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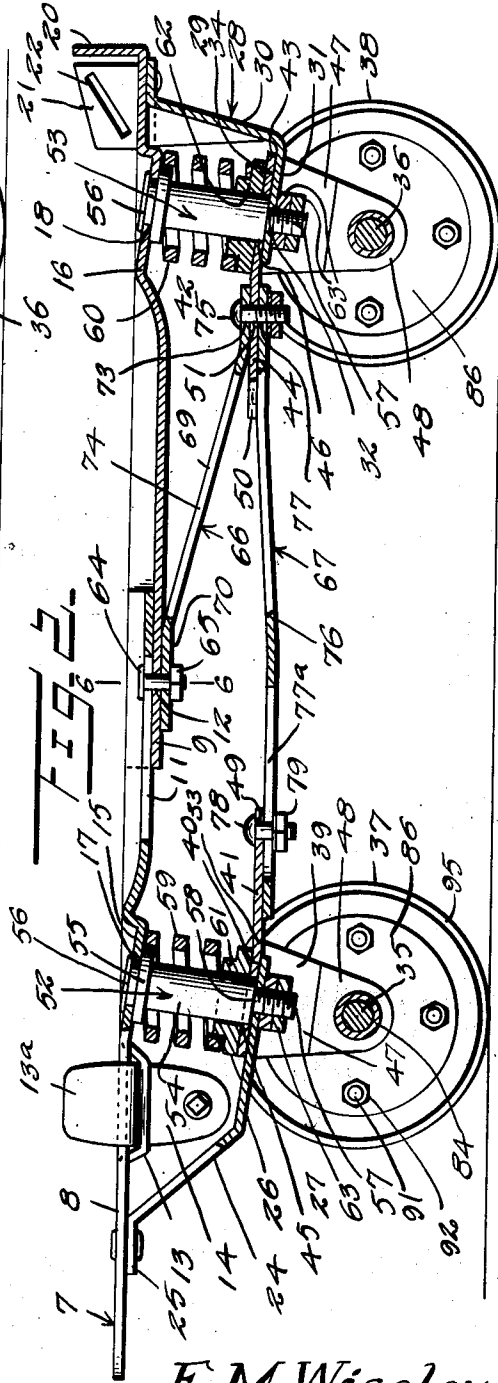
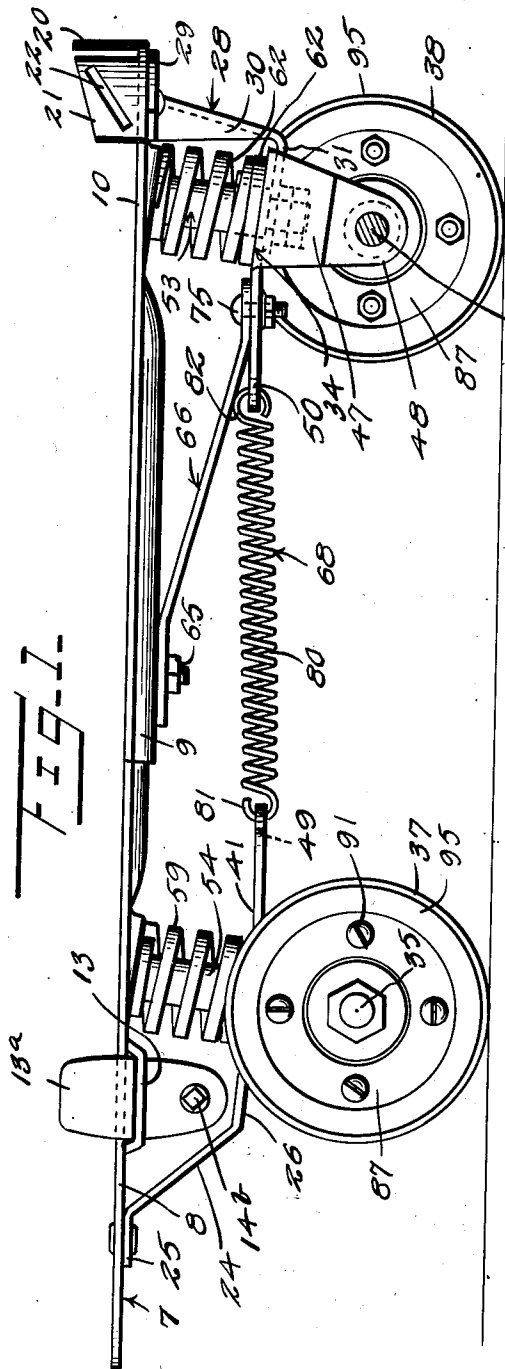
F. M. WISELEY

