Jan. 12, 1960 I. F. JENSEN 2,920,897

ICE SKATE STABILIZERS

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FIG. 1

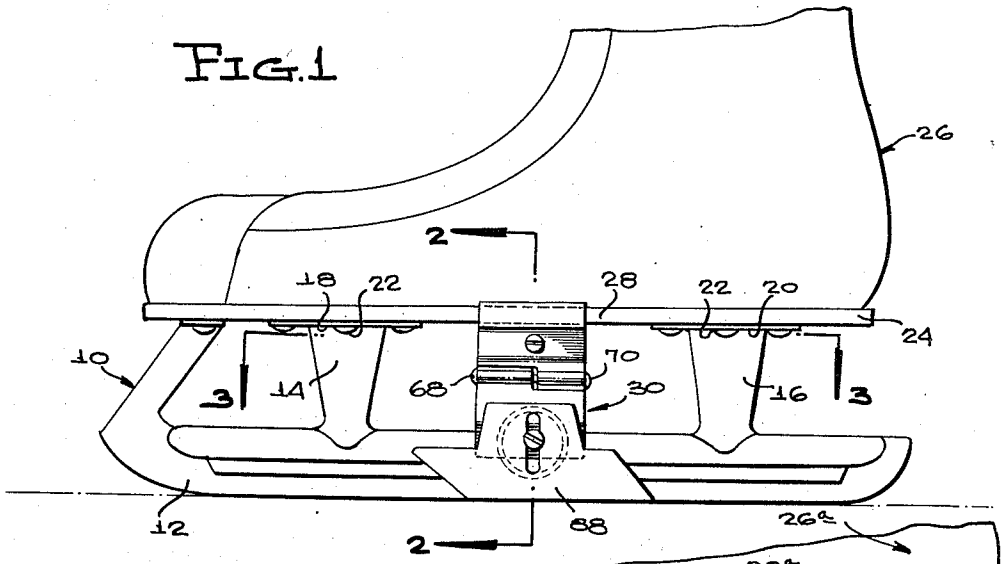


FIG. 1-A

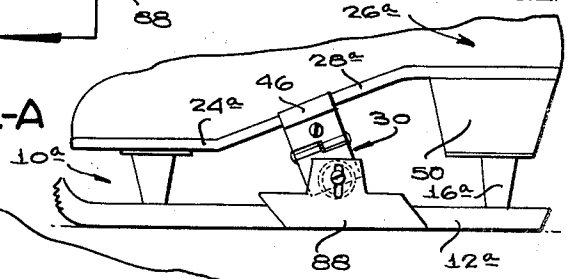
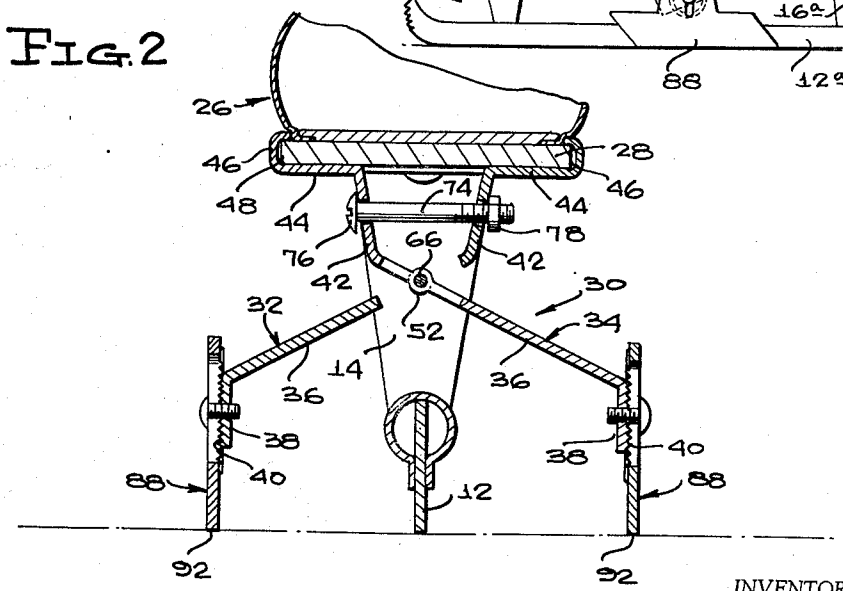


