To all whom it may concern:

Be it known that we, THOMAS GEORGE JONES, of 14 Heath Terrace, Ynishir, Rhondda, Wales, EBBENEZER GEORGE CROSS, of 18 Bailey street, Wattstown, Wales, and DAVID JOHN JONES, of 38 Heath Terrace, Ynishir, Rhondda, Wales, all subjects of the King of Great Britain, have invented new and useful Improvements in Miners' Picks; and we 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.

This invention relates to miners' picks and may be applied to any type of box mandrel or loose blade pick with advantage. The invention refers particularly to the manner of securing the helve in the helve box of the pick and consists essentially in dispensing with the ordinary quillet and rivet fastenings, which weaken the vital part of the helve, and in providing therefor an arrangement of wedges which are automatically tightened up to grip the helve end in its box and hold it securely in position therein by the fixing of the blade in its socket, all as hereinafter described. And in order that our invention may be fully understood and readily carried into effect we will now proceed to describe the same with reference to the accompanying drawings and figures and letters of reference marked thereon, that is to say:

Figure 1 is a side sectional elevation of a miner's pick comprising the improvements forming the subject of this invention. Fig. 2 is an end elevational view of the same, and Fig. 3 is a cross section through line 5–3, Fig. 1.

In carrying our invention into effect we make the helve box a of any suitable size or thickness to suit the pick to be used. The said box is of cast or malleable steel or iron, or wrought iron, and is slotted at the ends as at b, c and d. The slot b receives the blade and forms the blade socket. The parts c of the slot b form the feather socket, and those marked d are for set pins e employed to keep the wedges f, Figs. 1 and 3, hereinafter more fully described, in position inside the box a. The helve end of the box a is formed with parallel sides but has its ends tapered downward from the feather socket g, see particularly Fig. 1.

g is the helve and is of a parallel form throughout, hence may be obtained cheaper than helves of the present form.

The wedges f, in accordance with this invention, serve to hold the helve g in position in the box a and are tapered on both sides throughout their length. The surface on one side of the wedges conforms to that of the inner surface of the ends of the box a while that of the other side of the wedges is of a form to correspond with the shape of the helve bearing against them. When the wedges f are in positions in the box a they form walls to adapt it (the box) for the reception of the end of the helve which, as above mentioned, is preferably of a parallel form throughout.

To assemble the parts hereinbefore described the wedges f are first placed in the helve end of the box a and held loosely therein by means of the set pins e. The box a is then held upright with its blade end downward which will cause the wedges f to drop into the feather socket c. The depth to which they will enter the feather socket is determined by the slots d in which the set pins e of the wedges f work. The helve g, which as aforesaid is parallel, is then inserted in the box a as far as it will go. The blade together with its key or keys (if any) is then placed in the blade socket b. The thin end of the feather h, Fig. 1 is next inserted in the feather socket c, and driven with a hammer or mallet until it is fixed quite firmly. The driving of the feather h into its position will drive the wedges f, projecting as aforesaid in the feather socket, out toward the helve end of the box a the sides of which latter being tapered close the wedges securely on the helve.

i is a wedge which may be made use of in conjunction with the feather h to hold the blade in its socket. To release the helve, it is simply necessary to knock out the feather h, take out the blade and stamp the box a on the ground, holding the handle perpendicularly and upward. To strengthen the box a we prefer to form it with a ring or collar c around its lower edge. To insure against loss of the feather h when the parts are disassembled we provide the said feather at its thin end with a small lug or projecting pin h at one or both sides and form a corresponding channel or groove in the inner surface of the wall or walls of the
feather socket for a part of its or their length so that the feather cannot come apart from the device.

What we do claim as our invention and desire to secure by Letters Patent is:—

1. In a miner's pick the combination of a helve box having a blade receiving stirrup on its outer end, securing wedges slidably mounted within the box for movement longitudinally of the latter, set screws threaded in said securing wedges and engaged through said slots respectively, and a wedge key mounted in the stirrup for movement transversely of the box and adapted when moved in one direction to coact with a blade and the outer ends of the securing wedges to force the latter in the direction of the helve end of the box.

2. In a miner's pick, the combination of a helve box having a blade receiving stirrup on its outer end and further having oppositely disposed longitudinal slots therein, securing wedges slidably mounted within the box for movement longitudinally of the latter, set screws threaded in said securing wedges and engaged through said slots respectively, and a wedge key mounted in the stirrup for movement transversely of the box and adapted when moved in one direction to coact with a blade and the outer ends of the securing wedges to force the latter in the direction of the helve end of the box.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

THOMAS GEORGE JONES.
EBENEZER GEORGE CROSS.
DAVID JOHN JONES.

Witnesses:
WILLIAM J. PERKINS,
F. H. LITTLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."