(No Model.)

H. C. COLE.

SNOW SHOVEL.

No. 265,021. Patented Sept. 26, 1882.

Fig1.

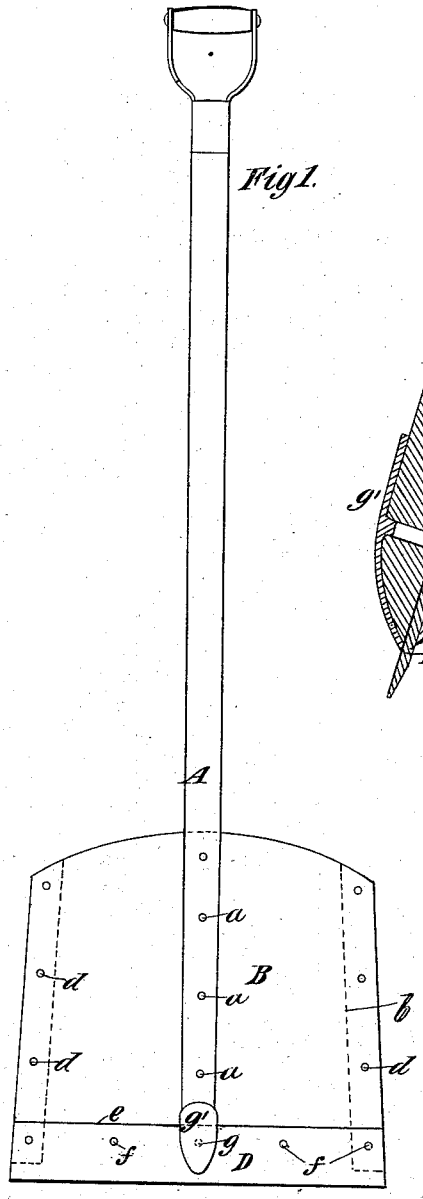


Fig4.

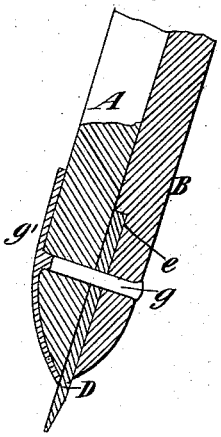


Fig2.

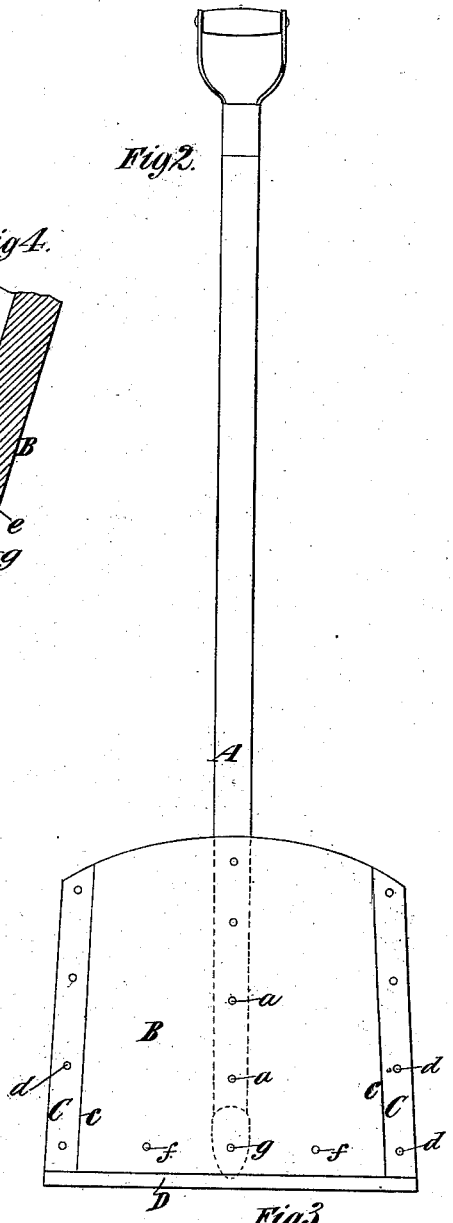
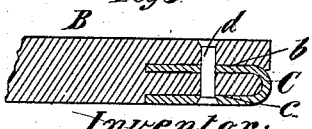


Fig3.



Witnesses:
Chas. F. Haynes
Ed. L. Moran

Inventor:
Henry C. Cole
by his Attorneys
Brown & Brown

UNITED STATES PATENT OFFICE.

HENRY C. COLE, OF WALLINGFORD, VERMONT.

SNOW-SHOVEL.

SPECIFICATION forming part of Letters Patent No. 265,021, dated September 26, 1882.

