

UNITED STATES PATENT OFFICE.

CYRILLE BOURQUE, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

REMOVABLE POINT FOR PICKS.

No. 838,353.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CYRILLE BOURQUE, a citizen of the Dominion of Canada, residing at the city of Vancouver, in the Province of British Columbia, Canada, have invented a new and useful Improvement in Removable Points for Picks, of which the following is a specification.

This invention relates to an improved removable point for a pick which is designed to be simple and cheap in construction, efficient in use, and readily removable for pointing or renewal.

The ordinary pick is made of iron to which is scarf-welded a point of steel, and as the point becomes worn by use this steel point requires to be dressed. In time the steel becomes worn out and requires renewal, which is work not always within the ability of the dressing-smith of a mining or engineering contractor and the picks are frequently thrown aside. Attempts have previously been made to provide a removable point for a pick; but such have not met with any measure of success because of the inefficient means provided for securing the point to the arms of the head. The mistake has generally been in socketing the point into the metal of the head; but as the head has for cheapness to be made of soft iron, if the point is secured by a taper with an amount of end space to insure it tightening on the taper alone, the hard steel of the point will drift out or expand the soft metal of the socket, while if the point is allowed to bottom in the socket or is provided with a shoulder not only is the shoulder a source of weakness, but it will require some supplementary fastening, such as a pin or cotter, which adds to the expense and is liable to come out. To overcome these objections, I provide a self-holding tapered socket in the point member of the pick, which being of hard steel, is strong enough to resist the bursting tendency of the tapered end of the head inserted in it. The socket in the point being deeper than the inserted end the harder the work on which the pick is used the tighter will the point be secured, and if the soft metal of the inserted end of the head compresses it will only insure a better fit in the socket and a better distribution of the bursting strain.

The invention is fully described in the following specification and illustrated in the drawings which accompany it. Figure 1 be-

ing a side elevation and part section of a pick provided with square and chisel points; Fig. 2, a cross-section to an enlarged scale through the point at the socket; Fig. 3, a modified form of the point having a strengthened socket-mouth, and Figs. 4 and 5 sections of the point showing the sides of the socket.

In the drawings, 2 represents the arms of the pick-head, 3 being the elliptical eye, which receives the handle.

The points 4 are shaped to conform generally to the desired curvature of the arms 2 of the head and are enlarged to receive a tapered socket 5, into which a similarly tapered end 6 of the head will closely fit. The socket 5 being deeper than the end 6 gives a certain amount of drive and insures the end 6 fitting on the sides of the taper and not bottoming in the socket.

The sides 7 of the socket which are normal to a plane through the axis of the pick-handle and the arms 2 of the head should be a holding-taper, while the other sides 8 parallel to that plane may be a slight relieving-taper, as shown in Fig. 4, or parallel, as in Fig. 5. This will insure that the tapered end 6 of the arm of the pick-head will fit well in the direction of the heaviest strain. It will be noticed also that the arms 2 of the head outside of the socket are only tapered for strength to the eye 3 in the usual manner and being less than the holding-taper will preclude the possibility of a shoulder being formed in use at the mouth of the socket and putting an undue bursting effort at the mouth.

In the modification shown in Fig. 3 the mouth of the socket of the point is strengthened by an enlargement or bead round its edge; but I do not consider this is necessary under ordinary circumstances. The corners of the tapered ends 6 of the pick-head should be taken off, as shown in Fig. 2, to again insure a good fit on the taper, and the corners of the socket 5 may have a small radius, as at 9, which will further strengthen them. The points 4 may be made of hard steel, in which the tapered socket 5 is preferably drifted, so as to insure uniformity of size for purposes of interchange, and the head of the pick may be of any suitable material that will stand the strain, as it is not an essential, as in a pick made in the customary manner, that it be made of a material to which a steel point may be welded. A point is thus provided which may be readily removed when requir-

