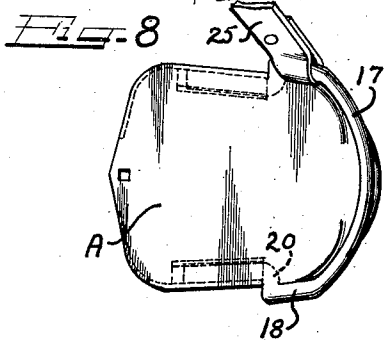
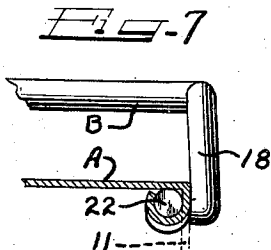
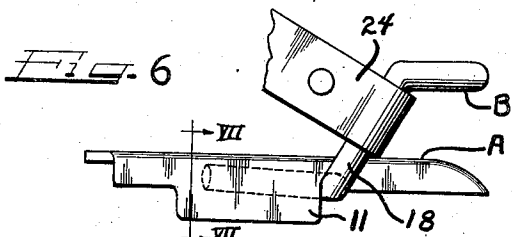
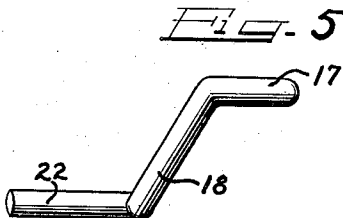
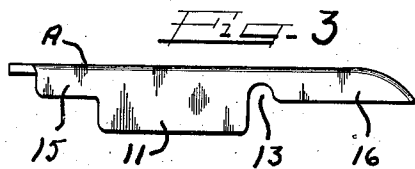
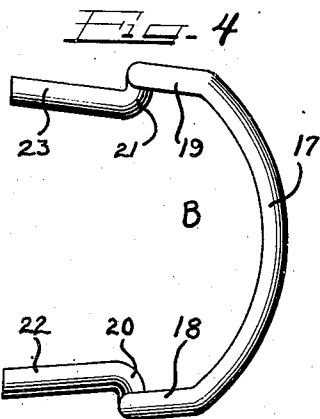
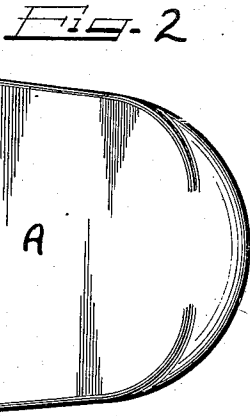
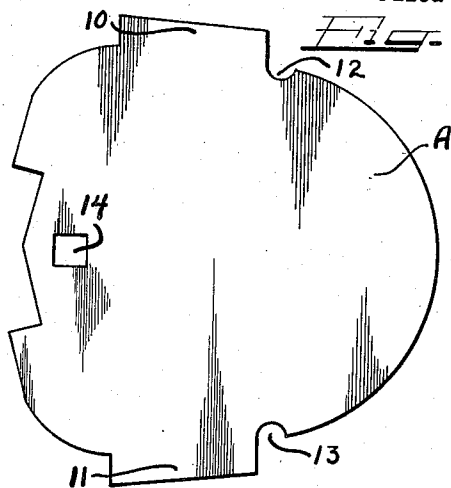


Oct. 19, 1948.

L. A. WOOLLEY
SKATE CONSTRUCTION

2,451,601

Filed Jan. 26, 1946



Inventor
LEE A. WOOLLEY
Attorney
The Firm of Charles H. Hill
LLS

UNITED STATES PATENT OFFICE

2,451,601

SKATE CONSTRUCTION

Lee A. Woolley, Kokomo, Ind., assignor to Kingston Products Corporation, Kokomo, Ind., a corporation of Indiana

Application January 26, 1946, Serial No. 643,560

5 Claims. (Cl. 280—11.30)

1

The present invention relates to skate construction and more particularly to a heel plate and backing and a method of making the same.

In the manufacture of skates, it is customary to plate or otherwise treat the skate parts to prevent rust. In order to plate the parts they must be polished before plating.

Roller skates are made with heel plates and backings or stops to serve to limit the relative position of the heel of the skate and the shoe when the skate is applied to a shoe of a wearer. The heel attaching means, usually straps, are secured to the heel plates and sometimes to the backings.

Difficulty has been encountered in properly polishing a plate and a backing when the backing is made as an integral part of the plate and bent to the desired position as the polisher cannot always contact all of the surface of the heel plate and backing. This is especially true as to the joint between the plate and the backing. The result is that dirt in the joint prevents complete plating so that later rust may settle in the joint. When the backing is made as a separate part and then riveted to the heel plate the situation is unsatisfactory as often-times dirt accumulates about the rivets or else difficulty is encountered in polishing the assembled plates and backings. Furthermore, these methods involve expenditure of more labor time than necessary thus adding needlessly to the cost of production.