FIG. 2



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FIG. 3

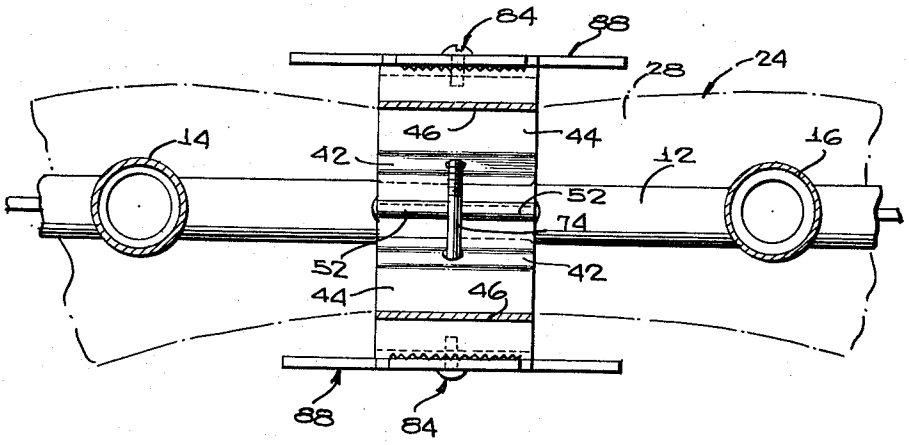
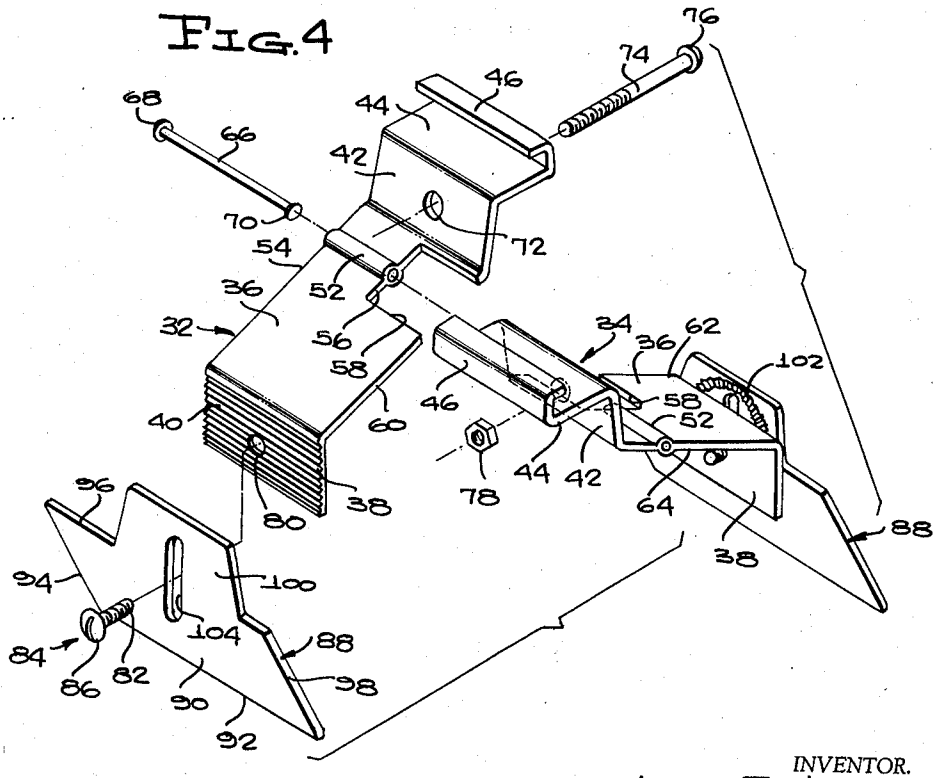


FIG. 4



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ICE SKATE STABILIZERS

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6 Claims. (Cl. 280—11.12)

This invention relates to improvements in stabilizing means for ice skates, and more particularly to improved stabilizing attachments for removable application to ice skates for aiding beginners in learning to skate.

The primary object of the invention is to provide efficient, practical, and readily adjustable attachments of this kind which can be applied to different forms of shoe-equipped ice skate assemblies, such as hockey and figure skate assemblies, and to clamp-on skates of various types, and which serve to stabilize the runners of skates in upright position and prevent the ankle-turning which is characteristic of beginners and facilitate learning to skate.

Another object of the invention is to provide devices of the character indicated above which have independently adjustable auxiliary runners, located at opposite sides of the skate runners, which can be adjusted not only to put their ice-engaging edges parallel to the runner edge of the skate, but to enable elevating the edges of the auxiliary runners to different heights above the skate runner edges as progress in ankle stability and skating skill is made by a beginner and less reliance upon the presence of the auxiliary runners is needed.

