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D. KEES

2,127,630

ROLLER SKATE

Filed Dec. 27, 1934

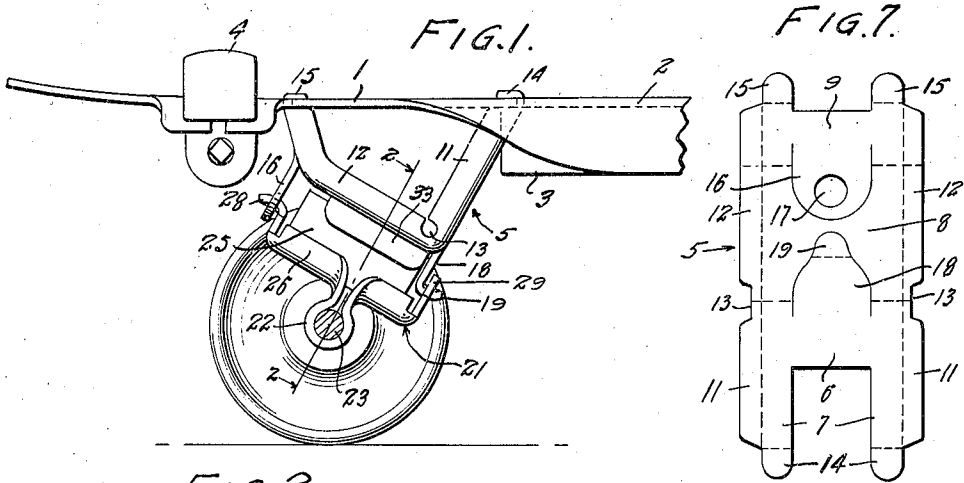


FIG. 2.

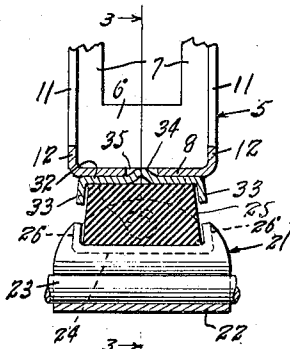


FIG. 3.

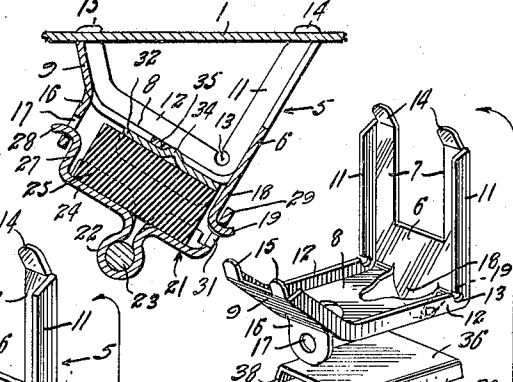


FIG. 4.

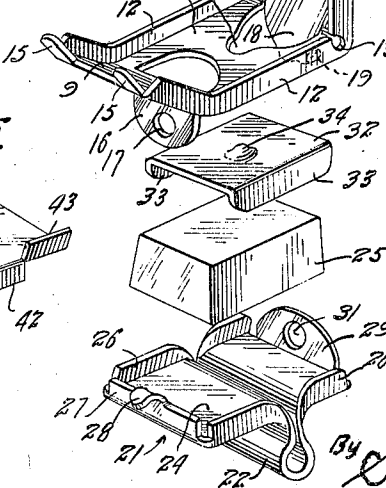


FIG. 5.

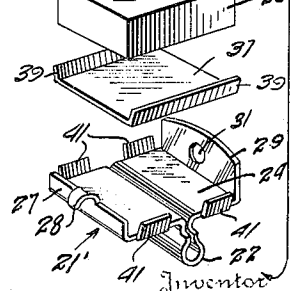
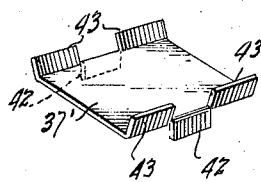


FIG. 6.



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ROLLER SKATE

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Application December 27, 1934, Serial No. 759,410

6 Claims. (Cl. 280—11.28)

This invention relates to a truss and bolster construction, and more particularly, although not necessarily, has reference to a truss and bolster for roller skates. The present application is a continuation in part of my copending applica-

5 a continuation in part of my copending application Serial No. 652,465, filed January 13, 1933. In the past, truss and bolster constructions, particularly those for use on roller skates, have been open to certain serious disadvantages. In the first place, such prior constructions have been of unnecessary complexity and relatively expensive to manufacture. Furthermore, the prior devices have not been of sufficiently sturdy, and at the same time light-weight, construction and have likewise proved unsatisfactory in operation. Difficulty has also been experienced in that there has been an absence of proper cushioning and flexibility of the prior devices.

One of the objects of my invention is to overcome such disadvantages of the prior art.

Another object of the invention is the provision of a truss and bolster which are formed from blanks of such design as to minimize the waste.

Yet another object of my invention is to provide a truss and bolster designed for easy assembly, and yet which, when assembled, is securely united to form a sturdy structure.

