

**No. 646,441.**

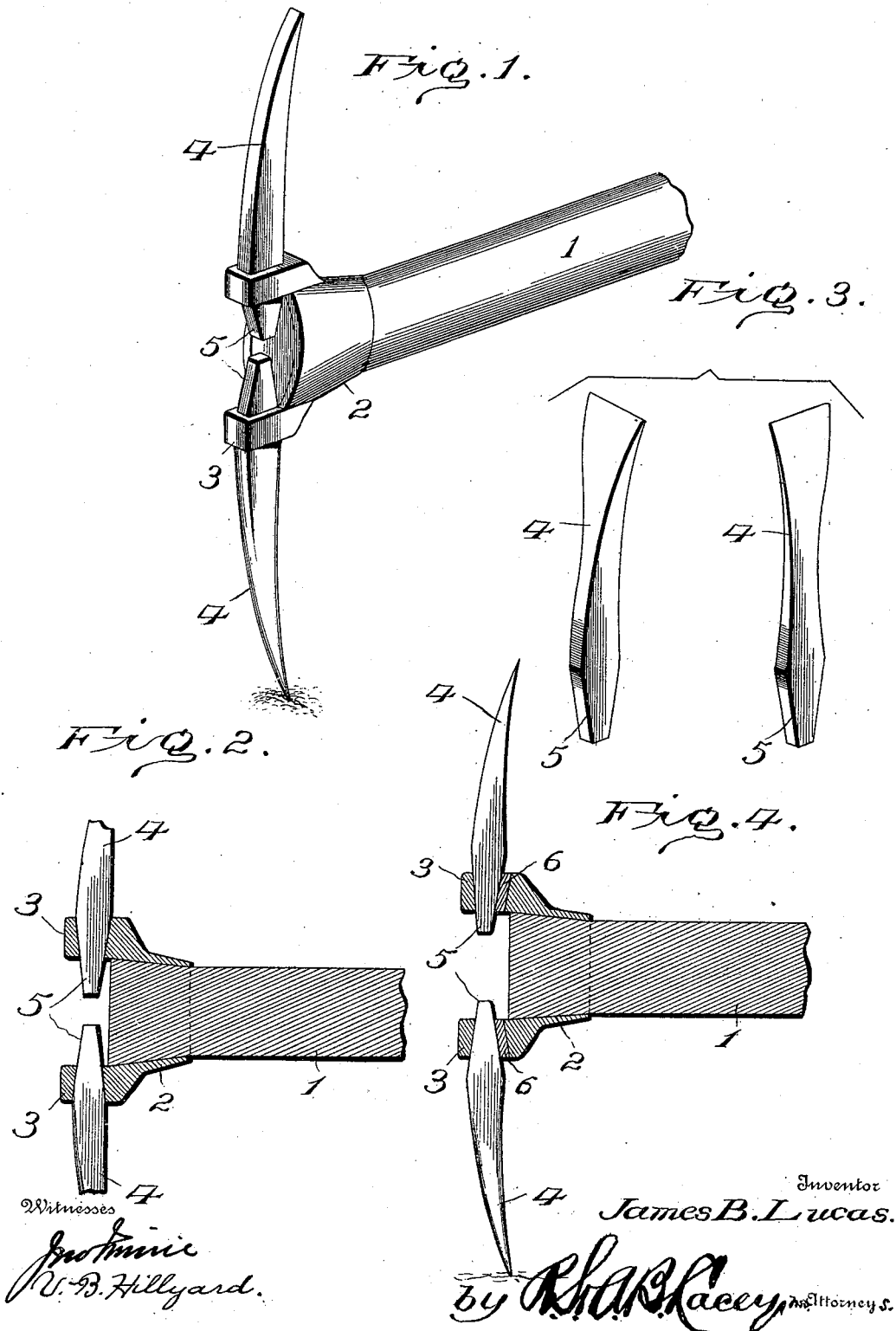
**Patented Apr. 3, 1900.**

**J. B. LUCAS.**

**MINER'S PICK.**

(Application filed May 11, 1899.)

(No Model.)



# UNITED STATES PATENT OFFICE.

JAMES B. LUCAS, OF VALLEY SPRINGS, CALIFORNIA.

## MINER'S PICK.

SPECIFICATION forming part of Letters Patent No. 646,441, dated April 3, 1900.

Application filed May 11, 1899. Serial No. 716,383. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES B. LUCAS, a citizen of the United States, residing at Valley Springs, in the county of Calaveras and State of California, have invented certain new and useful Improvements in Miners' Picks; 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.

