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2,717,784

ROLLER-SKATE HEEL-LOCK

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1 Claim. (Cl. 280—11.3)

My invention pertains to a roller-skate heel-lock or to mechanism for detachably yet securely effecting a connection between a shoe-heel and the rear end of a roller-skate. The disclosures constitute subject matter described and originally claimed in a parent application by me, for Patent No. 2,572,133 issued October 23, 1951.

The objects of the present invention besides simplicity and adequate economy of manufacture, are durability, reliability and facility of operation. More specific objects have been to reinforce the heel of the shoe and have readily accessible the parts to be loosened preparatory to disassembly or adjustment.

Adverting to the drawing:

Figure 1 is a part vertical section through one of two roller-skate trucks (exemplifiedly illustrated, but having its structure claimed only in my parent application) and also showing, partly in section, my heel-lock invention herein claimed.

Figure 2 is an end elevation viewed on the lines 2—2 of Figure 1.

Figure 3 is a side elevation, on a reduced scale, of a complete roller-skate showing the heel of a partially illustrated shoe surmounted thereon after the manner of my invention.

It is to be understood that the scope of my origination, as defined by the granted claim, comprehends equivalent constructions and that the showing of the drawings and their specific description are merely to exemplify variable applications and mechanical embodiments, arrangements of novelty-distinguishing principles.

Essentially, Figure 1 of this application corresponds to Figure 9 which was cancelled from the parent application and accordingly, so far as possible for clarity and sequence, most of the reference numbers on the drawing designate like parts as portrayed in such earlier filed Figure 9.

The highest grade or so-called "professional" type skates are usually combined as a virtually permanent unit with shoes, though ready detachment is desirable for repair or replacement.

A pair of truck structures (not herein claimed) are numbered 1 and 2 and are respectively located under the sole and heel of a shoe. Each truck, in the exemplification shown, comprises a roller, the pair being correspondingly numbered 3 and 4. Connecting the two trucks 1 and 2 is a rigid structure comprising an overlying tread-plate 31, on which the shoe 36 is to rest. Through registering, upright holes 32 and 33 in the truck and tread-plate respectively there extends a stud 34 the upper end of which is of larger diameter than the lower end whereby the shoulder formed rests upon the tread-plate around its hole-defining margin. The stud 34 is firmly held in place through the common expedient of a nut 34a co-operating with a screw-threaded lower end 34b of the

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stud. The forward face of the upper end of the stud 34 is fashioned with a recess 35, the purpose of which will hereinafter be explained.

The shoe heel 37, or as illustrated a stiffening inlay, is provided with a nearly central vertical bore 38. Such bore is of proper diameter for the easy insertion of the stud 34. Another horizontal bore affords communication from the front face of the heel 37 to and beyond the bore 38. The horizontal bore may be varisized, with the front portion thereof 39 somewhat smaller in diameter than the rear portion 40. A control stem 41 is movable axially in the bores 39 and 40 so that its detachably connected plunger 42 on its inner end may have its spherically-surfaced extremity freely enter the recess 35 in the stud 34. Between the plunger 42 and the shoulder formed at the junction of the two varisized horizontal bores there is optionally confined a compression spring 43 which is normally active to urge the plunger 42 into the recess 35 whereby securely to lock the skate and shoe to each other. However, manual release is readily effected through the aid of a thumb-plate 44 attached, along with a tread-plate overlying plate 46 which is upturned as a flange in front, by means of a nut 45 (as an equivalent substitute for the cotter pin shown in the parent case) in cooperation with an appropriately screw-threaded end of the stem 41. The overlying plate 46 is necessarily also intersected through a larger hole 47 by the larger upper end of the stud 34. The plate 46 being bent up in contact with the forward face of the heel serves to reinforce and such upturned end is formed with a hole 48 for the threaded end 49 of the stem.

As will be readily understood, a retraction of the stem 41 against the force exerted by the spring 43 will withdraw the plunger 42 from its socket in the stud 34 thereby permitting a separation of shoe and skate following removal of the nut 34a.

I claim:

In a roller-skate heel-lock, a roller truck, a shoe-heel structure provided with a vertical, upwardly extending heel cavity and also with a horizontal heel cavity, said cavities being in communication with each other, a stud carried by said truck and occupying said vertical heel cavity, said stud having its inserted end formed with a recess, lock mechanism including a plunger occupying said horizontal heel cavity with its inner end occupying the recess in said stud and further including a spring enveloping the plunger, a lock-mechanism control assembly including a plate having an upturned flange appositioned to said shoe-heel, said flange being apertured and intersected by said plunger whereby to reenforce while the stud and plunger repose in a right-angularly related confinement as a resistance to sway and a member co-acting at said plate and plunger intersection for securely holding said shoe-heel and plate fastened together.

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