

J. C. RICHARDSON.

Methods of Forming Blanks for Shovels.

No. 155,463.

Patented Sept. 29, 1874.

fig. 1.

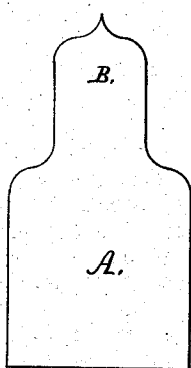


fig. 2.

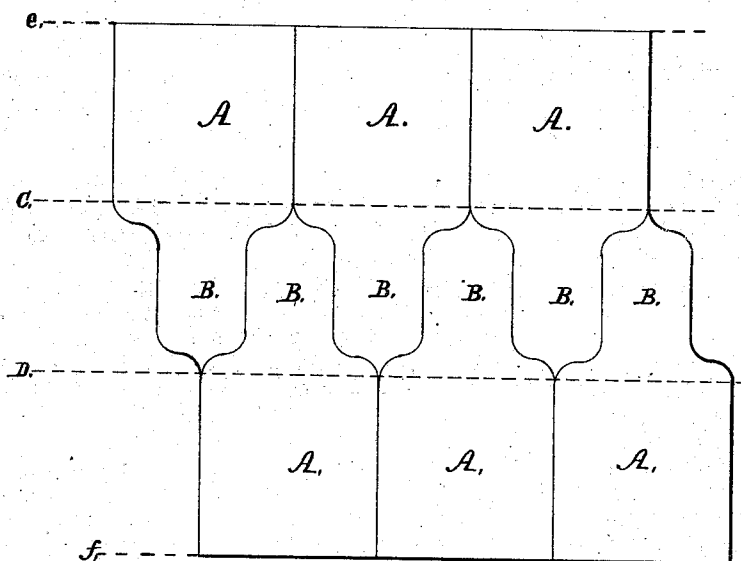
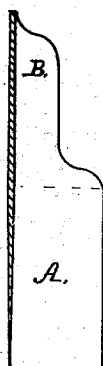


fig. 3.



Witnesses.

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IMPROVEMENT IN METHODS OF FORMING BLANKS FOR SHOVELS.

Specification forming part of Letters Patent No. **155,463**, dated September 29, 1874; application filed
April 25, 1874.

To all whom it may concern:

Be it known that I, JULIUS C. RICHARDSON, of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Forming Blanks for Shovel-Blades; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of my invention consists in forming blanks for shovel-blades by cutting them from sheet-iron or steel plates, of the form hereinafter described, so that the blade and its strap are formed in one piece without waste of stock.

To enable others skilled in the art to make and use my invention, I will proceed to describe more fully its construction and operation.

In the accompanying drawing, which forms part of my specification, Figure 1 is a face view or plan of a blank for a shovel-blade and its strap. Fig. 2 represents a sheet of iron or steel, with a series of blanks marked out upon its surface. Fig. 3 is a longitudinal section of a shovel-blank.

The iron or steel is rolled out into sheets of

suitable width, and tapering from lines C and D to the lines *e* and *f*. That portion of the sheet between the lines C and D is for forming the strap for the handles, and is made a half-gage or more thicker than the parts between the lines C *e* and D *f*. The blanks are then marked and cut out, as shown in Fig. 2. The blanks may also be cut out through the medium of suitable cutting-dies, preference being given to the latter mode of cutting out the blanks.

The blanks thus constructed may be subsequently, through the medium of suitable dies or other tools, formed into the desired shape for the shovel.

The manipulation of the blanks in the construction of the shovel I leave to the skilled shovel-maker.

Having thus described my improvement, what I claim as of my invention is—

The method hereinbefore described for forming and constructing blanks for shovel-blades and the strap connected therewith.

JULIUS C. RICHARDSON.

Witnesses:

G. B. HUBBARD,
JAMES J. JOHNSTON.