May 23, 1933. R. R. WARE 1,910,193

SKATE CONSTRUCTION

Filed May 7, 1930

Fig. 1

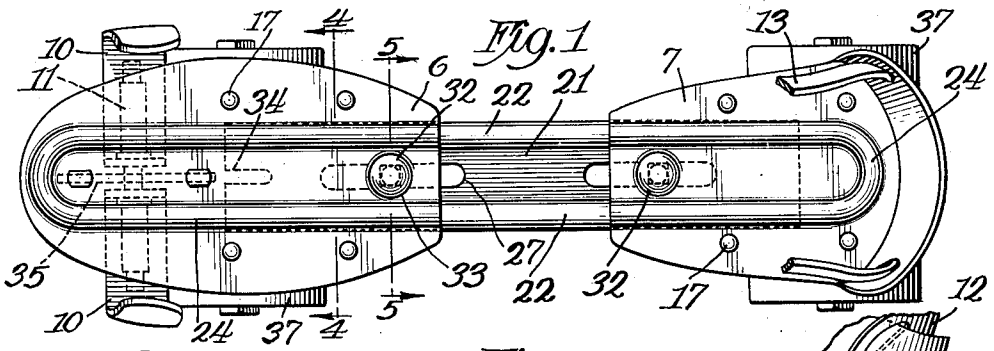


Fig. 2

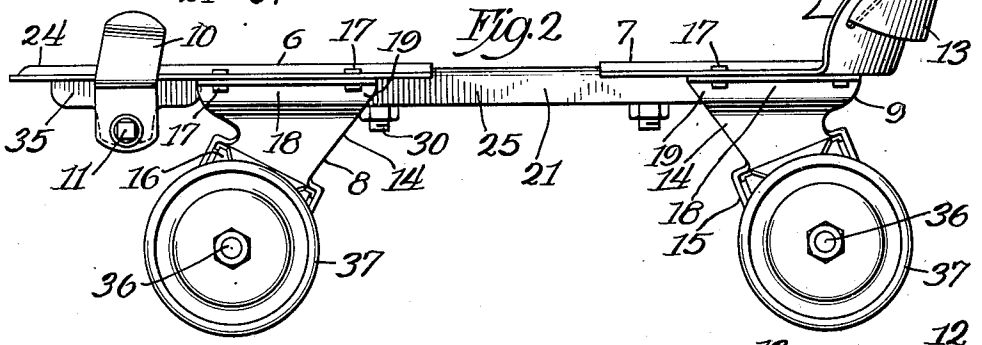


Fig. 3

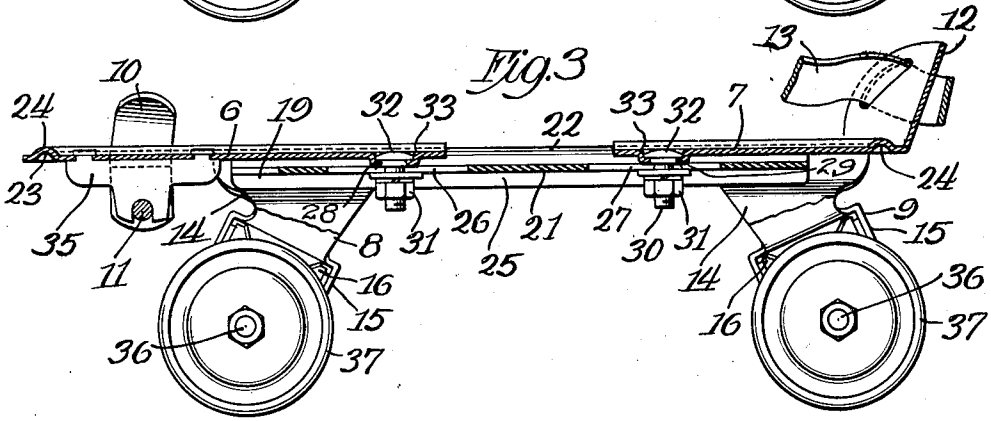


Fig. 4

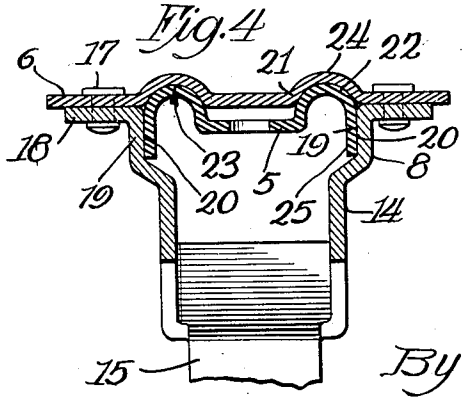
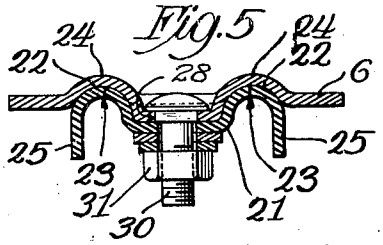


Fig. 5



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Patented May 23, 1933 1,910,193

UNITED STATES PATENT OFFICE

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SKATE CONSTRUCTION

Application filed May 7, 1930. Serial No. 450,376.

