July 10, 1962 W. P. VOAKES 3,043,600

COMBINATION ROLLER AND ICE SKATES

Filed July 29, 1960 2 Sheets-Sheet 1

Fig. 1

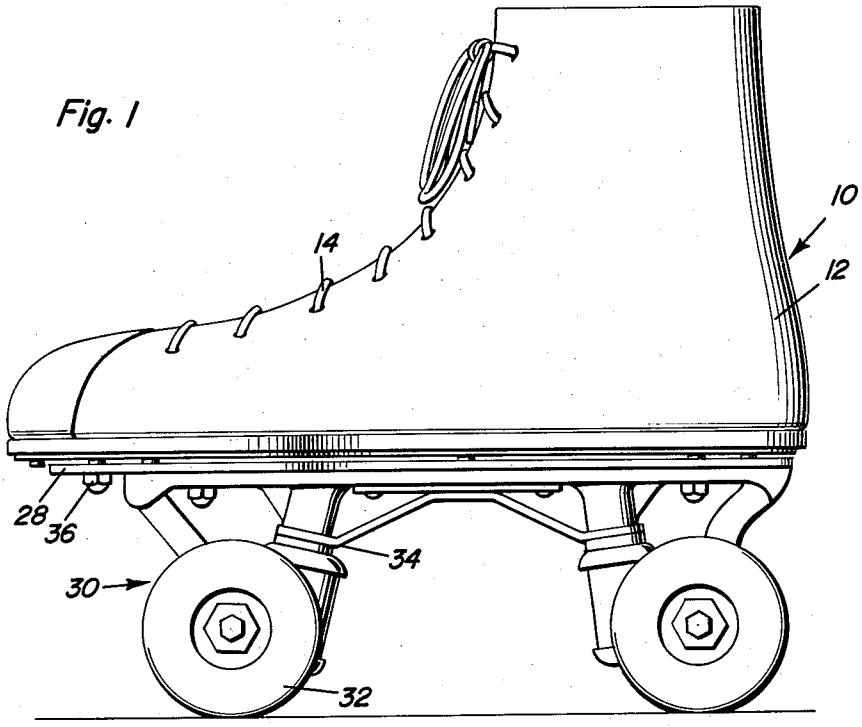



Fig. 2

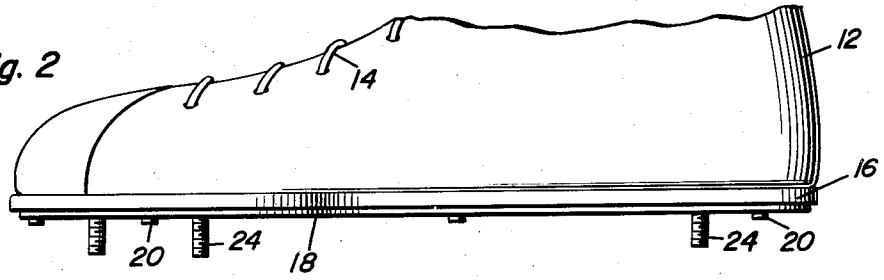
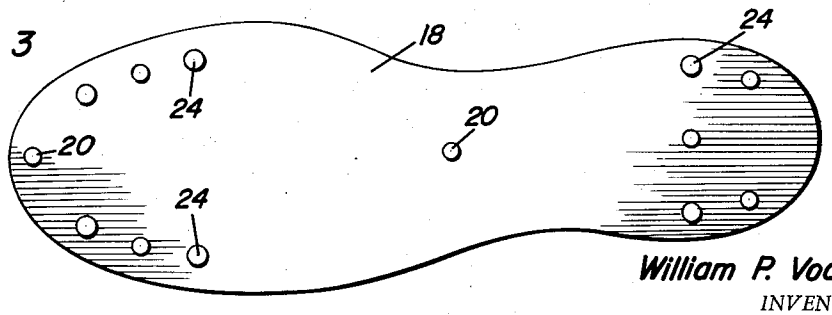



Fig. 3




William P. Voakes
INVENTOR.

