

March 8, 1960

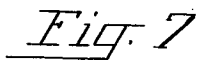
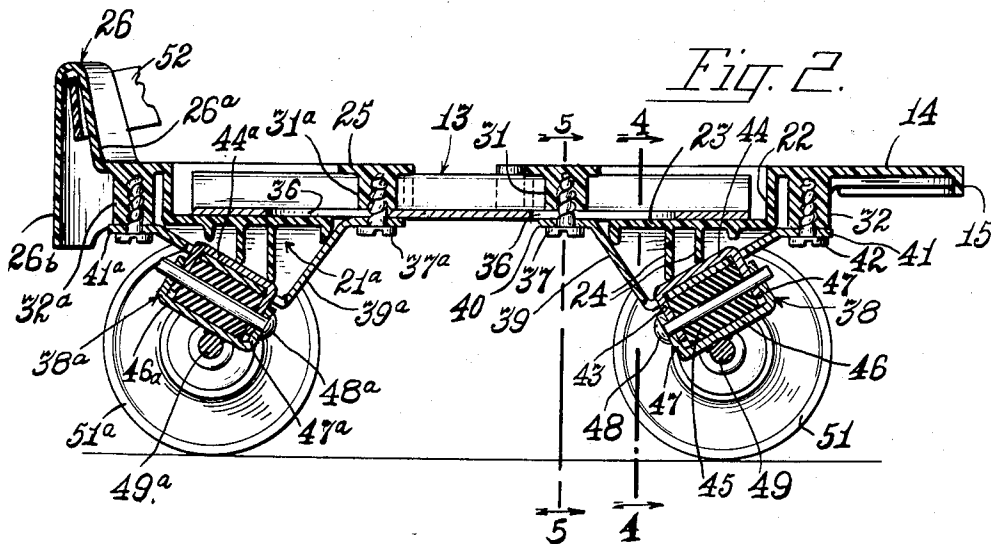
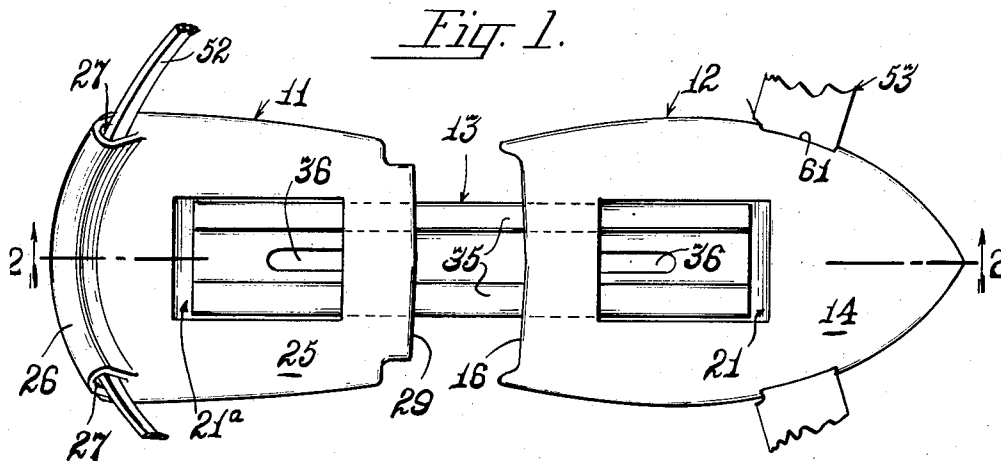
C. E. JONES ET AL