This invention relates to skate construction in general and particularly to roller skate construction. More specifically the invention relates to an adjustable roller skate.

The primary object of the present invention is to provide a new and improved skate which is constructed of heavier and stronger material than conventional skates and still is lighter in weight.

Another object is to provide a skate which has improved adjustable features, which is strong and durable, and which can be readily and economically manufactured.

Another object is to provide a skate which has an adjusting bar slidingly interfitting with the trucks so as to omit the integral overlapping parts on the toe and heel plates which are provided on conventional skates.

Numerous other objects and advantages will appear throughout the progress of the following specification.

The invention comprises in general a toe or sole plate and a heel plate. Trucks carrying wheels are operatively connected to each of the plates. Each truck is made in two parts and has a resilient connection between the two parts in the usual manner. The upper part or hanger of each truck is made to receive a longitudinal bar for effecting adjustment of the skates to make them universal in application to fit shoes of different sizes. The adjusting bar has crimps or corrugations extending from its upper surface which are received in corresponding grooves provided on the bottom of the heel and toe plates. Slots are provided in the bar near its extremities through which bolts extend for adjustably locking the bar to the plates. Downwardly extending side projections are provided on the bar to strengthen the skate, and these side extensions have interfitting relationship with the sides of the trucks to further strengthen the skate. A skate made in accordance with the invention is stronger, and more rigid than conventional skates, can be made of heavier stock, and still be lighter in weight.

The accompanying drawing illustrates a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a top plan view of the improved roller skate.

Fig. 2 is a side elevation thereof.

Fig. 3 is a longitudinal sectional view.

Fig. 4 is a detail transverse sectional view on the line 4—4 of Fig. 1.

Fig. 5 is a similar view on the line 5—5 of Fig. 1.

The skate herein shown has a toe plate 6 and a heel plate 7 to which front and rear trucks 8 and 9 respectively are operatively connected. A clamping member, comprising the two sole engaging members 10, which have threaded engagement with a threaded member 11, is operatively arranged on the toe plate. The heel plate 7 has an upwardly extending rear portion 12 through which a strap 13 extends for holding the skate in position on the foot of a wearer.

The trucks 8 and 9 each comprise an upper hanger portion 14 and a lower portion 15. The two portions are operatively connected together and carry a resilient portion or block 16 in the usual manner. The hanger portion 14 of each truck is connected to its cooperating plate by means of rivets 17 extending through the side wings 18, Fig. 4. Downwardly extending sides 19 are integral with the wings 18 and form guides and bearing surfaces 20 for a longitudinal or connecting adjusting bar 21.

The bar 21 is formed from a relatively heavy strip of sheet metal and has a top or body portion into which ridges or corrugations 22 are formed. These ridges or corrugations are adapted to be received in grooves or furrows 23 formed in the bottom of the toe and heel plates. The grooves 23 are formed by stamping ridges or corrugations 24 in the plates. The ridges or corrugations 22 and 24 strengthen the bar and the plates, make the skate rigid, and prevent sagging or bending when a weight is superimposed on the skate.

Side flanges 25 are provided on the bar 21 to further strengthen it and to add rigidity thereto. The sides 25 bear against and are guided by the guides 20 on the hanger portion 14 of the trucks.

The bar 21 is provided with front and

rear slots 26 and 27 respectively which register with holes 28 and 29 formed in the toe and heel plates respectively, Figs. 2 and 3. Bolts 30 pass through the registering holes and slots, and nuts 31 cooperate with the bolts 30 for locking the bar securely to the plates. The heads 32 of the bolts are recessed in depressions 33 formed in the plates. The forward part of the bar 21 may be provided with a notch 34, Fig. 1, into which the clamp holding member 35 projects when the skates are adjusted to shortest or non-extended position.

Axles 36 are operatively supported by the trucks and carry wheels 37 in the usual manner.

