(No Model.) 2 Sheets—Sheet 1.

J. MITCHELL & W. K. BIRKINSHAW.

PICK.

No. 484,333. Patented Oct. 11, 1892.

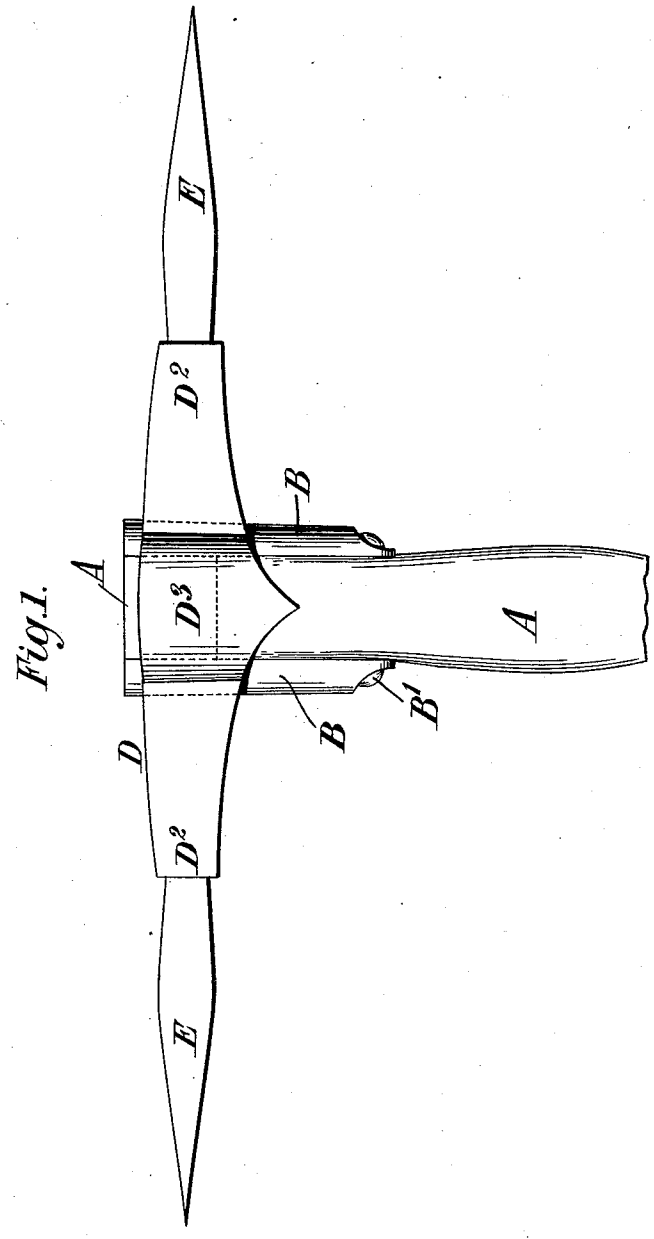

Fig. 1.

Witnesses
Thomas Durant
Wallace Murdock

Inventors
Joseph Mitchell and
William K. Birkinshaw,
By Church & Church
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

(No Model.) 2 Sheets—Sheet 2.

J. MITCHELL & W. K. BIRKINSHAW.

PICK.

No. 484,333. Patented Oct. 11, 1892.

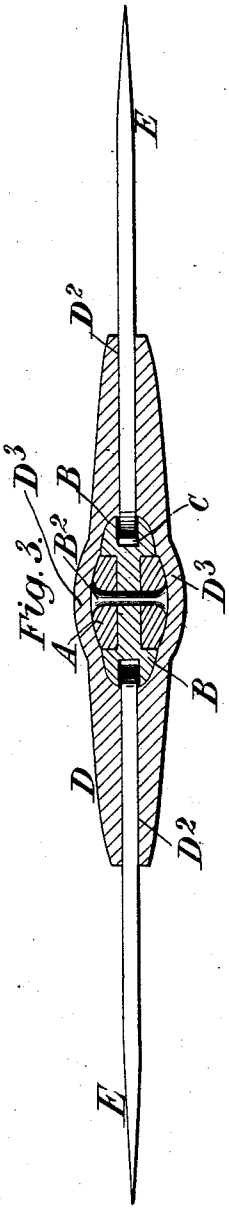

Fig. 3.