2,927,798

EXTENSIBLE ROLLER SKATE HAVING RESILIENTLY MOUNTED TRUCKS

Filed July 1, 1958

2 Sheets-Sheet 1



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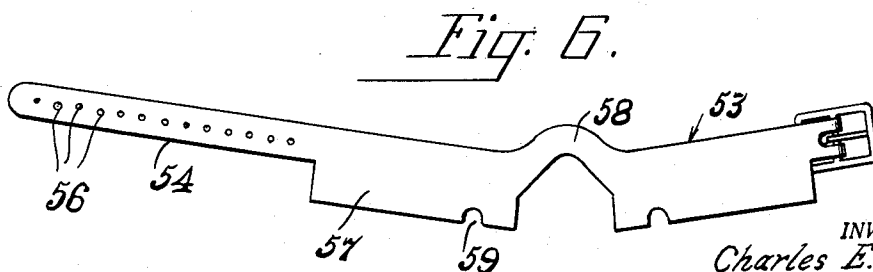
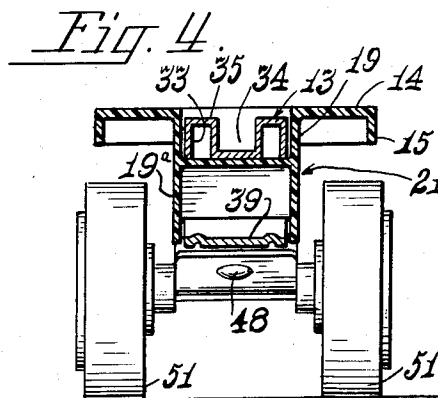
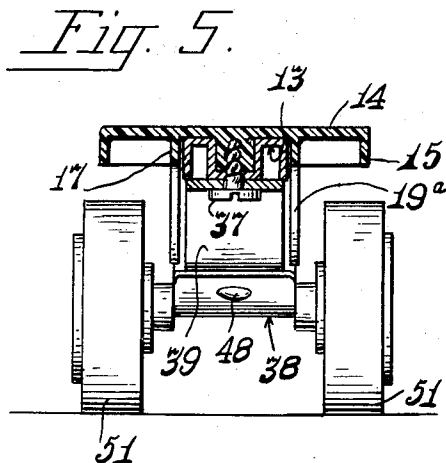
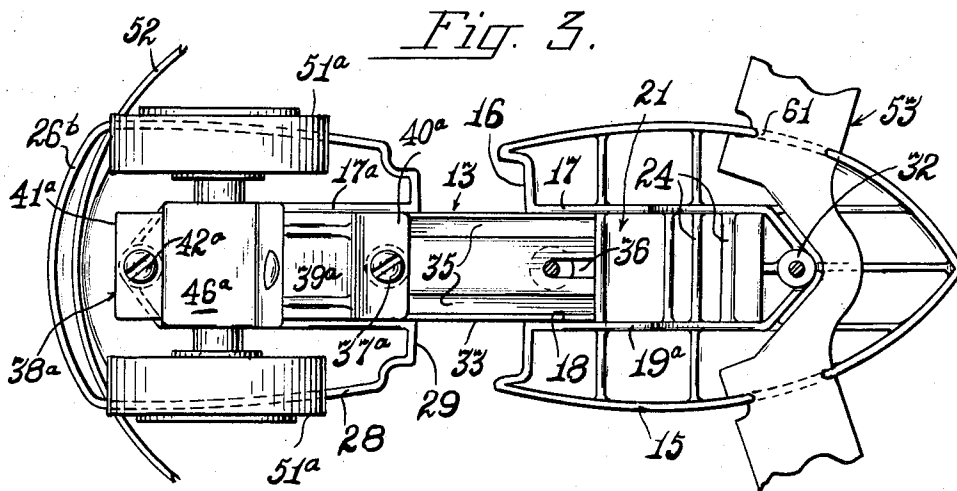
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EXTENSIBLE ROLLER SKATE HAVING RESILIENTLY MOUNTED TRUCKS

Filed July 1, 1958

2 Sheets-Sheet 2



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1

2,927,798

EXTENSIBLE ROLLER SKATE HAVING RESILIENTLY MOUNTED TRUCKS

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8 Claims. (Cl. 280—11.26)

The invention relates to improvements in skates and more particularly to the novel construction and assembly of the component parts thereof.