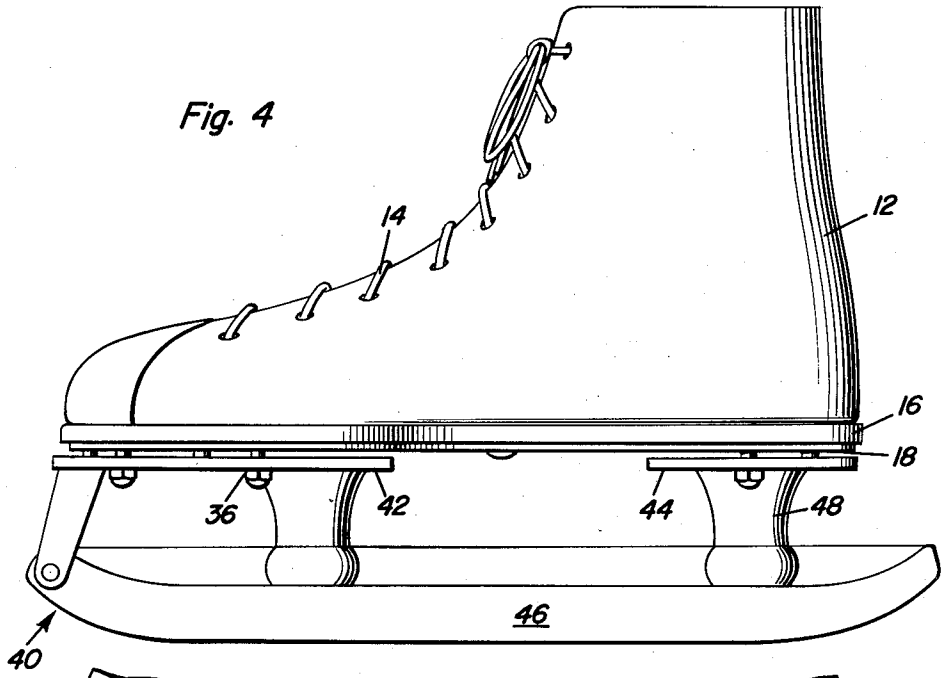
BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

July 10, 1962 W. P. VOAKES 3,043,600

COMBINATION ROLLER AND ICE SKATES

Filed July 29, 1960 2 Sheets-Sheet 2

Fig. 4



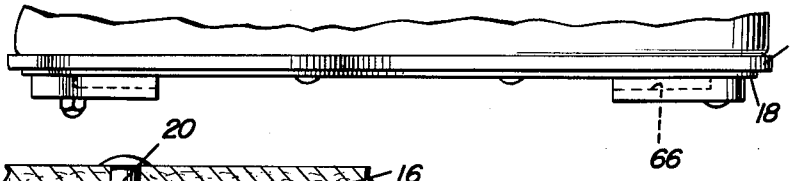




Fig. 7

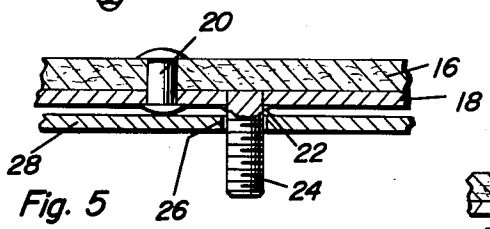



Fig. 5

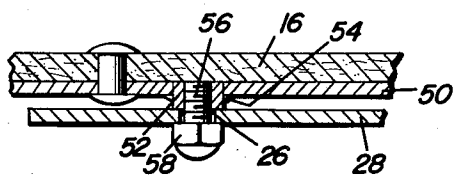



Fig. 6

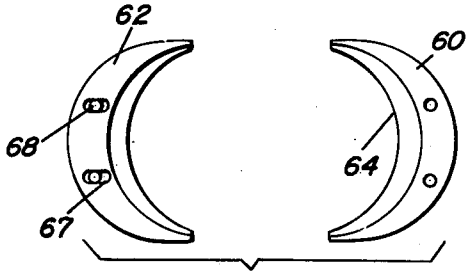



Fig. 8

William P. Voakes
INVENTOR.