Application filed July 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. COLE, of Wallingford, in the county of Rutland and State of Vermont, have invented a new and useful Improvement in Snow-Shovels, of which the following is a specification.

My invention relates to snow-shovels of the kind shown and described in Letters Patent No. 138,076, granted to me April 22, 1873. In such shovels the blade consists of a thin piece of wood, which is preferably curved in the direction of the length of the handle, and in which the handle extends across and is secured to the front or upper face of the blade, and the two side edges of the blade are re-enforced or strengthened by U-shaped plates of metal, the edges of which are inserted in grooves in the blade.

My present invention consists in a novel manner of applying the said U-shaped plates to the blade, which renders the shovel more desirable than the one shown in my aforesaid patent, for reasons hereinafter described; also, in the combination, with the blade and handle, of a novel means of protecting the end of the handle, particularly hereinafter described, so that it will not be liable to split, and in other details of construction hereinafter described and claimed.

In the accompanying drawings, Figure 1 represents a front or top view of my improved shovel. Fig. 2 represents a back or bottom view thereof. Fig. 3 represents a sectional view of the edge portion of the blade upon a larger scale, and Fig. 4 represents a sectional view of the lower or edge portion of the blade and a portion of the handle on the same scale as Fig. 3.

Similar letters of reference designate corresponding parts in all the figures.

A designates the handle of the shovel, and B designates the blade, which may be slightly curved in the direction of the length of the handle, so that the blade may work as near the horizontal plane as it well can when in use.

The blade consists of a thin piece of wood, which has the grain transverse to the handle, and the handle is secured to the top or upper surface of the blade by rivets, screws, or analogous devices *a*, the said handle being curved to conform to the curvature of the blade.

Each of the two side edges of the blade is strengthened or re-enforced throughout its length by a U-shaped plate of metal, C, one edge of which is inserted in a groove, *b*, in the edge of the blade, and the other edge of which laps under the back or bottom surface of the blade and fits in a rabbet, *c*, therein, so that the under surface of the lower edge of the plate will be flush with the bottom or back of the blade B, as best shown in Fig. 3. The plates C are secured in place by rivets *d* or like devices inserted through them and the blade, as also shown in Fig. 3.

In my former patent are shown U-shaped plates similar to the plates C; but the edges of the plates are both inserted in grooves in the blade, and the wood between the grooves and the top and bottom surfaces of the blade is so thin that it is apt to crack and split off, and the wood on the top surface is liable to blister or buckle up in bending the blade. By having the lower edge of the plate C underlap the blade I leave the wood between the groove *b* and the top surface of the blade so thick that it is not liable to split, and I cover and protect the edge portion of the under side of the blade by the metal plate, which forms a durable wearing-surface.

The cutting-edge of the blade is here shown as formed by a plate, D, fitted in a rabbet, *e*, in the upper surface of the blade and secured by rivets *f*. The plate here shown is flat, and projects slightly beyond the blade, and the end of the handle A laps over on this edge-plate D, and is secured by a rivet, *g*, which has a peculiar-shaped head, *g'*, covering and protecting the end of the handle to prevent its splitting. The rivet *g* passes through the handle, the plate D, and the blade; but instead of having the head of the rivet shaped so as to form the protecting-cap *g'*, it may be formed of a separate piece and the rivet be inserted through it, and in either case the said rivet need not be inserted through the plate D.

By my invention I am enabled to make a shovel more durable, and also to make it lighter, which is an important advantage.

I am aware that it is old to connect a shovel blade and handle by means of blade and handle splice-straps, portions of which are rounded to fit the handle, while other portions are

shaped to fit the blade. These splice-straps are applied to the back and front of the handle and blade, and are secured by rivets inserted through both straps and the interposed handle and blade. I do not claim such straps as included in my invention, and my cap *g'* is very different, in that it does not serve to connect the handle and blade, as they are secured together independently of the cap, but serves simply to protect the handle, and is secured by a single rivet passing through both the handle and blade.

I am also aware that shovel-blades have been provided with edge-plates of various forms, and hence I do not here claim broadly a wood blade provided with a metal edge-plate.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the blade B, having in each side edge the groove *b* and the rabbet *c* on its under surface, of the U-shaped strengthening-plate C, one edge of which is inserted in the groove and the other edge of which underlaps the blade and rests in the said rabbet, and rivets *d* or like devices, substantially as described.

2. The combination of the blade B, the edge-plate D, the handle A, secured to the front or upper surface of the blade and overlapping said plate D, the rivet *g* or like device inserted through the blade B, the edge-plate D, and the handle A, and the cap *g'* for protecting the end of the handle, substantially as described.

HENRY C. COLE.

Witnesses:
JOHN D. MILLER,
SEWARD J. AINSWORTH.