The skate embodying the present invention and disclosed herein, is fabricated in part from tough "nylon" plastic or other suitable tough wear resisting material. The skate comprises but a minimum number of parts all of which are inexpensive to manufacture and are easily and quickly assembled in such a manner that the skate will withstand extreme abuse and may be adjusted readily through a range of sizes within the physical limits of its construction. More particularly, the skate includes a heel and a toe portion, each of which is molded and is reinforced to withstand considerable abuse to which such parts are ordinarily subjected. Each portion includes means on which to mount and secure a novel shock absorbing wheel carrying bracket, or truck, and novel means for receiving a connecting bar which bridges the heel and toe portions and has means associated with said bar and said portions which affords means whereby the said portions may be adjusted toward and away from one another and relative to the bar during skate size adjustment. Both portions have novel means thereon to secure the skate to the shoe of the wearer.

It is an object of the invention to provide a skate which is ruggedly constructed and assembled in a novel manner.

Another object is to provide a skate of the character described with novelly constructed molded heel and toe portions.

Another object is to provide a skate of the character described with novel means in the heel and toe portions thereof to receive a bridging connecting bar telescoped therein and secured thereto for adjustment.

Another object is to provide heel and toe skate portions with novel means integral therewith for seating a wheel carrying truck on each portion and for securing the trucks in place.

Another object is to provide novelly constructed shock absorbing wheel trucks.

Another object is to provide a novel toe strap for a skate.

Another object is to provide a skate of the character described which is not expensive to manufacture, is easy to assemble and to adjust, and very serviceable in use.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel features of construction, arrangement and a combination of parts hereinafter fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that various changes in the form, proportion, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

For the purpose of facilitating an understanding of the invention, there is illustrated in the accompanying drawings, a preferred embodiment thereof, from an inspection

2

of which, when considered in connection with the following description, the invention, its mode of construction, assembly and operation, and many of its advantages should be readily understood and appreciated.

Referring to the drawings in which the same characters of reference are employed to indicate corresponding or similar parts throughout the several figures of the drawings:

Fig. 1 is a top plan view of a skate embodying the features of the invention.

Fig. 2 is a longitudinal central sectional view of the skate taken along line 2—2 of Fig. 1.

Fig. 3 is a bottom plan view of the skate, showing the wheel truck on the toe portion removed.

Fig. 4 is a transverse sectional view taken substantially on line 4—4 of Fig. 2.

Fig. 5 is a transverse sectional view taken substantially on line 5—5 of Fig. 2.

Fig. 6 is a plan view of the toe strap.

Fig. 7 is a fragmentary side elevational view of the toe portion.

Referring to the accompanying drawings, the roller skate illustrated comprises a toe portion 11 and a heel portion 12, connected together end to end for size adjustment by a bridging connecting bar or channel 13. Each of the portions 11 and 12 is fabricated from suitable moldable plastic material, such as "nylon" plastic, so as to be very durable and wear resisting while retaining a sufficient amount of resiliency to resist breakage, chipping, etc.

As illustrated, the toe portion 12 is fabricated in one piece and it includes a top wall 14 having an edge flange 15 on its perimeter extending downwardly from its top wall and merging on the end 16 of said top wall in a pair of laterally spaced longitudinally extending flanges or webs 17 defining between them a longitudinal inverted channel 18 that opens onto said end 16. The webs 17 extend inwardly from said end 16 and merge with side walls 19 of a hollow boss 21 that opens onto the top surface of the top wall, as shown, and has a connecting end wall 22 (Fig. 2) and a floor 23.

The side of the hollow boss 21 facing the end 16 is open to admit one end of the connecting channel bar 13 when the latter is slid endwise into the inverted channel 18. The telescoped end of the channel bar 13, which is rectangular in section, will therefore be seated snugly between the webs 17 and side walls 19 and between the bottom surface of the top wall and the top surface of the floor 23. The specific structure of the channel bar 13 and the manner of securing it adjustably to the toe portion will be described presently.