With these and other objects in view, which may be incident to my improvements, the invention consists in the parts and combinations to be hereinafter set forth and claimed, with the understanding that the several necessary elements comprising my invention may be varied in construction, proportions and arrangements, without departing from the spirit and scope of the appended claims.

In order to make my invention more clearly understood, I have shown in the accompanying drawing means for carrying the same into practical effect without limiting the improvements in their useful applications to the particular constructions which, for the purpose of explanation, have been made the subject of illustration.

In the drawing:—

45 Figure 1 is a side elevational view of a skate provided with a truss and bolster constructed in accordance with the principles of my invention;

Figure 2 is a sectional view along line 2—2 of Figure 1, looking in the direction of the arrows;

50 Figure 3 is a sectional view along line 3—3 of Figure 2, looking in the direction of the arrows;

Figure 4 is a view of the elements disassembled of the device shown in Figures 1 through 3;

55 Figure 5 is a view similar to Figure 4 but showing a modified form of certain of the elements;

Figure 6 is a perspective view of a modified form of shim; and

Figure 7 is a plan view of the blank from which the truss is formed.

In Figure 1 I have shown the truss and bolster 5 secured to a toe plate 1 of a roller skate, and it will of course be appreciated that an identical truss and bolster assemblage may be mounted upon the heel plate of the skate. While the toe and heel plates may be of various designs, I have 10 shown the toe plate 1 terminating in a rearwardly projecting channel 2 which is adapted to receive a corresponding channel member 3 which projects forwardly from the heel plate (not shown). The channel member 3 is slidable in the channel 15 member 2 and suitable means (not shown) are provided for securing the two channel members in the desired position. It will therefore be appreciated that the skate may be lengthened or shortened for various shoes. 20

The toe plate may also be provided with a suitable toe clamp 4 for engaging the sole of a shoe.

The truss, designated generally as 5, may be formed from a single blank of sheet steel and bent to the desired shape. The truss may be 25 composed of a portion 6 provided with a pair of spaced and parallel arms 7, and a portion 8 at substantially right angles to the member 6. The portion 8 terminates in an angular extension 9.

It will be noted that the edges of the several 30 portions may be bent at right angles to form strengthening flanges 11 and 12, such flanges being cut away as at 13 to facilitate the bending thereof.

Lugs 14 are formed upon the arms 7 and lugs 35 15 upon the member 9 which are adapted to extend through corresponding apertures in the toe or heel plate, and to be bent to secure the truss to the plate.

The member 8 may be cut out at two points and 40 the cut away portions bent to form the necessary means for securing the truss to the bolster. It will be noted that, as best shown in Figure 1, the two cut away portions are substantially parallel.

One of the cut away members 16 is provided 45 with an aperture 17. The other cut away portion 18 is cut and bent to form a projecting tongue 19. The tongue 19 is preferably substantially semi-circular in cross section, and, as shown in Figure 3, is in substantial alignment 50 with the aperture 17.

A bolster designated generally 21 is spaced 55 from, but secured to, the truss 5. The bolster 21 may likewise be made up from a single blank of sheet steel, and is bent to form a channel 22 for

receiving an axle 23, and is also provided with a bed portion 24 which is adapted to receive a cushion block 25 interposed between the truss and bolster. The block 25 serves not only as a shock absorber, but also facilitates steering of the skate inasmuch as it permits of limited relative movement between the truss and bolster. Also, when the device is assembled as will be hereinafter pointed out, the cushion block 25 serves to maintain the assembled elements in locked position.

The bolster may be bent to form upstanding flanges 26, which not only strengthen the bolster construction but also serve to retain the cushion member 25 securely seated. One end of the plate member 24 is bent upwardly to form a flange 27 which in turn is provided with a lip 28 similar to the lip 19 of the truss. The opposite end of the plate member 24 is bent upwardly to form a wall 29 in which is drilled an aperture 31 corresponding generally to the aperture 17 of the truss.

The truss and bolster are assembled by inserting the lip 28 of the bolster through the aperture 17 of the truss, and by inserting the lip 19 of the truss through aperture 31 of the bolster.

I have shown in Figure 4 a shim 32, provided with downwardly depending flanges 33 and with a teat 34. This shim may be interposed between the truss and the cushion block 25, and proper positioning insured by having the teat 34 rest in the forward part of the cut out section, as indicated at 35. This, of course, prevents any displacement of the shim 32 with respect to the truss, and the cushion block 25 is maintained in position by virtue of the flanges 33 and 26 of the shim and bolster respectively. Any appreciable longitudinal displacement of the cushion block is prevented by the flange 27 of the bolster and cut out section 18 of the truss.

In Figure 5 I have shown a device which differs from that shown in Figure 4 only slightly. In this figure there are provided two shims 36 and 37 each having side flanges 38 and 39. The shim 36 is adapted to be interposed between the truss and cushion block and shim 37 is positioned between the cushion block and bolster. It will be noted that shim 36 is not provided with a teat, as in the case of shim 32, although of course the same may be provided if desired.