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CONVERTIBLE ROLLER SKATE STRUCTURE

Filed Sept. 14, 1938

2 Sheets-Sheet 1



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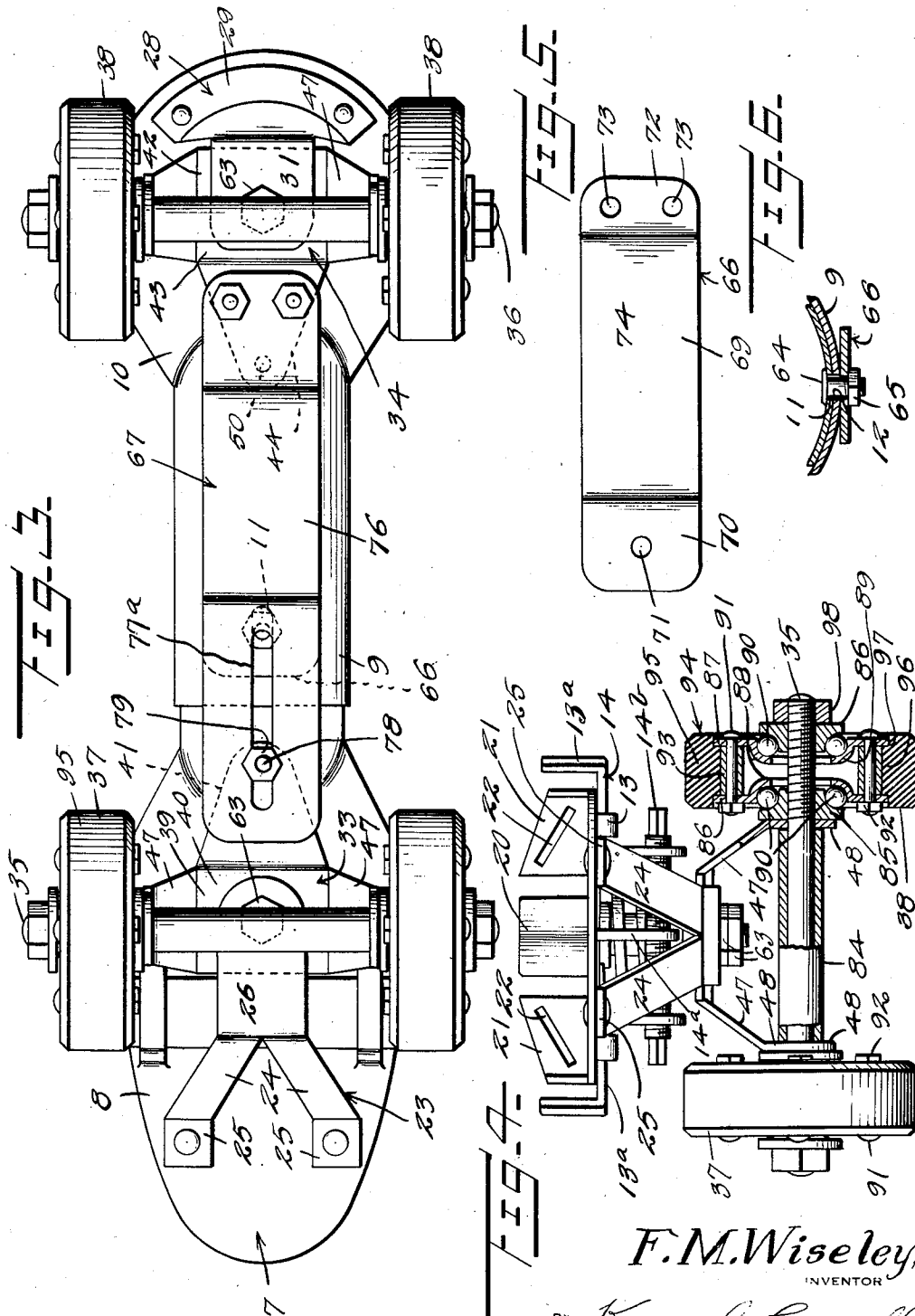
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CONVERTIBLE ROLLER SKATE STRUCTURE

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2 Sheets-Sheet 2



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CONVERTIBLE ROLLER SKATE STRUCTURE

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Application September 14, 1938, Serial No. 229,969

7 Claims. (Cl. 280—11.19)

This invention relates to a convertible roller skate structure, and has for its object to provide a structure of such class selectively and readily converted into a roller skate for street, rink or fancy skating.