The side walls 19 of the boss 21 extend below the floor 23, as at 19a, and they are substantially triangular shaped as shown, and preferably are interconnected for strengthening by a plurality of lateral reinforcing webs 24 integral with said walls and floor.

The heel portion 11 is fabricated in a fashion similar to the toe portion and it includes a top wall 25 having an upstanding heel stop 26 on its rearmost end formed of two material thicknesses 26a and 26b with a space between them which opens into a slot 27 at each end. The inner wall 26a is integral at its lower edge with the top wall 25 and its upper edge is integrally connected, as best shown in Fig. 2, with the upper edge of the outer wall 26b. Said outer wall extends below the plane of the top wall 25 and it merges at its ends, below the end slots 27, in flanges 28 (Fig. 3) depending from the perimeter edge of the top wall 25. The flanges 28 extend around the opposed or front end 29 of the heel portion and they terminate at and merge with a pair of laterally spaced longitudinally extending depending flanges or webs 17a defining between them, a longitudinal inverted channel

3

that opens onto the end 29 to admit the connecting bar 13 therinto. The remaining structure of the heel portion is comprised of a hollow boss 21a which corresponds in all of its details to the hollow boss 21 on the toe portion and like numerals, followed by the letter "a" are used to identify the corresponding parts.

The toe portion 12 and the heel portion 11 are each provided on the bottom face of its top wall with a pair of tapped bosses 31, 32 and 31a, 32a, respectively, for a purpose to be explained presently.

The channel bar 13 is formed preferably of extruded aluminum with parallel side flanges 33 and a depressed center area 34 defining longitudinal ribs 35. When the channel bar is fitted into the inverted channels on the bottom faces of the heel and toe portions, the ribs 35 are disposed upwardly so as to accommodate the tapped bosses 31, 31a in the space therebetween. These bosses are of a length to substantially seat against the top face of the intermediate wall of the channel bar, and said wall is slotted longitudinally, as at 36, so as to receive there-through screws 37, 37a, respectively, for securing the bar adjustably to the heel and toe portions. The screws 37, 37a also afford means for securing one end of a wheel truck 38 or 38a to the toe and heel portions respectively.

The wheel trucks 38, 38a are identical and only the assembly 38 will be described in detail, it being understood that the description of one is equally applicable to the other. For purposes of clarity, the respective parts of the other truck assembly 38a are identified by the same numerals as are the respective parts of the assembly 38, followed by the letter "a."

Referring now to the truck assembly 38 on the toe portion 12, said assembly includes a substantially V-shaped metal strap 39 adapted to be nested over the bottom of the boss structure 21. The ends of said strap define ears 40 and 41 respectively, both of which are apertured, the former being seated against the bottom face of the connecting bar with its aperture in registering alignment with the tapped boss 31 so as to receive the screw 37 therethrough. The other ear 41 is seated against the tapped boss 32 and is secured thereto by a screw 42. One wall of the V-shaped strap 39 is apertured to receive therethrough the downwardly extending legs 43 of a U-shaped metal bracket 44 seated on the upper or inside face of said wall. A block of suitably resilient material 45, such as rubber, is seated against the bottom or outside face of the said apertured wall, between the legs 43. A substantially U-shaped strap, including a bottom wall 46 and upstanding end walls 47, is then fitted over the bottom of the block 45 with its end walls embracing the legs 43. The legs 43, block 45 and said end walls have registering holes to receive a pin 48 which secures the parts together for limited rocking movement about the block 45. An axle 49, secured as by welding, to the bottom wall 46 affords a mounting for a pair of wheels 51.

It should be apparent at this time that the wheel truck assembly is secured firmly to the toe portion by screw 42 and that the screw 37, when tightened, also secures the assembly firmly in place. The screw 37 may be loosened sufficiently to permit sliding adjustment of the toe portion relative to the connecting bar 13, and after which it may be again tightened.