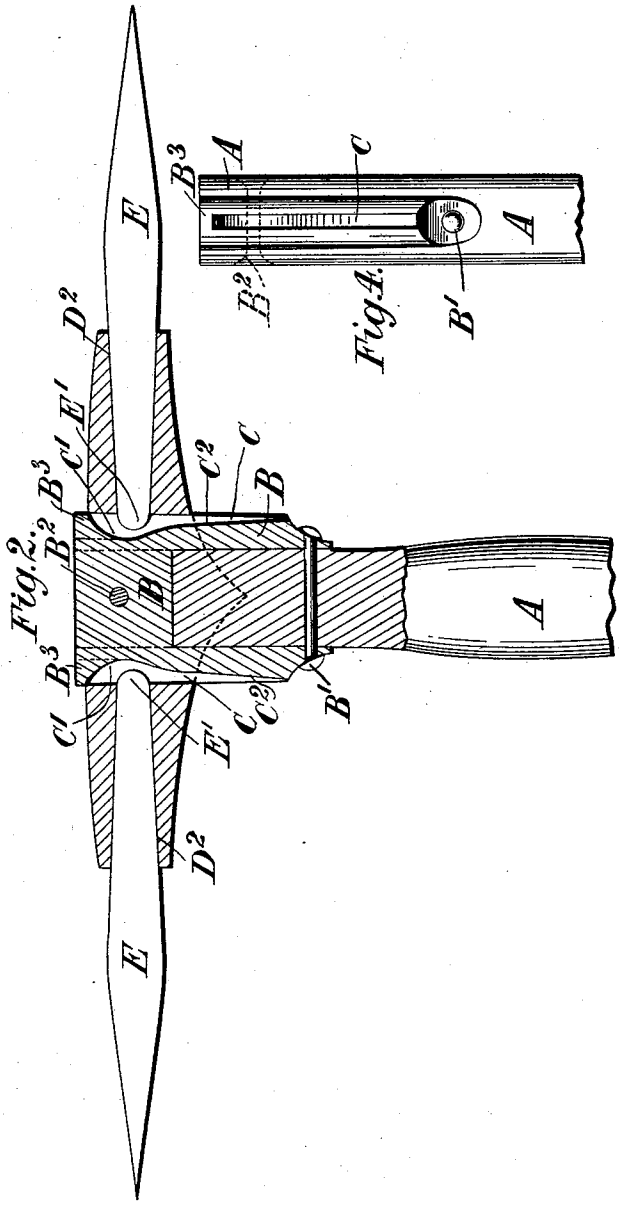

Fig. 2.

Fig. 4.

Witnesses
Thomas Durant
Wallace Mundock

Inventors
Joseph Mitchell and
William K. Birkinshaw
By Church & Church
their Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH MITCHELL, OF SHEFFIELD, AND WILLIAM KIRKLEY BIRKINSHAW, OF DERBY, ENGLAND.

PICK.

SPECIFICATION forming part of Letters Patent No. 484,333, dated October 11, 1892.

Application filed May 6, 1892. Serial No. 432,077. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH MITCHELL, of Sheffield, and WILLIAM KIRKLEY BIRKINSHAW, of Derby, England, subjects of the Queen of England, have invented certain new and useful Improvements in Picks, of which the following is a specification.

This invention relates to improvements in the construction of picks, the chief feature being in the method of securely fastening interchangeable points; also, in the extraction thereof.

In carrying this invention into effect we cast or forge a socket or head with projections of any required length according to the size of pick required, which socket is made hollow to receive the shaft and loose points. The said points are fitted in the sockets at each end and are slightly tapered, thus forming a wedge corresponding with the recesses in the socket, which ends project into the eye thereof.

The invention will be best understood by reference to the accompanying drawings, in which—

Figure 1 is an elevation of the complete apparatus; Fig. 2, a section of the same; Fig. 3, a cross-section, and Fig. 4 an edge view of the shaft with the strap in position.

Like letters represent like parts throughout the drawings.

A is a wooden shaft or handle of the pick; B, the strap, preferably riveted to the shaft by rivets B′ and B^2, and securely fitted upon the end of it. This strap is provided with grooves C in its edges, tapering so that the bottoms of the grooves C^2 are nearer together at the extremity of the shaft, or opposite the blades E, than they are at their other ends adjacent to the rivet B′. This is clearly shown in Fig. 2. The ends of the grooves may be closed at B^3 if desired, (or they may be carried through to the top, as shown in dotted lines in Fig. 2,) and enlarged recesses may be formed at C′ to accommodate the blades, which in use become forced too far into their sockets. The socket or head D is provided with an eye D^3 for the reception of the shaft and strap and with sockets D^2 for the reception of the blades E. The eye is tapered to agree with the outside faces of the strap B, which are tapered in the reverse direction to the taper of the grooves C, so as to prevent the socket or head from working off the end of the shaft. The blades E and sockets D^2 may be tapered, as shown in the drawings, so that with use the blades become firmly fixed in the socket or head D.

