

J. OLDFIELD.
COMBINED ROLLER AND ICE SKATE.
APPLICATION FILED APR. 26, 1909.

992,443.

Patented May 16, 1911.

2 SHEETS-SHEET 1.

FIG. 1.

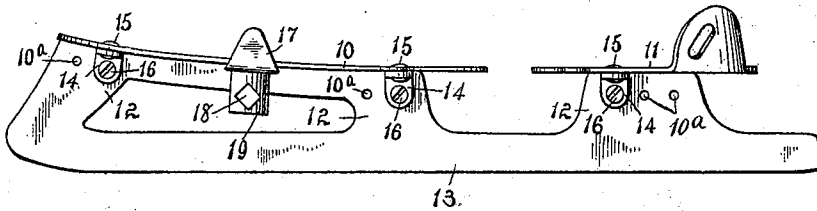


FIG. 2.

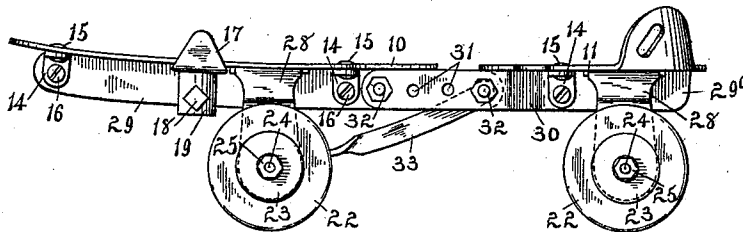
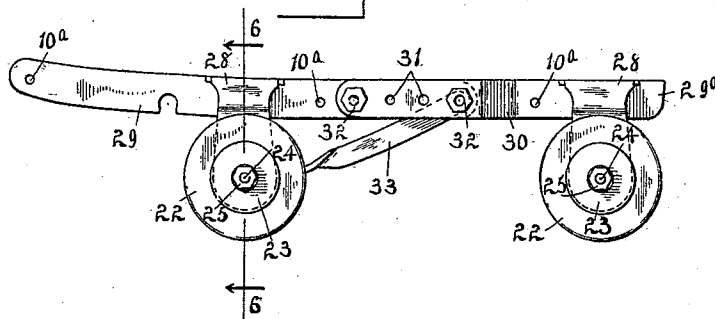


FIG. 3.



WITNESSES:

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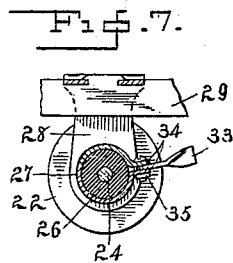
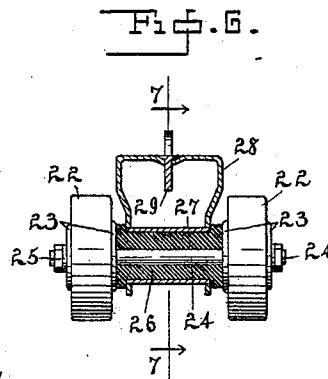
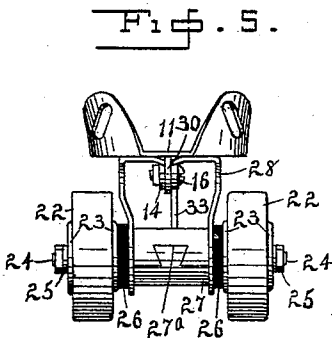
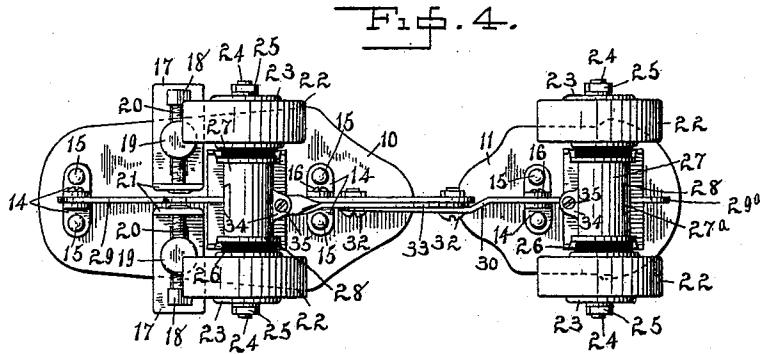
John Oldfield
By Frederick Benjamin
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2 SHEETS-SHEET 2.



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UNITED STATES PATENT OFFICE.

JOHN OLDFIELD, OF CHICAGO, ILLINOIS.

COMBINED ROLLER AND ICE SKATE.

992,443.

Specification of Letters Patent.

Patented May 16, 1911.

Application filed April 26, 1909. Serial No. 492,338.