Other important objects and advantageous features of the invention will be apparent from the following description and the accompanying drawings, wherein, for purposes of illustration only, a specific form of the invention is set forth in detail.

In the drawings:

Figure 1 is a side elevation showing a device of the invention applied to a shoe-equipped ice skate assembly having a flat sole;

Figure 1*a* is a similar view showing the device applied to an ice skate assembly involving a shoe heel and an angled sole portion;

Figure 2 is an enlarged fragmentary vertical transverse section taken on the line 2—2 of Figure 1;

Figure 3 is an enlarged horizontal section taken on the line 3—3 of Figure 1; and

Figure 4 is an enlarged exploded perspective view of said device.

Referring in detail to the drawings, wherein like numerals designate like parts throughout the several views, and first to Figures 1 to 4, the numeral **10** generally designates an ice-skate having a single runner **12** from which rise forward and rear posts **14** and **16** which have plates **18** and **20**, respectively, on their upper ends which are secured, as indicated at **22**, to the underside of forward and rear portions of a flat platform or of a sole **24** of a skate shoe **26**. The sole **24** has a flat coplanar intermediate portion **28**.

The illustrated stabilizing attachment, generally designated **30**, comprises a pair of similar but reversed auxiliary runner brackets **32** and **34**, preferably made of suitable flat metal bar stock, each of which has an elongated straight flat arm **36** which terminates at its lower end in a relatively short flat depending ear **38** which is disposed at an obtuse angle to the arm **36** and has a serrated outer side **40**.

The arm **36** terminates at its upper end in an upstanding portion **42**, which is disposed at an obtuse angle to the arm **36** and terminates in a horizontal laterally outwardly extending portion **44** which has on its laterally outward end an upwardly and laterally inwardly curved jaw **46**. In the case of application of the attachment to the intermediate portion **28** of the flat sole **24** of the shoe **26**, the horizontal portions **44** of the brackets **32** and **34** constitute sole bottom engaging portions and the jaws **46** engage around the side edges **48** of the intermediate portion **28**. The portions **44** and the jaws **46** serve in similar fashion, with respect to the forwardly declining intermediate portion **28***a* of the sole **24***a* of the shoe **26***a*, shown in Figure 1*a*, wherein there is present a heel **50** to which is secured the rear post **16***a* on the runner **12***a* of the skate **10***a*.

In the case of use of the device **30** on a clamp-on type of skate (not shown) having separated platform portions, the device is clamped to the sole of the shoe between the platform portions, by means of the portions **44** and the jaws **46**, as described above, the shoe being strapped or otherwise secured on the divided skate platform. However, where the strap-on skate has a solid or undivided platform, the device can be clamped either to an intermediate part of the platform or to the shoe sole.

The brackets **32** and **34** further comprise transverse bolt barrels **52** which are preferably formed coplanar in and closely spaced from the upper ends of the arms **36** where the arms **36** join the upstanding portions **42**. The barrels **52** of the bracket **32** reach from the forward side edge **54** of the arm **36** as far as the inner edge **56** of a rectangular notch **58** approximately half as wide as the arm **36** and opening through the rear side edge **60** of the arm **36**. A similar but reversed arrangement of notch **58** opening through the forward side edge **62** of the arm, and bolt barrel **52** reaching from the rear side edge **64** of the arm **36** obtains in the case of the bracket **34**.

The brackets **32** and **34** are arranged in crossed and intersecting relation to each other, with the notches **58** engaged and with the bolt barrels **52** in endwise engagement and with a pivot pin **66** extending through the barrels and secured in place by a head **68** on one end and a head **70** on the other end of the pin **66**. The notches **58** are wide enough to permit relatively wide amplitude of angular pivoting of the brackets **32** and **34** relative to each other.

The upstanding portions **42** of the brackets **32** and **34** are provided with central holes **72** through which extends a clamping bolt **74** having a head **76** on one end and a nut **78** on its other end which engage the outer sides of the portions **42**.

The depending ears **38** are provided with central threaded holes **80** in which are threaded the shanks **82** of auxiliary runner clamping screws **84** having heads **86**.

The auxiliary runners **88** are similar and are preferably in the form of longitudinally and horizontally elongated, vertically disposed flat bar metal plates **90** which have straight ice-engaging lower edges **92** having upturned forward portions **94**. The plates **90** have upper edges **96** having rearwardly declining rear portions **98** and upstanding on intermediate portions of the upper edges **96** are ears **100**.