The invention provides a rigid, strong, and durable skate which can be made of heavier and stronger material and still be lighter in weight than conventional skates. The usual overlapping tongue on the toe and heel plates are omitted and a rigid adjusting bar is substituted therefor. The guides on the upper portions of the trucks engage the side extension on the bar to assure proper alinement of the toe and heel plates, prevent shifting between the plates and the bar, and make the skate more rigid. The interfitting relation of the ridges and grooves also strengthens the various parts and holds them in proper position. The bar is adjustable and while heavier than the usual overlapping tongue, is more rigid and reduces weight by the elimination of excess material.

Changes may be made in the form, construction, and arrangement of the various parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. A skate comprising a sole or toe plate, a heel plate, both of said plates having grooves, said grooves being positioned on the bottom of said plates, a connecting bar, and ridges on the top of said bar and having interfitting relation with the grooves in said plates.

2. A skate comprising a toe or sole plate, a heel plate, ridges formed in said plates and forming grooves or furrows, a connecting bar, and ridges on said bar and engaging said grooves or furrows.

3. A skate comprising a toe or sole plate, a heel plate, ridges formed in the faces of said plates and forming grooves or furrows, a connecting bar, ridges on the face of said bar and engaging said grooves or furrows, and means adjustably connecting said bar to said heel and toe plates.

4. A skate comprising a toe or sole plate, a heel plate, ridges formed in said plates and forming grooves or furrows, a connecting bar, ridges on said bar and engaging said grooves or furrows, means adjustably connecting said bar to said heel and toe plates, trucks for said skates, side flanges on said bar, and guides on said trucks and engaging said flanges.

5. A skate comprising a pair of trucks, wheels operatively carried by said trucks, plates on said trucks, a channel-shaped bar having side flanges connecting said plates, said trucks having an opening therethrough similar in shape to the cross-section of said bar, ridges in said plates on the top thereof and forming grooves on their bottoms, ridges on said bar and engaging said grooves, and fastening means for connecting said bar to said plates.

6. A skate comprising a pair of plates, a member having sliding engagement with each plate to adjust said skate, means for fastening each plate to said member to hold the skate in adjusted position, and longitudinal grooves and ridges on said plates and member and having complementary engagement with each other.

7. A skate comprising a toe member and a heel member, a connecting member connecting the toe and heel members, said members having complementary ridges and furrows.

8. A skate comprising a toe plate and a heel plate having furrows on their bottoms, a connecting plate having longitudinal ridges on its upper surface throughout its entire length, said ridges adapted for engagement with the furrows in each plate, and means for fastening the toe and heel plates to said connecting plate.

9. A skate comprising a toe member and a heel member, a channel-shaped member connecting the toe and heel members, the legs of said channel-shaped member extending downwardly, and means carried by the toe and heel members and engaging the sides of said legs.

10. A skate comprising a toe member and a heel member, a channel-shaped member connecting the toe and heel members, the legs of said channel extending downwardly, means carried by the toe and heel members and engaging the sides of said legs, said toe and heel members and said channel member having a complementary ridge and furrow.

11. A skate structure comprising toe and heel members, a rigid bar having oppositely disposed side walls and connecting the toe and heel members, a one-piece hanger secured to the under side of at least one of said members, said hanger including oppositely disposed rigid side sections secured to and depending from said member, said side sections being connected by an integral transverse section, the upper portion of said side sections being juxtapositioned with respect to the side walls of the bar and the portion of the side sections extending below the bar

being bent inwardly along a line to provide a shoulder extending longitudinally of the skate structure and positioned adjacent the underside of said bar, and a truck supported by said one-piece hanger.

12. A skate structure comprising toe and heel members, a rigid channel-shaped bar having oppositely disposed side walls and connecting the toe and heel members, a one-piece hanger secured to the under side of at least one of said members, said hanger including oppositely disposed rigid side sections secured to and depending from said member, said side sections being connected by an integral transverse section, the upper portion of said side sections being juxtapositioned with respect to the side walls of the bar and the portion of the side sections extending below the bar being bent inwardly along a line to provide a shoulder extending longitudinally of the skate structure adjacent the underside of said bar, and a truck supported by said one-piece hanger.

13. A skate structure comprising a toe member and a heel member, a channel-shaped bar connecting the toe and heel members, the legs of said channel-shaped bar extending downwardly, and a one-piece hanger depending from one of said members, said hanger including side sections juxtapositioned with respect to the sides of said legs and bent inwardly beneath said legs to provide a shoulder extending longitudinally of the skate structure at the lower corner of each leg.

In witness whereof, I have hereunto subscribed my name.

ROBERT R. WARE.