To all whom it may concern:

Be it known that I, JOHN OLDFIELD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Combined Roller and Ice Skates, of which the following is a specification.

My invention relates to skates and has particular reference to devices of this class that have interchangeable parts adapting them to be used as roller or ice skates as may be desired.

The chief objects of the improvements which form the subject matter of this application are:—to provide an interchangeable mechanical construction for a skate that will permit of the application of foot plates to a runner adapted for use upon ice, or, as an alternative, the same plates may be operatively attached to a set of wheels so as to convert the device into a practical roller skate.

Other objects of the invention, stated in detail, are:—to provide means for adjusting the foot and heel plates relatively to each other thus adapting the same mechanism for use upon feet of different lengths, or, in other words, changing the size of the skate within certain limits; to furnish auxiliary strengthening means comprising one or more braces applied so as to afford support for the plates in addition to that rendered by the brackets, and to supply resilient members that will materially aid in reducing the shock and jar by acting as buffers, the latter devices being applicable to the roller form of skate.

Further objects are to be seen in the details of construction of the axle and sleeve forming an attachment for the previously mentioned bracing members, and to furnish a simple and efficient device admirably adapted for the purposes stated.

I accomplish the desired results by means of the mechanical construction illustrated in the accompanying drawings, which form a part of this application, the various important details of construction being disclosed in the following views—

Figure 1 is a side elevation of an ice skate embodying some of the features of my invention; Fig. 2 is a similar view of a roller skate constituted by the substitution of a set of rollers and connections for the runner shown in Fig. 1; Fig. 3 is a side elevation

of the running gear of the skate shown in Fig. 2 with the foot and heel plates removed; Fig. 4 is a bottom plan view of the structure shown in Fig. 2; Fig. 5 is a rear elevation of the appliance shown in Fig. 2; Fig. 6 is a sectional view on the line 6—6 of Fig. 3, and Fig. 7 is a fragmentary sectional view through the forward axle.

Referring to the details of the drawing, the numeral 10 indicates a sole plate and 11 a heel plate, of usual form, both of said plates being supported upon suitable extensions 12 formed integral with a runner 13, thus producing a skate differing only in a few details from those in common use, and having the general appearance of the standard skate. The said sole and heel plates, 10 and 11, are rigidly supported upon the said extensions by suitable angled brackets 14 arranged in pairs upon opposite sides of the runner being permanently attached to said plates by rivets 15 and removably secured to the runner by suitable screws 16 which pass through holes 10^a in the runner extensions. In order to provide for a desirable adjustment of the plates relatively to each other each extension 12 is furnished with a plurality of the holes 10^a; thus the part of the runner supporting the sole plate has two groups of two holes each and the rear extension 12 has 3 holes which provide for a desirable number of adjustments. The front or sole plate 10 is furnished with a pair of oppositely arranged clamps 17 which project above said plate and are slidably operated by screws 18 passing through threaded holes in posts 19 secured to the under side of the toe plate. The bodies of the clamps are provided with slots 20, through which said posts project and have flanges 21 on their inner ends to which the points of said screws are attached by swivel connections.

In Fig. 2 is shown in side elevation a roller skate formed by substituting for the runner 13 a pair of axles and rollers with connections, the substituted parts being shown separately in Fig. 3, and comprising wheels 22 of ordinary type, retained by washers 23 on spindles or axles 24, and secured by nuts 25. Upon each spindle or axle 24, between the inner flanges 23, is mounted a resilient cylinder or spool 26 composed of vulcanized rubber and the body of the spool is embraced by a sleeve 27. This sleeve is formed in semi-cylindrical sections

connected upon one side by an interlocking device, consisting of a dove-tailed shaped lug or extension 27^a, which fits within a correspondingly shaped notch or recess formed in the opposite section. Hangers 28 are connected to a median longitudinal rib or bar at their upper ends and at their lower ends embrace the axles. The said bar or rib is formed of sections 29, 29^a, attached, respectively, to the front and rear hangers. The rear section 29^a is bent laterally at 30 and the adjacent ends of the sections overlap forming a splice each portion of which is perforated with spaced bolt holes 31, for clamping bolts 32, the plurality of holes permitting a longitudinal adjustment of the sectional bar or rib. To add strength and rigidity to the said bar, a brace 33 is introduced between the rear section 29^a and the forward axle. This brace is composed of a flat bar having its rear end introduced between the bar members 29, 29^a, where they overlap, the rear bolt 32 passing through a hole in its extremity. The brace is twisted on its axis at the front end and inserted between ears 34 formed integral with the approximated edges of the sleeve sections 27, a bolt 35 clamping the parts firmly together.