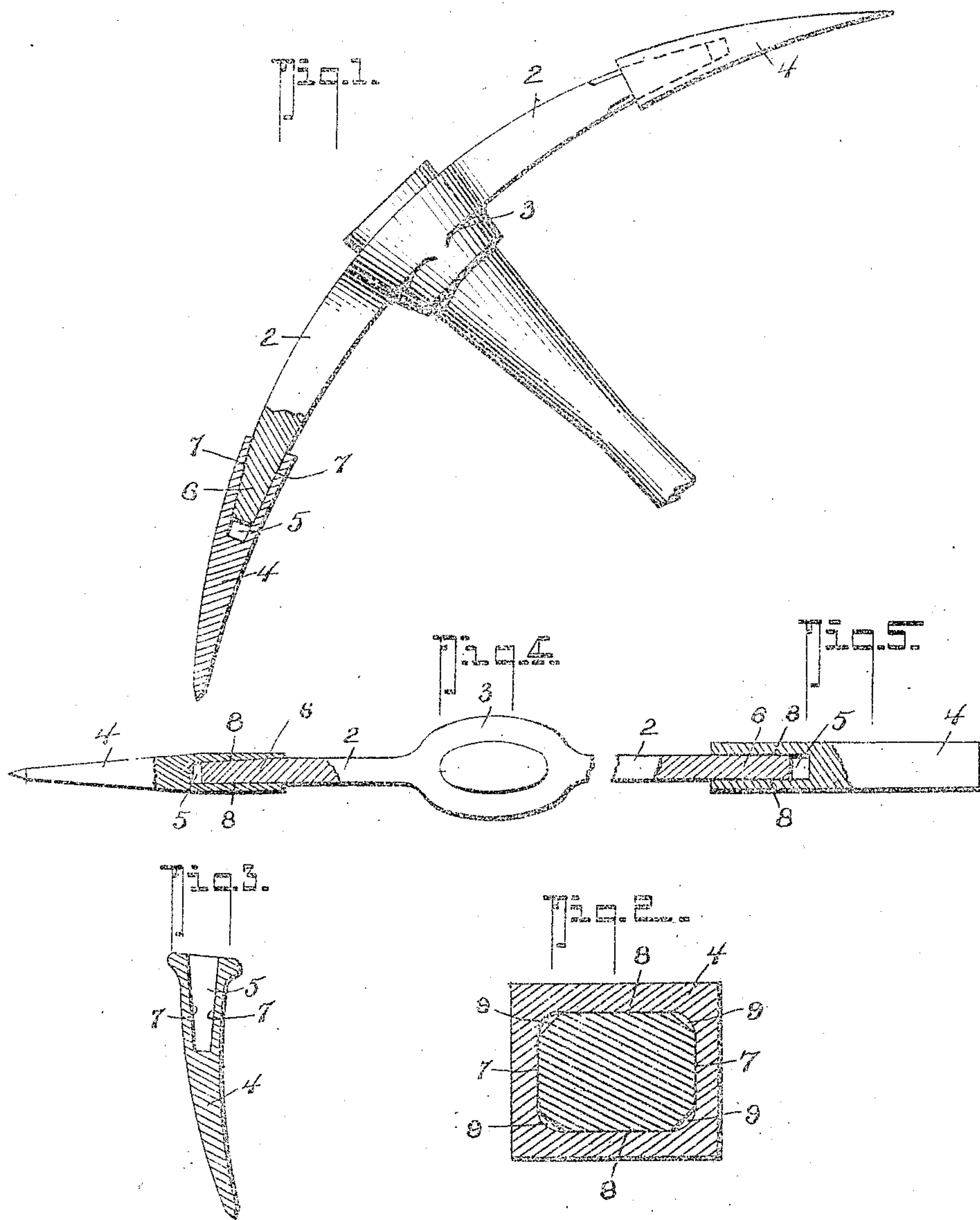
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