point, and, having a stick or the like in the eye, by which to apply the force of the hand conveniently, I hold the point in a vise, or analogous device, which will prevent it from turning, and forcibly turn the body of the pick, giving it by preference about one full turn. I then heat again to a proper uniform temperature, and harden as usual.

No serious inconvenience results from a too great or too small amount of twist, but I have in my experiments found one complete to succeed well, and prefer it. If in practice the angles become worn away, it may be well, before repointing and retwisting, to forge the entire twisted part into a rectangular section again.

If preferred in any case, the metal may be partially or entirely untwisted before so forging again.

In some cases it may be found advisable to forge the metal into a shape having corners more prominent than usual. A star-shaped section may be given by proper dies, or a form may be so produced having four angles with hollow sides. Either of these forms will give very prominent angles; and when twisted, the angles will be very effective in loosening the earth. I have found a plain rectangular section very effective, and believe it will, when twisted as above, be found equal, or about equal to, any more elaborate form which may be devised.

Although I have shown only one point twisted, I propose in most cases to twist both points. In pick-axes the point or pick is to be twisted, while the axe or wedge-like point is to be left untwisted, and is to be formed and used preferably in the ordinary way. The axe may, however, be twisted very slightly, or so as to give it a half turn, with some advantage.

The general theory, in any case, is to avoid the compacting and plain wedging effect of a straight untwisted taper form, and to obtain the disturbing and disruptive effect due to the twisted form. I have proved by experiment that hard earth, shale, and the like, is actually loosened to a greater distance around by my twisted pick than by the plain pick with an equal blow.

I propose, in some cases, to forge the pick with a triangular section, or with five or six or more angles, or with only two angles with variously-formed sides or faces, and to twist the pick so formed as above described.

With regard to the extent to which the twist may extend up towards the eye of the pick or pick-axe, and the extent of the twist, I would remark that, although I have designated a short heat as preferable, and one complete twist as preferable, I do not confine myself to these points. There are some reasons for preferring to let the twist extend a long way up, and for making less twist on the pick. In other words, I propose sometimes to make the pick with about a half twist, as above indicated, for the axe.

I can, in cases where the complication and the increase of weight will be endurable, so mount the twisted points that they may turn, or partially turn, as they are struck into the hard material, but I do not consider such a modification desirable under ordinary circumstances.

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—
The twist-pointed pick or pick-axe herein described.

EDWARD P. DICKIE.

Witnesses:

W. C. DEX,

THOMAS D. STETSON.