It will be noted that only one brace 33 is illustrated in the drawings;—but if desired another brace may be attached to the ears 34 of the rear axle and secured to the bar sections by one of the bolts 32, in the same manner as the brace described.

The manner of changing the appliance from one form of skate to the other will be readily accomplished by an unskilled person, the procedure being as follows:—The foot plates and runner having been assembled as shown in Fig. 1, the bracket bolts 16 are removed, and the plates 10 and 11 detached from the runner 13, and reassembled upon the structure shown in Fig. 3, the holes in the angular brackets 14 being made to register with the holes 10^a in the rib sections 29, 29^a, and then secured by the bolts 16, the result of this substitution being a complete and practical roller skate illustrated in side elevation in Fig. 2. To adjust the ice skate shown in Fig. 1 to different sizes, bracket bolts 16 are withdrawn and the plates moved forward or back according to the changes desired to be made and then reattached in the selected holes by the said bolts. The adjustment of the roller skate in the same respect, is made by means of the bolts 32, without disturbing the attachment of the plates 10 and 11 since the latter are carried by the separate sections of the rib.

It will be observed that the adequate and novel means employed for bracing the rib at the location of the splice will result in the production of a rigid and durable structure that will withstand the shocks and strains to which such devices are subjected when in

use, and that will permit of a much lighter construction than would otherwise be necessary.

Another important factor in the mechanical construction of my improved skate, lies in the resiliency of the comparatively soft rubber spool shaped sleeve or cylinder 26, surrounding each spindle or axle and interposed as a buffer between the brackets, which support the entire weight of the person using the skate, and the said axles. This construction relieves the sharpness of the shocks, resulting in a smooth running skate, that will promote the comfort of the wearer, producing less muscular fatigue with a given effort than when the connection between the foot plates and the axles is entirely metallic and rigid.

Having thus described my invention what I claim as new, is:—

1. In a skate, the combination of a sole and a heel plate, a rigid bar extending under said plates, means for detachably connecting said bar to said plates, posts secured to the underside of said plates and having threaded openings therethrough, clamps slidably mounted on said posts, screws having threaded engagement with said posts, and means connecting said clamps with said screws whereby the turning of the screws will adjust the clamps inwardly and outwardly.

2. In a skate, the combination of sole and heel plates, a rigid bar longitudinally arranged below said plates, hangers secured to said bar, rollers yieldingly connected with said hangers brackets attached to said plates and removably engaging said bar, bolts connecting the brackets with said bar.

3. In a skate, the combination of separate sole and heel plates, rollers, and means for detachably connecting said rollers with said plates, said means consisting of hangers in which the rollers are yieldingly mounted, a bar set edgewise to said plates and rigidly connecting the front and rear hangers, and means detachably connecting said bar with said plates.

4. In a skate comprising sole and heel plates, means for securing said plates to the shoe of a user, said means consisting of posts secured to the under side of said plates and having threaded openings therein, clamps slidably mounted on said posts and having upturned lugs at their outer ends and depending lugs at their inner ends, screws having threaded engagement with said posts and connected with the depending lugs of said clamps whereby the adjustment of the screws in either direction will cause a corresponding adjustment of the clamps.

5. In a skate, the combination of a sole and a heel plate, a bar set edgewise to the plates and extending under said plates, means for detachably connecting said bar to said plates,

vertical posts depending from said sole-plate and having threaded openings therethrough, clamps slidably mounted on said posts and screws engaging the openings in the said posts and secured at their inner ends to said clamps.

6. In a skate, the combination of sole and heel plates, axles, rollers mounted on said axles, an adjustable bar longitudinally arranged below said plates, resilient spools embracing said axles, sleeves surrounding said spools hangers connecting the sleeves with the bar, and a brace extending between one of said sleeves and said bar.

7. In a skate, the combination of a sole and a heel plate, axles, rollers on the axles, a bar arranged longitudinally below said plates, hangers attached to said bar and embracing said axles and buffers interposed between said hangers and the axles.

8. In a skate, the combination of a sole and a heel plate, axles, rollers on the axles,

an adjustable bar arranged below said plates and removably attached thereto, resilient spools surrounding said axles, sectional sleeves embracing said spools, hangers mounted on said sleeves and attached to said bar, and a brace between one of said sleeves and said bar.

9. The combination with an axle, of a resilient spool embracing the axle, a sleeve on said axle, said sleeve formed of interlocking sections, and means for clamping the sections together.

10. The combination with an axle, of a rubber cylinder embracing said axle, a sectional sleeve mounted on the cylinder, and a hanger attached to said sleeve.

In testimony whereof I affix my signature in the presence of two witnesses.

JOHN OLDFIELD.

Witnesses:

H. DE LOS HIGMAN,

M. A. MILORD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