BY Clarence A. O'Brien and Harvey B. Jacobson
Attorneys

United States Patent Office 3,043,600 Patented July 10, 1962



3,043,600

# COMBINATION ROLLER AND ICE SKATES

William P. Voakes, 3148 Risedorph, Flint, Mich., assignor of one-half to William R. McTaggart, Flint, Mich.

Filed July 29, 1960, Ser. No. 46,214
2 Claims. (Cl. 280—7.13)

The present invention generally relates to skates and more particularly to a convertible assembly which may be employed either as a roller skate or as an ice skate incorporating in its construction detachable components which may be attached to the same skate shoe so that only a single pair of skate shoes is necessary for use in combination with the roller skating elements or the ice skating elements thereby providing more utility to the skate shoes and otherwise providing a highly utilitarian assembly which enables a person to convert roller skates to ice skates and vice versa with very minimum of time and effort required.

Another object of the present invention is to provide a skate structure having interchangeable roller skating elements or ice skating elements together with means for securely fastening the elements in position thereby providing a safe and dependable skate and one which may be readily changed from a roller skate to a blade type ice skate and vice versa.

Yet another object of the present invention is to provide a combination roller and ice skate which is simple in construction, easy to convert, safe in operation and generally inexpensive to manufacture and maintain.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is a side elevational view of a roller skate incorporating the present invention therein;

FIGURE 2 is a side elevational view of the skate shoe illustrating the depending studs thereon without any skating elements attached thereto;

FIGURE 3 is a bottom plan view of the construction of FIGURE 2;

FIGURE 4 is a side elevational view of the construction of the skate shoe with the ice skate blade mounted thereon;

FIGURE 5 is a detailed sectional view illustrating the construction of the depending studs for holding the skates in position;

FIGURE 6 is a detailed sectional view illustrating a modified form of means for attaching the skating elements to the skating shoe;

FIGURE 7 is a partial side elevational view of a skating shoe illustrating a further modification of the invention; and

FIGURE 8 is a group plan view illustrating the means for engaging the outer ends of the skating elements.

Referring now specifically to the drawings, the numeral **10** in FIGURE 1 generally designates a roller skate which includes an upper **12** which may be constructed of any suitable material from which shoes of this nature are normally constructed and, of course, may be constructed in any suitable size, style, color and the like. The upper **12** is also provided with the usual shoe laces **14** and is also provided with a sole **16** attached to the uppers **12** in any suitable manner.

In FIGURE 5, the details of the sole **16** are illustrated in that there is provided a plate **18** underlying the sole **16** and secured thereto by a plurality of rivets **20**. Secured to the plate **18** as by welding **22** is a plurality of depending externally threaded studs **24** which are relatively short and which extend through apertures **26** in a mounting



plate **28** carried by a roller skate assembly generally designated by the numeral **30** which includes roller skate wheels **32** and supporting members **34** connected therewith. The mounting plate **28** is rigid with the supporting plate **18** attached to the sole **16** and the rigid relationship is maintained by the studs **24** thus rigidly and detachably securing the roller skate assembly **30** to the sole so that it may be removed for installation of an ice skate assembly generally designated by the numeral **40** and illustrated in FIGURE 4.

In the ice skate assembly of FIGURE 4, there are two mounting plates **42** and **44** provided which are attached to the supporting plate **18** by the studs **24** and the nuts **36**. The ice skating assembly **40** includes the usual blade **46** and supporting members **48** interconnecting the blade **46** and the mounting plates **42** and **44**. In both forms of the invention, the skating assembly may be easily removed and replaced by removing the nuts **36** from the depending studs **24** thus enabling the uppers to be employed with roller skates or ice skates.