The structure is such that the load carried by the wheels 51 is distributed through the wheel truck assembly directly to the top wall 14 of the toe portion through the bosses 31, 32 and that some of the load is absorbed and further distributed, by the connecting bar 13 interposed between the boss 31 and one end of the truck, throughout the areas of the top wall in contact with said bar.

The skate is attached to the shoe of a wearer by means of a heel strap 52 and a toe strap 53. The heel strap is threaded through the end slots 27 in the double walled heel stop 26. The toe strap 53, best shown in Fig. 6, preferably is molded from suitable plastic material and

4

it includes narrow end portions 54, one of which carries a buckle and the other having mutually spaced perforations 56 therein. The end portions merge abruptly into a widened medial portion 57 which is reduced in width at its central area to define a V-shaped bridging portion 58. Edge notches 59 are also formed on one edge of the said widened portion. This strap is adapted to be extended beneath the toe portion 12 forwardly of the tapped boss 32, as illustrated in Fig. 3. When so positioned, the narrow bridging portion 58 affords clearance for the boss 32 and its widened portion is engaged in notches 61 (Fig. 7) formed in the perimeter flange 15. These notches 61 are of a length less than the width of the strap at the edge notches 59 and the end edges of the flange notches 61 are recessed, as at 62, to a depth affording a maximum notch length sufficient to receive the strap snapped snugly thereinto and thereby retain the strap in place on the toe portion.

It is believed that the invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be manifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variation within the purview of the invention as defined in the appended claims.

What is claimed and desired to secure by Letters Patent of the United States is:

1. A skate comprising a heel and a toe portion each having a flat top wall, said portions being arranged end to end, a pair of laterally spaced longitudinal webs integral with and depending from the bottom face of each top wall, the webs on each portion defining with the respective top walls inverted channels, said channels opening onto the opposed ends of said portions, a connecting bar extending between said portions and having its ends telescoped into the channels, a floor bridging the webs for a part of their length to define with the said webs a hollow boss on each portion, said bosses having their cores opening onto the top surface of the respective portion, wheel carrying brackets one nested over each boss, apertured ears one on each end of each bracket one seated against the bottom of the respective top wall and the other against the connecting bar, means securing the said one ear of each bracket to the respective top wall rigidly, and means extending through the other ear of each bracket and through the connecting bar to secure the said other ears to the respective portions, said connecting bar being slotted to receive said last named means therethrough so as to permit adjustment of the connecting bar relative to the heel and toe portions.

2. A skate comprising a heel and a toe portion each having a flat top wall, said portions being arranged end to end, a pair of laterally spaced longitudinal webs integral with and depending from the bottom face of each top wall, the webs on each portion defining with the respective top walls inverted channels, said channels opening onto the opposed ends of said portions, a connecting bar extending between said portions and having its ends telescoped into the channels, a hollow boss on each portion, said bosses each including parallel side walls integral with the respective pairs of said webs and having their core opening onto the top surface of the respective portion, a wheel carrying bracket nested over each boss, apertured ears on said brackets one ear of each bracket seated against the bottom of the respective top wall and the other against the connecting bar, means securing the said one ear of each bracket to the respective top wall rigidly, and means extending through the said other ears and through the connecting bar to secure the said other ears to the respective portions, said connecting bar being slotted to receive said last named means therethrough so as to permit adjustment of the connecting bar relative to the heel and toe portions.

5

3. A skate comprising a heel and a toe portion each having a flat top wall, said portions being arranged end to end, a pair of laterally spaced webs integral with and depending from the bottom face of each top wall, the webs on each portion defining with the respective top walls inverted channels, said channels opening onto the opposed ends of said portions, a connecting bar extending between said portions and having its ends telescoped into the channels, a hollow boss on each portion, said bosses each including side walls integral with the respective pairs of said webs and opening onto the top surface of the respective portion, a wheel carrying bracket arranged below each boss, apertured ears on said brackets one seated against the bottom of the respective top wall and the other against the connecting bar, means securing the said ears to the respective portions rigidly, the means securing one of the ears of each bracket extending through the connecting bar, and said connecting bar being slotted to receive said last named means therethrough so as to permit adjustment of the connecting bar relative to the heel and toe portions.