A further object of the invention is to provide a roller skate structure including means whereby the hangers for the front and rear wheels of the skate may be controlled so the hangers are prevented from oscillating or revolving horizontally when the skate is employed for street skating or the forward hanger capable of oscillating or revolving horizontally and the rear hanger held from oscillating or revolving horizontally when the skate is used for rink skating, or both hangers permitted to oscillate or revolve horizontally when the skate is employed for fancy skating.

A further object of the invention is to provide a structure of the class referred to including spring controlled hangers for the front and rear wheels of the skate, and with the controlling springs for the hangers acting as shock-absorbing means when the skate is used.

Further objects of the invention are to provide in a manner as hereinafter set forth a convertible roller skate structure which is comparatively simple in its construction and arrangement, strong, durable, compact, readily assembled, expeditiously converted into selected use for street, rink and fancy skating, thoroughly efficient in its use, and comparatively inexpensive to manufacture.

Embodying the objects aforesaid, and to others which may directly or indirectly appear, the invention consists of the novel construction, combination and arrangement of parts, as will be more specifically referred to and illustrated in the accompanying drawings, wherein is shown the preferred embodiment of the invention, but it is to be understood that changes, variations and modifications may be resorted to which fall within the scope of the invention as claimed.

In the drawings:

Figure 1 is a side elevation of a convertible roller skate structure, in accordance with this invention and arranged for rink skating.

Figure 2 is a longitudinal sectional view of a convertible roller skate structure, in accordance with this invention arranged for street skating.

Figure 3 is an inverted plan of the structure shown in Figure 2.

Figure 4 is a front elevation of the convertible roller skate structure, in accordance with this invention partly in vertical section.

Figure 5 is a top plan view of one of the converting elements, and

Figure 6 is a section on line 6—6, Figure 2.

With reference to the drawings, the structure includes a body or foot supporting part 7 formed of a forward supporting portion 8 for the sole of the skater's shoe, an intermediate shank or coupling portion 9 and a rear supporting portion 10 for the heel of the skater's shoe. The shank portion 9 is of less width than portions 8, 10. The body part 7 comprises a forward and a rear section. The forward section consists of the portion 8 and the forward part of the shank portion. The rear section consists of the portion 10 and the rear part of the shank portion. The forward part of the shank portion overlaps the rear part of the latter. The shank portion is of concave contour in transverse cross section. The forward part of shank portion 9 is formed at its longitudinal median with a slot 11 which aligns with an opening 12 provided in the rear part of the shank portion. The body part 7 is lengthwise adjustable and a means, to be referred to, correlates with the slot 11 and opening 12 for securing body part 7 in its adjusted position.

The portion 8, intermediate its ends is formed with depending means, indicated at 13 for slidably supporting the clamping member 13^a of an adjustable toe clamp 14 and hanger 14^a for supporting the adjusting element 14^b of the toe clamp or toe strap. The portion 8 centrally of its rear has a depressed part 15 which inclines downwardly from front to rear. The portion 10 centrally of its rear is provided with a depending part 16 which inclines downwardly from front to rear. The parts 15, 16 constitute combined positioners and abutments for a purpose to be referred to. The parts or portions 15, 16 are intersected by the lengthwise median of and are spaced from the sides of body part 7. The said parts 15, 16 are formed centrally thereof with openings 17, 18 respectively. The portion 10 has integral with its upper face, at the rear marginal portion of the latter with an upstanding curved heel stop 20 and a pair of oppositely extending combined curved heel stops and coupling elements 21 for the ankle strap of the skate. The stop 20 is arranged between and aligns with the rear ends of the elements 21. These latter are formed with oppositely disposed inclined slots 22 for the passage of the ankle strap, not shown. Straps may be inserted in means 13 and used in place of the toe clamps, if desired.

