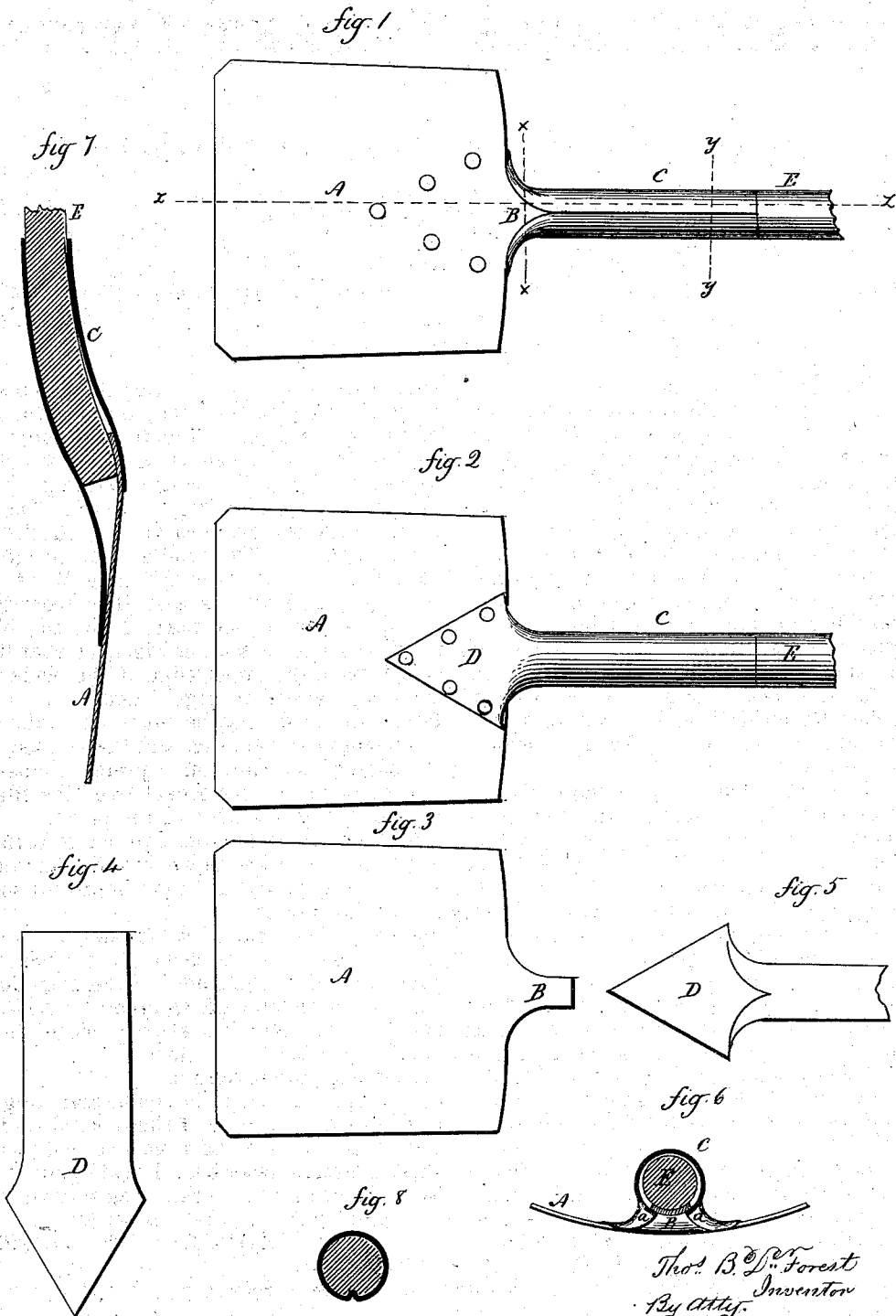


T. B. De FOREST.
Shovels.

No.155,829.

Patented Oct. 13, 1874.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS B. DE FOREST, OF BIRMINGHAM, CONNECTICUT.

IMPROVEMENT IN SHOVELS.

Specification forming part of Letters Patent No. **155,829**, dated October 13, 1874; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, THOMAS B. DE FOREST, of Birmingham, in the county of New Haven and State of Connecticut, have invented a new Improvement in Shovels; and I do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a rear view; Fig. 2, a front view; Fig. 3, the blank for the blade; Fig. 4, the blank for the socket; Fig. 5, a rear view of the socket detached; Fig. 6, a transverse section on line *x x* of Fig. 1; Fig. 7, a vertical section on line *z z*.

This invention relates to an improvement in the manufacture of shovels and analogous implements, the object being to produce from sheet metal a stronger and more durable shovel than the present construction, and without addition to the cost of manufacture, with special reference to the use of the socket invented by me, and patented June 16, 1873.

The invention consists in the production of a shovel in which the blade and a short tang are formed from one piece of sheet metal, and the tubular socket and pad from a second piece of sheet metal, the pad riveted to the blade, and the tubular socket inclosing the tang and handle, as more fully hereinafter described.

A is the blade, cut from sheet metal into the form substantially as seen in Fig. 3, with a tang, B, upon the upper end, cut in one and the same piece with the blade. C, the socket, is made from a blank, as seen in Fig. 4, with a broad lower end, D, to form the pad. The upper part of this blank is struck into tubular

shape, as seen in Fig. 5, the edges substantially meeting at the back, and the diameter of the tube corresponding to the handle E to be inserted. The pad is set onto the blade, as seen in Fig. 2, the tang B passing up into the tube, as seen in Figs. 1 and 6. The pad is riveted to the blade so as to hold the two firmly together. The handle is forced into the socket, down and over the tang B, as seen in Figs. 6 and 7. As a further security, or strengthening of the parts, I cut the blank for the socket, as seen in Fig. 4, so that lips *a* will overlap the upper edge of the blade near the tang, as seen in Figs. 1 and 6; or, if preferred, the blade may be cut so as to allow extra metal near the tang, and that closed over the edge of the pad; but I prefer to close the lower portion of the socket over the edge of the tang or upper edge of the blade.

To secure the handle, I prefer to turn the edges of the socket down into the handle, as seen in Fig. 8, and as in my improved socket before referred to.

I am aware that it is not new to make a shovel with a tubular socket for the handle in same piece with the blade. I therefore do not wish to be understood as broadly claiming a shovel with a tubular socket, except in the manner hereinafter specified.

I claim as my invention—

A shovel in which the blade and tang are formed from one piece of sheet metal, and the tubular socket and pad from a second piece of sheet metal, as described, the said pad riveted to the blade and the socket inclosing the tang and handle, substantially as set forth.

THOMAS B. DE FOREST.

Witnesses:

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