4. A skate comprising a heel and a toe portion each having a flat top wall, said portions being arranged end to end, a pair of laterally spaced longitudinal webs integral with and depending from the bottom face of each top wall, the webs on each portion defining with the respective top walls inverted channels, said channels opening onto the opposed ends of said portions, a connecting bar extending between said portions and having its ends telescoped into the channels, a hollow boss on each portion, said bosses each including parallel side walls integral with the respective pairs of said webs and opening onto the top surface of the respective portion, a wheel carrying bracket arranged beneath each boss, apertured ears on said brackets one seated against the bottom of the respective top wall and the other against the connecting bar, means securing one ear of each bracket to the respective portions rigidly, and means extending through the other ear of each bracket and through the connecting bar to secure the said ears and bar to the respective portions.

5. In a skate, a portion comprising a substantially flat top wall having a pair of longitudinally extending laterally spaced webs on its bottom face defining with the top wall an inverted channel, said channel opening onto one end of said portion and being adapted to slidably receive a bar partly telescoped thereinto, a hollow boss depending from said top wall, said boss bridging the channel and including side walls one integral with each web, a wheel carrying bracket nested over said boss, said bracket having ears seated one on the portion and the other on said bar, and means connecting said ears to the top wall to secure said bracket in place.

6. In a skate, a skate portion fabricated from moldable plastic material, said portion comprising a top wall having a pair of longitudinally extending laterally spaced webs on its bottom face defining with the top wall an inverted channel, said channel opening onto an end of said portion and being adapted to receive a bar telescoped partly thereinto, a hollow boss depending from said top wall, said boss opening onto the top surface of

6

said top wall in the area between said webs and having side walls contiguous with said webs and a bottom wall, said bottom wall having surface abutment with the bar, a journal bracket nested over said boss, a portion of said bracket being seated against said bar, said bracket portion being apertured and said bar having a slot in register with said aperture, and means extending through said aperture and said slot to secure said bracket portion to the top wall firmly and to secure the bar for longitudinal adjustment relative to said skate portion and bracket.

7. In a skate, a portion fabricated from moldable plastic material, said portion comprising a top wall having a pair of laterally spaced webs on its bottom face defining with the top wall an inverted channel, said channel opening onto an end of said portion and being adapted to receive a bar telescoped partly thereinto, a hollow boss depending from said top wall, said boss opening onto the top surface of said top wall in the area between said webs and having side walls contiguous with said webs and a bottom wall, said bottom wall having surface abutment with said bar, a journal bracket nested over said boss, an ear on said bracket seated against and secured to said top wall, a second ear on said bracket seated against said bar, said second ear being apertured and said bar having a slot in register with said aperture, and means extending through said aperture and through said slot to secure said second ear to the top wall firmly and to secure the bar for longitudinal adjustment relative to said portion and bracket.

8. In a skate, a foot portion fabricated from plastic material, said portion comprising a top wall having an integral boss depending therefrom and spaced side walls extending below said boss, a bracket nested over said boss and between said side walls, said bracket comprising a substantially V-shaped strap apertured at its ends to receive means securing it to the bottom face of said top wall, one wall of the V-shaped strap having spaced apertures therein, a U-shaped member seated against the inside face of said apertured wall with its legs extending through the apertures, a resilient block seated against the said wall between said legs, a U-shaped strap seated against said block with its end portions overlying said legs, said legs, end portions and block having registering openings therein, a pin extended through said openings for connecting said parts together loosely, and a wheel axle mounted firmly on said U-shaped strap.

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