An alternative connection between the sole **16** and the mounting plate **28** is illustrated in FIGURE 6 in which the supporting plate **50** is provided with a threaded sleeve **52** secured thereto as by welding **54** or the like. Extending through the apertures **26** in the mounting plate **28** is a headed bolt **56** or the like screw threadedly engaged with the sleeve **52** and provided with a head **58** for retaining the mounting plates **28** in position.

In FIGURES 7 and 8, there is another mode of attachment illustrated in which the sole **16** is provided with the same supporting plate **18** on the undersurface thereof. Attached to the supporting plate **18** is a pair of arcuate members **60** and **62** which are in the form of a quarter moon shape or the like and include concave edges **64** facing each other with the upper surface of the plates **60** and **62** having an arcuate recess **66** therein for receiving the ends of the mounting plate **28** thereby retaining the mounting plate **28** in position. One of the members **62** is provided with slots **67** therein receiving fasteners **68** whereby the member **62** may be adjusted longitudinally for securely gripping the ends of the mounting plate **28** between the bottoms of the recesses **66** thereby detachably securing the mounting plate to the sole of the shoe.

In using the present invention, the device will be assembled either as illustrated in FIGURE 1 as a roller skate or in FIGURE 4 as an ice skate. When ice skates are employed, the attaching means may be that shown in FIGURE 5, FIGURE 6 or in FIGURES 7 and 8. By removing the nuts **36**, the supporting plates or mounting plates may be removed and the element supported thereby may be adjusted. In the device illustrated in FIGURES 7 and 8, the mounting plate is supported by two inwardly facing members having recesses across the top edge thereof.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

1. A combination roller skate and ice skate structure comprising an upper shoe portion, a sole attached thereto, a supporting plate attached to the sole, a mounting plate, said mounting plate including a skate assembly mounted thereon, and means interconnecting the mounting plate and the support plate for detachably supporting the mounting plate from the support plate, said means mounting the mounting plate on the support plate including a pair of arcuate members mounted on the support plate with each

arcuate member having a recess in the upper inwardly facing edge thereof for receiving the end edges of the mounting plate, one of said arcuate members having a plurality of longitudinally elongated slots therein, and a plurality of bolt means adjustably secured to the support plate and extending through the elongated slots in said one arcuate member so as to allow for longitudinal adjustment of said one arcuate member as well as the fixedly securing of said one arcuate member to the support plate so as to rigidly mount the mounting plate.

2. A combinaion roller skate and ice skate structure comprising an upper shoe portion, a sole attached thereto, a supporting plate attached to the sole, a mounting plate, said mounting plate including a skate assembly mounted thereon, and means interconnecting the mounting plate and the support plate for detachably supporting the mounting plate from the support plate, said means mounting the mounting plate on the support plate including a pair of arcuate members mounted on the support plate with each arcuate member having a recess in the upper inwardly



facing edge thereof for receiving the end edges of the mounting plate, one of said arcuate members having a plurality of longitudinally elongated slots therein, a plurality of bolts fixedly secured to the support plate, each bolt extending through an elongated slot in the one arcuate member to allow for longitudinal adjustment of said one arcuate member relative to the other arcuate member so as to clamp the mounting plate therebetween, and a nut threaded on the outer end of each bolt for fixedly securing said one arcuate member once the desired position is obtained.

**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 660,752 | Evans | Oct. 30, 1900 |
| 1,094,434 | Golden | Apr. 28, 1914 |
| 2,118,892 | Mays | May 31, 1938 |
| 2,664,294 | Kleinman | Dec. 29, 1953 |
| 2,693,967 | Jones | Nov. 9, 1954 |
| 2,868,553 | Rieckman | Jan. 13, 1959 |