F. E. KOHLER.

SNOW SHOVEL.

APPLICATION FILED MAY 9, 1912.

1,042,352. Patented Oct. 22, 1912.

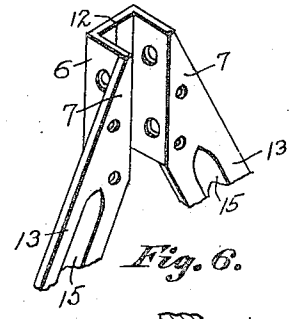

Fig. 6.

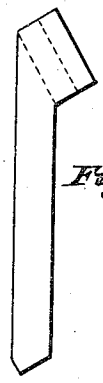

Fig. 7.

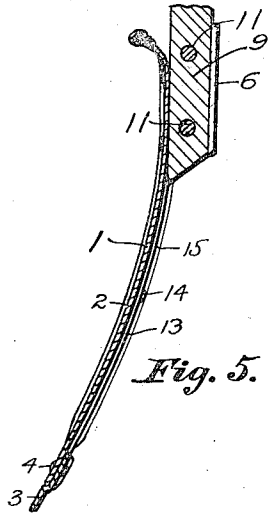

Fig. 5.

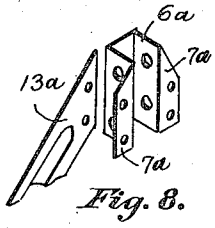

Fig. 8.

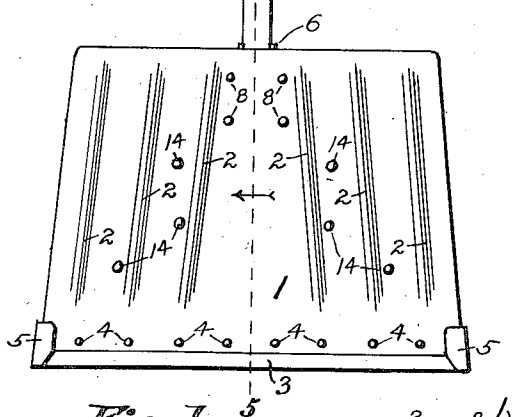

Fig. 1.

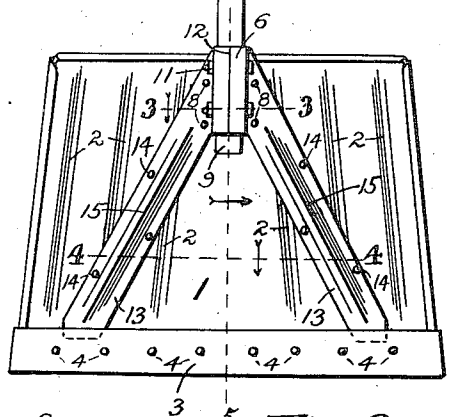

Fig. 2.

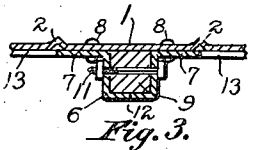

Fig. 3.

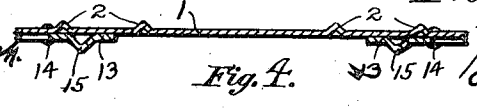

Fig. 4.

Witnesses;

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UNITED STATES PATENT OFFICE.

FREDERICK E. KOHLER, OF CANTON, OHIO, ASSIGNOR TO THE F. E. KOHLER COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

SNOW-SHOVEL.

1,042,352. Specification of Letters Patent. Patented Oct. 22, 1912.

Application filed May 9, 1912. Serial No. 696,256.

To all whom it may concern:

Be it known that I, FREDERICK E. KOHLER, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Snow-Shovels, of which the following is a specification.

The invention relates to shovels for handling snow and other comparatively light articles, and the object of the improvement is to provide means for securing a wooden handle to a sheet metal blade, and at the same time to brace the blade against torsional strains.