Arranged below and secured to the lower face of portion 8 is a depending rearwardly extend-

ing supporting member 23 for a purpose to be referred to. The member 23 comprises a pair of oppositely disposed, rearwardly extending, depending, rearwardly inclined arms 24 formed with flanges 25 at their upper ends which are anchored to the lower face of portion 8. The arms 24 merge at their lower ends into the forward end of a base piece 26 provided with an opening 27. The base piece 26 is slightly inclined from front to rear. Arranged below and secured to the lower face of portion 10 is a depending forwardly extending supporting member 28 for a purpose to be referred to. The member 28 comprises a curved head 29 anchored to the lower face of portion 10, a depending vertical shank 30 of segmented contour and a forwardly extending base piece 31 slightly inclining upwardly from rear to front. The head 29 merges into the upper end of shank 30. The lower end of shank 30 merges into the rear end of base piece 31. The latter is formed with an opening 32.

The convertible skate structure includes spring controlled revoluble front and rear hangers 33, 34 respectively for the front and rear axles 35, 36 for the front and rear wheels 37, 38 respectively. The hangers 33, 34 are substantially of like form but oppositely disposed.

The hanger 33 comprises a head 39 formed of a rectangular forward part 40 and a tapered rear part 41. The part 40 inclines upwardly from rear to front. The hanger 34 comprises a head 42 formed of a rectangular rear part 43 and a tapered forward part 44. The part 43 inclines upwardly from rear to front. The parts 41 and 44 are disposed horizontally, are aligned and extend towards each other. The parts 40, 43 are positioned on the base pieces 26, 31 respectively and are formed with openings 45, 46 respectively which align and are of greater diameter than the openings 27, 32 respectively. The parts 40, 43, each, merge into a pair of oppositely disposed outwardly directed inclined arms 47 merging at their lower ends into vertically disposed apertured supports 48. The supports 48 carried by the arms 47 which extend from the part 40, have the front axle 35 extend therethrough. The supports 48 carried by the arms 37 which extend from the part 43 have the rear axle 36 extend therethrough. The parts 41, 44 are provided with openings 49, 50 respectively. The part 44 is formed with a pair of openings 51, only one shown.

The hangers 33, 34 are supported on the base pieces 26, 31 of the members 23, 28. The base pieces 26, 31 are connected by the upstanding inclined coupling bolts 52, 53 respectively to the portions 8, 10 respectively of body part 7. The bolts incline rearwardly from their lower to their upper ends. The inclination of bolt 52 is greater than that of bolt 53. The bolts 52, 53 are of like form and each includes an upper circular part 54 provided adjacent its upper end with an annular peripheral flange 55 and having its upper end upset, as at 56. Each bolt includes a peripherally threaded reduced lower part 57 integral with and depending from the lower end of part 56. At the junction of the parts 54, 57 a peripheral shoulder 58 is formed.

The parts 54 of the bolts 52, 53 extend through the openings 17, 18 respectively in the parts 15, 16 respectively of body part 7. The upset upper ends 56 of the bolts 52, 53 bear against respectively the upper faces of the parts 15, 16 of body part 7. The flanges 55 of the bolts 52, 53 abut the lower faces of the parts 15, 16 respectively

of the body part 7. The part 54 of bolt 52 extends through opening 45 in hanger 33 and bears against base piece 26. The part 57 of bolt 52 extends through the opening 27 and depends from piece 26. The part 54 of bolt 53 extends through opening 46 in hanger 34 and bears against base piece 31. The part 57 of bolt 53 extends through opening 32 and depends from base piece 31.

The controlling springs for the hangers 33, 34 are indicated at 59, 60 respectively and which also constitute shock absorbing means when the skate is used. Arranged on the parts 40, 43 respectively of the hangers 33, 34 respectively, are flanged collars 61, 62 respectively which encompass the bolts 52, 53 respectively. The spring 59 is interposed between collar 61 and the part 15 of portion 8 of body part 7. The spring 59 seats on the flange of collar 61 and encompasses the part 54 of bolt 52. The spring 60 is interposed between collar 62 and the part 16 of the portion 10 of body part 7. The spring 59 seats on the flange of collar 62 and encompasses the part 54 of bolt 53. The parts 40, 43, and collars 61, 62 are capable of sliding vertically on the bolts. These latter are fixed relatively to the said base pieces 26, 31 and the said parts 15, 16 by a pair of superimposed nuts 63 secured on the portions 57 of the bolts and coacting with the upset upper ends of the bolts. The upper nuts bear against the lower faces of the base pieces 26, 31.