In using this apparatus the shaft, with the strap secured to it, is placed in the socket and secured by striking on the end, as will be well understood, and the blades E are inserted in their sockets and readily fixed by a blow on the end. The inner ends E′ of the blades project beyond the inner ends of the sockets in which they fit and enter the grooves C or the recessed portions C′ thereof, and to remove the blades all that is necessary is to hold the pick by the socket or head, strike the free end of the handle upon the ground or upon some solid substance, when the head will slide down the shaft, and the ends E′ of the blades, coming in contact with the inclined bottoms of the grooves C, will be forced out of their sockets, while the head will be freed from the shaft.

The grooves C, having to stand the wear of repeatedly forcing out the blades E, may have their bottom faces hardened, or these may be protected by suitable pieces of hard metal let in for the purpose, or the whole strap may be made hard, if desired, or the grooves may be chilled in casting. The grooves C, as shown in Fig. 4, lie parallel with the axis of the shaft; but they may, if desired, be set obliquely thereto to a slight extent for the purpose of jamming or helping to fix the blades E. In most cases, however, the groove will be formed as indicated in the drawings.

As previously described, the strap B has been provided with grooves C; but it will be observed that the same result may be attained by merely providing the inclined faces C^2 without the grooved edges, these portions of the strap being merely flattened and properly inclined.

We claim—

1. In a pick such as described, the combination, with the head provided with a socket and lateral sockets for the reception of picks

or blades, of a shaft or handle having a head fitting the socket and furnished with inclined or tapered surfaces opposite or in line with the inner ends of the picks or blades for engaging the latter to expel them when the head is shifted upon the shaft or handle, substantially as described.

2. The combination, with the pick-head provided with a socket for the reception of the handle or shaft, and a lateral socket for the reception of the removable blade or pick, and a pick or blade seated in said pick-socket with its inner end projected within the handle-socket, of a handle or shaft fitting the handle-socket and provided with a longitudinal groove for accommodation of the end of the pick and an inclined face opposite the end of the pick to engage the latter and release it when the handle is shifted longitudinally within the handle-socket, substantially as described.

3. The combination, with the head provided with a tapered handle-socket and lateral tapering sockets for the reception of the removable picks or blades, of the handle or shaft provided with a tapered head fitting the handle-socket and reversely-tapered faces opposite the inner ends of the picks or blades, substantially as described, whereby upon releasing and withdrawing the handle from its socket in the head the said inclined surfaces will engage the picks or blades and force them outward from their sockets.

4. The combination, with the pick-head provided with handle and pick or blade removably supported in one of said sockets with its inner end projecting within the handle-socket, of a shaft provided with a head fitting the handle-socket, said head being recessed or cut away to accommodate the pick when in working position and provided with an inclined face or wall for engaging the inner end of the pick to force it outward, substantially as described.

5. The combination, with the pick-head provided with handle and pick sockets, of the shaft or handle and the strap applied thereto, said shaft being recessed at the end to receive the strap, the latter extending on opposite faces of the handle and provided with grooves, and inclined faces co-operating with the inner ends of the picks, substantially as described.

6. The combination, with the pick-head having the tapered handle-socket and lateral pick-socket, of the handle or shaft provided with a tapered head having a longitudinal recess for the accommodation of the inner end of the pick, said recess terminating at one end in a wall or shoulder and having its bottom inclined outwardly in the opposite direction, the said inclined face or bottom standing in the reverse direction to the surface of the head, substantially as described, whereby when the pick-head is drawn into position on the handle by sliding it over the head or free end toward and onto the head and the pick is inserted the wall at the end of the recess will engage the pick and prevent the head from escaping, and when the handle is forced outwardly through the pick-head the inclined face will engage the end of the pick and force it out of its socket.

In testimony whereof we have hereto set our hands, in the presence of the two subscribing witnesses, this 26th day of April, 1892.

JOSEPH MITCHELL.
WILLIAM KIRKLEY BIRKINSHAW.

Witnesses:
LEONARD A. RYALLS,
Sol. and Notary Public, Sheffield.
WM. MCGOWAN,
Sheffield.