The work usually imposed upon snow shovels permits the blades to be made of a thinner gage of sheet metal than is ordinarily required for other kinds of shovels, and especially shovels having the large sized blades which are preferably provided for snow shovels; and, at the same time, the use of the thinner metal renders such large blades quite susceptible to twisting strains, and especially when the shovel is provided with a single-shank handle.

The present improvement contemplates the use of a blade made of comparatively thin sheet metal with a single-shank wooden handle, and involves the use of a metallic socket having lateral flanges secured directly to the sheet-metal blade, said flanges being extended diagonally downward and secured flatwise along the blade to form braces, said braces being preferably provided with longitudinal ribs or corrugations for stiffening the braces and also to form runners for the blades.

A preferred embodiment of the invention, thus set forth in general terms, is illustrated in the accompanying drawing, forming part hereof, in which—

Figure 1 is a front or face view of the snow shovel; Fig. 2, a back view of the same; Fig. 3, a fragmentary section on line 3—3, Fig. 2; Fig. 4, a fragmentary section on line 4—4, Fig. 2; Fig. 5, a longitudinal section on line 5—5, Figs. 1 and 2; Fig. 6, a fragmentary perspective view of a two-piece handle socket, showing integral flanges and braces; Fig. 7, a plan view of a blank for forming one brace and half of the two-piece socket; and Fig. 8, a fragmentary perspective view showing a one-piece socket with integral flanges, and a separate-piece brace arranged to overlap the corresponding flange.

Similar numerals refer to similar parts throughout the drawing.

The blade 1 of the shovel is made of thin sheet metal and is preferably curved longitudinally to present a laterally-straight longitudinally-concave forward face, the forwardly-bent longitudinal corrugations 2 being preferably provided to strengthen the blade, and the lower edge being preferably reinforced with steel strips 3 secured by rivets 4 on the back of the blade and also having its ends 5 clamped around the corners thereof.

The handle socket 6 or 6^a is preferably formed of heavy sheet metal with the laterally diverging flanges 7 or 7^a adapted to fit flatwise against the upper middle portion of the back of the blade, to which it is secured by rivets as 8. The cavity of the socket, as shown, is preferably formed square in cross section, and is adapted to receive and surround the square shank 9 of the handle 10, which shank is shaped to fit the socket, and is secured therein by the bolts 11.

In the preferred form of the socket 6, as shown in Figs. 1 to 6 of the drawing, the socket is preferably made of two lateral halves, jointed or abutted together at 12 along the middle line of the back; and the lateral flanges 7 on each side portion are integrally extended and diagonally diverged downward to form the braces 13; while in the modified form, shown in Fig. 8, the socket 6^a is made of one piece, and the separate-piece braces, as 13^a, are arranged to overlap the flanges 7^a of the socket, and are secured therewith to the blade by the same rivets which secure the flanges thereto; the flanges being preferably clamped between the overlapping braces and the blade.

The diagonal braces 13 or 13^a, whether made integral with or separate from the handle socket, are preferably made of similar thick sheet metal, and are extended flatwise along the back of the blade, to which they are secured by the rivets 14; and the lower ends of the braces are preferably inserted and clamped between the edge strip 3 and the blade. The braces are furthermore, by preference, provided with the rear-

wardly curved longitudinal corrugations 15, which serve the double purpose of stiffening and strengthening the braces, and also constitute round-edged runners for the back of the blade, to save the same from excessive abrasion in use.

I claim:

1. A snow shovel comprising a sheet-metal blade, a single-shank wooden handle, and a sheet-metal socket having lateral flanges secured to the back of the blade and securing and surrounding the shank of the handle, with integral braces diverging diagonally downward from the flanges and secured flatwise to the back of the blade, there being longitudinal corrugations on the braces forming round-edged runners for the blade.

2. A snow shovel comprising a sheet-metal blade, a single-shank wooden handle, and a metal socket having lateral flanges secured to the back of the blade and receiving and surrounding the shank of the handle, with braces diverging diagonally downward from the flanges and secured flatwise to the back of the blade, there being longitudinal corrugations on the braces forming round-edged runners for the blade.

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