The present invention overcomes the above recited objections and has for an important object the provision of a heel plate and backing member separately manufactured and polished, with the plate so constructed that its entire surface is in a plane which may be fully and completely polished prior to plating. The heel back, or backing, is a one-piece wire rod bent to suitable shape and having end portions which are held in place with respect to the plate by encirclements thereof by flange portions of the plate, the backing being completely polished and plated prior to assembly.

Another object of the present invention is to provide a heel plate and a heel back, for skate construction, which are separately manufactured polished and plated and then permanently assembled in a manner to reduce manufacturing costs to a minimum.

A further object of the present invention is to provide a heel plate and backing assembly of plated metal parts, separately manufactured, the heel plate being formed as a plane surface so as to be completely polished prior to plating.

2

A further object of the present invention is to provide a rivetless heel plate and backing member assembly for skates whereby the plate and member may be separately formed and plated and then assembled without rivets or without in any manner whatsoever damaging the plating on either of the parts, thus eliminating any deterioration because of rust.

The invention has for an additional object the provision of a heel plate and backing assembly of plated metal parts, separately manufactured, the heel plate being formed has a surface free of any obstruction to complete polishing prior to plating.

A further object of the present invention is to provide a novel method of making a heel plate and backing assembly for skate construction.

A yet further object of the present invention is to provide a novel method of making a heel plate for a skate.

A still further object of the present invention is to provide a heel plate and backing combination wherein the plate is formed to provide a plane surface offering no obstruction whatsoever to a complete polishing, and a backing fashioned from a wire rod as a loop with portions of the rod bent to engage notches in the plate flange and having end portions which are permanently connected to the plate by bending parts of the plate flanges about them.

The invention has for a further and additional object the provision of a flanged heel plate for a skate, having its heel supporting surface formed substantially as a plane whereby the entire surface may be completely polished prior to plating.

The invention has for a further and additional object the provision of a heel backing or brace, for a skate, formed from wire rod bent to loop shape to receive the heel, and bent laterally to engage across side margins of a heel plate and having portions to be encircled by parts of the heel plate to permanently connect the heel plate and backing together in assembled relation.

The above, other and further objects of the present invention will be apparent from the following description and accompanying drawings.

An embodiment of the present invention is illustrated in the accompanying drawing and the views thereof are as follows:

Figure 1 is a plan view of a blank stamped from suitable stock, from which the heel plate of the present invention is made;

Figure 2 is a plan view of a heel plate of the present invention in its ultimate form;

Figure 3 is a side elevational view of the finished heel plate;

Figure 4 is a plan view of the wire rod bent to provide the backing for the heel;

Figure 5 is a side elevational view of the backing member of Figure 4;

Figure 6 is a side elevational view of the heel plate and the backing, assembled but not in permanently connected relationship, and showing a fragmental portion of a heel strap applied to the backing;

Figure 7 is a view, partially in elevation and partly in section taken in the plane of line VII—VII of Figure 6 showing in dotted lines the depending plate flange and its relationship to an end of the backing member, and in full lines a portion of the plate flange curled or bent around an end of the backing member to permanently secure the backing member and heel plate in assembled relation; and

Figure 8 is a top plan view of the completed assembly of heel plate and backing member, and showing one end of a heel strap attached to the backing member.

The drawing will now be explained.

Referring to Figure 1 a blank A is there shown which is stamped from suitable stock, is somewhat oblate in plan, has oppositely disposed extensions 10—11, and notches 12—13, the notch 12 being adjacent the extension 10 and the notch 13 adjacent the extension 11. An aperture 14, shown as rectangular in plan is provided to be utilized in attaching the heel plate to a skate, when the plate is finished.

After the blank A has been stamped it is preferably polished on both sides. The blank is then subjected to suitable machine action to turn down the margins thereof providing flanges about the plate. The extensions 10 and 11 thus become depending flanges 10 and 11 which in depth are greater than the adjacent portions 15 and 16 of the flanges about the plate. It may be observed in Figures 2 and 3 that the rear end of the plate, that is, the end shown at the right of the figures is sloped downwardly on a curve, whereas the side flanges are substantially at right angles to the plane of the heel supporting face of the plate A.

If desired the upper surface of the plate may be polished after the flanges have been turned. It is to be noted that the upper or heel receiving surface of the plate is unobstructed to a polishing operation and is substantially in a plane over all of which the polishing tool may be moved, thus effectively completely polishing the plate. After the plate has been thus polished, it is plated in a nickel-chromium, or other suitable plating solution, to protect it against rust.

The heel back, brace, stop, or backing of the present invention is illustrated in Figures 4 and 5, being designated generally as B.

The backing member B is formed from a wire rod bent as a loop in top plan to provide legs and a bight 17, the latter becoming as a stop or rest against which the heel of the wearer is held when the skate is attached to his shoe. Forwardly of the bight 17 the legs 18 and 19 are inclined downwardly, for a portion of their lengths, then inwardly towards each other, as at 20 and 21 and then forwardly forming end portions 22 and 23.

The wire rod may be polished before it is formed as described, or it may be polished after being formed. In any event the formation of the backing member B in the manner described, is such

that the member may be properly polished before plating.