It is the purpose of this invention to provide a pick having separable points, whereby it can be quickly and cheaply adapted for the work in hand without requiring the provision of a separate pick for each kind of work. For digging chisel or sharpened points are required, for grubbing and smoothing the bottom of ditches or trenches mattock-points are desirable, and for cutting roots and smoothing the sides of trenches ax-points give the best results. The present invention enables any of these points to be placed in position with the greatest facility when required and secures them firmly against accidental displacement, the blows serving to tighten the grip upon the points by a wedging action.

For a full understanding of the merits and advantages of the invention reference is to be had to the following description and the drawings hereto attached.

Referring to the drawings, in which corresponding and like parts in the several views are designated by the same reference characters, Figure 1 is a perspective view of a pick, showing the application of the invention. Fig. 2 is a longitudinal section, the outer portions of the points and handle being broken away. Fig. 3 represents some of the different forms of points. Fig. 4 is a detail view showing a shim inserted in a keeper with the tang of the point to cause the latter to project the desired distance when shortened through wear and sharpening.

In its construction the pick embodies a helve 1, an elliptical socket 2, with parallel fastening keepers or loops 3 arranged at the extremities of its major axis and projecting longitudinally beyond the outer end of the socket and at right angles to said axis, and rectangular points 4, the latter having their inner ends or tangs 5 made tapering, so as to be secured within the keepers or loops 3 by a

wedging action. The keepers 3 and socket 2 are integrally formed, and the openings through the keepers in which the tangs 5 are fitted are rectangular in form and located wholly beyond the outer end of the socket and taper slightly and continuously or uniformly, without break, from their outer to their inner ends, in conformity to the slope of the sides of the tangs, so as to insure a close fit being obtained between the inner walls of the keepers and the subjacent side of the tangs 5. The openings of the keepers are transversely alined and of such relative size as to prevent the inner or contiguous ends of the tangs 5 from coming together when the points are in position, thereby making provision for any inward movement of the points due to wear or stretching of the keepers when the pick is in operation. The rectangular tangs 5 are straight and tapered continuously or uniformly, without break, and the taper is sufficiently slight to enable them to obtain a firm seating in the keepers and prevent their displacement by jar or otherwise when the implement is in service. The points are secured within the keepers by the wedge action of their tangs, and in operation the repeated blows sustained by the points serve to tighten the grip of the keepers upon their tangs, as will be readily apparent. The construction is such as to wholly obviate the provision of extraneous fastenings for securing the points in position.

As before stated, the inner ends of the tangs are separated, and this feature is of great advantage, inasmuch as it provides for a ready detachment of either one or both of the points from the keepers by enabling blows of a hammer or other tool to be delivered upon the inner extremities of the tangs in order to dislodge and drive the points from the keepers. A variety of points may be used in connection with the socket, according to the nature of the work, and the tangs of these points will be of like size and formation, so as to snugly fit within the keepers, thereby enabling one point to be replaced by another of different form to suit the character of the work to be performed. When a point has become shortened through wear and sharpening, it may be caused to project from the socket or head a sufficient distance by inserting a shim 6 in

the keeper with the tang of the point. This shim reduces the size of the opening through the keeper and prevents the entrance of the tang therein to the extent which it would occupy if the shim were not provided.

5 A tool constructed in accordance with this invention is simple and composed of a minimum number of parts, besides being durable and capable of a variety of work, since provision is had for an interchange of points of  
10 different form, thereby enabling the implement to be readily adapted for any special or required work. The walls of the opening through the socket are outwardly divergent,  
15 and the end of the helve is of corresponding taper, said helve being placed in position by being inserted through the larger end of the socket. The tapering tangs 5 overhang the  
20 end of the helve and prevent outward displacement thereof. Hence so long as the points are in position the helve cannot be displaced accidentally or otherwise.

Having thus described the invention, what is claimed as new is—

25 A pick of the character described, comprising an elliptical socket having a longitudinal flaring opening with its walls outwardly divergent and provided at the extremities of its major axis with parallel keepers or loops pro-

jecting longitudinally beyond the divergent 30 end of the flaring opening and at right angles to said axis, said keepers or loops being formed with tapering rectangular openings located wholly beyond the outer end of the socket and arranged in transverse alinement and 35 parallel with the major axis of said socket, the larger ends of the openings being at the outer ends of the keepers and the smaller ends thereof at the inner ends of said keepers and the walls of said openings being gradually, con- 40 tinuously and uniformly tapered, a helve having a wedge-shaped end and insertible through the larger end of the socket, and pick-points having straight rectangular tangs gradually, 45 uniformly and continuously tapered and fitted within the tapered openings of the keepers and spaced apart but overlapping the outer end of the helve, said points adapted to be dis- 50 lodged from the keepers by blows upon the inner ends of said tangs, substantially as described.

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

JAMES B. LUCAS. [L. S.]

Witnesses:

A. G. SMITH,  
J. E. LANG.