The sections of the body part 7 are secured together in adjusted position by a headed bolt and nut 64, 65 respectively. The bolt 64 extends downwardly through slot 11 and opening 12. The nut 65 is carried on the lower end of bolt 64.

The convertible skate structure includes three converting elements 66, 67, 68 and these elements may be termed controllers for the oscillation or revolving of the hangers. When elements 66, 67 are employed the structure is for street skating and the hangers are held stationary. When elements 66, 68 are employed the structure is for rink skating and with the forward hanger capable of being oscillated and the rear hanger held from oscillation. When element 68 is solely employed, the structure is for fancy skating and both hangers are capable of oscillating. When elements 66, 67 or elements 66, 68 are employed they couple the hangers together and also couple them with body part 7. When element 68 is solely employed it couples the hangers together but it does not couple them with the body portion. When elements 66, 68 are employed the front wheels of the skate may turn to the right or left but the rear wheels are held in aligned relation with body part 7. When it is desired to permit of the front or rear wheels turning to the left or to the right the element 68 is solely employed. When it is desired to keep the front and rear wheels held in aligned relation with body part 7, the elements 66, 67 are employed.

The element 66 is of rectangular contour in plan and consists of a plate 69 formed of an upper, forward, horizontally disposed end terminal portion 70 provided with an opening 71, a lower, horizontally disposed, rear end terminal portion 72 formed with a pair of openings 73 for registry with openings 51, and an intermediate portion 74 which inclines downwardly from portion 70 to portion 73. When element 66 is employed the portion 70 thereof is detachably secured to the body part 7 by bolt 64 and nut 65 (Figures 1 and 2), and the portion 74 mounted upon and detachably

secured to the part 44 of hanger 34 by the holdfast means 75 extending through the aligning openings 51, 73.

The element 67 is of rectangular contour in plan and consists of a plate 76 provided in proximity to the rear end with a pair of openings 77 for registry with the openings 51 when element 67 is employed. The element plate 76 between its transverse median and forward end is provided on its lengthwise median with a slot 77^a. When element 67 is employed in connection with element 66, the rear end portion of element 67 is positioned against the lower face of part 44 of hanger 34 and is detachably secured to the latter by the holdfast means 75. The forward end terminal portion of element 67 is positioned against the lower face of the part 41 of hanger 33 and is detachably and adjustably secured to the latter by a headed bolt 78 and a nut 79 coacting with the slot 77 and opening 49.

The element 68 is in the form of a coiled spring 80 provided at its ends with the hooks 81, 82. When element 68 is employed with or without element 66, the hook 81 is detachably connected to hanger 33 by passing such hook through opening 49, and the hook 82 is detachably connected to hanger 34 by passing it through opening 50. Element 68 may have link portions for shortening or lengthening.

Each axle will be of like form and will have mounted thereon a tubular spacer 84 arranged between the axle supports 48 of a hanger. The axle will extend in opposite directions outwardly with respect to the supports 48 and its extended portions are peripherally threaded. A pair of spaced oppositely disposed aligned flanged collars 85, 86 will be mounted on each extended portion of an axle. Each wheel will consist of a pair of spaced parallel annular side members 86, 87 merging into a pair of oppositely disposed inwardly extending hub sections 88, 89 respectively seated on bearing balls 90 mounted on the collars 85, 86. The hub sections oppose in spaced relation the flanges of said collars. The side members 86, 87 are connected together by spaced bolts 91 carrying securing nuts 92. Spaces 93 are mounted on the bolts 91 and arranged inwardly of the outer edges of the side. Each wheel includes a tire formed of any suitable material such as wood or rubber. The tire is indicated at 94 and consists of an annular body 95 rabbeted on each of its sides to form a reduced portion 96 and annular shoulders 97. The reduced portion 96 extends inwardly between the sides and the shoulders 97 bear against the outer edges of the sides. The tire is disposed in extended relation with respect to the sides of the wheel. A wheel structure is confined on an axle by a clamping unit 98 coacting with collar 86, a support 48 and a threaded extended portion of an axle.