It will also be noted that the bolster 21' of Figure 5 is of slightly different construction from the bolster 21 of Figure 4 in that, in lieu of flanges 26 which run substantially the length of the base plate of bolster 21, merely upturned and spaced ears 41 are provided at the sides of the base plate of the bolster 21. The ears 41 may be omitted, particularly if shims such as 37' of Figure 6 are used.

The shim 37' is provided with depending ears 42 and upwardly extending ears 43. The depending ears, of course, are adapted to fit between the ears 41 of bolster 21' in order to afford additional securing means. Likewise, the upper shim 36 may be constructed along the lines of shim 37', in which event the ears 42 will extend over the flanges 12 to prevent displacement.

In Figure 7 I have shown the blank from which the truss is formed. It will be noted that a sheet of metal may be readily cut into the shape of this blank, and also the bending of the blank to the desired form may be readily accomplished. Furthermore, a blank of this shape effects a considerable economy inasmuch as there is a minimum loss of scrap.

The assembly of my truss and bolster is a relatively simple operation. The truss and bolster are assembled by merely inserting lip 28 in aperture 17 and lip 19 in aperture 31. This may be accomplished by hand. The assembled truss and bolster may then be placed in a fixture and the cushion block together with such shims as may be desired, are then forced laterally into position between the truss and bolster. If a shim, or shims, such as 37' are employed, the ears 42 are bent to the position shown in Figure 6 after the assembly, inasmuch as the ears 42 are initially formed flat.

The advantages of my invention are believed to be obvious. The various elements are of both simple and inexpensive construction, and may be made up almost entirely of sheet metal, properly bent to the desired shape. The ease with which the truss and bolster may be assembled is also believed to be apparent. It is merely necessary to position the cushion block 25, together with such shims as may be desired, between the truss and bolster, and then to secure the elements in a single unit by the insertion of lip 28 in aperture 17 and the insertion of lip 19 in aperture 31. When so assembled, the device presents a lightweight and yet sturdy construction.

While I have shown and described the preferred embodiment of my invention, I wish it to be understood that I do not confine myself to the precise details of construction herein set forth by way of illustration, as it is apparent that many changes and variations may be made therein, by those skilled in the art, without departing from the spirit of the invention, or exceeding the scope of the appended claims.

I claim:

1. A truss and bolster construction comprising a truss member provided with a cut away section, a bolster separated from the truss, a shim interposed therebetween, a teat on the shim adapted to cooperate with the cut away section of the truss in order to position the shim, and means to secure the elements in assembled position.

2. A roller skate having a truss and a bolster supported thereby, said truss having a pair of plate-like members projecting therefrom in parallel relation to each other, a tongue projecting from one of said members, the other of said members being provided with an aperture in alignment with said tongue, said bolster having an aperture for receiving said tongue and having a tongue for seating in the aperture of said truss, said truss and said bolster being spaced apart, and a cushion block seated in the space between said truss and said bolster, said cushion block functioning to facilitate the steering of said skate and to prevent the release of said tongues from the apertures.

3. A roller skate having a truss and a bolster supported thereby, said truss having a pair of plate-like members projecting therefrom in parallel relation to each other, a tongue projecting from one of said members, the other of said members being provided with an aperture in alignment with said tongue, said bolster having an aperture for receiving said tongue and having a tongue for seating in the aperture of said truss, said truss and said bolster being spaced apart, both of said tongues having curved bearing surfaces, and a cushion block seated in the space between said truss and said bolster, said cushion block functioning to facilitate the steering of said skate and to prevent the release of said tongues from the apertures.

4. A roller skate having a truss and a bolster supported thereby, said truss having a pair of plate-like members projecting therefrom in parallel relation to each other, a tongue projecting from one of said members, the other of said members being provided with an aperture in alignment with said tongue, said bolster having an aperture for receiving said tongue and having a tongue for seating in the aperture of said truss, said truss and said bolster being spaced apart, and a cushion block seated in the space between said truss and said bolster, means for latching said cushion block against slippage, said cushion block functioning to facilitate the steering of said skate and to prevent the release of said tongues from the apertures.

5. A roller skate having a truss and a bolster supported thereby, said truss having a pair of plate-like members projecting therefrom in parallel relation to each other, a tongue projecting from one of said members, the other of said members being provided with an aperture in alignment with said tongue, said bolster having

an aperture for receiving said tongue and having a tongue for seating in the aperture of said truss, said truss and said bolster being spaced apart, and a cushion block seated in the space between said truss and said bolster, a pair of shims on opposite sides of said cushion block, the side edges of said shims being in-turned against the sides of said cushion block, and out-turned ears on said shims for engaging said truss and said bolster respectively for preventing slippage of said cushion block, said cushion block functioning to facilitate the steering of said skate and to prevent the release of said tongues from the apertures.

6. A truss and bolster construction comprising a truss member, a bolster separated from the truss member, a cushion block and a shim interposed between the truss and bolster, and a protrusion on the shim for preventing displacement thereof, and means to maintain the various elements in assembled position.

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