After the parts A and B are suitably plated they are assembled by applying the backing member B astraddle the plate A with the inturned portions 20 and 21 entered in the notches 13 and 12, respectively, in the side flanges of the heel plate and with the end portions 22 and 23 along and against the inside surfaces of the flanges 11 and 10, respectively.

Figure 6 shows the relationship of the heel plate A and the backing member B after assembly of the parts before they have been permanently connected together in assembled relationship.

With the backing member B assembled as shown in Figure 6, that is to say with the inturned portions 20 and 21 entered in the notches 13 and 12 respectively and the end portions 22 and 23 against the inside surfaces of the flanges 11 and 10 respectively the backing member is tilted to normal position, which is that shown in Figure 6, which brings the extremities of the end portions 22 and 23 against the inner surface or underside of the plate A. The next step is to curl or bend the flanges 11 and 10 respectively about the ends 22 and 23 of the backing member B, as shown in Figure 7. This bending or curling operation tightly holds the backing member B in proper relationship to the heel plate member A, and in permanent association, so that the bight 17 of the backing member B will be at the proper height and position with respect to the rear end of the plate A so as to properly receive the heel of the shoe of the wearer when the skate is applied to his shoe.

For securing the heel portion of the skate to the foot of the wearer, a strap may be used. Figure 6 shows one end 24 of a strap secured about the inclined portion 18 of the backing member B. Figure 8 shows another strap 25 secured about the inclined portion 19 of the backing member B. It is to be understood that the straps 24 and 25 are provided with means for connecting them together, such for example, as a buckle (not shown) applied to one end of one of the straps with which the free end of the other strap engages in a manner well understood.

The attachment of the straps 24 and 25, in the manner stated, makes it unnecessary to rivet the straps to the heel plate thus eliminating rivet holes with their dirt collecting depressions. Attaching the straps to the inclined portions 18 and 19 of the heel backing member B, inclines the strap in such a manner that the heel portion of the skate is securely and comfortably fastened to the foot of the wearer.

It will be observed that the heel plate and backing assembly of the present invention is one which may be economically manufactured, and assembled, for manufacture on a production basis, and is one in which the heel plate may be completely polished before plating without there being any hindrance to a complete and satisfactory polishing operation of the heel plate, thus assuring proper plating of such parts of the heel plate and backing assembly as to prolong the life thereof making them practically indestructible as far as the detrimental effects of rust are concerned.

As may be noted, the present invention provides a heel plate and backing member assembly for skates which is rivetless, and is of such character as to enable ready assembly of these parts without in any manner damaging the plating on either member thereby eliminating any opportunity for rust.

5

It will, of course, be understood that various details of construction may be varied through a wide range without departing from the principles of this invention and it is therefore, not the purpose to limit the patent granted hereon otherwise than necessitated by the scope of the appended claims.

I claim as my invention:

1. In skate construction, a heel plate and backing member assembly comprising a plate having its upper surface formed as a plane unobstructed for polishing, a looped backing member having legs gripping the side margins of the plate, said legs having lateral bends to project underneath the plate adjacent its side margins and having end portions along the side margins of the plate, said plate having side flanges notched to receive the said bends in said legs to thereby prevent relative movement endwise of the plate, and said plate having its flanges bent about the end portions of the legs to hold the looped member in permanent relationship with respect to the plate.
2. In skate construction, a heel plate and backing member assembly comprising a plate having its upper surface formed as a plane unobstructed for polishing, a looped backing member formed from a wire rod having a central portion crosswise of and above said plate surface and having side portions extending downwardly across the side margins of the plate and having integral integral turned portions and end portions underlying said plate, said plate and said integral turned portions having shouldered engagement to prevent separation endwise of the plate, and said plate and said end portions being clamped together to prevent lateral separation of the plate and backing member.
3. A heel plate assembly for skates comprising a plate having a substantially flat top surface and depending flanges, a backing member hav-

6

ing portions straddling said plate and other portions underlying said plate and behind the plate flanges, portions of the plate flanges being curled about the last mentioned portions of the backing member to permanently connect the plate and backing member in relatively immovable relation.

4. A rivetless heel plate and backing member assembly for skates comprising a heel plate having an unobstructed upper surface and depending side flanges, a backing member formed from wire rod bent to provide a mid-portion crosswise of and above said plate surface and leg portions straddling the plate, said legs having portions underlying said plate, and said plate having portions of its flanges bent about the underlying portions of the backing member to permanently connect said plate and backing member.
5. A rivetless heel plate and backing member assembly for skates wherein the plate and backing member may be connected together after plating of each, said backing member being formed of a loop of wire rod and said heel plate having portions curled about portions of said backing member to permanently hold said plate and backing member against separation.

LEE A. WOOLLEY.

REFERENCES CITED

- The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
323,135	Fearis	July 28, 1885
1,455,276	Staples	May 15, 1923
1,535,422	Larsen	Apr. 28, 1925
2,246,909	Ysskin	June 24, 1941