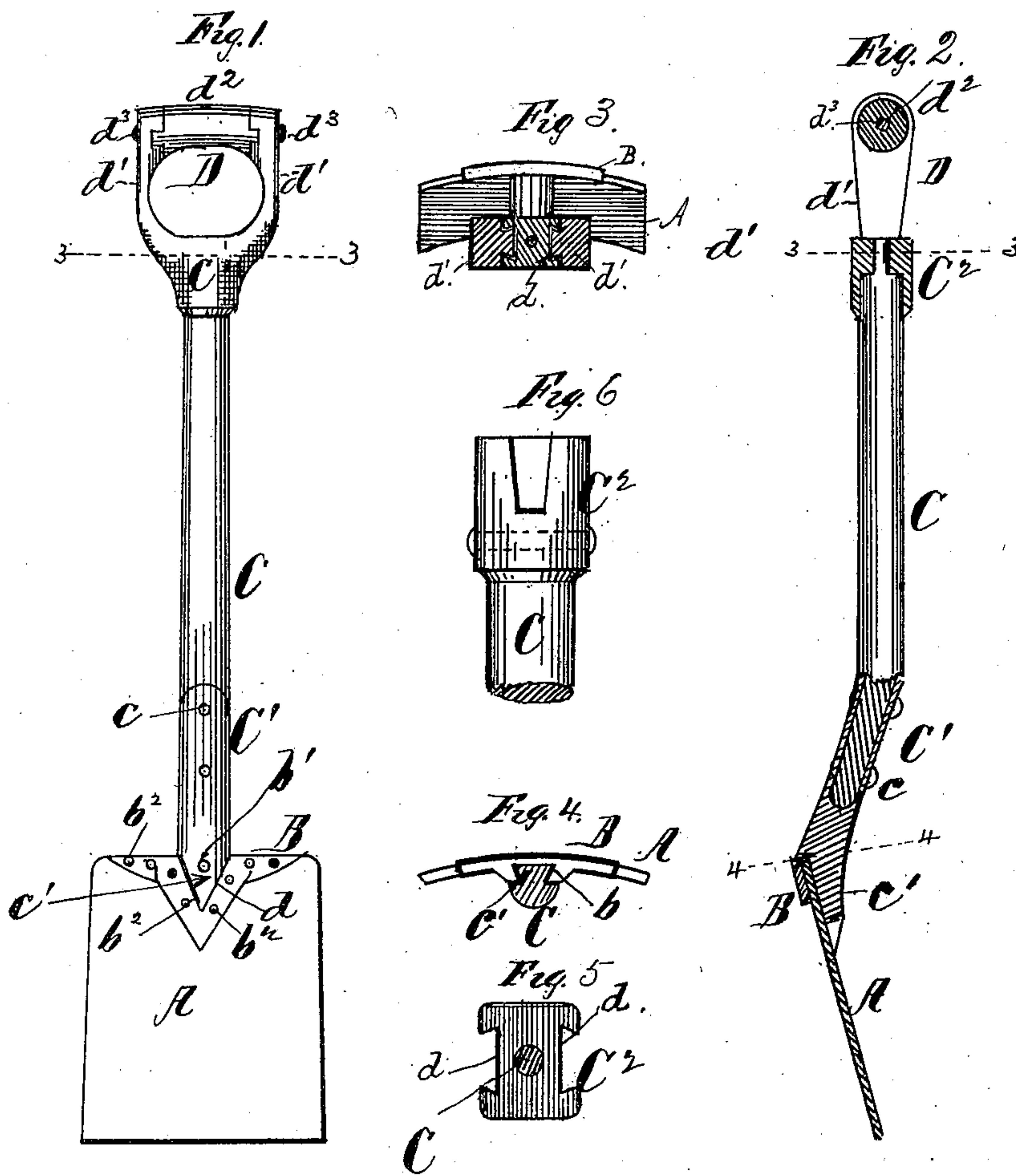


J. JOHNSON.
Shovel.

No. 204,897.

Patented June 18, 1878.



Witnesses:

J. Barrett
Richard Gerner.

Inventor:

John Johnson

Per:

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UNITED STATES PATENT OFFICE.

JOHN JOHNSON, OF MEMPHIS, TENNESSEE.

IMPROVEMENT IN SHOVELS.

Specification forming part of Letters Patent No. 204,897, dated June 18, 1878; application filed December 15, 1877.

To all whom it may concern:

Be it known that I, JOHN JOHNSON, of Memphis, in the county of Shelby, in the State of Tennessee, have invented a new and useful Improvement in Shovels, of which the following is a specification:

This invention has for its object the construction of a steel-bladed shovel provided with a malleable-iron shield on its top edge to strengthen it, and a detachable handle that may be removed and attached to another blade when the first shall have been worn out, and the top end of the handle is provided with a detachable grasp-bar, so that the top end of the handle may be used for a tamping-bar when required.

The invention may be readily understood by reference to the accompanying drawings, of which—

Figure 1 is a front view of one of the improved shovels in its completed condition. Fig. 2 is a longitudinal sectional elevation of the same. Fig. 3 is a transverse section on the line 3 3 of the top end of the shovel-blade, showing the dovetailed fastening for the handle. Fig. 4 is a transverse section on the line 4 4, showing the dovetailed fastening of the blade. Fig. 5 is a view of the top end of the shank part of the handle. Fig. 6 is a side view of the top part of the shank with ferrule attached. Figs. 5 and 6 are on a larger scale than the others.

The blade A of the shovel is formed of a thin steel plate in the usual form of shovel-blades. The top end of this blade is protected by an overlapping shield, B, of malleable iron, which forms a broad and easy rest for the foot of the operator to bear upon when required to press it into the earth.

The shield is thickened up in its central part, and provided with a dovetailed seat, *b*, into which the handle is to be inserted and held fast therein by the rivet *b*¹, while other

rivets *b*² are used to fasten the shield to the shovel-blade.

When one blade is worn out the rivet *b*¹ may be taken out and another blade attached to the handle in lieu of the one removed.

The handle consists of a wooden shank, C, with an iron ferrule, C¹, at its bottom end, and an iron ferrule, C², at its top end, and a detachable top hand-piece, D. The bottom ferrule C¹ is properly fitted to the wooden shank-piece, to which it is secured by suitable rivets *c*, and it is provided with a dovetailed lip, *c'*, which fits into and attaches to the dovetail *b* of the shield B. The top ferrule C² has at its sides dovetailed seats *d*, into which the dovetailed side bars *d*¹ of the hand-piece D fit and hold these parts together.

When the top hand-piece D is removed, as shown in Figs. 5 and 6, an iron or steel head is applied in its place to adapt the tool for use as a tamping-bar.

The hand-piece D is formed of two side bars, *d*¹, the lower ends of which are provided with the dovetails, and a top piece or grasp-bar, *d*², which is formed of wood, and is secured between the upper ends of the side bars *d*¹ by means of a transverse rivet, *d*³.

The dovetails are to be made tapering, so as to fit tightly in their seats *d* in the ferrule C² when the parts are assembled together.

Having described my invention, I claim—

1. The dovetailed ferrule C¹, attached to the lower end of handle C, in combination with shield B with dovetailed seat *b* and blade A, substantially as and for the purpose set forth.

2. The dovetailed ferrule C² and the dovetailed hand-piece D, in combination with the handle C and blade A, substantially as and for the purpose set forth.

JOHN JOHNSON.

Witnesses:

W. M. DUNNOTT,
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