May 16, 1939. D. B. HUNT 2,158,325

COMBINATION METAL WOOD SKI

Filed July 6, 1937

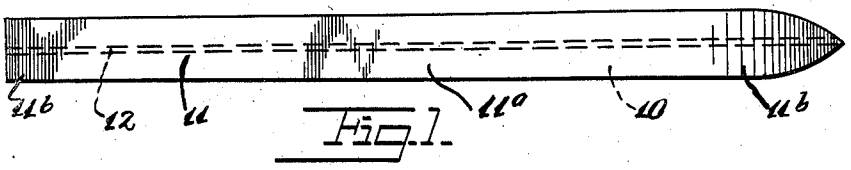


Fig. 1.

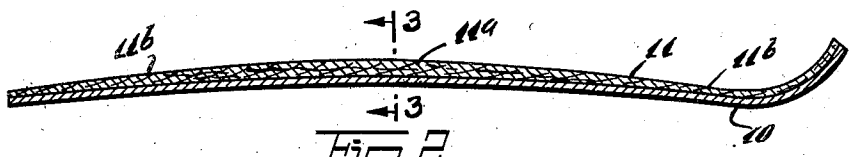


Fig. 2.



Fig. 4.

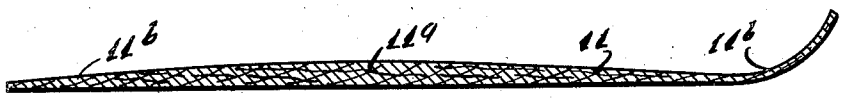


Fig. 5.

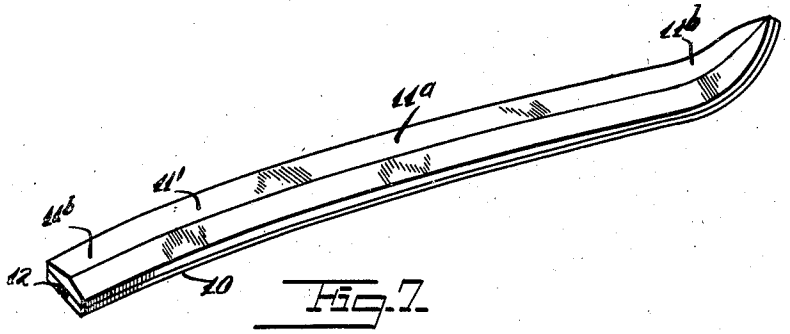


Fig. 7.

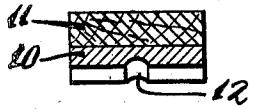


Fig. 3.

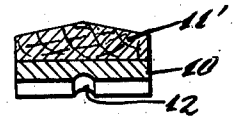


Fig. 6.

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COMBINATION METAL-WOOD SKI

Donald B. Hunt, Troy, N. Y.

Application July 6, 1937, Serial No. 152,081

1 Claim. (Cl. 280—11.13)

This invention relates to new and useful improvements in a combination metal-wood ski.

The invention has for an object the construction of a ski which is characterized by the fact that it has a bottom layer of metal and a top layer of wood secured thereto and shaped and formed into a ski. The object of this construction resides in the fact that the metal reinforces and strengthens the wooden ski, and provides an efficient runner for the ski without detracting from the advantages derived by the use of a common wood ski.

The invention proposes to use ash or hickory or similar woods for the top layer and to form the top layer with a thickened central portion tapering towards the edges so as to form a strong construction where the ski is attached to one's shoe, and providing flexibility at the ends.

Still further the invention proposes the use of a glue of great strength, of a water-proof nature, especially prepared for gluing metal and wood, for example in airplane wing constructions, for securing together the layers of the ski.

Still further the invention proposes to arrange a longitudinal groove upon the bottom face of the ski to assist in the proper traction of the ski.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawing, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawing forming a material part of this disclosure:

Fig. 1 is a plan view of a ski constructed according to this invention.

Fig. 2 is a longitudinal sectional view of the ski shown in Fig. 1.

Fig. 3 is a transverse sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a longitudinal sectional view of the metal portion of the ski per se.

Fig. 5 is a longitudinal sectional view of the wood portion of the ski, per se.

Fig. 6 is a similar view to Fig. 3, but illustrating a modified form of the invention.

Fig. 7 is a perspective view of the ski.

The combination metal and wood ski, according to this invention, comprises a bottom layer 10 of a metal and a top layer 11 of wood secured together and shaped and formed into a ski. Each of these layers are of the same length and width and similarly shaped. The metal layer 10 preferably should be of sheet metal and may vary from, say, $\frac{1}{16}$'' to $\frac{1}{4}$''. The bottom face of the metal layer 10 is formed with a groove 12 extending longitudinally of its length along the center and adapted to act as a traction element when the ski is used.

The top wooden layer 11 preferably should be made from ash or hickory and should be formed with a thickened central portion 11a and tapering end portions 11b. The layers 10 and 11 are secured together with glue of great strength, water-proof, and especially prepared for gluing metal and wood together. There are several brands of such glues on the market, one of which is far superior to the others and generally used for airplane wing construction. It is this glue that should be used. After the glue has dried it is proposed that the wooden layer be sanded and finished.

The glue used for securing the metal and wood parts of the ski together is flexible in addition to being waterproof, and permits slight relative motion of the parts. During initial experiments on the improved ski rivets were used to hold the wood and metal together but it was found that this construction could not be used, for when two or more pieces of metal are put together with rivets there is practically no flexibility and the rivets will shear off providing the wood is hard enough, and if the wood is soft the rivet holes will become so enlarged from constant bending that the holding value will soon be gone. The reason for this is that when two or more pieces are put together the top piece must move back and forth slightly more than the bottom piece. There must be an independent movement in the two pieces and there is only one way to get this movement and yet exclude the weather conditions, and that is to use a water-proof flexible glue. The glue is more than strong enough, for the brand recommended to be used, is used in the construction of airplane wings. Such a construction of wood and metal glued with this specially prepared glue is many times stronger than any metal of the some weight. The experiments have shown that this glue is stronger than the wood used in the construction so that it is not necessary to use rivets even though it were possible.

Fig. 4 is a side elevational view of the metal bottom layer before shaping into the formation shown in Fig. 2. Fig. 5 is a view of the top wooden layer also before shaping, that is, before having its central portion raised. After, or before joining the layers are formed into the standard ski

shape illustrated in Fig. 2. This gives resiliency to the ski.

In Fig. 6 the top wooden layer 11' is illustrated with sloping upper surfaces. In other respects this form of the invention is similar to that in the previous figures.

Some of the advantages of the ski, according to this invention are as follows:

1. The ski is unbreakable as compared with a wooden ski.

2. Flexibility is not sacrificed by the great strength.

3. Wearing qualities are much greater than any wooden ski.

4. The speed of the improved ski is greater in either dry or wet snow and it will never need waxing.

5. The metal does not rust.

6. This great strength does not make it any heavier than any good grade of wooden ski.

7. The metal-wood ski is non-warping.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and the right is reserved to all changes and modifications coming within the scope of the invention as defined in the appended claim.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

A combination wood and metal ski, comprising a resilient wooden upper layer having its front end turned upwards, and having its intermediate portion substantially thicker than the end portions whereby said wooden layer is less resilient at its intermediate portion than at said end portions, and a lower layer of metal glued to the under side of said upper layer, said lower layer being shaped in width similarly to said upper layer, and of uniform thickness from end to end whereby the resiliency of the various portions of said ski is determined by the wooden upper layer.

DONALD B. HUNT.