The hub sections 88 and 89 above mentioned form a combined tire flange and ball race.

What I claim:

1. In a convertible roller skate structure a body part, having spaced aligned portions inclining downwardly from front to rear and intersected by the longitudinal median of such part, front and rear axles, a controllable revoluble hanger for each axle, oppositely disposed supporting members for the hangers depending from said body part, upstanding spaced aligned means inclining forwardly from their upper to their lower ends connecting said members and hangers to the said inclined portions of the body part and about which said hangers oscillate, and a pair of con-

verting elements connected with the body portion and with said hangers to prevent the oscillating of the latter.

2. In a convertible roller skate structure a body part, having spaced aligned portions inclining downwardly from front to rear and intersected by the longitudinal median of such part, front and rear axles, a controllable revoluble hanger for each axle, oppositely disposed supporting members for the hangers depending from said body part, upstanding spaced aligned means inclining forwardly from their upper to their lower ends connecting said members and hangers to the said inclined portions of the body part and about which said hangers oscillate, and a pair of converting elements, one detachably connected to said body part and to the rear hanger to prevent the oscillating of the latter, the other being resilient, extendable and detachably connected to the hangers and permitting of the oscillating of the forward hanger while the rear hanger is held from oscillation by said other elements.

3. In a convertible roller skate structure a body part, front and rear axles, a controllable revoluble hanger for each axle, oppositely disposed supporting members depending from spaced points of said body part for and upon which the hangers are mounted and depend from, upstanding means extending through said members and hangers for connecting said members to the body part and about which said hangers oscillate, and a pair of converting elements connected with the body portion and with said hangers to prevent the oscillating of the latter, said means being in the form of a pair of aligned spaced structures having parts abutting said members and said body part and fixed at a rearward inclination from the bottom to the top thereof.

4. In a convertible roller skate structure a body part, front and rear axles, a controllable revoluble hanger for each axle, oppositely disposed supporting members depending from spaced points of said body part for and upon which the hangers are mounted and depend from, upstanding means, extending through said members and hangers for connecting said members to the body part and about which said hanger oscillate, and a pair of converting elements, one detachably connected to said body part and to the rear hanger to prevent the oscillating of the latter, the other being resilient, extendable and detachably connected to the hangers and permitting of the oscillation of the forward hanger while the rear hanger is held from oscillating by said other element, said means being in the form of a pair of aligned spaced structures having parts abutting said members and body part and fixed at a rearward inclination from the bottom to its top thereof.

5. In a convertible roller skate structure a body part, front and rear axles, a controllable revoluble hanger for each axle, oppositely disposed supporting members depending from spaced points of said body part for and upon which said hangers are mounted and depend from, upstanding means, extending through said members and hangers for connecting said members to the body part and about which said hangers oscillate, a pair of converting elements connected with the body portion and with said hangers to prevent the oscillation of the latter, said means being in the form of aligned spaced structures abutting said members and body part and fixed at a rearward inclination from the bottom to the top thereof, and controlling springs for said hangers surrounding said

structures and interposed between said body part and the hangers.

5 6. In a convertible roller skate, a body part having spaced inclined portions intermediate its ends, oppositely disposed front and rear spaced supports depending from said body part, front and rear axle hangers mounted upon and depending from said supports, spaced aligned inclined structures extending through said supports, hangers and said inclined portions and about which said hangers revolve, and said structures including means abutting the lower face of said supports and the upper and lower faces of said portions for connecting the supports and body part together.

10 15 7. In a convertible roller skate, a body part

having spaced inclined portions intermediate its ends, oppositely disposed front and rear spaced supports depending from said body part, front and rear axle hangers mounted upon and depending from said supports, spaced aligned inclined structures extending through said supports, hangers and said inclined portions and about which said hangers revolve, said structures including means abutting the lower face of said supports and the upper and lower faces of said portions for connecting the supports and body part together, means for connecting said hangers together, and means for connecting said rear hanger to said body part.

15 FRANCIS M. WISELEY.