On the laterally inward sides of the plates **90** and ears **100** are related portions of circles **102** of serrations which cooperate with the serrations **40** on the outward sides of the ears **38** for retaining the runners **88** in various angularly adjusted positions on the brackets **32** and **34**.

The runners **88** are provided intermediate their ends with vertically elongated slots **104** which pass the clamping screws **84** and provide for both vertical and angular

adjustments of the runners **88** relative to the brackets **32** and **34**, in which the runners are retained by the serrations **102** and **40** when the screws **84** are tightened by threading them into the holes **80** in the ears **38**.

The device **30** is applied, the clamping bolt **74** being removed from the brackets **32** and **34**, by passing the brackets through the space between the skate runner and the shoe sole, or in the case of a clamp-on type of skate, between its runner and its platform, then engaging the jaws **46** around the side edges **48** of the sole or platform. The clamping bolt **74** is then extended through the holes **72** in the bracket portions **42** and the nut **78** tightened to clamp the jaws **46** firmly in place.

The clamping screws **84** are then loosened and the auxiliary runners **88** are adjusted either angularly or vertically, so as to put their ice-engaging edges **92** parallel to the edge of the skate runner **12** or **12***a*. For a starting beginner, the auxiliary runners **88** are given a height adjustment which puts their edges **92** in the same plane as the edges of the skate runners, to provide maximum stabilization. However, as the beginner advances and requires less stabilization of the skates, the auxiliary runners **88** can be vertically adjusted so that their edges **92** are above the skate runner edge and touch the ice and provide stabilizing support for the skates only when the skates are tilted sidewise out of normal perpendicular skating positions, and to enable the skate to rest without ankle strain.

Although there has been shown and described herein a preferred embodiment of the invention, it is to be understood that the invention is not necessarily confined thereto, and that any change or changes in the structure of and in the relative arrangement of components thereof are contemplated as being within the scope of the invention as defined by the claims appended hereto.

What is claimed is:

1. An ice skate stabilizing attachment comprising bracket means having clamp means, and a pair of laterally spaced auxiliary runners mounted on said bracket means, said bracket means having upper ends and lower ends, opposed clamping jaws on said upper ends, clamping means acting between said jaws, and means mounting the auxiliary runners on the lower ends of said bracket means.

2. An ice skate stabilizing attachment comprising bracket means having clamp means, and a pair of laterally spaced auxiliary runners mounted on the bracket means, said bracket means comprising a pair of crossed and pivotally connected brackets having upper and lower ends, opposed clamping jaws on said upper ends, means mounting the auxiliary runners on the lower ends of the brackets, and clamping means acting between said jaws.

3. An ice skate stabilizing attachment comprising bracket means having clamp means, and a pair of laterally spaced auxiliary runners mounted on the bracket means, said bracket means comprising a pair of crossed and pivotally connected brackets having upper ends and lower ends, opposed clamping jaws on said upper ends, clamping means acting between said jaws, and means severally mounting the auxiliary runners on the lower ends of related brackets.

4. An ice skate stabilizing attachment comprising bracket means having clamp means, and a pair of laterally spaced auxiliary runners mounted on the bracket means, said bracket means comprising a pair of crossed and pivotally connected brackets having upper ends and lower ends, opposed clamping jaws on said upper ends, clamping means acting between said jaws, and means severally mounting the auxiliary runners on the lower ends of related brackets, said clamping means comprising a clamping bolt traversing the brackets at points between the jaws and the intersection of the brackets.

5. In combination, a skate assembly comprising a platform having an intermediate portion, a skate secured to and beneath the platform and having a single runner spaced below the platform and having an ice-engaging edge, said intermediate portion of the platform having side edges, a removable stabilizing attachment comprising bracket means having clamp means engaged with the side edges of the intermediate portion of the platform, and a pair of laterally spaced auxiliary runners on said bracket means and having ice-engaging edges, said bracket means having upper ends and lower ends, opposed clamping jaws on said upper ends, and means mounting the auxiliary runners on the lower ends of said bracket means.

6. In combination, a skate assembly having a platform comprising spaced forward and rear portions, a shoe having a sole secured upon the platform and having an intermediate portion located in the space between said forward and rear platform portions, said skate assembly comprising a single runner spaced below said platform, a removable stabilizing attachment comprising bracket means having clamp means gripping the side edges of said intermediate portion of the shoe sole, and a pair of laterally spaced auxiliary runners on said bracket means and having ice-engaging edges, said bracket means having upper ends and lower ends, opposed clamping jaws on said upper ends, and means mounting the auxiliary runners on the lower ends of said bracket means.

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